



**ARCHIVE (Book 2/2)
Director's Rulings
Issued Prior to May 5, 1997
under MCCR**

as of

May 5, 2020

**Elevating and Amusement Devices Safety Program
Technical Standards and Safety Authority**

This file contains documents (or regulatory instruments) that form part of Ontario's Elevating Devices Regulatory Landscape.

The documents enclosed are those which have been Archived due to their age, being superseded by other documents or otherwise removed from the current ACTIVE Regulatory Documents Binder (ED-SKI).

Technical Standards & Safety Authority		Archived Director's Ruling (Issued by MCCR)						
ID No.	Date	This archive contains historic information of various regulatory communication tools that have been Archived for various reasons, including items that are > 7yrs Old, Superseded or otherwise moved from ACTIVE Status	ARCHIVE 1 or 2 of 2	Past Due	Superseded by	Compliance Due Date	Yrs Past Due	Yrs Old
ID No.	Date	CODE ADOPTION - ARCHIVE	Status1	Status2	Status3	Compliance By	Yrs Past Due	Yrs Old @ 2020-05-05
129-97	Apr-02-97	Adoption of Supplement #1 – 1997 to CAN/CSA-B44-94	Archive 2/2		Superseded by CAD			23.12
115-94	Nov-04-94	Adoption of CSA B444-94, Safety code for Elevators	Archive 2/2		Superseded by CAD			25.53
112-94-r2	Dec-06-94	Adoption of CSA B355-94 Lifts for Persons with Physical Disabilities	Archive 2/2		Superseded by CAD			25.45
112-94-r1	Nov-04-94	Adoption of CSA B355-94 Lifts for Persons with Physical Disabilities	Archive 2/2		Superseded by Rev			25.53
112-94	Apr-26-94	Adoption of CSA B355-94 Lifts for Persons with Physical Disabilities	Archive 2/2		Superseded by Rev			26.06
101-93	Jan-13-93	Adoption of Supplement No. 1-92 to CAN/CSA-Z98-M91 Passenger Ropeways	Archive 2/2		Superseded by CAD			27.34
99-92-r2	Dec-02-94	Maintenance of Elevators, D/W, Freight Plat, Esc, etc. –New Standard	Archive 2/2		Superseded by Rev			25.46
99-92-r1	Feb-10-94	Maintenance of Elevators, D/W, Freight Plat, Esc, etc. –New Standard	Archive 2/2		Superseded by Rev			26.27
99-92	Oct-30-92	Maintenance of Elevators, D/W, Freight Plat, Esc, etc. –New Standard	Archive 2/2		Superseded by Rev			27.55
98-92	Oct-13-92	Adoption of CAN/CSA-Z98-M91 Passenger Ropeways New Edition	Archive 2/2		Superseded by CAD			27.59
94-92r1	Jan-20-93	Adoption of Supplement No. 1-1992 to CAN/CSA-B44-M90 Safety Code for Elevators	Archive 2/2		Superseded by CAD			27.32
94-92	Jun-22-92	Adoption of Supplement No. 1-1992 to CAN/CSA-B44-M90 Safety Code for Elevators	Archive 2/2		Superseded by Rev			27.90
78-90-r5	Jun-22-92	Adoption of CAN/CSA B44-M90 – Safety Code for Elevators	Archive 2/2		Superseded by CAD			27.90
78-90-r4	May-27-91	Adoption of CAN/CSA B44-M90 – Safety Code for Elevators	Archive 2/2		Superseded by Rev			28.98
78-90-r3	May-23-91	Adoption of CAN/CSA B44-M90 – Safety Code for Elevators	Archive 2/2		Superseded by Rev			28.99
78-90-r2	Jan-17-91	Adoption of CAN/CSA B44-M90 – Safety Code for Elevators	Archive 2/2		Superseded by Rev			29.33
78-90-r1	Oct-22-90	Adoption of CAN/CSA B44-M90 – Safety Code for Elevators	Archive 2/2		Superseded by Rev			29.57
78-90	Jun-01-90	Adoption of CAN/CSA B44-M90 – Safety Code for Elevators	Archive 2/2		Superseded by Rev			29.96
57-87	Nov-16-87	Adoption of Supp.No.1 – 1987 to CAN3-B44-M85 Safety Code for Elevators	Archive 2/2		Superseded by CAD			32.51
50-87	May-06-87	Adoption of CAN/CSA Z256-M87 Construction Hoists	Archive 2/2		Superseded by CAD			33.04
46-87	Jan-15-87	Adoption of CAN/CSA-B355-M86 Elevating Devices for the Handicapped	Archive 2/2		Superseded by CAD			33.34
45-86	Dec-31-86	Adoption of Supp. No. 2-1986 to CAN3-Z98-M78 Passenger Ropeways	Archive 2/2		Superseded by CAD			33.38
31-86	Jan-15-86	Adoption of CAN3-B44-M85- Safety Code for Elevators	Archive 2/2		Superseded by CAD			34.34
27-85	Nov-10-85	Adoption of Supplement No.1-1984 to CAN3-Z98-M78 Passenger ropeways	Archive 2/2		Superseded by CAD			34.52
26-85-r1	Dec-27-85	Adoption of CAN3-B44-M85 Safety Code for Elevators	Archive 2/2		Superseded by CAD			34.39
26-85	Sep-10-85	Adoption of CAN3-B44-M85 Safety Code for Elevators	Archive 2/2		Superseded by Rev			34.69
21-85	Jan-04-85	Retainers Required on New Slide Landing Doors	Archive 2/2		Superseded by CAD			35.37
06-83	Oct-11-83	HW enclosure, landing door & platforms new rules	Archive 2/2		Superseded by CAD			36.61
05-83-r2	May-28-85	Testing of ski chair lift components & Non-Destructive Testing of Hauling Ropes	Archive 2/2		Superseded by CAD			34.98
05-83-r1	Sep-26-83	Testing of ski chair lift components	Archive 2/2		Superseded by Rev			36.65
05-83	Aug-24-83	Testing of ski chair lift components	Archive 2/2		Superseded by Rev			36.74
04-83-r2	Sep-20-83	Emergency power & special emergency service	Archive 2/2		Superseded by CAD			36.67
04-83-r1	Apr-14-83	Emergency power & special emergency service	Archive 2/2		Superseded by Rev			37.10
04-82	Mar-30-83	Emergency power & special emergency service	Archive 2/2		Superseded by Rev			37.14
ID No.	Date	GUIDELINE Documents (Issued as: Guideline, Director's Order, Director's Ruling)	Status1	Status2	Status3	Compliance By	Yrs Past Due	Yrs Old @ 2020-05-05
126-96	Aug-06-96	Adoption of CSA-Z98-96 Passenger Ropeways	Archive 2/2		Superseded by CAD			23.78
116-95-r1	Jul-30-96	Alterations of Elevators, DW, Freight Platforms , Escalators & Moving Walks per CSA B44-94	Archive 2/2		Superseded			23.80
116-95	Feb-20-95	Alterations of Elevators, DW, Freight Platforms , Escalators & Moving Walks per CSA B44-94	Archive 2/2		Superseded by Rev			25.24
48-87	Jan-30-87	General Variance to Freight Platform Lifts Limitations: Floor Penetration and Travel	Archive 2/2		Superseded by CAD			33.30
37-86	Apr-22-86	Section 58 (1) of O.Reg. 229/81	Archive 2/2		Superseded by CAD			34.08
ID No.	Date	ENFORCEMENT POLICIES (issued as Interpretation Bulletin, Enforcement Procedure, Director's Order, Director's Ruling)	Status1	Status2	Status3	Compliance By	Yrs Past Due	Yrs Old @ 2020-05-05
121-95	Aug-01-95	Step Fatigue Test for Escalators	Archive 2/2		Superseded by Code			24.79
120-95	Aug-01-95	Replacements of Seals of Components Previously Sealed by an Inspector	Archive 2/2		Superseded by CAD			24.79
117-95	Aug-05-95	Guidelines for Reporting of Accidents/Incidents	Archive 2/2		Superseded by Rev			24.78
114-94	Jul-20-94	Inspection: By-Pass Switches and Door Monitoring System	Archive 2/2		Superseded by Code			25.83
113-94-r1	Oct-21-94	Door Monitoring System	Archive 2/2		Superseded by Code			25.57
113-94	Jul-20-94	Door Monitoring System	Archive 2/2		Superseded by Rev			25.83
111-93	Aug-13-93	Periodic Load testing of the Above Surface Passenger Ropeways	Archive 2/2		Superseded by CAD			26.76
96-92	Jun-22-92	Standardization of Spec .Sheet Entries for the New EDB Computer data bank	Archive 2/2		Superseded			27.90
95-92	Jun-22-92	Stop Switch on In-Car Emergency Operation Clause 3.12.15.8.2 (h)	Archive 2/2		Superseded by CAD			27.90
90-92	Feb-09-92	Escalator installation # Changes	Archive 2/2		Superseded by CAD			28.27
80-90	Oct-22-90	Revisions to Design Submissions Filed Prior to Registration	Archive 2/2		Superseded by CAD			29.57
74-89	Jan-11-89	Fire Rating of Oversized Hoistway Door Assemblies	Archive 2/2		Superseded by Code			31.35

Technical Standards & Safety Authority		Archived Director's Ruling (Issued by MCCR)						
ID No.	Date	This archive contains historic information of various regulatory communication tools that have been Archived for various reasons, including items that are > 7yrs Old, Superseded or otherwise moved from ACTIVE Status	ARCHIVE 1 or 2 of 2	Past Due	Superseded by	Compliance Due Date	Yrs Past Due	Yrs Old
64-88	Jun-03-88	Relocated Elevating Devices Licensing Procedure and Applicable Standards	Archive 2/2		Superseded by Reg			31.96
55-87	Dec-01-87	Reporting of Maintenance Contractors	Archive 2/2		Superseded by Reg			32.47
54-87	Dec-01-87	Reporting of Maintenance Contractors	Archive 2/2		Superseded by Reg			32.47
49-87-r1	Jun-24-87	Escalators Type Tests - Revised	Archive 2/2		Superseded by CAD			32.90
49-87	Mar-19-87	Escalators Type Tests and Certification in accordance with Clause 8.11* of CAN3-B44-M85	Archive 2/2		Superseded by Rev			33.17
47-87-r1	Nov-19-87	New Electric Elevators: Acceptance	Archive 2/2		Superseded by Code			32.50
47-87	Jan-19-87	New Electric Elevators: Acceptance	Archive 2/2		Superseded by Rev			33.33
43-86	Dec-01-86	Reporting of Maintenance Cont (Owner-contractors)	Archive 2/2		Superseded by DR55/87			33.47
42-86	Dec-01-86	Reporting of Maintenance Contractors	Archive 2/2		Superseded by DR54/87			33.47
41-86	Aug-01-86	New Fees under the Elevating Devices Act, Ontario Reg. 463/86	Archive 2/2		Superseded by Reg			33.80
39-86	Jun-13-86	Unauthorized Access to Elevator Hoistways and Car Tops	Archive 2/2		Superseded by Reg			33.93
35-86	Apr-22-86	New Fees Proposed Under the ED act	Archive 2/2		Superseded by Reg			34.08
33-86	Jan-20-86	Reporting of Maintenance Contractors	Archive 2/2		Superseded by DR43/87			34.33
32-86	Jan-20-86	Reporting of Maintenance Contractors	Archive 2/2		Superseded by DR42/87			34.33
30-85	Dec-10-85	1986 Updating of Registered Contractors Maintenance List - by Reg. 13 EDevices Act & Regs.	Archive 2/2		Superseded by DR32/86			34.44
29-85	Nov-15-85	Amendment to EDB Ruling #22/85 – Section 40 of O.Reg.803/82	Archive 2/2		Superseded by CAD			34.51
20-84	Dec-17-84	New Procedure for Reporting of Maintenance Contracts	Archive 2/2		Superseded by DR30/85			35.42
15-84	Nov-01-84	Temporary rules for automatic leveling on Vertical Platform “C”	Archive 2/2		Superseded			35.55
09-83	Dec-20-83	Accidents & incidents reporting Provision of testing equipment ED pre-examination	Archive 2/2		Superseded by Reg			36.42
02-82	Nov-24-82	Sprinklers in M/R	Archive 2/2		Superseded by Code			37.49
ID No.	Date	ADVISORY Documents (issued as: Advisory, Information Bulletin, Safety Alert, Director's Ruling	Status1	Status2	Status3	Compliance By	Yrs Past Due	Yrs Old @ 2020-05-05
127-96	Nov-20-96	Interpretation of DR #105/93 – Rules for fire retrofit residential building	Archive 2/2		Superseded by Code			23.49
124-96	Jan-31-96	Safety Alert – Maintenance Hazards on Escalators	Archive 2/2					24.29
119-95	Jul-18-95	Maintenance and Repair of Elevating Devices by Qualified Mechanics	Archive 2/2		Superseded by Reg			24.83
118-95	Jun-16-95	Fall Protection on Elevator Car Tops	Archive 2/2					24.92
100-92	Jun-24-94	Major Alteration Inspection Prior to return to Service	Archive 2/2		Superseded by Reg			25.90
89-92	Jan-14-92	New Fees – Regulation 2/92	Archive 2/2		Superseded			28.34
86-91	Oct-30-91	Work start date on major alterations to be reported to the Elevating Devices Branch	Archive 2/2		Superseded by 100/92			28.55
81-90-r1	Sep-28-93	Supervision of “Mechanics in Training”	Archive 2/2		Superseded by Reg			26.64
81-90	Nov-02-90	Supervision of “Mechanics in Training”	Archive 2/2		Superseded by Rev			29.54
77-90	May-01-90	Observation Elevators – Cleaning of Glass Enclosures	Archive 2/2		Superseded by CAD			30.05
76-90	May-01-90	Cleaning of Glass Enclosures on Observation Elevators	Archive 2/2		Superseded by CAD			30.05
75-90	Feb-22-90	Return to Service Following a Minor Alteration	Archive 2/2		Superseded by CAD			30.24
73-89	Aug-14-89	New Fees under the Elevating Devices Act, O. Reg. No. 451/89	Archive 2/2		Superseded			30.76
72-89	Jun-09-89	Maintenance Procedures	Archive 2/2		Superseded by Reg			30.94
70-89	Feb-23-89	Item 126 (Kinetic Energy) Spec. Sheet for Hyd. Elevators – Form #ID-29426 (Ed 11/88)	Archive 2/2		Superseded			31.23
66-88	Jun-27-88	Maintenance and Repair of Elevating Devices by Qualified Mechanics	Archive 2/2		Superseded by Reg			31.89
56-87	Nov-13-87	Oil Buffers Certification with C.3.3.5.10 of CAN3-B44-M87 required after January 1,1989	Archive 2/2		Superseded by Code			32.52
53-87	Nov-06-87	Concrete Foundations for New Passenger Ropeways	Archive 2/2		Superseded by Code			32.53
52-87	Jun-02-87	Elevators – Emergency Signal Devices Clause 3.13 of CAN3-B44-M85	Archive 2/2		Superseded by Code			32.96
51-87	Jun-02-87	New Hydraulic Elevators – Auxiliary Contact in Main Disconnect Switch	Archive 2/2		Superseded by Code			32.96
38-86	May-01-86	Section 40 – Compliance	Archive 2/2		Superseded by Code			34.05
28-85	Sep-11-85	Minor Type ‘A’ and Minor Type ‘B’ Submission and Inspection Rules	Archive 2/2		Superseded by Reg			34.69
23-85	Apr-16-85	Important Compliance with Section 59 of Ontario Reg. 229/81 s.58 Required	Archive 2/2		Superseded by Reg			35.09
22-85-r1	Aug-29-85	Important Section 40, Ontario Regulation 803/82 s.3-Compliance	Archive 2/2		Superseded by Reg			34.72
22-85	Apr-16-85	Important Section 40, Ontario Regulation 803/82 s.3-Compliance	Archive 2/2		Superseded by Rev			35.09
19-84	Nov-20-84	Speed Limits – Workman’s Construction Hoists	Archive 2/2		Superseded			35.50
18-84	Nov-19-84	Safety Test Records – Section 23 of Ont. Reg. 229/81 – Req'mnts for inspection & testing	Archive 2/2		Superseded			35.50
08-83	Oct-24-83	Safe working practice on elevators	Archive 2/2					36.57
ID No.	Date	SAFETY ORDERS (Issued as: Directors Order, Director's Safety Order, Safety Alert, Director's Ruling)	Status1	Status2	Status3	Compliance By	Yrs Past Due	Yrs Old @ 2020-05-05
128-96	Dec-13-96	Hold-down & combination hold-down/support sheave assemblies on the above-surface chair lifts	Archive 2/2		Superseded by Rev	1997-02-16		23.42
125-96	Mar-01-96	Retrofit of Pivot Pins on Northern Type N two Speed Door Relating Linkage	Archive 2/2		Superseded by CAD	1996-09-01	23.71	24.21
123-96	Jan-31-96	Order to Retrofit Dover 105B & G01015 Geared Machines	Archive 2/2	Compliance Past Due		1996-07-01	23.88	24.29
122-95	Sep-15-95	C.O. & 2 Spd Hall & Car Doors – Devices with 1/ 8” Dia. Air Cord of 7x7 Strand	Archive 2/2	Compliance Past Due	Superseded by CAD	1996-03-13	24.18	24.67
110-93	Jul-14-93	Continuity of Ground on Controllers to be verified, Checking Beckett VV Controllers	Archive 2/2	Compliance Past Due	Superseded by CAD	1994-01-10	26.35	26.84
109-93	Jul-14-93	Warning: Effectiveness of Safety Retainers Depends on Panel – Sill Clearances	Archive 2/2		Superseded by CAD	1994-01-10	26.35	26.84

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108-93-r1	Mar-18-96	Relays in Safety Circuits and Wiring Changes on Horn / Armor	Archive 2/2	Compliance Past Due	Superseded by CAD	1996-09-30	23.63	24.16
108-93	Jul-12-93	Relays in Safety Circuits and Wiring Changes on Horn / Armor	Archive 2/2		Superseded by Rev			26.85
107-93	Jun-21-93	Inconsistencies in reporting devices maintained in Ontario	Archive 2/2	Compliance Past Due		1993-07-12	26.85	26.91
106-93	May-10-93	Alert – Use of Jumpers – Safe Trouble-shooting procedures required	Archive 2/2		Superseded by CAD			27.02
105-93-r2	Oct-25-94	Fire Code Retrofit Elevators – Residential Buildings (O.Reg. 627 / 92 Fire Marshals Act)	Archive 2/2		Superseded by CAD			25.56
105-93-r1	Mar-01-94	Fire Code Retrofit Elevators – Residential Buildings (O.Reg. 627 / 92 Fire Marshals Act)	Archive 2/2		Superseded by Rev			26.21
105-93	Feb-17-93	Fire Code Retrofit Elevators – Residential Buildings (O.Reg. 627 / 92 Fire Marshals Act)	Archive 2/2		Superseded by Rev			27.25
104-93	Jan-20-93	Elevators w/Dover 105B or GD105 M/C's and MP-1 control retrofitting of M/C brakes	Archive 2/2	Compliance Past Due		1993-07-01	26.88	27.32
103-93-r2	Jan-05-95	Existing Elevator Door Reopening Devices - alteration to conform with B44 cl 2.13.5	Archive 2/2	Compliance Past Due				25.36
103-93-r1	Jul-15-93	Existing Elevator Door Reopening Devices - alteration to conform with B44 cl 2.13.5	Archive 2/2		Superseded by Rev			26.84
103-93	Jan-20-93	Existing Elevator Door Reopening Devices - alteration to conform with B44 cl 2.13.5	Archive 2/2		Superseded by Rev	1994-03-01	26.21	27.32
102-93	Jan-20-93	M.A.C Interlocks - check immediately - attach maintenance instructions	Archive 2/2	Compliance Past Due	Superseded by CAD	1992-09-21	27.32	27.32
97-92	Nov-13-92	Retrofitting of Elevators Single Slide Doors with Safety Retainers	Archive 2/2	Compliance Past Due	Superseded by CAD	1993-02-11	27.26	27.51
93-92	Jun-24-92	Northern Elevator wiring changes in Leveling circuits per Northern Bulletin # 85-034	Archive 2/2	Compliance Past Due		1992-12-21	27.41	27.90
92-92	Jun-23-92	Northern Elevators with VV Relay Tape controllers - changes per Northern Bulletin # 91-063	Archive 2/2	Compliance Past Due		1992-09-21	27.65	27.90
91-92	Jun-02-92	Northern Elevator with Normic Controllers may require wiring changes	Archive 2/2	Compliance Past Due		1992-08-31	27.71	27.96
85-91-r1	Sep-18-91	Escalator Brake Setting – Follow up to Ruling # 65 / 88	Archive 2/2	Compliance Past Due	Superseded by CAD	1992-12-31	27.38	28.67
85-91	Sep-03-91	Escalator Brake Setting – Follow up to Ruling # 65 / 88	Archive 2/2		Superseded by Rev			28.71
83-91	Feb-25-91	Retrofitting of Elevator Single Slide Doors with Safety Retainers – Procedure	Archive 2/2	Compliance Past Due	Superseded by CAD	1991-05-01	29.05	29.23
82-90	Nov-21-90	Potential Hazard – Action by Elevator Maintenance Contractors	Archive 2/2	Compliance Past Due	Superseded by CAD	1990-11-21	29.49	29.49
79-90-r2	Mar-16-92	Hydraulic Cylinders Removal, Examination and Replacement	Archive 2/2	superseded	Superseded by CAD	1992-03-16	28.17	28.17
79-90-r1	Jan-13-92	Hydraulic Cylinders Removal, Examination and Replacement	Archive 2/2	superseded	Superseded by Rev	1992-01-13	28.35	28.35
79-90	Aug-03-90	Hydraulic Cylinders Removal, Examination and Replacement	Archive 2/2	superseded	Superseded by Rev	1990-09-01	29.71	29.79
71-89	May-04-89	Re-Wiring on “Northern” Elevators with “KUP” Style Relay Controllers	Archive 2/2	Compliance Past Due		1989-10-31	30.55	31.04
69-88	Oct-31-88	Gal Type “MO” and “MOCP” Interlock Assemblies	Archive 2/2	Compliance Past Due		1989-10-31	30.55	31.55
68-88-r3	Feb-22-90	Protection: Ascending Car Overspeed & Uncontrolled Car Lowspeed mov'mnt	Archive 2/2		Superseded by Code Req'mts			30.24
68-88-r2	Jun-09-89	Protection: Ascending Car Overspeed & Uncontrolled Car Lowspeed mov'mnt	Archive 2/2		Superseded by Rev			30.94
68-88-r1	Dec-19-88	Protection: Ascending Car Overspeed & Uncontrolled Car Lowspeed mov'mnt	Archive 2/2		Superseded by Rev			31.41
68-88	Oct-27-88	Protection: Ascending Car Overspeed & Uncontrolled Car Lowspeed mov'mnt	Archive 2/2		Superseded by Rev			31.56
67-88	Oct-27-88	Protection Against Uncontrolled Overspeed of Ascending Car	Archive 2/2		Superseded by Code Req'mts			31.56
65-88	Jun-10-88	Checking of Escalator Brake Setting	Archive 2/2	Compliance Past Due	Superseded by CAD	1988-07-01	31.88	31.94
63-88	Jun-03-88	Beckett Elevators w/VV Drives to be revised to Eliminate Potentially Unsafe Conditions	Archive 2/2	Compliance Past Due		1988-11-30	31.47	31.96
62-88-r1	Nov-26-89	Door Safety Retainers – Add'l Design Req'mts for Hor. Slide Landing Doors	Archive 2/2					30.48
62-88	Jun-03-88	Door Safety Retainers – Add'l Design Req'mts for Hor. Slide Landing Doors	Archive 2/2		Superseded by Rev			31.96
61-88	May-01-88	Retrofitting of Elevator Slide Doors w/ safety retainers	Archive 2/2		Superseded by Rev	1988-05-01	32.05	32.05
60-88-r1	May-31-88	Fire Code Retrofit Elevators	Archive 2/2		Superseded by CAD			31.97
60-88	Apr-18-88	Fire Code Retrofit Elevators	Archive 2/2		Superseded by Rev			32.08
59-88	Mar-31-88	Escalator Load Test on Initial Inspection - No type Test Certificate Available	Archive 2/2	Compliance Past Due		1989-03-31	31.13	32.13
58-88	Jan-27-88	Potential Failure of Sheave Shaft of Anglo Electromatic Traction Machine	Archive 2/2					32.31
44-86	Nov-28-86	Horizontal Sliding Hoistway Doors	Archive 2/2			1987-05-27	32.98	33.47
36-86	Apr-22-86	Hitch for Governor Rope must be secured	Archive 2/2			1986-10-19	33.58	34.08
34-86	Nov-22-86	Major Alterations & Counterbalance	Archive 2/2			1986-11-22	33.49	33.49
25-85	Jul-09-85	Potential Hazard created by Wear on Lock Beak and Lock Ledger	Archive 2/2		Superseded by CAD	1985-07-09	34.86	34.86
24-85	Jun-21-85	Unauthorized Modifications of Dover Door Latches may create potential hazard	Archive 2/2	Compliance Past Due		1985-06-21	34.91	34.91
17-84	Nov-16-84	Signs required if counterweight runby on elevators is not maximum allowed by the B44	Archive 2/2		Superseded by Code Req'mts	1984-11-16	35.51	35.51
16-84	Nov-15-84	Northern Instantaneous type 'A' Safeties Potentially Incapacitated by Misadjustment	Archive 2/2	Compliance Past Due		1984-11-17	35.50	35.51
13-84	May-16-84	Dover Elevators w/o Retiring Cam - Potentially Unsafe	Archive 2/2	Compliance Past Due		1984-11-18	35.50	36.01
12-84	Apr-13-84	BECKETT G79 governor	Archive 2/2	Compliance Past Due		1984-06-08	35.95	36.10
11-84	Mar-15-84	HW door gibs	Archive 2/2	Compliance Past Due		1984-03-30	36.14	36.18
10-84	Mar-15-84	OTIS “R” governor – pins	Archive 2/2	Compliance Past Due		1984-09-11	35.69	36.18
07-83	Oct-01-83	MOLINE (Mac) door interlocks	Archive 2/2	Compliance Past Due		1984-03-29	36.14	36.64
03-82	Dec-15-82	Working practice on chair lifts	Archive 2/2			1983-06-13	36.94	37.43
01-82	Nov-18-82	Reporting of Incidents, Use of jumper wires, Testing of safeties (method)	Archive 2/2		Superseded by CAD	1983-05-17	37.01	37.50



Elevating and Amusement Devices Safety Division	Ref. No.: 01/82	Rev. No.:
DIRECTOR'S RULING	Date: November 18/82	Date:

Subject: REPORTING OF INCIDENTS, USE OF JUMPER WIRES, TESTING OF SAFETIES

Sent to: ALL CONTRACTORS

Item 1: Section 29(2) - Elevating Devices Act

Incidents: (2) Where an accident occurs that causes injury to any person or where there has been an incident involving an elevating device that indicates that the elevating device is in a potentially hazardous condition or where there has been a fire involving an elevating device shall notify the Director by telephone within twenty-four hours and shall submit a written report giving full particulars within seven days thereafter.

Recently serious incidents have included elevator doors becoming dislodged, blocking or falling down the hoistway and elevators running with hoistway doors open, but despite the fact that registered contractors were involved in the investigation or rectification of the damage caused by these incidents, they were not reported by the contractors. Instead, we learned about them from owners or through complaints or enquires from the public. You should realise that reporting of incidents - sometimes described as "accidents that did not happen" - is important to all of us in terms of safety of elevating devices. Incidents reflect vandalism, misuse or abuse, deficiencies in basic equipment, equipment failures, or lack of standards and effective investigation and action, where necessary, is vital.

Item 2: Use of Jumper Wires

Use of jumper wires on any part of the circuitry of an elevating device can create extremely hazardous situations and lead to serious accidents or incidents. Contractors must ensure that, in isolated instances where the temporary use of jumpers is deemed necessary for testing or trouble shooting, adequate precautions are taken by the mechanic so that the safety of any person using the elevating device is not diminished, even for short periods.

Contractors must also keep in mind that the Elevating Devices Act defines alterations, including wiring changes, particularly those involving a safety circuit. There must be the subject of a design submission before alterations are made.

Item 3: Testing of Safety Devices - Ontario Regulation 229/81, Section 23(1)

There have been some serious questions raised as to the practices followed by mechanics in relation to the testing of elevator safeties and overspeed governors. You should review these practices and your instructions in relation to:

1. Elevator Safeties -fulfilment of requirements of clause 3.7.10.3.1 CSA-B44 which requires:
 - a) releasing of tension in the governor rope will not release the safety;
 - b) the motion of the car in the down direction will not release the safety.
2. Checking and examining governor ropes - these must be replaced before they have deteriorated to a potentially hazardous level. The lack of car in examination and checking of governor ropes has resulted in many elevator shutdowns in the past year; in some cases, one or two strands were missing.

T. GORDON SMITH, P.Eng. - Director



Elevating and Amusement Devices Safety Division	Ref. No.: 02/82	Rev. No.:
DIRECTOR'S RULING	Date: November 24/82	Date:

Subject: SPRINKLERS IN MACHINE ROOMS

Sent to: INSTALLING ELEVATOR CONTRACTORS

At the Canadian Standards Association B44 Main Committee meeting in St. John's, Newfoundland, on September 28th and 29th, the controversial question of sprinklers in elevator machine rooms was discussed.

The discussion was extremely thorough and a copy of Minute 341 is attached. The notes recommended in the first and second motions will replace the requirement in clause 2.3.2.3 in supplement #3 if eventually approved in Letter Ballot by the whole committee. If this takes place, as in all probability it will, the change will be evident in the forthcoming 1983 version of the standard.

It is imperative that the sprinkler controversy be resolved in Ontario immediately and a variance, as authorized in Section 31(5) of the Elevating Devices Act, removing the obligation to comply with clause 2.3.2.3 of the B44 Standard (Supplement #3) will be granted for all new installations in progress, and for future installations. The primary reasoning for this decision is that fire control devices such as extinguishers and sprinkler systems are an integral part of the building itself and should be governed by the Building Code rather than the B44.

It will not be necessary for submitters to request the variance in future submissions, nor will there be any question of retroactive directions as previously mentioned in Mr. J.O. Wainman's letter (M440) of January 29, 1982, on this subject.

T. GORDON SMITH, P.Eng. - Director

TGS/ef
Enclosure: Minute 341

This has been the subject of considerable discussion at committee meetings for several years. The requirement in Clause 2.3.2.3 in Supplement No. 2 (Clause 2.3.2.4 in Supplement No. 1) to CSA B44-1975 prohibits the installation of fire extinguishing equipment using water (e.g. water sprinklers) in machine rooms. This is in conflict with the National Building Code and has been challenged by the fire authorities.

The Chairman briefly outlined the reason why the B44 Committee arrived at the requirement in Supplement No. 3. The intent is to protect the control equipment in the machine room so that the elevator will continue to operate safely as long as possible during a fire. In high buildings there has to be a firefighter's elevator(s) which has fire resistive construction and operates in a hoistway protected by fire rated doors. Emergency power has to be provided. In the event of a fire all elevators have to return to the street floor level immediately. Should the sprinklers in the machine room be activated, the water can cause malfunctioning of the control equipment.

Mr. Cardoulis, who was attending the meeting in place of Mr. Findlay, expressed the views of the Association of Canadian Fire Marshals and Fire Commissioners in support of the changes to B44 which has been proposed by Mr. Findlay. These proposed revisions were attached to the Agenda. One of the suggested changes is the deletion of Clause 2.3.2.3. Mr. Cardoulis pointed out that with regard to sprinklered buildings, the NBC refers to NFPA 13 which requires all rooms to have sprinklers. If a fire started in the machine room, it could become so intense that it would break out and overpower the sprinklers in the corridors and other rooms. The firefighters will certainly use water to extinguish the fire in the machine room. There are other fire extinguishing systems which could be installed in machine rooms, such as halon or carbon dioxide, but they have certain drawbacks and water seems to be the most practical.

Mr. Findlay was in agreement with Mr. Cardoulis' comments and the proposed revisions to B44.

The Committee discussed this time for most of the first day of the meetings. Initially the discussion centred around fires starting in the machine room, yet a more typical situation would be a fire starting somewhere else in the building. The heat from the fire could rise in the elevator hoistway to the

Fire Protection in Elevator Machine Rooms

machine room and activate the sprinklers. This led to the question of how high the temperature would have to be to cause the elevator equipment to fail due to heat, after which the arguments about effects of water would be academic. It was suggested that a compromise solution might be to permit sprinklers with high temperature heads in machine rooms. Another compromise would be the use of a pre-action sprinkler system such as is used in Saskatchewan. In such a system the water is held back outside the machine room by a pre-action valve which is operated electrically from the fire alarm panel. When the temperature reaches 190°F, sensors in the machine room cause the pre-action valve to open, but no water flows until the temperature at the sprinkler head reaches 260°F. Water flows out of only those sprinkler heads where the temperature has reached 260°F.

Eventually, the Committee passed the following Motion setting out the requirements for a sprinkler system in elevator machine rooms:

- MOTION:
1. The system shall be a pre-action system with high temperature sprinkler heads in the machine room.
 2. Heat detectors shall be installed which will activate at a temperature not less than x°C (this temperature yet to be determined) and will give an independent annunciator signal at the central control facility.
 3. Actuation of the sensors shall cause all elevators whose machines are in the affected machine room to return to the recall or alternate level.
 4. The pre-action sprinkler required by 1 above shall not operate until all cars have returned to the recall or alternate level and the doors are fully open.

CARRIED

This Motion was opposed by five members, not on technical grounds, but because they consider that such requirements belong in the National Building Code, not in CSA B44.

Another Motion was then passed:

Fire Protection in Elevator Machine Rooms

MOTION: That the requirements in the previous Motion be forwarded through the Working Committee to the Associate Committee on the National Building Code for inclusion in the NBC, and that the matter be treated as very urgent.

CARRIED

Six members were opposed to this Motion on the grounds that the B44 Committee is usurping its safety role by not putting these requirements into B44.

In order to stress the urgency of getting this matter resolved, it was agreed that some members of the Working Committee should arrange to meet with ACNBC as soon as possible.

Chairman

If it appears that these requirements may not get into the NBC for some time, they should be put into B44 as a note (recommendation) to provide guidance for all concerned.

In conjunction with the resolution of the type of sprinkling system to be permitted, the Committee also agreed to the deletion of “and shut-off valves for sprinklers” in Clause 2.4.2(c).



Elevating and Amusement Devices Safety Division	Ref. No.: 03/82	Rev. No.:
DIRECTOR'S RULING	Date: December 15/82	Date:

Subject: WORKING PRACTICE ON CHAIR LIFTS

Sent to: PASSENGER ROPEWAY CONTRACTORS

As a result of a Coroner's Inquest into the deaths of two workmen whilst carrying out maintenance on a chairlift in Northern Ontario, the Coroner's Jury made the following recommendations with respect to safe working practices. Your working practice must reflect compliance with these recommendations:

1. When the working chair is being used on the lift line, there shall be installed a clamping device in front and behind the working chair grip. This is to eliminate any slippage on the lift line in the event of loss of tension in the grip spring or device. The design of this clamping device shall be of a type to prevent damage to the hauling rope, sheave liner, bull wheel and bull wheel liner. The clamp device need only be installed:
 - a) when the regular passenger chairs are not installed on the lift line;
 - b) when the grip design is such that slippage on the rope is possible if improperly tensioned.
2. You must be in possession of the manufacturer's procedure for the installation of chair grips and the working chair grip. These procedures must be available at the site for examination by an inspector.
3. You must record grip installation in the form of measurements, if applicable. The Daily Operation & Maintenance Log sheets will be changed and you will be advised when these new forms are available.

T. GORDON SMITH, P.Eng. - Director

NLB/ef



Elevating and Amusement Devices Safety Division	Ref. No.: 04/83	Rev. No.:
DIRECTOR'S RULING	Date: March 30/83	Date:

Subject: EMERGENCY POWER AND SPECIAL EMERGENCY SERVICE

Sent to: ELEVATOR CONTRACTORS

Existing CSA B44 Code requirements related to emergency power (3.12.13) and special emergency service(3.12.15) will be amended, with the next edition of the B44, to ensure safe operation of elevators under such conditions. This Branch considers it necessary to outline these requirements and enforce them:

ON ALL ELEVATORS INITIALLY INSPECTED AFTER JULY 1, 1983

Item 1: Disabled car to be overridden under emergency power condition

When an emergency power system is provided in conjunction with special emergency service (per clause 3.12.13.3), and all elevators controlled by emergency recall switches, cannot be operated simultaneously (because of limited capacity of the power supply), the system shall incorporate automatic overriding of disabled elevators during recall process under emergency power conditions so that one disabled car would not prevent the switching of emergency power to the other elevators.

Item 2: Car under “independent service” to be recalled immediately

Clause 3.12.15.2.2(e) shall apply only to the hospital service and attendant operation (with attendant permanently located in the car). This clause shall not apply to “independent service”, so that elevators on independent service (e.g. someone using elevators to move furniture or cleaners moving their equipment) must respond immediately to the recall level as any other elevator on automatic equipment.

Item 3: Sensors at recall level to recall elevators to an alternate level

Clause 3.12.15.2.3 permits automatic recall of elevators by means of fire, heat or smoke sensing devices located at any building floor except at the recall level or mezzanine. The code permits the elevators to remain on automatic operation mode and to stop at lobby or mezzanine which may be under fire. The same hazard is possible in the case of manual recall per clause 3.12.15.2.2.

Therefore, in any case, automatic (3.12.15.2.3) or manual (3.12.15.2.2) recall operation, sensing devices must be provided at the recall level which, when activated, shall cause the elevator cars to be recalled to an alternate floor approved by fire protection authority (e.g. first enclosed level above the recall level with appropriate fire exit).

In addition to existing requirement in clause 3.12.13.3(b), the selection of emergency power at the alternate floor shall be by in-car emergency service switch (3.12.11.3.1) and the emergency power selection switch at the recall level, if provided per 3.12.13.1(d)(ii) shall render inoperative.

NOTES: (a) The B44 has never permitted automatic recall of elevators to the recall level by means of fire, heat or smoke sensing devices located at the level or the mezzanine (see clause 3.12.15.2.3). Only sensing devices located at other than these levels may initiate automatic recall to the recall level. Non-conformance to the existing B44 requirement has been noted on many installations in the past.

Contractors are warned that clause 3.12.15.2.3 is being enforced regardless of the forthcoming revisions in 3 above.

(b) As you were notified by the B44 committee chairman's letter dated 1982-07-26, elevators without top-of-car operating devices may not be retrofitted with emergency recall operation, unless top-of-car operating devices are installed simultaneously.

T. GORDON SMITH, P.Eng. - Director

CEV/cr

Archive
Superseded by Rev



Elevating and Amusement Devices Safety Division	Ref. No.: 04/83	Rev. No.: 1
DIRECTOR'S RULING	Date: March 30/83	Date: April 14/83

Subject: EMERGENCY POWER AND SPECIAL EMERGENCY SERVICE

Sent to: ELEVATOR CONTRACTORS

Existing CSA B44 Code requirements related to emergency power (3.12.13) and special emergency service(3.12.15) will be amended, with the next edition of the B44, to ensure safe operation of elevators under such conditions. This Branch considers it necessary to outline these requirements and enforce them:

ON ALL ELEVATORS
FOR WHICH THE DESIGN IS SUBMITTED FOR REGISTRATION AFTER SEPTEMBER 30, 1983
OR THAT ARE INITIALLY INSPECTED AFTER DECEMBER 31, 1983, WHICHEVER COMES FIRST

Item 1: Disabled car to be overridden under emergency power condition

When an emergency power system is provided in conjunction with special emergency service (per clause 3.12.13.3), and all elevators controlled by emergency recall switches, cannot be operated simultaneously (because of limited capacity of the power supply), the system shall incorporate automatic overriding of disabled elevators during recall process under emergency power conditions so that one disabled car would not prevent the switching of emergency power to the other elevators.

Item 2: Car under “independent service” to be recalled immediately

Clause 3.12.15.2.2(e) shall apply only to the hospital service and attendant operation (with attendant permanently located in the car). This clause shall not apply to “independent service”, so that elevators on independent service (e.g. someone using elevators to move furniture or cleaners moving their equipment) must respond immediately to the recall level as any other elevator on automatic equipment.

Item 3: Sensors at recall level to recall elevators to an alternate level

Clause 3.12.15.2.3 permits automatic recall of elevators by means of fire, heat or smoke sensing devices located at any building floor except at the recall level or mezzanine. The code permits the elevators to remain on automatic operation mode and to stop at lobby or mezzanine which may be under fire. The same hazard is possible in the case of manual recall per clause 3.12.15.2.2.

Therefore, in any case, automatic (3.12.15.2.3) or manual (3.12.15.2.2) recall operation, sensing devices must be provided at the recall level which, when activated, shall cause the elevator cars to be recalled to an alternate floor approved by fire protection authority (e.g. first enclosed level above the recall level with appropriate fire exit), regardless of whether the normal or emergency power supply is in effect.

In addition to existing requirement in clause 3.12.13.3(b), the selection of emergency power at the alternate floor shall be by in-car emergency service switch (3.12.11.3.1) and the emergency power selection switch at the recall level, if provided per 3.12.13.1(d)(ii) shall render inoperative.

NOTES:

(a) The B44 has never permitted automatic recall of elevators to the recall level by means of fire, heat or smoke sensing devices located at the level or the mezzanine (see clause 3.12.15.2.3). Only sensing devices located at other than these levels may initiate automatic recall to the recall level. Non-conformance to the existing B44 requirement has been noted on many installations in the past. Contractors are warned that clause 3.12.15.2.3 is being enforced regardless of the forthcoming revisions in 3 above.

(b) As you were notified by the B44 committee chairman's letter dated 1982-07-26, elevators without top-of-car operating devices may not be retrofitted with emergency recall operation, unless top-of-car operating devices are installed simultaneously.

T. GORDON SMITH, P.Eng. - Director

CEV/cr

Archive
Superseded by Rev



Elevating and Amusement Devices Safety Division	Ref. No.: 04/83	Rev. No.: 2
DIRECTOR'S RULING	Date: March 30/83	Date: September 20/83

Subject: EMERGENCY POWER AND SPECIAL EMERGENCY SERVICE

Sent to: ELEVATOR CONTRACTORS

Existing CSA B44 Code requirements related to emergency power (3.12.13) and special emergency service(3.12.15) will be amended, with the next edition of the B44, to ensure safe operation of elevators under such conditions. This Branch considers it necessary to outline these requirements and enforce them:

ON ALL ELEVATORS
FOR WHICH THE DESIGN IS SUBMITTED FOR REGISTRATION AFTER SEPTEMBER 30, 1983
OR THAT ARE INITIALLY INSPECTED AFTER DECEMBER 31, 1983, WHICHEVER COMES FIRST

Item 1: Disabled car to be overridden under emergency power condition

When an emergency power system is provided in conjunction with special emergency service (per clause 3.12.13.3), and all elevators controlled by emergency recall switches, cannot be operated simultaneously (because of limited capacity of the power supply), the system shall incorporate automatic overriding of disabled elevators during recall process under emergency power conditions so that one disabled car would not prevent the switching of emergency power to the other elevators.

Item 2: Car under "independent service" to be recalled immediately

Clause 3.12.15.2.2(e) shall apply only to the hospital service and attendant operation (with attendant permanently located in the car). This clause shall not apply to "independent service", so that elevators on independent service (e.g. someone using elevators to move furniture or cleaners moving their equipment) must respond immediately to the recall level as any other elevator on automatic equipment.

Item 3: Sensors at recall level to recall elevators to an alternate level

This requirement (detailed in the previous edition of the Ruling) has been deleted and existing B44 requirements related to the emergency recall will be enforced by this Branch until further notice. However, voluntary improvements, if any, to the recall operation as required in the B44 must be delineated in the design submissions and will most likely be accepted by this Branch (see note (a) below).

Background: The CSA-B44 Main Committee decided, at its meeting in Toronto, September 13-15, 1983, to defer this subject (automatic recall to an alternate level) until the recommendations from (recently established) The Task Group on Elevators of the Standing Committee on Use and Occupancy (Associate Committee on the National Building Code) become available; supposedly by the end of 1983. The Task Group intends to take the report from the Public Inquiry into Fire Safety in High Rise Buildings in Ontario, expected to become available in October 1983, into consideration.

NOTES:

(a) The B44 has never permitted automatic recall of elevators to the recall level by means of fire, heat or smoke sensing devices located at the level or the mezzanine (see clause 3.12.15.2.3). Only sensing devices located at other than these levels may initiate automatic recall to the recall level. Non-conformance to the existing B44 requirement has been noted on many installations in the past. Contractors are warned that clause 3.12.15.2.3 is being enforced regardless of the forthcoming revisions in 3 above.

(b) As you were notified by the B44 Committee chairman's letter dated 1983-05-05 (to all members of NEEA and CECA) his interpretation in his previous letter dated 1982-07-26 was changed so that an elevator may not be retrofitted with emergency recall operation unless at least one of the following is provided: (1) top-of-car operation, (2) in-car inspection with emergency stop switch not overridden by the recall switch when on "inspection", (3) stop button on top-of-car not overridden by the recall switch.

②

T. GORDON SMITH, P.Eng. - Director

CEV/cr

Archive
Superseded by CAD



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	05/83	
DIRECTOR'S RULING	Date:	Date:
	August 24/83	

Subject: TESTING OF SKI CHAIRLIFT COMPONENTS

Send to: PASSENGER ROPEWAY CONTRACTORS

The Ontario Ski Resorts Association (OSRA) has petitioned the Elevating Devices Branch to make changes in the non-destructive testing requirements for components of ski chairlifts. This is on the basis that the current Z98-M78 Canadian Standards Association (CSA) code requirements are too stringent, considering the often limited use of these devices during a season in Ontario. OSRA has undertaken to put forward proposals, at the January 1984 meeting of the CSA-Z98 committee, in regard to permanent changes to the code based on their recommendations.

We have agreed that, on an interim basis at least for 1983/84 ski season, the following detailed requirements will be applicable in respect to testing.

1.

Existing Requirement

Hauling Ropes:

9.16.2.1 – General

At established intervals, the whole length of rope shall be thoroughly examined for conditions such as broken wires, worn spots, pitting, lubrication, etc. In addition, where applicable, rope shall be non-destructively tested in accordance with Clause 3.22.4.

3.22.4 - Non-Destructive Testing of Ropes

3.22.4.1 – Following the installation of hauling or track ropes on new or existing above-surface lifts, non-destructive tests shall be performed within a 12-month period by competent personnel using equipment acceptable to the authority having jurisdiction.

2.3.22.4.2 - At intervals thereafter, not exceeding 24 months, non-destructive tests shall be performed. When the condition of the rope so warrants, the enforcing authority may request more frequent non-destructive tests.

3.22.4.3 - A copy of the interpretative report based on the foregoing tests shall be forwarded to the authority having jurisdiction within 30 days. As detailed in our letter dated July 30, 1981 (M429), copy attached, modifying by term Section 4.15.1.5 and 4.15.1.6.

New Requirements (Interim)

Visual examination of the hauling ropes should be performed prior to the start of operation each season in accordance with the inspection and replacement guidelines laid down in the CSA-Z98. This examination must be performed by a “mechanic” defined in the Elevating Devices Act, 1980 as follows:

“mechanic” means a person who has a minimum of four years work experience directly related to the work assigned to him and who has full knowledge of this Act and the regulations and of the codes applicable to the elevating device upon which he is assigned to work;

In order to qualify as “mechanics” for rope examination, they must have undergone training by rope specialists prior to any work being undertaken. The results of the visual examination must be recorded in the Log Book kept for each installation and must be produced for the inspector’s verification.

2. Non-Destructive Testing in accordance with Section 3.22.4.2 shall be performed at intervals not exceeding 5 years. Should the visual examination indicate the need for extensive evaluation, then the non-destructive testing must be escalated.
3. Testing of Grips and Hangers:
As detailed in our letter dated July 30, 1981 (M429), copy attached, modifying by term Section 4.15.1.5 and 4.15.1.6.

4.15.1.5 - Each rope grip and critical parts of chair and gondola hangers (i.e., swivel connection to the rope grip, highly stressed portions of the hanger, and connection to the chair and gondola) shall, at the time of manufacture, be non-destructively tested by a method commensurate with the design and materials, to ensure that they are free from flaws and cracks. Certificates to this effect shall be submitted by the manufacturer to the authority having jurisdiction, stating the serial numbers of the items tested, the tests carried out, the conclusions from the tests, and the project on which the items are to be used.

Visual examination remains unchanged, maximum interval between N.D.T. of grips and hangers is 5 years (20% of the total number of grips on a rotation basis per year would fulfill this requirement).

4.15.1.6 - Routine Non-Destructive Testing
At intervals of not greater than 2 years, each rope grip shall be dismantled, thoroughly cleaned, and visually inspected, and any suspected flaw shall be non-destructively tested. At intervals of not greater than 6 years or 6000 hours of operation, whichever comes earlier, all clamps and hangers shall be retested non-destructively.

Some concerns were raised by OSRA in regard to Section 4.15.2.2 covering required resistance of the rope grip against sliding along the rope. Adherence to this section is a function of correct installation maintenance and subsequent testing, and licensees must ensure that grips comply with this requirement.

4.15.2.2 - The device for attaching the carrier to the carrying-haul rope shall have a resistance to sliding of not less than 2 times the component of the loaded carrier. Such resistance shall be measured along the axis of the rope on the maximum gradient and shall be not less than the weight of the loaded carrier. The gripping action on the rope shall be ensured by means of two independent systems so that, when one fails accidentally, the other shall ensure a resistance to sliding at least equal to 1.5 times the component of the loaded carrier. The required resistance to sliding shall be automatically maintained even when the rope diameter is reduced by 10 per cent of the nominal diameter.

THIS RULING TAKES EFFECT IMMEDIATELY.

T. GORDON SMITH, P.Eng. - Director

TGS/ef
Enclosure:

July 30, 1981

TO: LICENSEES OF CHAIR AND GONDOLA LIFT INSTALLATIONS

Re: Chair Lifts and Gondolas
Non-Destructive Testing and
Inspection of Grips and Hangers

Sub-section 55(3) of Ontario Regulation 229/81, made under the Elevating Devices Act, 1980, reads as follows:

“(3) Every hauling rope, rope grip and chair or gondola hanger of a chair lift or gondola lift, as the case may be, shall be subject to non-destructive testing at such intervals as may be determined by the Director to ensure the safe operation of the chair lift. O.Reg. 229/81, s. 55.”

This letter gives notification that Clause 4.15.1.6 of CSA Code CAN-Z98-M78, Passenger Ropeways, is replaced by the following requirements:

Each rope grip and hanger shall:

- (a) Before each operating season, be dismantled, thoroughly cleaned, and visually inspected in accordance with the manufacturer's recommendation, and any element with a suspected flaw shall be non-destructively tested;
- (b) At intervals of not greater than 5 years or 5000 hours of operation, whichever comes earlier, be re-tested non-destructively in accordance with the method and procedure recommended by the manufacturer, on a rotational basis so that no grip or hanger will be in use more than 5 years without being subjected to a non-destructive test; and,
- (c) Be inspected or non-destructively tested at more frequent intervals than those specified above, of so recommended by the manufacturer, or if the frequency of discovered or suspected flaws indicates a need for additional tests.

Prior to the start of operation in the 1981-82 season, you must be in compliance with the grip inspection and testing programme that was originally introduced last year. With respect to hangers, prior to the 1981-82 operating season, the above inspection requirements must be fulfilled and at least 20% of the hangers must be non-destructively tested. The recording sheets must be kept up-to-date in your log book to demonstrate continuing observance of your grip and hanger inspection and testing programmes.

T. GORDON SMITH, P.Eng. - Director

JOW/ef
M429



Elevating and Amusement Devices Safety Division	Ref. No.: 05/83	Rev. No.: 1
DIRECTOR'S RULING	Date: August 24/83	Date: September 26/83

Subject: TESTING OF SKI CHAIRLIFT COMPONENTS

Sent to: PASSENGER ROPEWAY CONTRACTORS

The Ontario Ski Resorts Association (OSRA) has petitioned the Elevating Devices Branch to make changes in the non-destructive testing requirements for components of ski chairlifts. This is on the basis that the current Z98-M78 Canadian Standards Association (CSA) code requirements are too stringent, considering the often limited use of these devices during a season in Ontario. OSRA has undertaken to put forward proposals, at the January 1984 meeting of the CSA-Z98 committee, in regard to permanent changes to the code based on their recommendations.

We have agreed that, on an interim basis at least for 1983/84 ski season, the following detailed requirements will be applicable in respect to testing.

1.

Existing Requirement

Hauling Ropes:

9.16.2.1 – General

At established intervals, the whole length of rope shall be thoroughly examined for conditions such as broken wires, worn spots, pitting, lubrication, etc. In addition, where applicable, rope shall be non-destructively tested in accordance with Clause 3.22.4.

3.22.4 - Non-Destructive Testing of Ropes

3.22.4.1 – Following the installation of hauling or track ropes on new or existing above-surface lifts, non-destructive tests shall be performed within a 12-month period by competent personnel using equipment acceptable to the authority having jurisdiction.

2.3.22.4.2 - At intervals thereafter, not exceeding 24 months, non-destructive tests shall be performed. When the condition of the rope so warrants, the enforcing authority may request more frequent non-destructive tests.

3.22.4.3 - A copy of the interpretative report based on the foregoing tests shall be forwarded to the authority having jurisdiction within 30 days. As detailed in our letter dated July 30, 1981 (M429), copy attached, modifying by term Section 4.15.1.5 and 4.15.1.6.

New Requirements (Interim)

Visual examination of the hauling ropes should be performed prior to the start of operation each season in accordance with the inspection and replacement guidelines laid down in the CSA-Z98. This examination must be performed by a “mechanic” defined in the Elevating Devices Act, 1980 as follows:

“mechanic” means a person who has a minimum of four years work experience directly related to the work assigned to him and wh has full knowledge of this Act and the regulations and of the codes applicable to the elevating device upon which he is assigned to work;

In order to qualify as “mechanics” for rope examination, they must have undergone training by rope specialists prior to any work being undertaken. The results of the visual examination must be recorded in the Log Book kept for each installation and must be produced for the inspector’s verification.

2. Non-Destructive Testing in accordance with Section 3.22.4.2 shall be performed at intervals not exceeding 5 years. Should the visual examination indicate the need for extensive evaluation, then the non-destructive testing must be escalated.

3. Testing of Grips and Hangers:

As detailed in our letter dated July 30, 1981 (M429), copy attached, modifying by term Section 4.15.1.5 and 4.15.1.6.

4.15.1.5 - Each rope grip and critical parts of chair and gondola hangers (i.e., swivel connection to the rope grip, highly stressed portions of the hanger, and connection to the chair and gondola) shall, at the time of manufacture, be non-destructively tested by a method commensurate with the design and materials, to ensure that they are free from flaws and cracks. Certificates to this effect shall be submitted by the manufacturer to the authority having jurisdiction, stating the serial numbers of the items tested, the tests carried out, the conclusions from the tests, and the project on which the items are to be used.

Visual examination remains unchanged, maximum interval between N.D.T. of grips and hangers is 5 years (20% of the total number of grips on a rotation basis per year would fulfill this requirement).

4.15.1.6 - Routine Non-Destructive Testing

At intervals of not greater than 2 years, each rope grip shall be dismantled, thoroughly cleaned, and visually inspected, and any suspected flaw shall be non-destructively tested. At intervals of not greater than 6 years or 6000 hours of operation, whichever comes earlier, all clamps and hangers shall be retested non-destructively.

Some concerns were raised by OSRA in regard to Section 4.15.2.2 covering required resistance of the rope grip against sliding along the rope. Adherence to this section is a function of correct installation maintenance and subsequent testing, and licensees must ensure that grips comply with this requirement.

4.15.3 Fixed Rope Grips

4.15.3.1 Fixed rope grips shall be designed to pass smoothly over and under line sheaves, and around drive and return sheaves. The gripping action on the rope shall ensure a resistance to sliding along the rope of not less than 3 times the component of the loaded carrier measured at the steepest point on the line. Rope grips shall incorporate a means that will compensate for rope diameter reduction.

} THIS CLAUSE REVISED

THIS RULING TAKES EFFECT IMMEDIATELY.

T. GORDON SMITH, P.Eng. - Director

TGS/ef
Enclosure:

July 30, 1981

TO: LICENSEES OF CHAIR AND GONDOLA LIFT INSTALLATIONS

**Re: Chair Lifts and Gondolas
Non-Destructive Testing and
Inspection of Grips and Hangers**

Sub-section 55(3) of Ontario Regulation 229/81, made under the Elevating Devices Act, 1980, reads as follows:

“(3) Every hauling rope, rope grip and chair or gondola hanger of a chair lift or gondola lift, as the case may be, shall be subject to non-destructive testing at such intervals as may be determined by the Director to ensure the safe operation of the chair lift. O.Reg. 229/81, s. 55.”

This letter gives notification that Clause 4.15.1.6 of CSA Code CAN-Z98-M78, Passenger Ropeways, is replaced by the following requirements:

Each rope grip and hanger shall:

- (a) Before each operating season, be dismantled, thoroughly cleaned, and visually inspected in accordance with the manufacturer's recommendation, and any element with a suspected flaw shall be non-destructively tested;
- (b) At intervals of not greater than 5 years or 5000 hours of operation, whichever comes earlier, be re-tested non-destructively in accordance with the method and procedure recommended by the manufacturer, on a rotational basis so that no grip or hanger will be in use more than 5 years without being subjected to a non-destructive test; and,
- (c) Be inspected or non-destructively tested at more frequent intervals than those specified above, of so recommended by the manufacturer, or if the frequency of discovered or suspected flaws indicates a need for additional tests.

Prior to the start of operation in the 1981-82 season, you must be in compliance with the grip inspection and testing programme that was originally introduced last year. With respect to hangers, prior to the 1981-82 operating season, the above inspection requirements must be fulfilled and at least 20% of the hangers must be non-destructively tested. The recording sheets must be kept up-to-date in your log book to demonstrate continuing observance of your grip and hanger inspection and testing programmes.

T. GORDON SMITH, P.Eng. - Director

JOW/ef
M429



Elevating and Amusement Devices Safety Division	Ref. No.: 05/83	Rev. No.: 2
DIRECTOR'S RULING	Date: August 24/83	Date: May 28/85

Subject: NON-DESTRUCTIVE TESTING OF HAULING ROPE

Sent to: PASSENGER ROPEWAY CONTRACTORS

The Ontario Ski Resorts Association (OSRA) has petitioned the Elevating Devices Branch to make changes in the non-destructive testing requirements for components of ski chairlifts. This is on the basis that the current Z98-M78 Canadian Standards Association (CSA) code requirements are too stringent, considering the often limited use of these devices during a season in Ontario. OSRA has undertaken to put forward proposals, at the January 1984 meeting of the CSA-Z98 committee, in regard to permanent changes to the code based on their recommendations.

As a result of the recent amendments to the code, the following shall apply.

Existing Requirement

3.22.4.2 - At intervals thereafter, not exceeding 24 months, non-destructive tests shall be performed. When the condition of the rope so warrants, the enforcing authority may request more frequent non-destructive tests.

3.22.4.3 - A copy of the interpretative report based on the foregoing tests shall be forwarded to the authority having jurisdiction within 30 days.

New Requirements

3.22.4.2 - At intervals thereafter, not exceeding 4000 operating hours according to an operating hour metre or 36 months, whichever occurs first, non-destructive tests shall be performed. Where it is anticipated that the date for the test will occur during an operating season, the test shall be performed prior to that season. When the condition of the rope so warrants, or the rope shows signs of neglect, more frequent non-destructive tests shall be carried out.

3.22.4.3 - A copy of the interpretative report based on the foregoing tests shall be forwarded, if required, to the regulatory authority within 30 days. This report shall contain, but not be limited to, the following:

- (a) location at which the test began;
- (b) location and description of anomalies as per test;
- (c) location and description of anomalies as per visual confirmation;
- (d) general condition and cleanliness of the rope;
- (e) hours of operation since last test;
- (f) locations requiring special attention, and comments;
- (g) recommendations for date of next test;
- (h) calculated strength reduction;
- (i) condition of splice(s);
- (j) rope diameter
- (k) lay length.

All other requirements remain the same.

THIS RULING TAKES EFFECT IMMEDIATELY.

T. GORDON SMITH, P.Eng. - Director
NLB:gd



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	06/83	
DIRECTOR'S RULING	Date:	Date:
	October 11/83	

Subject: HOISTWAY ENCLOSURE, GUARDING OF LANDINGS AND LANDING PLATFORMS, CAR DOORS NEW REQUIREMENT

Sent to: CONSTRUCTION HOIST CONTRACTORS

Following resolutions of the CSA Z185 and Z256 Committees, as agreed at the September 15 and 16, 1983 meetings, we have decided:

- A) To propose deletion of section 61 of Ontario Regulation 229/81, and;
- B) Notwithstanding clauses 4.3, 6.3 & 6.9.5 of CSA Z185 and clauses 4.4, 4.5.1.7, 6.3 and 6.9 of CSA Z256, the following requirement shall apply to hoistway enclosures, guarding of landings and landing platforms and car gates on personnel and material hoists.

All construction hoists erected/initially inspected after January 31, 1984 must conform to these requirements. Hoists installed before that date shall conform either to the existing CSA Z185/Z256 and O.Regulation 229/81 requirements or to the following requirements:

**REPLACES
EXISTING
CLAUSE**

NEW REQUIREMENT

- | | |
|--|---|
| <p>4.3 (Z185)
6.3 (Z185)
4.4 (Z256)
6.3 (Z256)</p> | <p>A. <u>Hoistway Enclosure and Protection Around Hoist</u> (All hoists)
“Hoistway” means a temporary shaftway which is the space travelled by the car or counterweight that extends from the hoistway pit floor to the underside of the overhead structure.</p> <p>A.1 The hoistway enclosure may be omitted except that:</p> <ul style="list-style-type: none"> (a) On every landing side, except for the landing openings (see clause related to hoistway doors or gates), the hoistway shall be enclosed in full width and above each landing floor in height at least: <ul style="list-style-type: none"> (i) 2500mm (8ft.); or (ii) To the underside of the next floor, whichever is less. (b) Pits shall be fully enclosed; (c) Hoistway enclosures at grade level shall be at least 3500mm (12 ft.) in height measured from grade level; (d) Each side of the hoistway which is adjacent to areas permitting normal passage of personnel (such as passageways, stairwell, etc.) shall be enclosed in conformance with the following table: |
|--|---|

**REPLACES
EXISTING
CLAUSE**

NEW REQUIREMENT

Horizontal Distance from Moving Car and / or Counterweight to area permitting normal passage	Minimum Height of Enclosure
0 to 300 mm (0 to 12".)	2500mm (8 ft.)
Over 300mm to 1200 mm (Over 12" to 48")	1980 mm (6 ft. 6 in.)
Over 1220 mm (Over 48")	Standard construction protection (see B2.2)

- A.2 All enclosures shall extend at least 600mm (24in.) on each side of the moving car and/or counterweight.
- A.3 If any portion of the hoistway landing side or sides throughout the car travel remains unenclosed, as permitted in clause A.1(a)(ii) for the floor to floor distances greater than 2500mm (8ft.), refer to clause C.6.6 for personnel hoists or to clause D. for material hoists.
- A.4 Construction of hoistway enclosure
- A.4.1 Hoistway enclosures shall be so supported and braced that when they are subjected to a force of 450N (100lb.) applied horizontally at any 50 x 50mm (2 x 2in.) area of enclosure, the deflection will not exceed 20mm per 1m (1/4in. per ft.) of width of the enclosure, nor will it reduce the running clearances below the minimum required in corresponding clauses.
- A.4.2 Hoistway enclosures, if of openwork shall:
- a) Reject a ball of 25mm (1in.) in diameter;
 - b) Be made of steel wire at least 1.6mm in diameter (No. 16 steel wire gauge).

None-(Z185) B. Guarding of Landings and Landing Platforms (All hoists)

- 4.5.1.7 (Z256) B.2.1 At each landing there shall be a guard on each side of the hoistway entrance opening extending at least 600mm (24in.) from the landing entrance opening and at least 2440mm (8ft.) high to prevent inadvertent contact by persons with the moving car or counterweight.
- B.2.2 Landing platforms shall have protection complying with the local regulations pertaining to construction safety.

EDB Director's NOTE: In the Province of Ontario "Occupational Health and Safety Act and Regulations for Construction Projects" applies.

**REPLACES
EXISTING
CLAUSE**

NEW REQUIREMENT

- 6.9.5 (Z185) C. Car Door Contact and Lock (on personnel hoists)
- C.6.5 Each car door shall be provided with an electric contact. This contact shall:
- a) Prevent moving the car unless the car door is in the closed position;
 - b) Be so located as to be inaccessible from inside the car;
 - c) Be maintained in the open position by the action of gravity or by a restrained compression spring or both, or by positive mechanical means.
- C.6.6 In addition to clause C.6.5, where a car entrance faces a hoistway side which is not entirely enclosed throughout the hoistway height, the car door at such entrance shall be provided with a locking device which shall:
- a) Mechanically lock the door before the car has moved more than 300mm (12in.) away from a landing;
 - b) Prevent opening of the door unless the car is within 300mm (12in.) of a landing.
- 6.9 (Z256) D. Car Doors (on material hoists)
- D.4.1 Where a car entrance faces a hoistway side which is not entirely enclosed throughout the hoistway height, it shall be provided with car doors. This requirement commonly applies to the car entrance falling away from the building or structure, but is also applied to the car entrance facing the building or structure if that side of the hoistway is not entirely enclosed.
- D.4.2 The doors shall:
- a) Guard the entire entrance and in no case shall they be less than 1980mm (6ft., 6in.) in height;
 - b) Be of the horizontally or vertically sliding type;
 - c) Where openings are used, reject a 25mm (1in.) diameter ball.

T. GORDON SMITH, P.Eng. - Director



Elevating and Amusement Devices Safety Division	Ref. No.: 07/83	Rev. No.:
DIRECTOR'S RULING	Date: October 19/83	Date:

Subject: MOLINE (MAC) DOOR INTERLOCK - TYPE NO. 15

Sent to: ALL ELEVATOR CONTRACTORS

The samples of broke (die cast) hooks (beaks) of MAC type No. 15 door interlocks have been received by this Branch during recent months.

In response to our enquiries, Montgomery Elevator Co. Ltd., Moline's Canadian Representative, have advised as follows:

The problems were passed to the manufacturer, Moline Accessories Corporation (MAC).

First, the occasional failures of older-style die cast beaks seems to correlate with overstress at some time in their service life. This is confirmed by the lack of visible flaws at the fracture points in the three samples we examined.

MAC have had occasional similar cases in the United States and in the light of experience gained with their standard stamped steel beak decided to design one along the same lines for replacement orders. I enclose the relevant illustration. Tooling was completed early this year and effective Feb. 10, 1983 all orders for replacement die-cast type beaks have been filled with the steel hook assembly.

As MAC is a supplier to the Elevator Industry as a whole, only steel new or replacement style MAC beaks are now available to the trade, and MAC feel the problem will not recur.

Please be advised that the small number of problems experienced with beak breakage has not warranted any recall program in Canada or the United States of which we are aware.

In order that we can get a clearer picture of the actual extent of the problem, elevator contractors in the Province of Ontario are requested to instruct maintenance mechanics to inspect die cast hooks on Moline door interlocks type no. 15 during regular maintenance on a routine basis and report cracks or beaks which are discovered.

When using replacement Moline interlocks, die cast hooks shall not be utilized, only the newer steel hook is acceptable.

T. Gordon Smith, P.Eng.
Director



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	08/83	
DIRECTOR'S RULING	Date:	Date:
	October 24/83	

Subject: SAFE WORKING PRACTICE

Sent to: ALL ELEVATOR CONTRACTORS

Early in September this year, two mechanics, employees of a registered contractor went to an apartment building in Hamilton to shorten the hoist ropes (babbitted sockets). These men decided to do the work at the main floor and slung the car, using a come-along. All the hoisting ropes were removed from the car hitch plate, but then the sling and/or come-along holding the car broke; the car landed in the pit, compressing the buffer and the counterweight fell approximately 20 floors, causing extensive damage in the pit area. One of the mechanics was severely injured as the cables came down on top of the car, and the other mechanic received minor injuries. Two fatalities were narrowly avoided.

This accident brings into question the judgement of the workers, the type of instruction they received from their employer, the equipment used for the job and the whole spectrum of working practice, including the safety of those working in or using adjacent areas.

The Elevating Devices Act requires that persons working on elevators be "mechanics" or properly supervised "mechanics-in-training" as defined in the Act. The qualification includes all aspects of installation and maintenance, including working practice. Section 17(1) states:

- 17.-(1) No person shall conduct himself in or on an elevating device or perform any work on an elevating device in such a manner as to,
 - a) impair the safe operation of the elevating device; or,
 - b) endanger himself, any other person or freight.

In terms of working practice, the most specific legislation is the Ontario Occupational Health and Safety Act, which contains many provisions related to the conduct and practice of workmen. This legislation applies to all employers in Ontario.

You must ensure that your company has established working practice guidelines and that your employees are familiar with the legal requirements and responsibilities.

It should be obvious to everyone that working on and around elevating devices can be extremely dangerous if proper procedures are not followed. Assured safety is one of the prime reasons for the qualification and registration requirements in the Act.

POOR PROCEDURES, CARELESSNESS AND LACK OF TRAINING CAN COST LIVES.

T. Gordon Smith, P.Eng.
Director



Elevating and Amusement Devices Safety Division	Ref. No.: 09/83	Rev. No.:
DIRECTOR'S RULING	Date: December 20/83	Date:

**Subject: ACCIDENT/INCIDENT REPORTING, TEST EQUIPMENT, ELEVATING DEVICE
PRE-INSPECTION**

Sent to: ALL CONTRACTORS

Item 1: ACCIDENT AND INCIDENT REPORTING

The Elevating Devices Branch Director's Ruling/Information for Registered Contractors No. 01/82 dated November 18, 1982 dealt with the importance of reporting accidents and incidents. Recent events have confirmed that many contractors are not taking this reporting obligation seriously, and this neglect of your responsibility can only lead to problems in future; particularly in the light of our new approach to the resolution of problems derived from information received in incident reports. I suggest that each contractor immediately ensure that this important requirement is complied with in all respects.

Item 2: PROVISION OF TEST EQUIPMENT

On recent occasions, inspectors have been told by contractors and/or mechanics that they do not possess testing equipment; e.g. tachometers or electrical testing equipment, and rely on equipment provided by the inspector. The provision of this equipment is the responsibility of the contractor.

Item 3: EXAMINATION OF AN ELEVATING DEVICE - FORM ID-29438

Some contractors are not complying with the Branch's requirements in respect to their obligation to inspect a new elevating device prior to calling for an initial inspection. More emphasis will be placed on this requirements starting January 1, 1984.

There is provision for allowing incomplete items to be reported to this Branch, and this is covered on the form which is sent to each contractor in the registration package. You must ensure that your examiner is fully familiar with the requirements of the Regulation and permissible deviation requiring advance disclosure.

T. GORDON SMITH, P.Eng., Director

TGS/ef



Elevating and Amusement Devices Safety Division	Ref. No.: 10/84	Rev. No.:
DIRECTOR'S RULING	Date: March 15/84	Date:

**Subject: OTIS "R" TYPE GOVERNORS –
PIVOTS IN THE BALE ARM MUST BE SECURED BY "DRIVE-LOK" PIN**

Sent to: ELEVATOR CONTRACTORS

ORDER TO CONTRACTORS

On all elevators maintained by your company and equipped with an Otis "R" type governor, you are requested to check, as soon as possible, the means of securing the bale arm. If your check indicates that replacements, as outlined below, are required, you must carry out the work immediately if included in your maintenance contract or obtain authorization from the owner to proceed. If this authorization is not forthcoming, you must inform this Branch and advise the owner that the Elevating Devices Branch will order him directly to do so. An inspection fee may be incurred.

BACKGROUND

If the pivot pins are not properly secured, the bale may fall off - making the governor inoperative.

A majority of Otis "R" type governors manufactured between 1966 and 1980 were equipped with ROLL (SPRING) PINS, part #31AX49 (as shown in figure 1**). It has been found that in time such pins may lose their original strength or for other reasons may cease to perform the intended function.

Since the end of 1980, Otis has been using Drive-Lok pins, as shown in figure 2**.

Before 1966, Otis "R" governor bale arm were secured by "barrel with cotter pin" which need not be replaced.

REPLACEMENT INSTRUCTIONS

Roll (spring) pins (figure 1**), if used to secure the bale arm of an "R" governor, must be replaced with Drive-Lok pins or equivalent securing means.

The Drive-Lok pin is a direct replacement; is 1/2" in diameter; 1" long and can be obtained from:

Drive-Lok Inc.
Sycamore, Illinois, U.S.A.
or
Otis Elevator Co. Ltd. P/N 81CH3

* and to elevator owners where attached to the inspector's report
** see Hard Copy for Figures 1 & 2

T. GORDON SMITH, P.Eng., Director

TGS/ef

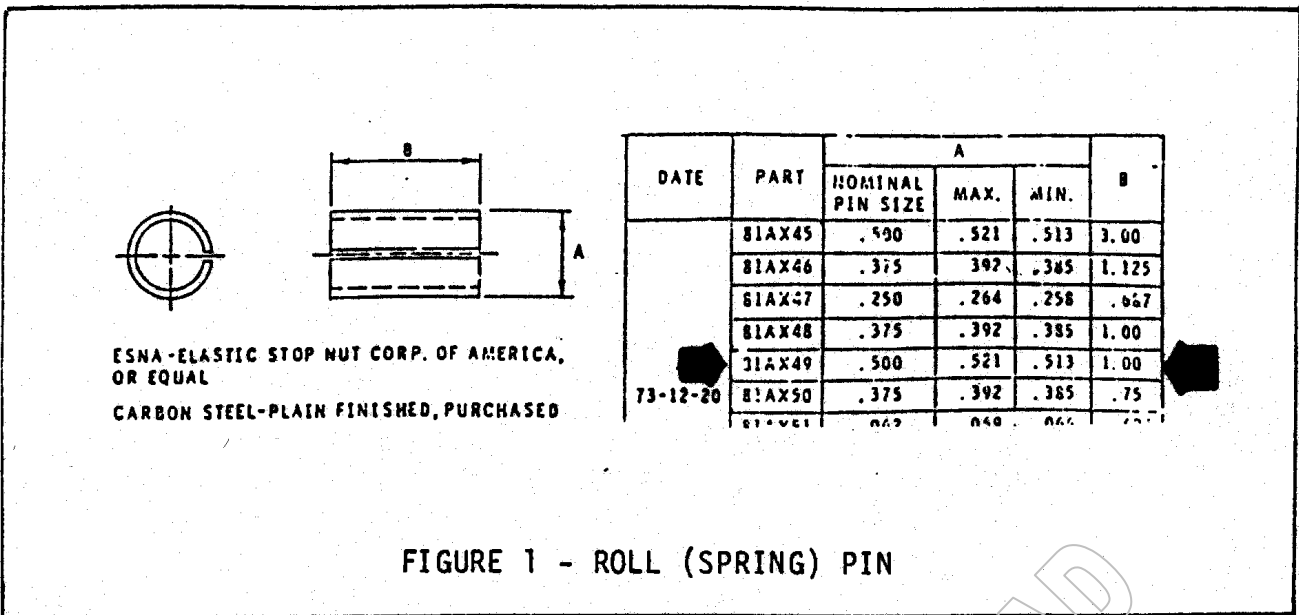


FIGURE 1 - ROLL (SPRING) PIN

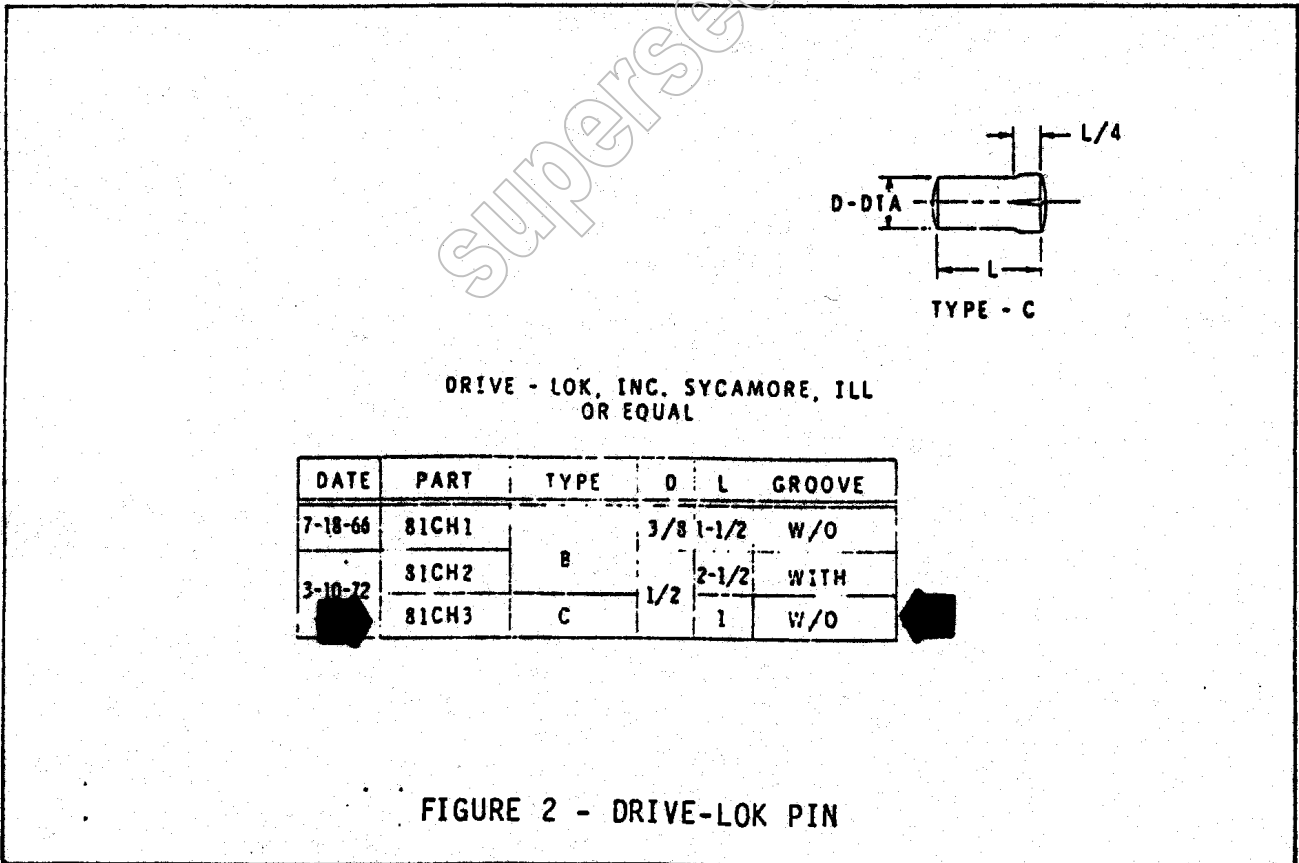


FIGURE 2 - DRIVE-LOK PIN



Elevating and Amusement Devices Safety Division	Ref. No.: 11/84	Rev. No.:
DIRECTOR'S RULING	Date: March 15/84	Date:

Subject: HOISTWAY DOOR GIBS PASSENGER ELEVATORS

Sent to: ELEVATOR CONTRACTORS IN SCOPE A1

IMPORTANT

There have been a number of accidents recently in the Province of Ontario relating to failure of hoistway door gib or gibs. These accidents are of particular concern to this Branch, and contractors share our concern. In order that this Branch may properly assess the quality of hoistway door gibs being used in the Province of Ontario, you are required to:

- 1) Submit 3 of each type of passenger hoistway door gibs that you currently use.
- 2) Indicate by tie-labelling each gib:
 - a) your company name and registration number;
 - b) whether this is an original manufacturer part, showing the number;
 - c) replacement part -- supplier's name, address and part number; and
 - d) mounting method and fasteners to be used when attaching the gib to the hoistway door; e.g., number and size of screws, indicating whether the part manufacturer lays down this procedure and whether fasteners are supplied by him as part of a kit.

Testing, as part of our investigation under section 29(4) of the Elevating Devices Act, will commence in early April. Please arrange for these samples to be delivered to the Elevating Devices Branch, 3300 Bloor Street West, Shipp Centre-West Tower, 3rd Floor no later than MARCH 30, 1984.

T. GORDON SMITH, P.Eng. - Director

TGS/NLB/ef



Elevating and Amusement Devices Safety Division	Ref. No.: 12/84	Rev. No.:
DIRECTOR'S RULING	Date: April 13/84	Date:

Subject: BECKETT GOVERNOR TYPE G79 - NECESSARY MODIFICATION

Sent to: SELECTED *LIST OF ELEVATOR OWNERS

*Owners of elevators equipped with Beckett governor type "G79" and not maintained by Beckett.

Beckett Elevator Co. has informed us that you have been advised of the modifications that must be carried out on the overspeed governors type G79 installed on elevators under your ownership.

We refer to Beckett Elevator's letter dated November 30, 1983 (drawings #400053, 200212 & 200337; attached to Hard Copy) and another letter dated March 8, 1984 (with attached "Equipment Manual" of March 1, 1984 and drawing #200379).

In accordance with subsection 10(8) of the Elevating Devices Act, 1980, you are requested to have the above modifications completed by not later than June 8, 1984.

Applicable to elevators:

At

T. GORDON SMITH, Director, P.Eng.

Attachment 1(g)

LIST #2 - GOVERNORS TO BE MODIFIED BY OWNERSRevised by E.D.B.
April 18, 1984

<u>DIST.</u> <u>#</u>	<u>INSTALLATION</u> <u>#</u>	<u>ADDRESS</u>	<u>OWNER</u>
15	33,679/80	280 Simcoe St., Tor.	M.T.C.C. 280 Simcoe St. TORONTO, Ontario M5T 2Y5
15	33,685/6	195 St. Patrick, Tor.	M.T.C.C. 195 St. Patrick St. TORONTO, Ontario M5T 2Y8
21	35,726/7 35,838/9	Ontario Hydro Atikokan	Atikokan G.S. Constr. Box 1900 ATIKOKAN, Ontario POT 1C0
16	11,516 35,803/4	86 Bloor St.W., Tor.	Dennis Commercial Properties 76 St. Clair Ave. W. TORONTO, Ontario M4V 1N3
15	12,605	Haultain Bldg. Kings College Rd. Toronto	Mr. P. McVain University of Toronto 215 Huron Street TORONTO, Ontario M5S 1A1
02	35,891/2	80 Rideout, London	May Elevator Co. Ltd. 90 Towerline Place LONDON, Ontario N6E 2T1
03 03	19,022/3 36,491/2	492 Springbank Rd. 500 Springbank Rd. London	May Elevator Co. Ltd. 90 Towerline Place LONDON, Ontario N6E 2T1
31 31	35,753/4/5 35,833/4/5	Greenbank Towers Draper St., Ottawa	Assaly Corp. 900 Dynes Rd. OTTAWA, Ontario K2C 3L6
30	35,984/5/6	1541 Riverside Dr. Ottawa	Centurion Prop. Mgnt. Corp. 1725 Woodward Dr. OTTAWA, Ontario K2C OR4
27	35,735/6/7/8	2035 Kennedy Rd. Scarborough	Wharton Const. Inc. 1200 Aerowood Dr., Unit 50 MISSISSAUGA, Ontario L4W 2S7
20	35,530/1	2200 Regent St. S. Sudbury	Heddington Holdings Ltd. 1040 Lorne St., Unit 5 Subdury, Ontario P3C 4R9



Elevating and Amusement Devices Safety Division	Ref. No.: 13/84	Rev. No.:
DIRECTOR'S RULING	Date: May 16/84	Date:

**Subject: DOVER ELEVATORS WITHOUT RETIRING CAM-POTENTIALLY UNSAFE,
(landing doors may open with car out of landing zone)**

Sent to: ALL ELEVATOR CONTRACTORS IN SCOPE A1

Item 1: ORDER TO CONTRACTORS

1.1 On every Dover passenger elevator maintained by your company, you are requested to check the landing doors opening and unlocking method:

Following the instructions outlined in 2 below if you find all three of the following conditions exist:

- a) retiring cam IS NOT provided, and
- b) the door CAN be power opened with the car out of the landing zone, and
- c) the door operator is TYPE 0-61 (rack and pinion drive)

DISREGARD THIS RULING if you find any of the follow conditions:

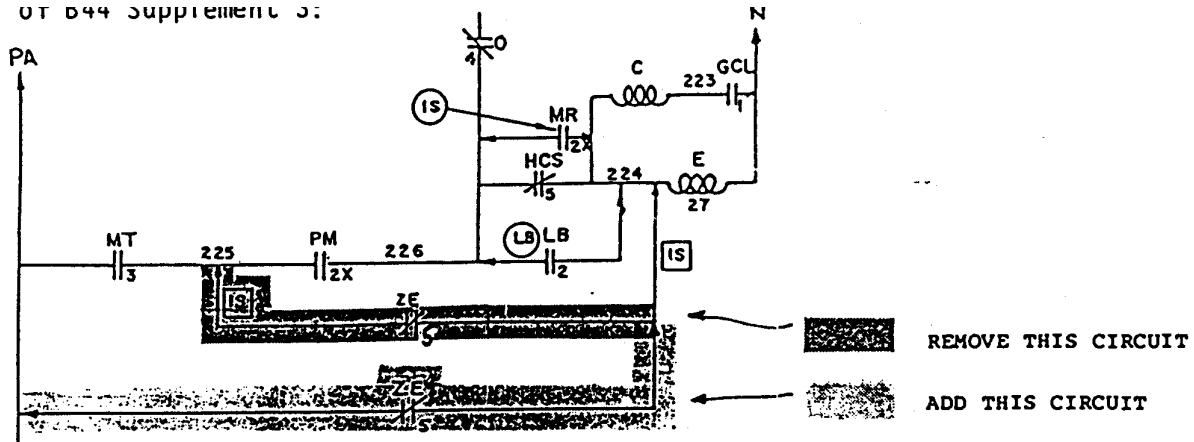
- retiring cam IS provided, or
- the door CANNOT be power operated with the car out of landing zone, or
- the door operator is OTHER than type 0-61

Item 2: INSTRUCTIONS FOR CHANGES

2.1 On elevators where you find that all three conditions a), b) & c) exist, you must carry out the changes described in 2.2 immediately if included in you maintenance contract, or obtain authorization from the owner to proceed.

If this authorization is not forthcoming, you must inform this Branch and advise the owner that the Elevating Devices Branch will order him directly to do so. An inspection fee may be incurred and also a shutdown order may be issued if the required changes are not completed by July 31, 1984.

2.2 On elevators where all three conditions a), b) & c) exist, the following changes must be carried out in order to make the car door not openable either by power or by hand out of the landing zone in accordance with clause 3.8.5.8 of B44 Supplement 3:



Should you find that actual wiring was not per above schematic diagram or that by changes you do not achieve the expected result or should you need any clarification, please contact in writing:

Dover Elevator Co. Field Operations Department , 126 John Street, Toronto, Ontario M5V 2E3

Item 3: BACKGROUND

- 3.1 The reason for this ruling is that on a job with an 0-61 operator, the hall doors could be opened by the car door when the car floor was only inches below the hall door header. This was possible because the car door was bent out at the bottom and when it opened the safety edge caught the clutch at the top of the hall door. This unlocked the hall door and pulled it open too, making it possible for someone to walk into an open hoistway.
- 3.2 The job on which this was discovered was installed in 1965 when it was permissible to open doors under power wherever the car stopped. Since doors can easily be bent due to accident or abuse, the safest approach is to change the door operation to conform with the current elevator code as shown on the schematic above in the case of type 0-61 operators.
- 3.3 Jobs with retiring cams do not need to be modified because different mechanisms are used for unlocking and opening the doors (eg. 0-52 operators with retiring cam).

T. Gordon Smith, P.Eng.
 Director



Elevating and Amusement Devices Safety Division	Ref. No.: 15/84	Rev. No.:
DIRECTOR'S RULING	Date: November 1/84	Date:

Subject: TEMPORARY RULES FOR AUTOMATIC LEVELLING OF VERTICAL PLATFORMS - TYPE C

Sent to: CONTRACTORS - ED FOR THE HANDICAPPED

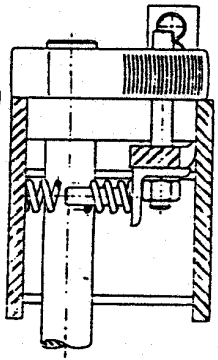
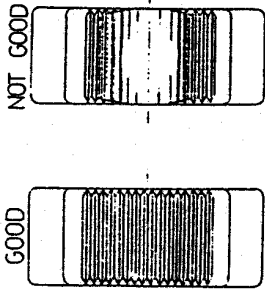
In the province of Ontario, vertical platform lifts - type C, with travel in excess of 2500mm, may be provided with AUTOMATIC TWO-WAY LEVELLING devices under the conditions stipulated in 1 to 7 below.

All clauses referenced in this Ruling are from the CSA/B355 Safety Code for Elevating Devices for the Handicapped. Clauses marked with an asterisk relate to revisions approved by letter ballot #3 of 1984.

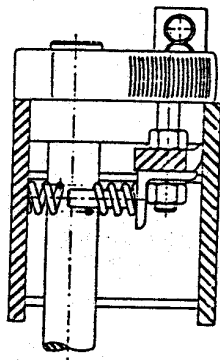
- 1) The automatic levelling zone shall not extend further than 100mm in either direction from landing level.
- 2) The emergency stop required in clause 7.5.2.1 shall be of the continuous pressure type and shall override the automatic levelling control.
- 3) A visual indicator shall be provided to signal the user that the lift is within a levelling zone. (Note: This visual indicator shall be a device which is obvious and easily understood by a first time user; e.g. a light which either illuminates or extinguishes when in the levelling zone and is suitably signed; "WHEN LIGHT IS ON, IF YOU ARE AT YOUR FLOOR, RELEASE CALL BUTTON, OPEN DOOR WHEN LIFT HAS STOPPED").
- 4) The failure of any single magnetically operated switch, contactor or relay to release in the intended manner or the occurrence of a single accidental ground shall not permit the platform to travel beyond the automatic levelling zone.
- 5) Each landing level shall be clearly and legibly marked in letters or numbers of at least 25mm high. Markings shall be visible to the user within the carriage regardless of the direction the user is facing; e.g. an intermediate landing of a 'through' carriage shall be marked on the runway side of the landing door and on the runway enclosure opposite the landing door.
- 6) When the platform is within the levelling zone (see 1 above), the automatic levelling device shall automatically move the platform towards the landing and automatically stop it within not more than 20mm* from the landing level, regardless of the landing door or gate being open or closed (see item 7a below), except as stipulated in 2 above.
- 7) Where an automatic levelling is provided;
 - (a) The limits of 50mm in clauses 4.2.3.1(b), 4.2.3.4 and 4.2.4.1(b) related to landing door or gate locking systems, may be increased up to the limits of automatic levelling zone (see 1 above), provided that if the unlocked door is pushed open the platform shall stop within the levelling zone and relevel in accordance with rule 6 above.
 - (b) No additional anti-creep device, per clause 5.7.5* is required and the limit of 50mm may be increased up to the limit of automatic levelling zone (see 1 above).

T. GORDON SMITH, P.Eng. - Director

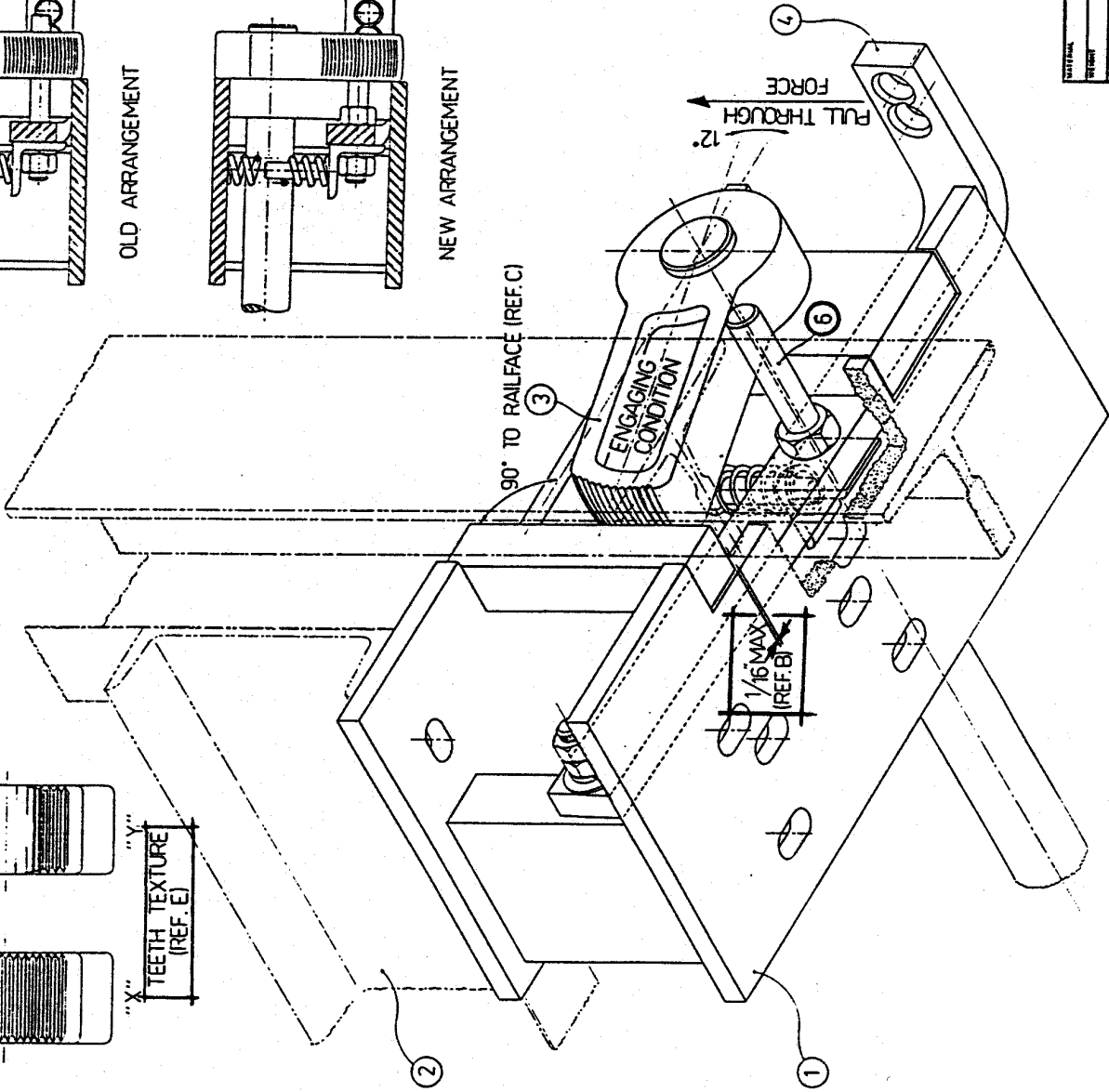
ITEM	DESCRIPTION	NUMBER	QTY
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OLD ARRANGEMENT



NEW ARRANGEMENT



VIEW FROM THE BOTTOM

INSTANT SAFETY INSTRUCTIONS

- A) LOCATE LEFT & RIGHT HAND BODIES ① TO THE UNDER-NEATH OF CAR SLING BUMPER ②.
- B) SET & FASTEN THE ABOVE BODIES ALLOWING 1/32 (0.125 - 0) MAX. GAP BETWEEN THRUST BLOCK'S AND RAIL'S FACES.
- C) AT 18° CONDITIONS 11-12 DEGREE ENGAGING ANGLE SHALL BE OBSERVED WHEN THE SAFETY DOG'S TEETH TEXTURE ③ CONTACTS THE RELATIVE RAIL FACE.
- D) VERIFY SIMULTANEOUS DOGS (L.H. & R.H.) ENGAGEMENT TO THE RAILS WHEN PULL THROUGH FORCE IS APPLIED TO THE ACTIVATOR LEVER ④ (TWO ORDINARY PAPER SHEETS WILL BE HELPFUL IN THAT WILL SHOW TEETH MARKS - INDENTATIONS).
- E) TEETH TEXTURE CONDITIONS MUST BE VERIFIED AFTER EVERY SAFETY LOAD TEST. HEARING OR CRACKS (WHICH WILL INDICATE THE NEED OF DOGS REPLACEMENT. IN CASE OF DOUBT CONSULT NORTHERN ELEVATOR. ACTIVATING PIN ⑤ MUST BE CHECKED BEFORE REASSEMBLING. PRESENCE OF CRACKS OR BENDING IMPLIES ITS REPLACEMENT.

REV.	DATE	BY	CHK.
INSTANT SAFETY INSTRUCTIONS			
ASSEMBLY No. C-113-1000			
C-113-1035			

NORTHERN ELEVATOR LIMITED

T. Gordon Smith, P.Eng. Director



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	17/84	
DIRECTOR'S RULING	Date:	Date:
	Nov. 16/84	

Subject: SIGNS REQUIRED IF COUNTERWEIGHT RUNBY ON ELEVATORS IS NOT THE MAXIMIUM ALLOWED BY THE B44

Sent to: ELEVATOR CONTRACTORS IN SCOPE A1 & F1

Item 1: ORDER TO CONTRACTORS INSTALLING NEW ELEVATORS

If the MAXIMUM BOTTOM COUNTERWEIGHT RUN BY (as indicated in box 62 of the Specification Sheet #ID-29410) is limited to less than 914mm (36") for any reason, typically in order to ensure that the minimum top-car clearance (as specified in box 71 of the Specification Sheet) conforms to the Code, the following sign, with letters a minimum of 25mm (1") in height, must be permanently attached to, or printed on, the hoistway wall in the vicinity of the counterweight buffers:

"WARNING: MAXIMUM BOTTOM COUNTERWEIGHT RUN BY IS..... "

Item 2: ORDER TO CONTRACTORS MAINTAINING ELEVATORS

When changing or shortening ropes on elevators, you must ensure that top-car clearances are in accordance with clause 2.8.1.5 of CSA/B44 Code (1975). If you find that the maximum bottom counterweight clearance is required to be less than 914mm (36"), you are advised to post the sign mentioned in 1. above.

Item 3: REASON

Clause 2.8.1.4 of the CSA/B44 Code (1975) limits the maximum counterweight bottom run by to 914mm (36"), and therefore permits the maximum run by to be less than 914mm, generally to accommodate a "short hoistway overhead" .

However, at the time of re-roping, the mechanic may not be aware of the run by limitation and if he fails to check the top-car clearances, he may routinely set the counterweight bottom run by to 914mm (36"), therefore violating the Code requirements with respect to the top-car clearances and creating unsafe conditions in the car overhead.

T. Gordon Smith, P. Eng. -Director



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	17/84	
DIRECTOR'S RULING	Date:	Date:
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T. Gordon Smith, P. Eng. -Director



Elevating and Amusement Devices Safety Division	Ref. No.: 18/84	Rev. No.:
DIRECTOR'S RULING	Date: November 19/84	Date:

**Subject: SAFETY TEST RECORDS -- Section 23 of Ontario Regulation 229/81
Under Elevating Devices Act: Detailed Requirements for Inspection and Testing of Safety
Devices & Overspeed Governors**

Sent to: ALL REGISTERED ELEVATOR CONTRACTORS

Ontario Regulation 229/81 Section 23

- (1) Where maintenance is carried out on an elevator, dumbwaiter, elevating device for the handicapped or freight platform lift that is equipped with a safety device, the maintenance referred to in subsection 22(3) shall include an inspection and testing of the safety device and overspeed governor, where an overspeed governor is provided, in accordance with clauses B.1.4, B.1.5 and B.1.6 of the code referred to in section 37.
- (2) Where the maintenance is carried out on an endless belt type manlift, the maintenance referred to in subsection 22(3) shall include an inspection and testing of the safety brake to ensure compliance with clause 5.2.2.3 of the code referred to in section 46.
- (3) Where the maintenance is carried out on a counter-balanced type or power type manlift, the maintenance referred to in subsection 22(3) shall include an inspection and testing of the safety device and overspeed governor, where an overspeed governor is provided, to ensure compliance with clauses 6.11.3 or 7.6.8.2, as the case may be, of the code referred to in section 46.
- (4) The inspection and tests required under subsections (1), (2) and (3) shall be carried out at intervals determined in accordance with subsection 22(2), provided that such intervals are not longer than twelve months between the inspections or tests, as the case may be.
- (5) A record of inspections and tests carried out under subsections (1), (2) and (3) shall be made in triplicate on forms supplied by the Ministry and one copy shall be posted in the machine room of the elevating device, one copy shall be kept on file by the contractor and one copy shall be kept on file by the owner and each such record shall be retained for a period of three years from the date of the inspection or test.
- (6) Where the ownership of an elevating device changes, the records referred to in subsection (5) shall be transferred to the new owner. O.Reg. 803/82, s. 1.

Subsection 5 requires that one copy of the certificate of inspection and test be posted in the machine room of the elevating device; other copies must be retained as specified. A problem has arisen -- in a minority of cases -- where, for example, the copy in the machine room has been carelessly stuffed behind electrical conduits, inside control panels or anywhere that seems to suit the convenience of the mechanic at the time.

THE INTENT OF THE SECTION IS THAT THE CERTIFICATE SHOULD BE POSTED (TOGETHER WITH THE PREVIOUS TWO YEARS CERTIFICATES), ON THE MACHINE ROOM WALL, NEAR THE ENTRANCE.

It is recommended that a special board, or frame, be provided.

Where the record is missing, or where it is inaccurate, incomplete or illegible, an additional test must be ordered. This duplication, which must be avoided by proper supervision on your part, is neither in the contractor's interest nor in the interest of the Branch, and incurs unnecessary, additional expense.

T. GORDON SMITH, P.Eng. - Director



Elevating and Amusement Devices Safety Division	Ref. No.: 19/84	Rev. No.:
DIRECTOR'S RULING	Date: November 20/84	Date:

Subject: SPEED LIMITS - WORKMAN'S CONSTRUCTION HOISTS

Sent to: ALL CONSTRUCTION HOISTS CONTRACTORS

We have been approached recently, on an exploratory basis, in regard to a possible increase of the upper limit of the speed at which a workman's construction hoist is permitted to operate, as shown in clause 6.11.1.4 of Z185. Our position, generally speaking, is that the operating speed of the equipment currently in use and normally envisaged in the standard should be limited in accordance with clause 6.11.1.4. However, this would not preclude equipment operating at a higher speed, providing it could be shown that the safety of users, other workers on the construction project and passersby would be assured. One possible means of providing this assurance would be by adopting elevator technology and making the hoist a hybrid between a construction hoist and an observation elevator complying with the B44 code in most respects but with certain exceptions because of construction use.

These questions have arisen because of a desire to reduce the travel time of a hoist in the construction of very high buildings. Any design submission utilizing elevator technology such as suggested above, may be required to be submitted on an elevator specification sheet rather than a construction hoist specification sheet.

IN ORDER TO ESTABLISH A POSSIBILITY OF VARIANCE ACCEPTANCE, IT IS SUGGESTED THAT YOU CONTACT THIS OFFICE WELL IN ADVANCE WITH DETAILS OF ANY PROPOSAL.

T. GORDON SMITH, P.Eng. - Director



Elevating and Amusement Devices Safety Division	Ref. No.: 20/84	Rev. No.:
DIRECTOR'S RULING	Date: December 17/84	Date:

**Subject: NEW PROCEDURE FOR REPORTING OF MAINTENANCE CONTRACTS
REGISTERED CONTRACTORS MAINTENANCE LIST THE ELEVATING
DEVICES ACT AND REGULATIONS**

Sent to: ALL REGISTERED CONTRACTORS

Regulation 13: (1) requires:

- 13-(1) Every contractor that maintains elevating devices shall submit to the Ministry a list containing data on installation numbers, class and location of the elevating devices being maintained by the contractor together with information indicating the scope of the maintenance contracts.
- (2) Any revision to the list referred to in subsection (1) shall be forwarded to the Ministry quarterly.
O.Reg. 229/81.s.13

After reviewing the listing submitted by contractors as required by subsection (2) of the regulation, we have noted a large number of discrepancies and inconsistencies.

For example:

- i) as many as three contractors claiming to maintain the same installation on a full maintenance contract at the same time,
- ii) reference is frequently made to installation numbers which as yet the Ministry has not issued,
- iii) claims of full maintenance being carried out on dismantled installations,
- iv) contractors registered for elevators claiming they have passenger ropeways on full maintenance.

The above is just a sample of the more common errors and omissions that appear on the list. Obviously, this situation does not indicate good record keeping on the part of the contractor. In order to resolve this problem, we are sending to you a computer printout containing the latest available data taken from our records indicating the installations maintained by you. You are requested to review the listing and delete any installations from the listing that are not maintained by you and also, add installations maintained by you which do not appear on the listing. This listing should reflect installations maintained by you as of January 15, 1985. The amended lists are to be returned to this Branch by February 28th, 1985.

Renewal of your contractor registration is dependent upon receipt of your accurate submission by the February deadline. We expect these changes to result in accurate listings. As soon as the accuracy has been verified, we will change the frequency of reporting from quarterly to annually.

For contractors that are new or those who do not appear on our computer listings, enclosed find ID-29431. We would ask that those contractors complete this form and submit it to us by the above stated deadline.

The above updated and/or new lists should be sent to the attention of Mr. N.L. Benn, Manager, Field Operations.

T. GORDON SMITH, P. Eng. - Director



Elevating and Amusement Devices Safety Division	Ref. No.: 21/85	Rev. No.:
DIRECTOR'S RULING	Date: January 4/85	Date:

Subject: RETAINERS REQUIRED ON NEW SLIDE DOORS

Sent to: ALL ELEVATOR CONTRACTORS

1: INTRODUCTION

The CSA/B44 Committee on Elevator Safety Code has approved the new revised edition of the B44 Safety Code for Elevators, Dumbwaiters...scheduled for printing during 1985.

This code will contain revised requirements for the strength of SLIDE LANDING DOORS panels, hangers, tracks and track supports and also the newly introduced requirements for DOOR SAFETY RETAINERS. Excerpts are reproduced on the reverse.

During an interval of 10 months in 1983/84, 3 incidents were recorded in the greater Toronto area involving broken slide-landing-doors guiding means resulting in door panels falling into the hoistway. In two cases, 2 persons fell several floors.

Because of the seriousness of the problem, I have decided not to wait for the printing of the new B44 Code, but intend to order the implementation of the requirements related to the slide landing doors as soon as possible on new elevators, as outlined below.

Separate instructions, related to retrofitting of existing elevators, will be sent to you in the near future.

2: ORDER RESPECTING NEW ELEVATORS EQUIPPED WITH SLIDE LANDING DOORS

- 2.1 Designs submitted after June 30th, 1985: No design submission for the installation of an elevator equipped with slide landing doors shall be registered if submitted after the 30th of June 1985 unless it includes the statement from a professional engineer as outlined in 2.3.
- 2.2 Elevators inspected after December 31st, 1985: No elevator inspected after the 31st of December 1985 shall be licenced unless its design submission was registered as required in 2.1 or the statement from a professional engineer, as outlined in 2.3 is submitted to the inspector before the inspection commences.
- 2.3 Professional Engineer's Statement: The professional engineer's statement shall confirm that the safety retainers of the slide landing door assemblies, as intended to be installed on a particular elevator, fully conform with clause 2.11.10.5 in the CSA/B44-1985 Code as reproduced on the reverse of this Ruling.

It shall also include the description of the methods, e.g. markings, dimensions, conditions, drawings, etc., that an inspector can refer to in order to ensure that the door safety retainers, as installed in the field, correspond to the samples subjected type testing done by the engineer in support of his statement.

Until the Elevating Devices Branch specification sheet forms for electric elevators (#ID-29410) and hydraulic elevators (#ID-29426) are redesigned to incorporate the statement, a separate form must be attached to the specification sheet. The form is available from this Branch on request. (Ask for form #ID-29410/s, sample attached).

T. GORDON SMITH, P.Eng. - Director



STATEMENT

Re Slide-Landing-Door Safety Retainers*

Supplementary to Specification Sheet for Electric Elevators (Form#ID-29410) or Hydraulic Elevators (Form#ID-29426)

*Note: Primary guiding means and other parts of door assemblies are covered by the statement in item 193 of the specification form.

(A) PROFESSIONAL ENGINEER'S STATEMENT

I have assured myself that the slide landing door safety retainers intended to be installed on elevators designated below, fully conform with the requirements in clause 2.11.10.5 of the CSA/B44-1985 Code as reproduced on the reverse of this form.

(B) THE STATEMENT RELATES TO ELEVATOR(S)

B.1 Submitter's specification No. (11)** _____

B.2 Building address (21)** _____

B.3 Date on specification (193)** _____

**Item numbers in specification sheet forms

(C) THE STATEMENT APPLIES TO DOOR SAFETY RETAINERS IDENTIFIABLE IN THE FIELD AS FOLLOWS:

(Indicate permanent markings and/or description and dimensions and/or conditions for installation, adjustments or any other method which an inspector can refer to in order to ensure that the door safety retainers as installed in the field correspond to the samples subjected to type testing done by the engineer in support of this statement.)

C.1 Door Assembly

C.2 Door Safety Retainers

Date _____

Signature _____

195 Professional Engineer's Stamp

Form #10-29410/s

2.11.10 LANDING DOORS, HORIZONTAL SLIDE TYPE

2.11.10.3 Hangers, Tracks and Track Supports

- 2.11.10.3.1 same as existing clause 2.11.7.3.1
- 2.11.10.3.2 same as existing clause 2.11.7.3.2
- 2.11.10.3.3 same as existing clause 2.11.7.3.3
- 2.11.10.3.4 same as existing clause 2.11.7.4

2.11.10.4 Panels

NEW 2.11.10.4.1 The panels shall overlap the top and sides of the opening and each other, in the case of multispeed doors, by not less than 5/8";

NEW FOR SILLS 2.11.10.4.2 The clearance between the panel and frame, between panel and sill and between related panels of multispeed doors, shall not exceed 3/8".

2.11.10.4.3 The leading panel edge of side-opening doors shall not close into pockets in the strike jamb and shall be smooth and free of sharp projections;

2.11.10.4.4 The meeting panel edges of centre-opening doors shall be smooth and free of sharp projections;

2.11.10.4.5 The meeting edges of centre-opening doors shall be provided with a resilient member on one or both doors to form a shallow overlap;

2.11.10.4.6 Raised plaques or depressed panels shall not project more than 1/8" above or below the face of the door and edges shall be bevelled or radiused;

NEW FORCE 2.11.10.4.7 Panels, hangers, guides and guide shoes shall be capable of withstanding a force of 2500 N applied on the landing side at right angles to and approximately at the centre of the panel. This force shall be distributed over an area of 150 X 150mm. There shall be no appreciable permanent displacement or deformation of any parts of the entrance assembly resulting from this test and the door shall remain operational after the force has been removed.

NEW 2.11.10.4.8 If any combustible material or low melting point material used in the entrance assembly should be consumed or should melt during a fire, the allowable movement of the panels from their normal operating position towards the hoistway shall not exceed 5/8" at the top or bottom;

2.11.10.4.9 Bottom guides shall conform to the following:

- (a) The bottom of each panel shall be guided by one or more members;
- (b) Guide members shall be fastened;
- (c) The guide members and any reinforcements or guards shall engage the corresponding member by not less than 1/4".

Note: See clauses 2.11.10.4.7.

ALL NEW 2.11.10.5 Door Safety Retainers

2.11.10.5.1 The top and bottom of horizontal slide landing doors shall be provided with means for retaining the door panel in position should the replaceable primary guiding means fail, and prevent permanent displacement of the door panel top and bottom by more than 20mm when the door panel is subjected to a force of 5000N applied at right angles over an area of 300 X 300mm at the approximate centre of the panel.

2.11.10.5.2 The retaining means shall be:

- (a) So fixed that the assembly meets the strength requirement in clause 2.11.10.5.1;
- (b) Readily identifiable;
- (c) Not subjected to wear and tear during normal use or maintenance of the elevator.



Elevating and Amusement Devices Safety Division	Ref. No.: 22/85	Rev. No.:
DIRECTOR'S RULING	Date: April 16/85	Date:

Subject: IMPORTANT -- SECTION 40 ONTARIO REGULATION 803/82 s. 3 – COMPLIANCE

Sent to: OWNER CONTRACTORS AND CONTRACTORS

In order to avoid an interruption in service to your clients, you are advised to take immediate action to ensure that all non-conforming passenger and freight elevators comply with Section 40 of the regulations by no later than May 1, 1986.

Section 40 requires "40 notwithstanding subsection 3(2), every non-conforming passenger elevator and freight elevator shall be altered to conform with clauses 3.7*, 3.8*, 3.10.8* and 3.12.2.14* of the code* referred to in subsection 37(1) by the 1st day of May 1986 O.Reg. 803/82, s. 3". This regulation came into force in 1981.

* The code referred to subsection 37(1) is the CSA Standard B44 1975 with supplement #3 safety code for elevators, dumbwaiters, escalators, and moving walks. Copies of this standard may be purchased from The Canadian Standard Association, 178 Rexdale Boulevard, Rexdale, Ontario, M9W 1R3, Phone 416-747-4000.

* The clauses referred to in the code are as follows:

3.7 Car and Counterweight Safeties

- 3.7.1 Where Required. The car of every elevator suspended by wire rope or driven by a rack and pinion machine shall be provided with one or more safeties of the type identified in Clause 3.7.6, except that Type D safeties shall not be used on cars which are suspended by wire rope.
- 3.7.2 Where Located. The safeties shall be attached to the car frame, and one safety shall be located within or below the lower members of the car frame (safety plank). Safeties shall be mounted on a single car frame, and shall operate only on one pair of guide rails between which the frame is located.

3.8 Speed Governors Required and Locations

- 3.8.1.1 Car safeties and counterweight safeties, where furnished, shall be actuated by separate speed governors except that speed governors need not be provided for the following:
- (a) Sidewalk elevators having a rated speed not over 50 feet per minute (see Clause 5.3.7);
 - (b) Counterweights of elevators having a rated speed of not more than 150 feet per minute.
- 3.8.1.2 The governor shall be located where it cannot be struck by the car or the counterweight in case of overtravel, and where there is adequate space for full movement of governor parts.

3.10.8 Driving-Machine Brakes

- 3.10.8.1 The elevator driving machine shall be equipped with a friction brake applied by a spring or springs, or by gravity and released electrically.
- 3.10.8.2 The brake shall be designed to have a capacity sufficient to stop and hold the car with its rated load (see also Clause 3.12.8).
- 3.12.2.14 Hoistway-Door Interlocks or Hoistway-Door Electric Contacts, Hoistway-door interlocks or hoistway-door electric contacts conforming to the requirements of Clause 2.12 shall be provided for all electric or electrically controlled elevators.

You should advise your clients immediately of this requirement as there will be no extension of the May 1, 1986 deadline.

T. GORDON SMITH, P.Eng. - Director



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	22/85	1
DIRECTOR'S RULING	Date:	Date:
	April 16/85	August 29/85

Subject: IMPORTANT -- SECTION 40 ONTARIO REGULATION 803/82 s. 3 – COMPLIANCE

Sent to: OWNER CONTRACTORS AND CONTRACTORS

① Editorially Revised

In order to avoid an interruption in service to your clients, you are advised to take immediate action to ensure that all non-conforming passenger and freight elevators presently maintained by your company comply with Section 40 of the regulations by no later than May 1, 1986. ①

Section 40 requires that every existing non-conforming passenger elevator...and freight elevator shall be altered to conform with clauses 3.7*, 3.8*, 3.10.8*, and 3.12.2.14* of ... CSA Standard B44 – 1975 (including Supplement No. 3-1982), Safety Code for Elevators..., by the 1st day of May, 1986. This regulation came into force in 1981. ①

* The code referred to subsection 37(1) is the CSA Standard B44 1975 with supplement #3 safety code for elevators, dumbwaiters, escalators, and moving walks. Copies of this standard may be purchased from The Canadian Standard Association, 178 Rexdale Boulevard, Rexdale, Ontario, M9W 1R3, Phone 416- 747-4000.

* The clauses referred to in the code are as follows:

3.7 Car and Counterweight Safeties

- 3.7.1 Where Required. The car of every elevator suspended by wire rope or driven by a rack and pinion machine shall be provided with one or more safeties of the type identified in Clause 3.7.6, except that Type D safeties shall not be used on cars which are suspended by wire rope.
- 3.7.2 Where Located. The safeties shall be attached to the car frame, and one safety shall be located within or below the lower members of the car frame (safety plank). Safeties shall be mounted on a single car frame, and shall operate only on one pair of guide rails between which the frame is located.

3.8 Speed Governors Required and Locations

- 3.8.1.1 Car safeties and counterweight safeties, where furnished, shall be actuated by separate speed governors except that speed governors need not be provided for the following:
 - (a) Sidewalk elevators having a rated speed not over 50 feet per minute (see Clause 5.3.7);
 - (b) Counterweights of elevators having a rated speed of not more than 150 feet per minute.
- 3.8.1.2 The governor shall be located where it cannot be struck by the car or the counterweight in case of overtravel, and where there is adequate space for full movement of governor parts.

3.10.8 Driving-Machine Brakes

- 3.10.8.1 The elevator driving machine shall be equipped with a friction brake applied by a spring or springs, or by gravity and released electrically.
- 3.10.8.2 The brake shall be designed to have a capacity sufficient to stop and hold the car with its rated load (see also Clause 3.12.8).

3.12.2.14 Hoistway-Door Interlocks or Hoistway-Door Electric Contacts

- 3.12.2.14 Hoistway-Door Interlocks or Hoistway-Door Electric Contacts, Hoistway-door interlocks or hoistway-door electric contacts conforming to the requirements of Clause 2.12 shall be provided for all electric or electrically controlled elevators.

Note that Clause 2.12 requires interlocks on all passenger elevators and also on all freight elevators except that mechanical locks and electric contacts may be used for manually operated vertically sliding or bi-parting doors on elevator that travel up to 15 feet and the pit not more that 5 feet deep. ①

You are advised to use this Ruling when interpreting to the owners the Elevating Devices Branch Inspectors' directions already issued against non-conforming elevators, and also when advising the owners of the need to alter their non-conforming elevators despite the fact that no direction has yet been issued by the Elevating Devices Branch Inspector against their elevators. ①

T. GORDON SMITH, P.Eng. - Director



Elevating and Amusement Devices Safety Division	Ref. No.: 23/85	Rev. No.:
DIRECTOR'S RULING	Date: April 16/85	Date:

**Subject: IMPORTANT -- COMPLIANCE WITH SECTION 58 OF
ONTARIO REGULATION 229/81 s. 58 REQUIRED**

Sent to: CONSTRUCTION HOIST CONTRACTORS, CRANE AND HOIST ASSOCIATION

In order to ensure continued licensing and registration of design submissions for construction hoists you must comply with Section 58 by no later than May 1, 1986.

Section 58 requires:

58. (1) Subject to subsections (3) and (4), every new installation hoist shall be,
- (a) so designed that the car movement in both up and down directions is continuously controlled by power; and
 - (b) equipped with a safety device operated by a governor, that shall be located at the base of the hoistway or on the car.
- (2) Subject to subsection (4), every existing material construction hoist shall be altered to conform with subsection (1) within five years of the coming into force of this Regulation, unless the construction hoist is equipped with such a device or mechanism that positively and automatically locks the car or platform at a landing whenever the car or platform rests at the landing with the landing door or gate in the open position, and provided that the device or mechanism is capable in itself to support the car or platform loaded up to the maximum capacity.
- (3) Clause (1)(b) does not apply to a workmen's rope-guided construction hoist.
- (4) Subsections (1) and (2) do not apply to a material construction hoist equipped with a load-carrying unit in the form of a bucket. O.Reg. 229/81, s. 58.

This regulation came into force in 1981.

In order to achieve compliance within the given time limit you are advised to take immediate action.

Note: The foregoing does not preclude the use of broken rope safeties providing the equivalent degree of safety is ensured. This would have to be demonstrated on an individual manufacturers basis supported with type testing and certified by a professional engineer.

T. GORDON SMITH, P.Eng. - Director

NLB:gd



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	24/85	
DIRECTOR'S RULING	Date:	Date:
	June 21/85	

**Subject: UNAUTHORIZED MODIFICATIONS OF DOVER DOOR LATCHES MAY
CREATE POTENTIAL HAZARD**

Sent to: ALL ELEVATOR CONTRACTORS IN SCOPE A1

1. ORDER TO CONTRACTORS MAINTAINING DOOR ELEVATORS

On every Dover elevator maintained by your company:

- a) that is equipped with door latches, type 168 and 169, you are requested to ensure that the latch is positively locked down, as described below;
- b) if equipped with door latches type 163 or incorrectly modified type 169, you are requested to carry out changes as described below.

Should you need any further information, contact Dover Corporation directly.

2. EXCERPTS FROM DOVER SERVICE NOTE 85:03 OF May 1, 1985.

From: Roger Medgley
Subject : Unauthorized Latch Modification

While investigating an unrelated problem, we discovered a modified latch arrangement that is potentially dangerous.

The spring and cam had been removed from an 169 latch making it equivalent to an 163 latch. *(See diagrams on the reverse side of Hard Copy of the Ruling.)*

The spring and cam are designed to hold the latch down if someone tries to open the door when the car is not at the floor. Without this hold-down arrangement, the force of the interlock on the latch tends to impart an upward rotation to the latch. Under the right combination of conditions the latch can be unlocked from the hall side. For this reason the 163 latch was replaced on all jobs years ago.

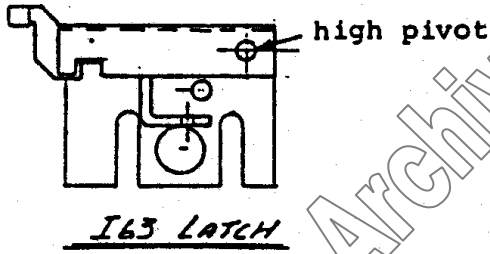
The 171 latch does not need a hold-down mechanism because its pivot point is lower than the point of engagement between the interlock and latch. Any force imparted to the latch by the interlock tends to rotate the latch downward holding it firmly in the locked position.

Please check all installations on your route to make sure no unsafe arrangements exist. Advise your Supervisor immediately if you find any questionable latch arrangement.

Where 168 and 169 latches are used, test to see that the latch is positively locked down. The latch should not move upward by pushing on it. It should release only when the toggle is released by the lift rod moving up. Adjust the lift rod shorter if the toggle action fails to lock the latch down.

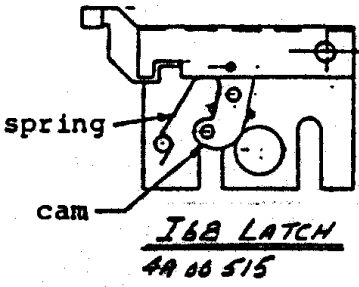
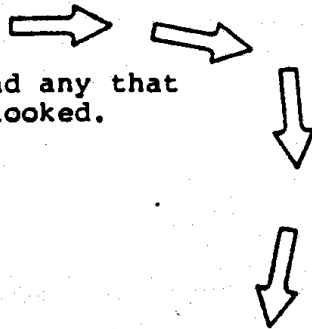
Replace any defective latches.

T.Gordon Smith, P.Eng. Director



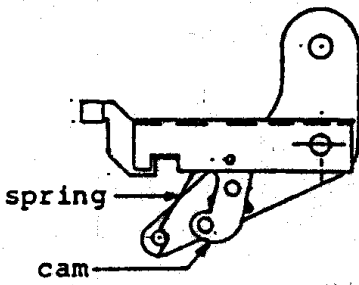
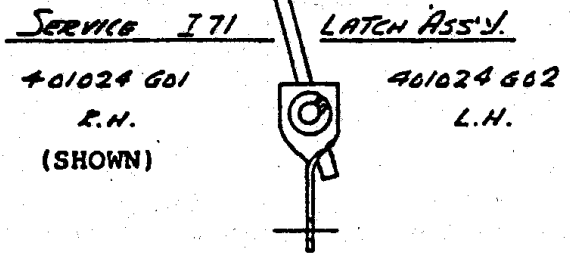
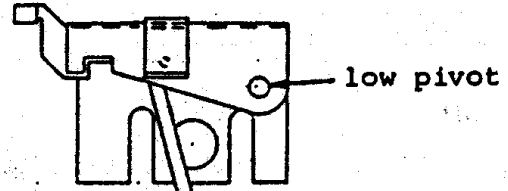
This latch was supposed to be replaced on all jobs.
Replace with

if you find any that were overlooked.



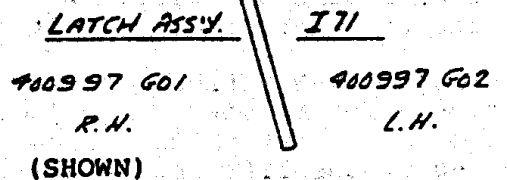
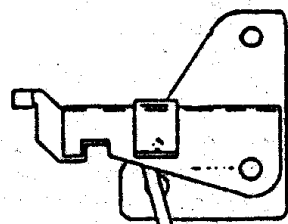
Replace with

if spring or nylon cam is broken, missing or modified.



Replace with

if spring or nylon cam is broken, missing or modified.



I69 LATCH
INTEGRAL HANGER DOORS ONLY



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	25/85	
DIRECTOR'S RULING	Date:	Date:
	July 9/85	

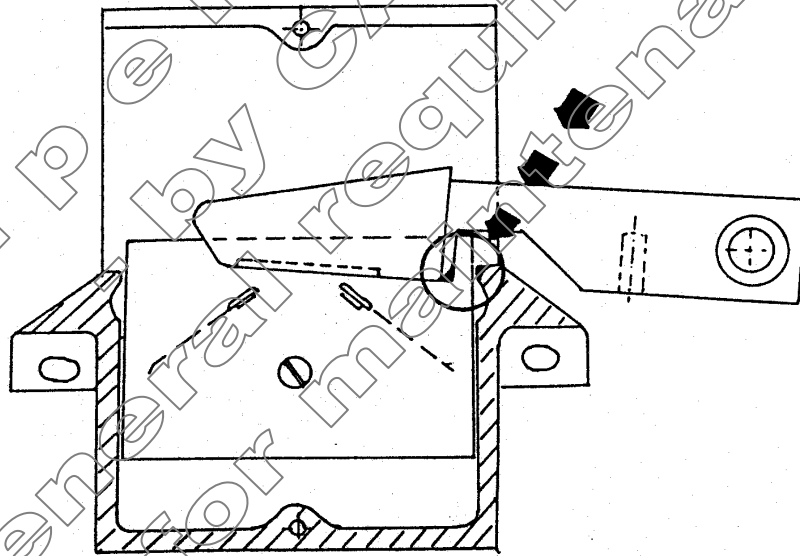
Subject: POTENTIAL HAZARD CREATED BY WEAR ON LOCK BEAK AND LOCK KEEPER

Sent to: ALL ELEVATOR CONTRACTORS

1: ORDER TO ALL ELEVATOR MAINTENANCE CONTRACTORS

On every elevator that is equipped with interlock using locking principle as shown in the sketch below (on Hard Copy of Ruling), you must ensure that:

- a) No contact is made between the lock beak and corresponding locking portion of the cast lock assembly base during the normal process of door locking and unlocking, in order to avoid any wear of those parts.
- b) Interlocks are installed and maintained by mechanics who are familiar with the original manufacturer's installation, operating and adjustment instructions.
- c) If wear of the lock beak and/or its keeper is found, the interlock assembly must be replaced and cause for wear eliminated.



2: BACKGROUND

A fatal accident occurred recently, after an impatient passenger pulled open the slow speed panel of a two speed door, and fell into the hoistway.

The door lock beak as well as keeper plate in the interlock box were found worn to the point which allowed the lock beak to disengage when the door was pulled either from the landing or hoistway side. Due to the incorrect adjustment of car door clutch and pick-up roller, the lock beak was prevented from being disengaged before the door opening started, causing wear on the beak and keeper.

Follow-up investigations of this installation, and many other installations equipped with similar interlock designs, revealed that some locks are extremely sensitive to even minor wear and tend to unlatch, thereby, losing their safety purpose.

The original suppliers of such interlock assemblies have proven that the interlocks are safe if installed and maintained with their instructions supplied with the parts.

T. Gordon Smith , P.Eng. Director



Elevating and Amusement Devices Safety Division	Ref. No.: 26/85	Rev. No.:
DIRECTOR'S RULING	Date: September 10/85	Date:

Subject: ADOPTION OF CAN3-B44-M85 -- SAFETY CODE FOR ELEVATORS

Sent to: ALL CONTRACTOS IN SCOPE A & B - 1, 2, 3, 4, 5

1. Each newly installed or altered elevator, escalator, dumbwaiter, moving walk and freight platform lift:
 - for which the design is submitted to this Branch for registration after the 1st of January 1986, or;
 - which will be initially inspected after July 1, 1986, whichever comes first;shall fully conform to the requirements of the 1985 edition of CSA Standard CAN3-B44-M85 - Safety Code of Elevators, except that conformance with clause 3.3.5.10 (engineering tests and certification of hydraulic buffers) may be delayed for an additional 12 months.
2. The CSA Standard will become available in October, 1985 from:

Canadian Standards Association
178 Rexdale Blvd.
Rexdale, ON M9W 1R3
3. The above dates are set in accordance with recommendations from CSA-B44 Committee as recorded in minute M8 of the July 1985 meeting and since the majority of elevator manufacturers and consultants have been involved in the preparation of the new code edition, it is assumed that the industry is gearing up to comply with new requirements despite the fact that the code will not become available before October 1985.
4. Note that elevators, escalators, etc., for which the design is submitted before January 1, 1986 may be designed or constructed fully or partially in accordance with the new B44 requirements rather than those presently in force, following these general guidelines:
 - (a) If the new forthcoming rule is less stringent than the corresponding existing rule, the designer must formally request a variance from the existing rule with reference to the forthcoming new rule and such variance will be routinely approved.
 - (b) If the new rule is more stringent than the corresponding existing rule, no request for variance is necessary
5. Since the Elevating Devices Act requires the mechanics to have full knowledge of the codes applicable to the elevating devices upon which he is assigned to work, we would expect that every mechanic will be provided with a copy of the 1985 edition of the B44.

T. GORDON SMITH, P.Eng. - Director

CEV:cr



Elevating and Amusement Devices Safety Division	Ref. No.: 26/85	Rev. No.: 1
DIRECTOR'S RULING	Date: September 10/85	Date: December 27/85

Subject: ADOPTION OF CAN3-B44-M85 -- SAFETY CODE FOR ELEVATORS

Sent to: ALL CONTRACTOS IN SCOPE A & B - 1, 2, 3, 4, 5

In response to requests from several elevator contractors and because the new edition of the Safety Code for Elevators became available only last week, I have decided to revise the dates set in my Ruling #26 of September 10, 1985 as follows: ①

1. Each newly installed or altered elevator, escalator, dumbwaiter, moving walk and freight platform lift:
 - for which the design is submitted to this Branch for registration after the 1st of April 1986, or; ①
 - which will be initially inspected after October 1, 1986, whichever comes first; ①shall fully conform to the requirements of the 1985 edition of CSA Standard CAN3-B44-M85 - Safety Code of Elevators, except that conformance with clause 3.3.5.10 (engineering tests and certification of hydraulic buffers) may be delayed for an additional 12 months.
2. The CSA Standard is available from:
Canadian Standards Association
178 Rexdale Blvd.
Rexdale, ON M9W 1R3
3. Note that elevators, escalators, etc., for which the design is submitted before April 1, 1986 may be designed or constructed fully or partially in accordance with the new B44 requirements rather than those presently in force, following these general guidelines: ①
 - (a) If the new forthcoming rule is less stringent than the corresponding existing rule, the designer must formally request a variance from the existing rule with reference to the forthcoming new rule and such variance will be routinely approved.
 - (b) If the new rule is more stringent than the corresponding existing rule, no request for variance is necessary.
4. Since the Elevating Devices Act requires the mechanics to have full knowledge of the codes applicable to the elevating devices upon which he is assigned to work, we would expect that every mechanic will be provided with a copy of the 1985 edition of the B44.

T. GORDON SMITH, P.Eng. – Director
CEV:cr



Elevating and Amusement Devices Safety Division	Ref. No.: 27/85	Rev. No.:
DIRECTOR'S RULING	Date: September 10/85	Date:

Subject: ADOPTION OF SUPPLEMENT NO. 1 - 1984 TO CAN3-Z98-M78 PASSENGER ROPEWAYS

Sent to: ALL CONTRACTORS & OWNERS IN SCOPE 8

Each NEW passenger ropeway, initially inspected after December 1, 1985, shall comply with CSA Standard:

CAN 3-Z98*M78 including Supplement No. 1*-1984 Passenger Ropeway

*Available from:

Canadian Standard Association
178 Rexdale Blvd.
Rexdale, Ontario
M9W 1R3

Notwithstanding the above mentioned date, all sections and rules in Supplement No. 1-1984 respecting INSPECTION, TESTING, MAINTENANCE AND USE of passenger ropeways shall apply immediately to all existing and newly installed passenger ropeways.

Note that Ruling-Information #05 (of August 24, 1983, September 26/83 Rev. and May 28/85 Rev.) As previously circulated to you, supersedes any corresponding rule in Supplement No. 1-1984.

Since the Elevating Devices Act, 1980 requires mechanics to have full knowledge of the codes applicable to the elevating device upon which they are assigned to work, we would expect that every mechanic in your employ will be provided with a copy of Supplement No. 1 as well as the original Z98 code.

T. GORDON SMITH, P.Eng. - Director

CEV:cr



Elevating and Amusement Devices Safety Division	Ref. No.: 28/85	Rev. No.:
DIRECTOR'S RULING	Date: September 11/85	Date:

**Subject: MINOR TYPE 'A' AND MINOR TYPE 'B' ALTERATIONS
SUBMISSIONS AND INSPECTION RULES**

Sent to: REGISTERED CONTRACTORS AND OWNERS

SUBMISSION

You are required to submit a design submission for a Minor Type 'A' and Minor Type 'B' alteration not later than five working days after completion of the alteration (O.Reg. 223/81 s.11).

Before arranging for an inspection, you should have in mind the time frame required for design submission and review by our Engineering Department.

INSPECTION OF MINOR TYPE 'A' ALTERATION

You are required to arrange for an inspection of a Minor Type 'A' alteration within thirty days of completion of the alteration.

INSPECTION OF MINOR TYPE 'B' ALTERATION

You are required to arrange for an inspection of a Minor Type 'B' alteration within sixty days of completion of the alteration.

NLB:gd



Elevating and Amusement Devices Safety Division	Ref. No.: 29/85	Rev. No.:
DIRECTOR'S RULING	Date: November 15/85	Date:

Subject: AMENDMENT TO EDB RULING #22/85 - RELATED TO SECTION 40 OF O.REGULATION 803/82

Sent to: OWNER CONTRACTORS & CONTRACTORS

INTRODUCTION

You have already received EDB Director's Ruling #22/85 of April 16, 1985 which was revised and reissued on August 29/85. It is reprinted on the reverse of this Ruling.

The Ruling clarified the wording of section 40 of Ontario Regulation 229/81 as was amended in O.Regulation 803/82, specifically with respect to conformance with clause 3.12.2.14 of CSA B44 Code requiring hoistway door interlocks on most elevators.

This, however, was not our original intent when the wording of section 40 was proposed in 1982. The intent was to require some alterations on elevator hoistway doors which are equipped with mechanical locks only without any electrical contact checking if the door is "locked" or at least "closed".

For that reason, I have decided to exercise my discretionary power under section 31(5) of the Elevating Devices Act, 1980 and issue the following ruling:

RULING RESPECTING HOISTWAY LOCKS

Every existing passenger and freight elevator that is not presently equipped with either hoistway door interlock conforming to clause 2.12.3 of B44 or with hoistway door combination mechanical lock and electric contact conforming to clause 2.12.4 of B44/1975 shall be altered to conform either with clause 2.12.3 to 2.12.4 by the date stipulated in section 40 of O.Regulation 229/81 and 803/82.

This means that non-conforming elevators must be retrofitted with at least a combination mechanical lock and electric contact, although interlocks would be more desirable.

This ruling does not permit replacement of existing interlocks with locks and contacts.

NOTE RE: SAFETIES, GOVERNORS AND BRAKES

This ruling does not alter the intent nor wording of section 40 with respect to safeties (clause 3.7), overspeed governors (clause 3.8) and brakes (clause 3.10.8) which are required to be retrofitted on non-conforming elevators by the date stipulated in section 40.

NOTE RE: REG. 803/82

The Elevating Devices Act, 1980, Ontario Regulation 229/81 as amended by O.Regulation 803/82 is available from Ontario Government Book Store, 880 Bay Street, Toronto, Ontario, M5H 2V9.

T. GORDON SMITH, P.Eng. - Director
CEV:cr



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	22/85	1
DIRECTOR'S RULING	Date:	Date:
	April 16/85	August 29/85

Subject: IMPORTANT -- SECTION 40 ONTARIO REGULATION 803/82 s. 3 – COMPLIANCE

Sent to: OWNER CONTRACTORS AND CONTRACTORS

① Editorially Revised

In order to avoid an interruption in service to your clients, you are advised to take immediate action to ensure that all non-conforming passenger and freight elevators presently maintained by your company comply with Section 40 of the regulations by no later than May 1, 1986. ①

Section 40 requires that every existing non-conforming passenger elevator...and freight elevator shall be altered to conform with clauses 3.7*, 3.8*, 3.10.8*, and 3.12.2.14* of ... CSA Standard B44 – 1975 (including Supplement No. 3-1982), Safety Code for Elevators...., by the 1st day of May, 1986. This regulation came into force in 1981. ①

* The code referred to subsection 37(1) is the CSA Standard B44 1975 with supplement #3 safety code for elevators, dumbwaiters, escalators, and moving walks. Copies of this standard may be purchased from The Canadian Standard Association, 178 Rexdale Boulevard, Rexdale, Ontario, M9W 1R3, Phone 416- 747-4000.

* The clauses referred to in the code are as follows:

3.7 Car and Counterweight Safeties

- 3.7.1 Where Required. The car of every elevator suspended by wire rope or driven by a rack and pinion machine shall be provided with one or more safeties of the type identified in Clause 3.7.6, except that Type D safeties shall not be used on cars which are suspended by wire rope.
- 3.7.2 Where Located. The safeties shall be attached to the car frame, and one safety shall be located within or below the lower members of the car frame (safety plank). Safeties shall be mounted on a single car frame, and shall operate only on one pair of guide rails between which the frame is located.

3.8 Speed Governors Required and Locations

- 3.8.1.1 Car safeties and counterweight safeties, where furnished, shall be actuated by separate speed governors except that speed governors need not be provided for the following:
 - (a) Sidewalk elevators having a rated speed not over 50 feet per minute (see Clause 5.3.7);
 - (b) Counterweights of elevators having a rated speed of not more than 150 feet per minute.
- 3.8.1.2 The governor shall be located where it cannot be struck by the car or the counterweight in case of overtravel, and where there is adequate space for full movement of governor parts.

3.10.8 Driving-Machine Brakes

- 3.10.8.1 The elevator driving machine shall be equipped with a friction brake applied by a spring or springs, or by gravity and released electrically.
- 3.10.8.2 The brake shall be designed to have a capacity sufficient to stop and hold the car with its rated load (see also Clause 3.12.8).

3.12.2.14 Hoistway-Door Interlocks or Hoistway-Door Electric Contacts

- 3.12.2.14 Hoistway-Door Interlocks or Hoistway-Door Electric Contacts, Hoistway-door interlocks or hoistway-door electric contacts conforming to the requirements of Clause 2.12 shall be provided for all electric or electrically controlled elevators.

Note that Clause 2.12 requires interlocks on all passenger elevators and also on all freight elevators except that mechanical locks and electric contacts may be used for manually operated vertically sliding or bi-parting doors on elevator that travel up to 15 feet and the pit not more than 5 feet deep. ①

You are advised to use this Ruling when interpreting to the owners the Elevating Devices Branch Inspectors' directions already issued against non-conforming elevators, and also when advising the owners of the need to alter their non-conforming elevators despite the fact that no direction has yet been issued by the Elevating Devices Branch Inspector against their elevators. ①

T. GORDON SMITH, P.Eng. - Director



Elevating and Amusement Devices Safety Division	Ref. No.: 30/85	Rev. No.:
DIRECTOR'S RULING	Date: December 10/85	Date:

Subject: 1986 UPDATING OF REGISTERED CONTRACTORS MAINTENANCE LISTS AS REQUIRED BY REGULATION 13 OF THE ELEVATING DEVICES ACT AND REGULATIONS

Sent to: ALL ELEVATOR CONTRACTS

The intention, again this year, will be for the Branch to supply you with a computer printout containing the latest available data taken from our records indicating the installations maintained by you. However, due to a technical problem, these lists will not be available until the latter part of January 1986.

In the meantime, please DO NOT SUBMIT ANY OF YOUR OWN LISTS. Wait for the Branch's computer listing.

T.GORDON SMITH, P.Eng. - Director

Archive
Superseded by 32/86



Elevating and Amusement Devices Safety Division	Ref. No.: 31/86	Rev. No.:
DIRECTOR'S RULING	Date: January 15/86	Date:

Subject: ADOPTION OF CAN3-B44-M85 - SAFETY CODE FOR ELEVATORS

Sent to: ALL OWNER-CONTRACTORS IN SCOPE F-P-S - 1, 2, 3, 4, 5

- Item 1:** Each altered or newly installed elevator, escalator, dumbwaiter, moving walk or freight platform lift:
- for which the design is submitted to this Branch for registration after the 1st of April 1986, or;
 - which will be initially inspected after October 1, 1986, which ever comes first;
- shall fully conform to the requirements of the 1985 edition of CSA Standard CAN-B44-M85 - Safety Code for Elevators, except that conformance with clause 3.3.5.10 (engineering tests and certification of hydraulic buffers) may be delayed for an additional 12 months.
- Item 2:** In the case of an existing elevator, escalator, etc., the application of the newly adopted code is restricted to those sections respecting the inspection, testing, maintenance and use of the elevating device, unless otherwise required by the Regulation under the Elevating Devices Act.
- Item 3:** The CSA Standard CAN3-B44-M85 is available from:
- Canadian Standards Association
178 Rexdale Blvd.
Rexdale, ON M8W 1R3
- Item 4:** Since the Elevating Devices Act requires the mechanics to have full knowledge of the codes applicable to the elevating devices upon which they are assigned to work, we would expect that every mechanic will be provided with a copy of the 1985 edition of the B44.

CEV:cr



Elevating and Amusement Devices Safety Division	Ref. No.: 32/86	Rev. No.:
DIRECTOR'S RULING	Date: January 20/86	Date:

Subject: REPORTING OF MAINTENANCE CONTRACTORS (As required by O. Regulation under the Elevating Devices Act)

Sent to: CONTRACTORS IN SCOPE A&B WHO MAINTAIN ELEVATING DEVICES

In order to enable us to enforce section 22 of the regulation requiring regular maintenance on every elevating device, each registered contractor has been required by section 13 of the regulation to supply us with information on installations which they maintain. We have still not been able to effectively use information received from you because of a large number of errors in your past reports but also because of the inadequacy of our computer program. Now that we have improved our computer system, we ask for your full co-operation in achieving our common goal – proper and regular maintenance of elevating devices and high level of safety for the general public.

1. ORDER TO CONTRACTORS:

Attached is the list of installations maintained by your company (MCCR computer printout dated 16/01/86) compiled on the basis of information previously received from you (see note (i) on reverse).

1. You are requested to update the attached list on the basis of your maintenance contracts status on January 15, 1986 (see note (ii)) as follows:
 - a) Cross out the installation numbers of devices not maintained by your company as of that date;
 - b) Add required information (installation number and scope) for all installations maintained by your company as of that date and which are not shown in the attached list;
 - c) Check (✓) every installation number and corresponding "scope of maintenance" entry contained in the list and still maintained by your company as of that date. Definitions of scope of maintenance are copied on the reverse of this Ruling;
 - d) Resolve all errors, A, B, C, or D if indicated in the "Error" column (see note (iii)).
2. The attached updated list must be returned to this Branch before or at the time you submit your application for renewal of contractor registration, which is due March 31, 1986. The application forms will be mailed to you soon under separate cover but your registration will not be renewed unless your updated list of maintenance contracts has been received.
3. You may disregard subsection 13(2) of the Regulation and corresponding guidelines in the Ministry forms requiring quarterly reporting. You will be required in future to report your maintenance contracts annually using our printouts. You may, however, if you wish, report to us any changes in your maintenance contracts status at any time. Any changes reported to us in writing before December 1st of the current year will be reflected in the printouts mailed to you shortly thereafter.
4. With this Ruling, previously issued Rulings #20/84 and #30/85 are revoked. Should you need any further clarification regarding this listing, call (416) 239-7361 and ask for the computer section.

T.Gordon Smith, P.Eng., Director

NOTES RE EDB DIRECTOR'S RULING/INFORMATION # 32/86

- Note (i) Contractors who are recorded in our computer system as maintaining no elevating devices during 1985-86 will find attached form #ID-29431 to facilitate their maintenance reporting in accordance with order #2 above. Contractors without permanent maintenance contracts on January 15, 1986 shall return the form marked "no contracts".
- Note (ii) Maintenance contracts status on one specific date reported by all contractors will eliminate errors of two contractors claiming to maintain one installation at the same time.
- Note (iii) The error codes A&B etc. are interpreted at the bottom at the bottom of the computer printouts containing errors. You will clearly indicate your resolution of every error. Also consider the following:

Error A – Non- Existent, dismantled or permanently shut down - Means that the installation number you reported to us has either never been allocated to any elevating device, or was allocated to a device which has been dismantled or permanently shut down (voluntarily by the owner or forced by an inspector). If any of this is true then the reported installation should be deleted from your and our records.

Error B – Not registered for this device class - Means that you reported maintenance of an elevating Device (e.g. freight platform lift, stage lift, etc.) for which you are not registered as a contractor (e.g you are registered for elevators and escalators only). To resolve the error, you will have to cancel the contract or become registered for that class.

Error C – Maintenance also reported by another contractor - Whilst it is completely legal, we record this as an error because we consider such situations highly improbable based on the maintenance industry's common practices, except that where one contractor claims "service" type maintenance (typically an owner-contractor) and another contractor claims F, P or I type. that we do not consider an error. To report your resolution of this error, you will either delete the installation from the list (if you do not maintain it) or you will cross out the word "error" and enter "correct", reconfirming your previous report.

Error D – Not registered for this scope of work - If your registration is limited (see items 13 in your Application for contractor Registration) to specific functions (e.g. repairs of electrical components) you are not allowed to perform full maintenance of an elevating device. To resolve the error, you will have to cancel your contract or change the scope of your registration.

DEFINITIONS OF SCOPE MAINTENANCE

Full or F

If the contractor has an agreement with the owner of the elevating device to provide, without any further authorization from the owner, pre-scheduled inspection and examination of the elevating device at regular intervals (per section 22 (3) (a) of the regulation) and all other maintenance services required in section 22 (3) of the regulation, including cleaning, lubricating, adjusting and repair of all parts, provision and replacement of all worn, defective, damaged or broken components, compliance with Ministry Inspectors directives related to the elevating device, and also inspection and testing of safety devices and overspeed governors where required in section 23 of the regulation, except that the agreement may require authorization from the owner for replacement or repair of parts damaged through vandalism or misuse and also for replacement of limited number of specified major parts.

Partial or P

If the contractor has an agreement with the owner of the elevating device to provide, without any further authorization from the owner, pre-scheduled inspection and examination of the elevating device at regular intervals (per section 22 (3) of the regulation) and a part of other maintenance services required in section 22 (3) of the regulation, e.g. cleaning, lubricating, adjusting and repair of specified parts, and/or provision and replacement of specified worn, defective, damaged and broken components , and/or compliance with Ministry Inspector's directives related to the elevating device and/or inspection and testing of safety devices and overspeed governors...,whereby the agreement may require authorization from the owner for provision of any maintenance services not normally included in the agreement, or the owner may have other arrangements for such services. It is expected that the contractor will perform all necessary preventative and other maintenance services according to his inspection and examination findings or he will report his findings to the owner, who shall be responsible for the execution of proposed services within time limit indicated in the contractor's report.

Inspection or I

If the contractor has an agreement with the owner of the elevating to provide, without any further authorization from the owner, prescheduled inspection and examinations of the elevating device at regular intervals (per section 22 (3) of the regulation) and to report to the owner on the general condition of the elevating device indicating lubrications, adjustments, repairs, replacements and other work necessary to conform with requirements of section 23 (4) of the regulation. All other maintenance services may require authorization from the owner or the owner may have other arrangements for such services. The owner shall be responsible for the execution of necessary services within time limit indicated in the contractors report.

Service or S

If the contractor has an agreement with the owner of the elevating device to provide only when requested or notified by the owner, lubrication, and/or adjustments, and/or repairs, and/or replacement of certain elevating devices parts or components, but the agreement does not include pre-scheduled inspections and examinations of the elevating device.

Note that a maintenance agreement which does not include inspection and examination at regular pre-scheduled intervals, such as "S" agreement, must be supplemented by another type of maintenance agreement which does include inspection and examination.



Elevating and Amusement Devices Safety Division	Ref. No.: 33/86	Rev. No.:
DIRECTOR'S RULING	Date: January 20/86	Date:

Subject: REPORTING OF MAINTENANCE CONTRACTORS (As required by O. Regulation under the Elevating Devices Act)

Sent to: ALL OWNER CONTRACTORS

Introduction: In order to enable us to enforce section 22 of the Regulation requiring regular maintenance on every elevating device, each registered contractor has been required by section 13 of the Regulation to supply us with information on installations which they maintain. Your company, being an owner-contractor, reported the requested information in section 14 of your application for owner-contractor registration. While analyzing information received we have noted a large number of errors, not necessarily from your company. With this we are asking you to assist us in completing and correcting our records on elevating devices maintenance.

ORDER TO OWNER-CONTRACTORS:

Attached is the list of your own installations recorded in our computer system as being maintained by your company (MCCR computer printout dated 16/01/86). It shows scope of maintenance work that you reported to us as being performed by your company -FULL, PARTIAL or SERVICE (as defined in your Application for Owner-Contractor Registration and copied on the reverse of this Ruling).

1. You are requested to update the attached list on the basis of the maintenance status of your installation on January 15, 1986 and indicate if there are any changes as follows:
 - a) Cross out the installation numbers of devices that you do not maintain any more.
 - b) If you recently added any device to your own maintenance program and that device is not shown in the list, enter on the list all required information for such device.
 - c) Check (✓) every installation number and corresponding "scope of maintenance" entry contained in the list for every device that your company still maintain.
 - d) Resolve all errors, A, B, C, or D if indicated in the "error" column following the instructions in note (i) below.
2. The attached updated list must be returned to this Branch before or at the time you submit your application for renewal of owner-contractor registration, which is due March 31, 1986. The application forms will be mailed to you soon under separate cover but your registration will not be renewed unless the attached updated list of maintenance contractors has been received.
3. In your next application for renewal of owner-contractor registration, you may leave section 14 blank to avoid unnecessary duplication of information already contained in the attached list.
4. With this Ruling, previously issued Rulings #20/84 and #30/85 are revoked. Should you need any further information respecting the attached list, call (416) 239-7361 and ask for the computer section.

T. Gordon Smith, P.Eng., Director

NOTES RE EDB DIRECTOR'S RULING/INFORMATION # 33/86

Note (i) The error codes A&B etc. are interpreted at the bottom at the bottom of the computer printouts containing errors. You will clearly indicate your resolution of every error, if any, consider the following:

Error A – Non- Existent, dismantled or permanently shut down -Means that the installation number you reported to us has either never been allocated to any elevating device, or was allocated to a device which has been dismantled or permanently shut down (voluntarily by the owner or forced by an inspector). If any of this is true then the reported installation should be deleted from your and our records.

Error B – Not registered for this device class - Means that you reported maintenance of an elevating device (e.g. freight platform lift, manlift, etc.) for which you are not registered as a contractor (e.g. you are registered for elevators only). To resolve the error, you will have to arrange for maintenance with another registered contractor.

Error C – Maintenance also reported by another contractor - Whilst it is completely legal, we record this as an error because we consider such situations highly improbable based on the maintenance industry's common practices, except that where one contractor claims "service" type maintenance (typically an owner-contractor) and another contractor claims F, P or I type...that we do not consider an error. To resolve this error you will have to check the scope of maintenance you have reported to us as well as scope of maintenance your company contracted with another contractor. If you reported "full" maintenance but you actually perform only minor repairs, that means "service" type maintenance, then you will change the scope in the attached list. However, if you believe that whatever you reported to us is correct, then you will cross out the word "error" and enter "correct", reconfirming your previous report.

Error D – Not registered for this scope of work - If you are a registered contractor (see item 13 in your Application for Owner-Contractor Registration) for (S) service type maintenance, you are not allowed to perform (P) or (F). Only with (F) registration may you perform any type of maintenance F, P, or S (see definitions). To resolve the error, you will have to change the reported scope of maintenance to the scope for which you are registered or you will have to apply for the change in the scope of your registration using the form mentioned in order 2.

DEFINITIONS OF SCOPE MAINTENANCE

Full or F

If your company is undertaking to provide, pre-scheduled inspection and examination of the elevating device at regular intervals (per section 22 (3) (a) of the Regulation) and all other maintenance services required in section 22 (3) of the Regulation, including cleaning, lubricating, adjusting and repair of all worn, defective, damaged or broken components, compliance with Ministry Inspectors directives related to the elevating device, and also inspection and testing of safety devices and overspeed governors where required in section 23 of the Regulation, except that your company may have arrangements with another contractor for replacement of limited number or specified major parts, e.g. motor, gear, ropes.

Partial or P

If the contractor has an agreement with the owner of the elevating device to provide, without any further authorization from the owner, pre-scheduled inspection and examination of the elevating device at regular intervals (per section 22 (3) of the regulation) and a part of other maintenance services required in section 22 (3) of the regulation, e.g. cleaning, lubricating, adjusting and repair of specified parts, and/or provision and replacement of specified worn, defective, damaged and broken components, and/or compliance with Ministry Inspector's directives related to the elevating device and/or inspection and testing of safety

devices and overspeed governors...,whereby the agreement may require authorization from the owner for provision of any maintenance services not normally included in the agreement, or the owner may have other arrangements for such services. It is expected that the contractor will perform all necessary preventative and other maintenance services according to his inspection and examination findings or he will report his findings to the owner, who shall be responsible for the execution of proposed services within time limit indicated in the contractor's report.

Service or S

If your company is undertaking to provide only, lubrication, and/or adjustments, and/or repairs, and/or replacement of certain elevating devices parts or components, but the scope of your work does not include pre-scheduled inspections and examinations of the elevating device.

In this case, your company must have a contract with another contractor for provision of maintenance work not normally performed by your mechanics and such contract must include inspection and examination at regular pre- scheduled intervals, per section 22 (3) of the Regulation.



Elevating and Amusement Devices Safety Division	Ref. No.: 34/86	Rev. No.:
DIRECTOR'S RULING	Date: January 22/86	Date:

Subject: MAJOR ALTERATIONS

Sent to: ALL CONTRACTORS IN SCOPE A & B

Recently, on a number of initial inspections carried out by this branch of major alterations, it was discovered that a problem with respect to counterbalancing of car and counterweights existed.

Subsequently investigation revealed that over the years, a considerable amount of weight had been added to the car and no provision made to adjust the counterbalance.

Regardless of the scope of the major alteration, you should ensure prior to submission of design for registration that the counter-balance is within acceptable parameters. You may be required to demonstrate compliance on an initial inspection by means of a load test.

Archive
Superseded by CAD



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	35/86	
DIRECTOR'S RULING	Date:	Date:
	April 22/86	

Subject: NEW FEES PROPOSED UNDER THE ELEVATING DEVICES ACT

Sent to: ALL CONTRACTORS IN SCOPE A & B

INFORMATION

Since the Elevating Devices Act, 1980 and Ontario Regulation 229/81 were proclaimed, as of the First of May 1981, the fees have not been changed.

Now, after 5 years, new fees have been proposed as indicated below. They are expected to be approved soon.

You will be notified of the actual date of application of new fees.

The purpose of this information, is to enable you to plan for the change in fees that may take place in the near future.

Note: Use old fee schedule until further notice.

Table 1. FEES

Item	Column 1	Column 2	Column 3	Column 4
		Initial Inspection	Other Inspection	Design Submission For New Installation and Major Alteration
1.	Elevator (except as in Item 6(b))			
	(a) Basic-serving ten floors or less	\$125.00	\$ 65.00	\$125.00
	(b) Plus for each additional floor served exceeding ten floors	12.00	6.00	
2.	Construction Hoist			
	(a) Basic-ten entrances or less and 30m of mast or tower	125.00	65.00	100.00
	(b) Plus for each additional 3m or part thereof of mast or tower	1.00	1.00	
	(c) Plus for each entrance over ten entrances	5.00	5.00	
3.	(a) Escalator			
	(b) Dumbwaiter			
	(c) Moving Walk			
	(d) Manlift			
	(e) Rope Tow			
	(f) Freight Platform Lift			
	(g) Stage Lift (per section)			

4.	Elevating Devices for the Handicapped	30.00	30.00	35.00
5.	(a) Chair Lift - up to and including 10 towers; plus item 7 (b) Gondola Lift - up to and including 10 towers; plus item 7 (c) Reversible Ropeway - up to and including 10 towers; plus item 7 (d) Funicular Railway - up to and including 10 towers; plus item 7	375.00	185.00	200.00
6.	(a) Bar Lift - up to and including 10 towers; plus item 7 (b) Inclined Elevator	185.00	100.00	125.00
7.	For each tower in excess of 10 towers	20.00	10.00	
8.	Special installations - except for Column 4, per man hour (minimum two hours) (see Note 1)	50.00	50.00	250.00
NOTES: 1. The fee in Column 4 is the complete fee.				

Table 2 FEES

Item	Column 1	Column 2
1.	Licence (a) Initial (b) Renewal or duplication (c) Transfer	50.00 25.00 25.00
2.	Installation plate - duplicate (see subsection 21(5))	25.00
3.	Registration of a design submission for, (a) Revision, subsequent to initial registration, for one elevating device (b) Standard design submission (i) New (ii) Revised (c) A minor alteration, for one elevating device	35.00 300.00 75.00 35.00
4.	Copy of an inspection report or other document	15.00
5.	Inspection status summary (covering up to 6 devices at one location)	30.00
6.	Excess time charge for delaying or prolonging inspection (for each man hour, minimum one hour)	50.00

Table 3
FEES- Contractor's Registration

Item	Column 1	Column 2 Initial	Column 3 Annual
1.	Elevators	400.00	200.00
2.	Construction Hoists	400.00	200.00
3.	Any Class other than Elevators or Construction Hoists, each class	150.00	75.00
4.	Limited Scope (see Note 1)		
	(a) Limited maintenance or installation or both each class	150.00	75.00
	(b) Limited to testing by consultants regardless of number of classes	300.00	300.00
5.	Plus - for each mechanic, mechanic in training and supervisor employed in the previous year (this does not include registration under item 6)		15.00
6.	Maintenance by owner for each maintained elevating device, up to maximum as in items 1, 2 and 3 (see Note 2)	15.00	15.00
<p>NOTES:</p> <p>1. A contractor's registration is limited in scope when it is limited to specific functions.</p> <p>2. Where registration is limited to the maintenance of elevating devices that are under contractor's ownership.</p>			

CEV:cr

h



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	36/86	
DIRECTOR'S RULING	Date:	Date:
	April 22/86	

Subject: HITCH FOR GOVERNOR ROPE MUST BE SECURED

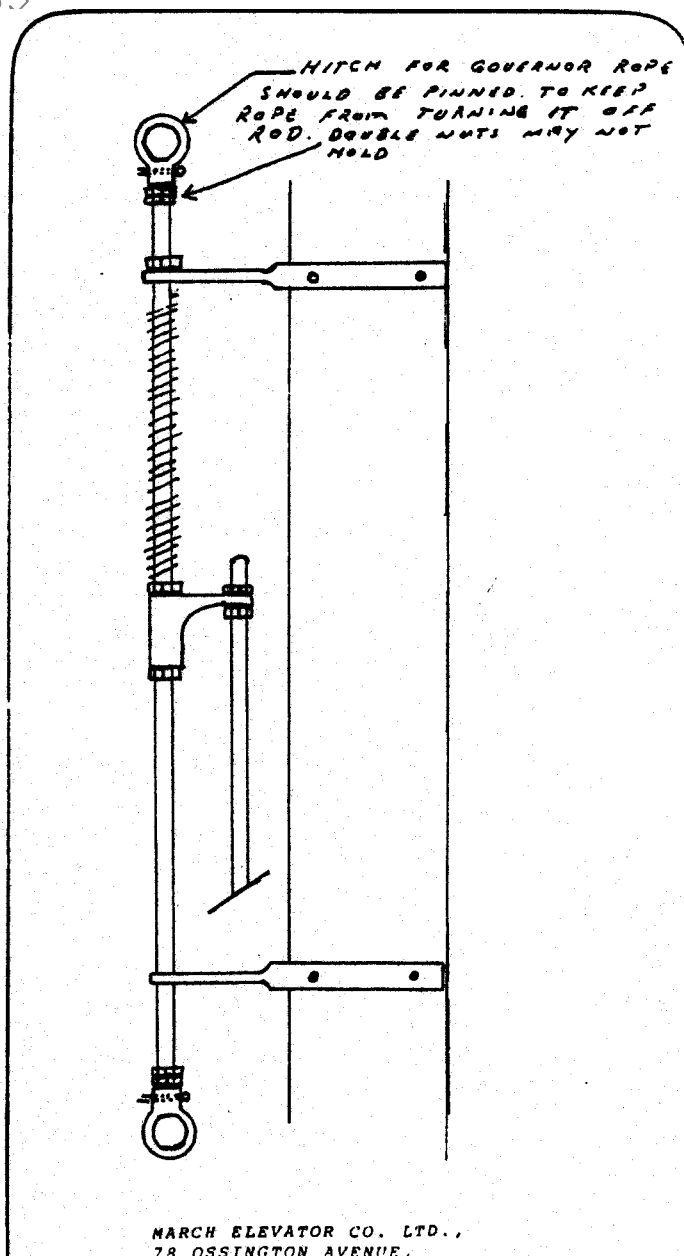
Sent to: ALL ELEVATOR CONTRACTORS IN CLASS 1

ORDER TO CONTRACTORS

On all elevators under your maintenance contract, you are requested to examine the governor rope connection to the safety assembly and to take the necessary actions to eliminate the possibility of inadvertent parting of such connection.

BACKGROUND

The self explanatory sketch has been submitted to us by March Elevator Co. Ltd. along with the following information: "On one job, we found the top hitch backed off the rod, which must have been caused by turning action of the steel rope."





Elevating and Amusement Devices Safety Division	Ref. No.: 37/86	Rev. No.:
DIRECTOR'S RULING	Date: April 22/86	Date:

Subject: SECTION 58(1)(6) OF O.REGULATION 229/81 REQUIRING GOVERNOR OPERATED SAFETY IS TO BE REVOKED

Sent to: CONSTRUCTION HOIST CONTRACTORS

1. INFORMATION

I have proposed deletion of Section 58(1)(b) of O.Regulation 229/81, requiring

- governor operated safeties on all hoists, including winding drum hoists, and
- governors of any hoist to be base mounted.

2. RULING

2.1 Section 58(1)(b) and corresponding parts of subsections 58(2) requiring enforcement of section (58(1)(b) within 5 years will not be enforced, pending the resolution of my proposal mentioned in 1 above.

2.2 Consequently:

2.2.1 Broken rope safety device may be used provided that:

- a) It conforms to clause 20.1.9 of the second draft of CSA Standard Z256 (as photocopied on reverse), and
- b) A type test carried out under the supervision of a professional engineer, proves that the safety device is capable of stopping a free falling mass (which must be equal to or greater than the mass of the car and its rated load), whereby the strength requirements of the CSA Code Z256 shall be satisfied.

2.2.2 Governor on any hoist need not necessarily be base located, provided that access for its maintenance and inspection is assured.

3. BACKGROUND

3.1 After having recorded incidents of broken-rope safety device failures, in up to 50% of acceptance or periodic tests, this Branch decided, in 1980, to propose regulations which would require phasing out of such generally considered highly unreliable type of safety devices. However, it has recently been proven to me that it is not the type of the device which is unreliable but rather its "design"; in other words extremely reliable broken rope safeties could be designed and installed on drum machine hoists.

3.2 In the past, some hoist experts suggested that the hoist base mounting of overspeed governors was a significant safety improvement, considering the risk of governors not being properly maintained and inspected if "inconveniently" located in overhead. Lately, however, hoist experts suggest that experience with base mounted governors shows possibly actual decrease in reliability of such governors, because of high possibility of construction materials impairing the governor's function.

T. Gordon Smith, P.Eng, Director

EXCERPT FROM THE SECOND DRAFT OF CSA STANDARD Z256 SAFETY CODE FOR MATERIAL HOISTS (January 1985)

20.1.9 **Broken Rope Safeties**

Broken rope safeties shall conform to the following:

- (a) They shall stop the car level within 4% of distance between rails;
- (b) They shall be applied mechanically to the guide rails;
- (c) They shall be actuated by gravity or by one or more springs. If the springs are used in tension, a minimum of two springs are required and their maximum extension shall be positively limited by mechanical devices, and in any case of spring failure, the safety shall engage by gravity;
- (d) They shall be of the manually reset type and shall be locked in position once applied.

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Elevating and Amusement Devices Safety Division	Ref. No.: 38/86	Rev. No.:
DIRECTOR'S RULING	Date:	Date:

**Subject: IMPORTANT - SECTION 40
Ontario Regulation 803/82 S – Compliance**

Sent to:

Ontario Regulation 803/82 S – Compliance

The deadline for the completion of the work outlined in Section 40 of the Regulation has passed.

Our records show that this work has not been performed. And you are hereby notified that Section 40 of the Ontario Regulation must be complied with not later than 90 days from the date indicated on this notice.

Failure to comply will result in the installation being removed from service and sealed by an inspector from this Branch. You were first notified of this regulation by Inspection Report # _____ dated _____.

When compliance with Section 40 has been achieved, you must notify this office.

N.L. Benn,
Manager, Field Operations



Elevating and Amusement Devices Safety Division	Ref. No.: 39/86	Rev. No.:
DIRECTOR'S RULING	Date: June 13/86	Date:

Subject: UNAUTHORIZED ACCESS TO ELEVATOR HOISTWAYS AND CAR TOPS

Sent to: ALL ELEVATOR CONTRACTOR IN CLASS 1

As a result of coroner's inquest into the death of a youth who was killed while joy-riding on top of an elevator in Southern Ontario, the coroner's jury made recommendations with respect to reporting of incidents involving persons gaining unauthorized access to elevator hoistways and car tops.

The jury's recommendations are as follows:

1. All incidents of elevator tampering, joy-riding, or malfunctioning should be logged for all elevators on a regular and orderly basis, being made available immediately to the appropriate authorities (The Elevating Devices Branch).
2. In the event of a known incident of elevator tampering or top-riding, said elevators to be taken out of service immediately until appropriate service call completed to ensure continued operation in a safe mode.

Your reporting practices must reflect compliance with these recommendations reporting as required by Section 29 of the Elevating Devices Act will satisfy the jury's recommendations.

Accurate reporting will mean the problem areas are speedily identified. This will enable the Branch to institute the necessary corrective measures.



Elevating and Amusement Devices Safety Division	Ref. No.: 41/86	Rev. No.:
DIRECTOR'S RULING	Date: August 1/86	Date:

**Subject: NEW FEES UNDER THE ELEVATING DEVICES ACT
ONTARIO REGULATION 463/86**

Sent to: ALL CONTRACTORS IN SCOPE A & B

INFORMATION

Since the Elevating Devices Act, 1980 and ONTARIO Regulation 229/81 were proclaimed, as of the First of May, 1981, the fees have not been changed.

Now after five years, new fees have been proposed and approved. You were previously advised of the proposed fee increase by Director's Ruling-Information #35/86 dated April 22/86.

You are hereby advised that the new fees are effective as of August 1st, 1986. NLB/am

SEE BELOW, REVERSE AND ATTACHED SHEET

Table 1 – Fees

Item	Column 1	Column 2	Column 3	Column 4
		Initial Inspection	Other Inspection	Design Submission For New Installation and Major Alteration
1.	Elevator (except as in Item 6(b))			
	(a) Basic-serving ten floors or less	\$125.00	\$ 65.00	\$125.00
	(b) Plus for each additional floor served exceeding ten floors	12.00	6.00	
2.	Construction Hoist			
	(a) Basic-ten entrances or less and 30m of mast or tower	125.00	65.00	100.00
	(b) Plus for each additional 3m or part thereof of mast or tower	1.00	1.00	
	(a) Basic-ten entrances or less and 30m of mast or tower	125.00	65.00	100.00
3.	(a) Escalator			
	(b) Dumbwaiter			
	(c) Moving Walk			
	(d) Manlift			
	(e) Rope Tow			
	(f) Freight Platform Lift			
	(g) Stage Lift (per section)	\$100.00	\$ 65.00	\$100.00

4.	Elevating Devices for the Handicapped	30.00	30.00	35.00
5.	a) chair lift – up to and including 10 towers plus item 7 b) gondola – up to and including 10 towers plus item 7 c) reversible ropeway - up to and including 10 towers plus item 7 d) finicular railway - up to and including 10 towers plus item 7	375	185	200
6.	a) Bar lift – up to and including 10 towers plus item 7 b) inclined elevator	185	100	125
7.	For each tower in excess of 10 towers	20	10	
8.	Special installation – except for Column 4, per man hour (minimum two hours) (see note 1)	50	50	250

Notes: 1. The fee in Column 4 is the complete fee

Table 2 – Fees

Item	Column 1	Column 2
1.	Licence (a) Initial (b) Renewal or duplication (c) Transfer	\$50.00 25.00 25.00
2.	Installation plate - duplicate (see subsection 21(5))	25.00
3.	Registration of a design submission for, (a) Revision, subsequent to initial registration, for one elevating device (b) Standard design submission (i) New (ii) Revised (c) A minor alteration, for one elevating device	35.00 300.00 75.00 35.00
4.	Copy of an inspection report or other document	15.00
5.	Inspection status summary (covering up to 6 devices at one location)	30.00
6.	Excess time charge for delaying or prolonging inspection (for each man hour, minimum one hour)	50.00

Table 3
Fees - Contractor's Registration

Item	Column 1	Column 2 Initial	Column 3 Annual
1.	Elevators	\$400.00	\$200.00
2.	Construction Hoists	400.00	200.00
3.	Any Class other than Elevators or Construction Hoists, each class	150.00	75.00
4.	Limited Scope (see Note 1)		
	(a) Limited maintenance or installation or both each class	150.00	75.00
	(b) Limited to testing by consultants regardless of number of classes	300.00	300.00
5.	Plus - for each mechanic, mechanic in training and supervisor employed in the previous year (this does not include registration under item 6)		15.00
6.	Maintenance by owner for each maintained elevating device, up to maximum as in items 1, 2 and 3 (see Note 2)	15.00	15.00
<p>NOTES:</p> <p>1. A contractor's registration is limited in scope when it is limited to specific functions.</p> <p>2. Where registration is limited to the maintenance of elevating devices that are under contractor's ownership.</p>			



Elevating and Amusement Devices Safety Division	Ref. No.: 42/86	Rev. No.:
DIRECTOR'S RULING	Date: December 1/86	Date:

**Subject: REPORTING OF MAINTENANCE CONTRACTORS
(As required by O.Regulation under the Elevating Devices Act)**

Sent to: CONTRACTORS IN SCOPE A & B WHO MAINTAIN ELEVATING DEVICES

INTRODUCTION

In order to enable us to enforce section 22 of the Regulation requiring regular maintenance on every elevating device, each registered contractor has been required by section 13 of the Regulation to supply us with information on installations which they maintain. We have still not been able to effectively use information received from you because of a large number of errors in your past reports but also because of the inadequacy of our computer program. Now that we have improved our computer system, we ask for your full co-operation in achieving our common goal-- proper and regular maintenance of elevating devices and high level of safety for the general public.

ORDER TO CONTRACTORS

Attached is the list of installations maintained by your company (MCCR computer printout dated Nov. 29/86) compiled on the basis of information previously received from you (see note (i) on reverse) (including error listings).

1. You are requested to update the attached list on the basis of your maintenance contracts status on January 15, 1987 (see note (ii)) as follows:
 - a) Cross out the installation numbers of devices not maintained by your of that date;
 - b) Add required information (installation number and scope) for all installations maintained by your company as of that date and which are not shown in the attached list;
 - c) Check (✓) every installation number and corresponding "scope of maintenance" entry contained in the list and still maintained by your company as of that date. Definitions of scope of maintenance are copied on the reverse of this Ruling;
 - d) Resolve all errors, A, B, C, or D if indicated in the "Error" column (see note (iii)).
2. Your contractor registration for 1987-88 will not be renewed unless the attached updated list is received in our office by January 31, 1987.
3. You may disregard subsection 13(2) of the Regulation and corresponding guidelines in the Ministry forms requiring quarterly reporting. You will be required in future to report your maintenance contracts annually using our printouts. You may, however, if you wish, report to us any changes in your maintenance contracts status at any time. Any changes reported to us in writing before November 29th of the current year will be reflected in the printouts mailed to your shortly thereafter.
4. With this Ruling, previously issued Rulings #20/84 and #30/85 are revoked. Should you need any further clarification regarding this listing, call (416) 239-7361 and ask for the computer section.

NLB/cr

NOTES RE: EDB DIRECTOR'S RULING/INFORMATION 42/86

- Note (i) Contractors who are recorded in our computer system as maintaining no elevating devices during 1986-87 will find attached form #ID-29431 to facilitate their maintenance reporting in accordance with order #2 above. Contractors without permanent maintenance contracts on January 15, 1987 shall return the form marked "no contracts".
- Note (ii) Maintenance contracts' status on one specific date reported by all contractors will eliminate errors of two contractors claiming to maintain one installation at the same time.
- Note (iii) The error codes A & B etc. are interpreted at the bottom of the computer printouts containing errors. You will clearly indicate your resolution of every error. Also consider the following:

Error A - Non-existent, dismantled or permanently shut down - means that the installation number you reported to us has either never been allocated to any elevating device, or was allocated to a device which has been dismantled or permanently shutdown (voluntarily by the owner or forced by an inspector). If any of this is true then the reported installation should be deleted from your and our records.

Error B - Not registered for this device class - means that you reported maintenance of an elevating device (e.g. freight platform lift, stage lift, etc.) for which you are not registered as a contractor (e.g. you are registered for elevators and escalators only). To resolve the error, you will have to cancel the contract or become registered for that class.

Error C - Maintenance also reported by another contractor - Whilst it is completely legal, we record this as an error because we consider such situations highly improvably based on the maintenance industry's common practices, except that where one contractor claims "service" type maintenance (typically an owner-contractor) and another contractor claims F, P or I type...that we do not consider an error. To report your resolution of this error, you will either delete the installation from the list (if you do not maintain it) or you will cross out the word "error" and enter "correct", reconfirming your previous report.

Error D - Not registered for this scope of work - If your registration is limited (see item 13 in your Application for Contractor Registration) to specific functions (e.g. repairs of electrical components) you are not allowed to perform full maintenance of an elevating device. To resolve the error, you will have to cancel your contract or change the scope of your registration.

DEFINITIONS OF SCOPE OF MAINTENANCE

Full or F

If the contractor has an agreement with the owner of the elevating device to provide, without any further authorization from the owner, pre-scheduled inspection and examination of the elevating device at regular intervals (per section 22(3)(a) of the Regulation) and all other maintenance services required in Section 22(3) of the Regulation, including cleaning, lubricating, adjusting and repair of all parts, provision and replacement of all worn, defective, damaged or broken components, compliance with Ministry Inspector's directives related to the elevating device, and also inspection and testing of safety devices and overspeed governors where required in Section 23 of the Regulation, except that the agreement may require authorization from the owner for replacement or repair of parts damaged through vandalism or misuses and also for replacement of limited number of specified major parts.

Partial or P

If the contractor has an agreement with the owner of the elevating device to provide, without any further authorization from the owner, pre-scheduled inspection and examination of the elevating device at regular intervals (per Section 22(3) of the Regulation, e.g. cleaning, lubricating, adjusting and repair of specified parts, and/or provision and replacement of specified worn, defective, damaged and broken components, and/or compliance with Ministry Inspector's directives related to the elevating device and/or inspection and testing of safety devices and overspeed governors...whereby the agreement may require authorization from the owner for provision of any maintenance services not normally included in the agreement, or the owner may have other arrangements for such services. It is expected that the contractor will perform all necessary preventative and other maintenance services according to his inspection and examination findings or he will report his findings to the owner, who shall be responsible for the execution of proposed services within time limit indicated in the contractor's report.

Inspection or I

If the contractor has an agreement with the owner of the elevating device to provide, without any further authorization from the owner, pre-scheduled inspection and examinations of the elevating device at regular intervals (per section 22(3) of the Regulation) and to report to the owner on the general condition of the elevating device indicating lubrications, adjustments, repairs, replacements and other work necessary to conform with requirements of Section 23(4) of the Regulation. All other maintenance services may have other arrangements for such services. The owner shall be responsible for the execution of necessary services within time limit indicated in the contractor's report.

Service or S

If the contractor has an agreement with the owner of the elevating device to provide only when requested or notified by the owner, lubrication, and/or adjustments, and/or repairs, an/or replacement of certain elevating devices parts or components, but the agreement does not include pre-scheduled inspections and examinations of the elevating device.

Note that a maintenance agreement which does not include inspection and examination at regular pre-scheduled intervals, such as "S" agreement, must be supplemented by another type of maintenance agreement which does include inspection and examination.



Elevating and Amusement Devices Safety Division	Ref. No.: 43/86	Rev. No.:
DIRECTOR'S RULING	Date: December 1/86	Date:

**Subject: REPORTING OF MAINTENANCE CONTRACTORS
(As required by O.Regulation under the Elevating Devices Act)**

Sent to: CONTRACTORS IN SCOPE A & B WHO MAINTAIN ELEVATING DEVICES

INTRODUCTION

In order to enable us to enforce section 22 of the Regulation requiring regular maintenance on every elevating device, each registered contractor has been required by section 13 of the Regulation to supply us with information on installations which they maintain. Your company, being an owner-contractor, reported the requested information in section 14 of your application for Owner-Contractor Registration. While analysing information received we have noted a large number of errors, not necessarily from your company. With this we are asking you to assist us in completing and correcting our records on elevating devices maintenance.

ORDER TO OWNER-CONTRACTORS

Attached is the list of your own installations recorded in our computer system as being maintained by your company (MCCR computer printout dated Nov. 28/86). It shows scope of maintenance work that you reported to us as being performed by your company – FULL, PARTIAL or SERVICE (as defined in your Application for Owner-Contractor Registration and copied on the reverse of this Ruling).

1. You are requested to update the attached list on the basis of your maintenance status of your installation on January 15, 1987 and indicate if there are any changes as follows:
 - a) Cross out the installation numbers of devices that you do not maintain any more.
 - b) If you recently added any device to your maintenance program and that is not shown in list, enter on the list all required information for such device.
 - c) Check (√) every installation number and corresponding “scope of maintenance” entry contained in the list for every device that your company still maintain.
 - d) Resolve all errors, A, B, C, or D if indicated in the “Error” column following the instructions in note (i) below
2. Your registration for 1987-88 will not be renewed unless the attached updated list of maintained devices has been received no later than January 31, 1987.
3. In your next application for renewal of owner-contractor registration, you may leave section 14 blank to avoid unnecessary duplication of information already contained in the attached list.
4. With this Ruling, previously issued Rulings #20/84 and #30/85 are revoked. Should you need any further information respecting the attached list, call (416) 239-7361 and ask for the computer section.

NLB/cr

NOTES RE EDB DIRECTOR'S RULING/INFORMATION # 43/86

Note (i) The error codes A&B etc. are interpreted at the bottom of the computer printouts containing errors. You will clearly indicate your resolution of every error, if any, consider the following:

Error A – Non- Existent, dismantled or permanently shut down -Means that the installation number you reported to us has either never been allocated to any elevating device, or was allocated to a device which has been dismantled or permanently shut down (voluntarily by the owner or forced by an inspector). If any of this is true then the reported installation should be deleted from your and our records.

Error B – Not registered for this device class - Means that you reported maintenance of an elevating device (e.g. freight platform lift, manlift, etc.) for which you are not registered as a contractor (e.g. you are registered for elevators only). To resolve the error, you will have to arrange for maintenance with another registered contractor.

Error C – Maintenance also reported by another contractor - Whilst it is completely legal, we record this as an error because we consider such situations highly improbable based on the maintenance industry's common practices, except that where one contractor claims "service" type maintenance (typically an owner-contractor) and another contractor claims F, P or I type...that we do not consider an error. To resolve this error you will have to check the scope of maintenance you have reported to us as well as scope of maintenance your company contracted with another contractor. If you reported "full" maintenance but you actually perform only minor repairs, that means "service" type maintenance, then you will change the scope in the attached list. However, if you believe that whatever you reported to us is correct, then you will cross out the word "error" and enter "correct", reconfirming your previous report.

Error D – Not registered for this scope of work - If you are a registered contractor (see item 13 in your Application for Owner-Contractor Registration) for (S) service type maintenance, you are not allowed to perform (P) or (F). Only with (F) registration may you perform any type of maintenance F, P, or S (see definitions). To resolve the error, you will have to change the reported scope of maintenance to the scope for which you are registered or you will have to apply for the change in the scope of your registration using the form mentioned in order 2.

DEFINITIONS OF SCOPE MAINTENANCE

Full or F

If your company is undertaking to provide, pre-scheduled inspection and examination of the elevating device at regular intervals (per section 22 (3) (a) of the Regulation) and all other maintenance services required in section 22 (3) of the Regulation, including cleaning, lubricating, adjusting and repair of all worn, defective, damaged or broken components, compliance with Ministry Inspectors directives related to the elevating device, and also inspection and testing of safety devices and overspeed governors where required in section 23 of the Regulation, except that your company may have arrangements with another contractor for replacement of limited number or specified major parts, e.g. motor, gear, ropes.

Partial or P

If the contractor has an agreement with the owner of the elevating device to provide, without any further authorization from the owner, pre-scheduled inspection and examination of the elevating device at regular intervals (per section 22 (3) of the regulation) and a part of other maintenance services required in section 22 (3) of the regulation, e.g. cleaning, lubricating, adjusting and repair of specified parts, and/or provision and replacement of specified worn, defective, damaged and broken components, and/or compliance with Ministry Inspector's directives related to the elevating device and/or inspection and testing of safety devices and overspeed governors..., whereby the agreement may require authorization from the owner for provision of any maintenance services not normally included in the agreement, or the owner may have other arrangements for such services. It is expected that the contractor will perform all necessary preventative and other maintenance services according to his inspection and examination findings or he will report his findings to the owner, who shall be responsible for the execution of proposed services within time limit indicated in the contractor's report.

Service or S

If your company is undertaking to provide only, lubrication, and/or adjustments, and/or repairs, and/or replacement of certain elevating devices parts or components, but the scope of your work does not include pre-scheduled inspections and examinations of the elevating device.

In this case, your company must have a contract with another contractor for provision of maintenance work not normally performed by your mechanics and such contract must include inspection and examination at regular pre- scheduled intervals, per section 22 (3) of the Regulation.



Elevating and Amusement Devices Safety Division	Ref. No.: 44/86	Rev. No.:
DIRECTOR'S RULING	Date: November 28/86	Date:

Subject: HORIZONTAL SLIDING HOISTWAY DOORS

Sent to: CONTRACTORS IN SCOPE 1

DURING THE PAST COUPLE OF MONTHS, THERE HAVE BEEN A NUMBER OF INCIDENTS REPORTED TO THIS BRANCH INVOLVING DISLODGE-
MENT OF HOISTWAY DOORS.

SUBSEQUENT INVESTIGATION OF THESE INCIDENTS REVEALED THAT THE HOISTWAY DOOR HARDWARE (IE. HANGER ROLLERS, UP-THRUST ROLLERS AND DOOR TRACKS) WERE OUT OF ADJUSTMENT, OR BADLY WORN AND IN SOME INSTANCES PARTS WERE MISSING. THESE CONDITIONS ALLOWED FOR DISLODGE-
MENT OF HOISTWAY DOORS WITH MINIMAL FORCE APPLIED FOR THE LANDING SIDE.

DISLODGE-
MENT OF HOISTWAY DOORS IS LIKELY TO CREATE HAZARDS THAT COULD WELL RESULT IN FATAL INJURIES TO MEMBERS OF THE PUBLIC. YOU SHOULD BRING TO THE ATTENTION OF YOUR MAINTENANCE MECHANICS THE IMPORTANCE OF CORRECT ADJUSTMENT OF HOISTWAY DOOR COMPONENTS. CAREFUL AND THOROUGH MAINTENANCE WILL PREVENT A RECURRENCE OF ACCIDENTS AND INCIDENTS INVOLVING HOISTWAY DOORS.

PLEASE ENSURE THAT APPROPRIATE ACTION IS TAKEN IMMEDIATELY.

NLB/kh



Elevating and Amusement Devices Safety Division	Ref. No.: 45/86	Rev. No.:
DIRECTOR'S RULING	Date: December 31/86	Date:

Subject: ADOPTION OF SUPPLEMENT NO. 2-1986 TO CAN3-Z98-M78 PASSENGER ROPEWAYS

Sent to: CONTRACTORS REGISTERED IN DEVICE CLASS 8

1. Each newly installed passenger, ropeway which will be initially inspected after August 1, 1987 shall fully conform to the CSA Standard: CAN3-Z98-M78 including Supplement No. 2-1986 Passenger Ropeways.
2. The CSA Standard and Supplement is available from:

Canadian Standards Association
178 Rexdale Blvd.
Rexdale, Ontario
M9W 1R3
3. Supplement No. 2-1986 incorporates all the amendments made to CSA Standard CAN3-Z98-M78, Passenger Ropeways, since its publication, including amendments previously adopted by Supplement No. 1-1984.
4. Changes to Supplement No 1-1984 are highlighted by a solid vertical line in Supplement No. 2-1986.
5. Notwithstanding the above mentioned date, all sections and rules in Supplement No. 2-1986 respecting INSPECTION, TESTING, MAINTENANCE AND USE of passenger ropeways, shall apply immediately to all existing and newly installed passenger ropeways.
6. Since the Elevating Devices Act, 1980 requires mechanics to have full knowledge of the codes applicable to the elevating device upon which they are assigned to work, we would expect that every mechanic in your employ will be provided with a copy of Supplement No. 2 as well as the original Z98 code.
7. Note that Ruling Information #27/85, dated September 10, 1985, as previously circulated to you is superseded by the Ontario Regulation 463/86, dated August 1, 1986, pages 4542 to 4548 of the Ontario Gazette attached.
8. It is expected that an amalgamated version of O.Regulation 229/81, as amended by O.Regulation 803/82 and this attached O.Regulation 463/86, will become available during February 1987 from:

Ontario Government Bookstore, 880 Bay Street, Toronto, Ontario, M5S 1Z8

T.GORDON SMITH, P.Eng.- Director

ELEVATING DEVICES ACT

O. Reg. 463/86.

General.

Made—July 31st, 1986.

Filed—August 1st, 1986.

**REGULATION TO AMEND
ONTARIO REGULATION 229/81
MADE UNDER THE
ELEVATING DEVICES ACT**

1. Subsection 1 (1) of Ontario Regulation 229/81 is amended by adding thereto the following paragraph:

12a. "freight elevator—E" means a freight elevator upon which employees of the owner of the elevator are permitted to ride as passengers;

2. Paragraph 1 of section 2 of the said Regulation is amended by adding thereto the following subparagraph:

(aa) freight elevators—E;

3. Section 3 of the said Regulation is amended by adding thereto the following subsection:

(3) Where a provision of a code referred to in this Regulation is inconsistent with a provision of the Act or this Regulation the provision of the Act or this Regulation shall prevail. O. Reg. 463/86, s. 3.

4. Section 13 of the said Regulation is revoked and the following substituted therefor:

13.—(1) Every contractor that maintains an elevating device shall submit annually to the Ministry a list that contains data on the installation numbers.

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class and location of each elevating device that is maintained by the contractor together with information that indicates the scope of each maintenance contract.

(2) The list referred to in subsection (1) shall be based on the actual status at the end of the fifteenth day of January for the year to which the list relates and shall be submitted not later than the 28th day of February next following. O. Reg. 463/86, s. 4.

5. Subsection 15 (1) of the said Regulation is revoked and the following substituted therefor:

(1) A contractor who installs or alters an elevating device shall, after the contractor has carried out a preliminary examination and is satisfied that all work is completed in accordance with the registered design submission and that the installation or alteration complies with the requirements of the Act and the regulations, notify the Director in a form provided by the Director that such is the case and arrange for an initial inspection of the elevating device. O. Reg. 463/86, s. 5.

6. Section 34 of the said Regulation is revoked and the following substituted therefor:

34.—(1) The welding of a steel structure on an elevating device shall meet the requirements of CSA Standard W59-1984, Welded Steel Construction (Metal Arc Welding).

(2) The welding of a steel structure on an elevating device shall be undertaken by a fabricator or contractor qualified to the requirements of CSA Standard W47.1-1983, Certification of Companies for Fusion Welding of Steel Structures.

(3) The field welding of piping and fittings on an elevating device shall meet the requirements of CSA Standard B51-M1981, Code for the Construction and Inspection of Boilers and Pressure Vessels. O. Reg. 463/86, s. 6.

7. Section 37 of the said Regulation is revoked and the following substituted therefor:

37.—(1) Every elevator, dumbwaiter, escalator, moving walk and freight platform lift shall meet the requirements of National Standard of Canada CAN3-B44-M85: Safety Code for elevators.

(2) For the purpose of this Regulation, in National Standard of Canada CAN3-B44-M85, "rated load" means "maximum capacity". O. Reg. 463/86, s. 7.

8. Section 38 of the said Regulation is revoked and the following substituted therefor:

38. Notwithstanding subsection 3 (2), rope clip fastenings shall not be used when suspension ropes are changed on an existing elevator. O. Reg. 463/86, s. 8.

9. Section 40 of the said Regulation, as remade by section 3 of Ontario Regulation 803/82, is revoked and the following substituted therefor:

40.—(1) Notwithstanding subsection 3 (2), every passenger elevator and freight elevator shall meet the requirements of clauses 3.7, 3.8, 3.10.8 and 3.12.2.17 of the code referred to in subsection 37 (1).

(2) Freight elevators installed before the 1st day of May, 1981 that do not meet the requirements of clause 2.12.2 or 2.12.3 shall meet the requirements of clause 2.12.3. O. Reg. 463/86, s. 9.

10. The said Regulation is amended by adding thereto the following sections:

45a. Where the maximum bottom counterweight runby is restricted in an elevator design submission to less than 900mm, the following sign, with letters at least 25mm in height, shall be attached to or printed on the hoistway wall in the vicinity of the counterweight buffers of the elevator: "Warning maximum bottom counterweight runby is". O. Reg. 463/86, s. 10, *part*.

45b. Notwithstanding subsection 3 (2), every escalator that does not meet the requirements of clause 8.10 of the code referred to in subsection 37 (1) shall, before the 1st day of January, 1987, be fitted with a caution sign that meets the requirements of clause 8.10 of that code. O. Reg. 463/86, s. 10, *part*.

11. Section 46 of the said Regulation is revoked and the following substituted therefor:

46. Every manlift shall meet the requirements of CSA Standard B311-M1979, Safety Code for Manlifts and Supplement No. 1-1984 to the said code. O. Reg. 463/86, s. 11.

12. Section 49 of the said Regulation is revoked and the following substituted therefor:

49. Every passenger ropeway shall meet the requirements of National Standard of Canada CAN3-Z98-M78 Passenger Ropeways and Supplement No. 1-1984 to the said standard. O. Reg. 463/86, s. 12.

13. Subsection 55 (3) of the said Regulation is revoked and the following substituted therefor:

(3) Where a platform carrier referred to in clause 55 (1) (c) is affixed to a lift line by means of rope grips

that use friction as a gripping method, clamping devices shall be installed in front and behind the grip of the platform carrier.

(4) A clamping device referred to in subsection (3) shall be so designed so as not to cause any damage to the hauling rope sheave, bull-wheel or the liners of the sheave or bull-wheel. O. Reg. 463/86, s. 13.

14. Section 58 of the said Regulation is revoked and the following substituted therefor:

58.—(1) Every construction hoist shall be so designed that the car movement in both the up and down directions is continuously controlled by power.

(2) A material construction hoist that is equipped with a broken-rope type safety shall not be licenced unless a type test indicates that the safety is capable of stopping the car when it is free falling with its rated load.

(3) Subsection (1) does not apply to a hoist that is equipped with a load-carrying unit in the form of a bucket. O. Reg. 463/86, s. 14.

15. Section 61 of the said Regulation is revoked.

16. Sections 61a, 61b, 61c, 61e, 61f and 61g of the said Regulation, as made by section 7 of Ontario Regulation 803/82, are revoked and the following substituted therefor:

61a. Every elevating device for the handicapped shall comply with National Standard of Canada C.A.N.3-B355-M81, Safety Code for Elevating Devices for the Handicapped. O. Reg. 463/86, s. 16, *part*.

61b.—(1) Every owner of a vertical platform lift—Type D and every owner of a stair platform lift—Type D or stairchair lift shall ensure that the public does not have access to the area where the lift is installed while the lift is in operation.

(2) Subsection (1) does not apply in the case of a stair platform lift—Type D or stairchair lift where,

(a) the owner of the lift is able to control and identify persons who will be using the lift or the area where the lift is installed and the owner familiarizes those persons in advance of using the area or lift with the safety rules and procedures concerning the use of the area and the lift; and

(b) the lift meets the requirements of section 61f. O. Reg. 463/86, s. 16, *part*.

61c. The owner of an elevating device for the handicapped shall ensure that,

(a) the device is used primarily for the transportation of handicapped persons;

(b) the operation of the device is restricted to attendants designated by the owner or those persons who in the opinion of the owner are able to use the device without an attendant and

(c) the persons using the device receive instruction and training that emphasizes the hazards associated with improper use of the device. O. Reg. 463/86, s. 16, *part*.

61e. Every owner of an elevating device for the handicapped that serves a building or part thereof that may be frequented by persons not previously designated by the owner shall,

(a) establish a procedure that will enable a handicapped person to gain access to and use the device; and

(b) ensure that an attendant is available to operate the device when a handicapped person not designated by the owner under clause 61c (b) requires use of the device. O. Reg. 463/86, s. 16, *part*.

61f. Where a stair platform lift—Type D or stairchair lift is being operated at the same time that other persons are using the area in which the lift is installed,

(a) audio-visual signals shall be emitted that can be heard by persons using the lift and by persons in the area where the lift is installed until the lift is parked in a safe position at a terminal; and

(b) every leading edge or surface of that portion of the lift and its carriage that carries the passengers in both directions of travel shall be equipped with sensitive devices that meet the requirements of clause 7.5.4 of the code referred to in section 61a and that are operational whenever the carriage is in motion. O. Reg. 463/86, s. 16, *part*.

61g.—(1) A person shall only operate a vertical platform lift—Type D, a stair platform lift—Type D or a stairchair lift if the person is satisfied that only persons using the lift have access to the area where the lift is installed.

(2) Subsection (1) does not apply to a person operating a stair platform lift—Type D or a stairchair lift while other persons are using the area in which the lift is installed where,

(a) the conditions set out in subsection 61b (2) exist;

- (b) the person operating the lift is an attendant and has while operating the lift in the folded down position, a clear view of the lift runway in the direction of its movement by walking along with the carriage while it is in motion or has by being stationed at a point, a clear view of the runway;
- (c) the person using the lift has while using the lift a clear view of the lift runway in the direction of travel; and
- (d) the audio-visual signals required under clause 61f (a) are operational. O. Reg. 463/86, s. 16, *part*.

17. Subsections 61a (2) and (3) of the said Regulation, as made by section 7 of Ontario Regulation 803/82, are revoked and the following substituted therefor:

- (2) The procedure required under clause 61e (a) shall be posted in the form of a notice at the entrance to the building to which it applies or, where the elevating

device is readily accessible, at the location of the elevating device.

- (3) Where an attendant is required for an elevating device under clause 61e (b) and an attendant is not permanently stationed at the location of the elevating device, a notice shall be posted at the entrance to the elevating device that indicates the procedure to be followed to obtain assistance.

- (4) Where subsection 61g (2) applies, a notice shall be posted at the entrance to the elevating device that cautions the user to observe the lift runway for possible obstructions.

- (5) The notice referred to in subsection (4) shall where a full view of the entire lift runway is restricted indicate that the operation of a folded down carriage is not permitted. O. Reg. 463/86, s. 17.

18. Table 1, Table 2 and Table 3 of the said Regulation, as amended by section 8 of Ontario Regulation 803/82, are revoked and the following substituted therefor:

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TABLE 1

FEES

ITEM	COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
1.	Elevator (except as in Item 6 (b))			
	(a) Basic-serving ten floors or less	\$125	\$ 65	\$125
	(b) Plus for each additional floor served exceeding ten floors	12	6	
2.	Construction Hoist			
	(a) Basic-ten entrances or less and 30 m of mast or tower	125	65	100
	(b) Plus for each additional 3m or part thereof of mast or tower	1	1	
	(c) Plus for each entrance over ten entrances	5	5	
3.	(a) Escalator			
	(b) Dumbwaiter			
	(c) Moving Walk			
	(d) Manlift			
	(e) Rope Tow			
	(f) Freight Platform Lift			
	(g) Stage Lift (per section)	100	65	100
4.	Elevating Devices for the Handicapped	30	30	35
5.	(a) Chair Lift—up to and including 10 towers; plus item 7			
	(b) Gondola Lift—up to and including 10 towers; plus item 7			
	(c) Reversible Ropeway—up to and including 10 towers; plus item 7			
	(d) Funicular Railway—up to and including 10 towers; plus item 7	375	185	200
6.	(a) Bar Lift—up to and including 10 towers; plus item 7			
	(b) Inclined Elevator	185	100	125

ITEM	COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
		Initial Inspection	Other Inspection	Design Submission For New Installation and Major Alteration
7.	For each tower in excess of 10 towers	\$20	\$10	
8.	Special installation—except for Column 4, per man hour (minimum two hours) (see Note 1)	30	50	
NOTES: 1. The fee in Column 4 is the complete fee				

O. Reg. 463/86, s. 18, part.

TABLE 2

FEES

ITEM	COLUMN 1	COLUMN 2
1.	Licence	
	(a) Initial	\$ 50
	(b) Renewal or duplicate	25
	(c) Transfer	25
2.	Installation plate—duplicate (see subsection 21 (5))	25
3.	Registration of a design submission for,	
	(a) Revision, subsequent to initial registration, for one elevating device	35
	(b) Standard design submission	
	(i) New	300
	(ii) Revised	75
	(c) A minor alteration, for one elevating device	35
4.	Copy of an inspection report or other document	15
5.	Inspection status summary (covering up to 6 devices at one location)	30
6.	Excess time charge for delaying or prolonging inspection (for each man hour, minimum one hour)	50

O. Reg. 463/86, s. 18, part.

TABLE 3

FEES—CONTRACTOR'S REGISTRATION

ITEM	COLUMN 1	COLUMN 2 Initial	COLUMN 3 Annual
1.	Elevators	\$400	\$200
2.	Construction Hoists	400	200
3.	Any Class other than Elevators or Construction Hoists, each class	150	75
4.	Limited Scope (see Note 1)	-	-
	(a) Limited maintenance or installation or both each class	150	75
	(b) Limited to testing by consultants regardless of number of classes	300	300
5.	Plus—for each mechanic, mechanic in training and supervisor employed in the previous year (this does not include registrations under item 6)		15
6.	Maintenance by owner for each maintained elevating device, up to maximum as in items 1, 2 and 3 (see Note 2)	15	15
<p>NOTES:</p> <p>1. A contractor's registration is limited in scope when it is limited to specific functions.</p> <p>2. Where registration is limited to the maintenance of elevating devices that are under contractor's ownership.</p>			

O. Reg. 463/86, s. 18, part.

19. This Regulation comes into force on the 1st day of August, 1986.

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Elevating and Amusement Devices Safety Division	Ref. No.: 46/87	Rev. No.:
DIRECTOR'S RULING	Date: January 15/87	Date:

Subject: ADOPTION OF CAN/CSA-B355-M86 ELEVATING DEVICES FOR THE HANDICAPPED

Send to: ALL CONTRACTORS IN SCOPE A & B-6

1. Each newly installed elevating device for the handicapped:
 - a) for which the design is submitted to this Branch for registration on or after the 1st day of March 1987, or
 - b) which will be initially inspected after the 1st day of May 1987, whichever comes first, shall fully conform to the requirements of the 1986 edition of standard CAN/CSA-B355-M86, Elevating Devices for the Handicapped.

This standard is available from:

Canadian Standards Association
178 Rexdale Blvd.
REXDALE, Ontario
M9W 1R3

2. Attached, for your information, is a copy of Ontario Regulation 463/86 made on July 31st, 1986 containing amendments to O.Regulation 229/91 in particular to sections 61b, 61c, 61e, 61f, 61g and 61h, respecting location of elevating devices for the handicapped and responsibilities of owners thereof.

It is expected that an amalgamated version of O. Regulation 229/81, as amended by O. Regulation 803/82 and this attached O. Regulation 463/86, will become available during February 1987 from:

Ontario Government Bookstore
880 Bay street
Toronto, Ontario
M5A 1Z8

3. Since the Elevating Devices Act, 1980 requires the mechanics to have full knowledge of the codes applicable to the elevating devices upon which they are assigned to work, we would expect that every mechanic in your company will be provided with a copy of this new edition of CAN/CSA-B355-M86.

ELEVATING DEVICES ACT

O. Reg. 463/86.
General.
Made—July 31st, 1986.
Filed—August 1st, 1986.

**REGULATION TO AMEND
ONTARIO REGULATION 229/81
MADE UNDER THE
ELEVATING DEVICES ACT**

1. Subsection 1 (1) of Ontario Regulation 229/81 is amended by adding thereto the following paragraph:

12a. "freight elevator—E" means a freight elevator upon which employees of the owner of the elevator are permitted to ride as passengers;

2. Paragraph 1 of section 2 of the said Regulation is amended by adding thereto the following subparagraph:

(aa) freight elevators—E;

3. Section 3 of the said Regulation is amended by adding thereto the following subsection:

(3) Where a provision of a code referred to in this Regulation is inconsistent with a provision of the Act or this Regulation the provision of the Act or this Regulation shall prevail. O. Reg. 463/86, s. 3.

4. Section 13 of the said Regulation is revoked and the following substituted therefor:

13.—(1) Every contractor that maintains an elevating device shall submit annually to the Ministry a list that contains data on the installation numbers.

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class and location of each elevating device that is maintained by the contractor together with information that indicates the scope of each maintenance contract.

(2) The list referred to in subsection (1) shall be based on the actual status at the end of the fifteenth day of January for the year to which the list relates and shall be submitted not later than the 28th day of February next following. O. Reg. 463/86, s. 4.

5. Subsection 15 (1) of the said Regulation is revoked and the following substituted therefor:

(1) A contractor who installs or alters an elevating device shall, after the contractor has carried out a preliminary examination and is satisfied that all work is completed in accordance with the registered design submission and that the installation or alteration complies with the requirements of the Act and the regulations, notify the Director in a form provided by the Director that such is the case and arrange for an initial inspection of the elevating device. O. Reg. 463/86, s. 5.

6. Section 34 of the said Regulation is revoked and the following substituted therefor:

34.—(1) The welding of a steel structure on an elevating device shall meet the requirements of CSA Standard W59-1984, Welded Steel Construction (Metal Arc Welding).

(2) The welding of a steel structure on an elevating device shall be undertaken by a fabricator or contractor qualified to the requirements of CSA Standard W47.1-1983, Certification of Companies for Fusion Welding of Steel Structures.

(3) The field welding of piping and fittings on an elevating device shall meet the requirements of CSA Standard B51-M1981, Code for the Construction and Inspection of Boilers and Pressure Vessels. O. Reg. 463/86, s. 6.

7. Section 37 of the said Regulation is revoked and the following substituted therefor:

37.—(1) Every elevator, dumbwaiter, escalator, moving walk and freight platform lift shall meet the requirements of National Standard of Canada CAN3-B44-M85: Safety Code for elevators.

(2) For the purpose of this Regulation, in National Standard of Canada CAN3-B44-M85, "rated load" means "maximum capacity". O. Reg. 463/86, s. 7.

8. Section 38 of the said Regulation is revoked and the following substituted therefor:

38. Notwithstanding subsection 3 (2), rope clip fastenings shall not be used when suspension ropes are changed on an existing elevator. O. Reg. 463/86, s. 8.

9. Section 40 of the said Regulation, as remade by section 3 of Ontario Regulation 803/82, is revoked and the following substituted therefor:

40.—(1) Notwithstanding subsection 3 (2), every passenger elevator and freight elevator shall meet the requirements of clauses 3.7, 3.8, 3.10.8 and 3.12.2.17 of the code referred to in subsection 37 (1).

(2) Freight elevators installed before the 1st day of May, 1981 that do not meet the requirements of clause 2.12.2 or 2.12.3 shall meet the requirements of clause 2.12.3. O. Reg. 463/86, s. 9.

10. The said Regulation is amended by adding thereto the following sections:

45a. Where the maximum bottom counterweight runby is restricted in an elevator design submission to less than 900mm, the following sign, with letters at least 25mm in height, shall be attached to or printed on the hoistway wall in the vicinity of the counterweight buffers of the elevator: "Warning maximum bottom counterweight runby is". O. Reg. 463/86, s. 10, *part*.

45b. Notwithstanding subsection 3 (2), every escalator that does not meet the requirements of clause 8.10 of the code referred to in subsection 37 (1) shall, before the 1st day of January, 1987, be fitted with a caution sign that meets the requirements of clause 8.10 of that code. O. Reg. 463/86, s. 10, *part*.

11. Section 46 of the said Regulation is revoked and the following substituted therefor:

46. Every manlift shall meet the requirements of CSA Standard B311-M1979, Safety Code for Manlifts and Supplement No. 1-1984 to the said code. O. Reg. 463/86, s. 11.

12. Section 49 of the said Regulation is revoked and the following substituted therefor:

49. Every passenger ropeway shall meet the requirements of National Standard of Canada CAN3-Z98-M78 Passenger Ropeways and Supplement No. 1-1984 to the said standard. O. Reg. 463/86, s. 12.

13. Subsection 55 (3) of the said Regulation is revoked and the following substituted therefor:

(3) Where a platform carrier referred to in clause 55 (1) (c) is affixed to a lift line by means of rope grips

that use friction as a gripping method, clamping devices shall be installed in front and behind the grip of the platform carrier.

(4) A clamping device referred to in subsection (3) shall be so designed so as not to cause any damage to the hauling rope sheave, bull-wheel or the liners of the sheave or bull-wheel. O. Reg. 463/86, s. 13.

14. Section 58 of the said Regulation is revoked and the following substituted therefor:

58.—(1) Every construction hoist shall be so designed that the car movement in both the up and down directions is continuously controlled by power.

(2) A material construction hoist that is equipped with a broken-rope type safety shall not be licenced unless a type test indicates that the safety is capable of stopping the car when it is free falling with its rated load.

(3) Subsection (1) does not apply to a hoist that is equipped with a load-carrying unit in the form of a bucket. O. Reg. 463/86, s. 14.

15. Section 61 of the said Regulation is revoked.

16. Sections 61a, 61b, 61c, 61e, 61f and 61g of the said Regulation, as made by section 7 of Ontario Regulation 803/82, are revoked and the following substituted therefor:

61a. Every elevating device for the handicapped shall comply with National Standard of Canada CAN3-B355-M81, Safety Code for Elevating Devices for the Handicapped. O. Reg. 463/86, s. 16, *part*.

61b.—(1) Every owner of a vertical platform lift—Type D and every owner of a stair platform lift—Type D or stairchair lift shall ensure that the public does not have access to the area where the lift is installed while the lift is in operation.

(2) Subsection (1) does not apply in the case of a stair platform lift—Type D or stairchair lift where,

(a) the owner of the lift is able to control and identify persons who will be using the lift or the area where the lift is installed and the owner familiarizes those persons in advance of using the area or lift with the safety rules and procedures concerning the use of the area and the lift; and

(b) the lift meets the requirements of section 61f. O. Reg. 463/86, s. 16, *part*.

61c. The owner of an elevating device for the handicapped shall ensure that,

(a) the device is used primarily for the transportation of handicapped persons;

(b) the operation of the device is restricted to attendants designated by the owner or those persons who in the opinion of the owner are able to use the device without an attendant; and

(c) the persons using the device receive instruction and training that emphasizes the hazards associated with improper use of the device. O. Reg. 463/86, s. 16, *part*.

61e. Every owner of an elevating device for the handicapped that serves a building or part thereof that may be frequented by persons not previously designated by the owner shall,

(a) establish a procedure that will enable a handicapped person to gain access to and use the device; and

(b) ensure that an attendant is available to operate the device when a handicapped person not designated by the owner under clause 61c (b) requires use of the device. O. Reg. 463/86, s. 16, *part*.

61f. Where a stair platform lift—Type D or stairchair lift is being operated at the same time that other persons are using the area in which the lift is installed,

(a) audio-visual signals shall be emitted that can be heard by persons using the lift and by persons in the area where the lift is installed until the lift is parked in a safe position at a terminal; and

(b) every leading edge or surface of that portion of the lift and its carriage that carries the passengers in both directions of travel shall be equipped with sensitive devices that meet the requirements of clause 7.5.4 of the code referred to in section 61a and that are operational whenever the carriage is in motion. O. Reg. 463/86, s. 16, *part*.

61g.—(1) A person shall only operate a vertical platform lift—Type D, a stair platform lift—Type D or a stairchair lift if the person is satisfied that only persons using the lift have access to the area where the lift is installed.

(2) Subsection (1) does not apply to a person operating a stair platform lift—Type D or a stairchair lift while other persons are using the area in which the lift is installed where,

(a) the conditions set out in subsection 61b (2) exist;

- (b) the person operating the lift is an attendant and has while operating the lift in the folded down position, a clear view of the lift runway in the direction of its movement by walking along with the carriage while it is in motion or has by being stationed at a point, a clear view of the runway;
- (c) the person using the lift has while using the lift a clear view of the lift runway in the direction of travel; and
- (d) the audio-visual signals required under clause 61f (a) are operational. O. Reg. 463/86, s. 16, *part*.

17. Subsections 61a (2) and (3) of the said Regulation, as made by section 7 of Ontario Regulation 803/82, are revoked and the following substituted therefor:

(2) The procedure required under clause 61e (a) shall be posted in the form of a notice at the entrance to the building to which it applies or, where the elevating

device is readily accessible, at the location of the elevating device.

(3) Where an attendant is required for an elevating device under clause 61e (b) and an attendant is not permanently stationed at the location of the elevating device, a notice shall be posted at the entrance to the elevating device that indicates the procedure to be followed to obtain assistance.

(4) Where subsection 61g (2) applies, a notice shall be posted at the entrance to the elevating device that cautions the user to observe the lift runway for possible obstructions.

(5) The notice referred to in subsection (4) shall where a full view of the entire lift runway is restricted indicate that the operation of a folded down carriage is not permitted. O. Reg. 463/86, s. 17.

18. Table 1, Table 2 and Table 3 of the said Regulation, as amended by section 8 of Ontario Regulation 803/82, are revoked and the following substituted therefor:

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TABLE 1

FEES

ITEM	COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
		Initial Inspection	Other Inspection	Design Submission For New Installation and Major Alteration
1.	Elevator (except as in Item 6 (b))			
	(a) Basic—serving ten floors or less	\$125	\$ 65	\$125
	(b) Plus for each additional floor served exceeding ten floors	12	6	
2.	Construction Hoist			
	(a) Basic—ten entrances or less and 30 m of mast or tower	125	65	100
	(b) Plus for each additional 3m or part thereof of mast or tower	1	1	
	(c) Plus for each entrance over ten entrances	5	5	
3.	(a) Escalator			
	(b) Dumbwaiter			
	(c) Moving Walk			
	(d) Manlift			
	(e) Rope Tow			
	(f) Freight Platform Lift			
	(g) Stage Lift (per section)	100	65	100
4.	Elevating Devices for the Handicapped	30	30	35
5.	(a) Chair Lift—up to and including 10 towers; plus item 7			
	(b) Gondola Lift—up to and including 10 towers; plus item 7			
	(c) Reversible Ropeway—up to and including 10 towers; plus item 7			
	(d) Funicular Railway—up to and including 10 towers; plus item 7	375	185	200
6.	(a) Bar Lift—up to and including 10 towers; plus item 7			
	(b) Inclined Elevator	185	100	125

ITEM	COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
		Initial Inspection	Other Inspection	Design Submission For New Installation and Major Alteration
7.	For each tower in excess of 10 towers	\$20	\$10	
8.	Special installation—except for Column 4, per man hour (minimum two hours) (see Note 1)	30	50	
NOTES: 1. The fee in Column 4 is the complete fee				

O. Reg. 463/86, s. 18, part.

TABLE 2

FEES

ITEM	COLUMN 1	COLUMN 2
1.	Licence	
	(a) Initial	\$ 50
	(b) Renewal or duplicate	25
	(c) Transfer	25
2.	Installation plate—duplicate (see subsection 21 (5))	25
3.	Registration of a design submission for,	
	(a) Revision, subsequent to initial registration, for one elevating device	35
	(b) Standard design submission	
	(i) New	300
	(ii) Revised	75
	(c) A minor alteration, for one elevating device	35
4.	Copy of an inspection report or other document	15
5.	Inspection status summary (covering up to 6 devices at one location)	30
6.	Excess time charge for delaying or prolonging inspection (for each man hour, minimum one hour)	50

O. Reg. 463/86, s. 18, part.

TABLE 3

FEES—CONTRACTOR'S REGISTRATION

ITEM	COLUMN 1	COLUMN 2 Initial	COLUMN 3 Annual
1.	Elevators	\$400	\$200
2.	Construction Hoists	400	200
3.	Any Class other than Elevators or Construction Hoists, each class	150	75
4.	Limited Scope (see Note 1)	-	-
	(a) Limited maintenance or installation or both each class	150	75
	(b) Limited to testing by consultants regardless of number of classes	300	300
5.	Plus—for each mechanic, mechanic in training and supervisor employed in the previous year (this does not include registrations under item 6)		15
6.	Maintenance by owner for each maintained elevating device, up to maximum as in items 1, 2 and 3 (see Note 2)	15	15
<p>NOTES:</p> <p>1. A contractor's registration is limited in scope when it is limited to specific functions.</p> <p>2. Where registration is limited to the maintenance of elevating devices that are under contractor's ownership.</p>			

O. Reg. 463/86, s. 18, part.

19. This Regulation comes into force on the 1st day of August, 1986.

(9183)

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Elevating and Amusement Devices Safety Division	Ref. No.: 47/87	Rev. No.:
DIRECTOR'S RULING	Date: January 19/87	Date:

Subject: NEW ELECTRIC ELEVATORS: ACCEPTABLE TEST OF DRIVING MACHINE BRAKES FOR CONFORMANCE WITH CLAUSE 3.10.8.2(b) OF CAN3-B44-M85

Sent to: ELEVATOR CONTRACTORS IN SCOPE A & B1

1. ORDER TO CONTRACTORS INSTALLING ELECTRIC ELEVATORS

1.1 Starting January 1, 1988, no initial inspection of a new electric elevator shall start unless:

- a) Its design submission contains (in items 37 and 189 of form ID-29410 or in a separate document):
 - i) information on exact brake setting necessary to satisfy both requirements 'a' and 'b' in clause 3.10.8.3.2;
 - ii) method of measurement of the brake setting in conformance with clause 3.10.8.3 (also see note 2.3 below); and
 - iii) description of field tests which will be performed at the time of initial inspection to demonstrate conformance with clause 3.10.8.3.2(b); and
- b) The data required in (a) (i) and (ii) above is permanently marked at the brake with letters and figures at least 6mm in height on a metal plate in conformance with clause 3.9.3.3.1.

1.2 Starting the same date, inspectors will ask the installing contractors to perform the tests* as described in the design submission (see 1.1(a) (iii) above).

*After a series of successful tests on a number of elevators of a specified make and model, which will prove consistency and reliability of information mentioned in 1.1 above, we may revoke this order for field tests and the order for information required in 1.1(a)(iii) above to be included in the design submission in respect to that elevator make and model.

1.3 Any design previously submitted for registration must be amended in conformance with 1.1(a) above if the initial inspection of the elevator covered by the design is scheduled to take place after March 1, 1987.

2. NOTES – BACKGROUND

2.1 Before publication of 1985 edition of B44, clause 3.10.8.2 of the code required the brake “to have a capacity sufficient to stop and hold the car with its rated load (or 25% overload in the case of passenger elevators)”. The term “to stop” was ambiguous since the speed from which the brake was expected to slow down and stop was not specified. Consequently, the rule was generally interpreted as requiring a brake capacity to stop the car from levelling speed or just to hold the car in position, while the deceleration of the car from its rated speed was left to be performed mainly by electro-dynamic braking of the machine.

Further, the code did not contain any provisions for markings of the brake setting method that would enable maintenance mechanics to maintain this important elevator component in safe operating conditions.

- 2.2 The new CAN3-B44-M85 code clearly specifies in clause 3.10.8.2(b) that the driving-machine brake on its own (without assistance of the machine) “must be capable of decelerating the car from its rated speed with rated load” (or 25% overload in the case of passenger elevators). It is noted that any rate of deceleration or any stopping distance is acceptable provided that all factors are considered, such as heat dissipation, which may destroy the brake if the stopping distance is too long.
- 2.3 Furthermore, the new code requires in clause 3.10.8.3, that brake setting and method of measurement be permanently marked on the brake. The method of brake setting and the method of checking of proper setting is expected to involve simple tools normally available to maintenance mechanics and which would enable mechanics to assure conformance with new code requirements with respect to brake’s capacity (see clause 3.10.8.2(b) without using test weight in elevator car, or resorting to complex procedures.
- 2.4 We assumed that before the new B44 code came into force, the elevator manufacturers would have checked the design of their brakes and carried out type tests if necessary to establish positive relationships between brake’s capacity and the method of its setting all in conformance with the new rule in clause 3.10.8.2(b) and 3.10.8.3.

Judging from the data we have been receiving the specification forms and from conversations we have had with several submitting engineers, this has not been the case. To our surprise, some engineers have not noticed any difference between the old clause 3.10.8.2 and that in the 1985 edition and they still maintain that capacity of machine brake is adequately tested in the course of an emergency stop, initiated by interrupting a safety circuit.

- 2.5 This test stop, however, in most cases involves electric-dynamic braking of the machine in addition to the action of the machine brake itself and cannot be accepted as the test of the capacity of the brake acting independently.

CEV:cr

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Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	47/87	1
DIRECTOR'S RULING	Date:	Date:
	January 19/87	November 19/87

Subject: NEW ELECTRIC ELEVATORS: ACCEPTABLE TEST OF DRIVING MACHINE BRAKES FOR CONFORMANCE WITH CLAUSE 3.10.8 OR PROPOSED REVISIONS TO CAN3-B44-M85, AS PRINTED ON REVERSE OF THIS RULING

Sent to: ELEVATOR CONTRACTORS

1. ORDER TO CONTRACTORS INSTALLING ELECTRIC ELEVATORS

- 1.1 Starting January 1, 1988, no initial inspection of a new electric elevator shall start unless: ®
- a) Its design submission contains (in items 37 and 189 of form ID-29410 or in a separate document):
 - (i) information on exact brake setting necessary to satisfy all requirements of clause 3.10.8.3.2;
 - (ii) method of measurement of the brake setting in conformance with clause 3.10.8.4 (also see note 2.6 on reverse); and
 - (iii) description of field tests which will be performed at the time of initial inspection to demonstrate conformance with clause 3.10.8.3.2(c); and
 - b) The data required in (a) (i) and (ii) above is permanently marked at the brake with letters and figures at least 3mm in height on a metal plate in conformance with clause 3.9.3.3.1. } ®
- 1.2 Starting the same date, inspectors will ask the installing contractors to perform the tests* as described in the design submission (see 1.1(a) (iii) above). ®
- *Note: After a series of successful tests on a number of elevators of a specified make and model, which will prove consistency and reliability of information mentioned in 1.1 above, we may revoke this order 1.2 as well as 1.1(a)(iii). ®
- 1.3 Any design previously submitted for registration must be amended in conformance with 1.1(a) above if the initial inspection of the elevator covered by the design is scheduled to take place after January 1, 1988. ®
- 1.4 Installations inspected before January 1, 1988 shall conform either with the first edition of this Ruling #47 of January 19, 1987 or with this Revision A. ®

2. BACKGROUND AND NOTES RESPECTING REVISION "A" OF RULING #47 ®

- 2.1 With the first edition of this ruling #47 of January 19, 1987, an acceptance test of machine brake was required to prove conformance with clause 2.10.8.2 of CAN3-B44-M85.
- 2.2 Our interpretation of that B44 rule was questioned by several elevator manufacturers and the whole subject of machine brake requirements was again analyzed by the B44 Committee. It was agreed that the subject B44 rule was ambiguous and open to different interpretation. New rules for machine brakes were drafted and approved in principle (see below). With this Ruling, new rules are adopted in this province before they are printed in Supplement #2 of the B44 (anticipated sometime during 1988 or 1989).

- 2.3 New rule 3.10.8.3.2, clearly specifies that the brake on its own (without assistance of electrical dynamic brake affect of the machine), must be capable of decelerating an empty car from 125% rated speed in the up direction. In addition, the brake must be capable of holding car with any load up to 125% rated load (100% for freight elevators).
- 2.4 Note that old clause 3.10.8.2(b) referred to "rated speed" while the new rule in clause 3.10.8.3.2(c) calls for speed at which governor overspeed switch is set. New rule does not require the brake on its own to decelerate the car in the down direction. The rationale is that if the "Braking System" (see new clause 3.10.8.2) fails, car safeties will stop the car in the down direction.
- 2.5 Description of the tests, required is 1.1.(a)(iii) above, must explain how an empty car will reach the speed at which overspeed switch is set, in the up direction during the test and how the test will demonstrate that the car is decelerated by the brake without any assistance from the drive motor. Note that in most drives the "interruption of the safety circuit or power supply" after the car was accelerated to the test speed by its drive motor, does develop electrodynamic braking effect of the drive motor. Such test would not be acceptable as the test of the brake.
- 2.6 As in the old clause 3.10.8.3, the new clause 3.10.8.4 requires that the brake setting and method of measurement be permanently marked on the brake. The method of brake setting and the method of checking of proper setting is expected to involve simple tools normally available to maintenance mechanics such as torque wrenches and/or measuring tapes. This would enable mechanics to maintain brakes in conformance with the code requirements.

REVISED RULES

(NEW)

Note: The following revision of clause 3.10.8 of CAN3-B44-M85 was approved in principle by the CSA-B44 Committee at its June 1987 meeting in Quebec. The revised rule is scheduled for publishing with Supplement 2 during 1988/89. Nevertheless, new rules will be enforced in this province as of January 1, 1988.

3.10.8 Braking System

3.10.8.1 General

3.10.8.1.1 The elevator shall be provided with a braking system that operates automatically:

- a) In the event of loss of the main power supply.
- b) In the event of loss of the supply to control circuits.

3.10.8.1.2 The braking system shall have an electro-mechanical brake (friction-type), but may, in addition, have other braking means.

3.10.8.2 Requirements for Braking System The braking system shall be capable of decelerating * the car from rate speed with rated load. (See clause 3.9.8.2(e).)

3.10.8.3 Requirements for Electro-mechanical Brake

3.10.8.3.1 The electro-mechanical brake shall be applied by a spring or springs, or by gravity and released electrically.

3.10.8.3.2 The electro-mechanical brake, on its own, shall be capable of:

- a) Holding the car at rest with rated load (see also clause 3.9.8.2(e)).
- b) Holding the empty car at rest.
- c) Decelerating* the empty car travelling in the up direction from the speed at which the overspeed switch required by clause 3.8.4.2 is set, or from 125% rated speed where no overspeed switch is provided.

* Any rate of deceleration is acceptable, all factors considered, e.g. heat dissipation.

3.10.8.4 The brake setting and method of measurement shall be permanently marked on the brake.



Elevating and Amusement Devices Safety Division	Ref. No.: 48/87	Rev. No.:
DIRECTOR'S RULING	Date: January 30/87	Date:

**Subject: GENERAL VARIANCE TO FREIGHT PLATFORM LIFTS LIMITATIONS
RESPECTING FLOOR PENETRATION AND TRAVEL**

Sent to: ALL CONTRACTORS IN SCOPES A & B5

A. INTRODUCTION

- A.1 Section 37 of Ontario Regulation 229/81 as amended by Ontario Regulation 803/82 and 463/86 require every freight platform lift to meet the requirements of the National Standard of Canada CAN3-B44-M85, Safety Code for Elevators, which in turn limits platform lifts' travel to a maximum **5.0m** and number of penetrated floors to the maximum of one.
- A.2 We have been receiving requests for the registration of Freight Platform Lifts designs incorporating variances from these limits, with or without compensating features that would ensure the safety of such lifts. Lack of uniform rules and conditions for the registration of variances has caused difficulties in the design registration and inspection process and also generated complaints from platform lift manufacturers.

B. GENERAL VARIANCE RESPECTING TRAVEL AND PENETRATED FLOORS ON FREIGHT PLATFORM LIFTS

Notwithstanding, clause 15.1.1(c) and (d), and clause 15.6.1 of CAN3-B44-M85, a freight platform lift may penetrate more than one floor and may have travel in excess of 5m provided that the lift fulfils:

- a) Requirements in clause 15.1.1(a) and 15.4 respecting access and usage restrictions;
- b) Requirements in clause 15.1.1(f) and 15.10.1 respecting speed limitation to 0.15m/s;
- c) Requirements in clause 15.1.1(f) and 15.8.2 (except 15.8.2.5) with respect to permitted type of operating devices and their location and functioning; and
- d) All requirements in section 2, 3 and 4 of CAN3-B44-M85, Elevator Safety Code, as applicable to freight elevators with exceptions listed in part C of this Ruling.

C. EXCEPTIONS FROM SECTION 2, 3 AND 4 WHEN APPLIED TO FREIGHT PLATFORM LIFTS HAVING UNLIMITED TRAVEL AND/OR NUMBER OF PENETRATED FLOORS

- C.1 When applying rules in sections 2, 3 and 4 to freight platform lifts, consider that freight elevator means F.P.L, hoistway means runway and car means platform.
- C.2 Exceptions from Section 2
- 2.2.2.2 Lift runway (hoistway) pit is not required, provided that requirements of clause 15.6.3 and 15.7.3.1 are fulfilled. However, if the it is provided voluntarily, it shall conform to requirements stipulated in comments 2.7 below.
- 2.3 Machine rooms, if provided, shall conform to this clause. Where no machine room is provided, location of power unit shall conform to 15.8.1.5 and controller shall be enclosed in a metal cabinet equipped with a self-closing and self-locking door.
- 2.7 If a pit is provided, it shall conform to clause 2.7, considering exceptions given below respecting buffers (3.3), platform apron (3.5.9), clearances and runbys (2.8.1 to 2.8.4) which may be taken into consideration when calculating the minimum pit depth as required in 2.7.7.
- 2.8.1 Platform (car) bottom clearance need not conform to this clause provided that an "under-platform positive device" is installed in conformance with clause 15.7.3.1.
- 2.8.2 Platform (car) bottom runby is not required.
- 2.8.3

2.8.5 Top platform (car) clearances need not conform to these rules provided that there is a to minimum vertical clearance to of 600mm, measured from the platform (car) top or any equipment protruding above the platform (car) top, exclusive platform guides and platform gate posts, when the platform is located in its uppermost position.

C.3 Exceptions from Section 3

3.3 No buffers are required. If buffers or bumpers are provided, they shall conform to these rules.

3.5.9.1 No platform apron guard is required, if levelling zone is less than 75mm.

3.6.1.5 Top emergency exit is not required. If provided, it must conform to this rule.

3.6.4.1 Door or gate is not required on one entrance to the platform (car) provided that requirements for clearances in clause 15.9.4(a) and (b) are met. The second entrance, if provided, must be equipped with a door or gate conforming to clause 3.6.4 and 3.6.6.

3.9.4 Carrying of passengers on freight platform lifts shall not be permitted.

3.9.5 Signs required in 3.9.5.1(a) shall be provided as applicable to a freight platform lift and in addition signs required in 15.5.1(b) and (c) shall be provided.
Note that signs stipulated in clause 3.9.5(b) and (c) are not required on freight platform lifts.

3.11 Terminal stopping devices shall conform to this clause or to clause 15.7.4.

3.12 Operating devices and control equipment shall conform to this clause in parts not covered by clause 15.8.2 (except 15.8.2.5). Platform (car) operating devices shall be in the vicinity of, and in full view of, the platform (car) entrance that is not guarded (see 3.6.4.1 above).

C.4 Exceptions from Section 4

All exceptions respecting pit, machine room, runbys, clearances listed under "section 2" and all exceptions respecting buffers, apron guards, top emergency exit, platform doors or gates, and signs listed under "section 3" shall apply to hydraulic platform lifts.

All other requirements specifically applicable to hydraulic elevators shall apply to the freight platform lifts using hydraulic drives.

D. DESIGN SUBMISSION

D.1 Specification forms for electric elevators (#ID-29410) or hydraulic elevators (#ID-29426) shall be used for design submission for every freight platform lift having travel more than 5m and/or penetration more than one floor.

D.2 The variance regarding travel and/or number of penetrated floors shall be clearly delineated in the form in item 190.

D.3 In item 192, this ruling shall be listed as applied code and the professional engineer signing the form shall ensure that requirements of this ruling are met.

E. SUMMARY

E.1 Every freight platform lift with travel exceeding 5m and/or with more than one penetrated floor shall conform to most rules for freight elevators, such as:

- fully enclosed runway (hoistway) with fire rating if required by applicable building codes
- true landing door interlocks
- platform (car) fully enclosed with not more than one entrance unguarded
- comprehensive design requirements for platform (car) frame, cylinder, etc.

E.2 Consider prescribed limitations, inherent to freight platform lifts, respecting access, usage, speed and constant pressure operation and also considering simplicity of the equipment and related safety of mechanics, inspectors and general public, exceptions from freight elevator requirements shall be permitted such as:

- no machine room required with compensating rules for location of machines and controller
- top and bottom hoistway clearances, buffers, platform apron
- terminal limits
- top (car) emergency exit
- one platform (car) entrance without gate

F. APPLICATION OF THIS RULING Immediately.

CEV:dp



Elevating and Amusement Devices Safety Division	Ref. No.: 49/87	Rev. No.:
DIRECTOR'S RULING	Date: March 19/87	Date:

**Subject: ESCALATORS TYPE TESTS AND CERTIFICATION IN ACCORDANCE WITH
CLAUSE 8.11* OF CAN3-B44-M85**

Sent to: ELEVATOR CONTRACTORS IN SCOPES A3 & B3

Item 1: ORDER TO CONTRACTORS INSTALLING ESCALATORS

Starting July 1, 1987, no initial inspection of a new ESCALATOR shall start unless: ®

- a) the design submission contains (in item 95 or in a separate document)
 - i) The name of the laboratory that carried out or witnessed type tests (see 11.2.1 and 11.5) and issued a certificate (see 11.2.3) for escalators of that type; and
 - ii) The laboratory's certificate number and reference marking (see 11.2.3.1d).
- b) A copy of the certificate (see 11.2.3) is files with this Branch.
- c) The laboratory's marking is displayed at the escalator being inspected (see 8.11.2 and 11.2.3.1d).
- d) Data contained in the certificate correspond to data indicated on the escalator brake data plate (see 8.5.3.1.5).

* **NOTE:** Detailed comments on the B44 requirements respecting escalators type testing & certification are available from this Branch by writing to C.E. Vlahovic, Chief Engineer.

Item 2: BACKGROUND

The 1985 edition of CAN3-B44-M85, Elevator Safety Code, introduced, for the first time, requirements for type testing and certification of escalator brakes. We assumed that the escalator industry and Canadian testing laboratories would develop a system of testing and certification of escalators within 12 months from the time the code was published and we indicated in our specification form for Escalators #ED-29411 (guideline 95), printed 12.85, that January 1, 1987 would become the enforcement date for this new requirement.

It was later recognized that this deadline was not practicable since no laboratory located in Canada developed a qualifying testing program. Such a program is now available from the laboratories of the Canadian Standards Association, enabling the industry to obtain escalator certification services in Canada, if this is the avenue they elect, and meet our revised deadline for compliance.

CEV:cr



Elevating and Amusement Devices Safety Division	Ref. No.: 49/87	Rev. No.: 1
DIRECTOR'S RULING	Date: March 19/87	Date: June 24/87

**Subject: ESCALATORS TYPE TESTS AND CERTIFICATION IN ACCORDANCE WITH
CLAUSE 8.11* OF CAN3-B44-M85**

Sent to: ELEVATOR CONTRACTORS IN SCOPES A3 & B3

Item 1: ORDER TO CONTRACTORS INSTALLING ESCALATORS

Starting October 1, 1987, no initial inspection of a new ESCALATOR shall start unless: ®

- a) the design submission contains (in item 95 or in a separate document)
- i) The name of the laboratory that carried out or witnessed type tests (see 11.2.1 and 11.5) and issued a certificate (see 11.2.3) for escalators of that type; and
- ii) The laboratory's certificate number and reference marking (see 11.2.3.1d).
- b) A copy of the certificate (see 11.2.3) is files with this Branch.
- c) The laboratory's marking is displayed at the escalator being inspected (see 8.11.2 and 11.2.3.1d).
- d) Data contained in the certificate correspond to data indicated on the escalator brake data plate (see 8.5.3.1.5).

* NOTE: Detailed comments on the B44 requirements respecting escalators type testing & certification are available from this Branch by writing to C.E. Vlahovic, Chief Engineer.

Item 2: BACKGROUND

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The deadline of July 1, 1987, as set in the original issue of this Ruling, has been changed ® to October 1, 1987, after it was revealed at the B44 Committee meeting in Quebec City, that most escalator manufacturers had not received, on time, the CSA Certification Notice No. 1 dated March 30, 1987.

CEV:cr



Elevating and Amusement Devices Safety Division	Ref. No.: 50/87	Rev. No.:
DIRECTOR'S RULING	Date: May 6/87	Date:

Subject: ADOPTION OF CAN/CSA-Z185-M87 AND CAN/CSA-Z256-M87
CONSTRUCTION HOIST

Sent to: ALL CONTACTORS IN SCOPE A9 & B9

Item 1: Each newly installed Workmen's Rail-Guided Construction Hoist and Material Construction Hoists:

- a) for which the design is submitted to this Branch for registration on or after the 1st day of July, 1987, or
- b) which will be initially inspected after the 1st day of September 1987, whichever comes first, shall fully conform to the requirements of the 1987 edition of applicable standard:

CAN/CSA-Z185-M87, Safety Code for Personnel Hoists
or
CAN/CSA-Z256-M87, Safety Code for Material Hoists

The standards are available from:

Canadian Standards Association
178 Rexdale Blvd.
REXDALE, Ontario
M9W 1R3

Item 2: Since the Elevating Devices Act, 1980 requires the mechanics to have full knowledge of the codes applicable to the elevating devices upon which they are assigned to work, we would expect that mechanics in your company will be provided with a copy of this new edition of subject safety codes.

T. GORDON, P. Eng., Director

CEV:cr



Elevating and Amusement Devices Safety Division	Ref. No.: 51/87	Rev. No.:
DIRECTOR'S RULING	Date: June 2/87	Date:

Subject: NEW HYDRAULIC ELEVATORS - AUXILIARY CONTACT IN THE MAIN DISCONNECT SWITCH

Sent to: ELEVATOR CONTRACTORS IN SCOPE A1 & B1

1 ORDER TO CONTRACTORS INSTALLING HYDRAULIC ELEVATORS

- 1.1 Where a main disconnect switch is equipped with an auxiliary contact, in order to conform with clause 4.22.7.6 of CAN3-B44-M85, Elevator Safety Code, that auxiliary contact must be positively open with the opening of the main switch. The opening of the auxiliary contact must not be dependent solely on springs.
- 1.2 No new hydraulic elevator having a main disconnect switch equipped with an auxiliary contact shall be licensed unless the method of the opening of that contact fully conforms to 1.1 above.

2 BACKGROUND

- 2.1 Clause 4.22.7.6 requires that:
 - a) the main disconnect switch be provided with an auxiliary contact on elevators where emergency power is supplied from a second source for lowering the car in the case of main power supply failure;
 - b) the auxiliary control must be connected in the control circuit so as to prevent movement of the car when the main disconnect is open (so that the elevator contact can differentiate between power supply failure and open disconnect), and
 - c) same as any other electrical protective device, the auxiliary contact must conform to clause 3.12.4.3, i.e. it must have contacts which are positively open mechanically.....not dependent solely on springs.
- 2.2 In the course of initial inspections, we have found that in most cases, the auxiliary contacts provided are not positively opened by opening of the disconnect switch but rather their opening depends on springs, as in the case of "snap action switches" or "micro switches". These types of auxiliary contacts are not acceptable. Elevators equipped with such contacts are not licensable.
- 2.3 So far, we have identified the following equipment fully conforming to the intent of the requirements of clause 4.22.7.6 and 3.12.4.3:
 - a) Four-pole disconnect switches with a pole used as auxiliary switch.
 - b) A supplementary disconnect switch, used as an auxiliary switch mechanically linked to the main disconnect.
 - c) COMMANDER - HD Safety Switches equipped with POSITIVE ACTION SWITCHES, AS60-IED OR AS200-1 (Bulletin BE302-2 of January 1986).
 - d) *

* We expect to receive information from other switch suppliers for inclusion in the next revision of this Ruling.

T.GORDON, P.Eng. Director



Elevating and Amusement Devices Safety Division	Ref. No.: 52/87	Rev. No.:
DIRECTOR'S RULING	Date: June 2/87	Date:

Subject: ELEVATORS - EMERGENCY SIGNAL DEVICES - CLAUSE 3.13 OF CAN3-B44-M85

Sent to: ELEVATOR CONTRACTORS IN SCOPES A1 & B1

Item 1: CONFORMANCE WITH 3.13 TO BE DEMONSTRATED AT INITIAL INSPECTION

- 1.1 Effective immediately, no elevator shall be licensed unless full conformation with clause 3.13 of the B44 Code, respecting emergency signal devices, is demonstrated at the time of initial inspection.
- 1.2 Exceptions are elevators in buildings under construction, where technical difficulties (such as lack of emergency power supply or incomplete central alarm and control facilities, etc.) may prevent testing of signal devices, in which case the installing contractor will explain to the inspector how the conformance is intended to be achieved and an actual demonstration of the functioning of devices will be carried out not later than when the last elevator is initially inspected in that building.

Item 2: CONFORMANCE WITH 3.13.2 TO BE DETAILED IN DESIGN SUBMISSION

- 2.1 No design submission for an elevator, received at this Branch after June 15, 1987, will be registered unless it contains full information in item 121 of the specification sheet how the requirements in clause 3.13.2 will be fulfilled.
- 2.2 Where the submitting engineer cannot obtain full information at the time of submission, he/she may indicate such in line 121 and the design submission may be registered under the condition that no initial inspection shall start unless full information respecting conformance with 3.13.2 is registered with a Branch engineer. (See 3.4 in this ruling.)

Item 3: BACKGROUND

- 3.1 Every elevator (passenger or freight) must have a signalling device mounted on the car, according to clause 3.13.1.
- 3.2 Every elevator (passenger or freight), if located in a "high building" (confirmed by entry "YES" in item 152 of the specification sheet), must also be provided with means for two-way conversation between car and central alarm and control facilities (CACF), according to clause 3.13.4.
- 3.3 Since there are "no choices" in the requirements of clauses 3.13.1 and 3.13.4, no questions are asked in the specification sheet, but it remains the responsibility of the engineer signing the specification sheet and the installing contractor to ensure conformance. It should be noted out that the Ontario Building Code does not made any references to communication between elevator cars and CACF, therefore the elevator designer should make the designer of CACF aware of the B44 requirements.
- 3.4 In addition to the devices required in clauses 3.13.1 and 3.13.4, every passenger elevator in

a building in which an attendant is not continuously available, must be provided with one of the devices listed in a), b) or c) of 3.13.2. The type of the device and the place to which it is to be connected must be specified in item 121 of the specification form. e.g. “telephone to Bell exchange” or “telephone to continuously manned CACF” or “audible signal to the attendant’s office at ...address...”.

‘Attendant’ means a person whose duty it is to take action when the device required in 3.13.1 is activated. An occupant of an apartment or office in a building could not be considered as an attendant. ‘Continuously’ means 24 hours a day or while the building is occupied.

In a building in which an attendant is continuously available, no additional devices are required. Entry in item 121 should read “attendant continuously available”.

- 3.5 It is important to note that an elevator may, in extreme cases, require three devices, e.g. one alarm bell and telephone(s) in the car connected to the unmanned CACF and to an answering service.

On the other side, elevators in a low building, where an attendant is continuously present will require an alarm bell on the car only. A high building with a continuously manned CACF will require an alarm bell and one telephone or intercom to CACF.

- 3.6 In the past, some elevator designers did not devote sufficient attention to the requirements in clause 3.13 and the result was unnecessary delay in licensing of elevators, caused by the need for unscheduled wiring for communication devices to CACF and/or other locations. For that reason and to clarify the intent of clause 3.13, this Ruling is being issued.

CEV:cr



Elevating and Amusement Devices Safety Division	Ref. No.: 53/87	Rev. No.:
DIRECTOR'S RULING	Date: November 6/87	Date:

Subject: CONCRETE FOUNDATIONS FOR NEW PASSENGER ROPEWAYS

Sent to: PASSENGER ROPEWAY CONTRACTORS SCOPE A,B,F,P,S-8 ALL SUBMITTING ENGINEERS

Item 1: INTRODUCTION

In the past, failure to adhere to the requirements of the Elevating Device Act, Regulation and applicable standards in the process of the design and installation of passenger ropeways, in particular CONCRETE FOUNDATIONS, caused in many instances long delays in licensing new installations.

Furthermore, problems have occurred when it was discovered during the initial inspection that the CONSTRUCTION OF FOUNDATIONS was not carried out in accordance with the design submitted by the professional engineer, to this Branch.

To avoid delays and prevent the possibility of a completed installation not being licensed for public use, we ask you to follow all the requirements listed in item 2 below.

Item 2: PROCEDURE

- 2.1 Follow strictly the requirements of subsection 17.2.1.1, 17.2.1.2 and 17.4.1 of the CSA standard CAN3-A23.1-M77, "Concrete Materials and Methods of Concrete Construction". (See reverse side for copies of the above subsections.)
- 2.2 Submit a statement by a professional engineer certifying that:
 - i) the concrete foundations have been constructed in accordance with the applicable codes;
 - ii) the engineer (or his representative) named in the statement was present during the foundation construction; and
 - iii) confirmation that the results of the foundation concrete strength tests, carried out in accordance with section 17.4 of the CSA standard CAN#-A23.1-M77 are acceptable. (See reverse side for copy of subsection 3.18.6 of the CSA standard Z98).

This statement must be submitted to the Elevating Devices Branch BEFORE the initial inspection is carried out.

- 2.3 Should any part of the new installation not conform to the original design as submitted by the professional engineer, then an "as built" drawing must be submitted by the submitting engineer BEFORE the initial inspection is carried out.
- 2.4 All drawings used for the construction of the foundations, towers, machine rooms, etc. must be registered by the Director of the Elevating Devices Branch BEFORE construction commences. (See reverse side for copy of subsection 11(1) of the Elevating Devices Act).

CSA STANDARD CAN3-A23.1-M77

- 17.2.1.1 Not less than one strength test shall be made for each 100 m³ of concrete placed and in no case shall there be less than one test for each class of concrete or each separate type of structural component, as designated by the Authority, placed on any one day. When high strength is involved or where structural requirements are critical, the Authority may require a higher frequency of testing, in which case the frequency of testing shall be defined in the contract documents.
- 17.2.1.1 When the frequency of testing stipulated in Clause 17.2.1.1 will provide less than three tests for a given class of concrete, tests shall be made from a least three randomly selected batches.

Note: When the total quantities of a given class of concrete are less than 50 m³ the strength tests may be waived by the Authority if, in his judgement, adequate evidence of satisfactory strength is provided.

17.4.1 General

For a strength test, two standard 150 mm X 300 mm test cylinders shall be made. The test result shall be the average of the strengths of the two specimens tested at the same age, except that, if any specimen shows definite evidence, other than low strength, of improper sampling, moulding, handling, curing, or testing, it shall be discarded, and the strength of the remaining cylinder shall be considered the test result. Cylinders shall be tested at an age of 28 days unless otherwise specified.

CSA STANDARD CAN3-Z98

- 3.18.6 A certificate by a Professional Engineer or an inspector acceptable to the enforcing authority is required, certifying that the foundations have been constructed in accordance with the approved drawings.

ELEVATING DEVICES ACT

- 11(1) No person shall commence a new installation or major alteration of an elevating device until a design submission therefor has been registered by the Director.



Elevating and Amusement Devices Safety Division	Ref. No.: 54/87	Rev. No.:
DIRECTOR'S RULING	Date: December 1/87	Date:

**Subject: REPORTING OF MAINTENANCE CONTRACTORS (As Required by
O.Regulation Under the Elevating Devices Act)**

Sent to: ALL CONTRACTORS IN SCOPE U & L WHO MAINTAIN ELEVATING DEVICES

ORDER TO CONTRACTORS

Attached is the list of installations maintained by your company (MCCR computer printout dated Nov. 30/87) compiled on the basis of information previously received from you. (see note (i) on reverse) (including error listings).

1. You are requested to update the attached list on the basis of your maintenance contracts status on January 15, 1988 (see note (ii)) as follows:
 - a) Cross out or highlight the installation numbers of devices not maintained by your company as of that date;
 - b) Add required information (installation number and scope) for all installations maintained by your company as of that date and which are not shown in the attached list;
 - c) Check (✓) every installation number and corresponding "scope of maintenance" entry contained in the list still maintained by your company as of that date. Definitions of scope of maintenance are copied on the reverse of this ruling;
 - d) Resolve all errors, A, B, C, or D if indicated in the "Error" column (see note (iii)).
2. Your contractor registration for 1988-89 will not be renewed unless the attached updated list is received in our office by January 31, 1988.
3. You may disregard subsection 13(2) of the Regulation and corresponding guidelines in the Ministry forms requiring quarterly reporting. You will be required, in future, to report your maintenance contracts annually using our printouts. You may, however, if you wish, report to us any changes in your maintenance contracts status at any time. Any changes reported to us in writing before November 30th of the current year will be reflected in the printouts mailed to you shortly thereafter.
4. Should you need any further clarification regarding this listing, call (416) 239-7361 and ask for the computer section.

NOTE: This Ruling Supersedes Director's Ruling 32/86 (January 20, 1986) and 42/86 (December 1, 1986).

NLB/jz

NOTES RE: EDB DIRECTOR'S RULING/INFORMATION 54/87

- Note (i) Contractors who are recorded in our computer system as maintaining no elevating devices during 1986-87 will find attached form #ID-29431 to facilitate their maintenance reporting in accordance with order #2 above. Contractors without permanent maintenance contracts on January 15, 1987 shall return the form marked "no contracts".
- Note (ii) Maintenance contracts' status on one specific date reported by all contractors will eliminate errors of two contractors claiming to maintain one installation at the same time.
- Note (iii) The error codes A & B etc. are interpreted at the bottom of the computer printouts containing errors. You will clearly indicate your resolution of every error. Also consider the following:

Error A - Non-existent, dismantled or permanently shut down - means that the installation number you reported to us has either never been allocated to any elevating device, or was allocated to a device which has been dismantled or permanently shutdown (voluntarily by the owner or forced by an inspector). If any of this is true then the reported installation should be deleted from your and our records.

Error B - Not registered for this device class - means that you reported maintenance of an elevating device (e.g. freight platform lift, stage lift, etc.) for which you are not registered as a contractor (e.g. you are registered for elevators and escalators only). To resolve the error, you will have to cancel the contract or become registered for that class.

Error C - Maintenance also reported by another contractor - Whilst it is completely legal, we record this as an error because we consider such situations highly improbably based on the maintenance industry's common practices, except that where one contractor claims "service" type maintenance (typically an owner-contractor) and another contractor claims F, P or I type...that we do not consider an error. To report your resolution of this error, you will either delete the installation from the list (if you do not maintain it) or you will cross out the word "error" and enter "correct", reconfirming your previous report.

Error D - Not registered for this scope of work - If your registration is limited (see item 13 in your Application for Contractor Registration) to specific functions (e.g. repairs of electrical components) you are not allowed to perform full maintenance of an elevating device. To resolve the error, you will have to cancel your contract or change the scope of your registration.

DEFINITIONS OF SCOPE OF MAINTENANCE

Full or F

If the contractor has an agreement with the owner of the elevating device to provide, without any further authorization from the owner, pre-scheduled inspection and examination of the elevating device at regular intervals (per section 22(3)(a) of the Regulation) and all other maintenance services required in Section 22(3) of the Regulation, including cleaning, lubricating, adjusting and repair of all parts, provision and replacement of all worn, defective, damaged or broken components, compliance with Ministry Inspector's directives related to the elevating device, and also inspection and testing of safety devices and overspeed governors where required in Section 23 of the Regulation, except that the agreement may require authorization from the owner for replacement or repair of parts damaged through vandalism or misuses and also for replacement of limited number of specified major parts.

Partial or P

If the contractor has an agreement with the owner of the elevating device to provide, without any further authorization from the owner, pre-scheduled inspection and examination of the elevating device at regular intervals (per Section 22(3) of the Regulation, e.g. cleaning, lubricating, adjusting and repair of specified parts, and/or provision and replacement of specified worn, defective, damaged and broken components, and/or compliance with Ministry Inspector's directives related to the elevating device and/or inspection and testing of safety devices and overspeed governors...whereby the agreement may require authorization from the owner for provision of any maintenance services not normally included in the agreement, or the owner may have other arrangements for such services. It is expected that the contractor will perform all necessary preventative and other maintenance services according to his inspection and examination findings or he will report his findings to the owner, who shall be responsible

for the execution of proposed services within time limit indicated in the contractor's report.

Inspection or I

If the contractor has an agreement with the owner of the elevating device to provide, without any further authorization from the owner, pre-scheduled inspection and examinations of the elevating device at regular intervals (per section 22(3) of the Regulation) and to report to the owner on the general condition of the elevating device indicating lubrications, adjustments, repairs, replacements and other work necessary to conform with requirements of Section 23(4) of the Regulation. All other maintenance services may have other arrangements for such services. The owner shall be responsible for the execution of necessary services within time limit indicated in the contractor's report.

Service or S

If the contractor has an agreement with the owner of the elevating device to provide only when requested or notified by the owner, lubrication, and/or adjustments, and/or repairs, an/or replacement of certain elevating devices parts or components, but the agreement does not include pre-scheduled inspections and examinations of the elevating device.

Note that a maintenance agreement which does not include inspection and examination at regular pre-scheduled intervals, such as "S" agreement, must be supplemented by another type of maintenance agreement which does include inspection and examination.



Elevating and Amusement Devices Safety Division	Ref. No.: 55/87	Rev. No.:
DIRECTOR'S RULING	Date: December 1/87	Date:

**Subject: REPORTING OF MAINTENANCE CONTRACTORS (As Required by
O.Regulation Under the Elevating Devices Act)**

Sent to: ALL OWNER CONTRACTORS

ORDER TO OWNER CONTRACTORS

Attached is the list of your own installations recorded in our computer system as being maintained by your company (MCCR computer printout dated Nov. 30/87) It shows scope of maintenance work that you reported to us as being performed by your company – FULL, PARTIAL or SERVICE (as defined in your Application for Owner-Contractor Registration and copied on the reverse of this Ruling).

1. You are requested to update the attached list on the basis of your maintenance status of your installation on January 15, 1988 and indicate if there are any changes as follows:
 - a) Cross out the installation numbers of devices that you do not maintain any more.
 - b) If you recently added any device to your own maintenance program and that device is not shown in the list, enter on the list all required information for such device.
 - c) Check (✓) every installation number and corresponding “scope of maintenance” entry contained in the list for every device that your company still maintain.
 - d) Resolve all errors, A, B, C, or D if indicated in the “error” column following the instructions in note (i) below.
2. Your contractor registration for 1988-89 will not be renewed unless the attached updated list of maintained devices has been received no later than January 31, 1988.

In your next application for renewal of owner-contractor registration, you may leave section 14 blank to avoid unnecessary duplication of information already contained in the attached list.
4. Should you need any further information respecting the attached list, call (416) 239-7361 and ask for the computer section.

NOTE: THIS RULING SUPERSEDES DIRECTOR'S RULING 33/86 (January 20, 1986) and 43/86 (December 1, 1986).

NLB/jz

NOTES RE: EDB DIRECTOR'S RULING/INFORMATION 55/87

Note (i) The error codes A & B etc. are interpreted at the bottom of the computer printouts containing errors. You will clearly indicate your resolution of every error. Also consider the following:

Error A - Non-existent, dismantled or permanently shut down - means that the installation number you reported to us has either never been allocated to any elevating device, or was allocated to a device which has been dismantled or permanently shutdown (voluntarily by the owner or forced by an inspector). If any of this is true then the reported installation should be deleted from your and our records.

Error B - Not registered for this device class - means that you reported maintenance of an elevating device (e.g. freight platform lift, stage lift, etc.) for which you are not registered as a contractor (e.g. you are registered for elevators and escalators only). To resolve the error, you will have to cancel the contract or become registered for that class.

Error C - Maintenance also reported by another contractor - Whilst it is completely legal, we record this as an error because we consider such situations highly improbably based on the maintenance industry's common practices, except that where one contractor claims "service" type maintenance (typically an owner-contractor) and another contractor claims F, P or I type...that we do not consider an error. To report your resolution of this error, you will either delete the installation from the list (if you do not maintain it) or you will cross out the word "error" and enter "correct", reconfirming your previous report.

Error D - Not registered for this scope of work - If your registration is limited (see item 13 in your Application for Contractor Registration) to specific functions (e.g. repairs of electrical components) you are not allowed to perform full maintenance of an elevating device. To resolve the error, you will have to cancel your contract or change the scope of your registration.

DEFINITIONS OF SCOPE OF MAINTENANCE

Full or F

If the contractor has an agreement with the owner of the elevating device to provide, without any further authorization from the owner, pre-scheduled inspection and examination of the elevating device at regular intervals (per section 22(3)(a) of the Regulation) and all other maintenance services required in Section 22(3) of the Regulation, including cleaning, lubricating, adjusting and repair of all parts, provision and replacement of all worn, defective, damaged or broken components, compliance with Ministry Inspector's directives related to the elevating device, and also inspection and testing of safety devices and overspeed governors where required in Section 23 of the Regulation, except that the agreement may require authorization from the owner for replacement or repair of parts damaged through vandalism or misuses and also for replacement of limited number of specified major parts.

Partial or P

If the contractor has an agreement with the owner of the elevating device to provide, without any further authorization from the owner, pre-scheduled inspection and examination of the elevating device at regular intervals (per Section 22(3) of the Regulation, e.g. cleaning, lubricating, adjusting and repair of specified parts, and/or provision and replacement of specified worn, defective, damaged and broken components, and/or compliance with Ministry Inspector's directives related to the elevating device and/or inspection and testing of safety devices and overspeed governors...whereby the agreement may require authorization from the owner for provision of any maintenance services not normally included in the agreement, or the owner may have other arrangements for such services. It is expected that the contractor will perform all necessary preventative and other maintenance services according to his inspection and examination findings or he will report his findings to the owner, who shall be responsible

for the execution of proposed services within time limit indicated in the contractor's report.

Service or S

If the contractor has an agreement with the owner of the elevating device to provide only when requested or notified by the owner, lubrication, and/or adjustments, and/or repairs, an/or replacement of certain elevating devices parts or components, but the agreement does not include pre-scheduled inspections and examinations of the elevating device.

Note that a maintenance agreement which does not include inspection and examination at regular pre-scheduled intervals, such as "S" agreement, must be supplemented by another type of maintenance agreement which does include inspection and examination.



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	56/87	
DIRECTOR'S RULING	Date:	Date:
	November 13/87	

Subject: OIL BUFFERS CERTIFICATION IN ACCORDANCE WITH CLAUSE 3.3.5.10 OF CAN3-B44-M87 REQUIRED AFTER JANUARY 1, 1989

Sent to: ALL CONTRACTORS IN SCOPES A1 & B1

Item 1: ORDER TO CONTRACTORS INSTALLING ELEVATORS

- 1.1 Each newly installed or altered elevator equipped with OIL BUFFERS, and INITIALLY INSPECTED after JANUARY 1, 1989 shall conform to the requirements of: Standard CAN3-B44-M85, Elevator Safety Code, Clause 3.3.5.10, respecting ENGINEERING TESTS, CERTIFICATION AND MARKING PLATES FOR OIL BUFFERS.
- 1.2 In order to prove conformance with the above requirement:
 - a) Every installed oil buffer shall have a marking plate containing information required in clause 3.3.5.10.2, which must correspond to information on the certificate mentioned in 'c' below.
 - b) Items 84.2 and 85.2 in specification sheet form for that elevator shall contain information on testing laboratory and its reference mark in accordance with guidelines to the form*.
 - c) A copy of the certificate conforming to clause 11.2.3.1 and 11.3.6.2 of CAN3-B44-M85 shall be filed with this Branch.

***NOTE:** Date December 31, 1986, mentioned in guidelines to the form may be disregarded.

Item 2: BACKGROUND

With the 1985 edition of CAN3-B44-M85, Elevator Safety Code, the requirements for type testing and certification of oil buffers has been introduced for the first time in Canada.

In order to allow Canadian elevator industry and testing laboratories to develop a testing program and carry out tests, the Association of Provincial Chief Elevator Inspectors, as well as CSA-B44 Main Committee agreed at their June 1987 meetings in Quebec that with respect to oil buffers:

- certification be completed by July 1, 1988**
- enforcement date - January 1, 1989

NOTE:** This date was based on the CSA Elevator Certification Notice No. 2 of June 1, 1987, with which CSA services respecting certification of elevator oil buffers were announced. Contrary to the statement in the first paragraph of the CSA Notice, non-CSA certified buffers may be acceptable in this province provided that they are certified by another qualified testing laboratory in conformance with the above order.

CEV:cr



Elevating and Amusement Devices Safety Division	Ref. No.: 57/87	Rev. No.:
DIRECTOR'S RULING	Date: November 16/87	Date:

**Subject: ADOPTION OF SUPPLEMENT NO. 1 - 1987 TO CAN3-B44-M85
SAFETY CODE FOR ELEVATORS**

Sent to: ALL CONTRACTORS IN SCOPES A & B-1, 2, 3, 4, 5

1. Each newly installed or altered elevator, escalator, dumbwaiter, moving walk and freight platform lift:
 - a) for which the DESIGN is submitted to this Branch for registration after the 1st day of April 1988, or
 - b) which will be initially inspected after October 1, 1988, whichever comes first, shall conform to the requirements of the CSA Standard CAN3-B44-M85*, Safety Code for Elevators, as amended with SUPPLEMENT No. 1 - 1987, with exceptions to certification requirements of oil buffers (see EDB Ruling No. 56/87 of November 13, 1987).

*NOTE: Standard CAN3-B44-M85 was adopted with EDB Director's Ruling #26/85 of December 27, 1985.
2. In the case of existing elevators, escalators, etc., the application of any newly adopted code is restricted to the sections covering the inspection, testing, maintenance and use of the elevating devices, unless otherwise required by the Regulation under the Elevating Devices Act.
3. SUPPLEMENT #1 - 1987 to CAN3/B44-M85 is available from the Canadian Standards Association, 178 Rexdale Blvd., Rexdale, Ontario M9W 1R3, telephone - (416) 747-4044.
4. Since the Elevating Devices Act requires the mechanics to have full knowledge of the codes applicable to the elevating devices on which they are assigned to work, we would expect that the mechanics involved in the construction, installation and maintenance of elevators, escalators, etc. will be provided with a copy of the subject standard.

CEV:cr



Elevating and Amusement Devices Safety Division	Ref. No.: 58/88	Rev. No.:
DIRECTOR'S RULING	Date: January 27/88	Date:

Subject: POTENTIAL FAILURE OF SHEAVE SHAFT OF ANGLO ELECTROMATIC TRACTION MACHINES

Sent to: ELEVATOR CONTRACTORS IN SCOPE A1 & F,P,S-1

1. ORDER TO CONTRACTORS

If you presently maintain an elevator equipped with an ANGLO ELECTROMATIC TRACTION MACHINE and if that elevator is not mentioned in any of the letters* copy of which is attached with this ruling, you are requested to notify this Branch immediately indicating installation numbers and address of each elevators. *See 3.2. below for further details.

2. FOLLOW-UP BY EDB

As soon as we receive the notification from you, we shall issue a written order to the owners of such devices and a copy shall be mailed to the contractor who notified us.

3. BACKGROUND

3.1 During 1987, several problems with sheave shafts (gear output shafts) of Anglo-Electromatic traction machines were identified.

- a) First. On elevators, which were originally equipped with overhung sheaves (without outboard bearings) and which had, sometime in the past, an outboard bearing added by means of welding of an additional shaft piece to the original shaft or to the sheave or both, cracks were detected in the welds during 1987. Non-destructive testing (NDT) was ordered on all such machines to assess the strength of the shaft and repairs required.
- b) Second. When one of the shafts was dismantled for repairs, it was discovered that in addition to cracked welds around the sheave, the shaft was actually broken inside the gear box at the inboard bearing.
- c) Third. When elevators, previously recorded by this Branch as being equipped with the subject machines, were inspected, a number of machines, still with overhung sheaves (without outboard bearings), were found with sheaves 'tilted' out of vertical alignment.

3.2 Whilst we originally suspected that welding was a potential problem, now we realize that every subject machine type must be subject (i) to dismantling by a registered contractor and (ii) to a thorough examination by a professional engineer in order to assess its strength. For that purpose NDT may be need if deemed necessary by the engineer. In this respect, we have already issued a written order to all owners of elevators, which are, according to our records, equipped with subject machines. Copy of each individual order in the form of a letter is attached to this Ruling to the contractor who, according to our records, presently maintain that elevator.

3.3 Since our records on the type of machines on elevators are not updated, with the above order we ask the contractors' assistance in identifying all potential unsafe elevators.

T. GORDON SMITH, P.Eng., Director



Elevating and Amusement Devices Safety Division	Ref. No.: 59/88	Rev. No.:
DIRECTOR'S RULING	Date: March 31/88	Date:

Subject: ESCALATOR LOAD TEST ON INITIAL INSPECTION WHERE NO TYPE TEST CERTIFICATE IS AVAILABLE

Sent to: ESCALATOR CONTRACTORS IN SCOPE A3 & B3

1 INTRODUCTION

With Ruling #49/87/REV.A of June 24, 1987, you were informed that starting October 1, 1987, no initial inspection of a new escalator shall start unless that escalator type was subject to the testing and certification process, in accordance with clause 8.5 of CAN3-B44-M85, Elevator Safety Code.

We have recently been approached by an escalator manufacturer asking if a number of escalators could be inspected and licensed before the certification by a testing laboratory is completed.

Whilst the code requires type testing of several elevator components because their performance (e.g. free fall) or reliability (e.g. 100,000 cycles) cannot be tested during an initial inspection, we understand that the type testing requirement for escalator braking systems is introduced in the code for a different reason. The intent, as we understand, was to avoid inconvenience of performing full load tests on the initial inspection of every escalator, even though such tests could prove safety performance of escalator brakes.

2 ORDER TO CONTRACTORS INSTALLING ESCALATORS

Starting immediately, no escalator shall be licensed unless:

- a) The order contained in Ruling #49/87/REV.A of June 24, 1987 has been complied with, OR
- b) Conformance with requirements in clause 8.5.3 of Standard CAN3-B44-M85 has been demonstrated during the initial inspection of the escalator following the procedure set below.

3 PROCEDURE FOR TESTING ESCALATOR BRAKES (Where No Type Test Certificate Is Available)

3.1 Design submission and inspection

- a) Design submission, requesting a variance from clause 8.11 of the B44 shall be registered;
- b) No-load-minimum-stopping-distance, as specified in item 49.3 of registered specification sheet, must be at least 10% greater than the stopping distance stipulated in figure 14 of the B44 (Supplement 1/87!!), in order to allow for inaccuracy of field tests.
- c) The field test shall be witnessed by an inspector. In addition to the initial inspection fee, a fee of \$50. per manhour (presently under review) shall be charged for prolonged inspection, based on the duration of the brake tests (anticipated 2 to 4 hours).

3.2 Checking of initial settings:

- a) Measure distance between skirt switch and combplate (D). This must be at least 10% greater than entry in item 49.4 of previously registered specification sheet.
- b) Set brake torque at that stated in item 49.1 of spec sheet and check the setting applying the method described in item 49.2.

3.3 Testing equipment

- a) Provide calibrated test weights necessary for loading in accordance with item 32. of spec sheet.
- b) Install an auxiliary device (connected in the stop button circuit), which will automatically interrupt the power to the machine and brake when an index (M) marked on a step reaches a predetermined reference point (P), marked on the skirt, while the escalator is travelling down.
- c) The stopping distances (between M and P) shall be measured by the movement of a step along its path of travel after the auxiliary device has initiated the stop.

3.4 Tests

a) No-load running tests

Run empty escalator in down direction and arrange that the auxiliary device initiates stopping when index M reaches point P. Carry out at least 3 tests and measure stopping distance (DN). Installing contractor shall specify minimum "cooling-down" interval between tests. The shortest of the recorded distance (DN min.) must be equal to or greater than that shown in item 49.3 of the spec sheet (also see 3.1.b above). The longest recorded distance (DN max.) must not exceed DN min. for more than 10%.

b) Static load test

Load escalator steps (steps on incline only) with "stopped brake rated load" specified in item 32 of spec sheet (clause 8.3.9.3(a) of B44). Check that there is no movement of steps.

c) Rated-load running test

Load escalator with "Running brake rated load" specified in item 32 of spec sheet (clause 8.3.9.3(b) of B44).

The load must be placed on the incline portion of escalator steps (equally distributed or concentrated on the upper steps).

Run the loaded escalator in down direction and arrange that the auxiliary device initiates stopping when index M reaches reference point P.

Carry out at least 3 tests and measure stopping distance (DR). The installing contractor shall specify the minimum "cooling down" interval between tests.

The longest recorded distance (DR max.) must not exceed the shortest distance (DR min.) by more than 10%, and must be equal to or less than entry in item 49.4.

3.5 Readjustments

If any test results prove non-conformance with the above requirements, the escalator will not be licensed. If any readjustment is carried out during the test, e.g. the initial torque setting (see 3.2(b) above) tests shall be repeated and a revised specification sheet shall be submitted for registration.

3.6 Data plate

A plate must be affixed in conformance with clause 8.5.3.1 of B44, containing data corresponding to items 49.1 to 3 of spec sheet, as verified by the tests.

3.7 One test for more escalators

If more than one identical escalator (makes, model, rise, capacity, etc.) is located in the same building, initially inspected simultaneously, and if the tests of the first escalator prove full conformance with the spec sheet data and B44 code, without any readjustments, in that case, no additional load tests will be required on other escalators in that building. However, setting of the torque in conformance with items 49.1 and 49.2 and test of the no-load stopping distance for conformance with item 49.3 shall still be required.



Elevating and Amusement Devices Safety Division	Ref. No.: 60/88	Rev. No.:
DIRECTOR'S RULING	Date: April 18/88	Date:

Subject: FIRE CODE RETROFIT ELEVATORS: Elevators In Health Care Facilities Retrofitted In Conformance With Article 9.4.5.3 Of Ontario Fire Code (Ontario Regulation 67/87, Under The Fire Marshals Act)

Sent to: ELEVATOR CONTRACTORS IN SCOPE A1 & B1

1. ORDER TO CONTRACTORS RETROFITTING EXISTING ELEVATORS

1.1 Where elevators in existing* health care facilities* are retrofitted "for use by firefighters" in conformance with requirements of article 9.4.5.3 of the Ontario Fire Code, Ontario Regulation 67/87 made under the Fire Marshal's Act, such elevators shall conform either to:

- a) the "Ontario Rules for Fire Code Retrofit Elevators", as attached to this ruling, or
- b) The Canadian Standards CAN3-B44, Safety Code for Elevators (the edition and supplement as adopted through O.Regulation under the Elevating Devices Act, 1980) and the Ontario Building Code (Ontario Regulation 419/86).

*Term "existing building" is defined in part 1 and term "health care facilities" is explained in subsection 9.4.1 of the Ontario Fire Code.

1.2 The order that the elevator(s) in a specified building must be retrofitted is issued by the authority enforcing the Ontario Fire Code. This Branch enforces rules and standards applicable to the retrofitted features.

1.3 In accordance with clause 1(1)26(b)(ii) of Ontario Regulation 229/81 (as amended by O.Reg. 463/86), any work on existing elevators leading to the designation of "the Fire Code Retrofit Elevator", constitutes a "minor alteration type A".

1.4 A design submission, covering the alteration, must be registered with this Branch. It must include:

- Application (form ID-29400);
- Schematic diagram showing all wiring changes;
- Typical hoistway plan view of all elevators controlled by the recall switch, identifying those intended for use by firefighters, and;
- Specification sheet (forms 29426 or 29410) with entries in "general" and "special emergency services" section filled in accordance with guidelines, except that in item 152 the entry should read "Fire Code" if the retrofit is in accordance with the Ontario Fire Code and Ontario Rules as attached or "OBC" if the retrofit is in full conformance with CAN3-B44 and Ontario Building Code.

1.5 Retrofitted elevators shall be inspected by this Branch before being returned to service.

2. BACKGROUND

2.1 During the last 12 months, several elevators were retrofitted for use by firefighters in order to fulfill the requirements of the Ontario Fire Code (that came into force on the 11th day of February, 1987). That code referred to the Ontario Building Code and indirectly to the Canadian Standard CAN3-B44-H85, Elevator Safety

Code. Some retrofits, however, did not fully conform to the codes and this Branch could not approve designation of elevators as conforming to such codes.

2.2 The office of the Fire Marshal explained *that the intent of elevator retrofit requirements in the Fire Code was not to upgrade all elevators to the full provisions and protection required in OBC and B44 but rather to enable manual recall of at least one elevator to the ground floor to assist the firefighters in capturing the elevator and to operate the elevator from within the car by bypassing floor call buttons.

*See the attached MEMORANDUM from the Office of the Fire Marshal to all Fire Chiefs and Fire Prevention Officers, dated April 18, 1988.

2.3 The office of the Fire Marshall further clarified that the intent was not to:

- require recall of all elevators in the building but only the elevators located in the same hoistway where the elevator designated for the firefighter's use is located'
- require that all elevators be equipped with in-car operation but one only as a minimum;
- require that emergency power supply be added for elevators, where it has not already existed;
- require upgrading of fire rating of landing or car doors or car enclosures;
- require any automatic recall features, to the ground floor, alternate floor or by machine room smoke detectors;

2.4 At a meeting called at the Office of the Fire Marshal on February 19, 1988, also attended by representatives from the elevator industry, Fire Code enforcing authorities and this Branch, the requirements of B44 clause 3.12.15 were reviewed in light of the intent of the Fire Code and it was agreed that a separate set of rules, based on selected and revised B44 rules, would be an effective way of interpreting the intent of the Fire Code. Further, it was agreed that all markings of elevators, retrofitted under the Fire Code and the new set of rules, should be in a yellow colour to identify differences from markings on elevators equipped with all special emergency service and firefighter's elevators features in accordance with OBC and B44 rules, which are in red.

2.5 Note that the attached rules apply only to elevators retrofitted in existing health care facilities. Elevators retrofitted for use by firefighters and designated as "firefighter's elevator" in any other building must presently fully conform with the B44 Code.

It is, however, possible that in the near future, the application of the attached rules may be extended to elevators in other types of buildings but Regulation in that respect is still being developed by the Ontario Fire Marshal.



Ontario

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April 18, 1988

MEMORANDUM TO: All Fire Chiefs and
Fire Prevention Officers

RE: Article 9.4.5.3. of the
Ontario Fire Code
Elevators for Use by Firefighters

Joint discussions between the Fire Marshal's Office, the Ontario Association of Fire Chiefs and the Elevating Devices Branch of the Ministry of Consumer and Commercial Relations have revealed the need for a uniform marking identifying a Fire Code Retrofit elevator which is readily distinguishable from a firefighters' elevator under the Building Code. It was agreed that a yellow firefighter's hat and yellow lettering on the manual recall button would represent compliance with the Retrofit requirements under the Fire Code and that this designation would be used in every municipality throughout the province. A red firefighter's hat and red lettering would only be used to identify an elevator that is in full compliance with the Building Code requirements for a firefighters' elevator.

Through discussions with the above parties, a reassessment was undertaken of the need for automatic recall provisions. It was agreed that this feature goes beyond the minimum requirements for effective suppression efforts by firefighters and should be excluded from the Retrofit requirements.

The inclusion of automatic recall would require provisions for directing the cars to an alternate floor in the event of fire on the recall level. This would be initiated by smoke detectors at the elevator lobbies.

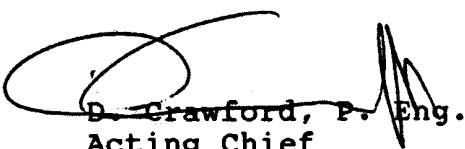
Throughout the development of Health Care Retrofit it was recognized that a great many facilities have provision for heat detection only which was determined to meet minimum life safety considerations.

Concerns with respect to the response time delay caused by manual recall only may be addressed in the Fire Safety Plan by assigning the responsibility for manual recall of the elevators to the supervisory personnel. This can be done immediately upon initiation of a fire alarm.

As a result of this assessment, Clause 9.4.5.3.(2)(c) will be amended to reference only Sentences 3.2.6.3.(1), (2) and (3) instead of the entire Article 3.2.6.3. of the Ontario Building Code.

In order to address any concerns with respect to the application of the CAN3-B44-M85(M87) - Elevator Safety Code, we have enclosed for your information the Elevating Devices Branch Director's Ruling No. 60-88 of April 18, 1988 which outlines the rules applicable to a Fire Code Retrofit elevator.

Please take any appropriate actions to ensure that your fire prevention program implements the above-mentioned changes.



D. Crawford, P. Eng.
Acting Chief
Technical, Research and
Consulting Services

DC:ww
Encl.



Elevating and Amusement Devices Safety Division	Ref. No.: 60/88	Rev. No.: 1
DIRECTOR'S RULING	Date: April 18/88	Date: May 31/88

Subject: FIRE CODE RETROFIT ELEVATORS: Elevators In Health Care Facilities Retrofitted In Conformance With Article 9.4.5.3 Of Ontario Fire Code (Ontario Regulation 67/87, Under The Fire Marshals Act)

Sent to: ELEVATOR CONTRACTORS IN SCOPE A1 & B1

1. ORDER TO CONTRACTORS RETROFITTING EXISTING ELEVATORS

- 1.1 Where elevators in existing* health care facilities* are retrofitted "for use by fire-fighters" in conformance with requirements of article 9.4.5.3 of the Ontario Fire Code, Ontario Regulation 67/87 made under the Fire Marshal's Act, such elevators shall conform either to:
- a) the "Ontario Rules for Fire Code Retrofit Elevators", as attached to this ruling, or
 - b) the Canadian Standards CAN3-B44, Safety Code for Elevators (the edition and supplement as adopted through O.Regulation under the Elevating Devices Act, 1980) and the Ontario Building Code (Ontario Regulation 419/86).
- *Term "existing building" is defined in part 1 and term "health care facilities" is explained in subsection 9.4.1 of the Ontario Fire Code.
- 1.2 The order that the elevator(s) in a specified building must be retrofitted is issued by the authority enforcing the Ontario Fire Code. This Branch enforces rules and standards applicable to the retrofitted features.
- 1.3 In accordance with clause 1(1)26(b)(ii) of Ontario Regulation 229/81 (as amended by O.Reg. 463/86), any work on existing elevators leading to the designation of "the Fire Code Retrofit Elevator", constitutes a "minor alteration type A".
- 1.4 A design submission, covering the alteration, must be registered with this Branch. It must include:
- Application (form ID-29400);
 - Typical hoistway plan view of all elevators controlled by the recall switch, identifying those intended for use by fire-fighters, and;
 - Specification sheet (forms 29426 or 29410) with entries in "general" and "special emergency services" section filled in accordance with guidelines, except that in item 152 the entry should read "Fire Code" if the retrofit is in accordance with the Ontario Fire Code and Ontario Rules as attached or "OBC" if the retrofit is in full conformance with CAN3-B44 and Ontario Building Code.
- 1.5 Retrofitted elevators shall be inspected by this Branch before being returned to service.

2. BACKGROUND

- 2.1 During the last 12 months, several elevators were retrofitted for use by fire-fighters in order to fulfill the requirements of the Ontario Fire Code (that came into force on the 11th day of February, 1987). That code referred to the Ontario Building Code and indirectly to the Canadian Standard CAN3-B44-H85, Elevator Safety Code. Some retrofits, however, did not fully conform to the codes and this Branch could not approve designation of elevators as conforming to such codes.
- 2.2 The office of the Fire Marshal explained *that the intent of elevator retrofit requirements in the Fire Code was not to upgrade all elevators to the full provisions and protection required in OBC and B44 but rather to enable manual recall of at least one elevator to the ground floor to assist the fire-fighters in capturing the elevator and to operate the elevator from within the car by bypassing floor call buttons.
*See the attached MEMORANDUM from the Office of the Fire Marshal to all Fire Chiefs and Fire Prevention Officers, dated April 18, 1988.
- 2.3 The office of the Fire Marshall further clarified that the intent was not to:
- require recall of all elevators in the building but only the elevators located in the same hoistway where the elevator designated for the fire-fighter's use is located'
 - require that all elevators be equipped with in-car operation but one only as a minimum;
 - require that emergency power supply be added for elevators, where it has not already existed;
 - require upgrading of fire rating of landing or car doors or car enclosures;
 - require any automatic recall features, to the ground floor, alternate floor or by machine room smoke detectors;
- 2.4 At a meeting called at the Office of the Fire Marshal on February 19, 1988, also attended by representatives from the elevator industry, Fire Code enforcing authorities and this Branch, the requirements of B44 clause 3.12.15 were reviewed in light of the intent of the Fire Code and it was agreed that a separate set of rules, based on selected and revised B44 rules, would be an effective way of interpreting the intent of the Fire Code. Further, it was agreed that all markings of elevators, retrofitted under the Fire Code and the new set of rules, should be in a yellow colour to identify differences from markings on elevators equipped with all special emergency service and fire-fighter's elevators features in accordance with OBC and B44 rules, which are in red.
- 2.5 Note that the attached rules apply only to elevators retrofitted in existing health care facilities. Elevators retrofitted for use by fire-fighters and designated as "fire-fighter's elevator" in any other building must presently fully conform with the B44 Code.

It is, however, possible that in the near future, the application of the attached rules may be extended to elevators in other types of buildings but Regulation in that respect is still being developed by the Ontario Fire Marshal.

FIRE CODE RETROFIT ELEVATORS

The Rules form an integral part of and should be used as explained in the Elevating Devices Branch Director's Ruling # 60/88, of April 18,1988

~~CAN3-B44-M85(M87)-Elevator Safety Code~~

Ontario Rules

3.12.15 Special Emergency Service

FCR Fire Code Retrofit Elevators

~~3.12.15.1 General~~

FCR.1 General

~~3.12.15.1.1~~

FCR.1.1

~~Where special emergency service is provided either voluntarily or when required by the National Building Code (see Subsection 3.2.6):~~

Where elevators in existing health care facilities are retrofitted for use by firefighters to conform with requirements of Article 9.4.5.3. of Ontario Fire Code (Ontario Regulation 67/87 made under the Fire Marshal's Act):

- ~~(a) Manual emergency recall operation shall conform to Clause 3.12.15.2;~~
- ~~(b) Automatic recall operation shall conform to Clause 3.12.15.3;~~
- ~~(c) In-car emergency service shall conform to Clause 3.12.15.8;~~
- ~~(d) Elevators intended for use by firefighters and identified as firefighters' elevators shall conform to Clause 3.12.15.9 (see also Clause 3.6.2.1.2).~~

- (a) At least one elevator shall be
 - (i) equipped with in-car emergency operation in conformance with Rule FCR.8, and
 - (ii) identified "FIRECODE RETROFIT ELEVATOR" in conformance with rule FCR.9 as the elevator intended for use by firefighters (FCR Elevator for short);
- (b) At least the identified FCR elevator and all other elevators located in the same* shaft shall be provided with manual emergency recall operation conforming to rule FCR.2.

~~3.12.15.1.2~~

~~Provision of operation for emergency recall to the alternate floor level in conformance with Clause 3.12.15.5 shall be made whenever automatic recall operation is provided and the floor area of the main recall level is not sprinklered.~~

*Note: Where there is no continuance and imperforate enclosure between two adjacent elevator shafts.

~~3.12.15.1.3~~

~~Provision for initiation of emergency recall operation by smoke sensors in the machine room in conformance with Clause 3.12.15.4 shall be made if both water sprinklers in the machine room (see Clause 2.4.3) and emergency recall operation (see Clause 3.12.15.2) are provided.~~

FCR.1.2 Emergency power supply, automatic recall operation, emergency recall to the alternate floor, emergency recall operation initiated by smoke sensors in the machine room, elevator identification and floor numbers are not required. If provided voluntarily, they must conform to applicable requirements of CAN3-B44, Elevator Safety Code. Unless the whole special emergency service conforms to B44, the marking of retrofitted elevators shall be in accordance with these FCR rules (FCR.2.2e, 8.1 and 9.3).

3.12.15.2 Manual Emergency Recall Operation

FCR.2 Manual Emergency Recall Operation

~~3.12.15.2.1 General~~

~~Manual emergency recall operation shall be controlled by switches in accordance with Clause 3.12.15.2.2 and the recall operation when initiated shall conform to Clause 3.12.15.2.3.~~

FCR.2.1 General

Manual emergency recall operation shall be controlled by switches in accordance with Rule FCR.2.2 and the recall operation when initiated shall conform to Rule FCR.2.3.

~~3.12.15.2.2 Recall Switches and Visual Indicators~~

~~Recall switches and visual indicators shall be provided and shall conform to the following:~~

- ~~(a) a switch shall be conspicuously located in the lobby of each group (bank) of elevators on the recall level in view of all corresponding elevator entrances and a duplicate switch, if required by applicable building codes, shall be located at the building central alarm and control facility;~~
- ~~(b) means shall be provided adjacent to each recall switch to indicate visually that elevators controlled by that switch are on emergency recall operation.~~

FCR.2.2 Recall Switches

Recall switches shall be provided and shall conform to the following:

- (a) A switch shall be conspicuously located in the lobby of the FCR elevator on the recall level in view of entrances to that elevator and all other elevators, if any (see Rule FCR.1.1(b), that are recalled by that switch.

If the central alarm and control facilities exist in the building, a duplicate recall switch shall be located at the facilities.

- ~~(c) each switch shall have two positions marked "ON" and "OFF" (see also Clause 3.12.15.3);~~
- ~~(d) each switch shall be key controlled (see Clause 3.12.15.11) with keys accessible to authorized persons only. The key shall be removable in both positions;~~
- ~~(e) each switch shall be marked "EMERGENCY RECALL" in red lettering a minimum of 5.0 mm in height. In addition, each switch located at the building central alarm and control facility shall be identified with all elevators controlled by that switch;~~
- ~~(f) the manual recall operation of elevators serving the elevator lobby where the switch is located shall be initiated by turning any of the switches referred to in item (a) to the "ON" position;~~
- ~~(g) the manual recall operation shall be terminated when both switches referred to in item (a) are in the "OFF" position and all elevators shall be returned to normal service, except those on in-car emergency service (see Clause 3.12.15.8). The "OFF" position shall not over-ride smoke detectors referred to in Clause 3.12.15.5.~~

3.12.15.2.3 Emergency Recall Operation to the Recall Level

~~When the recall operation has been initiated~~

- (a) all elevators controlled by the recall switch and on automatic operation, including independent service operation, shall return directly to the recall level where the doors shall open and remain open. The elevators shall not respond to the landing or car call buttons. Travelling to a terminal landing first and then reversing to travel to the recall level is not acceptable;
- (b) elevators that are stopped with the doors closed, or are travelling towards the recall level, shall proceed non-stop to the recall level;
- ~~(c) elevators travelling away from the recall level shall reverse at or before the next available landing without opening their doors;~~
- (d) a car stopped at a landing shall have its emergency stop switch rendered inoperative as soon as the doors are closed and the car starts to move. A moving car shall have its emergency stop switch rendered inoperative;
- (e) all call registered lights and directional lanterns shall be extinguished and remain inoperative;
Note: Position indicators, if provided, should remain in service.
- (f) all cars shall be provided with a visual and audible signal system which shall be activated to alert passengers that the car is on the emergency recall operation, and at least the visual signal shall remain operative until the car reaches the recall level;
- (g) elevators equipped with power-operated doors and stopped at a floor other than the recall level, with doors open, shall operate as follows:
 - (i) elevators having automatic power-operated horizontally sliding doors shall close their doors;

(c) the switch shall have two positions, marked "ON" and "OFF".

(d) The switch shall be key controlled (see rule FCR.11). The key shall be removable in both positions.

(e) The switch shall be marked "EMERGENCY RECALL" in YELLOW lettering a minimum of 5.0mm in height.

(f) The manual recall operation of elevators controlled by the switch (see rule FCR.1.1.b) shall be initiated by turning any of the switches, referred to in item (a) to the "ON" position;

(g) The manual recall operation shall be terminated by turning both switches to "OFF" position and all elevators shall be returned to normal service, except those on in-car emergency service (see rule FCR.8.).

FCR.2.3 Emergency Recall Operation to the Recall Level

When the recall operation required in rule FCR.1.1(b) has been initiated, the operation of elevators controlled by the recall switch (see FCR.2.2) shall be in accordance with the following:

(a) Same as in B44 except that travelling to a terminal landing first, and then reversing to travel to the recall level is acceptable;

(b) Same as in B44

(c) Elevators travelling away from the recall level shall reverse as soon as possible without opening their doors;

(d) Same as in B44

(e) Same as in B44

(f) Same as in B44

(g) Same as in B44

(ii) elevators having power-operated vertically sliding doors provided with automatic closing or momentary pressure closing (see Clause 2.13.3.4) shall have the closing sequence initiated;

(iii) elevators having power-operated doors provided with continuous pressure closing (see Clause 2.13.3.2) shall be considered as being operated by a designated attendant and shall comply with Item (h);

(iv) door re-opening devices that may be affected by smoke or hot gases shall be rendered inoperative;

(v) all door opening and closing buttons located at landings shall be rendered inoperative;

(h) on elevators with manually operated doors, the audible and visual signal provided in accordance with Item (f) or another signal system shall alert the passenger to close the doors. After the doors are closed, the elevator shall proceed automatically non-stop to the recall level;

(i) on elevators being operated by a designated attendant (hospital service, attendant operation), the audible and visual signal provided in accordance with Item (f) or another signal system shall alert the attendant to close the doors and return the elevator to the recall level where the power-operated doors shall open and remain open;

(j) on elevators on inspection operation (top-of-car or in-car), the audible signal provided in accordance with Item (f) or an additional signal, shall warn the inspector to return the car to the recall level. The elevators shall remain under the control of the inspector.

(h) Same as in B44

(i) Same as in B44

(j) Same as in B44

~~3.12.15.3 Automatic Emergency Recall Operation~~

FCR.3 Automatic Emergency Recall Operation - not required (see rule FCR.1.2).

~~3.12.15.4 Automatic Emergency Recall Operation by Machine Room Smoke Sensors~~

FCR.4 Automatic Emergency Recall Operation by Machine Room Smoke Sensors - not required (see rule FCR.1.2).

~~3.12.15.5 Emergency Recall Operation to the Alternate Level~~

FCR.5 Emergency Recall Operation to the Alternate Level - not required (see rule FCR.1.2).

~~3.12.15.6 Elevator Identification~~

FCR.6 Elevator identification - not required (see rule FCR.1.2).

~~3.12.15.7 Floor Numbers~~

FCR.7 Floor Numbers - not required (see rule FCR.1.2).

3.12.15.8 In-Car Emergency Service

~~3.12.15.8.1 In-Car Emergency Service Switch~~

~~A keyed switch marked "EMERGENCY" in red lettering a minimum of 5.0 mm in height, conspicuous and readily accessible, shall be provided in or adjacent to an operating panel in the elevator car. This switch shall~~

- ~~(a) have 3 positions marked "OFF-HOLD-ON" with the key (see Clause 3.12.15.11) removable in each position;~~
- ~~(b) initiate in-car emergency service operation when in the "ON" position, provided the emergency recall operation (see Clauses 3.12.15.2, 3.12.15.3 and 3.12.15.5) is in effect and the car has returned to the recall level;~~
- ~~(c) not change the operation until the car is parked at a landing with the doors fully open.~~

3.12.15.8.2 In-Car Emergency Operation

When in-car emergency service has been initiated, the elevator shall operate as follows:

- (a) the elevator shall be operable only by a person in the elevator;
- (b) the elevator shall not respond to elevator landing calls;
- (c) the opening of power-operated doors shall be controlled only by continuous pressure on the "DOOR OPEN" button. If the "DOOR OPEN" button is released during the "open" motion, the doors shall reclose immediately. When doors are fully open, they shall remain open until closed as in Item (e);
- (d) door re-opening devices for power-operated doors shall be rendered inoperative;
- (e) the car shall be started by registering a car call and closing the door by means of constant pressure on a "DOOR CLOSE" button which shall be identified in accordance with Clause 3.6.1.10.1;
- (f) provision shall be made to cancel registered car calls by momentary operation of the keyed switch to the "HOLD" position;
- (g) when the car is at a landing and the keyed switch in the car is turned to the "HOLD" position, the doors shall remain open and car calls cannot be registered;
- (h) when the car is at a landing and the keyed switch in the car is turned to the "OFF" position, the car shall automatically return to the recall level as on emergency recall operation (see Clauses 3.12.15.2 and 3.12.15.3) regardless of the position of the emergency recall switch;
- (i) the elevator shall be returned to normal operation only when the car is at the recall level and both the in-car emergency service switch is in the "OFF" position and the emergency recall switch has been reset to the normal position.

FCR.8 In-Car Emergency Service

FCR.8.1 In-Car Emergency Service Switch

A keyed switch marked "EMERGENCY" in YELLOW lettering a minimum of 5.0mm in height, conspicuous and readily accessible, shall be provided in or adjacent to an operating panel in the car of the FCR elevators (see rule FCR.1.1(a)(i)). This switch shall

- (a) have 3 positions marked "OFF-HOLD-ON" with the key (see rule FCR.11) removable in each position;
- (b) initiate in-car emergency service operation when in the "ON" position, provided the emergency recall operation (see rule FCR.2) is in effect and the car has returned to the recall level;
- (c) not change the operation until the car is parked at a landing with the door fully open.

← FCR.8.2 -In-Car Emergency Operation

All same as in B44 except as marked below.

← (see rules FCR.2 and FCR.3).

~~3.12.15.9 Firefighters' Elevator~~

~~3.12.15.9.1~~

~~Elevators designated as firefighters' elevators shall conform to Clauses 3.6.2.1.2, and 3.12.15.1 to 3.12.15.8, and to Clause 3.2.6.4 in the National Building Code or the applicable building code for elevators for use by firefighters.~~

~~3.12.15.9.2~~

~~Emergency power conforming to Clause 3.12.13.3 shall be provided for every elevator designated as a firefighters' elevator.~~

~~3.12.15.9.3~~

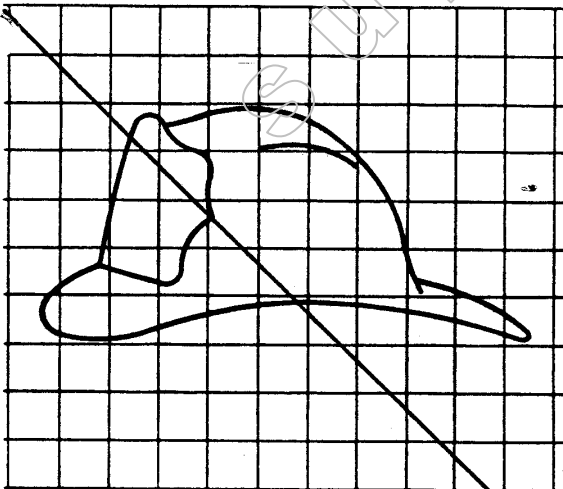
~~A symbol showing a red firefighter's hat on a contrasting background, as shown in Figure 8, shall be used exclusively to identify elevators that comply with Clause 3.12.15. This identification shall be located on the elevator entrance frame or adjacent to it, at the emergency recall level and also in the car adjacent to the in-car emergency switch. The identification on the entrance frame, or adjacent to it, shall be a minimum of 50 mm in height, and the identification in the car shall be a minimum of 10 mm in height.~~

~~Note: See Clause 3.6.2.1.2~~

~~3.12.15.10 Multi-compartment Elevators~~

~~3.12.15.11 Keys~~

~~The keys used for the emergency recall switch (see Clause 3.12.15.2) and in-car emergency service switch (see Clause 3.12.15.8) shall be identical and shall be used exclusively for these switches. They shall be accessible to authorized persons only and shall be placed in a box conspicuously located and identified near the elevator hoistway. Additional keys shall be located at the central alarm and control facility, where provided.~~



~~Figure 8
Symbol for Firefighters' Elevator~~

FCR.9 Fire Code Retrofit Elevator

FCR.9.1

Elevators intended for use by firefighters shall conform to rules FCR.2 and FCR.8 and to clause 9.4.5.3(2)(a) of Ontario Fire Code.

Note: The hoistway enclosure and doors and car enclosure need not conform to CAN3-B44 nor Ontario Building Code with respect to fire separation and flame spread rating.

FCR.9.2

Emergency power supply is not required (see rule FCR.1.2).

FCR.9.3

A symbol showing a yellow firefighter's hat on a contrasting background, as shown in Figure FCR shall be used exclusively to identify elevators that comply with this Ontario rule. This identification shall be located on the elevator entrance frame or adjacent to it, at the emergency recall level and also in the car adjacent to the in-car emergency switch where provided. The identification on the entrance frame, or adjacent to it, shall be a minimum of 50mm in height, and the identification in the car shall be a minimum of 10mm in height.

FCR.10 Multi-compartment Elevators.

The need for this rule not envisioned.

FCR.11 Keys

The keys used for the emergency recall switch (see rule FCR.2) and in-car emergency service switch (see rule FCR.8) shall be identical and shall be used exclusively for either these switches or for corresponding switches required in accordance with clauses 3.12.15.2 and 3.12.15.8 of CAN-B44. They shall be accessible to authorized persons only and shall be placed in a box conspicuously located and identified near the elevator hoistway.

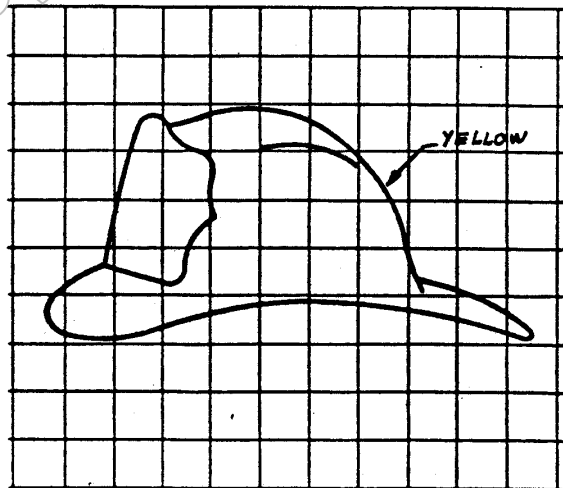


Figure FCR
Symbol for Fire Code Retrofit Elevator



Ontario

**Ministry of
the Solicitor
General**

**Office of
the Fire
Marshal**

7 Overlea Boulevard
3rd Floor
Toronto, Ontario M4H 1A8

**Ministère du
Solliciteur
général**

**Bureau du
commissaire
des incendies**

7 boulevard Overlea
3^e étage
Toronto (Ontario) M4H 1A8

Telephone/Téléphone:
(416)

965-4851

April 18, 1988

**MEMORANDUM TO: All Fire Chiefs and
Fire Prevention Officers**

**RE: Article 9.4.5.3. of the
Ontario Fire Code
Elevators for Use by Firefighters**

Joint discussions between the Fire Marshal's Office, the Ontario Association of Fire Chiefs and the Elevating Devices Branch of the Ministry of Consumer and Commercial Relations have revealed the need for a uniform marking identifying a Fire Code Retrofit elevator which is readily distinguishable from a firefighters' elevator under the Building Code. It was agreed that a yellow firefighter's hat and yellow lettering on the manual recall button would represent compliance with the Retrofit requirements under the Fire Code and that this designation would be used in every municipality throughout the province. A red firefighter's hat and red lettering would only be used to identify an elevator that is in full compliance with the Building Code requirements for a firefighters' elevator.

Through discussions with the above parties, a reassessment was undertaken of the need for automatic recall provisions. It was agreed that this feature goes beyond the minimum requirements for effective suppression efforts by firefighters and should be excluded from the Retrofit requirements.

The inclusion of automatic recall would require provisions for directing the cars to an alternate floor in the event of fire on the recall level. This would be initiated by smoke detectors at the elevator lobbies.

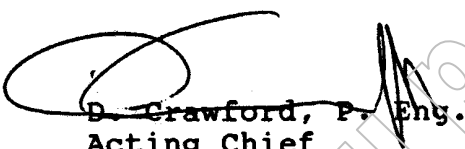
Throughout the development of Health Care Retrofit it was recognized that a great many facilities have provision for heat detection only which was determined to meet minimum life safety considerations.

Concerns with respect to the response time delay caused by manual recall only may be addressed in the Fire Safety Plan by assigning the responsibility for manual recall of the elevators to the supervisory personnel. This can be done immediately upon initiation of a fire alarm.

As a result of this assessment, Clause 9.4.5.3.(2)(c) will be amended to reference only Sentences 3.2.6.3.(1), (2) and (3) instead of the entire Article 3.2.6.3. of the Ontario Building Code.

In order to address any concerns with respect to the application of the CAN3-B44-M85(M87) - Elevator Safety Code, we have enclosed for your information the Elevating Devices Branch Director's Ruling No. 60-88 of April 18, 1988 which outlines the rules applicable to a Fire Code Retrofit elevator.

Please take any appropriate actions to ensure that your fire prevention program implements the above-mentioned changes.



D. Crawford, P. Eng.
Acting Chief
Technical, Research and
Consulting Services

DC:ww
Encl.



Elevating and Amusement Devices Safety Division	Ref. No.: 61/88	Rev. No.:
DIRECTOR'S RULING	Date: May 1, 1988	Date:

Subject: RETROFITTING OF ELEVATOR SINGLE SLIDE DOORS WITH SAFETY RETAINERS

Sent to: ELEVATOR CONTRACTORS IN SCOPE A, B, F, P, S

1. ORDER TO RETROFIT

Commencing May 15, 1988, inspectors will order elevators equipped with single slide landing doors, to be retrofitted with door SAFETY RETAINERS.

NOTE: The elevators, however, may be retrofitted before the inspector's order is issued. That, indeed, is strongly recommended, considering that the cycle of our inspections may be extended up to 36 months.

2. ORDER TO CONTRACTORS

2.1 Contractors retrofitting elevator doors in accordance with this order must use retainers which conform to the following:

- a) A professional engineer has issued a certificate stating that the retainers of the specified make and model:
 - i) are designed in accordance with Clause 2.11.10.5 and type tested for the strength as specified in Clause 2.11.10.5. of the 1985 edition of CSA-B44 Safety Code for Elevators and the following amendment:

“The retainers shall also withstand, without detachment or permanent deformation, a force of 1000N applied upward at any point along the width of the door panel and, while this force is maintained, an additional force of 1000N applied perpendicular to the door at its centre over an area of 300 x 300mm”.
 - ii) When installed on a specified door assembly, following instructions supplied with retainers, will meet the requirement referred to in “i”, assuming that the door assembly will be able to withstand forces specified.
- b) The engineer's certificate along with design drawings have been filed and registered with this Branch and the make and model is listed in attachment to this Ruling #61-01 / Edition1 or any future edition;
- c) Each retainer (kit) must be accompanied by manufacturer's detailed instructions containing installation, adjustment and inspection criteria, to be used by installing contractors;
- d) Each retainer supplied must be permanently identified with manufacturer's name or logo and also with a unique model number or symbol if the manufacturer supplies more than one retainer model. (Also see 2.2(b)(i) below).

2.2 Each safety retainer, when installed:

- a) Must restrict vertical movement of the door panel to 3.2mm (1/8 inch) unless otherwise specified in instructions referred to in 2.1(c) above;
- b) Must be readily identifiable from inside the hoistway without dismantling any door component and for that purpose:

- i) must be marked with YELLOW colour and so installed that the markings required in 2.1(d) are readily visible from inside the hoistway; or
- ii) a notice plate, containing data specified in 2.1(d) above, must be attached to the door component that covers a safety retainer must be readily visible, from inside the hoistway.

2.3 Contractor retrofitting safety retainers in accordance with this order must:

- a) Before installation of the retainers assure that the door assembly has not deteriorated to the point of significantly losing its original strength;*

*NOTE: This implies that when a significant loss in a door's original strength is identified, the contractor will carry out necessary repairs (e.g. broken welds or loose anchors) or in extreme cases, replace door assemblies (if deteriorated beyond repair e.g. due to corrosion) before safety retainers are retrofitted.

- b) Ensure that proper retainers are selected for the doors being retrofitted, and
- c) Install, adjust and inspect retainers following instructions referred to in 2.1.(c) above.

2.4 Where a contractor identifies an elevator with a landing door type for which retrofitting kits are not listed in the attached document #61-01, the contractor must either:

- a) Design new retainers for that door type, but before installation, the retainers must be certified, filed, registered** and marked in accordance with procedure set in 2.1 above: or
- b) Submit full information on make and model of the door, hangers and gibs and also the location, manufacturer, model and year of manufacture of the elevator to the Elevating Devices Branch, which will, on the basis of available information, advise on acceptable design and procedure or will order the owner that provisions in (a) must be fulfilled through a registered contractor.

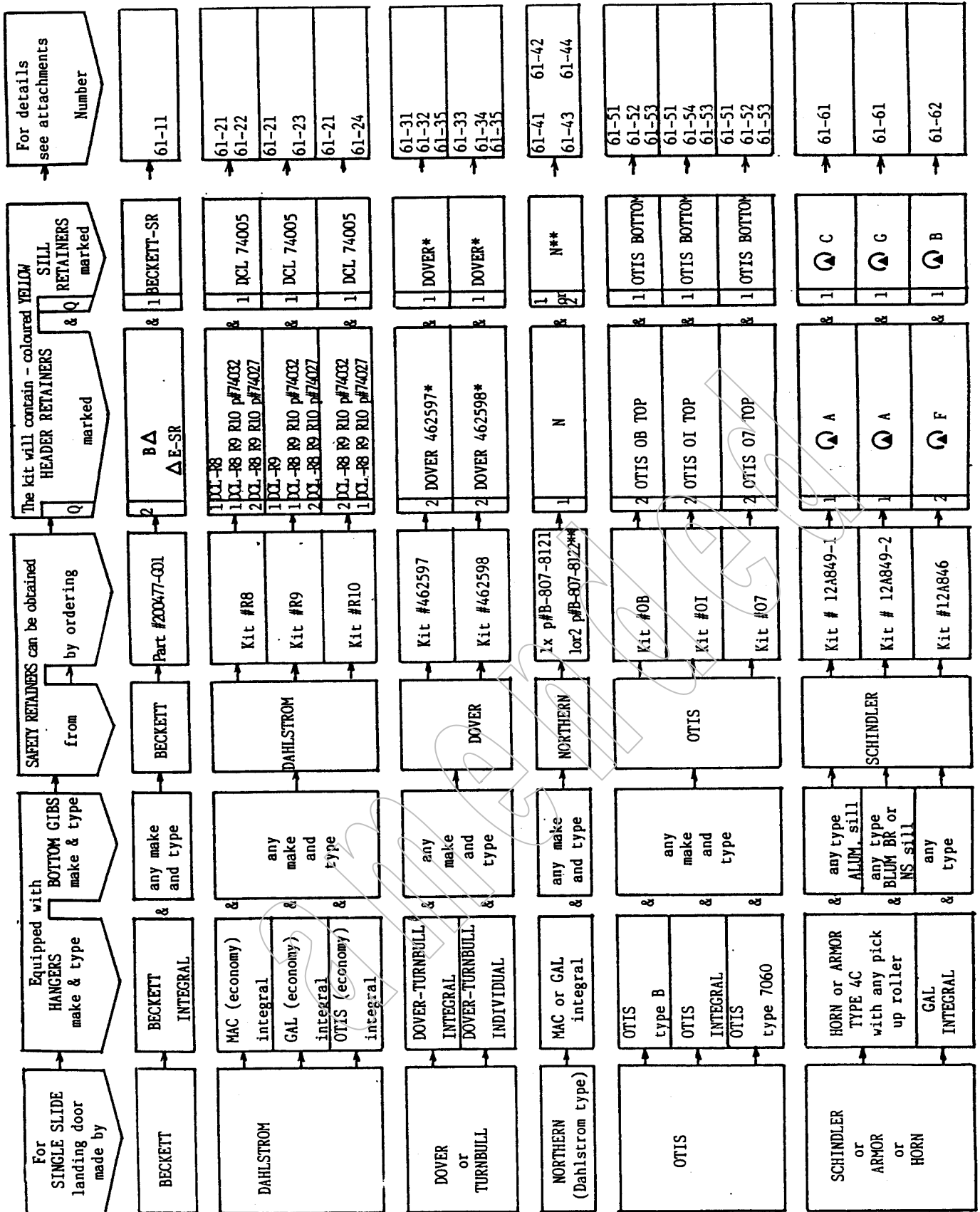
**NOTE: With the consent of the contractor or manufacturer who has successfully registered with this Branch a new design of safety retainers, the retainer design as well as the source of retrofitting kits will be listed in a new addition of document #61-01 for information to all other registered contractors.

3. **BACKGROUND**

Following a series of accidents that were attributed to the inadequate landing door strength, the CAN3-B44 Elevator Safety Code for Elevators has been advised to require safety retainers on all new elevator doors. Considering the history of accidents in the province of Ontario, and in accordance with subsection 10(8) of the Elevating Devices Act, I have decided to make the requirements retroactive to existing passenger elevators, at this stage to those equipped with single slide landing doors. Since most of the accidents were recorded in residential buildings, where the majority of elevators were equipped with single slide doors, I expect that in 2 to 3 years, when inspectors' orders (as in 1 above) are completed, the overall safety of elevators will be significantly improved.

Later on, after the elevator industry has gained more experience on new elevators, we must consider ordering retrofitting of elevators equipped with other than single slide doors.

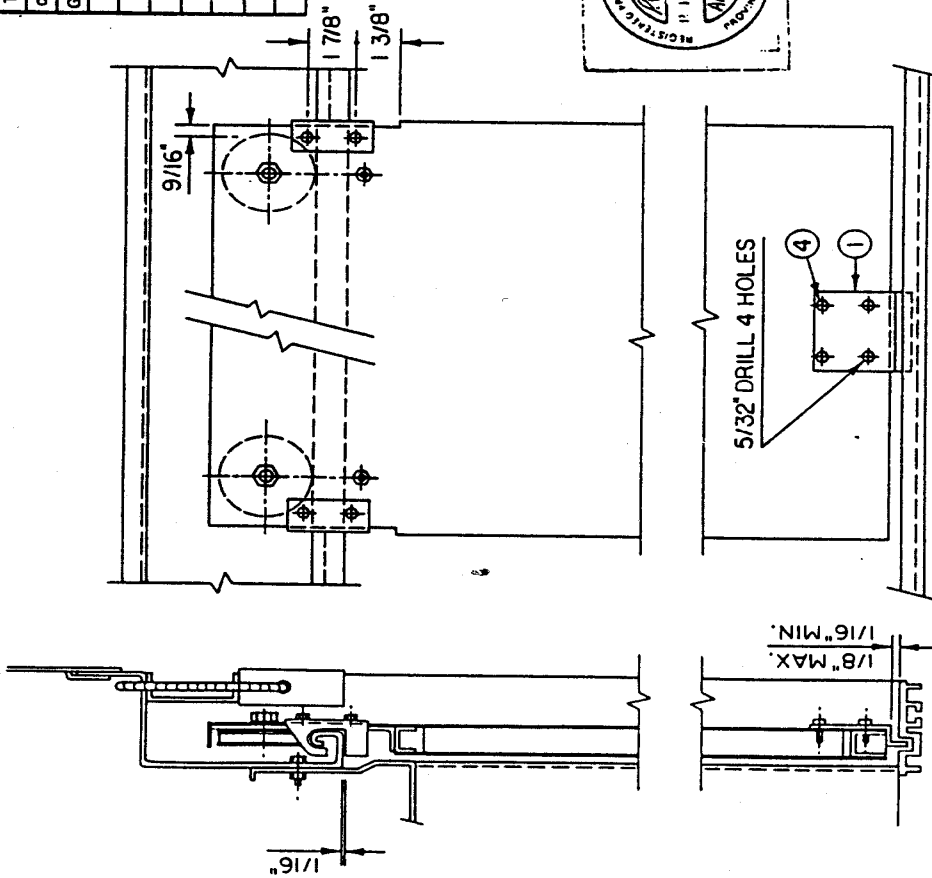
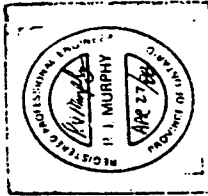
Retrofitting kits listed in the attached document #61-01 have been designed, tested, certified and made available to all registered contractors by the original door manufacturers at the initiative of a government-industry task force. We are, however, aware that a few makes and models of existing single slide doors are not listed in that document. We invite all interested contractors and elevator parts manufacturers to design retrofitting kits for door models not covered. As indicated above, this Branch will notify all elevator contractors on the source of certified retrofitting kits.



THIS DWG. NO.		REQD.		DESCRIPTION OR NAME OF PART	IDENTIFICATION NUMBER
QUAN.	PER UNIT	G01	G02		
		1		TOP DOOR RETAINER - R.H.	200475 - P01
		1		TOP DOOR RETAINER - L.H.	200475 - P02
		1		BOTTOM DOOR RETAINER	100400 - P01
		4		NO. 10-24 X 5/8" LG. HEX. HD. WASHER FACE TEKS SCREW	
		4		1/4" - 20X1/2" LG. HEX. HD. SCREW	
		4		1/4" LOCKWASHER	
		1		PRINT OF THIS DRAWING	

INSTALLATION INSTRUCTIONS

1. MARK THE LOCATION OF THE HOLES FOR THE TOP RETAINERS WITH A CENTRE PUNCH, AND DRILL THE FOUR HOLES USING A NO. 7 DRILL BIT (.201 DIAMETER).
2. TAP THE FOUR HOLES, JUST DRILLED, USING A 1/4" -20 TAP.
3. INSTALL THE TOP RETAINERS USING HARDWARE SUPPLIED. TIGHTEN BOLTS TO 50 - 80 INCH POUNDS TORQUE. CHECK FOR PROPER CLEANANCE.
4. WITH THE DOOR CLOSED, MARK THE LOCATION OF THE HOLES FOR THE BOTTOM RETAINER USING THE RETAINER AS A TEMPLATE. DRILL THE HOLES USING A 5/32" DRILL BIT.
5. INSTALL BOTTOM RETAINER USING HARDWARE SUPPLIED. TIGHTEN SCREWS TO 50 - 80 INCH POUNDS TORQUE. CHECK THAT THE RETAINER WILL NOT SCRAPE THE SILL WHEN THE DOOR IS OPENING OR CLOSING.
6. NOTE: THE TOP RETAINERS ARE MARKED WITH "BΔ
E-SR" THE BOTTOM RETAINER IS MARKED WITH "BECKETT - SR".



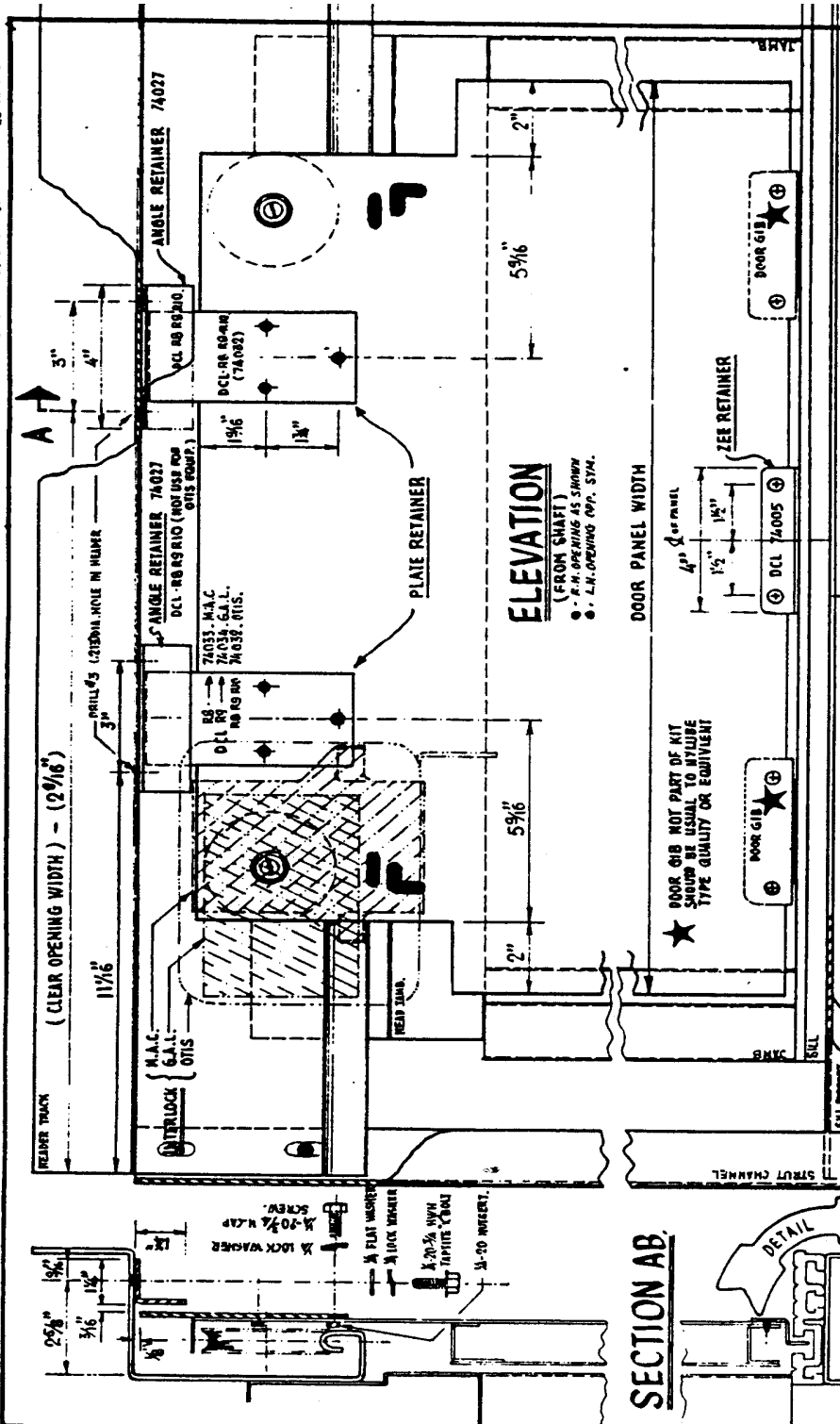
TOOLS REQUIRED

- DRILL
- 3/8" WRENCH
- NO. 7 DRILL BIT (.201)
- 1/4"-20 TAP
- NO. 10 HEX SOCKET
- TORQUE WRENCH
- 5/32" DRILL BIT

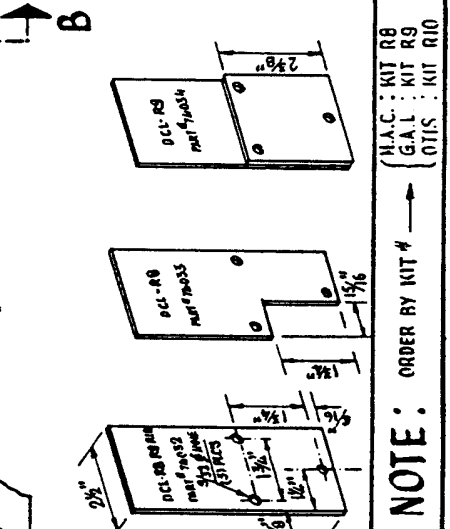
BECKETT ELEVATOR LIMITED CERTIFIES THAT THE RETAINERS WILL CONFORM TO M.C.C.A. DRAFT RULING DATED DECEMBER 29, 1986 OR TO THE ORIGINAL DESIGN STRENGTH OF THE DOOR WHICHEVER IS LESS, ONLY IF INSTALLED ACCORDING TO THIS DRAWING.

G01		GROUP IDENTIFICATION	
5		THIS DRAWING IS THE PROPERTY OF BECKETT ELEVATOR LTD. AND IS LOANED UNDER THE EXPRESS CONDITION THAT IT IS NOT TO BE COPIED OR USED WITHOUT PERMISSION AND IS TO BE RETURNED ON DEMAND.	
4		beckett elevator limited	
3		NAME OF JOB	PROTECTIVE FINISH ORN BY: RG
2		DATE	DATE: 27/88
1	80-1748	APR. 27/88	APR. 27/88
REV. NO.	ECN. NO.	DATE	TOOLS
			SCALE: NTS
DOOR SAFETY RETAINER KIT FOR FIELD MTG.			DRG. NO. 200477
TITLE: TO SINGLE SLIDE LANDING DOOR			REF.

24-MAR-88
 25-MAR-87
 1000 TESTER, 04-SEP-87



DOOR SAFETY RETAINER SET (EACH KIT WILL CONTAIN)			
ITEM	NOMINATION & SPECIFICATION	PART NO.	QUANTITY
1	ANGLE RETAINER (HEAD) DCL-R8 R9 RIO.	7A077	2
2	ANGLE RETAINER (TOP) DCL-R8	7A033	1
3	ANGLE RETAINER (TOP) DCL-R9	7A034	1
4	ANGLE RETAINER (TOP) DCL-R8 R9 RIO	7A032	1
5	ZEE RETAINER (BOTTOM) DCL-7A005	7A005	1
6	SCREW, HEX. CAP. 1/4-20-1/2\"/>		
7	SCREW, HEX. CAP. 1/4-20-1/2\"/>		
8	LOCK WASHER : 1/4 NOM.	82082	4
9	FLAT WASHER : 1/4 NOM.	82081	4
10	NUTS : 1/4-20	7A075	4
11	SCREW : 10-32 PH/UC-7/8	82044	2
12	INSTALLATION INVC.	ERR ER9	2

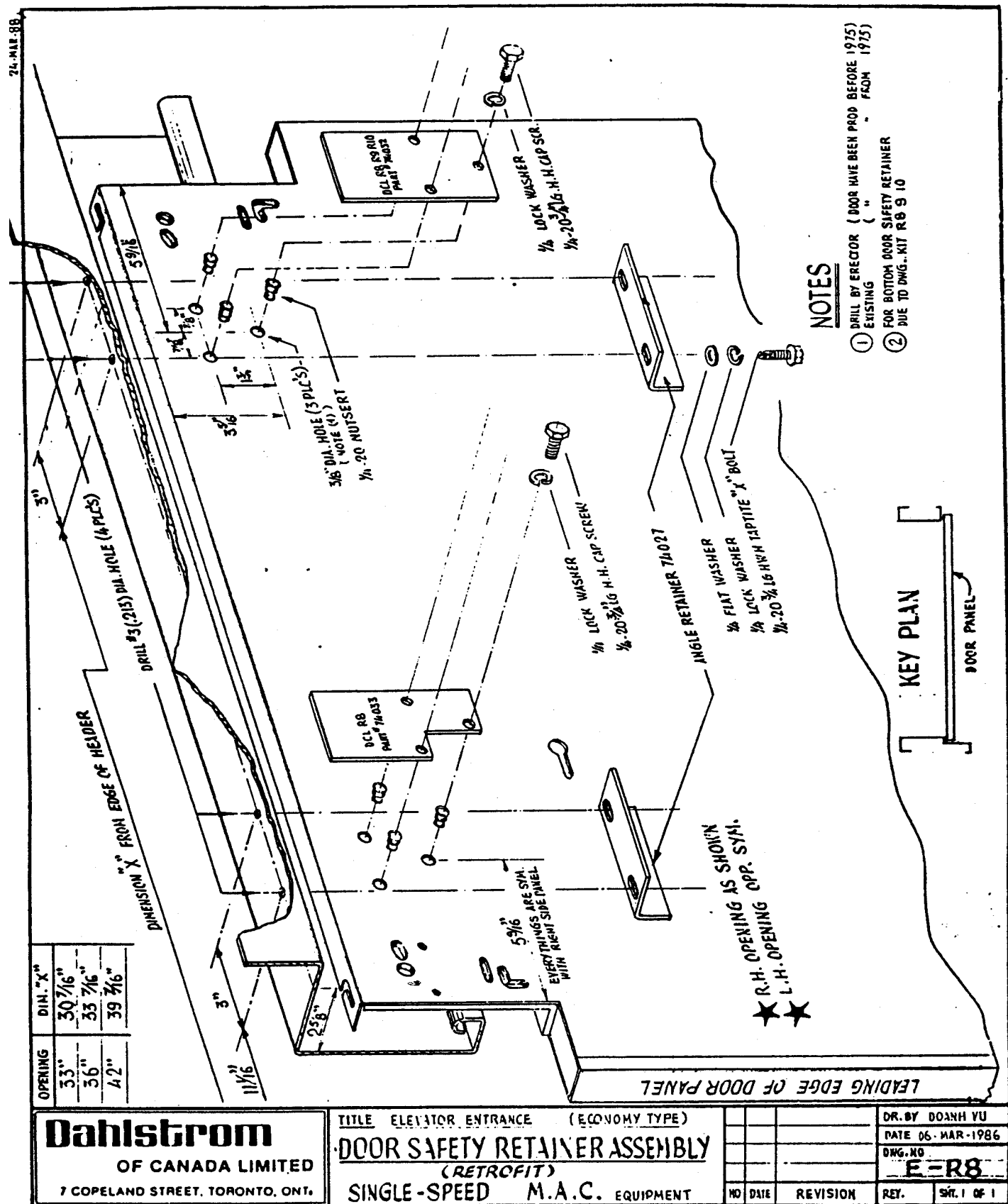


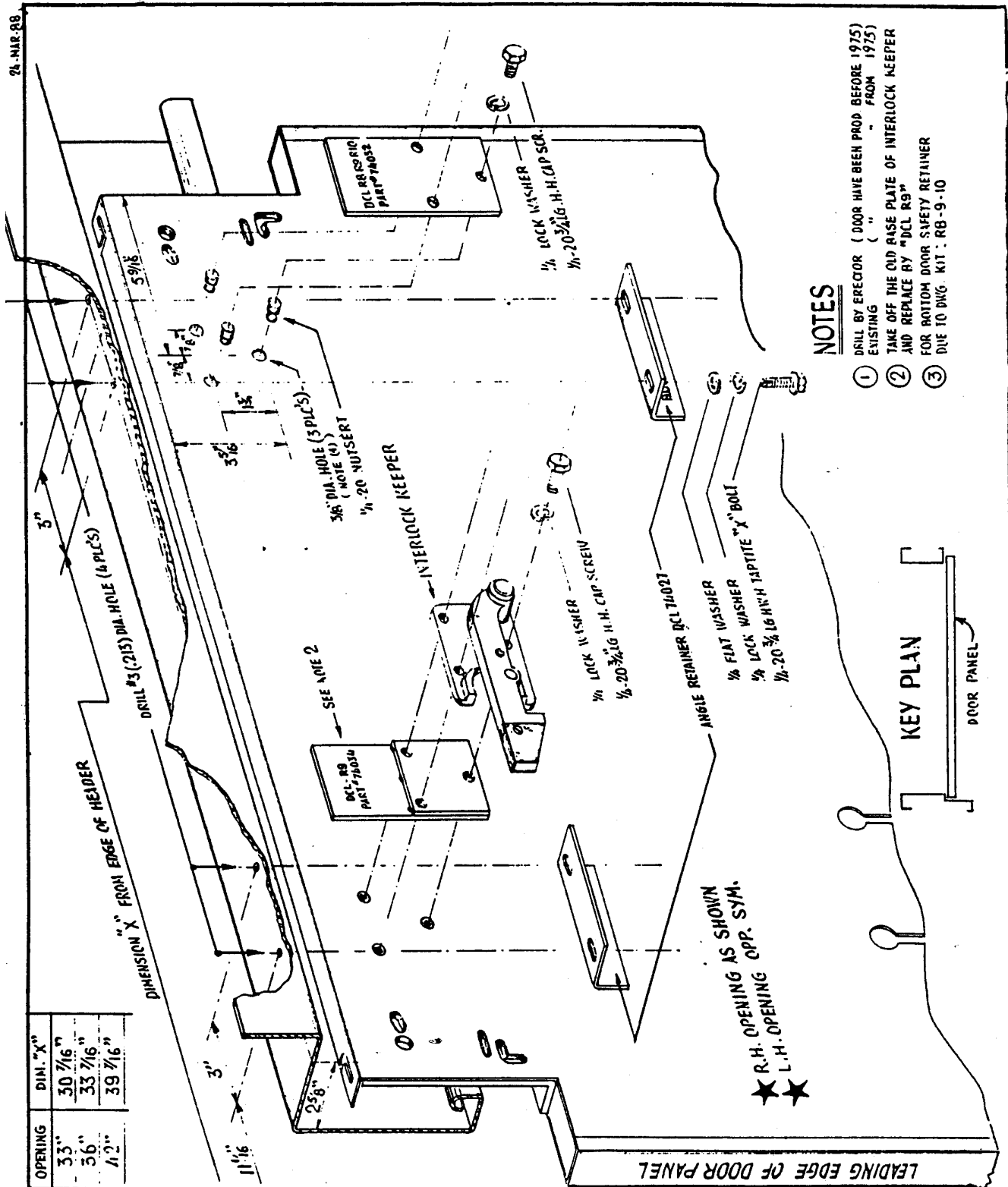
NOTE: ORDER BY KIT #
 (H.A.C. : KIT R8
 (G.A.L. : KIT R9
 (OTS : KIT RIO

Dahlstrom
 OF CANADA LIMITED
 7 COPELAND STREET, TORONTO, ONT

TITLE ELEVATOR ENTRANCE S/SPD ECONOMY TYPE
DOOR PANEL SAFETY RETAINER
 (RETROFIT)
 SUITABLE FOR M.A.C.-G.A.L.-OTS. EQUIP.

NO.	DATE	REVISION	REF.	SHT. 1 OF 1
DCL BY DOANH VU			DATE 21-OCT-1986	
DWC. NO			KIT R8-9-10	





NOTES

- ① DRILL BY ERECTOR (DOOR HAVE BEEN PROD. BEFORE 1975) EXISTING (" FROM 1975)
- ② TAKE OFF THE OLD BASE PLATE OF INTERLOCK KEEPER AND REPLACE BY "DCL R9"
- ③ FOR BOTTOM DOOR SAFETY RETAINER DUE TO DWG. KIT : RB-9-10

KEY PLAN

DOOR PANEL

★ R.H. OPENING AS SHOWN
★ L.H. OPENING OPP. SYM.

OPENING	DIM. "X"
33"	30 7/16"
56"	33 7/16"
71 1/2"	39 7/16"

Dahlstrom
OF CANADA LIMITED
7 COPELAND STREET, TORONTO, ONT.

TITLE ELEVATOR ENTRANCE (ECONOMY TYPE)
DOOR SAFETY RETAINER ASSEMBLY
(RETROFIT)
SINGLE-SPEED - G.A.L. EQUIPMENT

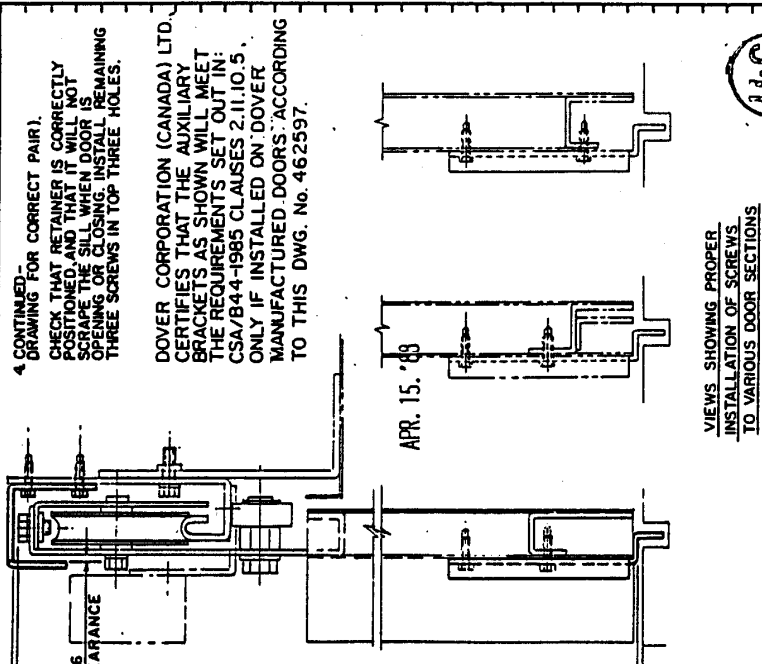
DR. BY DOANH VU	NO	DATE	REVISION	REV.	SHT. 1 OF 1
DATE 07-MAR-1986					
DWG. NO. E-100					

CLASS	DEPT.	DATE	DESCRIPTION	APPROVED BY	DATE	QUANTITY	JOB CODE

GROUP NO.	ITEM NO.	QTY	UNIT	DESCRIPTION	LOCATION
1	1	261621		TOP BRACKET	
2	1	261622		BOTTOM BRACKET	
3	1	462597		BAG OF SCREWS (S&W)	
4	1	703044		BAG 7 X 12 1/2	

- INS INSTALLATION**
- WITH DOOR CLOSED, POSITION LEADING EDGE TOP RETAINER ACCORDING TO DIMENSIONS ON DRAWING. REPEAT FOR TRAILING EDGE RETAINER.
 - OPEN DOOR FULLY & JAMB IN OPEN POSITION. INSTALL LEADING EDGE RETAINER USING ONE SCREW IN THE SLOTTED HOLE. REPEAT FOR TRAILING EDGE RETAINER.
 - CLOSE DOOR AND CHECK THAT RETAINERS ARE POSITIONED WITHIN TOLERANCES SPECIFIED. ADJUST WRENCH TO OPEN DOOR AND INSTALL REMAINING SCREWS.
 - WITH DOOR CLOSED, POSITION BOTTOM RETAINER ACCORDING TO DIMENSIONS ON DRAWING. INSTALL RETAINER USING TWO SCREWS IN SLOTTED HOLES. ONLY ONE PAIR OF SLOTS REQUIRED - CHECK

-CONTINUED-



4 CONTINUED - DRAWING FOR CORRECT PAIR)
 CHECK THAT RETAINER IS CORRECTLY POSITIONED AND DO NOT SCRAPE THE SILL WHEN DOOR IS OPENING OR CLOSING. INSTALL REMAINING THREE SCREWS IN TOP THREE HOLES.

DOVER CORPORATION (CANADA) LTD. CERTIFIES THAT THE AUXILIARY BRACKETS AS SHOWN WILL MEET THE REQUIREMENTS SET OUT IN: CSA/B44-1985 CLAUSES 2.11.10.5, ONLY IF INSTALLED ON DOVER MANUFACTURED DOORS ACCORDING TO THIS DWG. No. 462597.

VIEWS SHOWING PROPER INSTALLATION OF SCREWS TO VARIOUS DOOR SECTIONS



- TOOLS REQUIRED:**
- ELECTRIC SCREWDRIVER WITH CLUTCH DRIVER
 - 5/16 HEX SOCKET (CLUTCH SET AT 30-50 INCH-POUNDS TORQUE)
 - 5/16 WRENCH FOR ADJUSTMENT.

(ULC APPROVAL DWG. 462596)

REVISION AND ISSUE
 1 JULY 15 1985
 PCO-09020
 DIR - 11289

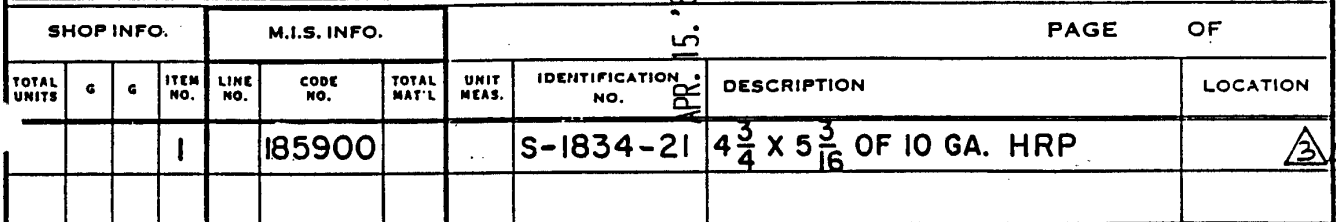
GROUP IDENTIFICATION
 DO NOT SCALE THIS DRAWING
 TURNBULL CORPORATION (CANARAI) LIMITED
 TURNBULL ELEVATOR DIVISION
 PREPARED BY: J.M.S.
 CHECKED BY: J.M.S.
 DATE: JULY 15/85
 SCALE: AS SHOWN
 DRAWING NO: 462596

FIELD DOOR SAFETY RETAINER KIT FOR FIELD INSTALLATION
 PART NO. 462597

EDB DIRECTOR'S RULING #61/88 Safety Retainers Retrofitting	May 1, 1988	ATTACHEMENT	#61-32
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REVISION AND ISSUE USED ON	1 APR. 22/85 P.C.O. 08799 D.I.R. 11289	SUB ASSY. FINAL ASSY. (462596) 462597	PART NO.	ISSUED BY	DATE ISSUED	QUANTITY	JOB REQ'D.	JOB CODE	DWG. NO. 261621
	2 NOV. 25, 1985 MAT'L WAS 10 GA. H.R.P. S-1834-21 CODE No. 185900 & CAD. PL. DELETED P.C.O. 09300 Q. D.I.R. 11334								
	3 OCT. 20/86. CLASS YELLOW ADDED, 462597 ADDED TO DOVER. P.C.O. 09721 D.I.R. 1190 RR. HRP WAS S.C. MOUNT								

SHOP INFO.	M.I.S. INFO.	PAGE OF								
TOTAL UNITS	G	G	ITEM NO.	LINE NO.	CODE NO.	TOTAL MAT'L	UNIT MEAS.	IDENTIFICATION NO.	DESCRIPTION	LOCATION
			1		185900			S-1834-21	4 ³ / ₄ X 5 ³ / ₁₆ OF 10 GA. HRP	△3



G 01	GROUP IDENTIFICATION													
THIS DRAWING IN DESIGN AND DETAIL IS THE PROPERTY OF THE DOVER CORPORATION (CANADA) LTD., TURNBULL ELEVATOR DIVISION, AND IS LOANED SUBJECT TO RETURN UPON DEMAND, UNDER THE EXPRESS CONDITIONS THAT IT MUST NOT BE COPIED OR USED EXCEPT BY PERMISSION.					DO NOT SCALE THIS DRAWING					DOVER CORPORATION (CANADA) LIMITED TURNBULL ELEVATOR DIVISION				
NAME OF JOB					PROTECTIVE FINISH		DRAWN BY <i>JD</i>		DATE AUG. 15/85		REF. NO.			
TOOLS T-11052					CLASS. YELLOW		CHECKED BY		DATE		REVISION NO. 123			
TITLE SAFETY RETAINER BRKT. - HALL DOOR - (TOP)					MAT'L LIST 711		DWG. NO. 261621							

Further information may be obtained by contacting: Director - ED/AD Division, Technical Standards and Safety Authority, 4th Floor - West Tower, 3300 Bloor St. West, Etobicoke ON., M8X 2X4 Ph:416 325 2000 Fx:416 326 8248

PART NO.		DESCRIPTION		QUANTITY		JOB NO.		JOB CODE	
CLASS	SECT.	DEVT.	DESCRIPT.	QTY	UNIT	QTY	UNIT	CLASS	SECT.
GROUP	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
1	2	3	4	5	6	7	8	9	10
2	1	261620	TOP BRACKET						
1	2	261622	BOTTOM BRACKET						
1	3	206025	FSTN. SCREW SOSTW 10-24 X 3/4						
1	4	200840	" " CSH 1/4-20 X 3/4						
1	5	201327	" " NUT 1/4-20						
1	6	204388	" " WASHER LWS 1/4						
1	7	462598	PRINT OF THIS DWG. 8 1/2 X 11						
1	8	703044	BAG						
1	9	261683	BAG OF MOUNTING HARDWARE INCLUDES IT. 3, 4, 5, 6, 7						

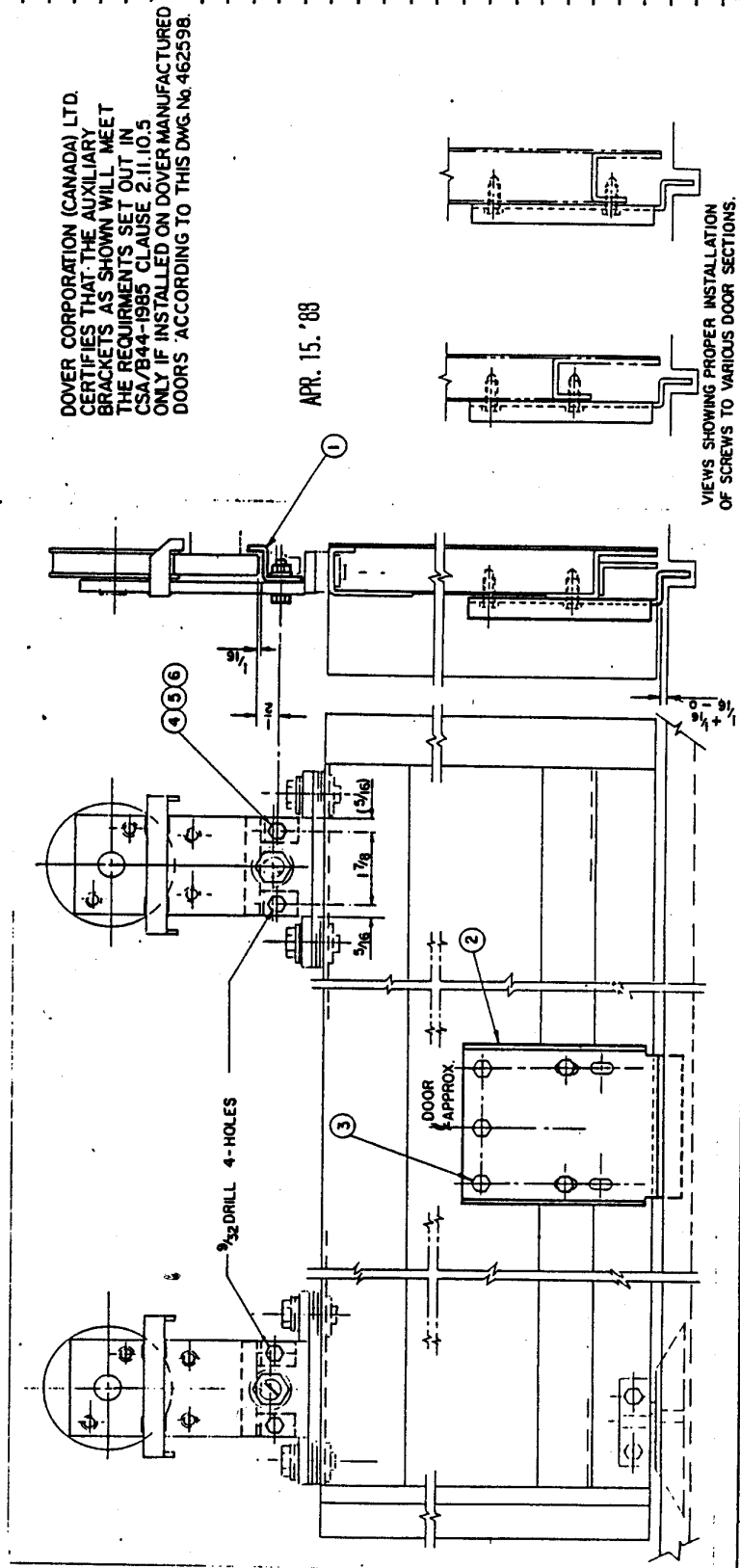
3. WITH DOOR CLOSED, POSITION BOTTOM RETAINER ACCORDING TO DIMENSIONS ON DRAWING. INSTALL RETAINER USING TWO SCREWS IN SLOTTED HOLES. (ONLY ONE PAIR OF SLOTS REQUIRED, CHECK DRAWING FOR CORRECT PAIR). CHECK THAT RETAINER IS CORRECTLY POSITIONED, AND IT WILL NOT SCRAPE THE SILL WHEN DOOR IS OPENING OR CLOSING. INSTALL REMAINING THREE SCREWS IN TOP THREE HOLES.

QTY'S ARE FOR REF. ONLY
MTC. HARDWARE IS INCLUDED IN ITEM 9

1. WITH DOOR CLOSED, MARK LOCATIONS OF HOLES FOR TOP RETAINER ACCORDING TO DIMENSIONS ON DRAWING. CENTRE PUNCH SHOULD BE USED, SINCE HOLE LOCATION IS QUITE CRITICAL. DRILL HOLES.

2. INSTALL TOP RETAINERS USING HARDWARE SUPPLIED. TIGHTEN BOLTS TO 50-80 INCH-POUNDS TORQUE. CHECK FOR PROPER CLEARANCE & THAT UPTHRUST ROLLER IS FREE TO ROLL.

- TOOLS REQUIRED**
- DRILL WITH 9/32 DRILL BIT,
 - ELECTRIC SCREWDRIVER WITH CLUTCH DRIVEN 5/16 HEX. SOCKET (CLUTCH SET AT 30-50 INCH-POUNDS TORQUE).
 - 1/4 WRENCH OR SOCKET
 - 7/16 WRENCH OR SOCKET
 - DRILLING TEMPLATE FOR ITEM 1, PART NO. 281658 (OPTIONAL).



DOVER CORPORATION (CANADA) LTD.
CERTIFIES THAT THE AUXILIARY
BRACKETS AS SHOWN WILL MEET
THE REQUIREMENTS SET OUT IN
CSA B44-1985 CLAUSE 2.11.10.5
ONLY IF INSTALLED ON DOVER MANUFACTURED
DOORS ACCORDING TO THIS DWG. NO. 462598.

GROUP IDENTIFICATION

DO NOT SCALE THIS DRAWING

DOVER CORPORATION (CANADA) LIMITED
TURNBULL ELEVATOR DIVISION

DATE: JUL 19 1985
D.R. 1289

NAME OF JOB: TITLE DOOR SAFETY RETAINER KIT FOR FIELD MOUNT TO SINGLE SLIDE LNDG. DOOR (INDV. HANGERS)

SCALE: 1/4" = 1'-0"

NO. 462597

DATE: APR. 15 '88

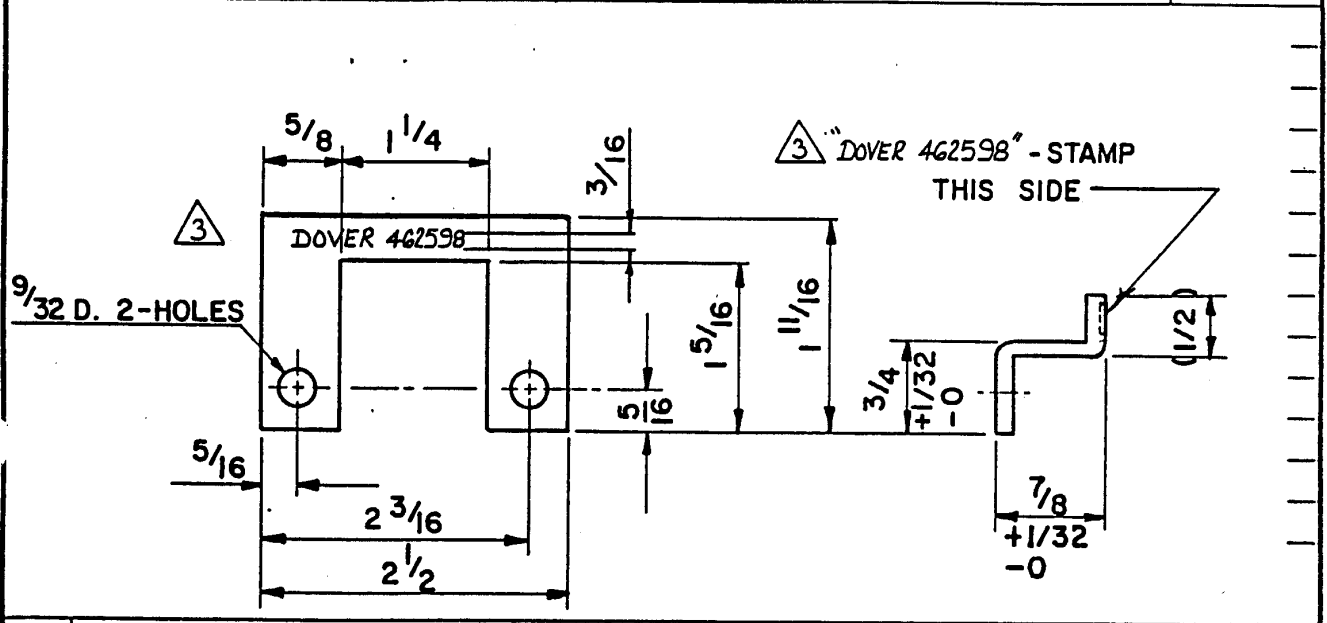
NO. 462598

REVISION AND ISSUE	1 APR. 8 /85 P.C.O. 08799 D.I.R. 11289 2 NOV. 25, 1985 MAT'L WAS 10 GA. H.R.P. CODE No. 185900, S-1834-21 & CAD. PL. DELETED P.C.O. 09300 Q. D.I.R. 11334 3 OCT. 20/86. L.I. ASS. YELLOW ADD'D 462598 ADDED TO DOVER. P.C.O. 09721 D.I.R. 1140. R.R. HRP WAS 5.C. MANUAL	DWG. NO. 261620
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USED ON	SUB ASSY.	FINAL ASSY.	462598						
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PART NO.	ISSUED BY	DATE ISSUED	QUANTITY	JOB REQ'D.	JOB CODE
CLASS	DEPT.	DLVR.	DESCRIPTION	CODE	BRCH. ORDER NO. S SS SSS W

SHOP INFO.			M.I.S. INFO.			PAGE 15 OF 88				
TOTAL UNITS	g	g	ITEM NO.	LINE NO.	CODE NO.	TOTAL MAT'L	UNIT MEAS.	IDENTIFICATION NO.	DESCRIPTION	LOCATION
			1		185900			S-1834-21	2 1/2 X 1 11/16 OF 10 GA. HRP	



GO1

GROUP IDENTIFICATION					
THIS DRAWING IN DESIGN AND DETAIL IS THE PROPERTY OF THE DOVER CORPORATION (CANADA) LTD., TURNBULL ELEVATOR DIVISION, AND IS LOANED SUBJECT TO RETURN UPON DEMAND, UNDER THE EXPRESS CONDITIONS THAT IT MUST NOT BE COPIED OR USED EXCEPT BY PERMISSION.	DO NOT SCALE THIS DRAWING	DOVER CORPORATION (CANADA) LIMITED TURNBULL ELEVATOR DIVISION			
NAME OF JOB	PROTECTIVE FINISH	DRAWN BY <i>NA</i>	DATE <i>AUG. 15/85</i>	REF. NO.	
TOOLS T-11051	CLASS. <i>YELLOW</i>	CHECKED BY	DATE	REVISION NO. <i>123</i>	
	TITLE SAFETY RETAINER - HALL DOOR HANGER		MAT'L LIST 711	DWG. NO. 261620	

REVISION AND ISSUE	1 APR. 18/85 P.C.O. 08799 D.I.R. 11289 2 NOV. 25, 1985 MAT'L WAS 10GA. H.R.P. S-1834-41 CODE No. 185884 CAD. PL. DELETED P.C.O. 09300 Q. D.I.R. 11334 Q. 3 Oct. 20/86. CLASS YELLOW ADDED P.C.O. 09721 D.I.R. 1140. R2P HRP WAS S.C. MOV'd										DWG. NO. 261622	
USED ON	SUB ASSY.											
	FINAL ASSY.		(462596) 462597-8									
PART NO.			ISSUED BY		DATE ISSUED		QUANTITY		JOB REQ'D.		JOB CODE	
CLASS			DEPT.		DLVR.		DESCRIPTION		CODE		BRCH. ORDER NO. S SS SSS W	
SHOP INFO.			M.I.S. INFO.				PAGE		OF			
TOTAL UNITS	G	G	ITEM NO.	LINE NO.	CODE NO.	TOTAL MAT'L	UNIT MEAS.	IDENTIFICATION NO.	DESCRIPTION	LOCATION		
			1		185885			S-1834-41	4 $\frac{11}{16}$ X 6 OF 12 GA. HRP	3		

G01	GROUP IDENTIFICATION										
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NAME OF JOB			PROTECTIVE FINISH		DRAWN BY <i>W.A.</i>		DATE <i>AUG. 15/85</i>		REF. NO.		
TOOLS T-11053			CLASS. <i>YELLOW</i>		CHECKED BY		DATE		REVISION NO. <i>123</i>		
TITLE SAFETY RETAINER BRKT.-HALL DOOR (BTM.)							MAT'L LIST 711		DWG. NO. 261622		

	NORTHERN ELEVATOR LIMITED <small>TORONTO</small>	
	subject: RETRO-FIT ENTRANCE DOOR SAFETY RETAINERS	page

PROPOSAL

INSTALLATION OF NORTHERN SAFETY RETAINERS

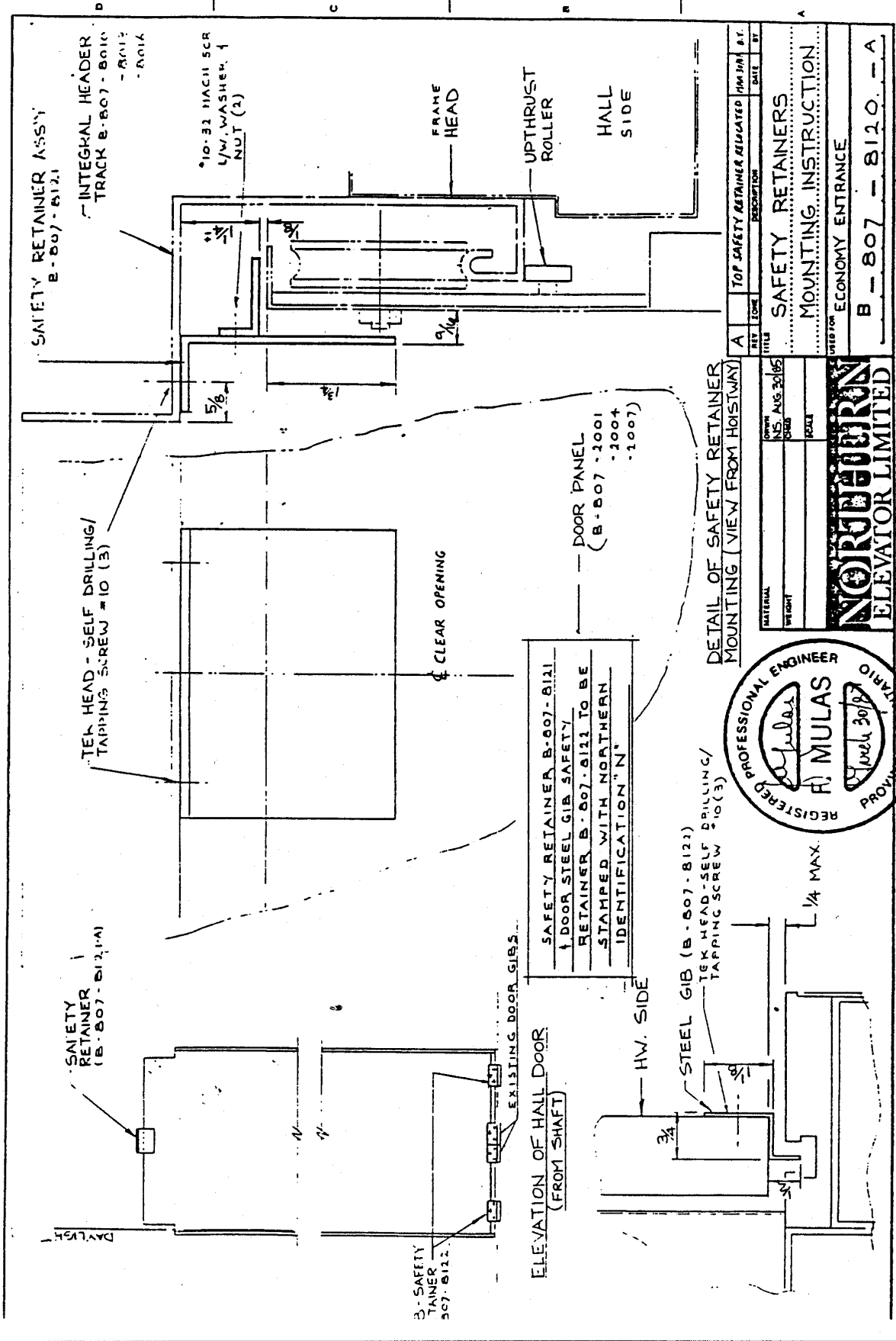
PART #B-807-8121A AND #B-807-8122A

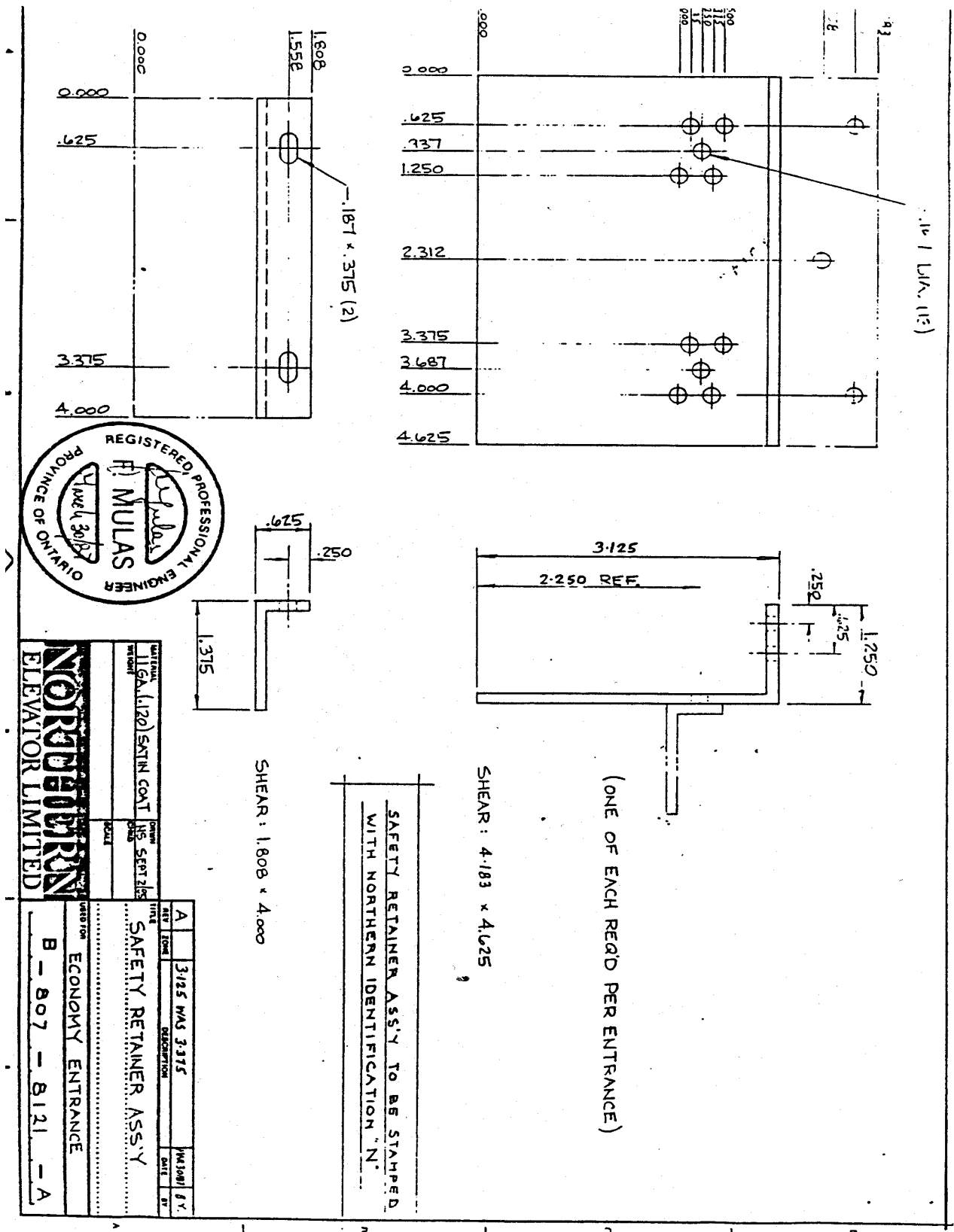
THE TOP OF DOOR SAFETY RETAINER PART #B-807-8121 WHICH IS A TWO-PIECE ANGLE ASSEMBLY IS TO BE MOUNTED TO THE UNDERSIDE OF THE INTEGRAL HEADER TRACK WITH (3) #10 TEK HEAD SELF DRILLING/TAPPING SCREWS AT THE MIDDLE OF DOOR. (ASSEMBLY DRAWING #B-807-8120)

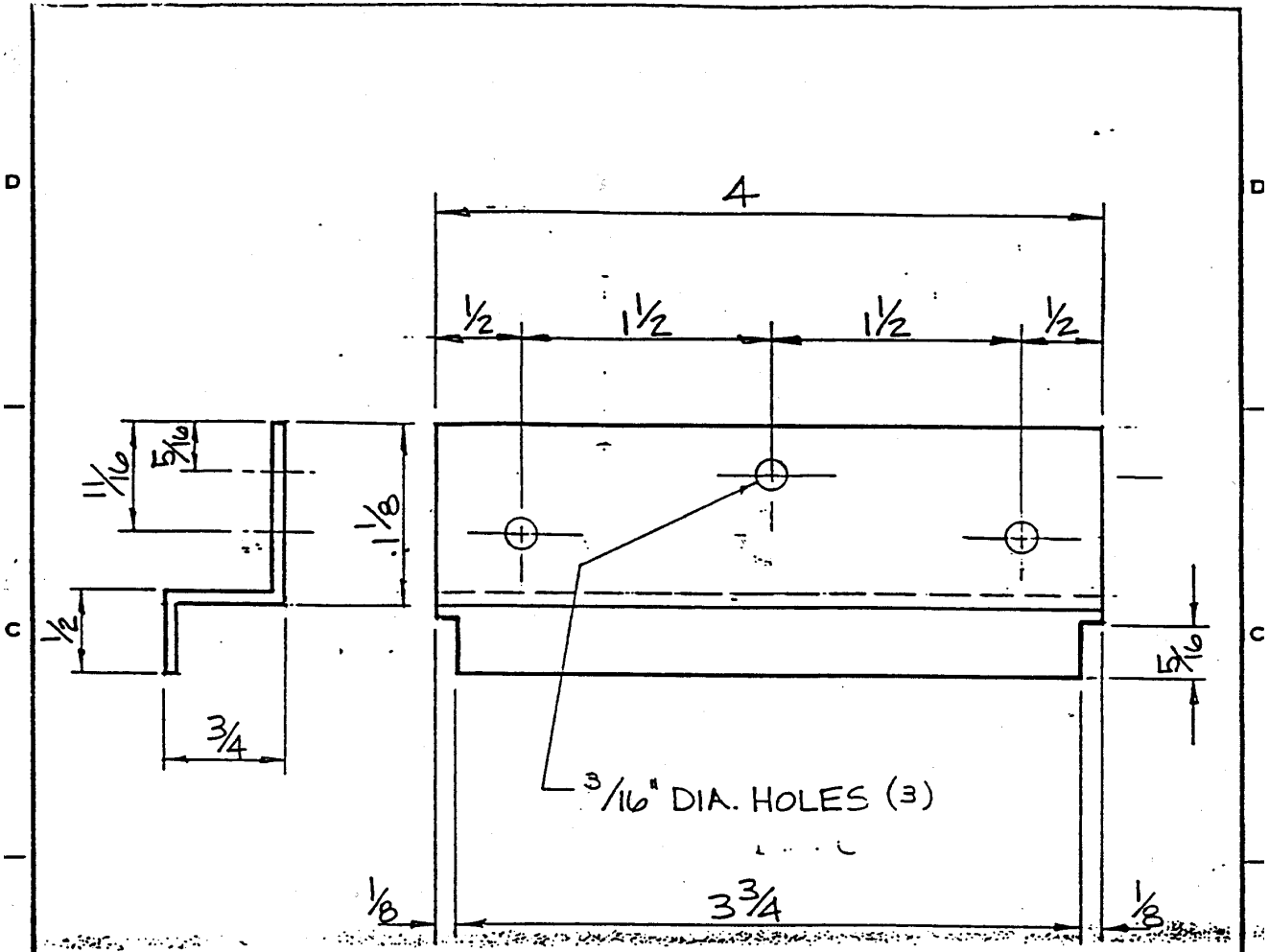
DEPENDENT ON EXISTING DOOR GIB LOCATION EITHER (1) OR (2) SAFETY GIB RETAINERS PART #B-807-8122 ARE REQUIRED. SAFETY GIB RETAINER IS MOUNTED TO SHAFT SIDE OF DOOR WITH (3) #10 TEK HEAD SELF DRILLING/TAPPING SCREWS. (ASSEMBLY DRAWING #B-807-8120)

- * IF ONLY (1) EXISTING DOOR GIB IS LOCATED AT CENTRE OF DOOR THEN INSTALL (2) SAFETY GIB RETAINERS (1) AT LEADING EDGE AND (1) AT TRAILING EDGE.
- * IF (2) EXISTING DOOR GIBS ARE LOCATED (1) AT LEADING EDGE AND (1) AT TRAILING EDGE THEN INSTALL (1) SAFETY GIB RETAINER AT CENTRE OF DOOR.







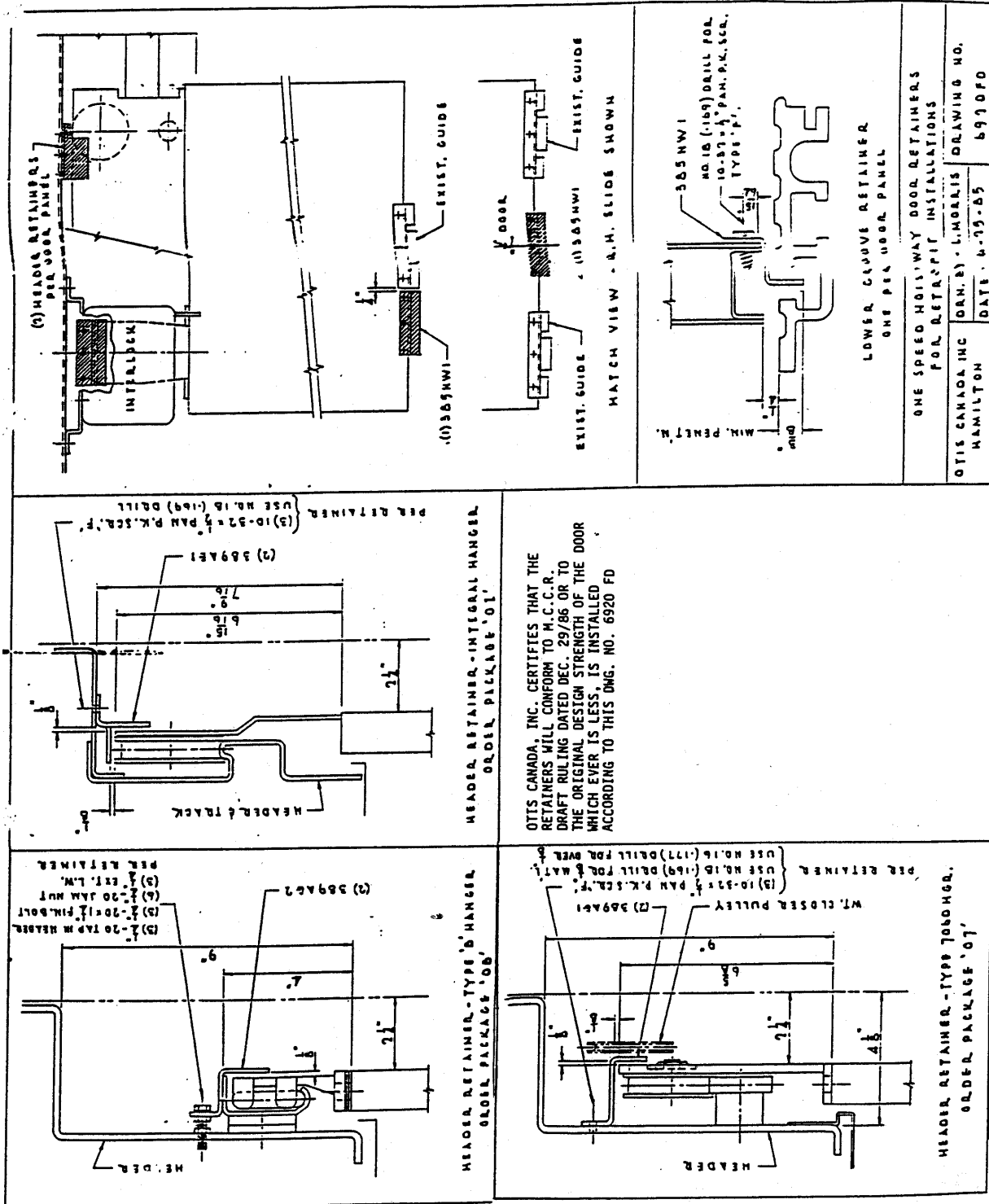


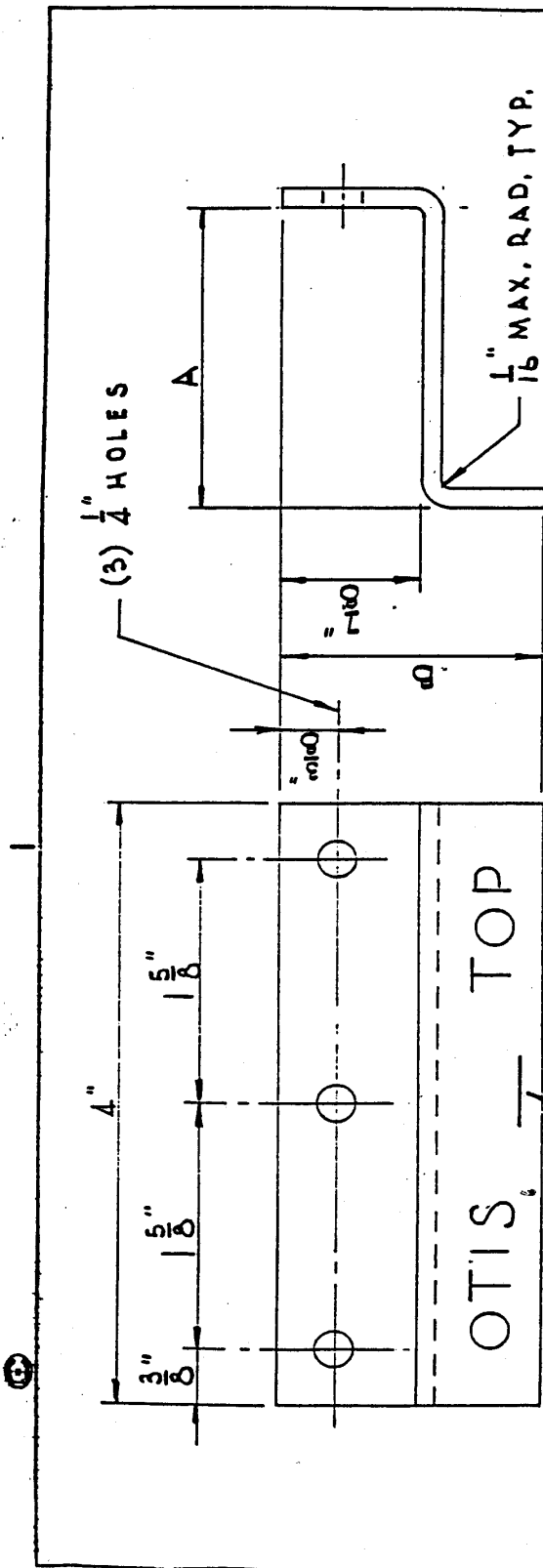
GIB - SAFETY RETAINER
 TO BE STAMPED WITH
 NORTHERN IDENTIFICATION "N"



REV	ZONE	DESCRIPTION	DATE	BY
MATERIAL		DRWN	TITLE	
14 GA (.075) SATIN COAT		NS. AUG. 30/85	GIB - SAFETY RETAINER	
WEIGHT		CHKD		
		SCALE		
		USED FOR		







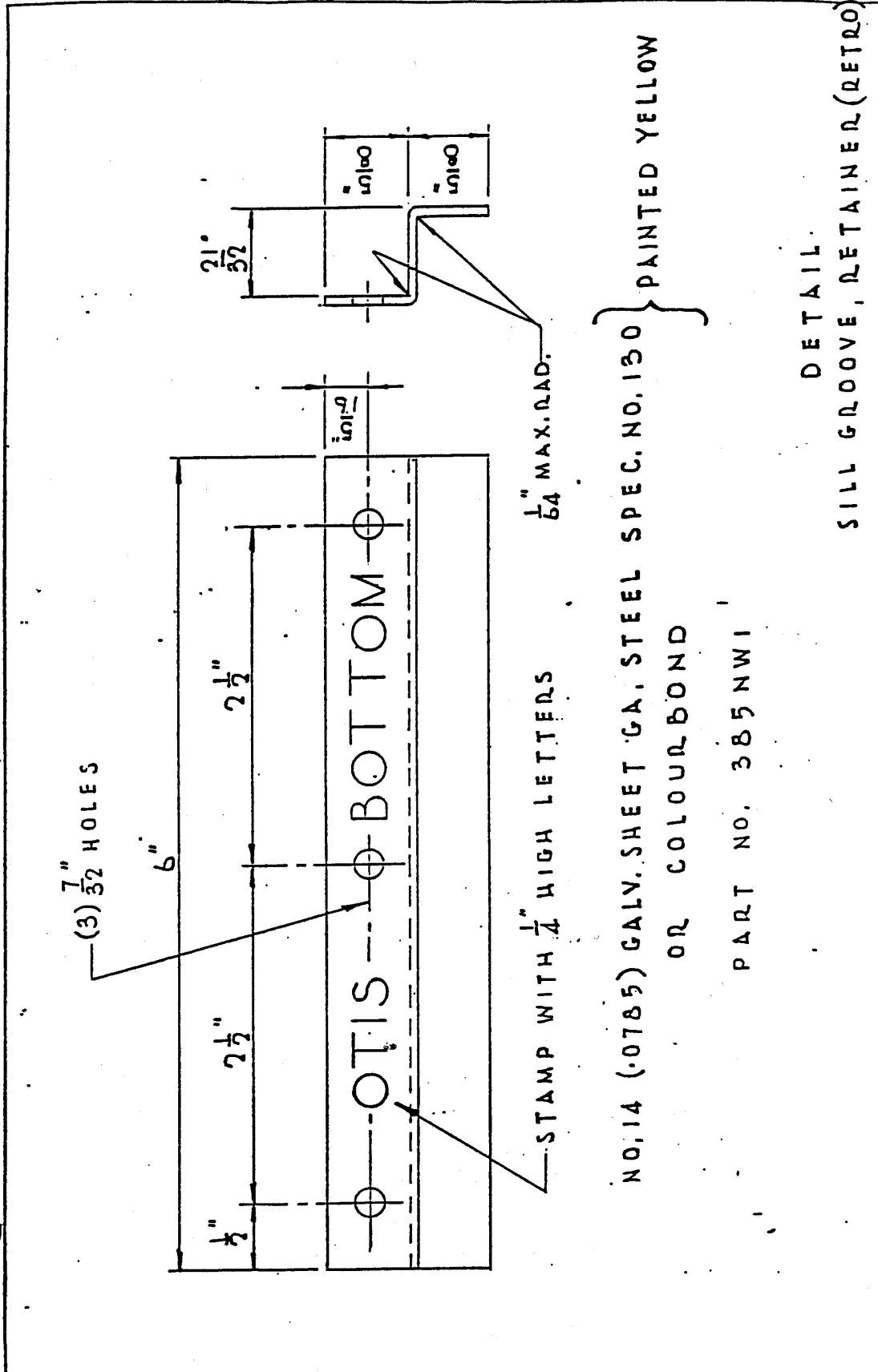
STAMP WITH 1/4" HIGH LETTERS (SEE TABLE)

MAT'L. 12GA. (.1084) GALV. STEEL SPEC. 130 - COLOUR BOND - OR EQUAL
PAINTED YELLOW

PART NO.	A	B	MARKING
389AG1	2"	1 5/8"	OTIS 07 TOP
389AG2	1 3/8"	2"	OTIS 08 TOP
389AG3	1 1/2"	2 1/8"	

DETAIL
BRACKET, RETAINING
FIRST USED ON TYPE 7060 HGRS.

DATE	CHANGES	BY	APPD.	UNITED TECHNOLOGIES OTIS CANADA	TOLERANCE FRACTIONAL DECIMAL UNLESS OTHERWISE STATED DIM. IN INCHES EXCEPT AS NOTED	DRAWN L.M.ORDIS DATE 6-25-85	CHK. DATE	APPD. DATE	389AG

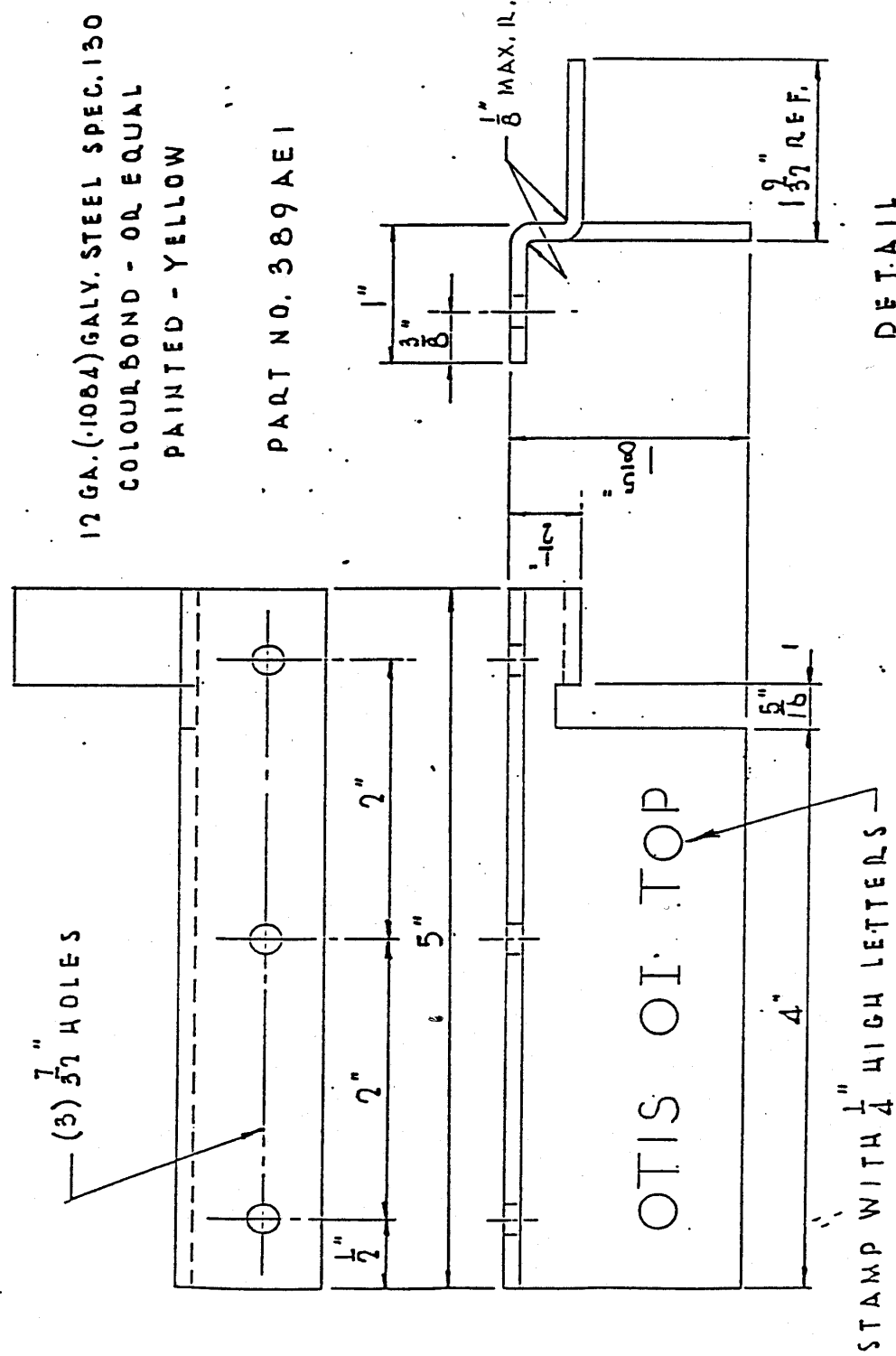


STAMP WITH $\frac{1}{4}$ " HIGH LETTERS $\frac{1}{64}$ " MAX. RAD.

NO. 14 (.0785) GALV. SHEET GA. STEEL SPEC. NO. 130 } PAINTED YELLOW
 OR COLOUR BOND

PART NO. 385 NW1

DATE	BY	APPD.	UNITED TECHNOLOGIES OTIS CANADA	DRAWN L. MORRIS DATE 6-25-85
CHANGES			TOLERANCE FRACTIONAL DECIMAL UNLESS OTHERWISE STATED $+\frac{1}{64}$ $-\frac{1}{64}$	CHK. DATE
			DIM. IN INCHES EXCEPT AS NOTED	APPD. DATE
				385 NW

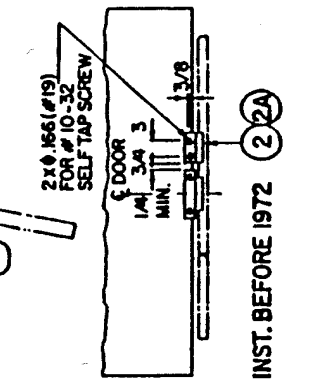
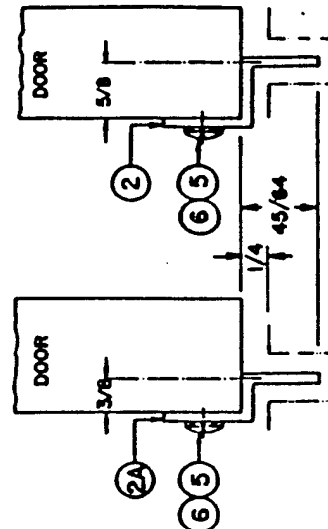
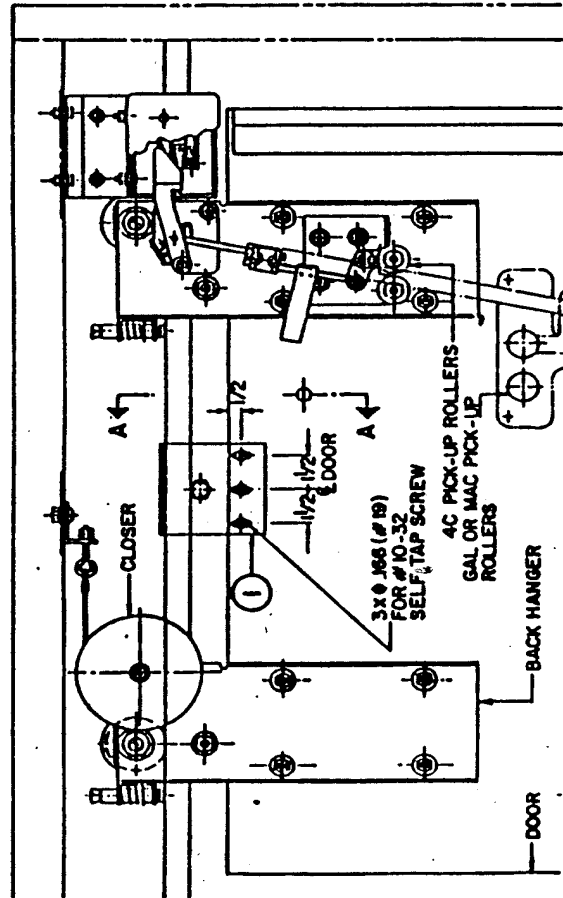
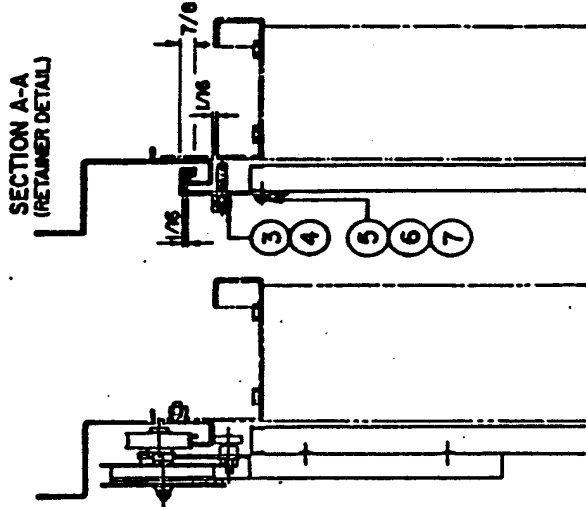


DETAIL
BRACKET, RETAINING
FIRST USED ON INTEGRAL HOLES.

DATE	BY	APPD.	OTIS ELEVATOR COMPANY LIMITED, HAMILTON, CANADA
			TOLERANCE FRACTIONAL DECIMAL UNLESS OTHERWISE STATED DIM. IN INCHES EXCEPT AS NOTED
			DRAWN L. JORDAN DATE 6-25-85
			CHK. DATE
			APPD. DATE
			389AE

A-517 9173 01 03 INSTRUCTIONS - SAFETY RETAINERS FOR 4C TYPE SINGLE SLIDE ENTRANCE

DRAWING NO. SUBJECT PAGE



ALUMINUM SILL
KIT KEY NO. 12A849-1
(INCLUDES TOP &
BOTTOM RETAINERS)

BLUM BR. OR NI-SIL SILL
KIT KEY NO. 12A849-2
(INCLUDES TOP &
BOTTOM RETAINERS)

SAFETY RETAINER APPLICATION
SSL 4C TYPE HANGERS WITH ANY PICK-UP ROLLERS
FOR HORN, ARMOR & SCHINDLER DOORS

ITEM	TITLE	QTY.	KEY NO.
1	RETAINER - TOP, TYPE 'A'	1	12A850
2	RETAINER - BOTTOM, TYPE 'C' ALUMINUM SILL	1	12A851
2A	RETAINER - BOTTOM, TYPE 'G' BLUM BR. & NI-SIL SILL	1	12A852
3	BOLT, HEX 1/2 - 13 X 2"	1	51E15
4	WASHER, LOCK 1/2"	1	55A2
5	SCREW, SELF TAP #10-32 X 1/2"	5	51A30
6	WASHER, EXT. TEETH #10	5	54A18
7	WASHER, FLAT #10	3	

A-517 9175 01 02

INSTRUCTIONS-SAFETY RETAINERS FOR GAL INTEGR. SINGLE SLIDE ENTRANCE

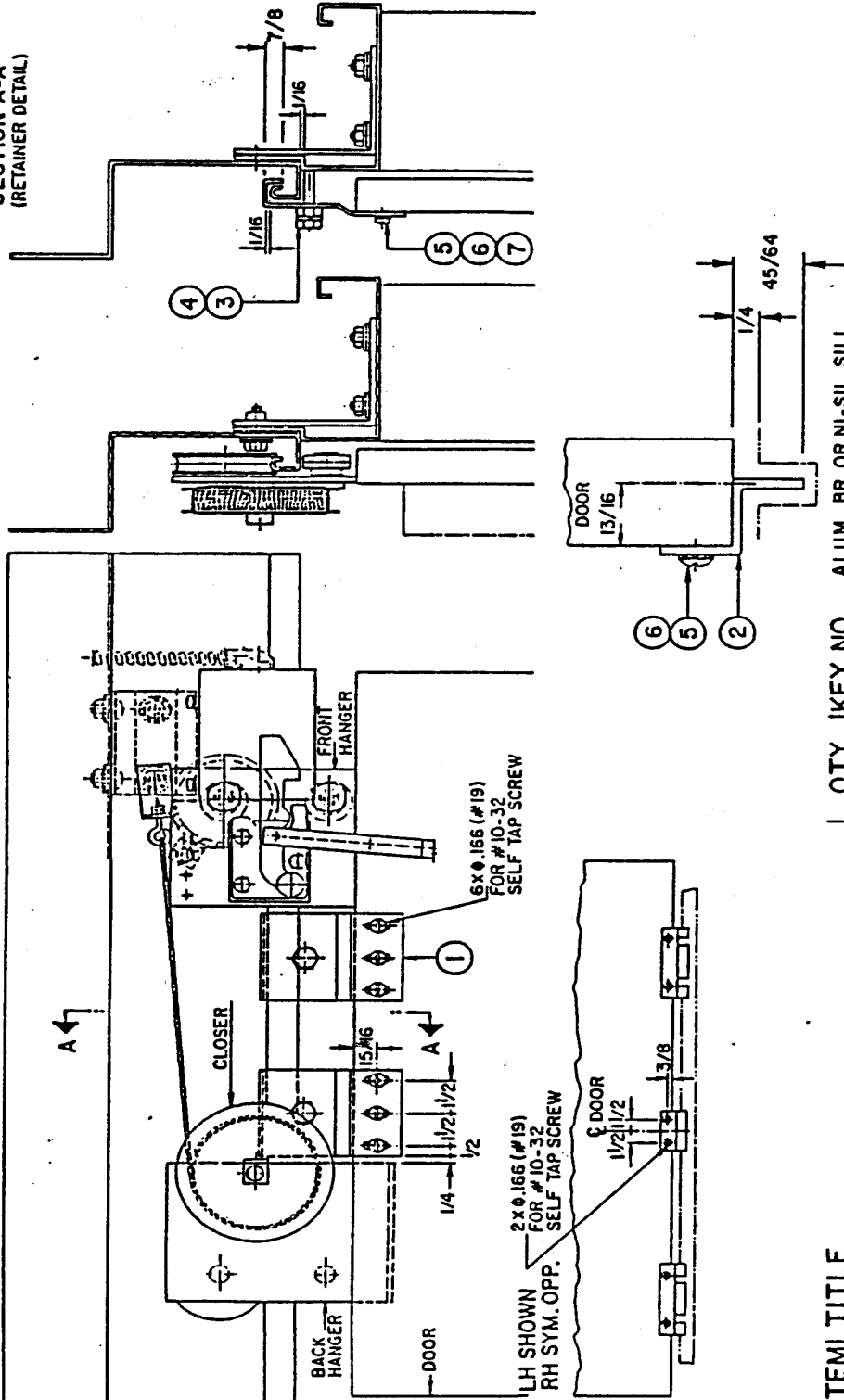
1

DRAWING NO.

SUBJECT

PAGE

SECTION A-A
(RETAINER DETAIL)



ALUM., BR. OR NI-SIL. SILL
KIT KEY NO. I2AB46
(INCLUDES TOP 8
BOTTOM RETAINERS)

**SAFETY RETAINER APPLICATION
SSL GAL INTEGRAL**

ITEM	TITLE	QTY.	KEY NO.
1	RETAINER - TOP, TYPE 'F'	2	I2AB45
2	RETAINER - BOTTOM, TYPE 'B'	1	I2AB40
3	BOLT, HEX .1/2 - 13 x 1 3/4	2	51E16
4	WASHER, LOCK 1/2	2	55A2
5	SCREW, SELF TAP #10-32 x 1/2"	8	51A30
6	WASHER, EXT. TEETH #10	8	54A18
7	WASHER, FLAT #10	6	



Elevating and Amusement Devices Safety Division	Ref. No.: 62/88	Rev. No.:
DIRECTOR'S RULING	Date: June 3/88	Date:

Subject: DOOR SAFETY RETAINERS - ADDITIONAL DESIGN REQUIREMENT FOR HORIZONTAL SLIDE LANDING DOORS

Sent to: ALL ELEVATOR CONTRACTORS IN SCOPE A1 & B1

1. ORDER TO SUBMITTING ENGINEERS AND INSTALLING CONTRACTORS

1.1. Door safety retainers of horizontal slide landing doors on elevators:

- a) for which the design is submitted for registration after August 1, 1988; or
- b) which are initially inspected after January 1, 1989,

whichever comes first, shall, in addition to the requirements of clause 2.11.10.5 of CAN3-B44-M85 also conform to the following:

The retainers shall also withstand, without detachment or permanent deformation, a force of 1000 N applied upward at any point along the width of the door panel and, while this force is maintained, an additional force of 1000N applied perpendicular to the door at its centre over an area of 300 X 300mm.

1.2. The design submission for elevators referred to in 1.1. shall, in the spec sheet item "192. Applied Codes", include a reference to this ruling "EDB Ruling 62/88", indicating that the professional engineer who signed the statement in item 193, has ensured him/herself, through calculations, tests or otherwise, that the safety retainers fully conform to the requirements in 1.1. above (also see item 2.5. on reverse).

1.3. Guidelines to item 95 of the spec form, as partially revised below shall be strictly adhered to, including: permanent marking on each retainer and identification of each retainer with red colour

- 95(1) Specify the number of retainers to be installed per door (for slide doors indicate number of retainers for top and separately for bottom of the door), and manufacturer's permanent markings (see paragraph 3.1 below), e.g. Top: "2-Canada Lift TSR 01" ...Bottom: "1-Canada Lift BSR 01", meaning that two retainers of specified make and model are required at the door top, and one at the bottom.
- (2) In addition to data required in (1), this spec sheet shall be accompanied by a drawing showing the design, sizes, material, installation details, critical clearances if applicable, make and model of doors for which the retainers may be used and also markings which will be affixed to each retainer (see paragraph 3.1 below).
- (3) In order to make retainers readily identifiable in accordance with clause 2.11.10.5.2(b) and to facilitate future inspections and replacements of retainers in accordance with section 16 of O Regulation 229/81. Each retainer must:

- (3.1) Bear permanent markings that will include manufacturer's name or Logo and a number specific to that particular retainer model and applications: e.g. Canada Lift (manufacturer). TSR (top safety retainer), 01 (a number allowing for future modification to be numbered 02 etc).
- (3.2) Be painted fully or partially in red on the side facing the hoistway.
- (3.3) Be readily identifiable from inside the hoistway without dismantling any elevator component.
- (4) Safety door retainers required in clause 2.11.10.5 must be provided Regardless of the design and strength of the door primary guiding means (hanger rollers and guide shoes) provided to meet requirement in clause 2.11.10.4.7. Safety retainers that come into contact with door guides (e.g. sills) or that are part of an assembly also incorporating primary guiding means or that are affixed to the door panel with a common fixing (if the fixings are subject to wear and tear during replacement of the primary guiding means), such retainers **do not** meet the intent of clause 2.11.10.5.2 (c).
- (5) The engineer signing this spec should ensure that the retainers specified in 95 will fully conform to clause 2.11.10.5 when installed on the door model specified for the elevators covered in this spec. To establish conformance positively, considering deflection of door panels, critical clearances and dimensions, a type test of a door assembly equipped with safety retainers but without primary guiding means, may be necessary.

2. BACKGROUND

- 2.1 With EDB Director's Ruling #21 of January 4, 1985, the requirements for retainers on new horizontally sliding landing doors were introduced for elevators inspected after December 31, 1985. Subsequently, the requirements were printed in CSA Safety Code for Elevators, CAN3-B44-M85.

The rules required safety retainers "to prevent displacement of the door panel top and bottom by more than 20 mm when the door panel is subjected to a force of 5000 N applied at right angles in the panel centre".
- 2.2 It was later discovered that some retainer designs, although fully conforming to the CSA code, allowed the panels to be lifted (using interlocking point as a pivot) and then dislodged.

The CSA-B44 committee studied this problem and proposed that an amendment, as quoted in 1.1. above, be added to the B44 Code with the next supplement #2, scheduled for printing during 1988-89.
- 2.3 Considering the amendment an important requirement for the safety performance of door retainers, I have decided to use the power vested upon the Director of this Branch under subsection 31(6) of the Elevating Devices Act, 1980 and make this amendment mandatory before it is formally published in the CSA code.
- 2.4 With the EDB Director's Ruling 61 of May 1, 1988, the amendment has already been enforced for safety retainers being retrofitted on existing elevators.
- 2.5 Once the amendment is printed in the B44 Code edition and the list of "Applied Codes" in item 192 of spec sheets contains reference to that edition, the requirement in 1.2. above, respecting the entry in item 192, will not be necessary.



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	62/88	1
DIRECTOR'S RULING	Date:	Date:
	June 3/88	November 26/89

Subject: DOOR SAFETY RETAINERS - ADDITIONAL DESIGN REQUIREMENTS FOR HORIZONTAL SLIDE LANDING DOORS

Sent to: ALL ELEVATOR CONTRACTORS IN SCOPE A1 & B1

Note: Item 2.6 Explains Purpose of this 1st Revision ®

1. ORDER TO SUBMITTING ENGINEERS AND INSTALLING CONTRACTORS

1.1. Door safety retainers of horizontal slide landing doors on elevators:

- a) for which the design is submitted for registration after August 1, 1988; or
- b) which are initially inspected after January 1, 1989, whichever comes first, shall, in addition to the requirements of clause 2.11.10.5 of CAN3-B44-M85 also conform to the following:

“The retainers shall also withstand, without detachment or permanent deformation, a force of 1000 N applied upward at any point along the width of the door panel and, while this force is maintained, an additional force of 1000N applied perpendicular to the door at its centre over an area of 300 X 300mm.”

1.2. The design submission for elevators referred to in 1.1. shall, in the spec sheet item "192. Applied Codes", include a reference to this ruling "EDB Ruling 62/88", indicating that the professional engineer who signed the statement in item 193, has ensured him/herself, through calculations, tests or otherwise, that the safety retainers fully conform to the requirements in 1.1. above (also see item 2.5. on reverse).

1.3. Guidelines to item 95 of the spec form, as partially revised below shall be strictly adhered to, including: permanent marking on each retainer:

- 95(1) In order to make retainers readily identifiable from inside the hoistway and also to facilitate inspection and replacement, each retainer must bear permanent markings that will include manufacturer's name or logo and a model number: e.g. "Canada Lift" (manufacturer), "TSR01" (top safety retainer and a suffix allowing for future modifications or other applications to be numbered model '02' perhaps etc.), except that:
 - a) Where it is impractical to affix the required markings to the retainer (e.g. retainer too small) or where the retainer and its markings are not readily visible from inside the hoistway, a label or plate, bearing the markings must be permanently affixed to the door panel in the vicinity of the retainer; or
 - b) Where a retainer is an integral part of the door panel or is attached to the door panel by permanent means (e.g. welding) in the normal manufacturing process of the door assembly (and not on the installation site), in that case the retainer need not bear the markings but requirement in (2)a) & (3)a) below must be fulfilled.
- (2) In this line 95, specify the number of retainers to be provided for each door panel and also the markings that will be affixed to the retainers in accordance with (1) above, except that:
 - a) In the case explained in (1)b) above, where permanent marking is not required, the entry in this line 95 must indicate number of retainers to be used and the door manufacturer's identification for the retainer (e.g. part number) that must correspond to the data in drawings (see (3)a) below).

- (3) A drawing shall be attached to this spec sheet in the following cases:
- a) In the case of permanently affixed retainers (see (1b) and (2a) above), which are NOT permanently marked, as permitted in 95(1b), the drawing shall show the retainers' location in relation to the door assembly as well as their quantity and identification as stated in the spec form;
 - b) In other cases where the engineer signing the spec sheet considers drawings necessary for effective field inspection, e.g. where the design of door panels or door assemblies allows various locations of retainers and the engineer considers it important for elevator safety that the inspector verify a specific location.

NOTE: Wherever the markings are readily visible from inside the hoistway and are identical to those listed in the spec sheet, no drawing need be attached.

- (4) Safety door retainers required in clause 2.11.10.5 must be provided regardless of the design and strength of the door primary guiding means (hanger rollers and guide shoes) provided to meet requirement in clause 2.11.10.4.7. Safety retainers that come into contact with door guides (e.g. sills) or that are part of an assembly also incorporating primary guiding means or that are affixed to the door panel with a common fixing (if the fixings are subject to wear and tear during replacement of the primary guiding means), such retainers **do not** meet the intent of clause 2.11.10.5.2(c).
- (5) The engineer signing this spec should ensure that the retainers specified in 95 will fully conform to clause 2.11.10.5 when installed on the door model specified for the elevator(s) covered in this spec. To establish conformance positively, considering deflection of door panels, critical clearances and dimensions, a type test of a door assembly equipped with safety retainers but without primary guiding means, may be necessary.

2. **BACKGROUND**

- 2.1. With EDB Director's Ruling #21 of January 4, 1985, the requirements for retainers on new horizontally sliding landing doors were introduced for elevators inspected after December 31, 1985. Subsequently, the requirements were printed in CSA Safety Code for Elevators, CAN3-B44-M85. The rules required safety retainers "to prevent displacement of the door panel top and bottom by more than 20 mm when the door panel is subjected to a force of 5000 N applied at right angles in the panel centre".
- 2.2. It was later discovered that some retainer designs, although fully conforming to the CSA code, allowed the panels to be lifted (using interlocking point as a pivot) and then dislodged. The CSA-B44 committee studied this problem and proposed that an amendment, as quoted in 1.1. above, be introduced with the next edition of the B44 Code, scheduled for printing in February 1990.
- 2.3. Considering the amendment an important requirement for the safety performance of door retainers, I have decided to use the power vested upon the Director of this Branch under subsection 31(6) of the Elevating Devices Act, 1980 and make this amendment mandatory before it is formally published in the CSA code.
- 2.4. With the EDB Director's Ruling 61 of May 1, 1988, the amendment has already been enforced for safety retainers being retrofitted on existing elevators.
- 2.5. Once the amendment is printed in the B44 Code edition and the list of "Applied Codes" in item 192 of spec sheets contains reference to that edition, the requirement in 1.2. above, respecting the entry in item 192, will not be necessary.
- 2.6. The purpose of this 1st revision is (i) to delete the requirement for painting retainers in red, (ii) to exempt permanently affixed retainers (e.g. by welding or being an integral part of door panel) from "markings" requirements and (iii) to clarify that only in specific cases retainer drawings must be included in the design submission.

NOTE: This revision does not apply to retainers designed for retrofitting of existing elevators.



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	63/88	
DIRECTOR'S RULING	Date:	Date:
	June 3/88	

Subject: BECKETT ELEVATORS EQUIPPED WITH VV DRIVES TO BE REWIRED TO ELIMINATE POTENTIALLY UNSAFE CONDITIONS

Sent to: ALL ELEVATOR CONTRACTORS IN SCOPE A1, B1 & F1

1. INTRODUCTION

- 1.1 A contractor, maintaining Beckett elevators equipped with VV drives (controls) has noted that a failure of the contractor "H" could cause the machine brake to open without power being applied to the driving motor thus creating unsafe conditions, contrary to the requirements of clause 3.12.8 of CAN3-B44, Safety Code for Elevators.
- 1.2 The generator is fed through the main contacts of the contactor H. Contacts of an auxiliary time delayed relay "TA" signals to the directional (U or D) and main (M) contactors that the generator is running. The coils of contactor H and relay TA are connected in parallel.

It is possible that contactor H fails to pick up, thus not energizing the generator, while simultaneously relay TS picks up giving signal to contactors D, U, M for "running conditions" and allowing the brake to be opened. Since the generator and drive motor are without power, the car will drift at uncontrolled speed up or down depending on the load in the car, creating unsafe conditions, (See excerpts from Beckett schematics on page 3 of this Ruling).

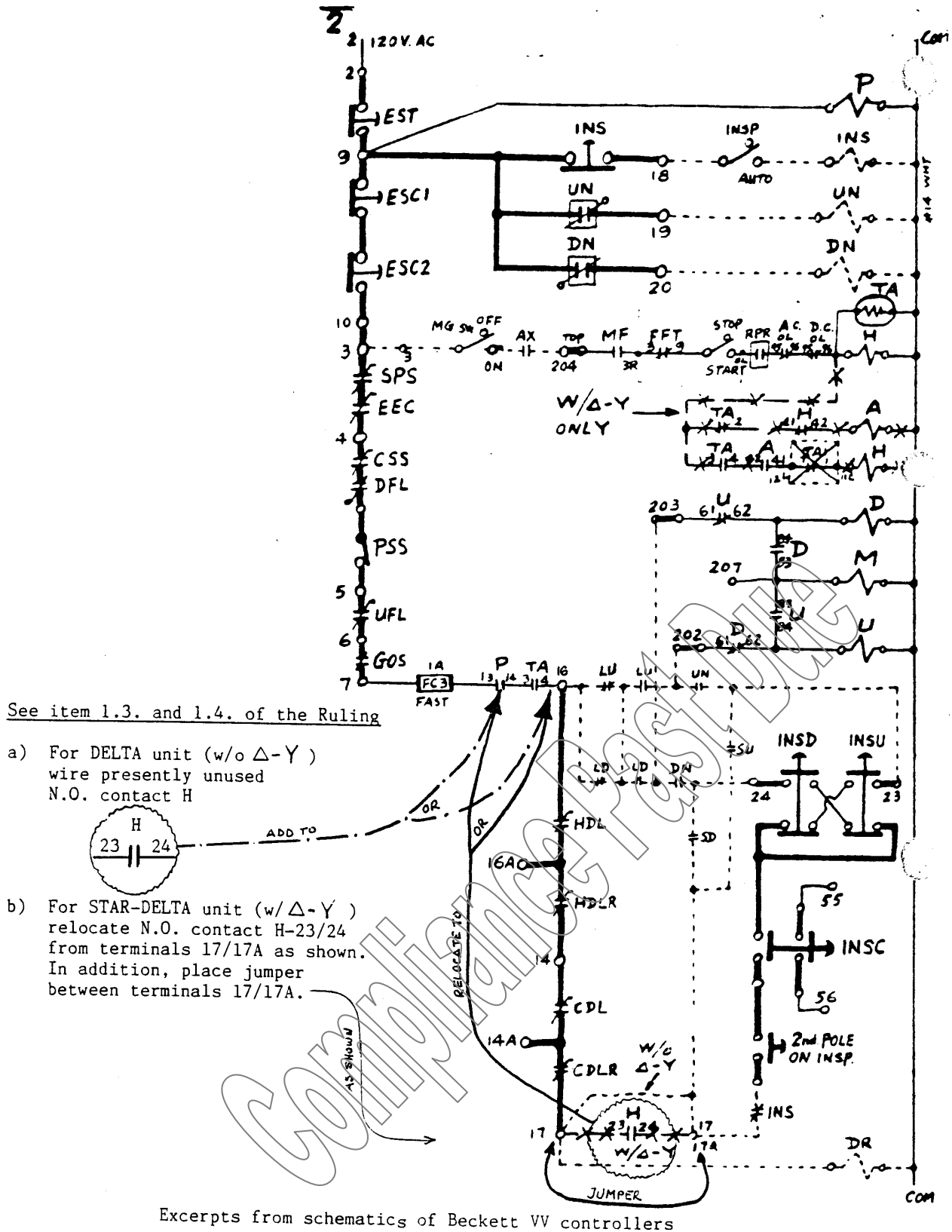
- 1.3 In order to prevent the possibility of the car having uncontrolled motion, the contractor proposed the following changes to the wiring of Beckett VV controllers (see schematics on page 2 of this Ruling).
- For units with direct DELTA start (marked w/o Δ -Y in the schematics), use the existing N.O. auxiliary contact 23/24 on contactor H, which is presently unused or install a new contact if necessary and wire it between terminals TA/4 and 16 (see also 1.4. below).
 - For units with STAR-DELTA start (marked w/ Δ -Y in the schematics) relocate the existing N.O. auxiliary contact 23/24 from terminals 17/17A to between TA/4 and terminal 16. (see also 1.4. below). Install jumper between terminals 17 and 17A.

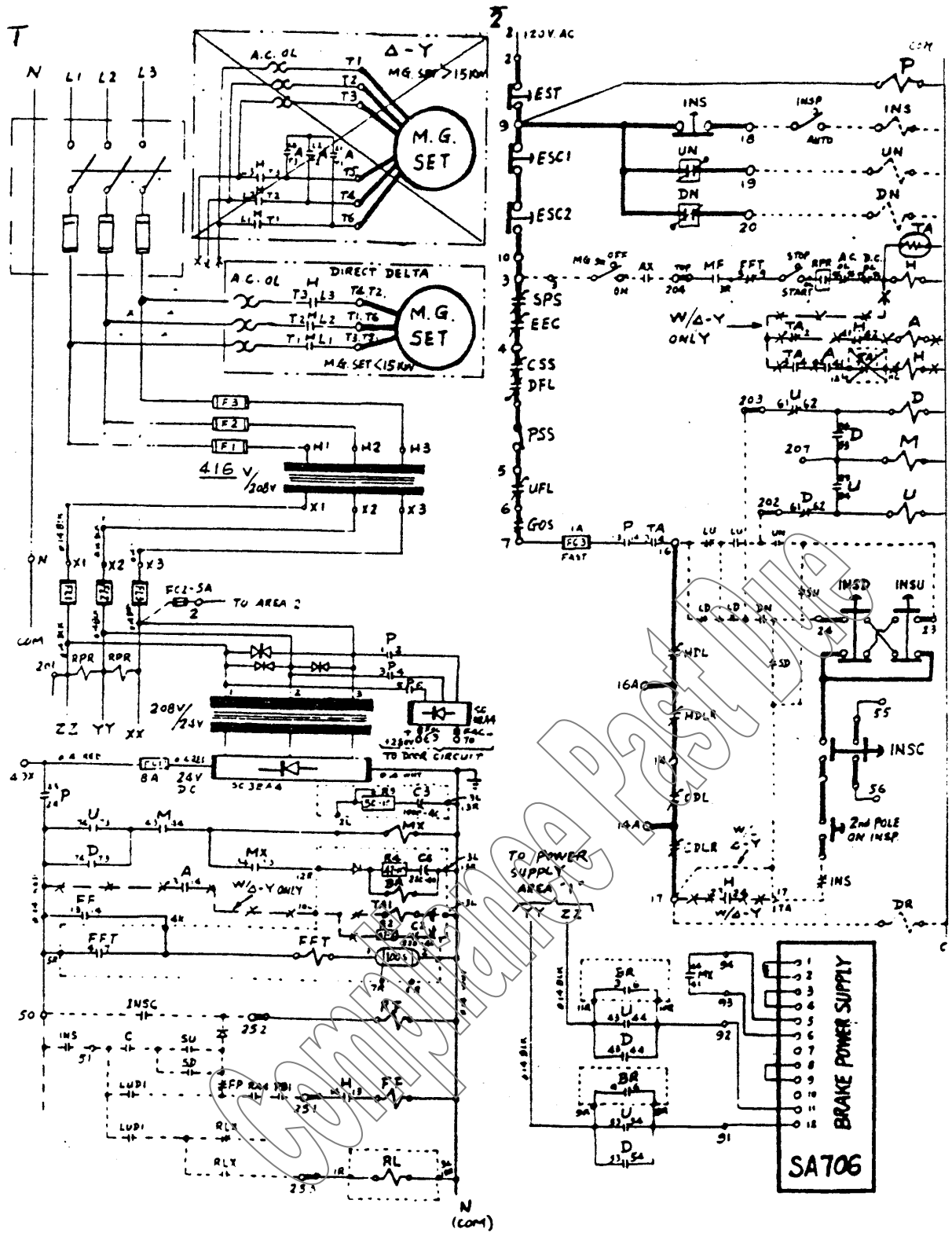
- 1.4 Beckett Elevator Ltd. agreed with the proposed changes but suggested that the H auxiliary contact 23/24 could be wired in the present location of the P (N.O.) contact 13/14, leaving this P contact obsolete.

2. ORDER TO CONTRACTORS MAINTAINING BECKETT ELEVATORS WITH VV DRIVES

- 2.1 On your next visit to subject elevators, you are required to check if the conditions described in 1.1. and 1.2. above, exist on such elevators.
- 2.2 If the possibility for unsafe operation is identified, necessary wiring changes shall be carried out immediately, following guidelines given in 1.3. or 1.4. above.
- 2.3 If, for any reason, you cannot obtain authorization for the changes from the elevator owner, you must notify this Branch immediately, in writing, indicating installation numbers of relevant elevators.

T. GORDON, P.Eng. Director







Elevating and Amusement Devices Safety Division	Ref. No.: 64/88	Rev. No.:
DIRECTOR'S RULING	Date: June 3/88	Date:

Subject: RELOCATED ELEVATING DEVICES - LICENSING PROCEDURE AND APPLICABLE STANDARDS

Sent to: ALL GENERAL CONTRACTORS IN SCOPES A & B

1. Where an elevating device is dismantled for any purpose (relocation or otherwise) the licence is automatically voided.
2. If the elevating device is to be reinstalled at the same or another location, all requirements of the Elevating Devices Act, 1980 and Regulations shall apply, including application of standards and codes adopted under the Act at the time.

T. GORDON SMITH, P.Eng., Director

CEV/NLB:cr



Elevating and Amusement Devices Safety Division	Ref. No.: 65/88	Rev. No.:
DIRECTOR'S RULING	Date: June 10/88	Date:

Subject: CHECKING OF ESCALATOR BRAKE SETTING

Sent to: ESCALATOR CONTRACTORS IN SCOPES A3 & F3 & ESCALATOR LICENSEES

The escalator accident which occurred on June 7, 1988 at the CN Tower places emphasis on routine maintenance procedures which will include a physical check of the setting of the escalator brake.

1. ORDER TO ESCALATOR LICENSEES

Licenses of escalators in the Province of Ontario shall:

- i) ensure that the contractor who maintains their escalators has, as part of their contract, a defined responsibility to maintain the setting of the brake in such a manner that when applied it will stop the escalator in accordance with the manufacturer's safety code* requirements.
- ii) require the contractor to comply with the order in Part 2 of this Ruling.

2. ORDER TO CONTRACTORS AND OWNERS/CONTRACTORS MAINTAINING ESCALATORS

- i) The setting of the main brake on every escalator shall be checked and, if necessary, adjusted to the correct* setting immediately. Verification shall be sent to the Elevating Devices Branch no later than July 1, 1988 and shall indicate:
 - (a) installation number allotted by this Ministry;
 - (b) escalator make, model and type;
 - (c) escalator brake rated load* with escalator (c1) stopped and (c2) running;
 - (d) the minimum brake torque setting (or any other method of checking brake capacity), established by the original escalator manufacturer or present maintenance contractor, as required to stop and hold the brake rated load in 'c', with the description of points where the torque is to be measured;
 - (e) actual brake torque (or other) setting measured during June 1988 in response to this Ruling;
 - (f) anticipated stopping distances (measured along the path of steps after a stop button is pressed) with (f1) no load and (f2) rated load per 'c2', and with minimum torque setting as in 'd';
 - (g) actual no load stopping distance measured during June 1988 in response to this Ruling;
 - (h) skirt switch to combplate and scheduled intervals by the current maintenance contractor.
- ii) Where the minimum brake torque setting and anticipated stopping distances, required in (d) and (f) of item(i) above, cannot be positively established, then the full load tests, witnessed by a professional engineer specializing in escalators or by an inspector, shall be carried out to establish criteria for the correct* brake setting. If the tests cannot be completed by the date indicated in (i) above, any information that is available shall be submitted by the said date including the date by which the remaining data shall be submitted, which must not be later than September 1, 1988.
- iii) Evidence of continued maintenance of brakes in safe operating conditions shall be made available to the Branch on request.

***NOTE:** Refer to CSA Standard CAN3-B44-M85, Safety Code for Elevators (as amended with Supplement No.1-1987), in particular to clauses 8.3.9.3 and 8.5.3.

T. Gordon Smith, P.Eng.



Elevating and Amusement Devices Safety Division	Ref. No.: 66/88	Rev. No.:
DIRECTOR'S RULING	Date: June 27, 1988	Date:

Subject: MAINTENANCE AND REPAIR OF ELEVATING DEVICES BY QUALIFIED MECHANICS
Sent to: CONTRACTORS IN SCOPE A & B 1, 2, 3, 4, 5, 6, 10A

Maintenance and repair of elevators, escalators, and other elevating devices must be performed in accordance with the requirements of the Ontario Regulation 229/81 (as amended by Ontario Regulation 463/86) under the Elevating Devices Act, 1980.

Section 14(1)
Of Regulation

No work shall be undertaken on an elevating device by a contractor unless it is performed by a mechanic or by a mechanic-in-training under the supervision of a mechanic.

Section 14(3)
Of Regulation

No mechanic shall be assigned or undertake work beyond the scope of his experience or training.

Section 1(1)
Of the Act

“Mechanic” means a person which has a minimum of 4 years work experience directly related to the work assigned to him, and...

You are reminded, therefore, that if personnel, other than those whose regular duties include servicing of elevating devices, are assigned to this work during the current labour dispute, they must be qualified in accordance with the Act and Regulation.

T. Gordon Smith,
P.Eng., Director



Elevating and Amusement Devices Safety Division	Ref. No.: 67/88	Rev. No.:
DIRECTOR'S RULING	Date: October 27/88	Date:

Subject: PROTECTION AGAINST UNCONTROLLED OVERSPEED OF ASCENDING CAR

Sent to: CONSTRUCTION HOIST CONTRACTORS IN SCOPE 9

1. ORDER

Every workmen's construction hoist* with counterweighted car, that is initially* inspected after May 1, 1989, must be provided with protection against uncontrolled car speed in up direction in accordance with this Ruling if any failure specified in 2.1 below could cause an uncontrolled car overspeed in up direction.
*Inspection of a newly installed construction hoist or a hoist to which a major alteration has been made.

2. ASSUMED FAILURES

When designing protective means against uncontrolled overspeed of ascending car, it shall be assumed that, where the weight of counterweight exceeds the weight of an empty car, the car may accelerate in the up direction in the case of any of the following failures:

- a) Speed control**
- b) Driving machine** components (such as shafts, gears, coupling, drive sheave, drum, pinion, traction)
- c) Driving machine brake
- d) Any other component on which the speed of the ascending car is solely dependent, except failure of suspension means (e.g. ropes - see 4.1 below)

**See definition in CSA-Z185-M87

- 2.2 Where the traction (between suspension rope and drive sheave) is continuously monitored and where the hoist is automatically removed from service when rope slippage exceeds a predetermined amount, the total failure of traction need not be considered.
- 2.3 It shall be further assumed that a failure mentioned in 2.1. may occur while the car, loaded with any load up to its balanced load, is stationary or travels at any speed in any part of the hoistway between terminal landings.

3. PROTECTION

Means provided for protection against uncontrolled car speed in the up direction shall conform to the following:

- a) It shall detect any uncontrolled movement of the car prior to or at least when the car reaches a predetermined overspeed and shall cause the car to stop prior to the time when the counterweight strikes its buffers, or at least reduce car speed to the speed for which the buffers are designed.
- b) It shall be capable of performing as required in sentence (a) without assistance from any hoist component which solely, without built in redundancy, controls the speed, or deceleration, or stops the car during normal operation.
- c) It shall not develop an average retardation of the car in excess of 32.2 ft./sec² (9.81 m/a²) during the stopping phase.

- d) It shall prevent a dangerous uncontrolled movement of the car through control of the speed of, and acting upon, one or more of the following:
 - i) car;
 - ii) counterweight;
 - iii) suspension or compensating rope system;
 - iv) drive sheave under condition mentioned in 2.2. above.
- e) When active and during stopping phase, it shall not impose stress on itself or any hoist component in excess of 30% of the ultimate strength of that component.
- f) Slow down and stopping of the car during its normal operation, when no failure referred to in 2.1. is detected, shall not be solely dependant on this means.
- g) When activated or during the stopping phase, this means or another hoist component shall cause the power supply to the driving machine to be interrupted.
- h) It shall be capable of performing at least 10 operations without any adjustments.
- i) All components that require periodic inspection and maintenance for the purpose of maintaining their operational reliability, must be readily accessible.
- j) Its performance shall be checked during the initial and periodic inspections unless its performance reliability is substantiated otherwise.
- k) It shall be provided with a marking plate indicating range of total masses for which it may be used and the speed at which it is set to operate.

4. NOTES, EXPLANATIONS AND BACKGROUND

- 4.1 Rules, contained in CSA-Z185-M87 Safety Code for Personnel Hoists, already require protection against car free fall (in the case of suspension means failure, e.g. ropes) and car overspeed in the down direction. Both protections are presently required to be in the form of "car safeties". Consequently, it is expected that the car of every hoist will be safely stopped by the "safeties" if any of the failures listed in 2.1. above occurs, but only provided that at the moment of the failure, the car load exceeds the counterweight overbalance.
- That would not be the case if a failure occurs while the car is lightly loaded. Then the car would accelerate in the up direction out of control, as was the case with the Scotia Plaza project hoist, where the car, loaded with 5 persons (through rated for 35), accelerated into the overhead after its machine gear shaft fractured.
- 4.2 The purpose of the additional protective means, required in 3 above, is to prevent occurrence of a similar accident.
- 4.3 This Ruling permits various methods of achieving the required protection, such as (a) counterweight-governor-operated safeties, or (b) brakes on suspension ropes, or (c) bi-directional car safeties, or (d) drive sheave brake (but only under conditions specified in 2.2. above), etc.
- 4.4 This Ruling further permits combination of overspeed protection in both directions by means of one device (e.g. rope brake) and a simplified car safety for free fall protection only. It also permits continued application of existing car safeties designs (for car free fall and car down overspeed) and addition of a new device for overspeed in up-direction only (e.g. counterweight safety, or rope brake etc.).
- 4.5 In any case, the design of protection means, required in this Ruling, must be approved by a professional engineer as conforming to this Ruling and presented in the design submission for each hoist which is to be initially inspected and licensed after May 1, 1989.

5. INVITATION TO SYMPOSIUM

In order to further clarify the intent of the new requirements referred to in the above order and to provide the hoist industry with an opportunity to exchange information on the equipment available or being developed for conformance with the new rules, this branch is organizing a symposium. Details are in a separate attachment to this Ruling.

Your representatives are invited to attend as well as to speak, in particular on the equipment available from or being developed by your company.

NOTICE
SYMPOSIUM

On uncontrolled car overspeed and car low speed protection on elevators and construction hoists.

1. Elevating Devices Branch, of Ontario Ministry of Consumer and Commercial Relations, is organizing this symposium in order to further clarify new safety rules introduced:
 - for elevators with E.D.B. Director's Ruling #68/88 of October 27, 1988.
 - for construction hoists - with E.D.B. Director's Ruling #67/88 of October 27, 1988.
2. Representatives from the elevator and construction hoist industry, as well as the members of the Elevating Devices Branch and CSA Elevator Safety Code Committee, are invited to speak on the following subject:
 - a) Background to the introduction of new requirements for:
 - (i) uncontrolled ascending car overspeed protection and
 - (ii) uncontrolled car low speed protection.
 - b) Intent of new rules.
 - c) Implementation agenda in Ontario.
 - d) Possible methods of meeting the new requirements; information on equipment available or in development process.

The symposium will be held on December 7, 1988 at:

CAMBRIDGE HOTEL (Ballroom - 2nd Floor)
600 Dixon Road, Toronto, Ontario (West of Hwy. 401)

8:00 a.m. - Registration and coffee
9:00 a.m. - Presentation and discussion
12:00 p.m. - Light lunch for all participants
13:00 p.m. - Presentations and discussion
17:00 p.m. - Close
17:00 p.m. - 18:00 p.m. - Cash bar available

A nominal attendance fee of \$25. per person to cover the symposium expenses, including the summary of proceedings, will be charged upon entrance payable by cheque or cash. An official receipt will be issued.

The names and affiliation of attendees, must be confirmed by November 23 in writing to this branch or by telephone to Ms. Carol Robyn(416)234-6078.

4. All registered elevator and construction hoist contractors have been invited to attend through Rulings mentioned in 1. above. Registered consultants as well as the chief elevator inspector of each province have also been notified and invited by a copy of the Rulings.
5. Most elevator manufacturers in Ontario, as well as elevator part manufacturers known to be involved in the design or production of related protective devices, have already been informed of this symposium and invited to speak on any subject mentioned in 2. above in particular or item 'd'. The invitation is repeated through the Rulings.

So far, we have received confirmation of the presentations on:

- a) "Elevator falling up" by G.W. Gibson from the U.S.A., who is the Director of Codes and Product Safety, Otis Elevator Company, and
 - b) "Rope brakes" by Mr. J.A. Nederbragt from the Netherlands, who is the designer of "emergency brake for lifts" manufactured by the West Germany company, BODE.
6. Any representative from industry and any code expert who wishes to make a presentation should submit a summary not later than November 23, 1988, in order that the agenda may be finalized.
 7. A summary of the proceedings will be sent to all registered participants in the symposium.



Elevating and Amusement Devices Safety Division	Ref. No.: 68/88	Rev. No.:
DIRECTOR'S RULING	Date: October 27/88	Date:

**Subject: IMPLEMENTATION OF NEW REQUIREMENTS FOR PROTECTION AGAINST:
- UNCONTROLLED ASCENDING CAR OVERSPEED
- UNCONTROLLED CAR LOWSPEED IN ANY DIRECTION**

Sent to: ELEVATOR CONTRACTORS IN SCOPE A & B - 1

1. INTRODUCTION

1.1 Attached is a copy of:

- Clause 3.16: Free-fall, overspeed and uncontrolled speed protection for car and counterweights - a new clause, approved by the CSA-B44 Committee, in September 1988. This would be incorporated in the next edition of the CSA-B44, Safety Code for Elevators;
- Amendments to sections 1, 2 and 3 of the CSA-B44 reflecting the new rules in clause 3.16.

1.2 With this amendment, the Safety Code for Elevators recognizes, for the first time, the risk of injury to passengers should an elevator car overspeed in the up direction or should it move away from the landing (with landing doors open) as a result of specified failures. The amendments create a new standard for protection against such risk.

1.3 Early implementation of this amendment, is vital in order to assure the safety of elevator users but it is recognized that enforcement has to be delayed in order to give the elevator industry time to develop suitable mechanisms or other means which will enable them to comply.

2. ORDER

Every newly installed traction elevator that is initially inspected after April 1, 1990, must be provided with free-fall, overspeed and uncontrolled speed protection in conformance with the requirements of clause 3.16, as attached to this Ruling (authorized by section 31(6) of the Elevating Devices Act).

3. SYMPOSIUM

In order to further clarify the intent of the new requirements referred to in the above order, and to provide the elevator industry with an opportunity to exchange information on the equipment available or being developed for conformance with the new rules, this branch is organizing a symposium. Details are on a separate attached to this Ruling.

Limited retrofit of existing elevators with a modified "up director" safety mechanism is currently under consideration. This new development affects everyone in the elevator and hoist manufacturing, installing and maintenance field and therefore attendance and participation at the symposium is encouraged.

TWO ATTACHMENTS ENCLOSED

Excerpt from revisions to CSA-B44 Elevator Safety Code
Approved by CSA-B44 Committee at its September, 1988
meeting, scheduled for print in 1989 (subject
minor/editorial changes)

This excerpt covers only the introduction of a new clause
3.16 and related revisions

3.16 Free-Fall, Overspeed and Uncontrolled Speed Protection for Cars and Counterweights

3.16.1 Car Free-Fall Protection

3.16.1.1 Where Required and Typed

Where the car is suspended by wire ropes the following protective means shall be provided to prevent free-fall of the car in the case of the total failure of car suspension:

- (a) One or more car safeties conforming to the requirements set out in Clause 3.7; or
- (b) Car free-fall safety conforming to the requirements of Clause 3.16.1.2.

3.16.1.2 Car Free-Fall Safety

A car free-fall safety shall conform to the following requirements:

- (a) Prior to the time when the car strikes its buffer, it shall stop the car, or at least reduce the speed of the car to the speed for which the car buffer is designed, assuming that free fall may start while the car, loaded with any load up to its rated load (see also Clause 3.9.8.2(1)), travels at any speed up to the speed at which descending car overspeed protection (see Clause 3.16.3) is set to operate, and while the car is located anywhere in the hoistway above the bottom terminal landing.
- (b) It shall not develop an average retardation of the car in excess of 9.8 m/s^2 (32.2 ft/s^2) during the stopping phase.
- (c) It shall be activated directly by the movement of the car or by a device directly monitoring the movement of the car.
- (d) When activated and during the stopping phase it shall not impose stress on itself or on any elevator component in excess of 50% of the ultimate strength of that component.
- (e) No component of this device shall take part in the control of speed of the elevator during its normal operation.
- (f) It shall be designed and if necessary sealed so that it cannot be rendered inoperative during elevator operation unless a monitoring component is incorporated that would stop the elevator safely, should this device become inoperative.
- (g) It shall be provided with a marking plate indicating the range of total masses (car with attachments and its load) for which it may be used, the range of speeds at which it is set to operate, and criteria such as rail lubrication requirements which are critical for performing its duty.

3.16.2 Counterweight Free-Fall Protection

Counterweight free-fall protection, where furnished (see Clause 2.10.3) shall conform to the requirements

- (a) for counterweight safety as set out in Clause 3.7.5; or
- (b) for car free-fall safety set out in Clause 3.16.1.2, as applicable to counterweights.

3.16.3 Car Overspeed Protection

3.16.3.1 Where Required

3.16.3.1.1

The following protection shall be provided against risk of injury to passengers as a result of car overspeed if the risk may be caused by any failure in

- (a) the elevator control system;
- (b) driving machine components;
- (c) driving machine brake; or
- (d) any other component on which the speed of the car is dependent, except in the case of the failure of suspension means (see 3.16.1) and the failure of overhead mounted gearless traction sheave.

It shall be assumed that any envisioned failure may occur while the car, loaded with any load up to its rated load (see also Clause 3.9.8.2(i)), is stationary with door closed or travels at any speed in any part of the hoistway between terminal landings.

3.16.3.1.2 Descending Car Overspeed Protection

A means, conforming to Clause 3.16.3.2 shall be provided on every elevator having car suspended by wire ropes, except that on elevators equipped with a car safety and a speed governor in conformance with Clause 3.7 and 3.8, no additional protection is required.

3.16.3.1.3 Ascending Car Overspeed Protection

A means, conforming to Clause 3.16.3.2, shall be provided on every counterbalanced elevator, where the counterbalance exceeds the mass of the empty car, except that on elevators equipped with a counterweight safety and a speed governor in conformance with Clause 3.7 and 3.8, no additional protection is required.

3.16.3.2 Overspeed Protective Means

Means required in Clause 3.16.3.1 shall conform to the following:

(a) It shall detect any uncontrolled movement of the car prior to or at least when the car reaches a predetermined overspeed and shall cause the car to stop prior to the time when the car or counterweight strikes its buffers, or at least reduce car speed to the speed for which the buffer is designed.

(b) It shall be capable of performing as required in (a) without assistance from any elevator component which solely, without built-in redundancy, controls the speed, or deceleration or stops the car during normal operation.

Note: A mechanical linkage to the car whether or not such linkage is used for any other purpose may be used to assist in this performance.

(c) It shall not develop an average retardation of the car in excess of 9.81 m/s^2 (32.2 ft/s^2) during the stopping phase.

(d) It shall prevent dangerous uncontrolled movement of the car through control of the speed and acting upon one or more of the following:

- (i) car;
- (ii) counterweight;
- (iii) suspension or compensating rope system;
- (iv) traction sheave.

(e) When activated and during the stopping phase it shall not impose stress on itself or any elevator component in excess of 30% of the ultimate strength of that component.

(f) Slow down and stopping of the car during its normal operation, when no failure referred to in Clause 3.16.3.1 is detected, shall not be solely dependent on this means.

(g) When activated or during the stopping phase, this means or another elevator component shall cause the power supply to the driving machine to be interrupted.

(h) All components that require periodic inspection and maintenance for the purpose of maintaining their operational reliability, must be readily accessible.

(i) Its performance shall be checked during the acceptance inspection of the elevator (see Section 9).

(j) It shall be provided with a marking plate indicating range of total masses for which it may be used and the speed at which it is set to operate.

3.16.4 Car Uncontrolled Low Speed Protection

3.16.4.1 Where Required

Protective means conforming to Clause 3.16.3.2 shall be provided against the risk of injuries to passengers, as a result of uncontrolled movement of the car within a landing zone while the landing door is unlocked, if the risk may be caused by any failure in

- (a) the elevator control system; and
- (b) the driving machine brake.

3.16.4.2 Car Uncontrolled Low Speed Protective Means

Means required in Clause 3.16.4.1 shall

- (a) detect any uncontrolled movement of the car before the car travels away from the landing more than 500 mm and shall bring the car to a full stop before it travels an additional 750 mm;
- (b) be capable of performing as required in (a) without assistance from any elevator component which solely, without built in redundancy, controls the car speed, decelerates or stops the car during normal operation within the levelling zone; and
- (c) meet requirements in (c), (e), (f), (g), (h), and (i) of Clause 3.16.3.2, except that requirement in (f) shall refer to Clause 3.16.4.1.

B44-M - September 1988

Amendments to sections 1, 2 and 3 made in conjunction with introduction of new rules 3.16

Clause 1.4 Definitions

Delete present definition "Safety-car or counterweight safety" and add the following definitions:

Safety-a device or system of devices designed to stop and hold the car or counterweight in the case of a car or counterweight free-fall or overspeed or uncontrolled speed or combination thereof.

Free-fall safety-a safety designed to stop and hold the car or counterweight in the case of the free-fall of the car or counterweight.

Clauses 2.10.2 and 2.10.3 revised as follows:

2.10.2

Where the space referred to in Clause 2.10.1 falls underneath the car and/or its guides, and notwithstanding Clause 3.3.4.2, if spring buffers are used, they shall be so designed and installed that they will not be fully compressed when struck by the car with its rated load at the speed at which the overspeed protective means is set to operate (see Clause 3.16.3), or at 125% of rated speed where no overspeed protective means are provided.

2.10.3

Where the space referred to in Clause 2.10.1 falls underneath the counterweight and/or its guides

- (a) the counterweight shall be provided with counterweight free-fall protection conforming to the requirements of Clause 3.16.2; and
- (b) the spring buffers, if used, shall conform to Clause 2.10.2 except that they shall not be fully compressed when struck by the counterweight.

Note: For impact formula see Clause G7.

Clause 3.1 scope, added the following "Note":

3.1 Scope

This Section applies to electric elevators. It applies to other types of elevators only as referenced in the applicable Sections.

Note: This section, and in particular Clause 3.2, has been written with the assumption that the free-fall and overspeed protection of the car and counterweight (see Clause 3.16) will be by means of car and counterweight safeties (see Clause 3.7) acting upon guide rails. Where the free-fall and/or overspeed protection of car or counterweight is achieved otherwise, as permitted in Clause 3.16.1, the strength of guide rails, their supports and fastening may be changed accordingly (also see Clause 3.16.1.2(e) and 3.16.3.2(e)).

Clause 3.2.3, 3.2.4.1, 3.2.9.1a and 3.2.11(b) amended as follows:

3.2.3 Rail Section

Guide rails shall be

- (a) T-section conforming to the nominal weights and dimensions shown in Figure 1 and Table 1; or
- (b) other shapes that have a section modulus equal to or greater than that of the section shown in Figure 1 for a given loading condition, and that withstand the compressive forces resulting from the application of the car or counterweight safety if used (also see the Note following Clause 3.1).

3.2.4.1 With Single Car or Counterweight Safety

Where a single car or counterweight safety is used, the maximum suspended weight of the car and its rated load or the maximum suspended weight of the counterweight including the weight of any compensating ropes or chains, and of any travelling cables suspended therefrom per pair of guide rails, shall not exceed the maximum specified in Figure 2 for the size of rail and the bracket spacing used, except that the bracket spacing may exceed the value specified in Figure 2 provided that

- (a) the guide rail is reinforced; or
- (b) a rail of the required larger size is used; and
- (c) the moment of inertia of a single reinforced rail or of a single larger rail section used about an axis 1-1 parallel to the base of the rail shall be not less than that required by Figure 3 for the given weight of car, plus rated load, or of the counterweight with a safety at the bracket spacing used (see also the Note following Clause 3.1).

3.2.9.1 Design and Strength of Brackets, Supports, and Fastenings

The guide-rail brackets and the building construction forming the supports for the guide rails shall be of such design as to

- (a) withstand safely the application of the car or counterweight safety, if used, when stopping the car and its rated load or the counterweight; and

3.2.11 Information on Elevator Layouts

Elevator layout drawings shall, in addition to other data, indicate the following:

- (a) the bracket spacing;
- (b) the estimated maximum vertical forces on the guide rails exerted by free-fall or overspeed protective means (see Clause 3.16) on guide rails or any other elevator components on their application.

Clause 3.7.1, 3.7.5, 3.7.7 and 3.7.8.1 revised as follows:

3.7 Car and Counterweight Safeties**3.7.1 Type Required**

Where car safety is furnished to conform with rules in Clause 3.16.1.1(a) or 3.16.3.1(a) or both, the safeties shall be of the type identified in Clause 3.7.6, except that Type D safeties shall not be used in cars which are suspended by wire and rope.

3.7.5 Counterweight Safeties

Counterweight safeties, where furnished to conform with Clause 3.16.2, shall conform to the requirements for car safeties except

- (a) where otherwise specified in Clause 3.7;
- (b) for rated speeds of not over 0.75 m/s, counterweight safeties may be operated as a result of the breaking or slackening of the hoisting ropes, and may be of the inertia or other approved type without governors (also see Clause 3.7.7.1).

CAN3-844-M85
November, 1985

3.7.7 Safeties to Stop Ascending Cars or Counterweights Prohibited

Safeties shall not stop an ascending car or counterweight.

Existing clause 3.7.7
DELETED!

Following clauses 3.7.8.....
renumbered

3.7.7.1

Car safeties and counterweight safeties, where furnished, shall be actuated by separate speed governors except that speed governors are not required for counterweights of elevators having a rated speed of not more than 0.75 m/s.

If the counterweight safety is provided for the ascending car overspeed protection in accordance with Clause 3.16.3.1(b) a speed governor shall be provided.

Clause 3.8.1.1 revised as follows:

3.8.1 Speed Governors Required and Locations**3.8.1.1**

Car safeties and counterweight safeties, where furnished, shall be actuated by separate speed governors except that speed governors are not required for counterweights of elevators having a rated speed of not more than 0.75 m/s.

If the counterweight safety is provided for the ascending car overspeed protection in accordance with Clause 3.16.3.1(b) a speed governor shall be provided.

Clauses 3.9.7 and 3.9.8.2

- Existing sentence 3.9.7(g) replace with following:

3.9.7 Carrying of One-Piece Loads Exceeding the Rated Load
Passenger and freight elevators may be used, where necessary, to carry one-piece loads greater than their rated load provided they are designed, installed, and operated to conform to the following:

(h) where there is an occupied space, or an unoccupied space not secured against unauthorized access (see Clause 2.10) under the hoistway

- (i) the machine shall be designed to operate with the "Capacity Lifting One-Piece Loads" at slow speed;
- (ii) the car free-fall protective means (see Clause 3.16.1) shall be designed to stop and hold the car with this load independently of the hoisting ropes; and
- (iii) the counterweight free-fall protective means (see Clause 3.16.3), where required by Clause 2.10, shall be designed to stop and hold the entire weight of the counterweight independently of the ropes;

~~3.9.8.1~~

- Add new subparagraph (i) to read:

3.9.8.2

The elevator is not required to attain rated load performance under the passenger overload conditions specified, but shall conform to the following:

- (i) Clause 3.16.1.2(a) and 3.16.3.1 except that 125% of rated load shall be used in place of rated load.

N O T I C E

SYMPOSIUM

on uncontrolled car overspeed and car low speed protection on elevators and construction hoists.

1. Elevating Devices Branch, of Ontario Ministry of Consumer and Commercial Relations, is organizing this symposium in order to further clarify new safety rules introduced:
 - for elevators with E.D.B. Director's Ruling #68/88 of October 27, 1988
 - for construction hoists - with E.D.B. Director's Ruling #67/88 of October 27, 1988
2. Representatives from the elevator and construction hoist industry, as well as the members of the Elevating Devices Branch and CSA Elevator Safety Code Committee, are invited to speak on the following subject:
 - a) Background to the introduction of new requirements for (i) uncontrolled ascending car overspeed protection and (ii) uncontrolled car low speed protection.
 - b) Intent of new rules.
 - c) Implementation agenda in Ontario
 - d) Possible methods of meeting the new requirements; information on equipment available or in development process.
3. The symposium will be held on December 7, 1988 at:

CAMBRIDGE HOTEL
(Ballroom - 2nd Floor)
600 Dixon Road, Toronto, Ontario
(West of Hwy. 401)

- 8:00 a.m. - Registration and coffee
- 9:00 a.m. - Presentations and discussion
- 12:00 p.m. - Light lunch for all participants
- 13:00 p.m. - Presentations and discussion
- 17:00 p.m. - Close
- 17:00 - 18:00 p.m. - Cash bar available

A nominal attendance fee of \$25. per person to cover the symposium expenses, including the summary of proceedings, will be charged upon entrance payable by cheque or cash. An official receipt will be issued.

The names and affiliation of attendees, must be confirmed by November 23 in writing to this branch or by telephone to Ms. Carol Robyn (416) 234-6078.

4. All registered elevator and construction hoist contractors have been invited to attend through Rulings mentioned in 1. above. Registered consultants as well as the chief elevator inspector of each province have also been notified and invited by a copy of the Rulings.
5. Most elevator manufacturers in Ontario, as well as elevator part manufacturers known to be involved in the design or production of related protective devices, have already been informed of this symposium and invited to speak on any subject mentioned in 2. above in particular on item 'd'. The invitation is repeated through the Rulings.

So far, we have received confirmation of the presentations on:

- a) "Elevator falling up" by G.W. Gibson from the U.S.A., who is the Director of Codes and Product Safety, Otis Elevator Company, and
 - b) "Rope brakes" by Mr. J.A. Nederbragt from the Netherlands, who is the designer of "emergency brake for lifts" manufactured by the West Germany company, BODE.
6. Any representative from industry and any code expert who wishes to make a presentation should submit a summary not later than November 23, 1988, in order that the agenda may be finalized.
 7. A summary of the proceedings will be sent to all registered participants in the symposium.



Elevating and Amusement Devices Safety Division	Ref. No.: 68/88	Rev. No.: 1
DIRECTOR'S RULING	Date: October 27/88	Date: December 19/88

Subject: IMPLEMENTATION OF NEW REQUIREMENTS FOR PROTECTION AGAINST:
- **UNCONTROLLED ASCENDING CAR OVERSPEED**
- **UNCONTROLLED CAR LOWSPEED IN ANY DIRECTION**

Sent to: ELEVATOR CONTRACTORS IN SCOPE A & B - 1

1. INTRODUCTION

1.1 Attached is a copy* of:

- Clause 3.16: Free-fall, overspeed and uncontrolled speed protection for car and counterweights - a new clause, approved by the CSA-B44 Committee, in September 1988. This would be incorporated in the next edition of the CSA-B44, Safety Code for Elevators;
- Amendments to sections 1, 2 and 3 of the CSA-B44 reflecting the new rules in clause 3.16.

*Editorially revised.

1.2 With this amendment, the Safety Code for Elevators recognizes, for the first time, the risk of injury to passengers should an elevator car overspeed in the up direction or should it move away from the landing (with landing doors open) as a result of specified failures. The amendments create a new standard for protection against such risk.

1.3 Early implementation of this amendment, is vital in order to assure the safety of elevator users but it is recognized that enforcement has to be delayed in order to give the elevator industry time to develop suitable mechanisms or other means which will enable them to comply.

2. ORDER

Every newly installed traction elevator* which is initially inspected after April 1, 1990, must be provided with free-fall, overspeed and uncontrolled speed protection in conformance with the requirements of clause 3.16, as attached to this Ruling (authorized by section 31(6) of the Elevating Devices Act).

*EXCEPTION: Elevators, for which a firm sales contract is signed before April 1, 1989, need not comply with this order provided that a list of all elevators for which the exception is requested is faxed or delivered by other recorded means to this branch on or before April 7th, 1989. the list must contain contract date, approximate installation date, number of elevators in each contract, capacity and speed, location of elevators, names of the project and the buyer.

3. SYMPOSIUM

Each attendee at the December 7th, 1988 symposium on "Upward Safety" received a copy of the proceedings and background material. A supplement is in the course of preparation. This will contain the text of J. Nederbragt's presentation on rope brakes and revision of C.E. Vlahovic's presentation as well as a digest of questions and answers. See separate notice for information on ordering.

4. RETROFIT

Before a decision on mandatory retrofit can be made, many factors must be considered. These include industry labour force capability, available technology and hardware, scope, priorities, and economic impact. On resolution, if there is a go-ahead, a separate ruling will be issued.

TWO ATTACHMENTS ENCLOSED

Excerpt from revisions to CSA-B44 Elevator Safety Code
Approved by CSA-B44 Committee at its September, 1988
meeting, scheduled for print in 1989 (subject
minor/editorial changes)

This excerpt covers only the introduction of a new clause
3.16 and related revisions

3.16 Free-Fall, Overspeed and Uncontrolled Speed Protection for Cars and Counterweights

3.16.1 Car Free-Fall Protection

3.16.1.1 Where Required and Typed

Where the car is suspended by wire ropes the following protective
means shall be provided to prevent free-fall of the car in the
case of the total failure of car suspension:

- (a) One or more car safeties conforming to the requirements set
out in Clause 3.7; or
- (b) Car free-fall safety conforming to the requirements of
Clause 3.16.1.2.

3.16.1.2 Car Free-Fall Safety

A car free-fall safety shall conform to the following
requirements:

- (a) Prior to the time when the car strikes its buffer, it shall
stop the car, or at least reduce the speed of the car to the speed
for which the car buffer is designed, assuming that free fall may
start while the car, loaded with any load up to its rated load
(see also Clause 3.9.8.2(i)), travels at any speed up to the speed
at which descending car overspeed protection (see Clause 3.16.3)
is set to operate, and while the car is located anywhere in the
hoistway above the bottom terminal landing.
- (b) It shall not develop an average retardation of the car in
excess of 9.8 m/s^2 (32.2 ft/s^2) during the stopping phase.
- (c) It shall be activated directly by the movement of the car or
by a device directly monitoring the movement of the car.

(*) (e) No component of this device shall BE DEPENDANT ON the control of
speed of the elevator during its normal operation.

(f) It shall be designed and if necessary sealed so that it
cannot be rendered inoperative during elevator operation unless a
monitoring component is incorporated that would stop the elevator
safely, should this device become inoperative.

(g) It shall be provided with a marking plate indicating the
range of total masses (car with attachments and its load) for
which it may be used, the range of speeds at which it is set to
operate, and criteria such as rail lubrication requirements which
are critical for performing its duty.

3.16.2 Counterweight Free-Fall Protection

Counterweight free-fall protection, where furnished (see
Clause 2.10.3) shall conform to the requirements

- (a) for counterweight safety as set out in Clause 3.7.5; or
- (b) for car free-fall safety set out in Clause 3.16.1.2, as
applicable to counterweights.

(*) ERRATA IDENTIFIED BY B44 EXECUTIVE COMMITTEE, OCTOBER, 1988

3.16.3 Car Overspeed Protection

3.16.3.1 Where Required

3.16.3.1.1

The following protection shall be provided against risk of injury to passengers as a result of car overspeed if the risk may be caused by any failure in

- (a) the elevator control system;
- (b) driving machine components;
- (c) driving machine brake; or
- (d) any other component on which the speed of the car is dependent, except in the case of the failure of suspension means (see 3.16.1) and the failure of overhead mounted gearless traction sheave.

It shall be assumed that any envisioned failure may occur while the car, loaded with any load up to its rated load (see also Clause 3.9.8.2(i)), is stationary with door closed or travels at any speed in any part of the hoistway between terminal landings.

3.16.3.1.2 Descending Car Overspeed Protection

A means, conforming to Clause 3.16.3.2 shall be provided on every elevator having car suspended by wire ropes, except that on elevators equipped with a car safety and a speed governor in conformance with Clause 3.7 and 3.8, no additional protection is required.

3.16.3.1.3 Ascending Car Overspeed Protection

A means, conforming to Clause 3.16.3.2, shall be provided on every counterbalanced elevator, where the counterbalance exceeds the mass of the empty car, except that on elevators equipped with a counterweight safety and a speed governor in conformance with Clause 3.7 and 3.8, no additional protection is required.

3.16.3.2 Overspeed Protective Means

Means required in Clause 3.16.3.1 shall conform to the following:

(a) It shall detect any uncontrolled movement of the car prior to or at least when the car reaches a predetermined overspeed and shall cause the car to stop prior to the time when the car or counterweight strikes its buffers, or at least reduce car speed to the speed for which the buffer is designed.

(b) It shall be capable of performing as required in (a) without assistance from any elevator component which solely, without built-in redundancy, controls the speed, or deceleration or stops the car during normal operation.

Note: A mechanical linkage to the car whether or not such linkage is used for any other purpose may be used to assist in this performance.

(c) It shall not develop an average retardation of the car in excess of 9.81 m/s^2 (32.2 ft/s^2) during the stopping phase.

(d) It shall prevent dangerous uncontrolled movement of the car through control of the speed and acting upon one or more of the following:

- (i) car;
- (ii) counterweight;
- (iii) suspension or compensating rope system;
- (iv) traction sheave of a gearless machine *

(e) When activated and during the stopping phase it shall not impose stress on itself or any elevator component in excess of 30% * of the ultimate strength of that component.

(f) Slow down and stopping of the car during its normal operation, when no failure referred to in Clause 3.16.3.1 is detected, shall not be solely dependent on this means.

(g) When activated or during the stopping phase, this means or another elevator component shall cause the power supply to the driving machine to be interrupted.

- (h) All components that require periodic inspection and maintenance for the purpose of maintaining their operational reliability, must be readily accessible.
- (i) Its performance shall be checked during the acceptance inspection of the elevator (see Section 9).
- (j) It shall be provided with a marking plate indicating range of total masses for which it may be used and the speed at which it is set to operate.

3.16.4 Car Uncontrolled Low Speed Protection

3.16.4.1 Where Required

Protective means conforming to Clause 3.16.3.2 shall be provided against the risk of injuries to passengers, as a result of uncontrolled movement of the car within a landing zone while the landing door is unlocked, if the risk may be caused by any failure in

- (a) the elevator control system; and OR
- (b) the driving machine brake.

3.16.4.2 Car Uncontrolled Low Speed Protective Means

Means required in Clause 3.16.4.1 shall

- (a) detect any uncontrolled movement of the car before the car travels away from the landing more than 500 mm and shall bring the car to a full stop before it travels an additional 750 mm;
- (b) be capable of performing as required in (a) without assistance from any elevator component which solely, without built in redundancy, controls the car speed, decelerates or stops the car during normal operation within the levelling zone; and
- (c) meet requirements in (c), (e), (f), (g), (h), and (i) of Clause 3.16.3.2, except that requirement in (f) shall refer to Clause 3.16.4.1.

B44-M - September 1988

Amendments to sections 1, 2 and 3 made in conjunction with introduction of new rules 3.16

Clause 1.4 Definitions

Delete present definition "Safety-car or counterweight safety" and add the following definitions:

Safety-a device or system of devices designed to stop and hold the car or counterweight in the case of a car or counterweight free-fall or overspeed or uncontrolled speed or combination thereof.

Free-fall safety-a safety designed to stop and hold the car or counterweight in the case of the free-fall of the car or counterweight.

Clauses 2.10.2 and 2.10.3 revised as follows:

2.10.2

Where the space referred to in Clause 2.10.1 falls underneath the car and/or its guides, and notwithstanding Clause 3.3.4.2, if spring buffers are used, they shall be so designed and installed that they will not be fully compressed when struck by the car with its rated load at the speed at which the overspeed protective means is set to operate (see Clause 3.16.3), or at 125% of rated speed where no overspeed protective means are provided.

2.10.3

Where the space referred to in Clause 2.10.1 falls underneath the counterweight and/or its guides

(a) the counterweight shall be provided with counterweight free-fall protection conforming to the requirements of Clause 3.16.2; and

(b) the spring buffers, if used, shall conform to Clause 2.10.2 except that they shall not be fully compressed when struck by the counterweight.

Note: For impact formula see Clause G7.

Clause 3.1 scope, added the following "Note":

3.1 Scope

This Section applies to electric elevators. It applies to other types of elevators only as referenced in the applicable Sections.

Note: This section, and in particular Clause 3.2, has been written with the assumption that the free-fall and overspeed protection of the car and counterweight (see Clause 3.16) will be by means of car and counterweight safeties (see Clause 3.7) acting upon guide rails. Where the free-fall and/or overspeed protection of car or counterweight is achieved otherwise, as permitted in Clause 3.16.1, the strength of guide rails, their supports and fastening may be changed accordingly (also see Clause 3.16.1.2(e) and 3.16.3.2(e)).

Clause 3.2.3, 3.2.4.1, 3.2.9.1a and 3.2.11(b) amended as follows:

3.2.3 Rail Section

Guide rails shall be

- (a) T-section conforming to the nominal weights and dimensions shown in Figure 1 and Table 1; or
- (b) other shapes that have a section modulus equal to or greater than that of the section shown in Figure 1 for a given loading condition, and that withstand the compressive forces resulting from the application of the car or counterweight safety if used (also see the Note following Clause 3.1).

3.2.4.1 With Single Car or Counterweight Safety

Where a single car or counterweight safety is used, the maximum suspended weight of the car and its rated load or the maximum suspended weight of the counterweight including the weight of any compensating ropes or chains, and of any travelling cables suspended therefrom per pair of guide rails, shall not exceed the maximum specified in Figure 2 for the size of rail and the bracket spacing used, except that the bracket spacing may exceed the value specified in Figure 2 provided that

- (a) the guide rail is reinforced; or
- (b) a rail of the required larger size is used; and
- (c) the moment of inertia of a single reinforced rail or of a single larger rail section used about an axis 1-1 parallel to the base of the rail shall be not less than that required by Figure 3 for the given weight of car, plus rated load, or of the counterweight with a safety at the bracket spacing used (see also the Note following Clause 3.1).

3.2.9.1 Design and Strength of Brackets, Supports, and Fastenings

The guide-rail brackets and the building construction forming the supports for the guide rails shall be of such design as to

- (a) withstand safely the application of the car or counterweight safety, if used, when stopping the car and its rated load or the counterweight; and

3.2.11 Information on Elevator Layouts
Elevator layout drawings shall, in addition to other data, indicate the following:
(a) the bracket spacing;
(b) the estimated maximum vertical forces on the guide rails exerted by free-fall or overspeed protective means (see Clause 3.16) on guide rails or any other elevator components on their application.

Clause 3.7.1, 3.7.5, 3.7.7 and 3.7.8.1 revised as follows:

3.7 Car and Counterweight Safeties

3.7.1 Type Required

Where car safety is furnished to conform with rules in Clause 3.16.1.1(a) or 3.16.3.1(a) or both, the safeties shall be of the type identified in Clause 3.7.6, except that Type D safeties shall not be used in cars which are suspended by wire and rope.

3.7.5 Counterweight Safeties

Counterweight safeties, where furnished to conform with Clause 3.16.2, shall conform to the requirements for car safeties except

- (a) where otherwise specified in Clause 3.7;
- (b) for rated speeds of not over 0.75 m/s, counterweight safeties may be operated as a result of the breaking or slackening of the hoisting ropes, and may be of the inertia or other approved type without governors (also see Clause 3.7.7.1).

CAN3-844-M85
November, 1985

3.7.7 Safeties to Stop Ascending Cars or Counterweights Prohibited

Safeties shall not stop an ascending car or counterweight.

Existing clause 3.7.7 ...
DELETED!
Following clauses 3.7.8.....
renumbered

3.7.7.1

Car safeties and counterweight safeties, where furnished, shall be actuated by separate speed governors except that speed governors are not required for counterweights of elevators having a rated speed of not more than 0.75 m/s.

If the counterweight safety is provided for the ascending car overspeed protection in accordance with Clause 3.16.3.1(b) a speed governor shall be provided.

Clause 3.8.1.1 revised as follows:

3.8.1 Speed Governors Required and Locations

3.8.1.1

Car safeties and counterweight safeties, where furnished, shall be actuated by separate speed governors except that speed governors are not required for counterweights of elevators having a rated speed of not more than 0.75 m/s.

If the counterweight safety is provided for the ascending car overspeed protection in accordance with Clause 3.16.3.1(b) a speed governor shall be provided.

Clauses 3.9.7 and 3.9.8.2

- Existing sentence 3.9.7(g) replace with following:

3.9.7 Carrying of One-Piece Loads Exceeding the Rated Load
Passenger and freight elevators may be used, where necessary, to carry one-piece loads greater than their rated load provided they are designed, installed, and operated to conform to the following:

(h) where there is an occupied space, or an unoccupied space not secured against unauthorized access (see Clause 2.10) under the hoistway

(i) the machine shall be designed to operate with the "Capacity Lifting One-Piece Loads" at slow speed;

(ii) the car free-fall protective means (see Clause 3.16.1) shall be designed to stop and hold the car with this load independently of the hoisting ropes; and

(iii) the counterweight free-fall protective means (see Clause 3.16.3), where required by Clause 2.10, shall be designed to stop and hold the entire weight of the counterweight independently of the ropes;

3.9.8.2

- Add new subparagraph (i) to read:

3.9.8.2

The elevator is not required to attain rated load performance under the passenger overload conditions specified, but shall conform to the following:

(i) Clause 3.16.1.2(a) and 3.16.3.1 except that 125% of rated load shall be used in place of rated load.

Attachment to E.D.B. Director's Ruling/Information #68/88 (1st REV.) of December 19, 1988

Re: Item 3 - Symposium

ORDERING OF PROCEEDINGS AND/OR SUPPLEMENT

If you wish to receive copies of either the supplement to the proceedings or both the supplement and proceedings, please mail an order and cheque (payable to "Elevating Devices Branch in Trust") to Ms. Carol Robyn at the Elevating Devices Branch address.

COST

- Supplement.....\$20. per copy
- Amalgamated original proceedings and background documents with the supplement.....\$40. per copy

Orders must be received by JANUARY 31, 1989.



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	68/88	2
DIRECTOR'S RULING	Date:	Date:
	October 27, 1988	June 9, 1989

Subject: IMPLEMENTATION OF NEW REQUIREMENTS FOR PROTECTION AGAINST:
- **UNCONTROLLED ASCENDING CAR OVERSPEED**
- **UNCONTROLLED CAR LOWSPEED IN ANY DIRECTION**

Sent to: ELEVATOR CONTRACTORS IN SCOPE A & B - 1

1. INTRODUCTION

1.1 Attached is a copy (See Note 1) of:

- Clause 3.16: Free-fall, overspeed and uncontrolled speed protection for car and counterweights - a new clause, approved by the CSA-B44 Committee, in September 1988. This would be incorporated in the next edition of the CSA-B44, Safety Code for Elevators;
- Amendments to sections 1, 2 and 3 of the CSA-B44 reflecting the new rules in clause 3.16.

Note 1: The attachment contains one revision marked 'R2' in clause 3.16.3.2(d)(iv), as the result of deliberations by the CSA-B44 Executive Committee on May 4, 1989.

1.2 With this amendment, the Safety Code for Elevators recognizes, for the first time, the risk of injury to passengers should an elevator car overspeed in the up direction or should it move away from the landing (with landing doors open) as a result of specified failures. The amendments create a new standard for protection against such risk. The amendments also permit use of new designs for protective means against the risk of the car-free-fall and descending car overspeed, in the place of present designs of car safeties and overspeed governors.

Early implementation of this amendment is vital in order to assure the safety of elevator users. However, it is recognized that enforcement has to be delayed in order to give the elevator industry time to develop suitable mechanism or other means which will enable them to comply, and for that reason the exceptions to the following order has been added on the request from the National Elevator and Escalator Association.

2. ORDER

Every newly installed traction elevator* which is initially inspected after April 1, 1990, must be provided with free-fall, overspeed and uncontrolled speed protection in conformance with the requirements of clause 3.16, as attached to this Ruling (authorized by section 31(6) of the Elevating Devices Act).

***EXCEPTIONS TO THE ORDER**

A. The following elevators need not comply with ANY PART OF THIS ORDER: The elevator for which a firm sales contract was signed before April 1, 1989, provided that a request for the exception was delivered to the branch not later than April 7th, 1989.

- B. The following elevators need not comply with rule 3.16.4, UNCONTROLLED LOW SPEED PROTECTION - The elevators for which a firm sales contract is signed before April 1, 1990, provided that a list of all elevators for which the exception is requested, faxed or delivered by other recorded means to this branch on or before April 7th, 1990. The list must contain contract date, unique reference number (e.g. contract number) approximate installation date, number of elevators in each contract, capacity and speed, location of elevators, name of the project and the buyer.

3. IMPLEMENTATION PROCEDURE

Design submissions for new traction elevators received two weeks after the date of this Ruling, shall contain in item 189 of Spec Sheet or in a separate document, the information on the method of conformance with the above ORDER using the following guidelines:

- 3.1 Where exception 'A' is applicable the submitter should indicate in the 'application' page of the design submission, in box 29, the following remarks: "This installation is under the exception Park 'A' of the order by Director's Ruling #68/88, Rev. 2".
- 3.2 Where exception 'B' is applicable, the request for the exception from the rule in clause 3.16.4 should be made in the submission, if submitted before April 7th, 1990.
- 3.3 In any other case the design submission must be accompanied by drawings and technical details describing method of conformance with clause 3.16.3.1.3, Ascending car overspeed protection, and clause 3.16.4, Car uncontrolled lowspeed protection, including the procedure for field testing and maintenance of the devices provided. Alternatively, it may be indicated that all details will be submitted later, through a "design revision", at least 2 weeks before the initial inspection is arranged.

Where the "car-free-fall protection" (see clause 3.16.1.1.a) and the "descending car overspeed protection" (see clause 3.16.3.1.2) is provided by means of "car safety and overspeed governor" (see clause 3.7 and 3.8 in B44), the related design details normally given in the psec sheet are sufficient. If, however, the design proposes a different protective means, all design details must be included in the design submission.

4. RETROFIT

Before a decision on mandatory retrofit can be made, many factors must be considered. These include industry labour force capability, available technology and hardware, scope, priorities, and economic impact. On resolution, if there is a decision to apply clause 3.16 retroactively to existing installations, a separate ruling will be issued.

6 PAGES ATTACHMENT ENCLOSED*

Excerpt from revisions to CSA-B44 Elevator Safety Code
Approved by CSA-B44 Committee at its September, 1988
meeting, scheduled for print in 1989 (subject
minor/editorial changes)

This excerpt covers only the introduction of a new clause
3.16 and related revisions

**3.16 Free-Fall, Overspeed and Uncontrolled Speed Protection for
Cars and Counterweights**

3.16.1 Car Free-Fall Protection

3.16.1.1 Where Required and Typed

Where the car is suspended by wire ropes the following protective
means shall be provided to prevent free-fall of the car in the
case of the total failure of car suspension:

- (a) One or more car safeties conforming to the requirements set
out in Clause 3.7; or
- (b) Car free-fall safety conforming to the requirements of
Clause 3.16.1.2.

3.16.1.2 Car Free-Fall Safety

A car free-fall safety shall conform to the following
requirements:

- (a) Prior to the time when the car strikes its buffer, it shall
stop the car, or at least reduce the speed of the car to the speed
for which the car buffer is designed, assuming that free fall may
start while the car, loaded with any load up to its rated load
(see also Clause 3.9.8.2(i)), travels at any speed up to the speed
at which descending car overspeed protection (see Clause 3.16.3)
is set to operate, and while the car is located anywhere in the
hoistway above the bottom terminal landing.
- (b) It shall not develop an average retardation of the car in
excess of 9.8 m/s^2 (32.2 ft/s^2) during the stopping phase.
- (c) It shall be activated directly by the movement of the car or
by a device directly monitoring the movement of the car.

(*)

(e) No component of this device shall BE DEPENDANT ON the control of
speed of the elevator during its normal operation.

(f) It shall be designed and if necessary sealed so that it
cannot be rendered inoperative during elevator operation unless a
monitoring component is incorporated that would stop the elevator
safely, should this device become inoperative.

(g) It shall be provided with a marking plate indicating the
range of total masses (car with attachments and its load) for
which it may be used, the range of speeds at which it is set to
operate, and criteria such as rail lubrication requirements which
are critical for performing its duty.

3.16.2 Counterweight Free-Fall Protection

Counterweight free-fall protection, where furnished (see
Clause 2.10.3) shall conform to the requirements

- (a) for counterweight safety as set out in Clause 3.7.5; or
- (b) for car free-fall safety set out in Clause 3.16.1.2, as
applicable to counterweights.

(*) ERRATA IDENTIFIED BY B44 EXECUTIVE COMMITTEE, OCTOBER, 1988

3.16.3 Car Overspeed Protection**3.16.3.1 Where Required****3.16.3.1.1**

The following protection shall be provided against risk of injury to passengers as a result of car overspeed if the risk may be caused by any failure in

- (a) the elevator control system;
- (b) driving machine components;
- (c) driving machine brake; or
- (d) any other component on which the speed of the car is dependent, except in the case of the failure of suspension means (see 3.16.1) and the failure of overhead mounted gearless traction sheave.

It shall be assumed that any envisioned failure may occur while the car, loaded with any load up to its rated load (see also Clause 3.9.8.2(i)), is stationary with door closed or travels at any speed in any part of the hoistway between terminal landings.

3.16.3.1.2 Descending Car Overspeed Protection

A means, conforming to Clause 3.16.3.2 shall be provided on every elevator having car suspended by wire ropes, except that on elevators equipped with a car safety and a speed governor in conformance with Clause 3.7 and 3.8, no additional protection is required.

3.16.3.1.3 Ascending Car Overspeed Protection

A means, conforming to Clause 3.16.3.2, shall be provided on every counterbalanced elevator, where the counterbalance exceeds the mass of the empty car, except that on elevators equipped with a counterweight safety and a speed governor in conformance with Clause 3.7 and 3.8, no additional protection is required.

3.16.3.2 Overspeed Protective Means

Means required in Clause 3.16.3.1 shall conform to the following:

- (a) It shall detect any uncontrolled movement of the car prior to or at least when the car reaches a predetermined overspeed and shall cause the car to stop prior to the time when the car or counterweight strikes its buffers, or at least reduce car speed to the speed for which the buffer is designed.
- (b) It shall be capable of performing as required in (a) without assistance from any elevator component which solely, without built-in redundancy, controls the speed, or deceleration or stops the car during normal operation.


Note: A mechanical linkage to the car whether or not such linkage is used for any other purpose may be used to assist in this performance.

- (c) It shall not develop an average retardation of the car in excess of 9.81 m/s^2 (32.2 ft/s^2) during the stopping phase.

(d) It shall prevent dangerous uncontrolled movement of the car through control of the speed and acting upon one or more of the following:

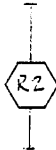
- (i) car;
- (ii) counterweight;
- (iii) suspension or compensating rope system;
- (iv) traction sheave,

Note: It is recognized that the protective means acting as in (ii), (iii) or (iv) will be effective as long as the traction sheave and suspension ropes are in their original place, after the failure of any other machine component. However, the designer must consider protection against the risk of injuries to the passengers, should the traction sheave itself fail, e.g. by ensuring that the car freefall protection is effective with suspension ropes attached to the car, or by stopping the suspension ropes through their friction with the sheave supporting structure, etc. Note, that according to clause 3.16.3.1.1(d), the failure of an overhead mounted gearless traction sheave need not be considered.

(e) When activated and during the stopping phase it shall not impose stress on itself or any elevator component in excess of 30%  of the ultimate strength of that component.

(f) Slow down and stopping of the car during its normal operation, when no failure referred to in Clause 3.16.3.1 is detected, shall not be solely dependent on this means.

(g) When activated or during the stopping phase, this means or another elevator component shall cause the power supply to the driving machine to be interrupted.



(h) All components that require periodic inspection and maintenance for the purpose of maintaining their operational reliability, must be readily accessible.


(i) Its performance shall be checked during the acceptance inspection of the elevator (see Section 9).

(j) It shall be provided with a marking plate indicating range of total masses for which it may be used and the speed at which it is set to operate.

3.16.4 Car Uncontrolled Low Speed Protection

3.16.4.1 Where Required

Protective means conforming to Clause 3.16.3.2 shall be provided against the risk of injuries to passengers, as a result of uncontrolled movement of the car within a landing zone while the landing door is unlocked, if the risk may be caused by any failure in

- (a) the elevator control system; and OR 
 (b) the driving machine brake.

3.16.4.2 Car Uncontrolled Low Speed Protective Means

Means required in Clause 3.16.4.1 shall

- (a) detect any uncontrolled movement of the car before the car travels away from the landing more than 500 mm and shall bring the car to a full stop before it travels an additional 750 mm;
 (b) be capable of performing as required in (a) without assistance from any elevator component which solely, without built in redundancy, controls the car speed, decelerates or stops the car during normal operation within the levelling zone; and
 (c) meet requirements in (c), (e), (f), (g), (h), and (i) of Clause 3.16.3.2, except that requirement in (f) shall refer to Clause 3.16.4.1.

844-M - September 1988

Amendments to sections 1, 2 and 3 made in conjunction with introduction of new rules 3.16

Clause 1.4 Definitions

Delete present definition "Safety-car or counterweight safety" and add the following definitions:

Safety-a device or system of devices designed to stop and hold the car or counterweight in the case of a car or counterweight free-fall or overspeed or uncontrolled speed or combination thereof.

Free-fall safety-a safety designed to stop and hold the car or counterweight in the case of the free-fall of the car or counterweight.

Clauses 2.10.2 and 2.10.3 revised as follows:

2.10.2

Where the space referred to in Clause 2.10.1 falls underneath the car and/or its guides, and notwithstanding Clause 3.3.4.2, if spring buffers are used, they shall be so designed and installed that they will not be fully compressed when struck by the car with its rated load at the speed at which the overspeed protective means is set to operate (see Clause 3.16.3), or at 125% of rated speed where no overspeed protective means are provided.

2.10.3

Where the space referred to in Clause 2.10.1 falls underneath the counterweight and/or its guides

(a) the counterweight shall be provided with counterweight free-fall protection conforming to the requirements of Clause 3.16.2;
and

(b) the spring buffers, if used, shall conform to Clause 2.10.2 except that they shall not be fully compressed when struck by the counterweight.

Note: For impact formula see Clause G7.

Clause 3.1 scope, added the following "Note":

3.1 Scope

This Section applies to electric elevators. It applies to other types of elevators only as referenced in the applicable Sections.

Note: This section, and in particular Clause 3.2, has been written with the assumption that the free-fall and overspeed protection of the car and counterweight (see Clause 3.16) will be by means of car and counterweight safeties (see Clause 3.7) acting upon guide rails. Where the free-fall and/or overspeed protection of car or counterweight is achieved otherwise, as permitted in Clause 3.16.1, the strength of guide rails, their supports and fastening may be changed accordingly (also see Clause 3.16.1.2(e) and 3.16.3.2(e)).

Clause 3.2.3, 3.2.4.1, 3.2.9.1a and 3.2.11(b) amended as follows:

3.2.3 Rail Section

Guide rails shall be

- (a) T-section conforming to the nominal weights and dimensions shown in Figure 1 and Table 1; or
(b) other shapes that have a section modulus equal to or greater than that of the section shown in Figure 1 for a given loading condition, and that withstand the compressive forces resulting from the application of the car or counterweight safety if used (also see the Note following Clause 3.1).

3.2.4.1 With Single Car or Counterweight Safety

Where a single car or counterweight safety is used, the maximum suspended weight of the car and its rated load or the maximum suspended weight of the counterweight including the weight of any compensating ropes or chains, and of any travelling cables suspended therefrom per pair of guide rails, shall not exceed the maximum specified in Figure 2 for the size of rail and the bracket spacing used, except that the bracket spacing may exceed the value specified in Figure 2 provided that

- (a) the guide rail is reinforced; or
(b) a rail of the required larger size is used; and
(c) the moment of inertia of a single reinforced rail or of a single larger rail section used about an axis 1-1 parallel to the base of the rail shall be not less than that required by Figure 3 for the given weight of car, plus rated load, or of the counterweight with a safety at the bracket spacing used (see also the Note following Clause 3.1).

3.2.9.1 Design and Strength of Brackets, Supports, and Fastenings

The guide-rail brackets and the building construction forming the supports for the guide rails shall be of such design as to

- (a) withstand safely the application of the car or counterweight safety, if used, when stopping the car and its rated load or the counterweight; and

3.2.11 Information on Elevator Layouts

Elevator layout drawings shall, in addition to other data, indicate the following:

- (a) the bracket spacing;
- (b) the estimated maximum vertical forces on the guide rails exerted by free-fall or overspeed protective means (see Clause 3.16) on guide rails or any other elevator components on their application.

Clause 3.7.1, 3.7.5, 3.7.7 and 3.7.8.1 revised as follows:

3.7 Car and Counterweight Safeties

3.7.1 Type Required

Where car safety is furnished to conform with rules in Clause 3.16.1.1(a) or 3.16.3.1(a) or both, the safeties shall be of the type identified in Clause 3.7.6, except that Type D safeties shall not be used in cars which are suspended by wire and rope.

3.7.5 Counterweight Safeties

Counterweight safeties, where furnished to conform with Clause 3.16.2, shall conform to the requirements for car safeties except

- (a) where otherwise specified in Clause 3.7;
- (b) for rated speeds of not over 0.75 m/s, counterweight safeties may be operated as a result of the breaking or slackening of the hoisting ropes, and may be of the inertia or other approved type without governors (also see Clause 3.7.7.1).

CAN3-844-M85
November, 1985

3.7.7 Safeties to Stop Ascending Cars or Counterweights Prohibited

Safeties shall not stop an ascending car or counterweight.

Existing clause 3.7.7 ..
DELETED!
Following clauses 3.7.8.....
renumbered

3.7.7.1

Car safeties and counterweight safeties, where furnished, shall be actuated by separate speed governors except that speed governors are not required for counterweights of elevators having a rated speed of not more than 0.75 m/s.

If the counterweight safety is provided for the ascending car overspeed protection in accordance with Clause 3.16.3.1(b) a speed governor shall be provided.

Clause 3.8.1.1 revised as follows:

3.8.1 Speed Governors Required and Locations

3.8.1.1

Car safeties and counterweight safeties, where furnished, shall be actuated by separate speed governors except that speed governors are not required for counterweights of elevators having a rated speed of not more than 0.75 m/s.

If the counterweight safety is provided for the ascending car overspeed protection in accordance with Clause 3.16.3.1(b) a speed governor shall be provided.

Clauses 3.9.7 and 3.9.8.2

- Existing sentence 3.9.7(g) replace with following:

3.9.7 Carrying of One-Piece Loads Exceeding the Rated Load
Passenger and freight elevators may be used, where necessary, to carry one-piece loads greater than their rated load provided they are designed, installed, and operated to conform to the following:

(h) where there is an occupied space, or an unoccupied space not secured against unauthorized access (see Clause 2.10) under the hoistway

(i) the machine shall be designed to operate with the "Capacity Lifting One-Piece Loads" at slow speed;

(ii) the car free-fall protective means (see Clause 3.16.1) shall be designed to stop and hold the car with this load independently of the hoisting ropes; and

(iii) the counterweight free-fall protective means (see Clause 3.16.3), where required by Clause 2.10, shall be designed to stop and hold the entire weight of the counterweight independently of the ropes;

3.9.8.2

- Add new subparagraph (i) to read:

3.9.8.2

The elevator is not required to attain rated load performance under the passenger overload conditions specified, but shall conform to the following:

(i) Clause 3.16.1.2(a) and 3.16.3.1 except that 125% of rated load shall be used in place of rated load.



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	68/88	3
DIRECTOR'S RULING	Date:	Date:
	October 27/88	February 22/90

Subject: IMPLEMENTATION OF NEW REQUIREMENTS FOR PROTECTION AGAINST:
 - UNCONTROLLED ASCENDING CAR OVERSPEED
 - UNCONTROLLED CAR LOWSPEED IN ANY DIRECTION

Sent to: ELEVATOR CONTRACTORS IN SCOPE A & B - 1

NOTE: The purpose of this 3rd Revision is to change dates for 'Exception B' from 1990 to 1991 at the request of NEEA. ®

1. INTRODUCTION

- 1.1 Refer to 6-page attachment that was attached to the 2nd REV. (June 9/89) for this ruling. It contains: ®
- Clause 3.16: Free-fall, overspeed and uncontrolled speed protection for car and counterweights - a new clause, approved by the CSA-B44 Committee, in September 1988. It will be incorporated in the next edition of the CSA-B44, Safety Code for Elevators;
 - Amendments to sections 1, 2 and 3 of the CSA-B44 reflecting the new rules in clause 3.16. ®

1.2 With this amendment, the Safety Code for Elevators recognizes, for the first time, the risk of injury to passengers should any elevator car overspeed in the up direction or should it move away from the landing (with landing doors open) as a result of specified failures. The amendments create a new standard for protection against such risk. The amendments also permit use of new designs for protective means the risk of the car-free-fall and descending car overspeed, in the place of present designs of car safeties and overspeed governors.
 Early implementation of this amendment is vital in order to assure the safety of elevator users. However, it is recognized that enforcement has to be delayed in order to give the elevator industry time to develop suitable mechanisms or other means which will enable them to comply, and for that reason the exceptions to the following order has been added on the request from the National Elevator and Escalator Association.

2. ORDER

Every newly installed traction elevator* which is initially inspected after April 1, 1990, must be provided with free-fall, overspeed and uncontrolled speed protection in conformance with the requirements of clause 3.16, as was attached to this Ruling - 2nd REV. (authorized by section 31(6) of the Elevating Devices Act). ®

***EXCEPTIONS TO THE ORDER**

- A. The following elevators need not comply with ANY PART OF THIS ORDER: The elevator for which a firm sales contract was signed before April 1, 1989, provided that a request for the exception was delivered to the branch not later than April 7th, 1989.
- B. The following elevators need not comply with rule 3.16.4, UNCONTROLLED LOW SPEED PROTECTION - The elevators for which a firm sales contract is signed before April 1, 1991 provided that a list of all elevators for which the exception is requested, is faxed or delivered by other recorded means to this branch on or before April 7th, 1991. The list must contain contract date, unique reference number (e.g. contract number) approximate installation date, number of elevators in each contract, capacity and speed, location of elevators, name of the project and the buyer. ®

3. **IMPLEMENTATION PROCEDURE**

Design submissions for new traction elevators received two weeks after June 9, 1989, shall contain in item 189 of Spec Sheet or in a separate document, the information on the method of conformance with the above ORDER using the following guidelines:

- 3.1 Where exception 'A' is applicable the submitter should indicate in the 'application' page of the design submission, in box 29, the following remarks: "This installation is under the exception Part 'A' of the order by Director's Ruling #68/88, Rev. "2" (or "3"). (R)
- 3.2 Where exception 'B' is applicable, the request for the exception from the rule in clause 3.16.4 should be made in the submission, if submitted before April 7th, 1991. (R)
- 3.3 In any other case the design submission must be accompanied by drawings and technical details describing method of conformance with clause 3.16.3.1.3, Ascending car overspeed protection, and clause 3.16.4, Car uncontrolled lowspeed protection, including the procedure for field testing and maintenance of the devices provided. Alternatively, it may be indicated that all details will be submitted later, through a "design revision", at least 2 weeks before the initial inspection is arranged.

Where the "car-free-fall protection" (see clause 3.16.1.1.a) and the "descending car overspeed protection" (see clause 3.16.3.1.2) is provided by means of "car safety and overspeed governor" (see clause 3.7 and 3.8 in B44), the related design details normally given in the spec sheet are sufficient. If, however, the design proposes a different protective means, all design details must be included in the design submission.

4. **RETROFIT**

Before a decision on mandatory retrofit can be made, many factors must be considered. These include industry labour force capability, available technology and hardware, scope, priorities, and economic impact. On resolution, if there is a decision to apply clause 3.16 retroactively to existing installations, a separate ruling will be issued.

6 PAGES ATTACHMENT*

*Not Enclosed – use attachments received with the 2nd Rev. (June 9, 1989) of this Ruling. (R)



Elevating and Amusement Devices Safety Division	Ref. No.: 69/88	Rev. No.:
DIRECTOR'S RULING	Date: October 31/88	Date:

Subject: SUBJECT: GAL TYPE "MO" AND "MOCP" INTERLOCK ASSEMBLIES

Sent to: ELEVATOR CONTRACTORS IN SCOPES A, B, F, P, S - 1

1. ORDER TO CONTRACTORS

- 1.1 On all elevators maintained by your company and equipped with GAL type "MO" or "MOCP" door interlocks, you are requested to check, as soon as possible, the contact interlock assemblies.
- 1.2 If your check indicates that the contacts could jam as shown in figure #1 and #2, then:
 - a) The bracket on the lower contact must be adjusted to keep the contact clear (free from jamming); and
 - b) Ensure that the contact and interlock assembly is properly adjusted so that the interlock beak cannot push the contact in a jamming position when the door is fully closed and door bumpers are fully compressed (compare figure #2 and #3).
- 1.3 If the adjustments cannot be made, the following remedial action must be taken:
 - a) Replacement of interlock assemblies of any suitable make and model, or
 - b) Replacement of at least contact assemblies following instructions in 2 below.

2. REPLACEMENT INSTRUCTIONS

- 2.1 Contact assembly replacement kits are available from GAL:
 - a) For type MO - replacement kit INT-1-15R or L
 - b) For type MOCP - replacement kit INT-2-15R or L
- 2.2 The kits include the contact assembly (where a "boss" is added to its base as shown in figure 4) as well as the contact bar keeper, to be simultaneously replaced on the interlock beak.

3. BACKGROUND

If the GAL interlock contact is jammed as shown on figure 1, the elevator may operate with an open hoistway door creating a serious safety hazard.

Although the "jamming" is not possible if the position of the contact and the interlock beak is correctly adjusted (as shown in figure 3), we have been informed that GAL redesigned the subject interlock assemblies several years ago, by adding a "boss" in the contact base (as shown in figure 4) to eliminate "jamming" even in the case of any misadjustment.

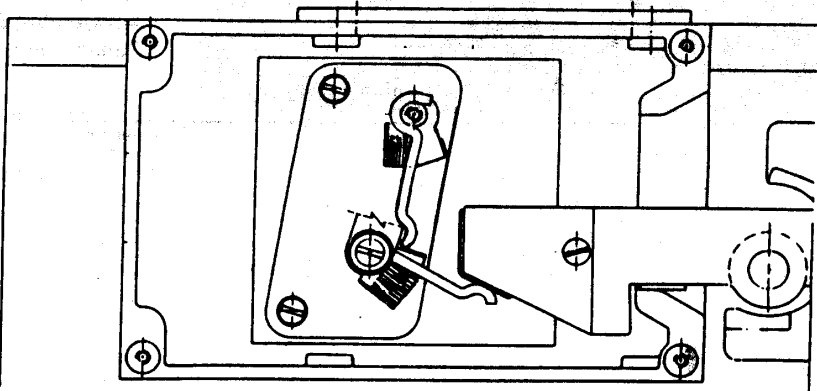


Figure 1 - Type M0, old model - Interlock contacts in jammed position

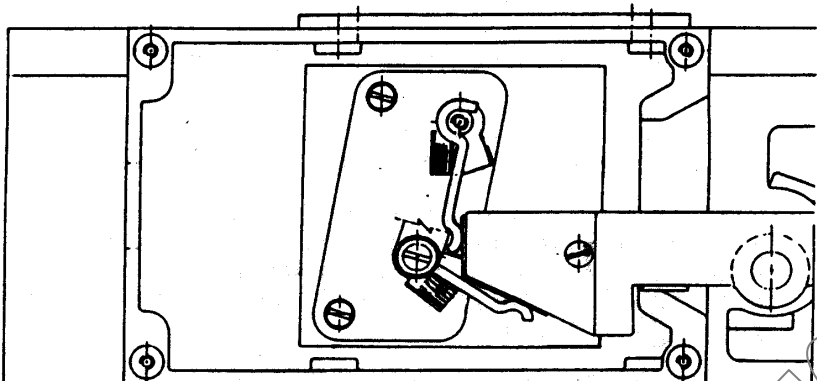


Figure 2 - Type M0, old model - Interlock beak and contact misadjusted. Contact pushed too far when door fully closed and door bumpers fully compressed.

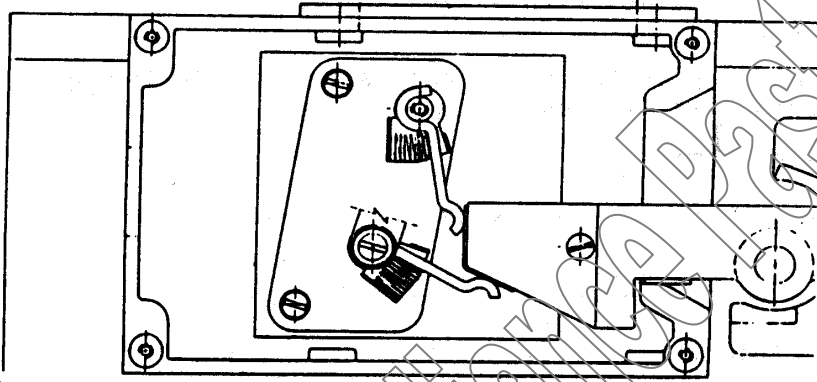


Figure 3 - Type M0, old model - Interlock beak correctly adjusted. When door fully closed and the door bumpers fully compressed, the interlock beak cannot push contacts into "jamming" position.

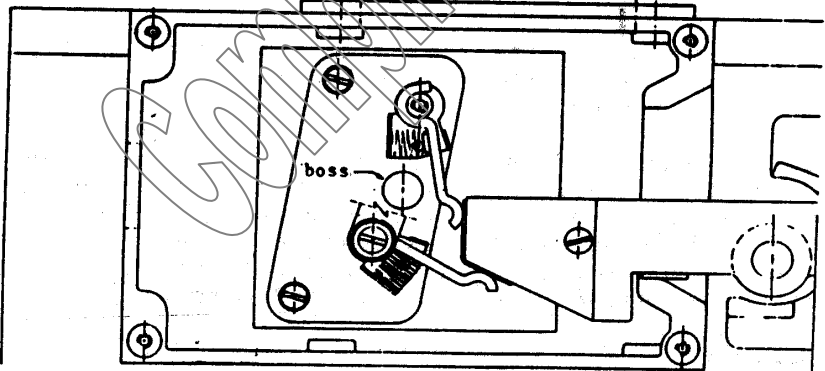


Figure 4 - Type M0, new model - New contact assembly with "boss" added.



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	70/89	
DIRECTOR'S RULING	Date:	Date:
	February 23, 1989	

Subject: ITEM 126 (KINETIC ENERGY) IN SPECIFICATION SHEET FOR HYDRAULIC ELEVATORS - FORM #ID-29426 (Edition 11/88)

Sent to: ENGINEERS - SUBMITTING DESIGNS FOR HYDRAULIC ELEVATORS

INTRODUCTION

With the 11/88 edition of the specification sheet for hydraulic elevators - Form #ID-29426, time 126 was introduced with four sub-items related to door kinetic energy.

The intent was (i) to enable submitting engineers to demonstrate that , with specified “maximum average closing/reduced speed” and “total door masses”, the kinetic energy of the landing door and all parts rigidly connected thereto will not exceed 10J/2.5J, in conformance with clause 2.13.4(a) of the B44 Code, (ii) to enable inspectors to verify that the set average closing speed is equal to or less than the maximum specified, by recording the door closing time and by measuring the door width in accordance with clause 2.13.4(c), and (iii) to form a data bank to be utilized in assessing the safety of any future field changes or alterations, such as door speed or masses.

To facilitate primarily the latter intent (ii) details in item 126.4 were required. You informed us, however, that you encountered serious difficulties in compiling “speed-distance” curves considering all fine tuning features that modern technologies make possible. It was further suggested that any future safety assessment will be based on “average” rather than “momentary” speed, therefore the curves are not necessary.

In addition, the intent (ii) related to field inspection would be better facilitated if the spec sheet contained “minimum closing time” rather than “maximum average speed”.

REVISED PROCEDURE FOR ITEM 126

Until the subject forms are revised and reprinted, the information related to door kinetic energy will be entered in the spec form as illustrated on the reverse of this ruling, that is:

Item 126.1 and 126.2-enter “see 189”

Item 126.3 - no change - enter in this box in kilograms the total door masses calculated as explained in the existing guideline 126.4(i).

Item 126.4 - enter “yes” where applicable and attach only “specification of masses” as required in the existing guideline 126.4(i). The “speed-distance curves” need not be attached.

In box 189 enter the following:

- 126.1 Minimum door closing time with closing speed _____ s
- 126.2 Minimum door closing time with reduced speed _____ s
- 126.5 Landing door clear opening _____ m

The entries in 126.1 and 126.2 must be calculated/measured in accordance with clause 2.13.4(c), in other words in the case of single-slide doors, the entry will indicate the (minimum permitted) time required for the door to travel from a point 50mm away from the jamb to a point 50mm away from the opposite jamb. In the case of centre-opening doors, the entry will indicate the (minimum permitted) time required for the door to travel from a point 25mm away from the open jamb to a point 25mm from the centre meeting point of the doors. The “minimum permitted time” will be based on the kinetic energy limitations stipulated in clause 2.13.4(a) and will be compiled from the “maximum average closing speed”.

If the entry in item 126.1 is designated as t₁, in 126.2 is t₂, in 126.3 is M and in 126.5 is W then the following equations must be satisfied in order to conform with clause 2.13.4:

For single-slide doors

$$10(J) \geq \frac{1}{2}M \times v_1^2 \dots \text{where, } v_1^2 = \frac{W-0.1}{t_1} \frac{[m]}{[s]}$$

$$3.5(J) \geq \frac{1}{2}M \times v_2^2 \dots \text{where, } v_2 = \frac{W-0.1}{t_2} \frac{[m]}{[s]}$$

For centre-opening doors

Same as above, except , v_1 or $v_2 = \frac{W/2 - 0.05}{t_1 \text{ or } t_2} \frac{[m]}{[s]}$

Example: Single-slide doors, total mass 200 kg, clear opening 1.0m, with time rounded to the next 1/10 of a second:

Car Door	124 Car door or gate type (3.6.5.4 & 3.6.6.1)		125 Interlock
	127 Car door/gate operator & make and model	1. Maximum average closing speed See 189 m/s	3. Total door masses 200 kg
	128 Car door re-opening device (2.13.5) type	2. Maximum average reduced speed See 189 m/s	4. Details attached Yes

189 Special Features – Scope of Alteration	190 Variances
126.1 Min. Door Closing Time w. Full Speed.....2.9s	
126.2 Min. Door Closing Time w. Reduced Speed.....4.9s	
136.5 Landing Door Clear Opening.....1.0m	



Elevating and Amusement Devices Safety Division	Ref. No.: 71/89	Rev. No.:
DIRECTOR'S RULING	Date: May 4 1989	Date:

Subject: RE-WIRING REQUIRED ON "NORTHERN" ELEVATORS WITH "KUP" STYLE RELAY CONTROLLERS.

Sent to: ALL ELEVATOR CONTRACTORS IN SCOPES A1, B1, F1, ALL IDENTIFIED OWNERS

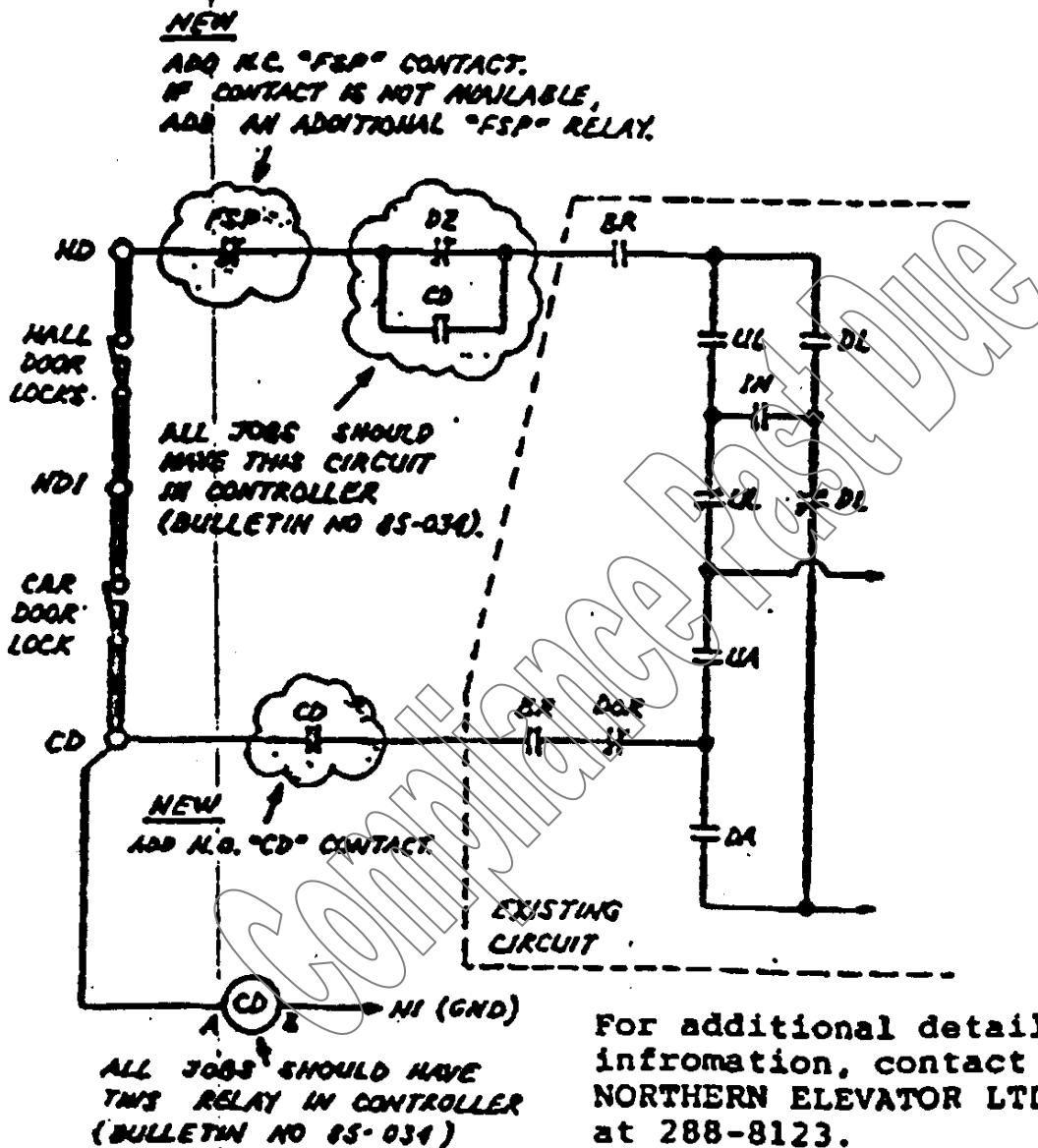
- 1. ORDER TO CONTRACTORS MAINTAINING NORTHERN ELEVATORS EQUIPPED WITH KUP" STYLE RELAY CONTROLLERS:**
 - 1.1 On your next visit to the subject elevators, you are required to make the necessary changes as outlined in 2.0 below.
 - 1.2 If, for any reason, you cannot obtain authorization for the changes from the elevator owner, you must notify this Branch immediately, in writing, indicating installation numbers of relevant elevators.
 - 1.3 Inspectors will be instructed to check for compliance commencing August 1/89. Installations found not in compliance will be removed from service.
- 2. EXCERPTS FORM THE NORTHER ELEVATOR LTD. BULLETIN #89-049 DATED JANUARY 25, 1989: (See hard copy for Excerpts and corresponding drawings.)**

Although unlikely, it has been brought to our attention that IF relay "UL" or "DL" is inadvertently canted, pushed or partially removed sidewise on an angle, in one direction only and still partially remaining in the socket with:

- a) the relay coil de-energized
- b) one set of relay contacts maintained in the socket
- c) two sets of relay contacts out of the socket

Then, there is a remote possibility of running the car at contract speed with interlock circuit open.

PLEASE MAKE THE FOLLOWING CHANGES:





Elevating and Amusement Devices Safety Division	Ref. No.: 72/89	Rev. No.:
DIRECTOR'S RULING	Date: June 15 1989	Date:

Subject: MAINTENANCE PROCEDURES

Sent to: ALL ELEVATING DEVICE CONTRACTORS

PLEASE BE REMINDED THAT; Pursuant to the requirements of Section 22(2) of Regulation 229/81 made under the Elevating Devices Act, all maintenance contractors have the responsibility to ensure that;

- 1) They inspect and examine all parts of an elevating device at regular intervals.
- 2) They clean, lubricate and adjust all parts of an elevating device at regular intervals.
- 3) They repair or replace worn or defective components in order to prevent the device from becoming unsafe for operation.

Compliance with the above noted sections is essential for public safety. Penalties for violating the Act and regulations may, on conviction, result in fines of up to \$10,000.00 a day.

NLB/TA

Archived
Superseded by Reg



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	73/89	
DIRECTOR'S RULING	Date:	Date:
	August 14/89	

**Subject: NEW FEES UNDER THE ELEVATING DEVICES ACT, ONTARIO
REGULATION NO. 451/89**

Sent to: ALL ESCALATOR CONTRACTORS IN SCOPE A & B

The fees specified in Tables 1, 2 and 3 of the Elevating Devices Act, Ontario Regulation 463/86 have been amended by Ontario Regulation No. 451/89.

You are hereby advised that the new fees are effective as of September 1, 1989.

See Attachment.

REGULATION TO AMEND
ONTARIO REGULATION 229/81
MADE UNDER
THE ELEVATING DEVICES ACT

1. Clause 8(b) of Ontario Regulation 229/81 is revoked and the following substituted therefor:
 - (b) the appropriate fee prescribed is subsection (2).

2. Section 8 of the said Regulation is amended by adding thereto the following subsection:
 - (2) The following fees are prescribed for the purposes of this section:
 1. Subject to paragraphs 2, 3, 4 and 5, in the case of a design submission for a new installation or major alteration, the fee set out in Column 4 of Table 1 opposite the class of elevating device applied for in Column 1.
 2. In the case of a design submission that is based on a previously registered standard design submission, 50 per cent of the fee set out in Column 4 of Table 1 opposite the class of elevating device applied for in Column 1.
 3. In the case of a design submission for a major alteration of an elevator, the fee set out in item 3 of Column 4 of Table 1.
 4. In the case of a design submission for a major alteration of a construction hoist, the fee set out in item 3 of Column 4 of Table 1.
 5. In the case of a design submission for a new installation or major alteration of an observation elevator or elevator serving an observation level referred to in subsection 33(9) or (10), the fee set out in Column 4 of Table 1 opposite the elevating device referred to in item 8 of Column 1 of Table 1.
 6. In the case of a standard design submission, a revision to a design submission or a design submission for a minor alteration, the fee set out in Column 2 of Table 2 opposite the type of design submission applied for in Column 1.

3. Section 11 of the said Regulation is amended by adding thereto the following subsections:

- (3) A contractor who is required to notify the Director of a minor alteration - Type B shall include with the notice the fee set out in item 13 of Table 2.
- (4) If a laboratory or organization designated by a code or standard adopted in this Regulation is required by the code or standard to carry out an engineering test or certification of an elevating device component, the person who files the test or certification document with the Director shall include the fee set out in item 14 of Table 2.

4. The said Regulation is amended by adding thereto the following section:

- 11a. - (1) The fee for a preliminary review of an elevating device or any component of an elevating device or for an assessment of the acceptability of a requested variance from an adopted code is the amount set out in item 15 of Column 2 of Table 2.
- (2) If a service referred to in subsection (1) is performed on premises other than at the Elevating Devices Branch of the Ministry, the fee shall include the living expenses and travelling expenses of the inspector as defined in section 33.

5. (1) Subsection 18(1) of the said Regulation is amended by adding “or temporary” after “licence” in the first line.

(2) The said section 18 is amended by adding thereto the following section:

(4) A temporary licence for an elevating device that is issued by the Director shall be for a period that does not exceed six months.

6. (1) Subsections 33(2) and (3) of the said Regulation are revoked and the following substituted therefor:

(2) Except where otherwise indicated in this section the fees to be paid on an initial or subsequent inspection of an elevating device are those fees set out in Column 2 of Table 1 set out opposite the type of elevating device being inspected in Column 1.

(2) Subsections 33(9), (10), (11) and (13) of the said Regulation are revoked and the following substituted therefor:

(9) The applicable fee for an inspection of an observation elevator having a travel in excess of 30 metres and having fewer than eight entrances is that set out in item 9 of Table 1.

(10) The applicable fee for an inspection of an elevator designed to travel directly from ground level to an observation level and having travel in excess of 30 metres is that set out in item 9 of Table 1.

(11) If an inspection is unduly delayed or prolonged by reason of an owner failing to comply with a requirement of clause 6(1)(c) or (d) of the Act, the owner shall pay,

(a) the additional fee set out in item 12 of Table 2;

(b) all travelling expenses and living expenses, if any, necessarily incurred by the inspector in connection with the inspection by reason of the delay or prolongation.

(13) The fee for a copy of an inspection report or other document is the fee set out in item 16 of Table 2.

7. Tables 1, 2 and 3 of the said Regulation are revoked and the following substituted therefor:

TABLE 1**Fees**

ITEM	COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
		Initial and Subsequent Inspection	Other Inspection	Design Submission for New and Major Alteration
1.	Elevator, other than an inclined elevator, serving ten floors or less (basic); plus item 2	\$200.00	\$100.00	\$200.00
2.	Elevator, other than an included elevator, for each additional floor served exceeding ten floors.	\$ 15.00	\$ 10.00	\$ 15.00
3.	Construction Hoist - ten entrances or less and 30 metres of mast or tower (basic); plus items 4 and 5	\$200.00	\$200.00	\$200.00
4.	Construction Hoist - for each entrance over ten entrances.	\$ 2.00	\$ 2.00	\$ 2.00
5.	Construction Hoist - for each entrance over ten entrances.	\$ 10.00	\$ 10.00	\$ 10.00
6.	Escalator, manlift, moving walk, stage-lift (per section).	\$200.00	\$100.00	\$200.00
7.	Elevating Devices for the Handicapped	\$ 50.00	\$ 50.00	\$ 50.00
8.	Freight Platform Lift, Rope Tow, Dumbwaiter	\$150.00	\$ 75.00	\$200.00
9.	(a) Chair Lift - up to and including 10 towers; plus item 11	\$500.00	\$250.00	\$500.00
	(b) Gondola Lift - up to and including 10 towers; plus item 11			
	(c) Reversible Ropeway - up to and including 11 towers; plus item 11			
	(d) Funicular Railway - up to and including 10 towers; plus item 11			
10.	(a) Bar Lift - up to and including 10 towers; plus item 11	\$300.00	\$150.00	\$300.00
	(b) Inclined Elevator			
11.	For each tower in excess of 10 towers	\$ 30.00	\$ 15.00	\$ 30.00
12.	Special installation - per person, per hour (minimum two hours)	\$ 80.00	\$ 80.00	\$100.00

TABLE 2**Fees**

ITEM	COLUMN 1	COLUMN 2
1.	Licence – Initial	\$100.00
2.	Licence - Renewal or duplicate	50.00
3.	Licence – Transfer	50.00
4.	Licence – Temporary	400.00
5.	Installation plate - duplicate (see subsection 21(5))	50.00
6.	Registration of a design submission for a revision subsequent to initial registration for one elevating device	100.00
7.	Registration of a design submission for a standard design submission, new	400.00
8.	Registration of a design submission for a standard design submission, revised	200.00
9.	Registration of a design submission for a minor alteration for one elevating device	200.00
10.	Copy of an inspection report or other document	30.00
11.	Inspection status summary (covering up to 6 devices at one location)	60.00
12.	Excess time charge for delaying or prolonging inspection, (per person per hour, minimum one hour)	80.00
13.	Filing of notification of a minor alteration – Type B	50.00
14.	Filing of certification or an engineering test report of an elevating device component	300.00
15.	Preliminary review of the design of an elevating device or component, including an assessment of to acceptability for a variance from adopted codes (per person per hour)	100.00

TABLE 3**Fees - Contractor's Registration**

ITEM	COLUMN 1	COLUMN 2 Initial	COLUMN 3 Annual
1.	Elevators	\$500.00	\$300.00
2.	Construction Hoists	500.00	300.00
3.	Any Class other than Elevators or Construction Hoists, each class	200.00	100.00
4.	Limited Scope (See Note 1), Limited maintenance or installation or both, each class	200.00	100.00
5.	Limited Scope (See Note 1), Limited to testing by consultants regardless of number of classes	400.00	400.00
6.	Plus – for each mechanic, mechanic in training and supervisor employed in the previous year (this does not include registrations under item 7)	--	20.00
7.	Maintenance by owner for each maintained elevating device, up to a maximum as in items 1, 2 and 3 (See Note 2)	15.00	15.00
NOTES*			
1.	A contractor's registration is limited in scope when it is limited to specific functions.		
2.	If registration is limited to the maintenance of elevating devices that are under contractor's ownership.		

7. This Regulation comes into force on the 1st day of September, 1989.



Elevating and Amusement Devices Safety Division	Ref. No.: 74/89	Rev. No.:
DIRECTOR'S RULING	Date: November 1 /89	Date:

Subject: FIRE RATING OF OVERSIZED HOISTWAY DOOR ASSEMBLIES

Sent to: ELEVATOR CONTRACTORS IN SCOPES A1 & B1

Item 1: INTRODUCTION

- 1.1 In the past, the permissibility of installing oversized door assemblies was dealt with by granting a variance to Section 2.2.1.2(b) of the B44 Code, taking into consideration the submitting engineer's analysis of the door engineering details and his/her assessment of expected performance if tested. This practice was followed in light of the difficulty obtaining labels or the extreme expense involved.
- 1.2 Recent development with various players in determining the fire protection ratings has opened up pragmatic options to demonstrate conformance; to wit:
- 1.3 The Underwriters' Laboratory Canada engineering personnel advised that ULC are currently in a position to provide "Oversized Labelling Service" which would require an assessment of the engineering details/specifications but not necessarily an actual fire test;
- 1.4 The Secretary of the Ontario Building Code Commission advised that the chief building official of the local municipalities may "determine", in accordance with Clause 3.1.6.4(1) of O.B.C., that an unlabelled door assembly could be acceptable as a closure in fire separation.

Item 2: ORDER TO CONTRACTORS INSTALLING ELEVATORS WITH OVERSIZED DOORS

- 2.1 Where the fire protection rating of an oversized door assembly is not readily identifiable in the field based on a label, either of the following options may be construed as compliance to clause 2.2.1.2 of the B44:
- 2.2 Obtain Labelling Service from the Underwriters Laboratory Canada or from another recognized testing laboratory (see 1.3 above); or
- 2.3 The engineer who signs the elevator design submission shall attest that the unlabelled oversized door assembly is acceptable to the building official having jurisdiction (see 1.4 above).

Item 3: INSTRUCTIONS

- 3.1 This order applies to elevators for which the design submission is to be registered after the date of this ruling.

T. GORDON SMITH, Director



Elevating and Amusement Devices Safety Division	Ref. No.: 75/90	Rev. No.:
DIRECTOR'S RULING	Date: February 22/90	Date:

Subject: RETURN TO SERVICE FOLLOWING A MINOR ALTERATION

Sent to: ELEVATOR CONTRACTORS IN SCOPE A & B1

1. RECOMMENDATION

An elevating device that has undergone any minor alteration should not be reinstated into service before the design submission is registered and instructions from this branch are received as to whether or not a pre-instatement inspection is required.

2. BACKGROUND

2.1 Current Statutory Requirements

- a) MINOR ALTERATIONS: Implicit permission to operate the elevating device before the design submission is registered and the alteration inspected (Reference: Section II of Ontario Regulation 229/81 as amended by O.Reg. 451/89).
- b) MAJOR ALTERATIONS: Clear prohibition of return to operation until the design submission is registered and the alteration inspected (Reference: Section 15 of the Elevating Devices Act, 1980).

2.2 Possible Misinterpretation

- a) There are an increasing number of instances where designers or contractors misinterpret the statutory requirements and designate an alteration MINOR rather than MAJOR. This may lead to illegal and possibly unsafe reinstatement into operation.
- b) We have recently reviewed several submissions designated incorrectly as "minor" alterations. In these circumstances, the design submissions are returned unregistered and the installation shut down until the requirements for a "major" alteration, as set out in Section 15 of the Elevating Devices Act, are fulfilled.
- c) If we are forced to take the action outlined above, it is inevitable that there will be inconvenience and hardship for you and your clients.
- d) A common misinterpretation of present statutory requirements relates to "the changes in the method of control or the method of operation". Typically, a change from "2-speed AC control" to static (AC VV) control" clearly constitutes a major alteration but is often designated incorrectly as a "minor".

2.3 Ontario Elevator Safety Task Force

- a) The above recommendation is consistent with a recommendation (#TF6) made by the Ontario Elevator Safety Task Force respecting alterations, suggesting, among others, that this branch should clarify and amend present procedures for reporting alterations to avoid the possibility of returning an altered device into operation without an inspection or at least the branch's permission to do so.
- b) The Task Force was established to study conclusions of the inquest into the April 1, 1989 fatality on an elevator at Lees Avenue, Ottawa.
- c) Full implementation of the Task Force's recommendations will, of course, require the change of present statutory requirements, realignment of branch resources and co-operation from the industry. NEEA liaison committee agreed to prepare a proposal for the scope of the statutory revisions needed, including the redefinition of alterations and design/inspections related procedures.

T. GORDON SMITH, Director



Elevating and Amusement Devices Safety Division	Ref. No.: 76/90	Rev. No.:
DIRECTOR'S RULING	Date: May 1/90	Date:

Subject: CLEANING OF GLASS ENCLOSURES ON OBSERVATION ELEVATORS SAFETY MEASURES

Sent to: OWNERS OF OBSERVATION ELEVATORS

1 ORDER TO OWNERS OF OBSERVATION ELEVATORS

Owners of observation elevators shall ensure that no person enters the hoistway or car roof nor operates the elevator from the car top for the purpose of glass cleaning, unless the glass cleaners are directly supervised by elevator mechanics employed by a registered elevator contractor.

This order is based on subsection 14(2) of Ontario Regulation 229/81 as amended by O.Regulation 451/89 under the Elevating Devices Act, 1980.

Any violation of this procedure may constitute an offence under subsection 30(1) of the Elevating Devices Act, 1980.

2. BACKGROUND

2.1 According to our current record, the receiver of this Ruling is the OWNER of one or more "observation elevator".

2.2 "Observation elevator" is a passenger elevator that has a car and/or hoistway enclosure made of transparent materials to permit viewing.

2.3 The purpose of this Ruling is to remind you of safety measures required in the course of periodic cleaning of transparent surfaces, not normally accessible from inside the car or from outside the hoistway.

3. GLASS CLEANING PROCEDURES

3.1 Observation elevators, as a rule, are equipped with sliding or swinging panels or doors in the car and/or hoistway enclosure. When unlocked and open from inside the car or from outside the hoistway, they automatically stop the elevator operation thus enabling cleaning personnel to carry out their tasks, while maintaining safe footing inside the car or outside the hoistway, without being exposed to any safety risk from a "moving elevator".

3.2 There are, however, observation elevators that require periodic cleaning of transparent enclosures, but are not equipped with the panels or doors for glass cleaning purposes.

3.3 Variances from the provision of openable panels or doors was based on (a) the original elevator owner's statement that the glass cleaning will be carried out by or under the direct supervision of a registered elevator contractor, and (b) the elevator supplier's assessment that the proposed glass cleaning procedure adequately compensates for the lack of operable panels or doors.

3.4 This procedure envisioned cleaning by persons positioned on the car roof and/or elsewhere in the hoistway. Since the access to, and work from, these locations are inherently unsafe for persons without specialized elevator training, it is therefore implied in the Regulations under the Elevating Devices Act, 1980, that only the elevator mechanics employed by a registered contractor are qualified to enter the elevator hoistway or to supervise the entry and work in the hoistway by other persons.

3.5 A copy of this Ruling is circulated for information to all contractors registered for installation and maintenance of elevators.

T. GORDON SMITH, Director



Elevating and Amusement Devices Safety Division	Ref. No.: 77/90	Rev. No.:
DIRECTOR'S RULING	Date: May 1/90	Date:

Subject: OBSERVATION ELEVATORS - CLEANING OF GLASS ENCLOSURES

Sent to: ELEVATOR CONTRACTORS IN SCOPES A & B1

Item 1: ORDER TO OWNERS OF OBSERVATION ELEVATORS RE GLASS CLEANING AND RELATED CONTRACTOR'S RESPONSIBILITIES

- 1.1 Attached, for your information, is EDB Director's Ruling #76/90 related to safety measures and owners' responsibilities respecting glass cleaning on observation elevators, which was mailed to all owners.
- 1.2 Where you maintain an observation elevator, that is not equipped with car/hoistway doors or panels for glass cleaning purposes, it is expected that your maintenance contract will cover the cleaning or the supervision of glass cleaning personnel, or at least it will acknowledge the responsibility of the owner to contract that service with another registered contractor.

Item 2: VARIANCES FROM CODE REQUIREMENT FOR DOORS/PANELS

- 2.1 We wish to inform you that no variance from the rules in clause 2.11.1.3 and 3.6.2.5 of the B44 Safety Code for Elevators, respecting "non-removable sliding or swing panels or doors in the hoistway/car enclosure of observation elevators" will be registered if proposed in design submissions that are received in this branch after May 22, 1990.
- 2.2 The rationale for the variances is explained in items 3.3 and 3.4 of the attached Ruling #76/90. The variances have been registered by this branch under the assumption that the rules in the B44 will be revised in due course as to confirm and adopt the assessment of industry engineers, stated in their requests for variances, that the glass cleaning by or under the supervision of elevator mechanics from inside the hoistway, is deemed as safe as when using operable panels or doors presently required in the Code.
- 2.3 The proposal for the Code revision was first rejected by the CSA-B44 Executive Committee at their November 1989 meeting and then re-examined in April 1990 suggesting that the amendments may be justified but further studies are required before any proposal is forwarded to the main committee for letter ballot. This uncertainty for the confirmation of the safety rational of variances by the CSA Code Committee caused us to decide as in 2.1 above.
- 2.4 Since most elevator submitting engineers were informed during November/December 1989 about our reservations respecting the continued registration of the subject variances, we expect that recent elevator designs are not based on the subject variances.

T. GORDON SMITH, Director



Elevating and Amusement Devices Safety Division	Ref. No.: 78/90	Rev. No.:
DIRECTOR'S RULING	Date: June 1/90	Date:

Subject: ADOPTION OF CAN/CSA-B44-M90 SAFETY CODE FOR ELEVATORS - NEW EDITION

Sent to: ALL CONTRACTORS IN SCOPE A & B -1, 2,3,4,5

1. ORDER

Each newly installed or altered elevator, escalator, dumbwaiter, moving walk and freight platform lift,

- a) for which the DESIGN is submitted to this branch for registration after the 1st day of October, 1990, or
- b) which will be INITIALLY inspected after April 1, 1991, whichever comes first, shall conform to the requirements of the CAN/CSA-B44-M90, Safety Code for Elevators, with exceptions specified in item 2 of this Ruling.

2. EXCEPTION

The Order in item #1 is modified with respect to the following rules in the subject standard:

- a) Clause 2.12.2.1.2 (separating force of 200N) and clause 2.12.2.1.6 (deformation of locking members by 1000/3000N): Considering that conformance with these new rules can be verified only through the testing and certification process by qualified testing laboratories in conformance with clause 2.12.6 and 11.4 and considering that the laboratories and interlock manufacturers will require time to introduce the new certification and re-certification program, we are modifying the Order in #1 as follows:

"Each newly installed or altered elevator, which is initially inspected after APRIL, 1992, shall be equipped with locks/interlocks certified and marked as to indicate conformance with the 1990 edition of the B44 Code".

- b) Clause 3.12.9c (redundancy of safety circuits) and 3.12.9d (checking of redundancies): Since the major changes in the requirements necessitate close investigation and possible alteration of presently used elevator control systems, at the request of the National Elevator and Escalator Association, we are modifying Order #1 as follows:

"DESIGN documents, for each newly installed or altered elevator, submitted to this branch for registration after the 1st day of JUNE, 1991 shall demonstrate compliance with the rules in clause 3.12.9(c) & (d) of the CAN/CSA-B44-M90."

To demonstrate conformance, this branch must receive, for every type (make and model) of elevator control system, a detailed analysis of every safety circuit with an explanation as to how the conformance is achieved. This may be in the form of a "standard submission" or as a part of normal design submissions.

- c) Clause 3.16.3.1.3 (ascending car overspeed protection) and clause 3.16.4 (car uncontrolled low speed protection): Requirements in these rules are being enforced in accordance with EDB Ruling #68/88/3rd Revision, therefore the dates indicated in Order #1 do not apply.
- d) Clause 4.19.3.5 - Engineering Tests, Certification and Marking Plates for control valves: At the recommendation of the CSA-B44 Executive Committee (Minute M5.5 of April 3-5, 1990 meeting) the enforcement of this rule and related clause 11.6 is postponed until further notice.

3. CLARIFICATIONS

With respect to new and revised rules which shall be enforced in accordance with Order #1, you should draw special attention to rules in clause:

- a) Clause 2.8.4.2 Signs: With enforcement of Order #1, the EDB Ruling #17/84 will become void.
- b) Clause 2.11.10.5.3: Same as 'a' above with respect to EDB Ruling #62/88.
- c) Clause 2.12.2.1 Interlocks: Rules in clauses 2.12.2.1.1, -3, -4, -5 and -7 will be enforced through visual inspections before the certification process (see 2b above) is completed.
With respect to conformance with clause 2.12.2.1.9, it will remain the responsibility of submitting engineers to verify that the door fire rating, as labelled, was established on the basis of tests of door assemblies incorporating interlocks and wiring.
- d) Clause 3.10.8 Brakes: Same as 'a' above with respect to EDB Ruling #47/87/REV. A.
- e) Clause 3.12.9(c) & (d): In addition to the exception in 2(b), note the importance of this revision. The circuits incorporating any protective device listed in 3.12.2 and also circuits controlling the limits and speeds of the levelling, truck and inspection operation, are now considered "safety circuits". They all require back-up (redundancy) protection in the case of any specified failure. Clause 3.12.9(d) requires checking of redundancy on every car stop. Should any redundant component fail, the elevator must be automatically shut down.
- f) Also note important revisions in clause 3.7.14(e) and 3.8.9(d) respecting marking plates on safeties and governors, clause 3.12.2.5 and 3.12.2.29 respecting stop switches, 3.14.2.2.3(i) wire rope tag, 8.3.5.6 step demarcation lines and 8.6.11 combplate switches.

4. INSTRUCTIONS

- a) In the case of existing elevators, escalators, etc., the application of any newly adopted code is restricted to the sections covering the inspection, testing, maintenance and use of the elevating devices, unless otherwise required by the Regulation under the Elevating Devices Act.
- b) CAN/CSA-B44-M90, Safety Code for Elevators, is available from the Canadian Standards Association, 178 Rexdale Blvd., Rexdale, Ontario M9W 1R3, telephone - (416) 747-4044.
- c) Since the Elevating Devices Act requires all mechanics to have full knowledge of the codes applicable to the elevating devices on which they are assigned to work, we would expect that the mechanics involved in the construction, installation and maintenance of elevators, escalators, etc. will be provided with a copy of the subject standard.



Elevating and Amusement Devices Safety Division	Ref. No.: 78/90	Rev. No.: 1
DIRECTOR'S RULING	Date: June 1/90	Date: October 22/90

Subject: ADOPTION OF CAN/CSA-B44-M90 SAFETY CODE FOR ELEVATORS - NEW EDITION

Sent to: ALL CONTRACTORS IN SCOPE A & B -1, 2,3,4,5

1. ORDER

Each newly installed or altered elevator, escalator, dumbwaiter, moving walk and freight platform lift,

- a) for which the DESIGN is submitted to this branch for registration after the 1st day of October, 1990, or
- b) which will be INITIALLY inspected after April 1, 1991, whichever comes first, shall conform to the requirements of the CAN/CSA-B44-M90, Safety Code for Elevators, with exceptions specified in item 2 of this Ruling.

2. EXCEPTION

The Order in item #1 is modified with respect to the following rules in the subject standard:

- a) Clause 2.12.2.1.2 (separating force of 200N) and clause 2.12.2.1.6 (deformation of locking members by 1000/3000N): Considering that conformance with these new rules can be verified only through the testing and certification process by qualified testing laboratories in conformance with clause 2.12.6 and 11.4 and considering that the laboratories and interlock manufacturers will require time to introduce the new certification and re-certification program, we are modifying the Order in #1 as follows:

"Each newly installed or altered elevator, which is initially inspected after APRIL, 1992, shall be equipped with locks/interlocks certified and marked as to indicate conformance with the 1990 edition of the B44 Code".

- b) Clause 3.12.9c (redundancy of safety circuits) and 3.12.9d (checking of redundancies): Since the major changes in the requirements necessitate close investigation and possible alteration of presently used elevator control systems, at the request of the National Elevator and Escalator Association, we are modifying Order #1 as follows:

"DESIGN documents, for each newly installed or altered elevator, submitted to this branch for registration after the 1st day of JUNE, 1991 shall demonstrate compliance with the rules in clause 3.12.9(c) & (d) of the CAN/CSA-B44-M90."

To demonstrate conformance, this branch must receive, for every type (make and model) of elevator control system, a detailed analysis of every safety circuit with an explanation as to how the conformance is achieved. This may be in the form of a "standard submission" or as a part of normal design submissions.

- c) Clause 3.16.3.1.3 (ascending car overspeed protection) and clause 3.16.4 (car uncontrolled low speed protection): Requirements in these rules are being enforced in accordance with EDB Ruling #68/88/3rd Revision, therefore the dates indicated in Order #1 do not apply.
- d) Clause 4.19.3.5 - Engineering Tests, Certification and Marking Plates for control valves: At the recommendation of the CSA-B44 Executive Committee (Minute M5.5 of April 3-5, 1990 meeting) the enforcement of this rule and related clause 11.6 is postponed until further notice.

3. CLARIFICATIONS

With respect to new and revised rules which shall be enforced in accordance with Order #1, you should draw special attention to rules in clause:

- a) Clause 2.8.4.2 Signs: With enforcement of Order #1, the EDB Ruling #17/84 will become void.
- b) Clause 2.11.10.5.3: Same as 'a' above with respect to EDB Ruling #62/88.
- c) Clause 2.12.2.1 Interlocks: Rules in clauses 2.12.2.1.1, -3, -4, -5 and -7 will be enforced through visual inspections before the certification process (see 2b above) is completed.
With respect to conformance with clause 2.12.2.1.9, it will remain the responsibility of submitting engineers to verify that the door fire rating, as labelled, was established on the basis of tests of door assemblies incorporating interlocks and wiring.
- d) Clause 3.10.8 Brakes: Same as 'a' above with respect to EDB Ruling #47/87/REV. A.
- e) Clause 3.12.9(c) & (d): In addition to the exception in 2(b), note the importance of this revision. The circuits incorporating any protective device listed in 3.12.2 and also circuits controlling the limits and speeds of the levelling, truck and inspection operation, are now considered "safety circuits". They all require back-up (redundancy) protection in the case of any specified failure. Clause 3.12.9(d) requires checking of redundancy on every car stop. Should any redundant component fail, the elevator must be automatically shut down.
- f) Also note important revisions in clause 3.7.14(e)* and 3.8.9(d) respecting marking plates on safeties and governors, clause 3.12.2.5 and 3.12.2.29 respecting stop switches, 3.14.2.2.3(i) wire rope tag, 8.3.5.6 step demarcation lines and 8.6.11 combplate switches.

****SAFETIES MARKING PLATE SHOULD SHOW MAXIMUM FORCE NEEDED TO ACTIVATE THE SAFETIES (NOT "MINIMUM" AS PRINTED IN ERROR ON THE B44-M90 CODE***

4. INSTRUCTIONS

- a) In the case of existing elevators, escalators, etc., the application of any newly adopted code is restricted to the sections covering the inspection, testing, maintenance and use of the elevating devices, unless otherwise required by the Regulation under the Elevating Devices Act.
- b) CAN/CSA-B44-M90, Safety Code for Elevators, is available from the Canadian Standards Association, 178 Rexdale Blvd., Rexdale, Ontario M9W 1R3, telephone - (416) 747-4044.
- c) Since the Elevating Devices Act requires all mechanics to have full knowledge of the codes applicable to the elevating devices on which they are assigned to work, we would expect that the mechanics involved in the construction, installation and maintenance of elevators, escalators, etc. will be provided with a copy of the subject standard.



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	78/90	2
DIRECTOR'S RULING	Date:	Date:
	June 1/90	January 17/91

Subject: ADOPTION OF CAN/CSA-B44-M90 SAFETY CODE FOR ELEVATORS - NEW EDITION

Sent to: ALL CONTRACTORS IN SCOPE A & B -1, 2,3,4,5

1. ORDER

Each newly installed or altered elevator, escalator, dumbwaiter, moving walk and freight platform lift, for which the DESIGN is submitted to this branch for registration after the 1st day of October, 1990, shall conform to the requirements of the CAN/CSA-B44-M90, Safety Code for Elevators, with exceptions specified in item 2 of this Ruling. } r2

2. EXCEPTION

The Order in item #1 is modified with respect to the following rules in the subject standard:

- a) Clause 2.12.2.1.2 (separating force of 200N) and clause 2.12.2.1.6 (deformation of locking members by 1000/3000N): Considering that conformance with these new rules can be verified only through the testing and certification process by qualified testing laboratories in conformance with clause 2.12.6 and 11.4 and considering that the laboratories and interlock manufacturers will require time to introduce the new certification and re-certification program, we are modifying the Order in #1 as follows:

"Each newly installed or altered elevator, which is initially inspected after APRIL, 1992, shall be equipped with locks/interlocks certified and marked as to indicate conformance with the 1990 edition of the B44 Code".

- b) Clause 3.12.9c (redundancy of safety circuits) and 3.12.9d (checking of redundancies): Since the major changes in the requirements necessitate close investigation and possible alteration of presently used elevator control systems, at the request of the National Elevator and Escalator Association, we are modifying Order #1 as follows:

"DESIGN documents, for each newly installed or altered elevator, submitted to this branch for registration after the 1st day of JUNE, 1991 shall demonstrate compliance with the rules in clause 3.12.9(c) & (d) of the CAN/CSA-B44-M90."

To demonstrate conformance, this branch must receive, for every type (make and model) of elevator control system, a detailed analysis of every safety circuit with an explanation as to how the conformance is achieved. This may be in the form of a "standard submission" or as a part of normal design submissions.

- c) Clause 3.16.3.1.3 (ascending car overspeed protection) and clause 3.16.4 (car uncontrolled low speed protection): Requirements in these rules are being enforced in accordance with EDB Ruling #68/88/3rd Revision, therefore the dates indicated in Order #1 do not apply.

- d) Clause 4.19.3.5 - Engineering Tests, Certification and Marking Plates for control valves:
At the recommendation of the CSA-B44 Executive Committee (Minute M5.5 of April 3-5, 1990 meeting) the enforcement of this rule and related clause 11.6 is postponed until further notice.

3. CLARIFICATIONS

With respect to new and revised rules which shall be enforced in accordance with Order #1, you should draw special attention to rules in clause:

- a) Clause 2.8.4.2 Signs: With enforcement of Order #1, the EDB Ruling #17/84 will become void.
- b) Clause 2.11.10.5.3: Same as 'a' above with respect to EDB Ruling #62/88.
- c) Clause 2.12.2.1 Interlocks: Rules in clauses 2.12.2.1.1, -3, -4, -5 and -7 will be enforced through visual inspections before the certification process (see 2b above) is completed.
With respect to conformance with clause 2.12.2.1.9, it will remain the responsibility of submitting engineers to verify that the door fire rating, as labelled, was established on the basis of tests of door assemblies incorporating interlocks and wiring.
- d) Clause 3.10.8 Brakes: Same as 'a' above with respect to EDB Ruling #47/87/REV. A.
- e) Clause 3.12.9(c) & (d): In addition to the exception in 2(b), note the importance of this revision. The circuits incorporating any protective device listed in 3.12.2 and also circuits controlling the limits and speeds of the levelling, truck and inspection operation, are now considered "safety circuits". They all require back-up (redundancy) protection in the case of any specified failure. Clause 3.12.9(d) requires checking of redundancy on every car stop. Should any redundant component fail, the elevator must be automatically shut down.
- f) Also note important revisions in clause 3.7.14(e)* and 3.8.9(d) respecting marking plates on safeties and governors, clause 3.12.2.5 and 3.12.2.29 respecting stop switches, 3.14.2.2.3(i) wire rope tag, 8.3.5.6 step demarcation lines and 8.6.11 combplate switches.

****SAFETIES MARKING PLATE SHOULD SHOW MAXIMUM FORCE NEEDED TO ACTIVATE THE SAFETIES (NOT "MINIMUM" AS PRINTED IN ERROR ON THE B44-M90 CODE***

4. INSTRUCTIONS

- a) In the case of existing elevators, escalators, etc., the application of any newly adopted code is restricted to the sections covering the inspection, testing, maintenance and use of the elevating devices, unless otherwise required by the Regulation under the Elevating Devices Act.
- b) CAN/CSA-B44-M90, Safety Code for Elevators, is available from the Canadian Standards Association, 178 Rexdale Blvd., Rexdale, Ontario M9W 1R3, telephone - (416) 747-4044.
- c) Since the Elevating Devices Act requires all mechanics to have full knowledge of the codes applicable to the elevating devices on which they are assigned to work, we would expect that the mechanics involved in the construction, installation and maintenance of elevators, escalators, etc. will be provided with a copy of the subject standard.



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	78/90	3
DIRECTOR'S RULING	Date:	Date:
	June 1/90	May 23 /91

Subject: ADOPTION OF CAN/CSA-B44-M90 SAFETY CODE FOR ELEVATORS - NEW EDITION

Sent to: ALL CONTRACTORS IN SCOPE A & B -1, 2,3,4,5

Important change in 2(b) Action required by June 7, 1991

1. ORDER

Each newly installed or altered elevator, escalator, dumbwaiter, moving walk and freight platform lift, for which the DESIGN is submitted to this branch for registration after the 1st day of October, 1990, shall conform to the requirements of the CAN/CSA-B44-M90, Safety Code for Elevators, with exceptions specified in item 2 of this Ruling.

2. EXCEPTION

The Order in item #1 is modified with respect to the following rules in the subject standard:

- a) Clause 2.12.2.1.2 (separating force of 200N) and clause 2.12.2.1.6 (deformation of locking members by 1000/3000N): Considering that conformance with these new rules can be verified only through the testing and certification process by qualified testing laboratories in conformance with clause 2.12.6 and 11.4 and considering that the laboratories and interlock manufacturers will require time to introduce the new certification and re-certification program, we are modifying the Order in #1 as follows:

"Each newly installed or altered elevator, which is initially inspected after APRIL, 1992, shall be equipped with locks/interlocks certified and marked as to indicate conformance with the 1990 edition of the B44 Code".

- b) Clause 3.12.9c (redundancy of safety circuits) and 3.12.9d (checking of redundancies): Since the major changes in the requirements necessitate close investigation and possible alteration of presently used elevator control systems, at the request of the National Elevator and Escalator Association, we are modifying Order #1 as follows:

"Compliance with the rules in clause 3.12.9(c) & (d) of the CAN/CSA-B44-M90 and shall be demonstrated in DESIGN documents and, where possible, on initial inspections of each newly installed or altered elevator, (where applicable) for which a firm sales contract is signed before JUNE 1, 1991 provided that a listing of all elevators for which this exception is requested, is faxed or delivered by other recorded means to this branch on or before June 7, 1991. The listing must contain (i) the contract date, (ii) contract number (or other unique reference), (iii) approximate date of installation, (iv) number of elevators in each contract, (v) capacity and speed, (vi) location, (vii) name of the project and (viii) the buyer."

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*Changed at the proposal of NEEA Liaison Committee received on May 21, 1991.

To demonstrate conformance, this branch must receive, for every type (make and model) of elevator control system, a detailed analysis of every safety circuit with an explanation as to how the conformance is achieved. This may be in the form of a "standard submission" or as a part of normal design submissions.

- c) Clause 3.16.3.1.3 (ascending car overspeed protection) and clause 3.16.4 (car uncontrolled

low speed protection): Requirements in these rules are being enforced in accordance with EDB Ruling #68/88/3rd Revision, therefore the dates indicated in Order #1 do not apply.

- d) Clause 4.19.3.5 - Engineering Tests, Certification and Marking Plates for control valves:
At the recommendation of the CSA-B44 Executive Committee (Minute M5.5 of April 3-5, 1990 meeting) the enforcement of this rule and related clause 11.6 is postponed until further notice.

3. CLARIFICATIONS

With respect to new and revised rules which shall be enforced in accordance with Order #1, you should draw special attention to rules in clause:

- a) Clause 2.8.4.2 Signs: With enforcement of Order #1, the EDB Ruling #17/84 will become void.
- b) Clause 2.11.10.5.3: Same as 'a' above with respect to EDB Ruling #62/88.
- c) Clause 2.12.2.1 Interlocks: Rules in clauses 2.12.2.1.1, -3, -4, -5 and -7 will be enforced through visual inspections before the certification process (see 2b above) is completed. With respect to conformance with clause 2.12.2.1.9, it will remain the responsibility of submitting engineers to verify that the door fire rating, as labelled, was established on the basis of tests of door assemblies incorporating interlocks and wiring.
- d) Clause 3.10.8 Brakes: Same as 'a' above with respect to EDB Ruling #47/87/REV. A.
- e) Clause 3.12.9(c) & (d): In addition to the exception in 2(b), note the importance of this revision. The circuits incorporating any protective device listed in 3.12.2 and also circuits controlling the limits and speeds of the levelling, truck and inspection operation, are now considered "safety circuits". They all require back-up (redundancy) protection in the case of any specified failure. Clause 3.12.9(d) requires checking of redundancy on every car stop. Should any redundant component fail, the elevator must be automatically shut down.
- f) Also note important revisions in clause 3.7.14(e)* and 3.8.9(d) respecting marking plates on safeties and governors, clause 3.12.2.5 and 3.12.2.29 respecting stop switches, 3.14.2.2.3(i) wire rope tag, 8.3.5.6 step demarcation lines and 8.6.11 combplate switches.

****SAFETIES MARKING PLATE SHOULD SHOW MAXIMUM FORCE NEEDED TO ACTIVATE THE SAFETIES (NOT "MINIMUM" AS PRINTED IN ERROR ON THE B44-M90 CODE***

4. INSTRUCTIONS

- a) In the case of existing elevators, escalators, etc., the application of any newly adopted code is restricted to the sections covering the inspection, testing, maintenance and use of the elevating devices, unless otherwise required by the Regulation under the Elevating Devices Act.
- b) CAN/CSA-B44-M90, Safety Code for Elevators, is available from the Canadian Standards Association, 178 Rexdale Blvd., Rexdale, Ontario M9W 1R3, telephone - (416) 747-4044.
- c) Since the Elevating Devices Act requires all mechanics to have full knowledge of the codes applicable to the elevating devices on which they are assigned to work, we would expect that the mechanics involved in the construction, installation and maintenance of elevators, escalators, etc. will be provided with a copy of the subject standard.



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	78/90	4
DIRECTOR'S RULING	Date:	Date:
	June 1/90	May 27 /91

Subject: ADOPTION OF CAN/CSA-B44-M90 SAFETY CODE FOR ELEVATORS - NEW EDITION

Sent to: ALL CONTRACTORS IN SCOPE A & B -1, 2,3,4,5

1. **ORDER** Important change in 2(b) Action required by June 7, 1991
* To correct errata in 3rd revision

Each newly installed or altered elevator, escalator, dumbwaiter, moving walk and freight platform lift, for which the DESIGN is submitted to this branch for registration after the 1st day of October, 1990, shall conform to the requirements of the CAN/CSA-B44-M90, Safety Code for Elevators, with exceptions specified in item 2 of this Ruling.

2. **EXCEPTION**

The Order in item #1 is modified with respect to the following rules in the subject standard:

- a) Clause 2.12.2.1.2 (separating force of 200N) and clause 2.12.2.1.6 (deformation of locking members by 1000/3000N): Considering that conformance with these new rules can be verified only through the testing and certification process by qualified testing laboratories in conformance with clause 2.12.6 and 11.4 and considering that the laboratories and interlock manufacturers will require time to introduce the new certification and re-certification program, we are modifying the Order in #1 as follows:

"Each newly installed or altered elevator, which is initially inspected after APRIL, 1992, shall be equipped with locks/interlocks certified and marked as to indicate conformance with the 1990 edition of the B44 Code".

- b) Clause 3.12.9c (redundancy of safety circuits) and 3.12.9d (checking of redundancies):
Since the major changes in the requirements necessitate close investigation and possible alteration of presently used elevator control systems, at the request of the National Elevator and Escalator Association, we are modifying Order #1 as follows:

"DESIGN documents, for each newly installed or altered elevator, submitted to this branch for registration after the 1st day of JUNE, 1991 shall demonstrate compliance with the rules in clause 3.12.9(c) & (d) of the CAN/CSA-B44-M90 and shall contain instructions as to how the compliance will be demonstrated at the initial inspection.

Exception*: Design documents for elevators for which a firm sales contract* was signed before June 1, 1991 provided that a listing of all elevators for which this exception is requested, is faxed or delivered by other recorded means to this branch on or before June 7, 1991. The listing must contain (i) the contract date, (ii) contract number (or other unique reference), (iii) approximate date of installation, (iv) number of elevators in each contract, (v) capacity and speed, (vi) location, (vii) name of the project and (viii) the buyer."

Design submissions using this exception shall have in Box 29 this remark: "This installation is under the exception 2(b) of the Director's Ruling #78/90 REV. 4".

*Added at the proposal of NEEA Liaison Committee received on May 21, 1991.

To demonstrate conformance, this branch must receive, for every type (make and model) of elevator control system, a detailed analysis of every safety circuit with an explanation as to how the conformance is achieved. This may be in the form of a "standard submission" or as a part of normal design submissions.

- c) Clause 3.16.3.1.3 (ascending car overspeed protection) and clause 3.16.4 (car uncontrolled low speed protection): Requirements in these rules are being enforced in accordance with EDB Ruling #68/88/3rd Revision, therefore the dates indicated in Order #1 do not apply.
- d) Clause 4.19.3.5 - Engineering Tests, Certification and Marking Plates for control valves: At the recommendation of the CSA-B44 Executive Committee (Minute M5.5 of April 3-5, 1990 meeting) the enforcement of this rule and related clause 11.6 is postponed until further notice.

3. CLARIFICATIONS

With respect to new and revised rules which shall be enforced in accordance with Order #1, you should draw special attention to rules in clause:

- a) Clause 2.8.4.2 Signs: With enforcement of Order #1, the EDB Ruling #17/84 will become void.
- b) Clause 2.11.10.5.3: Same as 'a' above with respect to EDB Ruling #62/88.
- c) Clause 2.12.2.1 Interlocks: Rules in clauses 2.12.2.1.1, -3, -4, -5 and -7 will be enforced through visual inspections before the certification process (see 2b above) is completed. With respect to conformance with clause 2.12.2.1.9, it will remain the responsibility of submitting engineers to verify that the door fire rating, as labelled, was established on the basis of tests of door assemblies incorporating interlocks and wiring.
- d) Clause 3.10.8 Brakes: Same as 'a' above with respect to EDB Ruling #47/87/REV. A.
- e) Clause 3.12.9(c) & (d): In addition to the exception in 2(b), note the importance of this revision. The circuits incorporating any protective device listed in 3.12.2 and also circuits controlling the limits and speeds of the levelling, truck and inspection operation, are now considered "safety circuits". They all require back-up (redundancy) protection in the case of any specified failure. Clause 3.12.9(d) requires checking of redundancy on every car stop. Should any redundant component fail, the elevator must be automatically shut down.
- f) Also note important revisions in clause 3.7.14(e)* and 3.8.9(d) respecting marking plates on safeties and governors, clause 3.12.2.5 and 3.12.2.29 respecting stop switches, 3.14.2.2.3(i) wire rope tag, 8.3.5.6 step demarcation lines and 8.6.11 combplate switches.

****SAFETIES MARKING PLATE SHOULD SHOW MAXIMUM FORCE NEEDED TO ACTIVATE THE SAFETIES (NOT "MINIMUM" AS PRINTED IN ERROR ON THE B44-M90 CODE***

4. INSTRUCTIONS

- a) In the case of existing elevators, escalators, etc., the application of any newly adopted code is restricted to the sections covering the inspection, testing, maintenance and use of the elevating devices, unless otherwise required by the Regulation under the Elevating Devices Act.
- b) CAN/CSA-B44-M90, Safety Code for Elevators, is available from the Canadian Standards Association, 178 Rexdale Blvd., Rexdale, Ontario M9W 1R3, telephone - (416) 747-4044.
- c) Since the Elevating Devices Act requires all mechanics to have full knowledge of the codes applicable to the elevating devices on which they are assigned to work, we would expect that the mechanics involved in the construction, installation and maintenance of elevators, escalators, etc. will be provided with a copy of the subject standard.



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	78/90	5
DIRECTOR'S RULING	Date:	Date:
	June 1/90	June 22 /91

Subject: ADOPTION OF CAN/CSA-B44-M90 SAFETY CODE FOR ELEVATORS - NEW EDITION

Sent to: ALL CONTRACTORS IN SCOPE A & B -1, 2,3,4,5

1. **ORDER** Important change in 2(a) at the request of NEEA & CSA laboratories

Each newly installed or altered elevator, escalator, dumbwaiter, moving walk and freight platform lift, for which the DESIGN is submitted to this branch for registration after the 1st day of October, 1990, shall conform to the requirements of the CAN/CSA-B44-M90, Safety Code for Elevators, with exceptions specified in item 2 of this Ruling.

2. **EXCEPTION**

The Order in item #1 is modified with respect to the following rules in the subject standard:

a) Clause 2.12.2.1.2 (separating force of 200N) and clause 2.12.2.1.6 (deformation of locking members by 1000/3000N): Considering that conformance with these new rules can be verified only through the testing and certification process by qualified testing laboratories in conformance with clause 2.12.6 and 11.4 and considering that the laboratories and interlock manufacturers will require time to introduce the new certification and re-certification program, we are modifying the Order in #1 as follows:

"New and altered elevators for which DESIGN documents are submitted to this branch for registration after April 1, 1993, shall be equipped with door locks, contacts and interlocks that are certified and marked as to indicate conformance with the 1990 edition of the B44-M90 code.

By September 1, 1992, all elevator contractors who will be applying for registration of elevator designs after that date, must submit a progress report (attention H.Lee) on the status of the certification process of all door contacts /lock /interlocks utilized by that contractor. The report should show: application to laboratory submitted, or testing in progress, completed or labelling "B44-M90" authorized as of a specific date.

No new design submission will be registered after September 1, 1992 unless the progress report was received from the submitting contractor."

b) Clause 3.12.9c (redundancy of safety circuits) and 3.12.9d (checking of redundancies):
Since the major changes in the requirements necessitate close investigation and possible alteration of presently used elevator control systems, at the request of the National Elevator and Escalator Association, we are modifying Order #1 as follows:

"DESIGN documents, for each newly installed or altered elevator, submitted to this branch for registration after the 1st day of JUNE, 1991 shall demonstrate compliance with the rules in clause 3.12.9(c) & (d) of the CAN/CSA-B44-M90 and shall contain instructions as to how the compliance will be demonstrated at the initial inspection.

Exception*: Design documents for elevators for which a firm sales contract* was signed before June 1, 1991 provided that a listing of all elevators for which this exception is requested, is faxed or delivered by other recorded means to this branch on or before June 7, 1991. The listing must contain (i) the contract date, (ii) contract number (or other unique reference), (iii) approximate date of installation, (iv) number of elevators in each contract, (v) capacity and speed, (vi) location, (vii) name of the project and (viii) the buyer."

Design submissions using this exception shall have in Box 29 this remark: "This installation is under the exception 2(b) of the Director's Ruling #78/90 REV. 4".

*Added at the proposal of NEEA Liaison Committee received on May 21, 1991.

To demonstrate conformance, this branch must receive, for every type (make and model) of elevator control system, a detailed analysis of every safety circuit with an explanation as to how the conformance is achieved. This may be in the form of a "standard submission" or as a part of normal design submissions.

- c) Clause 3.16.3.1.3 (ascending car overspeed protection) and clause 3.16.4 (car uncontrolled low speed protection): Requirements in these rules are being enforced in accordance with EDB Ruling #68/88/3rd Revision, therefore the dates indicated in Order #1 do not apply.
- d) Clause 4.19.3.5 - Engineering Tests, Certification and Marking Plates for control valves: At the recommendation of the CSA-B44 Executive Committee (Minute M5.5 of April 3-5, 1990 meeting) the enforcement of this rule and related clause 11.6 is postponed until further notice.

3. CLARIFICATIONS

With respect to new and revised rules which shall be enforced in accordance with Order #1, you should draw special attention to rules in clause:

- a) Clause 2.8.4.2 Signs: With enforcement of Order #1, the EDB Ruling #17/84 will become void.
- b) Clause 2.11.10.5.3: Same as 'a' above with respect to EDB Ruling #62/88.
- c) Clause 2.12.2.1 Interlocks: Rules in clauses 2.12.2.1.1, -3, -4, -5 and -7 will be enforced through visual inspections before the certification process (see 2b above) is completed. With respect to conformance with clause 2.12.2.1.9, it will remain the responsibility of submitting engineers to verify that the door fire rating, as labelled, was established on the basis of tests of door assemblies incorporating interlocks and wiring.
- d) Clause 3.10.8 Brakes: Same as 'a' above with respect to EDB Ruling #47/87/REV. A.
- e) Clause 3.12.9(c) & (d): In addition to the exception in 2(b), note the importance of this revision. The circuits incorporating any protective device listed in 3.12.2 and also circuits controlling the limits and speeds of the levelling, truck and inspection operation, are now considered "safety circuits". They all require back-up (redundancy) protection in the case of any specified failure. Clause 3.12.9(d) requires checking of redundancy on every car stop. Should any redundant component fail, the elevator must be automatically shut down.
- f) Also note important revisions in clause 3.7.14(e)* and 3.8.9(d) respecting marking plates on safeties and governors, clause 3.12.2.5 and 3.12.2.29 respecting stop switches, 3.14.2.2.3(i) wire rope tag, 8.3.5.6 step demarcation lines and 8.6.11 combplate switches.

****SAFETIES MARKING PLATE SHOULD SHOW MAXIMUM FORCE NEEDED TO ACTIVATE THE SAFETIES (NOT "MINIMUM" AS PRINTED IN ERROR ON THE B44-M90 CODE***

4. INSTRUCTIONS

- a) In the case of existing elevators, escalators, etc., the application of any newly adopted code is restricted to the sections covering the inspection, testing, maintenance and use of the elevating devices, unless otherwise required by the Regulation under the Elevating Devices Act.
- b) CAN/CSA-B44-M90, Safety Code for Elevators, is available from the Canadian Standards Association, 178 Rexdale Blvd., Rexdale, Ontario M9W 1R3, telephone - (416) 747-4044.
- c) Since the Elevating Devices Act requires all mechanics to have full knowledge of the codes applicable to the elevating devices on which they are assigned to work, we would expect that the mechanics involved in the construction, installation and maintenance of elevators, escalators, etc. will be provided with a copy of the subject standard.



Elevating and Amusement Devices Safety Division	Ref. No.: 79/90	Rev. No.:
DIRECTOR'S RULING	Date: August 3/90	Date:

Subject: HYDRAULIC CYLINDERS REMOVAL, EXAMINATION AND REPLACEMENT

Sent to: ALL CONTRACTORS IN SCOPES A & B-1

Item 1: INFORMATION

In the morning of Monday, July 16, 1990, two persons were seriously injured in an elevator accident in Thunder Bay. The elevator is a hydraulic, in-ground, direct plunger type, installed in 1964. Investigation to-date indicates that the catastrophic failure of the cylinder resulted from severe corrosion. Further tests will be carried out.

Aside from the on-going investigation, your immediate cooperation is necessary to facilitate management of inspection relating to non-accessible hydraulic components; and to implement corrective measures in order to eliminate potential similar situations.

Item 2: ORDER

2.1 Supply the following information to this Branch, prior to SEPTEMBER 1, 1990:

- a) the number of elevators with in-ground hydraulic cylinders, which are covered by your maintenance contracts;
- b) listing of cylinders that have been replaced, including the date of completion, installation number, types of corrosion protection before and after the replacement, as far back as possible from your records;
- c) criteria, and field examination and testing methods employed, to identify cylinders that need replacement;
- d) categorize the observations on corrosion from removed cylinders.

2.2 As of AUGUST 15, 1990, the removal and replacement of hydraulic in-ground cylinders shall be:

- a) deemed a Major Alteration (in lieu of a "Minor Alteration" as stipulated in O. Reg. 229/81, cl. 1(1)26, sub-clause (c)5 or (f) (iv).)
- b) The removed cylinder must be examined by an engineer. You are required to file with the Director within 30 days, an engineer's report detailing length of time the cylinder has been in-ground, corrosion protection previously applied, service history regarding first signs of suspected corrosion problems, cause and degree of failure and contributing factors, etc., together with photographs.

Item 3: **INTERIM RECOMMENDATIONS**

- 3.1 We recommend that any newly installed or replaced hydraulic in-ground piston/cylinder assembly be provided with a plastic (ABS OR PVC) casing to protect against corrosion, regardless of any other passive (wrapping/coating) or active (impressed voltage cathodic) systems applied as cylinder surface corrosion protection.
- 3.2 The CSA B44 Committee will be asked to consider fast-tracking code revisions concerning hydraulic elevator safety in the light of the Thunder Bay accident.

Item 4: **BACKGROUND**

- 4.1 Cylinder failure due to corrosion has been identified as a potentially serious safety hazard.
- 4.2 The information gathered from section 2, will be utilized in the study of protection needed to prevent catastrophic failure.
- 4.3 The present B44 code clause 4.18.7.1 that deals with cylinder surface corrosion protection is superficial and inadequate.
- 4.4 ASME/ANSI A 17.1 code mentioned three methods of corrosion protection, namely: a) wrapping and coating, b) cathodic protection, and c) encasement in plastic pipe. (see article in "Elevator World", February 1989 issue)

Some U.S. jurisdiction and manufacturers' recommendations have led us to believe that plastic pipe encasement has a significantly higher degree of reliability and effectiveness.

Item 5: **REMINDERS**

You are reminded that the Elevating Device Act 1980 and Ontario Regulation 229/81 as amended by O. Reg. 451/89 require the maintenance contractor to ensure:

- a) That the elevating device is in a safe operating condition and the parts and functions will remain in a safe operating condition until the next scheduled inspection and examination.
- b) Where there has been an incident involving an elevating device that indicates that the device is in a potentially hazardous condition, the contractor shall notify the Director by telephone within twenty-four hours and shall submit a written report giving full particulars within seven days thereafter.



Elevating and Amusement Devices Safety Division	Ref. No.: 79/90	Rev. No.: 1
DIRECTOR'S RULING	Date: August 3/90	Date: January 13/92

Subject: HYDRAULIC CYLINDERS REMOVAL, EXAMINATION, AND REPLACEMENT

Sent to: ALL CONTRACTORS IN SCOPES A & B-1

Item 1: INFORMATION

In the morning of Monday, July 16, 1990, two persons were seriously injured in an elevator accident in Thunder Bay. The Elevator is a hydraulic, in-ground, direct plunger type, installed in 1964. Investigation to date indicates that the catastrophic failure of the cylinder resulted from severe corrosion. Further tests will be carried out.

Aside from the on-going investigation, your immediate cooperation is necessary to facilitate management of inspection relating to non-accessible hydraulic components; and to implement corrective measures in order to eliminate potential similar situations.

Item 2: ORDER

2.1 Supply the following information to this Branch, prior to **SEPTEMBER 1, 1990**:

- a) the number of elevators with in-ground hydraulic cylinders, which are covered by your maintenance contracts;
- b) listing of cylinders that have been replaced, including the date of completion, installation number, types of corrosion protection before and after the replacement, as far back as possible from your records;
- c) criteria, and field examination and testing methods employed, to identify cylinders that need replacement;
- d) categorize the observations on corrosion from removed cylinders.

2.2 As of **AUGUST 15, 1990**, the removal and replacement of hydraulic in-ground cylinders shall be:

- a) deemed a Major Alteration (in lieu of a "Minor Alteration" as stipulated in O. Reg. 229/81, cl. 1(1) 26, sub-clause (c) 5 or (f) (iv).)
- b) The removed cylinder must be examined by an engineer. You are required to file with the Director within 30 days, an engineer's report detailing length of time the cylinder has been in-ground, corrosion protection previously applied, service history regarding first signs of suspected corrosion problems, cause and degree of failure and contributing factors, etc., together with photographs.

REVISION TO ITEM 2.2(b):

The requirement to submit photographs with your report is no longer necessary, unless any unusual conditions exist.

Item 3:

INTERIM RECOMMENDATIONS

- 3.1 We recommend that any newly installed or replaced hydraulic in-ground piston/cylinder assembly be provided with a plastic (ABS OR PVC) casing to protect against corrosion, regardless of any other passive (wrapping/coating) or active (impressed voltage cathodic) systems applied as cylinder surface corrosion protection.
- 3.2 The CSA B44 Committee will be asked to consider fast-tracking code revisions concerning hydraulic elevator safety in the light of the Thunder Bay accident.

Item 4:

BACKGROUND

- 4.1 Cylinder failure due to corrosion has been identified as a potentially serious safety hazard.
- 4.2 The information gathered from section 2, will be utilized in the study of protection needed to prevent catastrophic failure.
- 4.3 The present B44 code clause 4.18.7.1 that deals with cylinder surface corrosion protection is superficial and inadequate.
- 4.4 ASME/ANSI A 17.1 code mentioned three methods of corrosion protection, namely: a) wrapping and coating, b) cathodic protection, and c) encasement in plastic pipe. (see article in "Elevator World", February 1989 issue)

Some U.S. jurisdiction and manufacturers' recommendations have led us to believe that plastic pipe encasement has a significantly higher degree of reliability and effectiveness.

Item 5:

REMINDERS

You are reminded that the Elevating Device Act 1980 and Ontario Regulation 229/81 as amended by O. Reg. 451/89 require the maintenance contractor to ensure:

- a) That the elevating device is in a safe operating condition and the parts and functions will remain in a safe operating condition until the next scheduled inspection and examination.
- b) Where there has been an incident involving an elevating device that indicates that the device is in a potentially hazardous condition, the contractor shall notify the Director by telephone within twenty-four hours and shall submit a written report giving full particulars within seven days thereafter.



Elevating and Amusement Devices Safety Division	Ref. No.: 79/90	Rev. No.: 2
DIRECTOR'S RULING	Date: August 3/90	Date: March 16/92

Subject: HYDRAULIC CYLINDERS REMOVAL, EXAMINATION, AND REPLACEMENT

Sent to: ALL CONTRACTORS IN SCOPES A & B-1

Item 1: INFORMATION

In the morning of Monday, July 16, 1990, two persons were seriously injured in an elevator accident in Thunder Bay. The Elevator is a hydraulic, in-ground, direct plunger type, installed in 1964. Investigation to date indicates that the catastrophic failure of the cylinder resulted from severe corrosion. Further tests will be carried out.

Aside from the on-going investigation, your immediate cooperation is necessary to facilitate management of inspection relating to non-accessible hydraulic components; and to implement corrective measures in order to eliminate potential similar situations.

Item 2: ORDER

2.1 Supply the following information to this Branch, prior to SEPTEMBER 1, 1990:

- a) the number of elevators with in-ground hydraulic cylinders, which are covered by your maintenance contracts;
- b) listing of cylinders that have been replaced, including the date of completion, installation number, types of corrosion protection before and after the replacement, as far back as possible from your records;
- c) criteria, and field examination and testing methods employed, to identify cylinders that need replacement;
- d) categorize the observations on corrosion from removed cylinders.

2.2 As of AUGUST 15, 1990, the removal and replacement of hydraulic in-ground cylinders shall be:

- a) deemed a Major Alteration (in lieu of a "Minor Alteration" as stipulated in O. Reg. 229/81, cl. 1(1) 26, sub-clause (c)5 or (f) (iv).)
- b) the removed cylinder must be examined and you are required to file with the Director within 30 days, a Report detailing length of time the cylinder has been in-ground, corrosion protection previously applied, service history regarding first signs of suspected corrosion problems, cause and degree of failure and contributing factors, etc.

REVISION TO ITEM 2.2(b)

The requirement to submit photographs with your report is no longer necessary, unless any unusual conditions exist.

Item 3: **INTERIM RECOMMENDATIONS**

- 3.1 We recommend that any newly installed or replaced hydraulic in-ground piston/cylinder assembly be provided with a plastic (ABS OR PVC) casing to protect against corrosion, regardless of any other passive (wrapping/coating) or active (impressed voltage cathodic) systems applied as cylinder surface corrosion protection.
- 3.2 The CSA B44 Committee will be asked to consider fast-tracking code revisions concerning hydraulic elevator safety in the light of the Thunder Bay accident.

Item 4: **BACKGROUND**

- 4.1 Cylinder failure due to corrosion has been identified as a potentially serious safety hazard.
- 4.2 The information gathered from section 2, will be utilized in the study of protection needed to prevent catastrophic failure.
- 4.3 The present B44 code clause 4.18.7.1 that deals with cylinder surface corrosion protection is superficial and inadequate.
- 4.4 ASME/ANSI A 17.1 code mentioned three methods of corrosion protection, namely: a) wrapping and coating, b) cathodic protection, and c) encasement in plastic pipe. (see article in "Elevator World", February 1989 issue)

Some U.S. jurisdiction and manufacturers' recommendations have led us to believe that plastic pipe encasement has a significantly higher degree of reliability and effectiveness.

Item 5: **REMINDERS**

You are reminded that the Elevating Device Act 1980 and Ontario Regulation 229/81 as amended by O. Reg. 451/89 require the maintenance contractor to ensure:

- a) That the elevating device is in a safe operating condition and the parts and functions will remain in a safe operating condition until the next scheduled inspection and examination.
- b) Where there has been an incident involving an elevating device that indicates that the device is in a potentially hazardous condition, the contractor shall notify the Director by telephone within twenty-four hours and shall submit a written report giving full particulars within seven days thereafter.



Elevating and Amusement Devices Safety Division	Ref. No.: 80/90	Rev. No.:
DIRECTOR'S RULING	Date: October 22/90	Date:

Subject: REVISION TO DESIGN SUBMISSIONS FILLED PRIOR TO REGISTRATION

Sent to: ELEVATOR CONTRACTORS IN SCOPES A & B-1, 2, 3, 4, 5

ORDER TO SUBMITTING ENGINEERS AND INSTALLING CONTRACTORS

Effective immediately, all revisions to the design documents initiated by the submitter prior to registration of the design shall:

- a) Be made in the same format as the respective original documents. (e.g. a revision of an entry on page #1 of the spec sheet and a revision of an item in the layout would necessitate a resubmission of these two documents). A new application form, abridged form and fees are not required.
- b) Be signed and sealed by the same submitting engineer who submitted the original documents. Documents which did not require an engineer's signature in the original submission e.g. page #1 of the spec. sheet, may be directly signed and sealed or may be accompanied by a letter signed and sealed by the submitting engineer. If another engineer signs the revision, in that case all documents in the submission must be signed, sealed and resubmitted by that engineer.
- c) Be identified with the same unique submitter's number as the original submission.

NOTE RE: REVISIONS FILED AFTER REGISTRATION OF THE DESIGN

For submission of revisions after the design has been registered, following the guidelines in the specification from which explains the requirements set in section 10 of Ontario Regulation 229/80 and amended in O.Reg. 451/89.

T. GORDON, Director



Elevating and Amusement Devices Safety Division	Ref. No.: 81/90	Rev. No.:
DIRECTOR'S RULING	Date: November 2/90	Date:

Subject: SUPERVISION OF 'MECHANICS IN TRAINING'

Sent to: ALL ELEVATOR CONTRACTORS IN SCOPES A, B, F, P, S

DEFINITION

Act Section 1(1) - "Mechanic" means a person who has a minimum of four years work experience directly related to the work assigned to him and who has knowledge of the Act and the regulations and of the codes applicable to the elevating device upon which he is assigned to work.

REGULATION

Section 14 (1) - No work shall be undertaken on an elevating device by a contractor unless it is performed by a mechanic or by a mechanic-in-training under the supervision of a mechanic.

Section 14 (3) - No mechanic shall be assigned or undertake work beyond the scope of his experience or training O.Reg. 229/81, s.14.

INTERPRETATION

1. **DEGREE OF SUPERVISION**

- a) In determining what supervision is required, the employer must look at the following:
 - (i) the work experience of the mechanic-in-training, in relation to the work being performed, and
 - (ii) the ratio of "mechanics-in-training" to "mechanics" at any particular job site.
- b) The degree of supervision may range from "over the shoulder" to "on site but not immediately present", bearing in mind the training of the person doing the work, the work being performed and the objective of ensuring the person does the work properly and safety.

2. **LOCATION OF SUPERVISING MECHANIC**

The "mechanic" must be "on site", i.e., at a location no more remote than the group of elevators on which the "mechanic-in-training" is working, so that assistance, when and if required, is immediately available.

T. GORDON SMITH, Director



Elevating and Amusement Devices Safety Division	Ref. No.: 81/90	Rev. No.: 1
DIRECTOR'S RULING	Date: November 2/90	Date: September 28/93

Subject: SUPERVISION OF 'MECHANICS IN TRAINING'

Sent to: ALL ELEVATOR CONTRACTORS IN SCOPES U, L, F, P, S

DEFINITION

Act Section 1(1) - "Mechanic" means a person who has a minimum of four years work experience directly related to the work assigned to him and who has knowledge of the Act and the regulations and of the codes applicable to the elevating device upon which he is assigned to work.

REGULATION

Section 14 (1) - No work shall be undertaken on an elevating device by a contractor unless it is performed by a mechanic or by a mechanic-in-training under the supervision of a mechanic.

Section 14 (3) - No mechanic shall be assigned or undertake work beyond the scope of his experience or training O.Reg. 229/81, s.14.

INTERPRETATION

1. **DEGREE OF SUPERVISION**

The degree of supervision required for the mechanic-in-training will be commensurate with the risk involved. Accordingly, it will be incumbent upon employers to assess;

- a) The skill, training and knowledge of the mechanic-in-training assigned to perform the work;
- b) The type and complexity of the work performed, and
- c) The potential danger to life and property.

It is the responsibility of employers to ensure that:

- a) Mechanics-in-training only perform work for which they are qualified and to provide an adequate reasonable level of supervision by a qualified mechanic at all times;
- b) Mechanics are not assigned work beyond the scope of their experience or training.

Worker and public safety are paramount. Employers must deploy their workforce in the manner which will assure the safety of everyone.



Elevating and Amusement Devices Safety Division	Ref. No.: 82/90	Rev. No.:
DIRECTOR'S RULING	Date: November 21/90	Date:

Subject: POTENTIAL HAZARD - ACTION BY ELEVATOR MAINTENANCE CONTRACTORS REQUIRED

Sent to: ALL ELEVATOR CONTRACTORS IN SCOPES A1, B1 & F1

- 1) Non-conformance with Clause 3.12.9 (c) of B44-M85* and earlier editions
- 2) Horizontally mounted Klockner-Moeller Relays on Horn Controllers
- 3) Northern Controllers equipped with KUP Relays
- 4) Beckett overspeed governors - type "G" 79

INTRODUCTION

- a) The following orders for checking and repairs are issued in accordance with Subsection 10(8) of the Elevating Devices Act.
- b) The orders are issued to the maintaining contractors. It remains the contractor's responsibility to obtain the work authorization from the owner, where required work is not covered by the maintenance contract.
- c) Although some of the repairs required in the following orders might constitute an alteration, in this instance only, you are not required to register Design Submission with this Branch, however, you are responsible to keep record on the repairs and changes your company performed on each installation, and also to provide the elevator owner with same information.

1. NON-CONFORMANCE WITH CLAUSE 3.12.9(C) OF B44-M85* AND EARLIER EDITIONS

1.1 Background - Potential Hazard

Section 3.12.9(c) of the B44 Safety Code for elevators (1985* and earlier editions) makes reference to the occurrence of a single ground and the failure of a single magnetically operated switch in the control and operating circuits.

It was discovered through recent incidents that there are a number of controllers in operation (produced by different manufacturers) where the failure of a single magnetically operated switch or the occurrence of a single accidental ground in the control or operating circuits, or the failure of the suicide circuits of VV generator control system, allowed the elevator to run with open doors.

1.2 Order To Maintenance Contractors

All installations maintained by your company shall be immediately checked for compliance with the requirements in clause 3.12.9c of CSA-B44 Code - 1985* and earlier editions. Where non-compliance is identified, you shall proceed with necessary changes.

*Note that the reference is made to the 1985 and earlier editions of B44 Code, whichever was enforced at the time of the installation. Additional requirements in clause 3.12.9(c) introduced in 1990 edition are not subject to this ruling.

2. **HORIZONTALLY MOUNTED KLOCKNER-MOELLER RELAYS ON HORN CONTROLLERS**

2.1 **Background - Potential Hazard**

There are a number of controllers, manufactured by HORN ELEVATOR CO., that are equipped with horizontally mounted Klockner-Moeller relays.

In July 1989, an accident occurred when a moving company employee was loading the elevator and the car suddenly moved with open doors causing him serious injury. The investigation revealed that a dislodged screw had shorted two unrelated contacts on the "UA" relay rendering the safety circuit inoperative allowing the car to move with doors open. This screw had fallen from a component (relay) located ABOVE the "UA" relay.

2.2 **Order to Maintenance Contractors**

You shall immediately examine all elevator installations equipped with Horn controllers that have horizontally mounted Klockner-Moeller relays to determine if this condition could exist and make the necessary alterations to ensure that a "dislodged screw" (or any other foreign object) cannot create an unsafe condition by shorting the safety circuit.

It is understood that the manufacturer (HORN) had experienced similar problems and issued certain remedial instructions. It may be necessary to contact the Schindler Elevator Corporation to obtain information on the actions taken to correct this problem.

3. **NORTHERN CONTROLLERS EQUIPPED WITH KUP RELAYS**

3.1 **Background - Potential Hazard**

A recent Directors Ruling (#71/89 - a copy is attached) was issued that dealt with the rewiring of "Northern" elevators with "KUP" style relay controllers. It addressed the concern that if the "UL" or "DL" relays are not correctly inserted into their sockets, it may be possible for the car to run, at contract speed, with both car and landing doors open. The Ruling referenced the Northern Elevator Ltd. Bulletin #89-049, with a circuit diagram showing "CD" Relay which was supposed to be installed in accordance with an earlier Northern Bulletin #85-034.

3.2 **Order to Maintenance Contractors**

All installations maintained by your company that have Northern controllers equipped with "KUP" style relays shall ensure that the original circuit change indicated in Northern Bulletin #85-034 has been completed in addition to the changes required in the Director's Ruling #71/89.

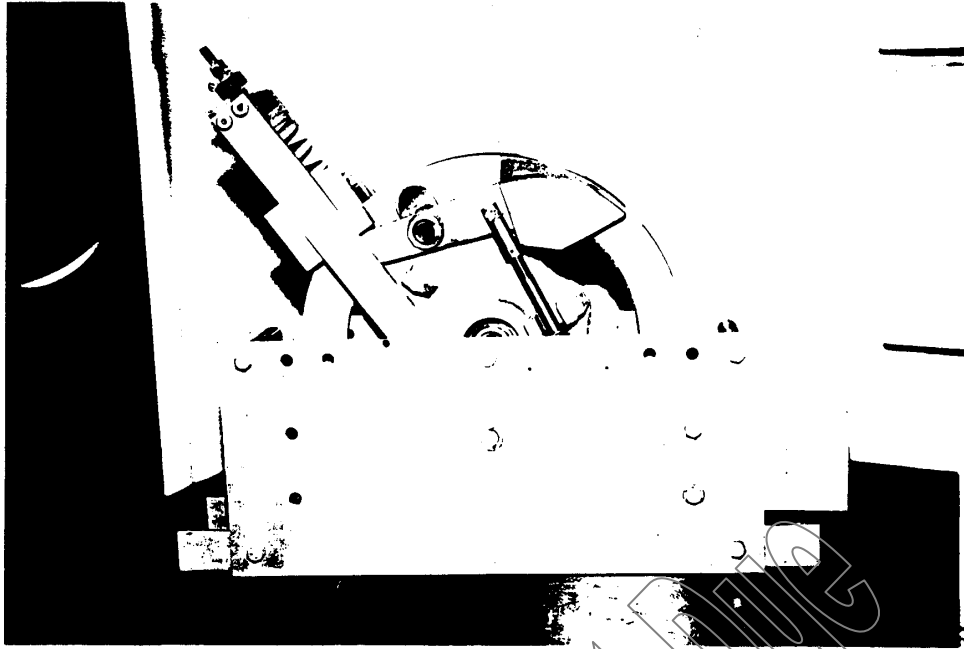
4. **BECKETT OVERSPEED GOVERNORS - TYPE "G" 79**

4.1 **Background - Potential Hazard**

A problem was discovered with the subject overspeed governors when performing safety tests during several initial inspections. It was found that the bail arm cracked when it engaged the tripping jaw. This has been identified by the manufacturer as a flaw in the casting.

4.2 If you find "Beckett Elevator Limited" on the data plate and the governor is similar in appearance to the governor in the photograph (see the attached for), you MUST replace the existing governor with one that has been updated, tested and sealed by Beckett. For your information, attached is a form which you may copy and which should facilitate your communication with Beckett.

governor.



If you find "Beckett Elevator Limited" on the dataplate and the governor is similar in appearance to the governor in the photograph above, you MUST replace you existing governor with a more up-to-date model.

Please fill in the information sheet attached and forward via fax to Beckett at 752-7398.

Beckett will advise by return fax, their best available schedule for a replacement governor. This will permit you to remove, and replac the existing governor in one trip.

INSTALLING CONTRACTOR

NAME:
ADDRESS:

CONTACT PERSON:
FAX NO.:

BUILDING ADDRESS:

NUMBER OF ELEVATORS:

ELEVATOR NO.	RATED SPEED (FPM OR M/SEC)	MAXIMUM CAPACITY (LB OR KG)	NO. OF OVERSPEED SWITCHES (1 OR 2)	MINISTRY INSTALLAT NUMBER
1.				
2.				
3.				
4.				
5.				



Elevating and Amusement Devices Safety Division	Ref. No.: 83/91	Rev. No.:
DIRECTOR'S RULING	Date: February 25/91	Date:

Subject: RETROFITTING OF ELEVATOR SINGLE SLIDE DOORS WITH SAFETY RETAINERS - NEW PROCEDURES

Sent to: ALL ESCALATOR CONTRACTORS IN SCOPE A, B, F, P, S - 1

BACKGROUND

In May 1988, Ruling #61/88 was issued.

EXTRACT - SECTION I

Commencing May 15, 1988, inspectors will order elevators equipped with single slide landing doors, to be retrofitted with door SAFETY RETAINERS.

NOTE: The elevators, however, may be retrofitted before the inspection order is issued. This, indeed, is strongly recommended considering that the cycle of our inspections may be extended up to 36 months.

RATIONALE FOR REVISION

Resulting from the Branch's ongoing commitment to provide inspection services for new installations throughout the Province, the inspection cycle referred to in the previous paragraph is no longer achievable. In addition, we have been advised by several contractors, that the recommendation to install safety retainers, before the issuance of an inspection order, has been ignored by some Owners. It has been decided that a revised approach is necessary so that the Branch may determine the current status of the retrofit programme and expedite complete conformance with the programme.

ORDER TO CONTRACTORS

Each contractor must submit the following information by April 1, 1991:

1. A listing of all elevator installations equipped with single slide landing doors maintained by your company. The listing shall identify each installation by installation number and include;
 - a) All installations that have been retrofitted.
 - b) Installations for which you have a contract to install safety retainers and the anticipated completion date.
 - c) Those installations that have not been retrofitted and for which there is no contract to have safety retainers installed.
2. In subsequent years, each contractor must, on April 1st, submit an update indicating the status of the retrofits as of March 1st of that year.
3. When the listings are received, a retrofit order to owners will be issued on non-conforming installations.



Elevating and Amusement Devices Safety Division	Ref. No.: 85/91	Rev. No.:
DIRECTOR'S RULING	Date: September 3/91	Date:

**Subject: ESCALATOR BRAKE SETTING - FOLLOWING UP TO RULING #65-88
INSTRUCTIONS TO BE POSTED & SETTING CHECKED PERIODICALLY**

Sent to: ALL ESCALATOR CONTRACTORS SCOPE A3 AND F3

INTRODUCTION

Investigations following two July 1991 escalator accidents revealed alarming problems with the brake setting. In one location, two escalators out of two; and in another location, 29 out of 40, did not have their brakes properly set.

In accordance with our Ruling #65 of June 10, 1988 each maintenance contractor was to obtain from the original escalator manufacturer or establish through a comprehensive testing with various loading, and report to us, amongst others, the following data:

- d) The minimum brake torque setting or another method of checking the brake capacity (i.e. spring length) required to stop the rated load, including the description of points where the torque is to be measured;
- f) maximum permissible no-load stopping distance (with minimum torque), and;
- i) required intervals for brake checking.

Most contractors met our requirements respecting the reporting. Our investigations, however, disclosed that not all maintenance mechanics have been instructed as to the brake setting requirements on individual escalators, or the required intervals of checking.

ORDER TO ESCALATOR MAINTENANCE CONTRACTORS

ORDER #1 By December 31, 1992, each escalator shall have a permanent data plate affixed to the brake or machine, indicating:

- 1.1 Method of checking the brake setting (as established in response to our Ruling #65/88), which must as a minimum include minimum torque, or the maximum spring length, or other method, and;
- 1.2 The maximum no-load stopping distance as related to the torque or spring length, etc. indicated in 1.1, and;
- 1.3 Testing procedure and intervals.

ORDER #2 By February 1, 1992, the contractors shall submit to this Branch a list of all escalators under their maintenance by installation number, including:

- The content of the data plate to be provided in accordance with Order #1, and;
- The date of the last brake check carried out in accordance with instructions to be included in the data plate, as per Order #1.

Failure to comply with this Order may affect the next renewal of contractor's registration.

ORDER #3 Contractors shall retain dated and signed records of any future maintenance, checking and resetting of the escalator brakes for at least 5 years.



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	85/91	1
DIRECTOR'S RULING	Date:	Date:
	September 3/91	September 18/91

**Subject: ESCALATOR BRAKE SETTING - FOLLOWING UP TO RULING #65-88
INSTRUCTIONS TO BE POSTED & SETTING CHECKED PERIODICALLY**

Sent to: ALL ESCALATOR CONTRACTORS SCOPE A3 AND F3

INTRODUCTION

Investigations following two July 1991 escalator accidents revealed alarming problems with the brake setting. In one location, two escalators out of two; and in another location, 29 out of 40, did not have their brakes properly set.

In accordance with our Ruling #65 of June 10, 1988 each maintenance contractor was to obtain from the original escalator manufacturer or establish through a comprehensive testing with various loading, and report to us, amongst others, the following data:

- d) The minimum brake torque setting or another method of checking the brake capacity (i.e. spring length) required to stop the rated load, including the description of points where the torque is to be measured;
- f) maximum permissible no-load stopping distance (with minimum torque), and;
- i) required intervals for brake checking.

Most contractors met our requirements respecting the reporting. Our investigations, however, disclosed that not all maintenance mechanics have been instructed as to the brake setting requirements on individual escalators, or the required intervals of checking.

ORDER TO ESCALATOR MAINTENANCE CONTRACTORS

ORDER #1 By December 31, 1992, each* existing escalator shall have a permanent data plate affixed to the brake or machine, indicating:

- 1.1 Method of checking the brake setting (as established in response to our Ruling #65/88), which must as a minimum include minimum torque, or the maximum spring length, or other method, and;
- 1.2 The maximum no-load stopping distance as related to the torque or spring length, etc. indicated in 1.1, and;
- 1.3 Testing procedure and intervals.

*Newly installed escalators equipped with a data plate in conformance with clause 8.5.3.1.5 of B44-M90 are exempted from this order #1.

ORDER #2 By February 1, 1992, the contractors shall submit to this Branch a list of all escalators under their maintenance by installation number, including:

- The content of the data plate to be provided in accordance with Order #1, and;
- The date of the last brake check carried out in accordance with instructions to be included in the data plate, as per Order #1.

Failure to comply with this Order may affect the next renewal of contractor's registration.

ORDER #3 Contractors shall retain dated and signed records of any future maintenance, checking and resetting of the escalator brakes for at least 5 years.



Elevating and Amusement Devices Safety Division	Ref. No.: 86/91	Rev. No.:
DIRECTOR'S RULING	Date: October 30/91	Date:

Subject: WORK START DATE ON MAJOR ALTERATIONS TO BE REPORTED TO THE ELEVATING DEVICES BRANCH

Sent to: CONTRACTORS IN SCOPE A & CONSULTANTS

1. INTRODUCTION

- 1.1 Section 15 of the Elevating Device Act implies that with the start of a major alteration to an existing elevating device, the current licence becomes void. A new "initial" licence must be obtained before the altered device is put into service.
- 1.2 The renewal of licence process (see O.Reg. 18(3) is computer generated, in this branch, and to interrupt the process for devices that are undergoing major alterations, we need notification and the work start date.

2. ORDER TO SUBMITTERS AND CONTRACTORS PERFORMING MAJOR ALTERATIONS

2.1 Starting immediately, every design submission for a major alteration must indicate the following in item 29 of the application form:

- (a) "The work start date is", or
- (b) "The work start date will be reported to EDB by the installing contractor".

2.2 In the case of option 'a', the submitter will remain responsible for notifying us of any changes to the "start date".

In the case of option 'b', the installing contractor must report the start date to this branch (attention Sr. Engineering Clerk) and the report must include the installation number(s).

2.3 Unless "the work start date" is reported to this branch, we will not be able to respond to your requests for initial inspection of major alterations.

3. MAJOR ALTERATIONS PRESENTLY IN PROGRESS

3.1 Submitters of the design submissions for major alterations that were forwarded to this branch before this Ruling is received, must inform this branch within 2 weeks from the date of this Ruling:

- start date of each individual installation, or
- confirm that the work is in progress.

3.2 Failing to forward this information will have the same consequences as in 2.3.

3.3 No report is required respecting major alterations that have already been inspected as of the date of this Ruling.



Elevating and Amusement Devices Safety Division	Ref. No.: 89/92	Rev. No.:
DIRECTOR'S RULING	Date: Jan. 14/92	Date:

**Subject: NEW FEES UNDER THE ELEVATING DEVICES ACT,
ONTARIO REGULATION NO.2/92**

Sent to: ALL ELEVATOR CONTRACTORS IN SCOPE A & B

The fees specified in Tables 1, 2 and 3 of the Elevating Devices Act, Ontario Regulation 451/89, have been increased 5% according to Ontario Regulation no. 2/92.

You are hereby advised that the new fees are effective as of January 25, 1992.

Archive
Superseded



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	90/92	-
DIRECTOR'S RULING	Date:	Date:
	February 19/92	-

Subject: ESCALATOR INSTALLATION NUMBER CHANGES

Sent to: ALL CONTRACTORS IN SCOPE A & B3

Due to the introduction of a new computer system in the Elevating Devices Branch, the escalator installation numbers listed below (with alpha characters) have been changed to the installation numbers shown in the right-hand column (replacement) .

If you maintain any of the installations shown in the left column, please change your records to reflect the numbers shown in the right column.

The Elevating Devices Branch will forward new installation plates and licenses to all licensees involved.

<u>Installations with Alpha Characters</u>	<u>Replacement</u>
02013A	02012
02013B	02014
02764A	02765
02764B	02766
02764C	02767
02871A	02867
02872A	02868
03059A	03041
03059B	03042
03059C	03050
03059E	03057
03060A	03058
03060B	03061
03060C	03062
03060D	03063
03060E	03064
04481A	04468
04481B	04469
04481C	04471
04481D	04477
04481E	04478

Installations with
Alpha Characters

Replacement

Installations with
Alpha Characters

Rep. #

04482A	04479	13502A	13515
04482B	04480	13502B	13516
04482C	04486	13771A	13763
04482D	04487	13772A	13774
04482E	04488	13840A	13836
07664A	07666	13841A	13843
07665A	07667	13965A	13906
08300A	08315	13965B	13912
08301A	08316	13965C	13913
09799A	09792	13965D	13914
09799B	09793	13966A	13919
09799C	09794	13966B	13925
09800A	09795	13966C	1397
09800B	09809	13966D	13980
09800C	09812	14279A	14206
09806A	09816	14279B	14213
09806B	09817	14279C	14248
09806C	09818	14279D	14270
09806D	09819	14280A	14368
09807A	09822	14280B	14369
09807B	09824	14280C	14385
09807C	09826	14280D	14409
09807D	09832	14280E	14410
09968A	09958	15553A	15451
09968B	09961	15553B	15453
09969A	09970	15553C	15454
09969B	09979	15553D	15455
10244A	10207	15554A	15456
10244B	10208	15554B	15459
10244C	10209	15554C	15463
10245A	10210	15554D	15464
10245B	10211	15957A	15956
10245C	10223	15858A	15959
13212A	13214	15972A	15968
13213A	13215	15972B	15969
13458A	13434	15973A	15970
13458B	13439	15973B	15971
13459A	13453	17513A	17512
13459B	13457	17539A	17533
13501A	13508	17539B	17534
13501B	13511	17539C	17548

Installations with
A) Characters

	<u>Replacement</u>
17539D	17572
17539E	17573
17539F	17574
17540A	17575
17540B	17576
17540C	17597
17540D	17611
17540E	17620
17540F	17621
18309A	18228
18310A	18229
18630A	18604
18630B	18612
18630C	18632
18631A	18733
18631B	18734
18631C	18737
19475A	19474
19559A	19554
19559B	19555
20046A	20058
20047A	20059
20722A	20560
20722B	20561
20722C	20583
20722D	20588
20722E	20600
20722F	20648
20722G	20649
20722H	20692
20723A	20701
20723B	20707
20723C	20708

Installations with
Alpha Characters

	<u>Replacement</u>
20723D	20765
20723E	20880
20723F	20882
20723G	20900
20723H	20935
20771A	20956
20791A	20970
20792A	20971
20901A	20976
20902A	20977
20903A	20978
20904A	20979
20905A	20980
21023A	21025
21023B	21063
21024A	21064
21024B	21133
21350A	21376
21351A	21377
21668A	21620
21669A	21697
22076A	22039
22077A	22056



Elevating and Amusement Devices Safety Division	Ref. No.: 91/92	Rev. No.:
DIRECTOR'S RULING	Date: June 22/92	Date:

Subject: NORTHERN ELEVATORS WITH NORMIC CONTROLLERS MAY REQUIRE WIRING CHANGES PER NORTHER BULLETIN #91-062

Sent to: ALL ELEVATOR CONTRACTORS IN SCOPE A1 & F1 (& CONSULTANTS)

ORDER TO CONTRACTORS MAINTAINING THE SUBJECT NORTHERN ELEVATORS

If you are maintaining elevators:

- a) manufactured by NORTHERN ELEVATOR LTD. before 1985,
- b) equipped with NORMIC type microprocessor based CONTROLLER,
- c) which have the levelling pilot relays ULL/DLL controlled by the microprocessor and not directly by the levelling devices themselves, and
- d) the wiring changes required in Northern bulletin #85-034 have not been completed,

you MUST immediately carry out all wiring changes on such elevators in conformance with the procedures specified in the attached Northern bulletin #91-062.

You are also required to mark up the wiring diagrams on site to incorporate the changes in figures #1 & #2 of the attached Northern bulletin for future reference.

CLARIFICATION OF NORTHERN BULLETIN

If you require any clarification or additional information regarding the implementation of Northern bulletin #91-062, refer your questions directly to Northern Elevator Ltd. (See page 2 of the attached bulletin.)

RESPONSIBILITY FOR THE ENFORCEMENT OF THIS RULING

We are unable to provide you with a list of installations that require the wiring changes. It is your responsibility to identify the need for and to complete the changes within 3 months from the date of this ruling.

If the subject changes do not constitute a part of your maintenance contract and you cannot obtain authorization from the elevator owner to carry out the work, you must inform this branch immediately, indicating the installation numbers of the elevators involved (to the attention of N.L. Benn, re EDB Ruling #91/92), so that we may issue an order to that owner to have the required changes completed.

CONCLUSION

We wish to commend Northern Elevator Ltd. for sharing this important safety related information with the elevator industry. The dissemination of information is in line with section 24 of O.Regulation 229/81 under the Elevating Devices Act and is an important tool in ensuring public safety. It is the responsibility of each manufacturer or contractor to report a discovered safety related defect in an elevator component if such defect exists in more than one device.



NORTHERN ELEVATOR LIMITED

TORONTO

No.

91-062

BULLETIN FROM: Field Engineering

DATE: Sept. 13/91

TO:	ADM.	SALES	E. ENG.	M. ENG.	PLANT	FIELD	SERVICE	F.O.B.
	X	X	X	X	X	X	X	X

RE: Controller Wiring Change (Logic Supply Failure / Levelling)

A wiring change may have to be implemented on some Northern controllers that have been installed and/or maintained by you.

This change relates to all "Normic" type microprocessor based controllers, which have the levelling pilot relays (ULL/DLL) controlled by the microprocessor and not directly by the levelling devices themselves.

This change is required to prevent the remote chance of the car starting running away from the floor and outside of the levelling door zone with the doors in the open or unlocked position. Although highly unlikely, this could occur, should the 5 volt logic power supply regulator for the microprocessor fail in such a way that it produces a low voltage output at a level which is critical to the operation of the logic controller and its ability to respond to or control its input and output functions, resulting in an unpredictable and potentially unsafe operation.

Of course, this contravenes the intent of the C.S.A. B-44 code 3.12.9 (c)ii which reads as follows:

c) The occurrence of a single ground or the failure of any single magnetically operated switch, contactor or relay; or any static control device, or any levelling switch shall not:

ii) permit the car to move beyond the levelling or truck zone

The following wiring changes ensure that the microprocessor system will be unable to move the car, unless the door lock circuits are closed or the car is within the levelling door zone. The attached diagrams show the typical levelling circuit arrangements. They should be compared with and used in conjunction with the actual job schematics to ensure that changes are made appropriately, as some variations in contact numbering may be encountered. Also shown is a change which would call attention to the failure of the levelling/door zone restricting relay ("DZ or DZI") to cycle as intended and although no redundancy circuit monitoring was required by the previous code, we would recommend that this be added as well.

It should be pointed out that all controllers manufactured after 1985 have the levelling with open doors restricted to the levelling/door zone, and all controllers built in 1985 or before should have this redundant protection, if they were modified according to Bulletin # 85-034 (levelling circuits) dated April 1, 1985. Although a hazard resulting from the failure of the 5 volt logic power supply was neither envisioned nor listed, Bulletin #85-034 addressed also such failures.

12181

TO:	ADM. X	SALES X	E. ENG. X	M. ENG. X	PLANT X	FIELD X	SERVICE X	F.O.B. X
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RE: Controller Wiring Change (Logic Supply Failure / Levelling)

Unfortunately, it is apparent from a recently reported occurrence that some companies did not see fit to either implement the safety changes outlined in bulletin # 85-034 or pass the bulletin on to the current maintenance contractor or building owner, even though parts kits were made available free of charge. It seems involvement and co-operation of inspection authorities is required to ensure compliance with safety related bulletins.

A copy of this bulletin, as well as any other ones showing all changes made, should be attached to the job schematics for future reference.

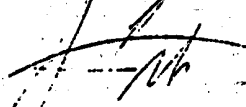
If, for any reason at all, these changes cannot be made as outlined or if further clarification and information is required, please contact in writing, stating all details:

Steve Fisher
 NORTHERN ELEVATOR LIMITED
 270 Finchdene Square
 Scarborough, Ont. M1X 1A5

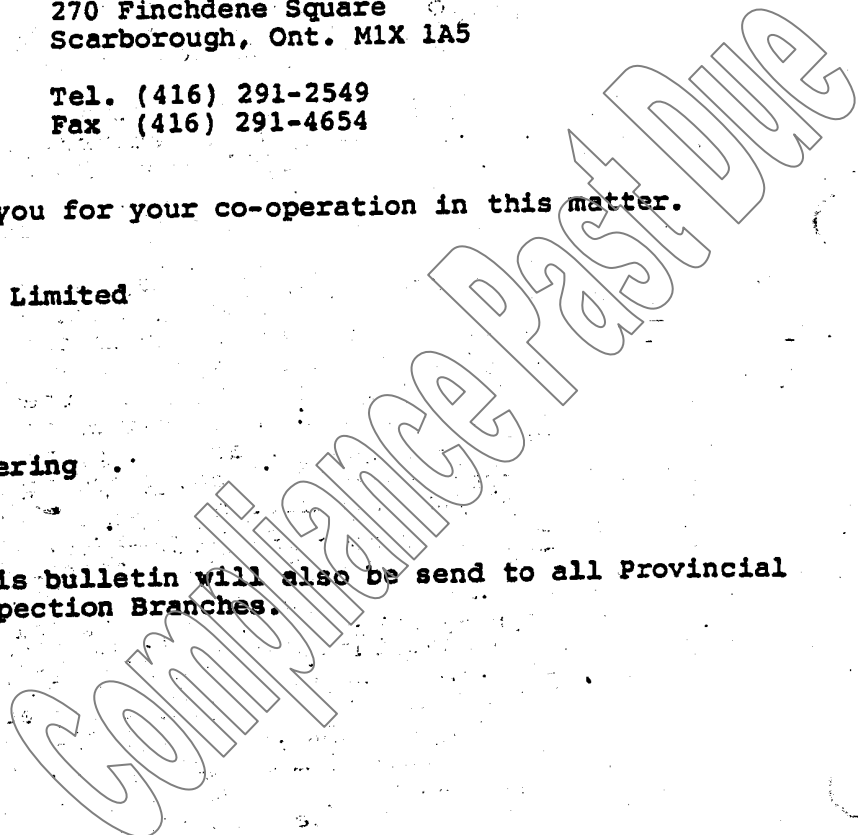
 Tel. (416) 291-2549
 Fax (416) 291-4654

We like to thank you for your co-operation in this matter.

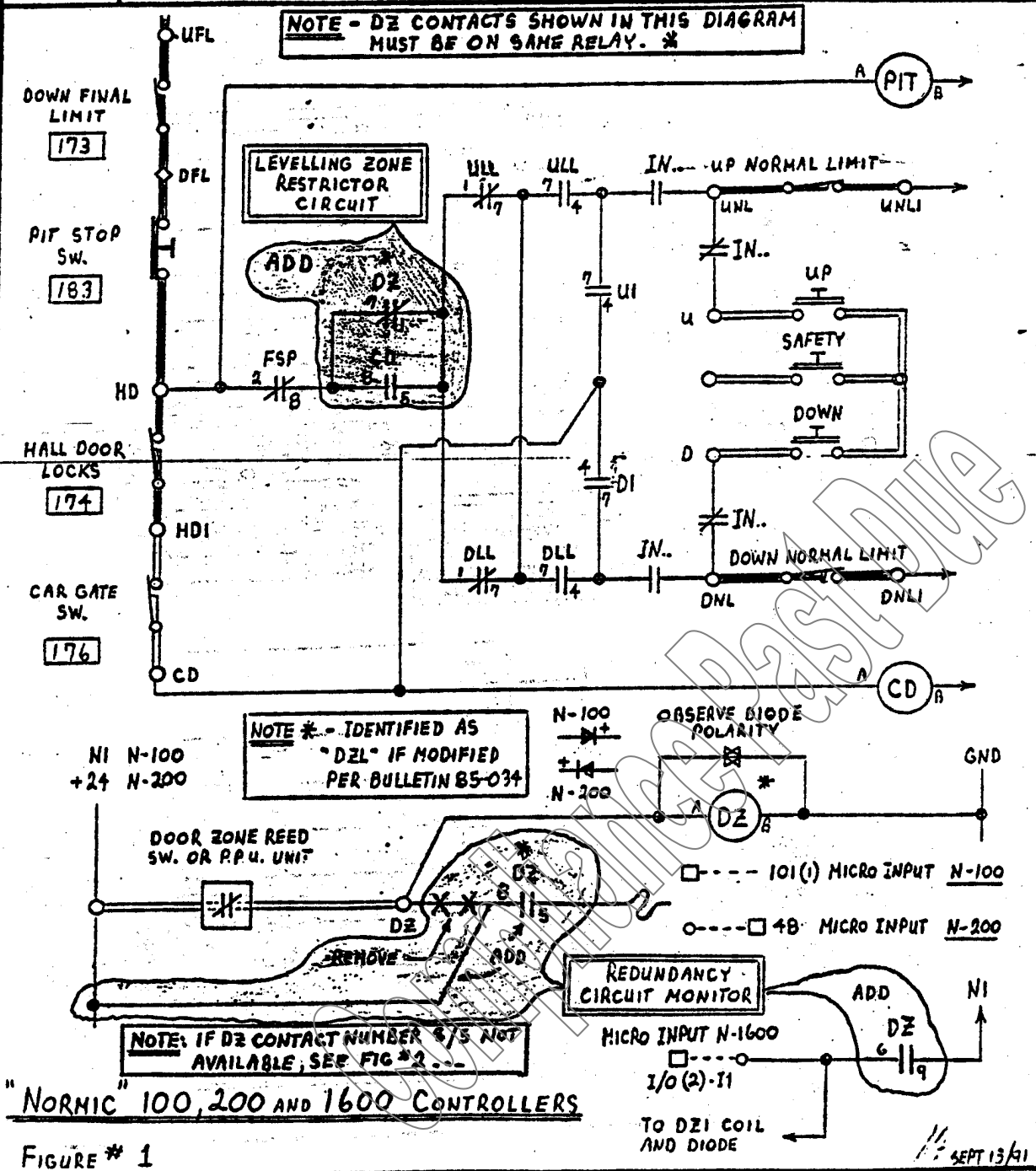
Northern Elevator Limited


 Steve Fisher
 Mgr. Field Engineering

P.S. Copies of this bulletin will also be send to all Provincial Elevator Inspection Branches.

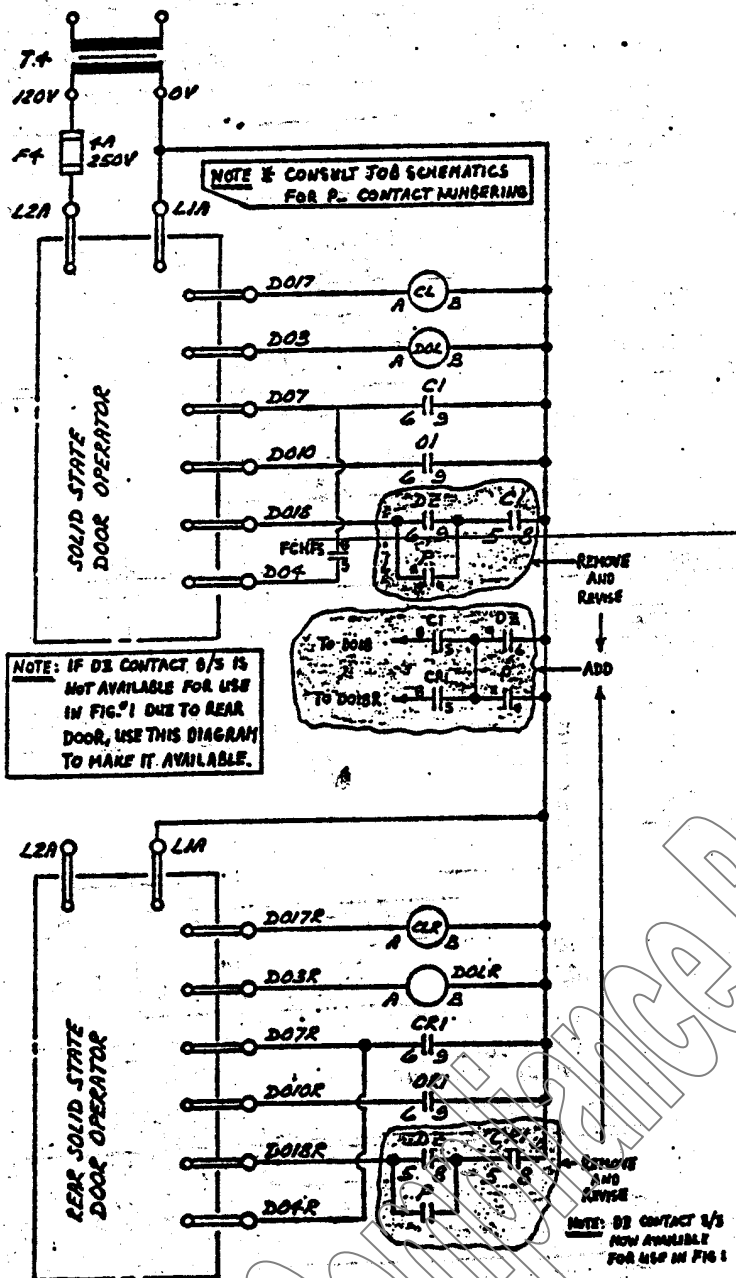


N	NORTHERN ELEVATOR LIMITED						No. 91-06	
	TORONTO							
BULLETIN FROM: <u>Field Engineering</u>						DATE: <u>Sept. 13/9</u>		
TO:	ADM. X	SALES X	E. ENG. X	M. ENG. X	PLANT X	FIELD X	SERVICE X	F.O.B. X
RE:	Controller Wiring Change (Logic Supply Failure / Levelling)							



N TORONTO	NORTHERN ELEVATOR LIMITED						No. 91-062	
	BULLETIN FROM: <u>Field Engineering</u>						DATE: <u>Sept. 13/91</u>	
TO:	ADM. X	SALES X	E. ENG. X	M. ENG. X	PLANT X	FIELD X	SERVICE X	F.O.B. X
RE:	Controller Wiring Change (Logic Supply Failure / Levelling)							

PLEASE ATTACH COPY OF THIS DIAGRAM TO JOB SCHEMATICS FOR FUTURE REFERENCE



"NORMIC" 100, 200 AND 1600 CONTROLLERS

FIGURE # 2

SEPT 13/91



Elevating and Amusement Devices Safety Division	Ref. No.: 92/92	Rev. No.:
DIRECTOR'S RULING	Date: June 23/92	Date:

Subject: NORTHERN "GEARED" ELEVATORS WITH V.V. RELAY TYPE CONTROLLERS BUILT BEFORE SEPTEMBER 1991, MAY REQUIRE WIRING CHANGES PER NORTHERN BULLETIN #91-063

Sent to: ALL ELEVATOR CONTRACTORS IN SCOPE A1 & F1 (& CONSULTANTS)

ORDER TO CONTRACTORS MAINTAINING THE SUBJECT ELEVATORS

If you are maintaining elevators:

- a) manufactured by Northern Elevator Ltd. before September 1991,
- b) that are GEARED, and
- c) equipped with V.V. RELAY TYPE controller,

you MUST immediately check and if necessary carry out all wiring changes on such elevators in conformance with procedures specified in the attached Northern bulletin #91-063.

You are also required to mark up the wiring diagram on site to incorporate changes as outlined on page 2 of the attached Northern bulletin for future reference.

CLARIFICATION OF NORTHERN BULLETIN

If you require any clarification or additional information regarding the implementation of Northern bulletin #91-063, refer your questions directly to Northern Elevator Ltd. (See page 2 of the attached bulletin.)

RESPONSIBILITY FOR THE ENFORCEMENT OF THIS RULING

We are unable to provide you with the list of installations that require wiring changes.

It is your responsibility to identify the need for and to complete the changes within 3 months from the date of this ruling.

If the subject changes do not constitute part of your maintenance contract and you cannot obtain authorization from the elevator owner to carry out the work, you must inform this branch immediately indicating the installation numbers of the elevators involved (to the attention of N.L. Benn, re EDB Ruling #92/92) so that we may issue an order to that owner to have the required changes completed.

CONCLUSION

We wish to commend Northern Elevator Ltd. for sharing this important safety related information with the elevator industry. The dissemination of information is in line with section 24 of O.Regulation 229/81 under the Elevating Devices Act and is an important tool in ensuring public safety. It is the responsibility of each manufacturer or contractor to report a discovered safety related defect in an elevator component if such defect exists in more than one device.

T.Gordon Smith, Director

N	NORTHERN ELEVATOR LIMITED							No. 91-063
	TORONTO							
BULLETIN FROM: <u>Field Engineering</u>							DATE: <u>SEPT 13/91</u>	
TO:	ADM. X	SALES X	E. ENG. X	M. ENG. X	PLANT X	FIELD X	SERVICE X	F.O.B. X
RE:	<u>V.V. CONTROLLERS (possible missing "R" contact)</u>							

A wiring change must immediately be carried out on some Northern geared V.V. relay type controllers which have been installed and/or maintained by you.

This change is required to prevent the possibility of the controller applying power to and releasing the machine brake without applying power to the driving machine motor (contravenes code 3.12.8).

This situation could occur if the leveling system was engaged/operated when the drive motor of the M-G set is not energized, and as there may not have been a Motor-Generator running switch ("R") contact provided to inhibit the pick-up of the directional (U/D), and potential (group of "P") relays by the leveling system, thus allowing a "running condition" to be established allowing release of the machine brake (contravenes code 3.12.2.27) and since the generator and drive motor are without power, the car will drift up or down depending on car loading ~~virtually uncontrolled creating a potential unsafe condition.~~ However, it must be noted that this drifting condition will cease and the machine brake will be re-applied if/when the car leaves the leveling zone, stopping the car. Thus the uncontrolled movement described above is limited/restricted to the leveling zone only, and because of the limited distance for movement involved, the car will be unable to attain any appreciable speed before being stopped.

Although, the chances are remote, we feel, to prevent the possibility of this situation occurring, the following wiring change must be made:

An "R" normally open contact is to be added in series with the feed to the up leveling (UL), and down leveling (DL) relay contacts located in the directional relay circuit, as shown on the attached schematic diagram. All jobs should have an available spare contact on the "R" relay group, which can be utilized for this purpose.

NORTHERN ELEVATOR LIMITED

TORONTO

No. 91-063

	BULLETIN FROM: <u>Field Engineering</u>	DATE: <u>SEPT 13/91</u>
--	---	-------------------------

TO:	ADM.	SALES	E. ENG.	M. ENG.	PLANT	FIELD	SERVICE	F.O.B.
	X	X	X	X	X	X	X	X

RE: V.V. CONTROLLERS (possible missing "R" contact)

If for any reason, this change cannot be performed as outlined or further clarification/information is required, please contact the undersigned, in writing, at:

NORTHERN ELEVATOR LIMITED
270 Finchdene Square
Scarborough, Ontario
M1X 1A5

Thank you for your co-operation in this matter.

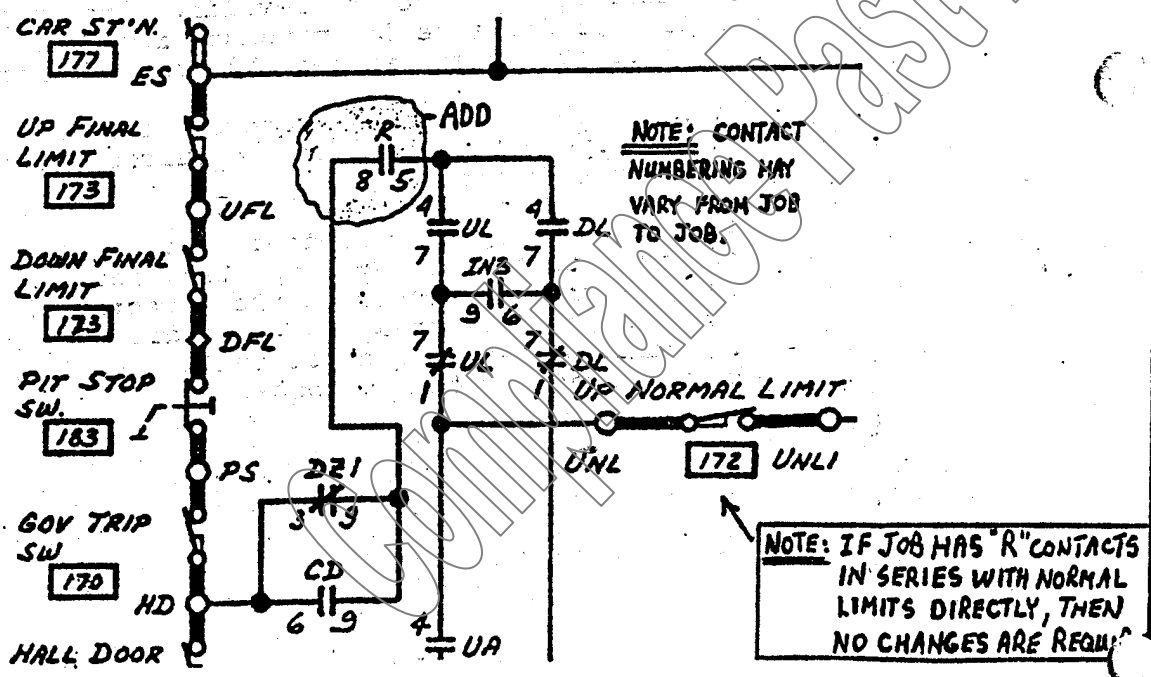
Northern Elevator Limited

[Signature]

S. Fisher
Manager Field Engineering

SP/ra

Note: Letters are also being sent out to all provincial elevator inspection branches, notifying them of this situation, and asking for their co-operation in ensuring compliance.



REVISION:



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	93/92	
DIRECTOR'S RULING	Date:	Date:
	June 24/92	

Subject: NORTHERN ELEVATORS WIRING CHANGES IN LEVELLING CIRCUITS PER BULLETIN #85-034

Sent to: ALL ELEVATOR CONTRACTORS IN SCOPE A1 & F1 (& CONSULTANTS)

ORDER TO CONTRACTORS MAINTAINING THE FOLLOWING NORTHERN ELEVATORS:

If you are maintaining elevators that:

- a) are manufactured by NORTHERN ELEVATOR LTD. between 1972 and 1985
- b) are of hydraulic, or two-speed A.C., for VV geared type
- c) utilizing REED type levelling switches
- d) have relay based controller, or solid state Normic 100 or 100

you MUST immediately carry out all wiring changes on such elevators in conformance with the procedures specified in the attached Northern bulletin #85-034.

You are also required to mark up the wiring diagram on site to incorporate the changes as outlined in figures 1 to 6 of the attached Northern bulletin for future reference. Refer to the chart on page 2 of the Northern bulletin to identify which figure 1 to 6 is applicable.

CLARIFICATION OF NORTHERN BULLETIN

If you require any clarification or additional information regarding the implementation of Northern bulletin #85-034, refer your questions directly to Northern Elevator Ltd. (See page 2 of the attached bulletin.)

RESPONSIBILITY OF NORTHERN BULLETIN

We are unable to provide you with the list of installations that require the changes.

It is your responsibility to identify the need for and to complete the changes within 3 months from the date of this ruling.

If the subject changes do not constitute a part of your maintenance contract and you cannot obtain authorization from the elevator owner to carry out the work, you must inform this branch immediately, indicating the installation numbers of the elevators involved (to the attention of N.L. Benn, re EDB Ruling #93/92), so that we may issue an order to that owner to have the required changes completed.

CONCLUSION

We wish to commend Northern Elevator Ltd. for sharing this important safety related information with the elevator industry. The dissemination of information is in line with section 24 of O.Regulation 229/81 under the Elevating Devices Act and is an important tool in ensuring public safety. It is the responsibility of each manufacturer or contractor to report a discovered safety related defect in an elevator component if such defect exists in more than one device.

T.Gordon Smith, Director

N	NORTHERN ELEVATOR LIMITED						No. 85-034	
	TORONTO							
BULLETIN FROM: <u>Field Engineering</u>						DATE: <u>April 1/85</u>		
TO:	ADM.	SALES	E. ENG.	M. ENG.	PLANT	FIELD	SERVICE	F.O.B.
	X	X	X	X	X	X	X	X
RE:	<u>Controller Wiring Change (Levelling Circuits)</u>							

A wiring change must immediately be carried out on some Northern controllers that have been installed and/or maintained by you.

This change affects all hydraulic and geared traction jobs that are equipped with levelling switches/relays.

This change is required to prevent the elevator from starting/running while outside of the levelling/door zone with the doors in the open or unlocked position, should any of the following single devices fail to operate in the intended manner:

- a) The levelling reed switch.
- b) Arc suppressor device (connected across reed), if provided.
- c) The levelling relay itself.

Of course, this contravenes the C.S.A. B44 Code 3.12.9 (c) ii, which reads as follows:

- (c) The failure of any single magnetically operated switch contactor or relay to release in the intended manner, or the failure of any static control device to operate as intended, or the occurrence of a single accidental ground, shall not:
 - (ii) Permit the car to start or run if any hoistway door interlock is unlocked or if any hoistway door or car door or gate electric contact is not in the closed position.

However, it must be pointed out that the single failure mentioned above would only pose a potential hazard when the car is outside the levelling zone (between levelling vanes). When the car is in the levelling zone, a failure of any one of the aforementioned devices would not create a hazard; for example:

A failure of a device in the level circuit of one direction could cause the car to move with the doors open; however, it would be stopped by the opposite levelling device circuitry before the car has moved off level more than approximately 1". This is due to the fact that the up/down level circuits are electrically interlocked with one another; however, this interlocking for safety reasons is dependent on the vane being present, which is only the case when car is in the levelling zone.

The following wiring changes will prevent the levelling devices from moving the car, unless the door lock circuit is closed, or the car is in the door zone.

...continued

sign:



NORTHERN ELEVATOR LIMITED

TORONTO

No.
85-034

BULLETIN FROM: Field Engineering

DATE: April 1/85

TO:	ADM.	SALES	E. ENG.	M. ENG.	PLANT	FIELD	SERVICE	F.O.B.
	X	X	X	X	X	X	X	X
RE:	<u>Controller Wiring Change (Levelling Circuits)</u>							

Over the years, several circuit variations have been utilized in the levelling area. The attached diagrams show the six (6) levelling circuit variations. The actual job schematics (and the attached diagrams should be compared) and the appropriate diagram selected to make wiring changes on that job. Contact numbering may vary slightly from job to job, so little or no contact numbering is shown, except for circuits to be added on attached diagrams.

If, for any reason, these changes cannot be performed as outlined or further clarification/information is required, please contact the undersigned in writing:

NORTHERN ELEVATOR LIMITED
270 Finchdene Square
Scarborough, Ontario
MLX 1A5

Thank you for your co-operation in this matter.

NORTHERN ELEVATOR LIMITED

S. Fisher
Field Engineering

Note: Letters are also being sent out to all provincial elevator inspection branches notifying them of this situation.

Note: The chart below will be helpful for determining which diagram (Figure) will apply to a particular job.

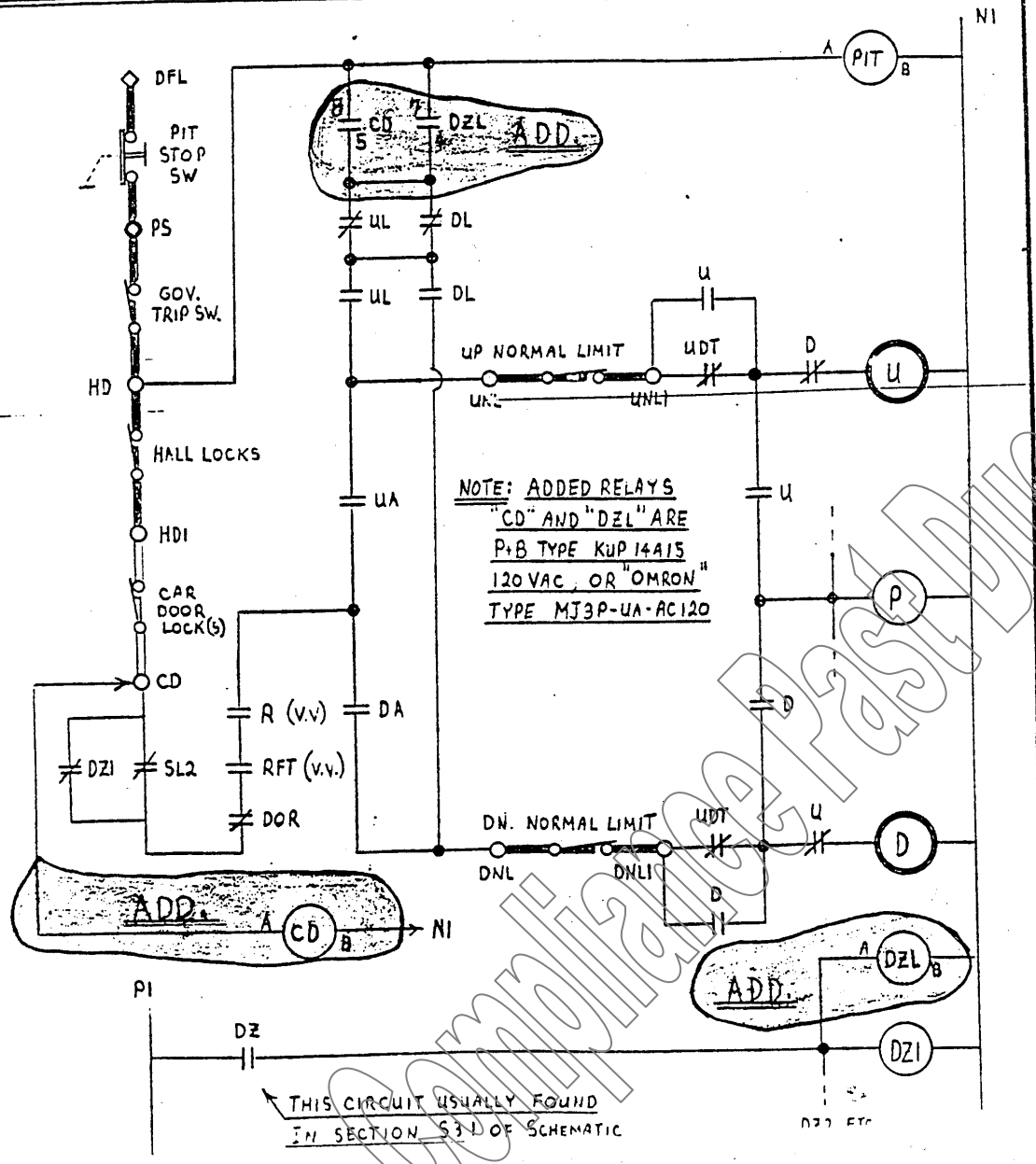
	Hydraulic Single Speed A.C. Variable Motor Gearless	Normally Open Reed Switches Used	Normally Closed Reed Switches Used	UL705/702X Relay Machine Used	Relay Based Controller	UL705 State Machine Used	Solid State Relay (SSR)	Manufactured Between 1971-1973	Manufactured Between 1974-1983	Manufactured Between 1984-Present	
→	X	X	X	X	X	X	X				See Figure No. 1
→	X	X	X	X	X	X	X				See Figure No. 2
→	X	X	X	X	X	X	X	X			See Figure No. 3
→	X	X	X	X	X	X	X	X	X		See Figure No. 4
→	X	X	X	X	X	X	X	X	X	X	See Figure No. 5
→	X	X	X	X	X	X	X	X	X	X	See Figure No. 6

REVISION:

N	NORTHERN ELEVATOR LIMITED						No. 85-034	
	TORONTO							
BULLETIN FROM: <u>Field Engineering</u>						DATE: <u>April 1/85</u>		
TO:	ADM. X	SALES X	E. ENG. X	M. ENG. X	PLANT X	FIELD X	SERVICE X	F.O.B. X
RE:	<u>Controller Wiring Change (Levelling Circuits)</u>							

RELAY CONTROLLERS (UTILIZING N.O. REED SW/UL,DL,DZ RELAYS PICK-UP IN VANE)

NOTE: PLEASE ATTACH COPY OF THIS DIAGRAM TO JOB SCHEMATICS FOR FUTURE REFERENCE.



N TORONTO	NORTHERN ELEVATOR LIMITED						No. 85-034	
	BULLETIN FROM: <u>Field Engineering</u>						DATE: <u>April 1/85</u>	
TO:	ADM. X	SALES X	E. ENG. X	M. ENG. X	PLANT X	FIELD X	SERVICE X	F.O.B. X
RE:	<u>Controller Wiring Change (Levelling Circuits)</u>							

RELAY CONTROLLERS UTILIZING N.C. REED SW/ ULX, DLX, DZX RELAYS USED

revision: PLEASE ATTACH COPY OF THIS DIAGRAM TO JOB SCHEMATICS FOR FUTURE REFERENCE.

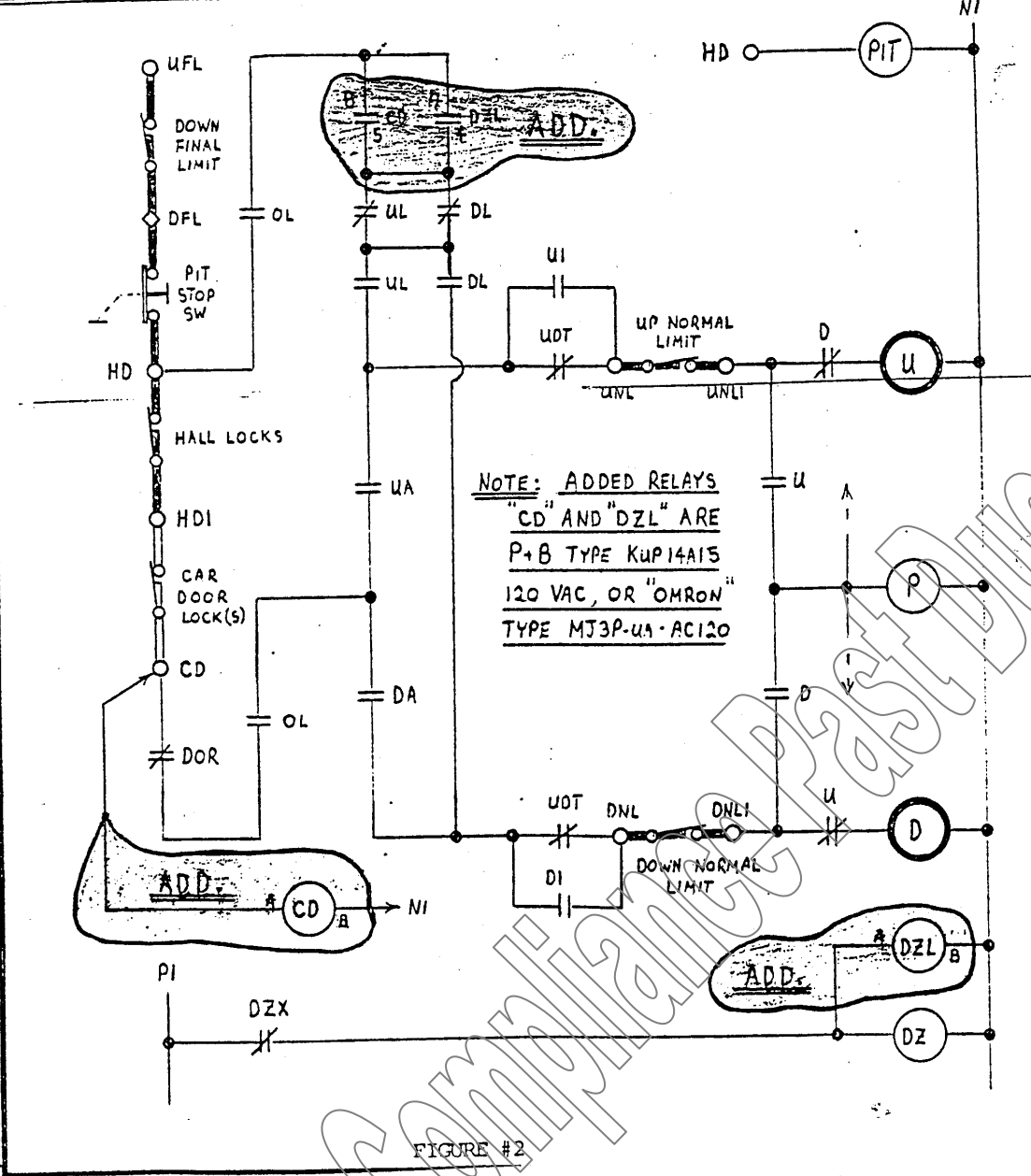
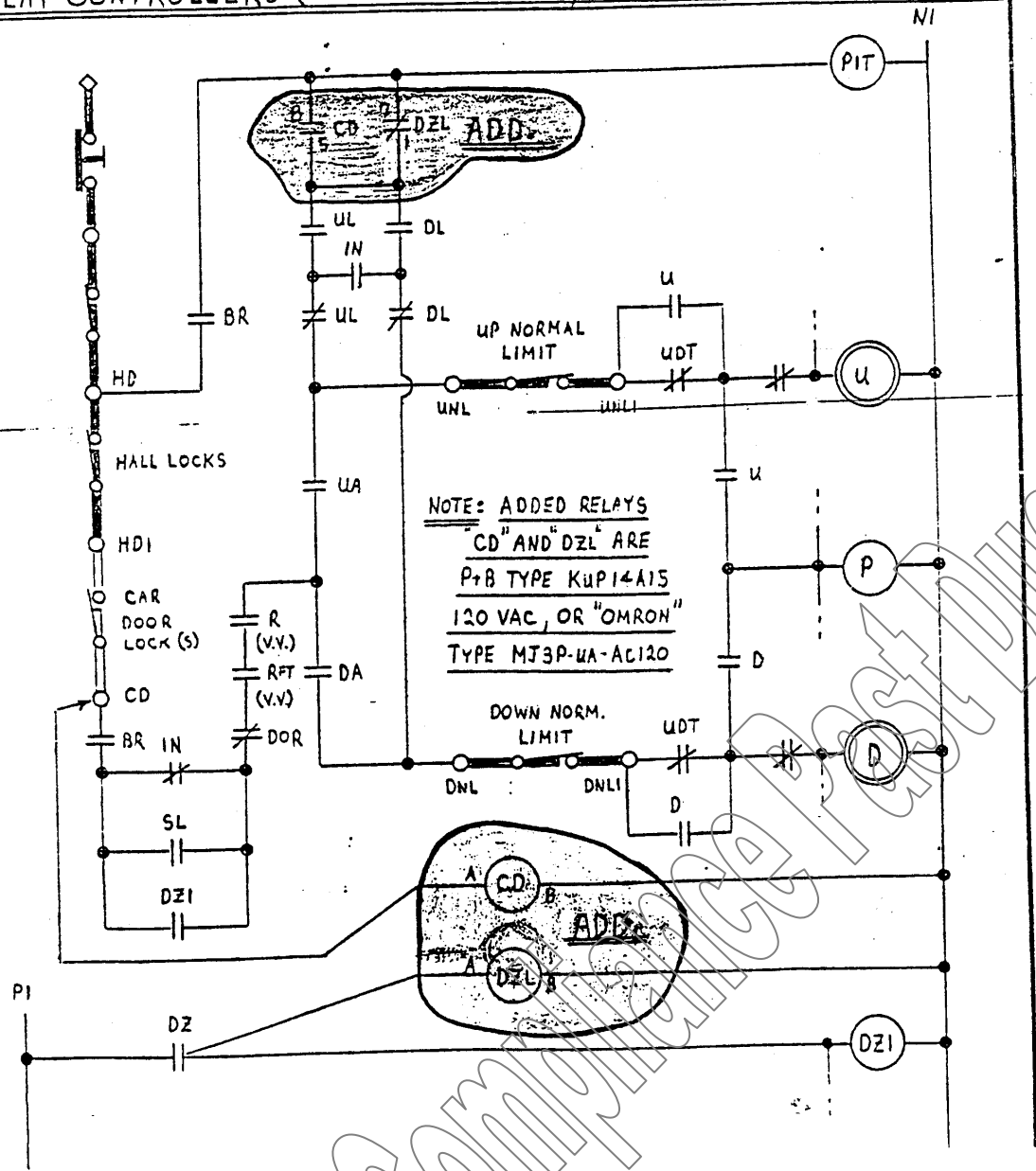


FIGURE #2

N TORONTO	NORTHERN ELEVATOR LIMITED						No. 85-034	
	BULLETIN FROM: <u>Field Engineering</u>						DATE: <u>April 1/85</u>	
TO:	ADM. X	SALES X	E. ENG. X	M. ENG. X	PLANT X	FIELD X	SERVICE X	F.O.B. X
RE:	<u>Controller Wiring Change (Levelling Circuit)</u>							

RELAY CONTROLLERS (UTILIZING N.C. REED SW./UL, DL, DZ RELAYS DROP OUT IN VANE)

SIGN: PLEASE ATTACH COPY OF THIS DIAGRAM TO JOB SCHEMATICS FOR FUTURE REFERENCE.



N	NORTHERN ELEVATOR LIMITED						No. 85-034	
	TORONTO							
BULLETIN FROM: <u>Field Engineering</u>						DATE: <u>April 1/85</u>		
TO:	ADM. X	SALES X	E. ENG. X	M. ENG. X	PLANT X	FIELD X	SERVICE X	F. O. B. X
RE:	<u>Controller Wiring Change (Levelling Circuits)</u>							

REVISION: PLEASE ATTACH COPY OF THIS DIAGRAM TO JOB SCHEMATICS FOR FUTURE REFERENCE.

"2" "3" FLOOR HYDRAULIC (RELAY TYPE) CONTROLLERS. (HANDWIRED) (P.E.B.)

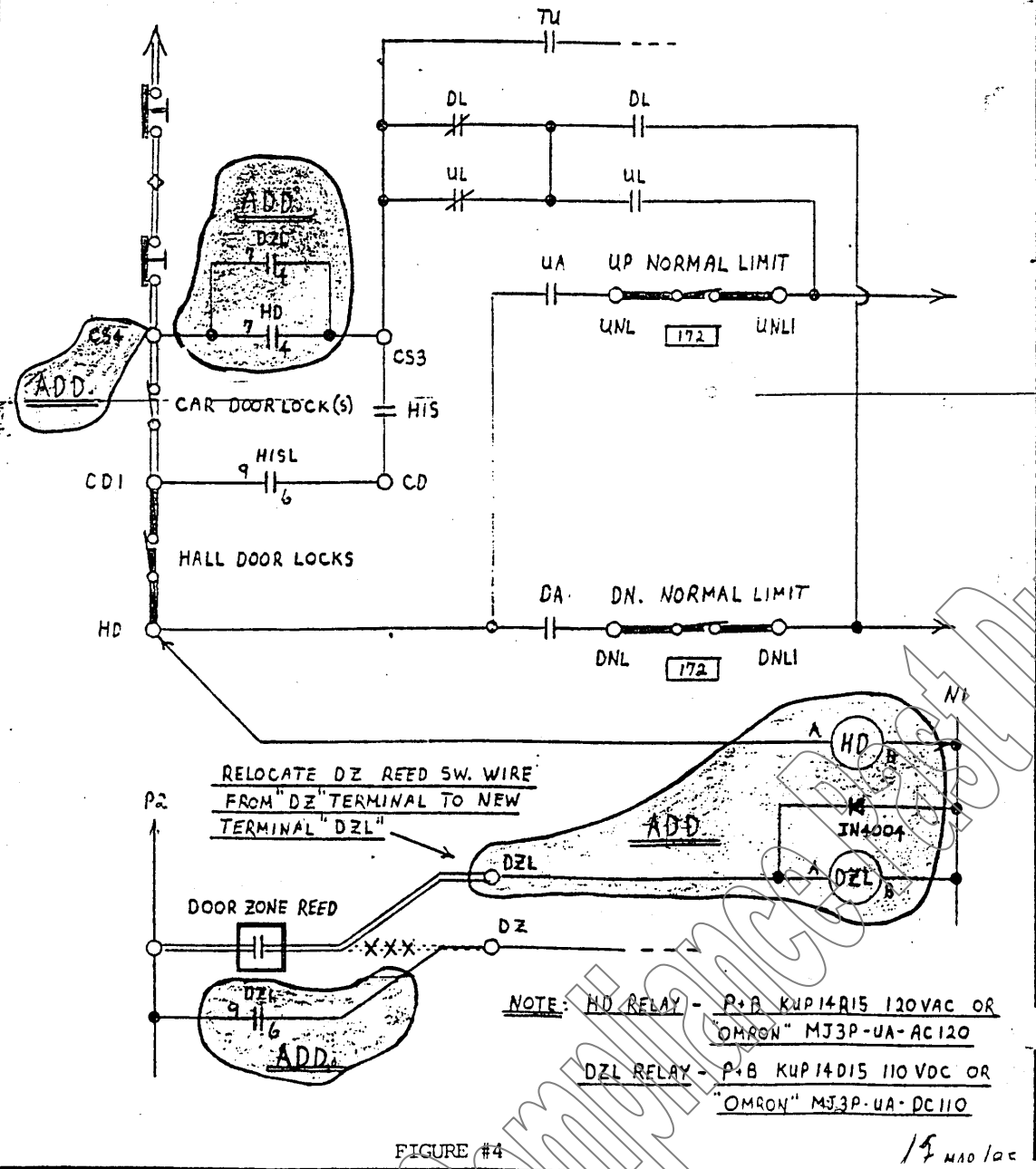
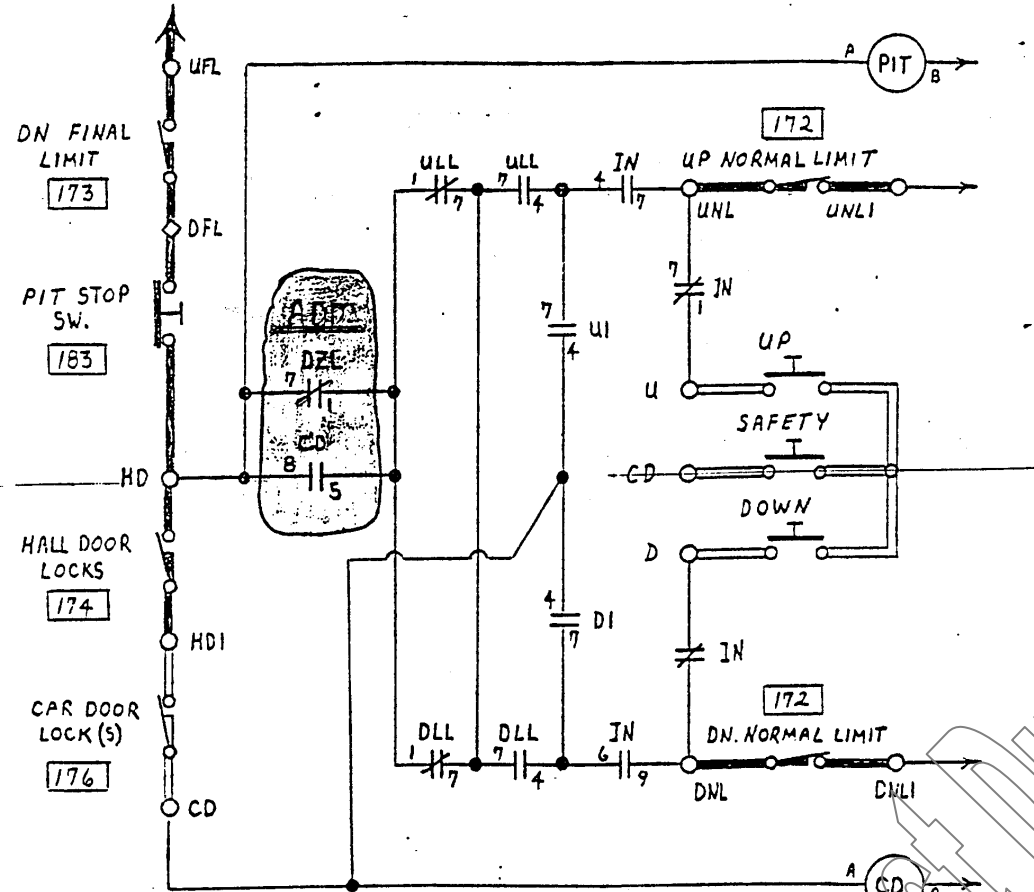


FIGURE #4

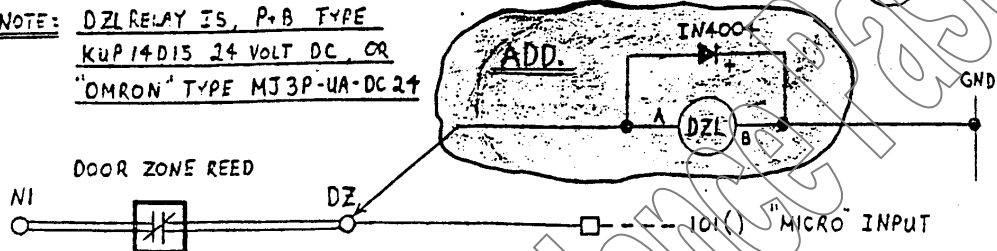
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N	NORTHERN ELEVATOR LIMITED						No. 85-034	
	TORONTO							
BULLETIN FROM: <u>Field Engineering</u>						DATE: <u>April 1/85</u>		
TO:	ADM.	SALES	E. ENG.	M. ENG.	PLANT	FIELD	SERVICE	F.O.B.
	X	X	X	X	X	X	X	X
RE:	<u>Controller Wiring Change (Levelling Circuits)</u>							

PLEASE ATTACH COPY OF THIS DIAGRAM TO JOB SCHEMATICS FOR FUTURE REFERENCE.



NOTE: DZL RELAY IS, P.B TYPE
 KUP 14-D15 24 VOLT DC, OR
 "OMRON" TYPE MJ3P-UA-DC24



"NORMIC" 100 TYPE MICRO JOBS

NORTHERN ELEVATOR LIMITED

No. 85-034

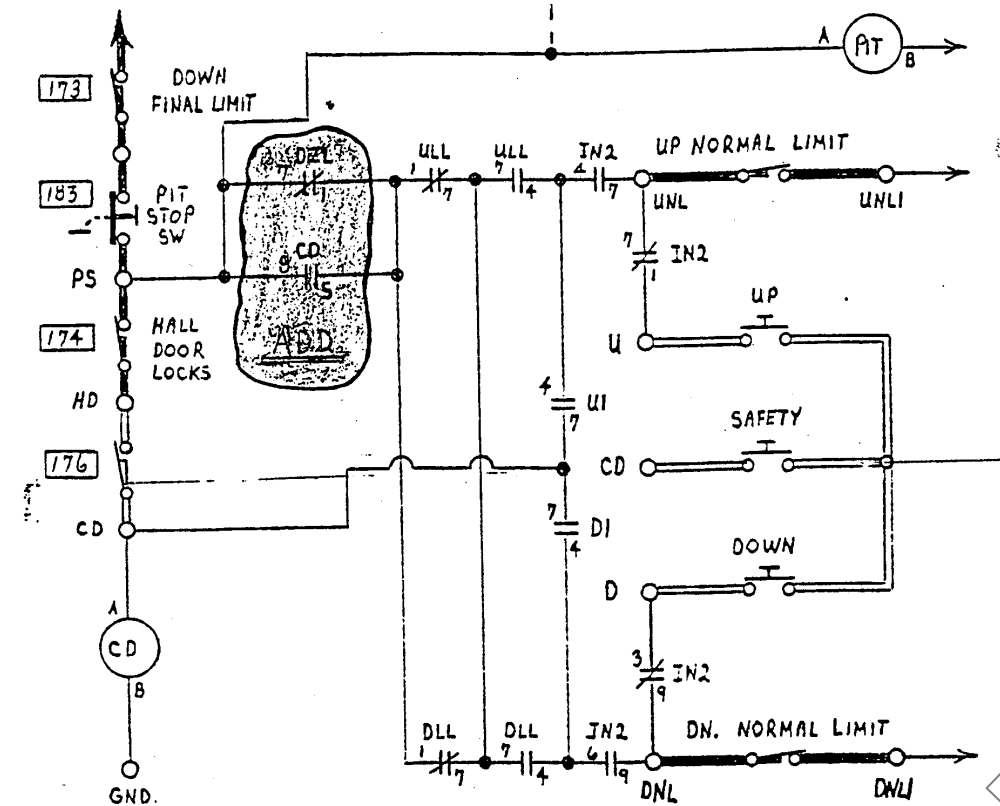
BULLETIN FROM: Field Engineering

DATE: April 1/85

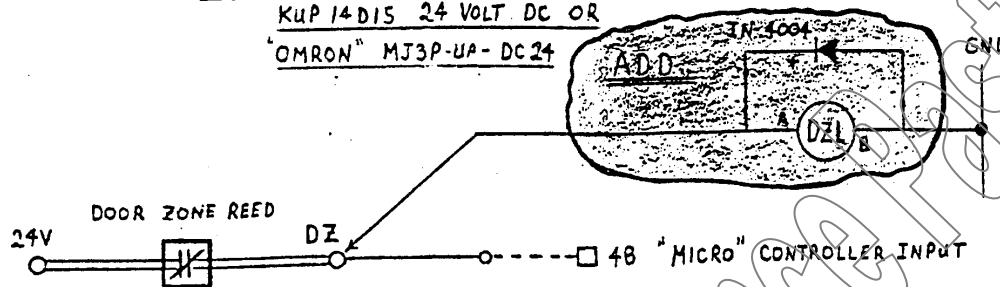
TO:	ADM.	SALES	E. ENG.	M. ENG.	PLANT	FIELD	SERVICE	F.O.B.
	X	X	X	X	X	X	X	X

RE: Controller Wiring Change (Levelling Circuits)

REVISION: PLEASE ATTACH COPY OF THIS DIAGRAM TO JOB SCHEMATICS FOR FUTURE REFERENCE.



NOTE: DZL RELAY IS P+B TYPE
KUP 14 DIS 24 VOLT DC OR
"OMRON" MJ3P-UP-DC 24



"NORMIC" 200 TYPE MICRO JOBS

FIGURE #6

19 APR 1985



Elevating and Amusement Devices Safety Division	Ref. No.: 94/92	Rev. No.:
DIRECTOR'S RULING	Date: June 22/92	Date:

**Subject: ADOPTION OF SUPPLEMENT NO. 1-1992 TO CAN/CSA-B44-M90
SAFETY CODE FOR ELEVATORS**

Sent to: ALL CONTRACTORS IN SCOPES A & B1,2,3,4,5

Item 1: ORDER

Each newly installed or altered elevator, escalator, dumbwaiter moving walk and freight platform lift, for which the DESIGN is submitted to this branch for registration on or after the 1st day of April 1993, shall conform to the requirements of supplement No. 1-1992 to the CAN/CSA-B44-M90, Safety Code for Elevators, with exceptions specified in item 2 of this Ruling.

Item 2: EXCEPTIONS

The order in item #1 is modified with respect to the following rules in the subject supplement No. 1

- a) Clause 4.19.3.5 - Engineering tests, certification and marking plates for hydraulic valves. Considering that conformance with this rule can be verified only through an extensive testing and certification process by qualified laboratories in conformance with clause 11.6, and in keeping with the recommendation on page xiv of supplement No. 1, we are modifying the date in order #1 with respect to clause 4.19.3.5 to read:

The 1st day of March 1994

Following that date, design submissions for each hydraulic elevator shall contain documents illustrating conformance with clause 4.19.3.5.

WARNING: Contractors or their suppliers of valves should apply for certification with a qualified laboratory immediately.

By April 1, 1993, all elevator contractors who are or will be registering new DESIGN submissions after April 1, 1993, must provide a Progress Report on the status of the testing and certification process on all hydraulic valves as currently utilized by the contractor. Progress Report to indicate actual certification status, i.e. application to laboratory submitted, testing in progress, completed, labelling on marking plate per B44-M90 authorized as of date... .

No new DESIGN submissions will be registered after this date until such time that the Progress Report has been received.

- b) Clause 3.12.1.4 - "Inspection operation with open door circuits" and clause 3.12.1.5 - "System to monitor and prevent automatic operation of the elevator with faulty door contact circuits" are exempted from this Ruling since they are presently undergoing major revision by the CSA-B44 Committee. The revisions have already been balloted and will be published in the near future. A separate Ruling will address their implementations.

Item 3: **CLARIFICATIONS**

You are advised to study all revisions and additions in supplement No. 1, that are marked with vertical lines and take all necessary steps to ensure conformance by date given in order #1. You should draw special attention to the following rules:

- 2.8.5(e) -introducing a new element for calculation of top car clearances
- 2.13.4.3 -new requirement for data plate on door operators
- 3.12.1.4 -new requirements intended to eliminate the need for the use of jumpers in the course of "troubleshooting"
- 3.12.15 -many revisions to clarify the intent
- 4.18.7.3 -new requirements for corrosion protection of cylinders
- 4.19.1.1.1 -new rule for the minimum factor of safety
- 12 -new section dealing with MAINTENANCE. Amongst others, it requires "log book" and "wiring diagrams" to be kept on the site.

NOTE: The Ontario Elevating Devices Advisory Committee is in the process of drafting requirements and procedures respecting log books and diagrams that will be announced through a separate EDB Ruling in the near future.
- 15 -general revision.
- Appendix D -new rules for special material lifts.

INSTRUCTIONS

In the case of existing elevators, escalators, etc., the application of any newly adopted code is restricted to the sections covering the inspection, testing, maintenance and use of the elevating devices, unless otherwise required by the Regulation under the Elevating Devices Act.

Supplement No. 1-1992 to the CAN/CSA-B44-M90, Safety Code for Elevators, is available from the Canadian Standards Association, 178 Rexdale Blvd., Rexdale, ON M9W 1R3 - telephone (416) 747-4044.

Since the Elevating Device Act requires all mechanics to have full knowledge of the codes applicable to the elevating devices on which they are assigned to work, we would expect that the mechanics involved in the construction, installation and maintenance of elevators, escalators, etc. will be provided with a copy of the subject standard.



Elevating and Amusement Devices Safety Division	Ref. No.: 94/92	Rev. No.: 1
DIRECTOR'S RULING	Date: June 22/92	Date: January 20/93

Subject: ADOPTION OF SUPPLEMENT NO. 1-1992 TO CAN/CSA-B44-M90 SAFETY CODE FOR ELEVATORS (* SEE IMPORTANT CHANGE FOR ELEVATORS IN 2(b))

Sent to: ALL CONTRACTORS IN SCOPE A1, F1 (& CONSULTANTS)

1. ORDER

Each newly installed or altered elevator, escalator, dumbwaiter, moving walk and freight platform lift, for which the DESIGN is submitted to this branch for registration on or after the 1st day of April 1993, shall conform to the requirements of supplement No. 1-1992 to the CAN/CSA-B44-M90, Safety Code for Elevators, with exceptions specified in item 2 of this Ruling.

2. EXCEPTIONS

The order in item #1 is modified with respect to the following rules in the subject supplement No.1

- a) Clause 4.19.3.5 - Engineering tests, certification and marking plates for hydraulic valves.

Considering that conformance with this rule can be verified only through an extensive testing and certification process by qualified laboratories in conformance with clause 11.6, and in keeping with the recommendation on page xiv of supplement No. 1, we are modifying the date in order #1 with respect to clause 4.19.3.5 to read:

The 1st day of March 1994

Following that date, design submissions for each hydraulic elevator shall contain documents illustrating conformance with clause 4.19.3.5.

WARNING: Contractors or their suppliers of valves should not apply for certification with a qualified laboratory immediately.

By April 1, 1993, all elevator contractors who are or will be registering new DESIGN submissions after April 1, 1993, must provide a Progress Report on the status of the testing and certification process on all hydraulic valves as currently utilized by the contractor. Progress Report to indicate actual certification status, i.e. application to laboratory submitted, testing in progress, completed, labelling on marking plate per B44-M90 authorized as of date....

No new DESIGN submissions will be registered after this date until such time that the Progress Report has been received.

- b) Clause 3.12.1.4 - "Inspection operation with open door circuits" and clause 3.12.1.5 - "System to monitor and prevent automatic operation of the elevator with faulty door contact circuits". Notwithstanding ORDER #1, each newly installed or altered elevator, for which a DESIGN is submitted to this branch for registration on or after the 1st day of JULY 1993, shall conform to the requirements of the B44 that are published by the CSA under:

"General Instruction No. 3 - CAN/CSA-B44-M90-DECEMBER 1992"

With the permission of CSA, we are enclosing a copy of that document. Changes from Supplement 1 are marked by a double vertical line. The document can be obtained from the CSA free of charge. CSA will mail it to all Supplement 1-1992 purchasers who completed and returned the card attached to General Instruction No. 1.

Conformance with the revised clauses 3.12.1.4 and 3.12.1.5 shall be demonstrated in the applicable design submissions by:

- describing or illustrating the equipment and related circuits wiring provided, and by
- responding "YES" IN Box 170.23 of the specification sheet for elevators.

Any equipment for "inspection operation with open door circuits" and/or "system to monitor and prevent automatic operation of the elevator with faulty door contact circuits" provided voluntarily on elevators before the above date shall meet the attached requirements and the conformance shall be demonstrated in the design submission as above.

3. **CLARIFICATIONS**

You are advised to study all revisions and additions in supplement No. 1, that are marked with vertical lines and take all necessary steps to ensure conformance by date given in order #1. You should draw special attention to the following rules:

- 2.8.5(e) -introducing a new element for calculation of top car clearances
- 2.13.4.3 -new requirement for data plate on door operators
- 3.12.1.4 -new requirements intended to eliminate the need for the use of jumpers in the course of "troubleshooting" (see this Ruling 2(b))
- 3.12.15 -many revisions to clarify the intent
- 4.18.7.3 -new requirements for corrosion protection of cylinders
- 4.19.1.1.1 -new rule for the minimum factor of safety
- 12 -new section dealing with MAINTENANCE, "log book" and "wiring diagrams". Refer to EDB Ruling #99/92 respecting enforcement of section 12.
- 15 -general revisions
- Appendix # -new rules for special material lifts.

4. **INSTRUCTIONS**

- a) In the case of existing elevators, escalators, etc., the application of any newly adopted code is restricted to the sections covering the inspection, testing, maintenance and use of the elevating devices, unless otherwise required by the Regulation under the Elevating Device Act.
- b) Supplement No. 1-1992 to the CAN/CSA-B44-M90, Safety Code for the Elevators and General Instruction No. 3-December 1992, is available from the Canadian Standards Association, 178 Rexdale Blvd., Rexdale, ON M9W 1R3 - telephone (416)-747-4044.
- c) Since the Elevating Devices Act requires all mechanics to have full knowledge of the codes applicable to the elevating devices on which they are assigned to work, we would expect that the mechanics involved in the construction, installation and maintenance of elevators, escalators, etc. will be provided with a copy of the subject standard.

General

Instruction No. 3

CAN/CSA-B44-M90

December 1992

CSA Standard CAN/CSA-B44-M90, *Safety Code for Elevators*, was published in May 1990; it consisted of **383 pages**, each dated **May 1990**. Errata in the form of replacement pages were issued in June 1990 (see General Instruction No. 2) and amendments in the form of replacement pages were issued in March 1992 (see Supplement No. 1-1992 to CAN/CSA-B44-M90).*

**If you do not have General Instruction No. 2 or Supplement No. 1, please contact CSA, Standards Sales.*

Amendments to **Clauses 3.12.1.2.4, 3.12.1.4.1, 3.12.1.4.2, 3.12.1.4.3, 3.12.1.4.4, and 3.12.1.5** have been formally approved and are incorporated (and identified by a double vertical line in the margin) in the attached replacement pages.

CSA Standard CAN/CSA-B44-M90 now consists of the following pages:

S1-1, S1-2, S1-5-S1-8, S2-3-S2-8, S2-11, S2-12, S2-23-S2-38, S3-1-S3-10, S3-15-S3-24, S3-27, S3-28, S3-33-S3-38, S3-43, S3-44, S3-47, S3-48, S3-53-S3-60, S3-65-S3-68, S3-75-S3-78, S3-87-S3-94, S4-1-S4-6, S5-1-S5-8, S6-1-S6-7, S7-1-S7-18, S8-1-S8-8, S8-11-S8-16, S9-1-S9-5, S10-1-S10-8, S10-11-S10-13, S11-1-S11-10, S13-1, S13-2, S14-1-S14-12, A-3-A-10, B-1-B-4, C-1-C-5, F-1, and G-5-G-12 dated May 1990;
S3-75 and S3-76 dated June 1990;

III-xA, xIII, xIV, S1-3, S1-4, S1-9-S1-20, S2-1, S2-2, S2-9, S2-10, S2-13-S2-22A, S2-39-S2-44, S3-11-S3-14, S3-25-S3-26A, S3-29-S3-32A, S3-39-S3-42, S3-45-S3-46A, S3-49-S3-52A, S3-61-S3-64A, S3-73-S3-74B, S3-79-S3-86A, S3-95-S3-96A, S4-7-S4-20, S7-19-S7-20A, S8-9, S8-10, S10-9, S10-10, S11-11, S11-12, S12-1-S12-14, S15-1-S15-8A, A-1, A-2, A-11, A-12, D-1-D-6, E-1-E-4, G-1-G-4, G-13, and the Index dated March 1992;
and

S3-69-S3-72A dated December 1992.

These replacement pages are to be inserted into your copy of the Standard; the pages replaced should be kept for reference.

NOTICE

Publication Date — This amendment was issued on December 31, 1992 and is effective June 30, 1993.

Effective Date — It is understood that effective date means the date of submission for registration as received by the regulatory authority.

- (b) they shall provide a retardation not in excess of 9.81 m/s^2 ;
- (c) they shall not apply the car safety;
- (d) they shall be so designed and installed that a single short circuit caused by a combination of grounds or by other conditions shall not prevent their functioning;
- (e) they shall be located on the car, in the hoistway, or in the machine room and shall be operated by movement of the car;
- (f) where electrical switches are located in the hoistway, they shall conform to the requirements of Clause 3.11.1 (see also Clauses 3.12.2.15 and 3.12.4.3);
- (g) where their operation is dependent on car position relative to the terminal landings:
 - (i) friction or traction drives shall not be used;
 - (ii) if tape, chain, or rope is used for connection to the car, a switch shall be provided to remove electrical power from the driving machine motor and brake should this connection fail (see Clause 3.12.2.7).

3.12. Operating Devices and Control Equipment

3.12.1 Operation and Operating Devices

3.12.1.1 Types of Operating Devices

3.12.1.1.1

All operating devices shall be of the enclosed electric type.

3.12.1.1.2

Operating devices shall be

- (a) conspicuously and permanently marked to correspond with their respective floors or function;
- (b) constructed to suit the expected usage.

3.12.1.1.3

The handles of the lever-type operating devices of car-switch operation elevators shall be arranged to return to the "STOP" position automatically when the hand of the operator is removed.

3.12.1.1.4

Rope- or rod-operating devices actuated directly by hand, or rope-operating devices actuated by wheels, levers, or cranks, shall not be used.

3.12.1.1.5

Elevators equipped to carry one-piece loads greater than their rated load shall be provided with an additional operating device of the continuous pressure type, located near the driving machine, to operate the elevator at a speed not exceeding 0.80 m/s under such conditions. The normal operating devices shall be inoperative during such operation (see Clause 3.9.7(j)).

3.12.1.2 Inspection Operation

3.12.1.2.1 General Requirements

Devices for inspection operation shall be provided on the top of the car, and are also permitted in the car and in the machine room.

Inspection operation shall conform to the following:

- (a) it shall permit operation of the car at a speed not exceeding 0.8 m/s;
- (b) the movement of the car shall be solely under the control of these devices;
- (c) power door operating devices shall be inoperative, except as provided in Clause 3.12.1.2.2(d); and
- (d) it shall operate the car only when the car door or gate is in the closed position and when all landing doors are in the closed position and, where required by this Standard, locked, except as permitted in Clause 3.12.1.4.

3.12.1.2.2 Top-of-Car Inspection Operation

In addition to the requirements of Clause 3.12.1.2.1, the operating means shall conform to the following:

- (a) It shall include the following devices:
 - (i) an activating switch or switches, especially designed to prevent accidental transfer from the "maintenance" to the "normal" operation position (see Clause 3.12.2.10);
 - (ii) operating buttons, activated by Item (i), which shall be of the constant-pressure type and protected against accidental operation; and
 - (iii) a stop switch conforming to Clause 3.12.2.9.
- (b) It may be of the portable type provided the extension cord is permanently attached to the car crosshead so that the device cannot be removed from the car top.
- (c) The switch for transferring the control of the elevator to the top-of-car operating device shall be located between the car crosshead and the side of the car nearest the hoistway entrance normally used for access to the car top.
- (d) Separate additional means, of the constant pressure type, may also be provided to make power-door operating devices and automatic car-levelling devices operative from the top of the car for testing purposes.

3.12.1.2.3 In-Car Inspection Operation

When provided, the operating means shall conform to Clause 3.12.1.2.1 and the following:

- (a) the switch for transferring the control of the elevator to in-car inspection operation shall be located in the car and shall be key operated or placed behind a locked cover, in conformance with Clause 3.15(a)(iii);
- (b) in-car inspection operation shall be inoperative if top-of-car inspection operation is activated; and
- (c) operating buttons shall be of the constant-pressure type.

3.12.1.2.4 Machine Room Inspection Operation

When provided, the operating means for machine room inspection operation shall conform to Clause 3.12.1.2.1 and the following:

- (a) the switch for transferring the control of the elevator to inspection operation shall be located in the machine room elevator controller and marked "INSPECTION" with its "ON" and "OFF" positions clearly identified;
- (b) the MACHINE ROOM INSPECTION OPERATION shall be inoperative if either the TOP-OF-CAR INSPECTION OPERATION or the IN-CAR INSPECTION OPERATION is activated; and

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(Repl. p. S3-70, March 1992)

- (c) the operating buttons shall be of the constant-pressure type.
- (d) deleted.

3.12.1.3 Operation in Levelling or Truck Zone

Operation of an elevator in a levelling or truck zone at any landing by a car-levelling or truck-zoning device, when the landing doors or the car doors or gates are not in the closed position, is permissible subject to the following:

- (a) operating devices of manually operated car-levelling devices or truck-zoning devices shall be of the continuous-pressure type and located in the car;
- (b) car-platform guards and car-head guards conforming to Clause 3.5.9 shall be provided, and where a car-levelling device is used, landing-sill guards conforming to Clause 2.11.9.1 shall also be provided;
- (c) the levelling zone at any landing shall not extend more than 460 mm above and below any landing where an automatic levelling device is used, and not more than 255 mm above and below where a manually operated levelling device is used;
- (d) the truck zone at any landing shall not extend more than 1700 mm above the landing;
- (e) where a truck or levelling zone for one landing entrance extends into the door interlocking zone for a second entrance, the truck-zoning or levelling operation shall be inoperative unless the landing door at the second entrance is in the closed position;
- (f) where a truck or levelling zone for one landing entrance extends into the levelling zone for a second entrance, the levelling operation for the second entrance shall be inoperative while the landing door at the first entrance is open;
- (g) the car may be operated by a car-levelling device at any landing having two landing entrances within 50 mm of the same level, with both car doors or gates and the corresponding landing doors open, provided landing-sill guards conforming to Clause 2.11.9.1 are installed at both floors;
- (h) a levelling or truck-zoning device shall not move the car at a speed exceeding 0.80 m/s; for elevators with static control, an independent means shall be provided to limit the levelling speed to a maximum of 0.80 m/s with the doors open, should the normal means to control this speed (mechanical, electrical, or solid state devices) fail to do so;
- (i) for elevators with static control, an inner landing zone extending not more than 75 mm above and below the landing shall be provided; a car shall not move if it stops outside the inner landing zone unless the doors are fully closed.

3.12.1.4 Inspection Operation with Open Door Circuits

3.12.1.4.1 General Requirements

The machine room elevator controller shall have switches marked "CAR DOOR BYPASS" and "LANDING DOOR BYPASS" that will prepare the control system so that, when an inspection operation is activated, the car may be moved with open door contacts. These switches shall conform to the following:

- (a) their "BYPASS" and "OFF" positions shall be clearly marked;
- (b) they shall be so designed that, when switching to either

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(Repl. p. S3-71, March 1992)

"BYPASS" or "OFF" positions, the contacts are positively opened mechanically and their opening is not dependent solely on springs, and any associated circuits shall meet the requirements of Clause 3.12.9(c);

(c) when either or both of the switches are in the "BYPASS" position, all modes of operation shall be made inoperative except INSPECTION OPERATION, subject to Clause 3.12.1.4.2 and, where applicable, Clauses 3.12.1.4.3 and 3.12.1.4.4;

(d) when the CAR DOOR BYPASS switch is in the "BYPASS" position, it shall enable inspection operation with open car door (or gate) contacts, subject to Clause 3.12.1.4.2 and, where applicable, Clauses 3.12.1.4.3 and 3.12.1.4.4;

(e) when the LANDING DOOR BYPASS switch is in the "BYPASS" position, it shall enable inspection operation with open landing door interlocks or contacts, subject to Clause 3.12.1.4.2 and, where applicable, Clauses 3.12.1.4.3 and 3.12.1.4.4.

(f) deleted.

Each of the BYPASS switches may be replaced by a set of switches used to bypass individual groups of door contacts. Each switch in this set shall be marked to identify the specific door contacts.

3.12.1.4.2 Top-of-Car Inspection Operation with Open Door Circuits

Top-of-car inspection operation with open door circuits shall be provided and shall meet the requirements of Clauses 3.12.1.2.2 and 3.12.1.4.1.

3.12.1.4.3 In-Car Inspection Operation with Open Door Circuits

In-car inspection operation with open door circuits shall be permitted. When provided, it shall conform to Clauses 3.12.1.2.3 and 3.12.1.4.1.

3.12.1.4.4 Machine Room Inspection Operation with Open Door Circuits

Machine room inspection operation with open door circuits shall be permitted. When provided, it shall conform to Clauses 3.12.1.2.4 and 3.12.1.4.1 and meet the following requirements:

(a) the elevator shall be equipped with power operated, horizontally sliding car and landing doors that are mechanically coupled while the car is in the landing zone;

(b) when both the BYPASS switches are in the "BYPASS" position, machine room inspection operation with open door circuits shall be made inoperative;

(c) when the LANDING DOOR BYPASS switch is in the "BYPASS" position, it may enable machine room inspection operation with open landing door circuits only if means are provided to monitor the car door position and to prevent movement of the car by machine room inspection operating means if the car door is not closed (see Clause 3.6.4.6) and the circuits incorporating the car door contacts are closed; and

(d) a permanent sign shall be placed near the machine room inspection operation device. The sign shall include as a minimum instructions that, prior to initiation of the machine room inspection operation with bypassed door circuits, the following procedures shall be completed:

(i) all landing doors shall be checked to ensure that they

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(Repl. p. S3-72, March 1992)

are closed and locked or secured; and

(ii) either

(1) communication with passengers in the car (if any) shall be established to ensure that the car door is closed or the passengers are safely away from the car opening; or

(2) the location of the car shall be established.

3.12.1.5 System to Monitor and Prevent Automatic Operation of the Elevator with Faulty Door Contact Circuits

Means shall be provided to monitor the position of power operated car doors that are mechanically coupled with the landing doors while the car is in the landing zone in order to

(a) prevent the operation of the car if the car door is not closed (see Clause 3.6.4.6), regardless whether the circuits incorporating car and/or landing door contacts are closed or open, except as permitted in Clauses 2.12.9, 3.12.1.3, and 3.12.1.4; and

(b) prevent the power closing of the doors if the car door is fully open and the circuits incorporating car and/or landing door contacts are closed, except as permitted in Clause 3.12.1.4.

3.12.2 Electrical Protective Devices

3.12.2.1 General

Electrical protective devices conforming to Clause 3.12.4.3 shall be provided as specified in Clauses 3.12.2.2 to 3.12.2.29.

3.12.2.2 Slack-Rope Switch

Elevators having winding-drum machines shall be provided with a slack-rope device equipped with a switch of the enclosed manually reset type which shall cause the electric power to be removed from the elevator driving-machine motor and brake if the hoisting ropes become slack.

3.12.2.3 Compensating-Rope-Sheave Switch

Compensating-rope-sheaves shall be provided with a switch(es) mechanically opened by the sheave, before it reaches its upper or lower limit of travel, to cause the electric power to be removed from the elevator driving-machine motor and brake.

3.12.2.4 Overspeed Protection

3.12.2.4.1

Except as permitted in Clause 3.12.2.4.2, where DC is supplied to the armature and shunt field of a driving machine motor, a motor-field current sensing means shall be provided which will cause



Elevating and Amusement Devices Safety Division	Ref. No.: 95/92	Rev. No.:
DIRECTOR'S RULING	Date: June 22/92	Date:

Subject: INFORMATION TO INSTALLING ELEVATOR CONTRACTORS STOP SWITCH ON IN-CAR EMERGENCY OPERATION CLAUSE 3.12.15.8.2(h)

Sent to: ALL ELEVATOR CONTRACTORS IN SCOPE A1 (& CONSULTANTS)

1. VARIANCE FORM 3.12.15.8.2(h) WILL NOT BE PERMITTED

With this ruling, inspectors are instructed, starting September 1, 1992, not to accept any variance from B44 rule 3.12.15.8.2(h) and to verify that the emergency stop switch is not operational when the in-car "emergency operation" switch is turned to the OFF position.

2. BACKGROUND

2.1 B44 Requirements

The subject clause 3.12.15.8.2(h) reads:

"When the car is at a landing and the keyed switch in the car is turned to the "OFF" position, the car shall automatically return to the recall level as on emergency recall operation (see clause 3.12.15.2 and 3.12.15.3) regardless of the position of the emergency recall switch".

The underlined part of the rule implies that the stop switch must remain inoperative because clause 2.12.15.2.3(d), referring to emergency recall operation, reads: "...car shall have its emergency stop switch rendered inoperative".

2.2 Conformance & Rationale For Variances

Some elevator manufacturers are supplying elevators that fully conform to 3.12.15.2.3(d) during recall operation but during in-car operation, as described in clause 3.12.15.8.2(h), the stop switch becomes operational again.

They suggested that there is no hazard in having the stop switch operational when the in-car emergency operation switch is turned to the OFF position, because the car will either be an empty car or occupied by firemen who will know the consequences of using this stopping feature.

We agree with this rationale, instructed inspectors to accept it and simultaneously submitted to the B44 Code Committee a proposal for revision of the code to allow (not to require) the stop switch to be operational in the case described in clause 3.12.15.8.2(h).

2.3 Code Committee's Response

While most committee members agreed with the rationale for the variance, the committee decided not to change the code in order to maintain harmony between ANSI A17.1 and B44 rules.

T.G. Smith, Director



Elevating and Amusement Devices Safety Division	Ref. No.: 96/92	Rev. No.:
DIRECTOR'S RULING	Date: June 22/92	Date:

**Subject: STANDARDIZATION OF SPECIFICATION SHEET ENTRIES NEEDED FOR THE
NEW EDB COMPUTER DATA BANK**

Send to: ALL ED SUBMITTING ENGINEERS AND ALL ED GENERAL CONTRACTORS

1. Introduction

This branch is developing an INDEX* system (*Inspection, Design and Engineering Data X-reference) in order to improve the effectiveness of the branch in the area of:

- administration of the Elevating Devices Act, and
- the management of the safety risks associated with the elevating devices.

Data collected will include, information on design submissions, inspections, accidents, incidents, complaints, maintenance.

Will be able to identify devices with potential safety risks considering such factors as the age of the device, make, model, year of installation, applied standards, granted variances, type of maintenance contract, etc.

The complete system should be developed by the end of 1992 and we then intend to start recapturing data from office files or by the installation site visits.

2. First Stage

The first stage of the INDEX system, now in place, enables us to store data on a number of selected components of each elevating device class for which the design submission is registered after October 1, 1991. For that purpose we use the design submission application and specification sheets. Numerical and YES/NO data are directly captured. All other information such as "door type" or "make and model" must be uniquely coded by our staff.

3. What do we expect from submitting engineers?

- a) In specification sheets, "the make and model" of an elevating device as well as its components must be entered accurately and uniformly.

As an example, the entry for the controller designated as "Rapid Elevator, model XYZ" must be maintained as long as this particular controller is manufactured and installed. Any change in the designation, e.g. "Rapid El., model X-Y-Z", may be recognized by our staff as a different controller and coded accordingly.

Where the engineer considers that any of two, three or more "makes and models" of one component are acceptable for a particular elevating device he/she may list all of them in the spec sheet or in the attachment, provided the inspector will be able to identify which of those is used on that installation.

In the future we will be able to identify all elevators equipped with a controller, or governor, etc., of a specific make and model. Naturally, it will not be possible if the name and model designation are recorded under different codes. However, when a component model is redesigned, its model designation should be changed.

- b) All other descriptive entries in specification sheets or applications forms that we capture, must be standardized and consistency maintained. Therefore, we ask that you strictly adhere to the guidelines in the specification forms. In addition, we ask you to use only the following descriptive entries in the forms where applicable:

b.1) Application Form Item #22 - Building Function

Disregard the guidelines in the form and use the following:

- | | |
|---|---|
| 1. Rental residential | 9. Learning institutions - (schools, colleges, day-care centres, nursing homes)* |
| 2. Condominium residential | 10. Open to public office - (e.g. post office, professional offices, government offices, medical offices, banks)* |
| 3. Student residence | 11. Office (with restricted public access)* |
| 4. Group home | 12. Mercantile - (shops, supermarkets, shopping malls)* |
| 5. Hotel - (hostel, motel)* | 13. Industrial - (factories, mills, warehouses)* |
| 6. Hospital - (nursing homes, orphanages)* | 14. Mass transportation - (rail, subway stations, parking garage, airport terminal)* |
| 7. Institute - (jails, prisons, psychiatric hospitals)* | 15. Outdoor recreation area - (ski area, golf, parks, Niagara Falls)* |
| 8. Assemblies - (theatre, galleries, museums, school auditorium, restaurants, rinks, operas, indoor pools, indoor recreational areas, community hall, observation towers, bowling alleys, library, place of worship)* | 16. Other functions |

* Text in () for info only, need not be listed in the form.

In exceptional cases, the submitting engineer may not have precise information. In that case, assumed functions will be entered and the inspector will define whether type 1 (rental), 2 (condominium) etc. The list may appear to be too detailed with regards to elevators; but note that it is intended to cover all types of elevating and amusement devices.

b.2) Elevators - landing or car door type (item #92 and 124), use full description or acronyms as shown in brackets.

1. horizontally sliding, single-section (HSSS)
2. horizontally sliding, centre opening (HSCO)
3. horizontally sliding, two-speed (HS2)
4. horizontally sliding, two-speed, centre opening (HS2C)
5. horizontally swinging, single-section (HWSS)
6. horizontally swinging, centre opening (HWCO)
7. combination, horizontally sliding and swinging (CHSS)
8. vertically sliding, bi-parting, counterbalanced (VSBC)
9. vertically sliding down-to-open, counterbalanced (VSDC)
10. vertically sliding up-to-open, counterbalanced (VSUC)
11. if other - specify.....

b.3) Spec for any ED class - Variances (item #190)

In addition to guidelines to the form, note that a request for variance must indicate:

- designation of clause(s) of the code from which the variance is requested,
- details explaining the variance from the quote clause(s).

b.4) Future development

In future stages (starting 1993), we will be exploring other possibilities, such as:

- fully electronic design submissions
- electronic submission of the list of maintained installations
- direct access of the industry to our data bank (e.g. technical data, directions issued....), on a selective basis
- electronic reporting of accidents, incidents....



Elevating and Amusement Devices Safety Division	Ref. No.: 97/92	Rev. No.:
DIRECTOR'S RULING	Date: November 13/92	Date:

Subject: RETROFITTING OF ELEVATOR SINGLE SLIDE DOORS WITH SAFETY RETAINERS

Sent to: OWNERS OF ELEVATORS THAT REQUIRE SAFETY RETAINERS RETROFIT

1. **ORDER TO OWNERS**

Effective immediately, licensed elevators equipped with single sliding door must be retrofitted with door safety retainers.

2. Retrofitting must be carried out within 90 days of receipt of this order by a registered elevator contractor who must follow procedure specified in the latest edition of EDB Director's Ruling #61/88. Failure to comply could result in the elevator being removed from service and/or prosecution under the Elevating Devices Act. The Act provides for fines of up to \$100,000 for non-compliance.

3. Owners shall report the current status on compliance of this Ruling to this Branch prior to December 31, 1992.

4. During the next 90 day period, after issuance of this order, continue to advise this Branch on an ongoing basis when the status of retrofitting has changed. The sample from "OWNERS REPORT ON STATUS" should be sent via FAX - (416) 963-2018 to the Branch indicating compliance to this order.

5. After the 90 day period all unreported installations will be scheduled for immediate inspection. Procedures as outlined in #2 will be enforced for non-compliance.

INSTRUCTIONS

A sample form of 'Owner's Report on Status' is enclosed for your use. You should consult your maintenance contractor or another registered elevator contractor before confirming "Full Conformance". This form covers one location only. If you own elevators in more than one location, use the sample form as a master and run extra copies (if practicable, on your company's letterhead) as needed for each location.

Should you require more information regarding the safety retainer retrofit program or need further assistance, you may discuss this with your maintenance contractor, or contact this Branch by phone: (234-6000, and ask for Duty Manager).

BACKGROUND

In May, 1988, Ruling #61/88 was issued giving the following rationale for retrofitting doors with safety retainers:

"Following a series of accidents that were attributed to the inadequate landing door strength, the CAN3-B44 Elevator Safety Code has been revised to require safety retainers on all new elevator doors. Considering the history of accidents in the Province of Ontario, and in accordance with subsection 10(8) of the Elevating Devices Act, I have decided to make the requirement retroactive to existing passenger elevators, at this stage to those equipped with single slide landing doors. Since most of the accidents were recorded in residential buildings, where the majority of elevators were equipped with single slide doors, I expect that in 2 to 3 years, when inspectors' orders are completed, the overall safety of elevators will be significantly improved."

The same May 1988, Ruling #61/88 announced the following enforcement procedure:

"Commencing May 15, 1988, (on periodic inspections) inspectors will order elevators equipped with single sliding doors, to be retrofitted with door SAFETY RETAINERS.

This, however, was not always possible. Resulting from the Branch's ongoing commitment to provide inspection services for new installations throughout the Province, fewer than intended periodic inspections have been carried out. Consequently, some elevators have not received orders from inspectors to be retrofitted with door safety retainers. Under Director's Ruling 83/91 dated February 25, 1991, all registered elevator maintenance contractors were ordered to provide a listing to the Branch of all elevator installations with single slide doors that were not equipped with safety retainers. Based on their information, we have compiled the list of elevators which must be retrofitted with door safety retainers. The list is attached for your use.

Attachment:

cc: Maintenance Contractors

**OWNER'S/LICENSEE'S REPORT ON STATUS RE COMPLIANCE TO
DIRECTOR'S RULING REF. 97/92, REGARDING RETROFITTING OF
ELEVATOR SINGLE SLIDE DOORS WITH SAFETY RETAINERS**

Owner/Licensee Name: Address:						
Elevator Location: (Address)						
Installation no(s). <small>(see Ministry i.d. plate in elevator)</small>	Owner's/Licensee's Confirmation <small>(check appropriate box)</small>					
	<input type="checkbox"/> Fully conform to Order #1 of the Ruling <small>(Consult your contractor)</small>					
	<input type="checkbox"/> Installation has been shutdown	Shutdown Status <input type="checkbox"/> Temporarily (e.g. for alterations/modernization, etc. <small>Explain in 'Owner's/Licensee's Remarks'.)</small> <input type="checkbox"/> Permanently (to be dismantled)				
	<input type="checkbox"/> A contract has been awarded to install retainers	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="width:70%;">Name of Installing Contractor</th> <th style="width:30%;">Anticipated Completion Date</th> </tr> <tr> <td style="height: 30px;"></td> <td></td> </tr> </table>	Name of Installing Contractor	Anticipated Completion Date		
	Name of Installing Contractor	Anticipated Completion Date				
Owner's/Licensee's Remarks:						
FOR MINISTRY USE EDB Remarks:						

Signature:	Date:
Name:	Official Capacity:

Form ID-29482



Elevating and Amusement Devices Safety Division	Ref. No.: 98/92	Rev. No.:
DIRECTOR'S RULING	Date: October 13/92	Date:

Subject: ADOPTION OF CAN/CSA-Z298-M91 PASSENGER ROPEWAYS NEW EDITION -- A NATIONAL STANDARD OF CANADA

Sent to: ALL CONTRACTORS IN GROUP 8 AND SUBMITTING ENGINEERS

Item 1: ORDER

Each newly installed or altered passenger ropeway for which the DESIGN is submitted to this branch for registration after the 1st day of November, 1992, shall conform to the requirements of the CAN/CSA-Z98-M91, Passenger Ropeways, with clarification specified in item 2 of this Ruling.

Item 2: CLARIFICATION

The order in item #1 is clarified with respect to the following rules in the subject standard:

2.1 Clause 8.26 Periodic Loading Testing:

Provide this Branch in writing before November 30, 1992 the list of all above-surface ropeways, identifying them with the installation numbers and the last documented dates, when the load tests were performed. Upon receipt of this list, the Branch will make arrangements with the owners for a periodic load testing of these installations and witnessing of these tests.

Item 3: INSTRUCTIONS

- a) In the case of the existing passenger ropeways, the application of any newly adopted code is restricted to the section covering the inspection, testing, maintenance and use of the elevating devices, unless otherwise required by the Regulation under the Elevating Devices Act.
- b) CAN/CSA-Z98-M91, Safety Code for Elevators, is available from the Canadian Standards Association, 178 Rexdale Blvd., Rexdale, ON M9W 1R3 - telephone (416)-747-4044.
- c) Since the Elevating Devices Act requires all mechanics to have full knowledge of the codes applicable to the elevating devices on which they are assigned to work, we would expect that the mechanics involved in the construction, installation and maintenance of passenger ropeways will be provided with a copy of the subject standard.



Elevating and Amusement Devices Safety Division	Ref. No.: 99/92	Rev. No.:
DIRECTOR'S RULING	Date: October 30/92	Date:

Subject: A NEW STANDARD FOR MAINTENANCE OF ELEVATORS, DUMBWAITERS, FREIGHT PLATFORM LIFTS, ESCALATORS AND MOVING WALKS TO BE ENFORCED AS OF APRIL 1, 1993

Send to: OWNERS/LICENSEES OF, AND CONTRACTORS MAINTAINING ELEVATING DEVICES LISTED UNDER "SUBJECT"

1. ORDER TO OWNERS AND LICENSEES

Every owner* of an elevating device (of a class listed in the "subject"), shall ensure that the elevating device is not used or operated after March 31, 1993 unless it is maintained and records are kept in accordance with section 12 of Canadian Standard: supplement no. 1-1992 to CAN/CSA – B44-M90, Safety Code for Elevators and further requirements specified in item 3 of this ruling.

Notes

- a) This order is supplementary to operation and maintenance requirements pursuant to the regulations made under the Elevating Devices Act, RSO 1990 (c) E8.

*According to this Act, "Owner" includes the person in charge of an elevating device as owner, licensee, lessee, agent or otherwise.

Section 30 of the Act provides that every person who fails to comply with an order is guilty of an offence and on conviction is liable to a fine of not more than \$25 000 or to imprisonment for a term of not more than one year, or to both, or, if the person is a body corporate, to a fine of not more than \$100 000.

- b) Owners are advised to review with their contractor the quality and scope of maintenance work, tests and examinations now being performed and the present record-keeping arrangements to ensure conformance considering that the new standard stipulates additional tests and examinations as well as the log books and wiring diagrams not mandated until now.
- c) Standard CAN/CSA B44-94, Supplement No. 1-1994, and any subsequent editions are available from Canadian Standards Association, 178 Rexdale Blvd., Etobicoke, Ontario M9W 1R3- Telephone 416-747-4044.

2. ORDER TO CONTRACTORS

After March 31, 1993, no contractor shall undertake maintenance of an elevating device (of a class listed in the "subject"), unless it is performed in accordance with the Canadian Standard quoted in item 1 of this ruling and requirements specified in item 3 of this ruling.

Note: Contractors are obliged to instruct and train their staff on section 12 requirements, and to establish procedures for new tests and examinations not previously required. See also Notes 1(a) and 1(c).

3. SPECIFIC REQUIREMENTS

3.1 General Maintenance Requirements

To ensure conformance with Orders #1 and #2, the owners and contractors should review requirements in the standard referred to in Order #1 and in particular the following clauses:

12.2.1 – Scope of Maintenance Required:

“Each elevator, dumbwaiter, and escalator installation shall be maintained in accordance with the requirements of this Section and the original manufacturer’s recommendations. The maintenance shall include:

- a) Inspections, examinations and tests at required or scheduled intervals of all parts and functions of an installation in order to ensure up to a reasonable degree that the installation is in a safe operating condition;
- b) Cleaning, lubricating, and adjusting applicable components at regular intervals, and repairing or replacing all worn or defective components where necessary, to prevent the device from becoming unsafe for operation;
- c) Repairing or replacing damaged or broken parts affecting the safe operation

12.2.2 - Maintenance Intervals:

“Unless otherwise specified in this Section, the maintenance required in Clause 12.2.1 shall be carried out every month. However, it may be possible that, based on the age and inherent quality of the equipment, the frequency and method of usage as well as the original manufacturer’s recommendations, the methods may be amended or altered, and required may be reduced or extended.”

12.2.3 – Actions Respecting Defective Parts:

“Where a defective part directly affecting the safety of the operation is identified, it shall be immediately adjusted, repaired or replaced.”

12.2.4 – Training, experience and qualifications of mechanics;

12.2.5 - Log Book (see instructions below in item 3.2)

12.2.6 - Wiring Diagrams (see instructions below in item 3.3);

12.3 - General maintenance procedure- including cleaning machine rooms, cars and hoistways (also transparent enclosures); access to, and locking of machine rooms;

12.4 – Examinations and Tests, Elevators and Dumbwaiters (and freight platform lifts) shall be examined and tested at intervals not exceeding twelve months. The results of such tests are required to be recorded in the log book for the device.

12.5 – Repairs and Replacements of damaged and worn parts,

12.6 – Examinations and Tests of Escalators (and moving walks).

** Note that the subject standard stipulates additional tests and examinations, beyond those of previous requirements.

Owners and contractors should clearly define their individual responsibilities to ensure that all tasks are completed and logged including those commonly considered as “owners” responsibilities, such as skirt panels and caution signs on escalators (clauses 12.6.2 f & h).

In the cases specified in clause 12.3.4 of the B44 of the new standard, the owners must ensure that the cleaning of the car and hoistway transparent enclosures is “**done under the direct supervision and presence of a maintenance mechanic.**”

3.2 Log Book (clause 12.2.5)

a) The log book (sample attached) shall, as a minimum, contain the following information:

- building name and/or address
- TSSA or MCCR installation number
- Contractor’s and owner’s name
- Year and month when a specific task is performed
- B44 clause number and the name of the task performed, as listed in Table 12.1 (elevators, dumbwaiters, and by analogy freight platform lifts) or Table 12.2 (escalators and by analogy moving walks),
- Names and signatures of the persons who performed the tasks

When a specific task is performed by the owner (e.g. application of anti-friction material and signs on escalators), the owner will be responsible for signing off the corresponding section in the log book.

If a safety related component is replaced by a component of a different manufacture and/or model, and the replacement does not constitute an alteration under the Elevating Devices Act, a document signed and sealed by a professional engineer, containing the description of the component, its make and model, shall be inserted in the Log Book.

- b) The owner is responsible to ensure that the Log Book is established, regularly updated, records kept for the last 5 years and transferred to a new owner of the elevating device.
- c) The Log Book will be retained in the machine room. If it is kept in another location in the building, a notice will be posted in the machine room indicating the alternate location.
- d) Date and signature in "Safeties and Governor" box replaces "Safety Test Certificate" form.
- e) If a contractor utilizes a computer-type system, then the Log Book requirement may be satisfied by the contractor's production at the elevating device location of a hard copy of a computer generated log book report, which otherwise meets requirements in 'a' to 'd' above, within 48 hours of a request to do so by the ministry or the owner.

3.3 Wiring Diagrams (clause 12.2.6)

- a) If a up-to-date wiring diagram, detailing circuits of all electrical protective devices and primary directional circuits does not exist, the owner shall be responsible to obtain such diagrams (e.g. from the original manufacturer, a registered contractor, qualified consultant, etc.).
- b) The wiring diagram shall be available in the machine room at all times.
- c) The wiring diagram shall be kept updated by the contractor performing any changes.

ATTACHMENTS - 2

MAINTENANCE LOG - ESCALATORS AND MOVING WALKS

NOTE: This is a sample form indicating minimum requirements for the LOG BOOK entries. For complete maintenance requirements refer to EDB DIRECTOR'S RULING #99/92 and Section 12 in B44/92 Code. Cross out items and boxes not applicable to specific installation

BUILDING NAME #/OR ADDRESS		INST. No DEVICE DESIGNATION											
CONTRACTOR NAME #/OR REG. No		THIS PAGE FOR YEAR											
OWNER NAME		MONTH											
INTERVALS PER B44	SCOPE OF WORK	1	2	3	4	5	6	7	8	9	10	11	12
1 MONTH	GENERAL MAINTENANCE												
	(a) STOP BUTTONS												
	(b) START SWITCHES												
	(c) HANDRAIL DRIVE TEST												
	(d) BALUSTR.-STEP CLEARANCE												
	(e) COMBRATES												
	(g) STEP TREAD & RISERS												
	(f) SKIRT PANELS												
	(h) CAUTION SIGNS												
	6 MONTHS	(a) SPEED GOVERNOR											
(b) BROKEN DRIVE-CHAIN DEV.													
12 MONTHS	(c) STEP OBSTRUCTION DEVICE												
	(a) SPEED GOVERNOR												
	(b) STOP IN MACH. SPACE												
	(c) ANTI-REVERSAL SWITCH												
	(d) STEP UPTHRUST DEVICE												
	(e) BRAKES												
	(f) CHAIN STRETCH												
	- ANNUAL EXAMINATIONS - ANNUAL CLEANING												

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MAINTENANCE LOG - ELEVATORS, DUMBWAITERS & FREIGHT PLATFORM LIFTS

Note: This is a sample form indicating minimum requirements for the LOG BOOK entries. For complete maintenance requirements refer to EDB DIRECTOR'S RULING #99/92 and Section 12 in B44 M92 Code. Cross out items and boxes not applicable to a specific device.

BUILDING NAME AND/OR ADDRESS		INST. No
CONTRACTOR NAME AND/OR REG. No	OWNER'S NAME	DEVICE DESIGNATION

MONTHLY MAINTENANCE & TESTS

INSTRUCTIONS: SIGN IN THE YEAR AND MONTH BOX WHEN WORK COMPLETED.

Y	M	B44 CLAUSE 12.2 GENERAL MAINT.	CLAUSE 12.4.5(a) LAND'G & CAR DRS
1	1		
1	2		
1	3		
9	4		
9	5		
9	6		
9	7		
3	8		
3	9		
3	10		
3	11		
3	12		
1	1		
1	2		
1	3		
9	4		
9	5		
9	6		
9	7		
4	8		
4	9		
4	10		
4	11		
4	12		
1	1		
1	2		
1	3		
9	4		
9	5		
9	6		
9	7		
5	8		
5	9		
5	10		
5	11		
5	12		
1	1		
1	2		
1	3		
9	4		
9	5		
9	6		
9	7		
6	8		
6	9		
6	10		
6	11		
6	12		
1	1		
1	2		
1	3		
9	4		
9	5		
9	6		
9	7		
7	8		
7	9		
7	10		
7	11		
7	12		

3 MONTHS INTERVAL WORK

INSTRUCTIONS: ENTER DATE AND SIGN IN THE BOX OF THE YEAR/QUARTER WHEN WORK COMPLETED

B44 CLAUSE No AND SCOPE OF WORK	YEAR QUART.	YEAR/DATE AND SIGNATURE				
		1993	1994	1995	1996	1997
12.4.3.1 GOVERNOR	1					
12.4.5(b) LANDING AND CAR DOORS	2					
	3					
12.4.10 EMERGENCY LIGHT	4					

6 MONTHS INTERVAL WORK

INSTRUCTIONS: ENTER DATE AND SIGN IN THE BOX OF THE YEAR/YEAR HALF WHEN WORK COMPLETED

B44 CLAUSE No AND SCOPE OF WORK	HALF YEAR	YEAR/DATE AND SIGNATURE				
		1993	1994	1995	1996	1997
12.4.4.1 GOVERNOR ROPE	1st					
12.4.5(c) LANDING AND CAR DOORS	2nd					

12 MONTHS INTERVAL WORK

INSTRUCTIONS: ENTER DATE AND SIGN IN THE BOX OF THE YEAR WHEN WORK COMPLETED

B44 CLAUSE No AND SCOPE OF WORK	YEAR/DATE AND SIGNATURE				
	1993	1994	1995	1996	1997
12.4.2.2 TEST SAFETIES					
12.4.3.2 TEST GOVERNOR					
CLAUSE 12.4.4 ALL WIRE ROPES					
CLAUSE 12.4.5(d) LANDING AND CAR DOORS					
CLAUSE 12.4.6 BRAKES					
CLAUSE 12.5.2.1(a) HOIST ROPES ON DRUM MACHINES					
CLAUSE 12.4.8 RELIEF VALVE SETTING					
CLAUSE 12.4.9 CYLINDER or LEAKAGE TEST					
CLAUSE 12.4.1 OTHER PARTS AND FUNCTIONS					

24 MONTHS INTERVAL WORK

INSTRUCTIONS: ENTER DATE AND SIGN IN THE BOX OF THE YEAR WHEN WORK COMPLETED

B44 CLAUSE No AND SCOPE OF WORK	YEAR/DATE AND SIGNATURE		
	1993 or 1994	1995 or 1996	1997 or 1998
CLAUSE 12.3.7.1 WATER HYDRAULIC PLUNGER			
CLAUSE 12.1.2.1(b) HOIST ROPES ON DRUM MACHINES			

5 YEARS INTERVAL WORK

INSTRUCTIONS: ENTER DATE AND SIGN WHEN WORK COMPLETED

B44 CLAUSE No AND SCOPE OF WORK	DATE AND SIGNATURE
CLAUSE 12.4.3.3 GOVERNOR	
CLAUSE 12.4.7.1 BUFFERS	

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Elevating and Amusement Devices Safety Division	Ref. No.: 99/92	Rev. No.: 1
DIRECTOR'S RULING	Date: October 30/92	Date: February 10/94

Subject: A NEW STANDARD FOR MAINTENANCE OF ELEVATORS, DUMBWAITERS, FREIGHT PLATFORM LIFTS, ESCALATORS AND MOVING WALKS TO BE ENFORCED AS OF APRIL 1, 1993

Sent to: CONTRACTORS MAINTAINING ELEVATING DEVICES LISTED UNDER 'SUBJECT'

NOTES ON REVISION #1:

This revision is mailed only to contractors (not owners/licensees) since changes relate to the contractors' functions. Refer to IMPORTANT REVISIONS:

- in item 2 - Note regarding "written procedure"
- in item 3.1 - Clause 12.4 regarding additional tests
- in item 3.2(d) and (e) regarding log book

1. ORDER TO OWNERS/LICENSEES

Every owner* of an elevating device (of a class listed in the "subject"), shall ensure that the elevating device is not used or operated after March 31, 1993 unless it is maintained and records kept in accordance with Section 12 of Canadian Standard: Supplement No. 1-1992 to CAN/CSA-B44-M90, Safety Code for Elevators and further requirements specified in item 3 of this ruling or any subsequent edition of the B44 Code.

NOTES:

- (a) This order is supplementary to operation and maintenance requirements pursuant to the regulations made under the Elevating Devices Act, RSO 1990 (c)E8.

Section 30 of the Act provides that every person who fails to comply with an order "is guilty of an offence and on conviction is liable to a fine of not more than \$25,000 or to imprisonment for a term of not more than one year, or to both, or, if the person is a body corporate, to a fine of not more than \$100,000."

* According to this Act, "Owner" includes the person in charge of an elevating device as owner, licensee, lessee, agent, or otherwise.

- (b) Owners are advised to review with their contractors the quality and scope of maintenance work, tests and examinations now being performed and the present record-keeping arrangements to ensure conformance considering that the new standard stipulates additional tests and examinations as well as log books and wiring diagrams not mandated until now.
- (c) Standard CAN/CSA-B44-M90, Supplement No. 1-1992 and any subsequent edition are available from Canadian Standards Association, 178 Rexdale Blvd., Rexdale, Ontario M9W 1R3 - telephone 416-747-4044.

2. ORDER TO CONTRACTORS

After March 31, 1993, no contractor shall undertake maintenance of an elevating device (of a class listed in the "subject"), unless it is performed in accordance with the Canadian Standard quoted in item 1 of this ruling and requirements specified in item 3 of this ruling.

NOTE: Contractors are obliged to instruct and train their staff on Section 12 requirements, and to establish written procedures for new tests and examinations not previously required. See also Notes 1(a) and 1(c).

3. SPECIFIC REQUIREMENTS

3.1 General Maintenance Requirements

To ensure conformance with Order #1 and #2 the owners and contractors should review requirements in the standard referred to in Order #1 and in particular the following clauses:

12.2.1 - Scope of Maintenance Required:

"Each elevator, dumbwaiter, and escalator installation shall be maintained in accordance with the requirements of this Section and the original manufacturer's recommendations. The maintenance shall include:

- (a) Inspections, examinations, and tests at required or scheduled intervals of all parts and functions of an installation in order to ensure up to a reasonable degree that the installation is in a safe operating condition.
- (b) Cleaning, lubricating, and adjusting applicable components at regular intervals, and repairing or replacing all worn or defective components where necessary, to prevent the device from becoming unsafe for operation.
- (c) Repairing or replacing damaged or broken parts affecting the safe operation."

12.2.2 - Maintenance Intervals:

"Unless otherwise specified in this Section, the maintenance required in Clause 12.2.1 shall be carried out every month. However, it may be possible that, based on the age and inherent quality of the equipment, the frequency and method of usage as well as the original manufacturer's recommendations, the methods may be amended or altered, and required intervals may be reduced or extended."

12.2.3 - Actions Respecting Defective Parts:

"Where a defective part directly affecting the safety of the operation is identified, it shall be immediately adjusted, repaired, or replaced."

12.2.4 - Training, experience and qualification of mechanics;

12.2.5 - Log Book (see instructions below in 3.2);

12.2.6 - Wiring Diagrams (see instructions below in 3.3);

12.3 - General maintenance procedure - including cleaning machine rooms, cars and hoistways (also transparent enclosures); access to, and locking of machine rooms;

12.2.4 - Training, experience and qualification of mechanics;

12.2.5 - Log Book (see instructions below in 3.2);

12.2.6 - Wiring Diagrams (see instructions below in 3.3);

12.3 - General maintenance procedure - including cleaning machine rooms, cars and hoistways (also transparent enclosures); access to, and locking of machine rooms;

12.4 - Examinations and Tests of Elevators and Dumbwaiters** (and freight platform lifts); In addition to the tests of safeties and governors, the following protective devices, if provided, shall be tested, examined and results logged, at intervals not exceeding twelve months, with the first test logged not later than February 28, 1995:

a) ascending car overspeed protection required by B44 clause 3.16.3.1.3

b) car uncontrolled low speed protection required by B44 clause 3.16.4

NOTE: This requirement was inadvertently omitted in Supplement 2 and will be included in the next edition of the B44 Code, scheduled for publishing during June 1994.

12.5 - Repairs and Replacement of damaged and worn parts,

12.6 - Examinations and Tests of Escalators** (and moving walks).

** Note that the subject standard stipulates additional tests and examinations, beyond those of previous requirements.

Owners and contractors should clearly define their individual responsibilities to ensure that all tasks are completed and logged including those commonly considered as "owner's" responsibilities, such as skirt panels and caution signs on escalators (clause 12.6.2f & h).

In the cases specified in clause 12.3.4 of the B44 standard, the owners must ensure that the cleaning of the car and hoistway transparent enclosures is "done under the direct supervision and presence of a maintenance mechanic".

3.2 Log Book (clause 12.2.5)

a) The log book (sample attached) shall, as a minimum, contain the following information:

- Building name and/or address,
- MCCR installation number,
- Contractor's and Owner's name,
- Year and month when a specific task is performed,
- B44 clause number and the name of the task performed, as listed in Table 12.1 (elevators, dumbwaiters, and by analogy freight platform lifts) or Table 12.2 (escalators and by analogy moving walks),
- Names and signatures of the persons who performed the tasks.

When a specific task is performed by the owner (e.g. application of anti-friction material and signs on escalators), the owner will be responsible for signing off the corresponding section in the log book.

If a safety related component is replaced by a component of a different manufacture and/or model, and the replacement does not constitute an alteration under the Elevating Devices Act, a document signed and sealed by a professional engineer, containing the description of the component, its make and model, shall be inserted in the Log Book.

- b) The owner is responsible to ensure that the Log Book is established, regularly updated, records kept for the last 5 years and transferred to a new owner of the elevating device.
- c) The Log Book will be retained in the machine room. If it is kept in another location in the building, a notice will be posted in the machine room indicating the alternate location.
- d) Date, name and signature in "Safeties and Governor" box replaces "Safety Test Certificate" form and also confirms that overspeed and uncontrolled low speed protection, if provided, has been tested (see 12.4 above). However, the log book should contain a separate box(es) for these tests, as shown in the revised attachment.
- e) If the owner's contractor utilizes a computerized log book system, then the owner may satisfy the requirement for maintenance of a log book by requiring the contractor to provide him with a record of the computerized log at a frequency of no longer than every 3 months and retain same at the location in accordance with "c" above. It should be noted that an inspector may, as a consequence of findings during a periodic inspection, require the production of more recent records. Any follow-up inspection pertaining only to the production of the more recent records shall not incur the re-inspection fee.

All computerized log book systems shall otherwise conform fully with the requirements of "a" to "d" above.

Electronic signatures are acceptable. Instructions regarding printing of names and signatures which appear on the attached sample maintenance log forms must be incorporated into the printed form.

3.3 Wiring Diagrams (clause 12.2.6)

- a) If an up-to-date wiring diagram, detailing circuits of all electrical protective devices and primary directional circuits does not exist, the owner shall be responsible to obtain such diagrams (e.g. from the original manufacturer, a registered contractor, qualified consultant, etc.).
- b) The wiring diagram shall be available in the machine room at all times.
- c) The wiring diagram shall be kept updated by the contractor performing any changes.

ATTACHMENTS - 2

MAINTENANCE LOG – ESCALATORS AND MOVING WALKS

NOTE: This is a sample form indicating minimum requirements for the LOG BOOK entries. For complete maintenance requirements refer to EDB DIRECTOR'S

RULING #99/92 and Section 12 in B44/92 Code. Cross out items and boxes not applicable to specific install'n

INSTRUCTIONS: (*)

Sign in the month column when work completed.

INTERVALS PER B44	B44 CL	SCOPE OF WORK	MONTH												INST. No DEVICE DESIGNATION				
			1	2	3	4	5	6	7	8	9	10	11	12					
1 MONTH		GENERAL MAINTENANCE (a) STOP BUTTONS (b) SKIRT SWITCHES (c) HANDRAIL DRIVE TEST (d) BALUSTR. - STEP CLEARANCE (e) COMPLATES (g) STEP TREAD & RISERS																	
BY OWNER		(f) SKIRT PANELS (h) CAUTION SIGNS																	
6 MONTHS	12.6.3	(a) BROKEN STEP CHAIN DEV. (b) BROKEN DRIVE - CHAIN DEV. (c) STEP OBSTRUCTION DEVICE																	
12 MONTHS	12.6.4	(a) SPEED GOVERNOR (b) STOP IN MACH. SPACE (c) ANTI-REVERSAL SWITCH (d) STEP UPTHRUST DEVICE (e) BRAKES (f) CHAIN STRETCH																	
	12.6.5	- ANNUAL EXAMINATIONS - ANNUAL CLEANING																	

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(*) PRINTED FULL NAME, AND BESIDE IT, THE SIGNATURE OF EVERY PERSON WHO SIGNED ON THIS SIDE, MUST APPEAR ON THE REVERSE OF THIS FORM.

MAINTENANCE LOG – ELEVATORS, DUMBWAITERS & FREIGHT PLATFORM LIFTS

Note: This is a sample form indicating minimum requirements for the LOG BOOK entries. For complete maintenance requirements refer to EDB DIRECTOR'S RULING #99/92 and Section 12 In B44 M92 Code. Cross out items and boxes not applicable to a specific device.

BUILDING NAME AND/OR ADDRESS		INST. No
CONTRACTOR NAME AND/OR REG. No	OWNER'S NAME	DEVICE DESIGNATION

MONTHLY MAINTENANCE & TESTS (*)

INSTRUCTIONS: SIGN IN THE YEAR AND

MONTH BOX WHEN WORK COMPLETED.		B44 CLAUSE 12.2 GENERAL MAINT.	CLAUSE 12.4.5(a) LAND'G & CAR DRS
Y	M		
R	O		
	1		
	2		
1	3		
	4		
9	5		
	6		
9	7		
	8		
3	9		
	10		
	11		
	12		
	1		
	2		
1	3		
	4		
9	5		
	6		
9	7		
	8		
4	9		
	10		
	11		
	12		
	1		
	2		
1	3		
	4		
9	5		
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9	7		
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5	9		
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	11		
	12		
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	2		
1	3		
	4		
9	5		
	6		
9	7		
	8		
6	9		
	10		
	11		
	12		
	1		
	2		
1	3		
	4		
9	5		
	6		
9	7		
	8		
7	9		
	10		
	11		
	12		

3 MONTHS INTERVAL WORK (*)

INSTRUCTIONS: ENTER DATE AND SIGN IN THE BOX OF THE YEAR/QUARTER WHEN WORK COMPLETED

B44 CLAUSE No AND SCOPE OF WORK	YEAR QUART.	YEAR/DATE AND SIGNATURE				
		1993	1994	1995	1996	1997
12.4.3.1 GOVERNOR	1					
12.4.5(b) LANDING AND CAR DOORS	2					
12.4.10 EMERGENCY LIGHT	3					
	4					

6 MONTHS INTERVAL WORK (*)

INSTRUCTIONS: ENTER DATE AND SIGN IN THE BOX OF THE YEAR/YEAR HALF WHEN WORK COMPLETED

B44 CLAUSE No AND SCOPE OF WORK	HALF YEAR	YEAR/DATE AND SIGNATURE				
		1993	1994	1995	1996	1997
12.4.4.1 GOVERNOR ROPE	1st					
12.4.5(c) LANDING AND CAR DOORS	2nd					

12 MONTHS INTERVAL WORK (*)

INSTRUCTIONS: ENTER DATE AND SIGN IN THE BOX OF THE YEAR WHEN WORK COMPLETED

B44 CLAUSE No AND SCOPE OF WORK	YEAR/DATE AND SIGNATURE				
	1993	1994	1995	1996	1997
12.4.2.2 TEST SAFETIES					
12.4.3.2 TEST GOVERNOR					
CLAUSE 12.4.11 UP-OVERSPEED & LOW OVERSPEED PROTECTION					
CLAUSE 12.4.4 ALL WIRE ROPES					
CLAUSE 12.4.5(d) LANDING AND CAR DOORS					
CLAUSE 12.4.6 BRAKES					
CLAUSE 12.5.2.1(a) HOIST ROPES ON DRUM MACHINES					
CLAUSE 12.4.8 RELIEF VALVE SETTING					
CLAUSE 12.4.9 CYLINDER or LEAKAGE TEST					
CLAUSE 12.4.1 OTHER PARTS AND FUNCTIONS					

24 MONTHS INTERVAL WORK (*)

INSTRUCTIONS: ENTER DATE AND SIGN IN THE BOX OF THE YEAR WHEN WORK COMPLETED

B44 CLAUSE No AND SCOPE OF WORK	YEAR/DATE AND SIGNATURE		
	1993 or 1994	1995 or 1996	1997 or 1998
CLAUSE 12.3.7.1 WATER HYDRAULIC PLUNGER			
CLAUSE 12.1.2.1(b) HOIST ROPES ON DRUM MACHINES			

5 YEARS INTERVAL WORK (*)

INSTRUCTIONS: ENTER DATE AND SIGN WHEN WORK COMPLETED

B44 CLAUSE No AND SCOPE OF WORK	DATE AND SIGNATURE
CLAUSE 12.4.3.3 GOVERNOR	
CLAUSE 12.4.7.1 BUFFERS	

(*) PRINTED FULL NAME, AND BESIDE IT, THE SIGNATURE OF EVERY PERSON WHO SIGNED ON THIS SIDE, MUST APPEAR ON THE REVERSE OF THIS FORM. R1

MAINTEL 1 (02/94)AN



Elevating and Amusement Devices Safety Division	Ref. No.: 99/92	Rev. No.: 2
DIRECTOR'S RULING	Date: October 30/92	Date: December 2/94

Subject: A NEW STANDARD FOR MAINTENANCE OF ELEVATORS, DUMBWAITERS, FREIGHT PLATFORM LIFTS, ESCALATORS AND MOVING WALKS TO BE ENFORCED AS OF APRIL 1, 1993

Sent to: CONTRACTORS MAINTAINING ELEVATING DEVICES LISTED UNDER "SUBJECT"

NOTES ON REVISION #2:

Since this revision is mailed only to contractors (not owners/licensees), contractors must draw the specific owner's attention to this revision when applying clause 3.2(f) to a specific device. Refer to IMPORTANT REVISIONS: in item 3.2(f) - maintenance intervals.

1. **ORDER TO OWNERS/LICENSEES**

Every owner* of an elevating device (of a class listed in the "subject"), shall ensure that the elevating device is not used or operated after March 31, 1993 unless it is maintained and records kept in accordance with Section 12 of Canadian Standard: Supplement No. 1-1992 to CAN/CSA-B44-M90, Safety Code for Elevators and further requirements specified in item 3 of this ruling or any subsequent edition of the B44 Code.

NOTES:

- (a) This order is supplementary to operation and maintenance requirements pursuant to the regulations made under the Elevating Devices Act, RSO 1990 (c)E8.

Section 30 of the Act provides that every person who fails to comply with an order "is guilty of an offence and on conviction is liable to a fine of not more than \$25,000 or to imprisonment for a term of not more than one year, or to both, or, if the person is a body corporate, to a fine of not more than \$100,000."

* According to this Act, "Owner" includes the person in charge of an elevating device as owner, licensee, lessee, agent, or otherwise.
- (b) Owners are advised to review with their contractors the quality and scope of maintenance work, tests and examinations now being performed and the present record-keeping arrangements to ensure conformance considering that the new standard stipulates additional tests and examinations as well as log books and wiring diagrams not mandated until now.
- (c) Standard CAN/CSA-B44-M90, Supplement No. 1-1992 and any subsequent edition are available from Canadian Standards Association, 178 Rexdale Blvd., Rexdale, Ontario M9W 1R3 - telephone 416-747-4044.

2. **ORDER TO CONTRACTORS**

After March 31, 1993, no contractor shall undertake maintenance of an elevating device (of a class listed in the "subject"), unless it is performed in accordance with the Canadian Standard quoted in item 1 of this ruling and requirements specified in item 3 of this ruling.

NOTE: Contractors are obliged to instruct and train their staff on Section 12 requirements, and to establish written procedures for new tests and examinations not previously required. See also Notes 1(a) and 1(c).

3. **SPECIFIC REQUIREMENTS**

3.1 **General Maintenance Requirements**

To ensure conformance with Order #1 and #2 the owners and contractors should review requirements in the standard referred to in Order #1 and in particular the following clauses:

12.2.1 - Scope of Maintenance Required:

"Each elevator, dumbwaiter, and escalator installation shall be maintained in accordance with the requirements of this Section and the original manufacturer's recommendations. The maintenance shall include:

- (a) Inspections, examinations, and tests at required or scheduled intervals of all parts and functions of an installation in order to ensure up to a reasonable degree that the installation is in a safe operating condition.
- (b) Cleaning, lubricating, and adjusting applicable components at regular intervals, and repairing or replacing all worn or defective components where necessary, to prevent the device from becoming unsafe for operation.
- (c) Repairing or replacing damaged or broken parts affecting the safe operation."

12.2.2 - Maintenance Intervals:

"Unless otherwise specified in this Section, the maintenance required in Clause 12.2.1 shall be carried out every month. However, it may be possible that, based on the age and inherent quality of the equipment, the frequency and method of usage as well as the original manufacturer's recommendations, the methods may be amended or altered, and required intervals may be reduced or extended."

12.2.3 - Actions Respecting Defective Parts:

"Where a defective part directly affecting the safety of the operation is identified, it shall be immediately adjusted, repaired, or replaced."

12.2.4 - Training, experience and qualification of mechanics;

12.2.5 - Log Book (see instructions below in 3.2);

12.2.6 - Wiring Diagrams (see instructions below in 3.3);

12.3 - General maintenance procedure - including cleaning machine rooms, cars and hoistways (also transparent enclosures); access to, and locking of machine rooms;

12.4 - Examinations and Tests of Elevators and Dumbwaiters** (and freight platform lifts); In addition to the tests of safeties and governors, the following protective devices, if provided, shall be tested, examined and results logged, at intervals not exceeding twelve months, with the first test logged not later than February 28, 1995:

- a) ascending car overspeed protection required by B44 clause 3.16.3.1.3
- b) car uncontrolled low speed protection required by B44 clause 3.16.4

NOTE: This requirement was inadvertently omitted in Supplement 2 and will be included in the next edition of the B44 Code, scheduled for publishing during June 1994.

12.5 - Repairs and Replacement of damaged and worn parts,

12.6 - Examinations and Tests of Escalators** (and moving walks).

** Note that the subject standard stipulates additional tests and examinations, beyond those of previous requirements.

Owners and contractors should clearly define their individual responsibilities to ensure that all tasks are completed and logged including those commonly considered as "owner's" responsibilities, such as skirt panels and caution signs on escalators (clause 12.6.2f & h).

In the cases specified in clause 12.3.4 of the B44 standard, the owners must ensure that the cleaning of the car and hoistway transparent enclosures is:

"done under the direct supervision and presence of a maintenance mechanic".

3.2 Log Book (clause 12.2.5)

- a) The log book (sample attached) shall, as a minimum, contain the following information:
 - Building name and/or address,
 - MCCR installation number,
 - Contractor's and Owner's name,
 - Year and month when a specific task is performed,
 - B44 clause number and the name of the task performed, as listed in Table 12.1 (elevators, dumbwaiters, and by analogy freight platform lifts) or Table 12.2 (escalators and by analogy moving walks),
 - Names and signatures of the persons who performed the tasks.

When a specific task is performed by the owner (e.g. application of anti-friction material and signs on escalators), the owner will be responsible for signing off the corresponding section in the log book.

If a safety related component is replaced by a component of a different manufacture and/or model, and the replacement does not constitute an alteration under the Elevating Devices Act, a document signed and sealed by a professional engineer, containing the description of the component, its make and model, shall be inserted in the Log Book.

- b) The owner is responsible to ensure that the Log Book is established, regularly updated, records kept for the last 5 years and transferred to a new owner of the elevating device.
- c) The Log Book will be retained in the machine room. If it is kept in another location in the building, a notice will be posted in the machine room indicating the alternate location.
- d) Date, name and signature in "Safeties and Governor" box replaces "Safety Test Certificate" form and also confirms that overspeed and uncontrolled low speed protection, if provided, has been tested (see 12.4 above). However, the log book should contain a separate box(es) for these tests, as shown in the revised attachment.
- e) If the owner's contractor utilizes a computerized log book system, then the owner may satisfy the requirement for maintenance of a log book by requiring the contractor to provide him with a record of the computerized log at a frequency of no longer than every 3 months and retain same at the location in accordance with "c" above. It should be noted that an inspector may, as a consequence of findings during a periodic inspection, require the production of more recent records. Any follow-up inspection pertaining only to the production of the more recent records shall not incur the re-inspection fee.

All computerized log book systems shall otherwise conform fully with the requirements of "a" to "d" above.

Electronic signatures are acceptable. Instructions regarding printing of names and signatures which appear on the attached sample maintenance log forms must be incorporated into the printed form.

- f) Where the owner, at the recommendation of the maintenance contractor, decides to extend the monthly maintenance interval, as permitted by clause 12.2.2 of the B44 Code, the log book shall contain a statement that indicates the decided upon interval and the rationale thereof, i.e. whether it is based on age, inherent quality of equipment, the frequency, method of usage and/or the original equipment manufacturer's recommendation.

The statement shall be signed by persons who have authority to bind the owner and the contractor.

Extension of monthly maintenance intervals for escalators and moving walks is not permitted.

3.3 Wiring Diagrams (clause 12.2.6)

- a) If an up-to-date wiring diagram, detailing circuits of all electrical protective devices and primary directional circuits does not exist, the owner shall be responsible to obtain such diagrams (e.g. from the original manufacturer, a registered contractor, qualified consultant, etc.).
- b) The wiring diagram shall be available in the machine room at all times.
- c) The wiring diagram shall be kept updated by the contractor performing any changes.

ENFORCEMENT DATE FOR DIRECTOR'S RULING #99/92, REV. 2 IS JANUARY 1, 1995

ATTACHMENTS - 2

MAINTENANCE LOG - ESCALATORS AND MOVING WALKS

PAGE _____

NOTE: This is a sample form indicating minimum requirements for the LOG BOOK entries. For complete maintenance requirements refer to EDB DIRECTOR'S RULING #99/92 and Section 12 in B44/92 Code. Cross out items and boxes not applicable to specific installation

INSTRUCTIONS: (*)

Sign in the month column when work completed.

INTERVALS PER B44	B44 CL.	SCOPE OF WORK	MONTH														
			1	2	3	4	5	6	7	8	9	10	11	12			
GENERAL MAINTENANCE																	
1 MONTH		(a) STOP BUTTONS															
	12.6.2	(b) SKIRT SWITCHES															
		(c) HANDRAIL DRIVE TEST															
		(d) BALUSTR. - STEP CLEARANCE															
		(e) COMBPLATES															
		(g) STEP TREAD & RISERS															
BY OWNER		(f) SKIRT PANELS															
		(h) CAUTION SIGNS															
6 MONTHS	12.6.3	(a) BROKEN STEP CHAIN DEV.															
		(b) BROKEN DRIVE - CHAIN DEV.															
		(c) STEP OBSTRUCTION DEVICE															
12 MONTHS		(a) SPEED GOVERNOR															
		(b) STOP IN MACH. SPACE															
	12.6.4	(c) ANTI-REVERSAL SWITCH															
		(d) STEP UP/THRUST DEVICE															
		(e) BRAKES															
		(f) CHAIN STRETCH															
	12.6.5	- ANNUAL EXAMINATIONS															
		- ANNUAL CLEANING															

MAINTENANCE LOG - ESCALATORS AND MOVING WALKS (*) PRINTED FULL NAME, AND BESIDE IT, THE SIGNATURE OF EVERY PERSON WHO SIGNED ON THIS SIDE, MUST APPEAR ON THE REVERSE OF THIS FORM.

MAINTENANCE LOG – ELEVATORS, DUMBWAITERS & FREIGHT PLATFORM LIFTS

Note: This is a sample form indicating minimum requirements for the LOG BOOK entries. For complete maintenance requirements refer to EDB DIRECTOR'S RULING #99/92 and Section 12 in B44 M92 Code. Cross out items and boxes not applicable to a specific device.

BUILDING NAME AND/OR ADDRESS		INST. No
CONTRACTOR NAME AND/OR REG. No	OWNER'S NAME	DEVICE DESIGNATION

MONTHLY MAINTENANCE & TESTS (*)

INSTRUCTIONS: SIGN IN THE YEAR AND

MONTH BOX WHEN WORK COMPLETED.		B44 CLAUSE 12.2 GENERAL MAINT.	CLAUSE 12.4.5(a) LAND'G & CAR DRS
Y	M		
R	O		
	1		
	2		
1	3		
	4		
9	5		
	6		
9	7		
	8		
3	9		
	10		
	11		
	12		
	1		
	2		
1	3		
	4		
9	5		
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9	5		
	6		
9	7		
	8		
6	9		
	10		
	11		
	12		
	1		
1	2		
	3		
	4		
9	5		
	6		
9	7		
	8		
7	9		
	10		
	11		
	12		

3 MONTHS INTERVAL WORK (*)

INSTRUCTIONS: ENTER DATE AND SIGN IN THE BOX OF THE YEAR/QUARTER WHEN WORK COMPLETED

B44 CLAUSE No AND SCOPE OF WORK	YEAR QUART.	YEAR/DATE AND SIGNATURE				
		1993	1994	1995	1996	1997
12.4.3.1 GOVERNOR	1					
12.4.5(b) LANDING AND CAR DOORS	2					
	3					
12.4.10 EMERGENCY LIGHT	4					

6 MONTHS INTERVAL WORK (*)

INSTRUCTIONS: ENTER DATE AND SIGN IN THE BOX OF THE YEAR/YEAR HALF WHEN WORK COMPLETED

B44 CLAUSE No AND SCOPE OF WORK	HALF YEAR	YEAR/DATE AND SIGNATURE				
		1993	1994	1995	1996	1997
12.4.4.1 GOVERNOR ROPE	1st					
12.4.5(c) LANDING AND CAR DOORS	2nd					

12 MONTHS INTERVAL WORK (*)

INSTRUCTIONS: ENTER DATE AND SIGN IN THE BOX OF THE YEAR WHEN WORK COMPLETED

B44 CLAUSE No AND SCOPE OF WORK	YEAR/DATE AND SIGNATURE				
	1993	1994	1995	1996	1997
12.4.2.2 TEST SAFETIES					
12.4.3.2 TEST GOVERNOR					
CLAUSE 12.4.11 UP-OVERSPEED & LOW OVERSPEED PROTECTION					
CLAUSE 12.4.4 ALL WIRE ROPES					
CLAUSE 12.4.5(d) LANDING AND CAR DOORS					
CLAUSE 12.4.6 BRAKES					
CLAUSE 12.5.2.1(a) HOIST ROPES ON DRUM MACHINES					
CLAUSE 12.4.8 RELIEF VALVE SETTING					
CLAUSE 12.4.9 CYLINDER or LEAKAGE TEST					
CLAUSE 12.4.1 OTHER PARTS AND FUNCTIONS					

24 MONTHS INTERVAL WORK (*)

INSTRUCTIONS: ENTER DATE AND SIGN IN THE BOX OF THE YEAR WHEN WORK COMPLETED

B44 CLAUSE No AND SCOPE OF WORK	YEAR/DATE AND SIGNATURE		
	1993 or 1994	1995 or 1996	1997 or 1998
CLAUSE 12.3.7.1 WATER HYDRAULIC PLUNGER			
CLAUSE 12.1.2.1(b) HOIST ROPES ON DRUM MACHINES			

5 YEARS INTERVAL WORK (*)

INSTRUCTIONS: ENTER DATE AND SIGN WHEN WORK COMPLETED

B44 CLAUSE No AND SCOPE OF WORK	DATE AND SIGNATURE
CLAUSE 12.4.3.3 GOVERNOR	
CLAUSE 12.4.7.1 BUFFERS	

(*) PRINTED FULL NAME, AND BESIDE IT, THE SIGNATURE OF EVERY PERSON WHO SIGNED ON THIS SIDE, MUST APPEAR ON THE REVERSE OF THIS FORM.



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	99/92	3
DIRECTOR'S RULING	Date:	Date:
	October 30/92	October 20/98

Subject: A STANDARD FOR MAINTENANCE OF ELEVATORS, DUMBWAITERS, FREIGHT PLATFORM LIFTS, ESCALATORS AND MOVING WALKS

Send to: OWNERS/LICENSEES OF, AND CONTRACTORS MAINTAINING ELEVATING DEVICES LISTED UNDER 'SUBJECT'

NOTES ON REVISION #3

- (i) In this revision #3 of the Director's Ruling #99/92 revised is item #3.2 (f) in order to establish consistent language, rationale and requirements for stakeholders who extend maintenance intervals.

The requirements in item #3.2 (f) are formulated in consultation with the TSSA's Industry Advisory Committee on Section 12. The requirements are based on rules in Section 23 of the Regulations under the Elevating Devices Act and the rules of CSA B44-94 Section 12.

Item 3.2 (f) identifies the rationale which must be applied by stakeholders i.e. owners, manufacturers, manufacturer's agents and contractors, when deciding to extend maintenance intervals beyond those stated in CSA-B44 Section 12.

- (ii) All revisions are identified by "R3", except for editorial revisions, e.g. update of code references, deletion of outdated requirements.

ORDER TO OWNERS AND CONTRACTORS MODIFIED WITH REV. #3

- a) Owners, licensees and contractors who extend the maintenance intervals specified in CSA B44-94 Section 12, as permitted by Clause 12.2.2, shall comply with requirements specified in item 3.2 (f) of this ruling for each specific device.
- b) Owners, licensees and contractors of elevating devices that had their maintenance intervals extended in compliance with any previous edition/revision of Ruling #99/92 shall bring such elevating devices in compliance with item 3.2 (f) of this Ruling not later than six month from the date of this Revision #3.
- c) Maintenance decisions or actions of a contractor that extend the maintenance intervals shall be agreed upon by the owner or licensee, as the case maybe, and will be binding on both parties.

1. Order to Owner/Licensees (unmodified)

Every owner* of an elevating device (of a class listed in the "subject"), shall ensure that the elevating device is not used or operated unless it is maintained and records are kept in accordance with section 12 of Canadian Standard CAN/CSA – B44-94, Safety Code for Elevators including B44S1-97, Supplement No. 1 and further requirements specified in item 3 of this ruling.

Notes

- a) This order is supplementary to Section 23, Operation and Maintenance, requirements of the regulations made under the Elevating Devices Act, RSO 1990 (c) E8.

*According to this Act, "Owner" includes the person in charge of an elevating device as owner, licensee, lessee, agent or otherwise.

- b) Section 30 of the Act provides that every person who fails to comply with an order" is guilty of an offence and on conviction is liable to a fine of not more than \$25 000 or to imprisonment for a term of not more than one year, or to both, or, if the person is a body corporate, to a fine of not more than \$100 000. Where a person contravenes any of the provisions of this Act or the regulations or any other notice or order made thereunder on more than one day, each day shall be deemed to constitute a separate offence."
- c) Standard CAN/CSA B44-94, Supplement No. 1-1994, and any subsequent editions are available from Canadian Standards Association, 178 Rexdale Blvd., Etobicoke, Ontario M9W 1R3- Telephone 416-747-4044.

2. ORDER TO CONTRACTORS

No contractor shall undertake maintenance of an elevating device (of a class listed in the "subject"), unless it is performed in accordance with the Canadian Standard quoted in item 1 of this ruling and further requirements specified in item 3 of this ruling.

NOTE: Contractors are obliged to instruct and train their staff on Section 12 requirements, and to establish written procedures for tests and examinations in accordance with the Canadian Standard quoted in item 1 of this ruling and further requirements specified in item 3 of this ruling. See also Notes 1(a) and 1(b).

3. Specified Requirements

3.1 General Maintenance Requirements

To ensure conformance with Orders of this ruling, the owners and contractors should review requirements specified item 3 of this ruling and the standard referred to in item 1 of this ruling, in particular the following clauses of the standard:

Clause 12.2.1 – Scope of Maintenance Required:

"Each elevator, dumbwaiter, and escalator installation shall be maintained in accordance with the requirements of this Section and the original manufacturer's recommendations. The maintenance shall include:

- a) Inspections, examinations and tests at required or scheduled intervals of all parts and functions of an installation in order to ensure up to a reasonable degree that the installation is in a safe operating condition;
- b) Cleaning, lubricating, and adjusting applicable components at regular intervals, and repairing or replacing all worn or defective components where necessary, to prevent the device from becoming unsafe for operation;
- c) Repairing or replacing damaged or broken parts affecting the safe operation

Clause 12.2.2- Maintenance Intervals:

“Unless otherwise specified in this Section, the maintenance required in Clause 12.2.1 shall be carried out every month. However, it may be possible that, based on the age and inherent quality of the equipment, the frequency and method of usage as well as the original manufacturer’s recommendations, the methods may be amended or altered, and required may be reduced or extended.”

Clause 12.2.3 – Actions Respecting Defective Parts:

“Where a defective part directly affecting the safety of the operation is identified, it shall be immediately adjusted, repaired or replaced.”

Clauses 12.2.4 – Training, experience and qualifications of mechanics;

Clause 12.2.5 – Log Book (see instructions below in item 3.2)

Clause 12.2.6 – Wiring Diagrams (see instructions below in item 3.3);

Clause 12.3 – General maintenance procedure- including cleaning machine rooms, cars and hoistways (also transparent enclosures); access to, and locking of machine rooms;

Clause 12.4 – Examinations and Tests, Elevators and Dumbwaiters (and freight platform lifts) shall be examined and tested at intervals not exceeding twelve months. The results of such tests are required to be recorded in the log book for the device.

Clause 12.5 – Repairs and Replacements of damaged and worn parts,

Clause 12.6 – Examinations and Tests of Escalators (and moving walks).

Owners and contractors should clearly define their individual responsibilities to ensure that all tasks are complete and logged including those commonly considered as “owners” responsibilities, such as skirt panels and caution signs on escalators (clauses 12.6.2 f & h).

In the cases specified in clause 12.3.4 of the B44 standard, the owners must ensure that the cleaning of the car and hoistway transparent enclosures is “done under the direct supervision and presence of a maintenance mechanic.”

3.2 Log Book (clause 12.2.5)

- a) The log book (sample attached) shall, as a minimum, contain the following information:
- building name and/or address
 - TSSA or MCCR installation number
 - Contractor’s and owner’s name
 - Year and month when a specific task is performed
 - B44 clause number and the name of the task performed, as listed in Table 12.1 (elevators, dumbwaiters, and by analogy freight platform lifts) or Table 12.2 (escalators and by analogy moving walks),
 - Names and signatures of the persons who performed the tasks

When a specific task is performed by the owner (e.g. application of anti-friction material and signs on escalators), the owner or owner’s representative will be responsible for signing off the corresponding section in the log book.

If a safety related component is replaced by a component of a different manufacture and/or model and the replacement does not constitute an alteration (no design submission is registered with TSSA) a document signed and sealed by a professional engineer, containing the description of the component, its make and model, shall be inserted in the Log Book.

- a) The owner is responsible to ensure that the Log Book is established, regularly updated, and that records are kept for the last 5 years and transferred to a new owner of the elevating device.
- b) The log book will be retained in the machine room. If it is kept in another location in the building, a notice will be posted in the machine room indicating the alternate location.
- c) Date, name and signature in “Safeties and Governor” box replaces “Safety Test Certificate” form and also confirms that overspeed and uncontrolled low speed protection, if provided, has been tested (see clause 12.4 above). The log book should contain separate entries for tests of the overspeed and uncontrolled low speed protective devices.
- d) If the owner’s contractor utilizes a computerized log book system, then the owner may satisfy the requirement for maintenance of a log book by requiring the contractor to provide him with a record of the computerized log at a frequency of no longer than every 3 months and retain same at the location in accordance with “c” above. It should be noted that an inspector may, as a consequence of findings during a periodic inspection, require the production of more recent records. Any follow-up inspection pertaining only to the production of the more recent records shall not incur the re-inspection fee.

All computerized log book systems shall otherwise conform fully with the requirements of “a” to “d” above.

Electronic signatures are acceptable. Instructions regarding printing of names of signatures which appear on the attached sample maintenance log forms must be incorporated into the printed form.

- f) Where an owner or a contractor maintaining an elevating device on behalf of an owner decides to extend the maintenance intervals specified in CAN/CSA B44-94 Section 12 as permitted by Clause 12.2..2 and Ontario Regulation 316 Section 23. (2), the log book shall contain the following:
 - (i) a statement that indicates the extended intervals decided upon and the rationale thereof, taking into account the age and inherent quality of the equipment, the frequency and method of usage, and the recommendation(s) by either the original manufacturer, or manufacturer’s agent, or the maintaining contractor and
 - (ii) The statement required by Clause 3.2 (f)(I) shall be signed by the owner and the maintaining contractor or make reference to another document in which the owner and maintenance contractor have agreed to extend maintenance intervals and the rationale thereof.

3.3 Wiring Diagrams (clause 12.2.6)

- a) If an up-to-date wiring diagram, detailing circuits of all electrical protective devices and primary directional circuits does not exist the owner shall be responsible to obtain such diagrams (e.g. from the original manufacturer, a registered contractor, qualified consultant, etc.)
- b) The wiring diagram shall be available in the machine room at all times.
- c) The wiring diagram shall be kept updated by the contractor performing any changes.



ELEVATING & AMUSEMENT DEVICES SAFETY DIVISION

October 20, 1998

Subject: Director's Ruling 99/92 Rev. # 3, (attached)

Elevating devices stakeholders representing owners and contractors have sought clarification from the regulatory authority regarding their ability to extend maintenance intervals beyond those specified in the CAN/CSA-B44, Safety Code for Elevators. In particular, stakeholders raised concerns that some contractors were unable to participate in the process of extending maintenance intervals.

Over the last five years there have been several attempts by national committees to resolve this issue. The Technical Standards and Safety Authority (TSSA), as the regulatory authority, has taken a lead role in bringing the stakeholders together and maintaining a dialogue on this long standing issue. As a result, all stakeholders have unanimously agreed to support the attached Director's Ruling regarding the elevator maintenance intervals, which includes a number of provisions which will maintain a high level of public safety in Ontario and a level playing field among all elevator manufacturers and contractors.

It is important that all stakeholders clearly understand that any decision by a contractor to extend maintenance intervals for a particular elevating device must have the informed consent of the owner. As the owner has a legal responsibility to maintain the device under the *Elevating Devices Act and Regulation*, particularly section 23 of Ontario Regulation 316, it is essential that the owner be involved in decisions concerning the extending of maintenance intervals.

It is TSSA's position that the provisions contained in item 3.2 (f) (ii) of the Director's Ruling requiring a statement signed by both the owner and contractor indicating maintenance intervals are extended ensures that the owner has given informed consent as to the nature of maintenance proposed in the maintenance contract. Public safety is strengthened as a result of specific responsibilities and accountabilities of owners and contractors who, prior to deciding to extend maintenance intervals, will satisfy themselves that the safety of the device will not be compromised. TSSA has also developed inspection and enforcement processes which identify devices where extended maintenance intervals exist to ensure compliance with the Director's Ruling by all stakeholders. The periodic inspection frequency by TSSA on those devices where maintenance intervals are extended may be effected.

In closing, TSSA extends its appreciation to all the industry participants, in particular the Technical Advisory Committee, who made exceptional contributions in the development of this effective solution to a very significant issue.

Yours truly,

Elie Stephan
Director



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	99/92	4
DIRECTOR'S RULING	Date:	Date:
	October 30/92	December 30/98

Subject: A Standard for maintenance of elevators, dumbwaiters, freight platform lifts, escalators and moving walks

Sent to: Contractors maintaining elevating devices listed under "Subject"

Notes on Revision #4

R4

- With this Revision #4, the Director's Ruling #99/92 of October 30, 1992 as amended in Revision #3 of October 20, 1998, is being revised in order to bring cross-references and terminology in line with Section 12 and Appendix J of CSA Standard B44S2-98, Supplement 2 to B44-94 Safety Code for Elevators.
- B44S2-98 has been adopted with the Director's Order #141/98 of December 23, 1998, where compliance with the revised Section 12 and the Appendix J is required **not later than April 1, 1999**.
- Since this Revision #4 does not effectively change Order to Owners that was specified in Revision #3, a copy of this Revision #4 is being distributed to the maintaining contractors only.
- Added and revised paragraphs are identified by "R4" in the margins. Minor editorial changes are not identified.

1. ORDERS

1.1 ORDER TO OWNERS AND CONTRACTORS MODIFIED WITH REV.#3 & REV. #4 R4

- (a) Owners, licensees and contractors who extend the maintenance intervals beyond those specified in Appendix J and Section 12 of CSA Standard B44S2-98 shall comply with requirements specified in item 3.2(f) of this Director's Order for each specific device.
- (b) Owners, licensees and contractors of elevating devices that had their maintenance intervals extended in compliance with any edition/revision of Ruling #99/92, previous to Revision #3, shall bring maintenance records for such elevating devices in compliance with item 3.2(f) of this Director's Order **not later than April 20, 1999** (that is six months from the date of Revision #3).
- (c) Maintenance decisions or actions of a contractor that extend the maintenance intervals shall be agreed upon by the owner or licensee, as the case may be, and will be binding on both parties. TSSA may require evidence of such agreement. R4

1.2 ORDER TO OWNERS/LICENSEES REVISED WITH REV. #4

- (a) Every owner* of an elevating device (of a class listed in the "subject"), shall ensure that the elevating device is not used or operated unless it is maintained and records are kept in accordance with Section 12 and Appendix J of Canadian Standard CAN/CSA-B44-94, Safety Code for Elevators as amended with B44S1-97, Supplement No. 1 and B44S2-98, Supplement No. 2 and in accordance with further requirements specified in item 3 of this Director's Order.

E. Stephan, Director, under the Elevating Devices Act

*According to the Elevating Devices Act, "Owner" includes the person in charge of an elevating device as owner, licensee, lessee, agent, or otherwise.

- (b) Despite Clause 12.2.2 of B44S2-98, Supplement No. 2, the maintenance required in Clause 12.2.1 of B44S2-98 shall be carried out every month unless otherwise specified in Appendix J of B44S2-98. However, it may be possible that, based on the age and inherent quality of the equipment, the frequency and method of usage, and the recommendations by either the original manufacturer, or the manufacturer's agent, or the maintaining contractor, the maintenance methods may be amended or altered and required intervals may be reduced or extended. R4

Notes to Orders #1.1 and 1.2

- This order is supplementary to the requirements specified in Section 23, Operation and Maintenance, of the regulations made under the Elevating Devices Act, RSO 1990 (c)E8 as amended.
- Section 30 of the Act provides that every person who fails to comply with an order "is guilty of an offence and on conviction is liable to a fine of not more than \$25,000 or to imprisonment for a term of not more than one year, or to both, or, if the person is a body corporate, to a fine of not more than \$100,000. Where a person contravenes any of the provisions of this Act or the regulations or any other notice or order made thereunder on more than one day, each day shall be deemed to constitute a separate offence".
- Standard CAN/CSA-B44-94, Supplement No. 1-1997, Supplement No. 2 - 1998 and any subsequent edition are available from Canadian Standards Association, 178 Rexdale Blvd., Etobicoke, Ontario M9W 1R3 - telephone 416-747-4044.

2. ORDER TO CONTRACTORS

No contractor shall undertake maintenance of an elevating device (of a class listed in the "subject"), unless it is performed in accordance with the Canadian Standard quoted in item 1 of this Director's Order and further requirements specified in item 3 of this Director's Order.

Note to Order #2 : Contractors are obliged to instruct and train their staff on Section 12 and Appendix J requirements, and to establish written procedures for tests and examinations in accordance with the Canadian Standard quoted in item 1 of this Director's Order and further requirements specified in item 3 of this Director's Order. See also Notes to Orders #1.1 and 1.2.

3. SPECIFIC REQUIREMENTS

3.1 General Maintenance Requirements

- 3.1.1 In addition to the general maintenance obligations under the Elevating Devices Act and Ontario Regulation 316 the following maintenance requirements shall be adhered to.
- 3.1.2 To ensure conformance with Orders #1 and #2 of this Director's Order, the owners and contractors should review requirements specified below and the standards referred to in Orders 1 and 2, in particular the following clauses of the standards (quoted in italics lettering):

Clause 12.2.1 - Scope of Maintenance Required:

"Each elevator, dumbwaiter, and escalator installation shall be maintained in accordance with the requirements of this Section and the original manufacturer's recommendations. The maintenance shall include:

- (a) *Inspections, examinations, and tests at required or scheduled intervals of all parts and functions of an installation in order to ensure up to a reasonable degree that the installation is in a safe operating condition;*

- (b) *Cleaning, lubricating, and adjusting applicable components at regular intervals, and repairing or replacing all worn or defective components where necessary, to prevent the device from becoming unsafe for operation;*
- (c) *Repairing or replacing damaged or broken parts affecting the safe operation."*

Clause 12.2.2 - Maintenance Intervals:

Note: This Clause is not copied because it has been modified by Order 1.2(b)

R4

Clause 12.2.3 - Actions Respecting Defective Parts:

"Where a defective part directly affecting the safety of the operation is identified, it shall be immediately adjusted, repaired, or replaced."

Clause 12.2.4 - Maintenance Mechanics

Note: Requirements in this Clause are not copied because they have been superseded by Ontario Regulation 155 under the Elevating Devices Act.

R4

Clause 12.2.5 - Log Book

A log pertaining to all maintenance activities specified in Section 12 (see also Appendix J) shall be maintained on site at all times by the maintenance contractor. The log shall contain, as a minimum, but not be limited to, detailed records of the previous five years on all tests, inspections, and other maintenance duties referred to in this Section (see Clause 12.4.1.1). For records kept in electronic format, a maximum of 3 months shall be permitted to place a hard copy in the job site log.

R4

Note: See additional requirements in item 3.2 of this Director's Order

Clause 12.2.6 - Wiring Diagrams

Up-to-date wiring diagrams detailing circuits of all electrical protective devices and primary directional circuits shall be available in the machine room at all times.

R4

Note: See additional requirements in item 3.3 of this Director's Order.

Clause 12.3 - Covers general maintenance procedure; including cleaning machine rooms, cars and hoistways (also transparent enclosures); access to, and locking of machine rooms; lubrication; hydraulic components; buffers; controllers.

R4

Clause 12.4 - Covers repairs and replacement of damaged and worn parts; maintenance of ropes, chains.

Appendix J2 - (was Clause 12.4 in B44S1) - Covers examination and test requirements for elevators and dumbwaiters (also freight platform lifts) that must be carried out at therein specified intervals. Table J1 gives summary of intervals.

Notes re Appendix J2 and Table J1:

All functions previously carried out at 3 or 6 months intervals are now moved to monthly maintenance requirements, except for emergency lighting, that is moved from 3 to 12 months and governor rope from 6 to 12 month (see Annex 2).

A new requirement for governor tripping speed test every five year has been added in J2.3.2 which, by eratta is not shown in Table J1, but must be identified in log book (see Annex 2 attached to this Director's Order).

Appendix J3 - (was Clause 12.6 in B44S1) - covers examination and test requirement for escalators and moving walks. Table J2 gives a summary of intervals.

R4

- 3.1.3 Owners and contractors should clearly define their individual responsibilities to ensure that all tasks are completed and logged including those commonly considered as "owner's" responsibilities, such as skirt panels and caution signs on escalators (Appendix J3.2 f & h).
- 3.1.4 In the cases specified in clause 12.3.4 the owners must ensure that the cleaning of the car and hoistway transparent enclosures is *"done under the direct supervision and presence of a maintenance mechanic"*.

3.2 **Log Book (clause 12.2.5)**

- a.1) The log book shall, as a minimum, contain the following information (see Annex 1 in attachment):
- (1) Building name and/or address,
 - (2) TSSA or MCCR installation number,
 - (3) Contractor's and Owner's name,
 - (4) Year and month when a specific task is performed,
 - (5) Section 12 or Appendix J clause number and the description of the task performed at scheduled intervals, as specified in clauses listed in Table J.1 (elevators, dumbwaiters, and by analogy freight platform lifts) or Table J.2 (escalators and moving walks) of CSA B44S2,
- a sample is attached in Annex 2,
 - (6) Other unscheduled maintenance tasks required to be recorded in the log book in this Director's Order (see a.3 below), in B44S2 (e.g. Clause 12.4.1.1), and any EAD Bulletin (e.g. Bulletin #143/99),
 - (7) In addition to records on maintenance tasks specified in items (5) and (6), also the general maintenance visits required in item 1.2(b) of this Director's Order, as shown in Annex 2, and
 - (8) Printed names and signatures of the persons who performed the tasks.
- a.2) When a specific task is performed by the owner (e.g. application of anti-friction material and signs on escalators), the owner or owner's representative will be responsible for signing off the corresponding section in the log book.
- a.3) If a safety related component is replaced by a component of a different manufacture and/or model, and the replacement does not constitute an alteration (no design submission is registered with TSSA) a document signed and sealed by a professional engineer, containing the description of the component, its make and model, shall be inserted in the log book.
- b) The owner is responsible to ensure that the log book is established, regularly updated, and that records are kept for the last 5 years and transferred to a new owner of the elevating device.
 - c) The log book will be retained in the machine room. If it is kept in another location in the building, a notice will be posted in the machine room indicating the alternate location.
 - d) Date, name and signature in the log book confirming examination and tests of safeties and governor in accordance with Appendix J2.2 and J2.3 replaces the "Safety Test Certificate" form required in Section 24(5) of O. Regulation 316.
 - e) If the owner's contractor utilizes a computerized log book system, then the owner may satisfy the requirement for maintenance of a log book by requiring the contractor to provide him with a record of the computerized log at a frequency of no longer than every 3 months and retain same at the location in accordance with "c" above. It should be noted that an inspector may, as a consequence of findings during a periodic inspection, require the production of more recent records. Any follow-up inspection pertaining only to the production of the more recent records shall not incur the re-inspection fee.

All computerized log book systems shall otherwise conform fully with the requirements of "a" to "d" above. Electronic signatures are acceptable.

- f) Where an owner or a contractor maintaining an elevating device on behalf of an owner decides to extend the maintenance intervals specified in Section 12 or Appendix J of B44S2-98, as permitted by Ontario Regulation 316 Section 23. (2), the log book shall contain the following:
- i) a statement that indicates the extended intervals decided upon and the rationale thereof, taking into account the age and inherent quality of the equipment, the frequency and method of usage, and the recommendation(s) by either the original manufacturer, or manufacturer's agent, or the maintaining contractor and
 - ii) The statement required by Clause 3.2(f)(i) shall be signed by the owner and the maintaining contractor or make reference to another document in which the owner and maintenance contractor have agreed to extend maintenance intervals and the rationale thereof.

3.3 Wiring Diagrams (clause 12.2.6)

- a) If an up-to-date wiring diagram, detailing circuits of all electrical protective devices and primary directional circuits does not exist, the owner shall be responsible to obtain such diagrams (e.g. from the original manufacturer, a registered contractor, qualified consultant, etc.).
- b) The wiring diagram shall be available in the machine room at all times.
- c) The wiring diagram shall be kept updated by the contractor performing any alterations or changes to the equipment. R4

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LIST OF MINIMUM DATA REQUIRED IN MAINTENANCE LOG

- (1) Building name and/or address _____
 - (2) TSSA or MCCR installation no. _____
 - (3) Contractor's name _____
 - (4) Owners' name _____
 - (5) Maintenance tasks at scheduled intervals,
including B44S2 Code references or reference
to this Director's Order..... see Annex 2
 - (6) **Unscheduled maintenance tasks, e.g.**
 - Director's Order - 3.2(a.3)..... describe component, make/model
P. Eng stamp and signature
 - B44 S2 Clause 12.4.1.1..... describe change in the component
design; P.Eng stamp and signature
 - EAD Bulletins, e.g.
 - Bulletin #143/99, cylinder corrosion*
 - date of oil level checks
 - volume of added oil and reason
 - mechanic's name
 - (7) General maintenance see Annex 2
 - (8) Name and signature of testers..... see Annex 2
-
-

* *This Bulletin #143/99 will be issued in January or February, 1999*

LIST OF MINIMUM MAINTENANCE TASKS AT SCHEDULED INTERVALS

*Note: Listed are maintenance tasks to be performed at scheduled intervals as listed in this Annex 2 [see Director's Order, Item 1.2(b)]
For extended maintenance intervals refer to the Director's Order, items 1.2(b) and 3.2(f).*

TASKS FOR ELEVATOR, DUMBWAITERS AND FREIGHT PLATFORM LIFTS

Director's Order or B44 Clause	(5) Maintenance Task	(4) Date	(8) Name & Signature
EVERY MONTH			
Order #1.2(b) Clause 12.2.1	(7) general maintenance		
J2.5 (a) J2.5(a) (i) (ii) (iii) (iv) (v) (vi) (vii) (viii) (ix) (x) (xi) (xii)	landing and car doors maintenance: interlocks, locks, contacts door reopening devices vision panels hoistway access switches eccentrics and retainers door gibs pickup rollers clutch/retiring cams and assemblies hangers interconnecting means closers sight guards		
J2.3.1	governor, rope grip, switches examination		
EVERY 12 MONTHS			
J2.2.2	examination & test of safeties		
J.2.3.2(a)	governor trip speed test, if not normally sealed		
J2.4	inspection of all wire ropes		

J2.5(b) J2.5(b) (i)	landing and car doors tests: power closing on horizontal doors restriction on opening door closing time		
J2.6.1(a) J2.6.1(a) (i)	machine brake examination residual pads linings pins springs sleeves discs		
J2.6.1(b)	machine brake test		
J2.8	relief valve setting test		
J2.9	cylinder inspection/leakage test		
J2.10	car emergency lighting test		
J2.11	up-overspeed protection exam/test		
J2.11	uncontrolled low speed exam/test		
12.4.2.1(a)	drum machines if located over hoistway - rope resocketed		
EVERY 2 YEARS			
12.4.2.1(b)	drum machine if located below or at side of hoistway - rope resocketed		
EVERY 5 YEARS			
J2.3.2(b)	governor trip speed - if normally sealed		
J2.3.3	governor pull-through force test		
J2.7.1	buffer-plunger-return test		

• **TASKS FOR ESCALATORS AND MOVING WALKS**

Director's Order or B44 Clause	(5) Maintenance task	(4) Date	(8) Name & Signature
EVERY MONTH			
Order 1.2(b) Clause 12.2.1	(7) general maintenance		
J3.2(a)	emergency stop buttons - tested		
J3.2(b)	skirt switches – checked		
J3.2(c)	handrail drive test		
J3.2(d)	clearance between skirt guards and steps		
J3.2(e)	combplates – examined		
J3.2(f)	skirt panels - friction reducing agent		
J3.2(g)	step treads and risers – checked		
J3.2(h)	caution signs – checked		
EVERY SIX MONTHS			
J3.3(a)	broken step-chain device - tested		
J3.3(b)	broken drive-chain device - tested		
J3.3(c)	step obstruction device - tested		
EVERY 12 MONTHS			
J3.4(a)	speed governor – exam/tested		
J3.4(b)	stop switch in machinery space - checked		
J3.4(c)	antireversal switch – checked		
J3.4(d)	step upthrust device – checked		
J3.4(e)	brakes – tested		
J3.4(f)	permissible stretch in chains - checked		
J3.4(g)	annual examination and cleaning		



Elevating and Amusement Devices Safety Division	Ref. No.: 100/92	Rev. No.:
DIRECTOR'S RULING	Date: December 22/92	Date:

Subject: MAJOR ALTERATIONS INSPECTION AND LICENSING PRIOR TO RETURN TO SERVICE

Sent to: ALL CONTRACTORS IN SCOPE A & CONSULTANTS

Item 1: INTRODUCTION

- 1.1 On October 30/91, Directors Ruling # 86/91 was issued. The subject related to WORK START DATE ON MAJOR ALTERATIONS TO BE REPORTED TO THE ELEVATING DEVICES BRANCH.
- 1.2 The above-mentioned Ruling is revoked and replaced by Directors Ruling # 100/92.

Item 2: ORDER TO SUBMITTERS AND CONTRACTORS PERFORMING MAJOR ALTERATIONS

- 2.1 Effective January 4, 1993, all Elevating Devices which have undergone a major alteration must be licensed in accordance with Section 15 of the Act before the device is returned to service.
- 2.2 You are requested to notify your client of the requirements in 2.1 with respect to an Initial Licence Application and the required licence fee, payable at the time of the initial inspection.

T. GORDON SMITH, P. Eng., Director



Elevating and Amusement Devices Safety Division	Ref. No.: 101/93	Rev. No.:
DIRECTOR'S RULING	Date: January 13, 1993	Date:

Subject: Adoption Of Supplement No. 1-92 To CAN/CSA-Z98-M91 Passenger Ropeways

Sent to: All Contractors In Group 8 & Submitting Engineers

1. ORDER

Each newly installed or altered passenger ropeway for which the DESIGN is submitted to this branch for registration after the 1st day of May, 1993, shall conform to the requirements of the Supplement No.1 1-92 to CAN/CSA-Z98-M91, Passenger Ropeways.

2. INSTRUCTIONS

- a) In the case of the existing passenger ropeways, the application of any newly adopted code is restricted to the sections covering the inspection, testing, maintenance and use of the elevating devices, unless otherwise required by the Regulation under the Elevating Devices Act.
- b) Supplement No. 1-92 to CAN/CSA Z98-M91, Safety Code for Passenger Ropeways, is available from the Canadian Standards Association, 178 Rexdale Blvd., Rexdale, Ontario M9W 1R3, telephone - (416) 747-4044.
- c) Since the Elevating Devices Act requires all mechanics to have full knowledge of the codes applicable to the elevating devices on which they are assigned to work, we would expect that the mechanics involved in the construction, installation and maintenance of passenger ropeways will be provided with a copy of the subject standard.



Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	102/93	
DIRECTOR'S RULING	Date:	Date:
	January 20, 1993	

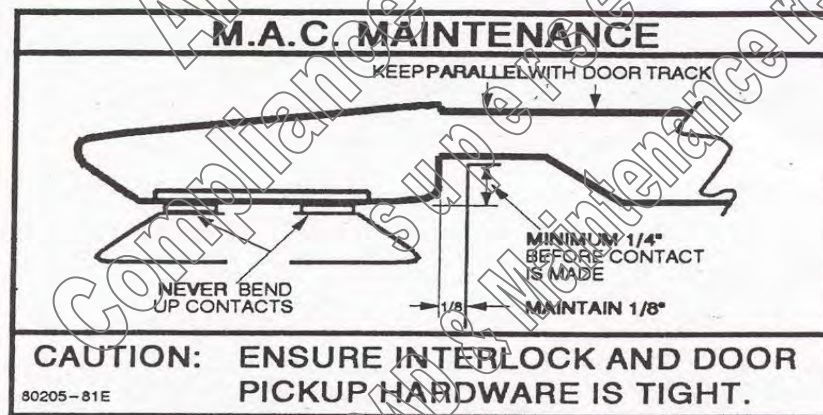
Subject: M.A.C. INTERLOCKS MUST BE CHECKED IMMEDIATELY AND MUST HAVE MAINTENANCE INSTRUCTIONS ATTACHED BY JULY 1, 1993

Sent to: ALL ELEVATOR CONTRACTORS IN SCOPE A1 & F1 (& CONSULTANTS)

1. ORDER TO CONTRACTORS MAINTAINING ELEVATORS WITH M.A.C. INTERLOCKS

If you are maintaining elevators that are equipped with M.A.C. Interlocks, you shall:

- a) On your first and every following monthly visit, ensure that the interlocks are adjusted in accordance with "M.A.C. MAINTENANCE" instructions copied below, and
- b) Ensure that the same "M.A.C. MAINTENANCE" instructions are permanently affixed to each door entrance in the vicinity of a M.A.C. Interlock not later than July 1, 1993.



2. "M.A.C. MAINTENANCE" STICKERS

Montgomery KONE Elevator Co. Ltd. has informed us that the self-adhesive labels containing the "M.A.C. MAINTENANCE" instructions can be purchased under part #80205-81E by any company at a nominal fee of 10¢ each, from Montgomery KONE Central Stores Department, 80 Horner Ave., Toronto, Ontario M8Z 4X9, telephone (416) 252-6151, ext. 146.

Montgomery KONE also authorizes any interested party to duplicate the artwork of this sticker, for everyone's use provided no change is made to content or size.

Montgomery KONE recommends that these stickers be attached adjacent to the liftrud on each M.A.C. entrance.

3. **ENFORCEMENT INSTRUCTIONS**

IF THE SUPPLY AND APPLICATION OF "M.A.C. MAINTENANCE" stickers do not constitute a part of your maintenance contract and you cannot obtain authorization from the elevator owner to carry out the work, you must inform this branch, indicating the elevator installation numbers (to the attention of N.L. Benn, re EDB Ruling 102/93), so that we may issue an order to that owner to have the required work performed.

4. **BACKGROUND**

Inspectors reported many incidents of interlocks being out of adjustment or not being properly affixed allowing doors to be opened while the car is away. This type of failure caused at least one accident when a 15 year old girl fell into the hoistway pit. The CSA-B44 Committee rejected a proposal that the elevator safety code be amended to require slotted holes on this type of interlock to be "dowel pinned". The rationale was that the proper adjustment of the interlock is important, which has to be checked on a monthly basis. An interlock could be "dowel pinned" even when out of adjustment. Montgomery KONE took the initiative to resolve the issue and proposed the adjustment instructions.

Compliance Post Due
by CAD & Maintenance Requirements



Elevating and Amusement Devices Safety Division	Ref. No.: 103/93	Rev. No.:
DIRECTOR'S RULING	Date: January 20, 1993	Date:

Subject: EXISTING ELEVATOR DOOR REOPENING DEVICES MAY REQUIRE ALTERATION TO CONFORM WITH CLAUSE 2.13.5 OF THE B44 CODE

Sent to: ELEVATOR CONTRACTORS IN SCOPE A1 & F1 & CONSULTANTS

1. ORDER TO CONTRACTORS

1.1 Checking for Conformance with Safety Code Required

Within 60 days from the date of this Ruling, you shall examine the operation of each ELEVATOR WITH POWER-OPERATED HORIZONTALLY-SLIDE-TYPE DOOR that is maintained by your company to verify conformance with clause 2.13.5 of CSA Standard B44, Safety Code for Elevators, with exceptions outlined below. Specifically:

- a) You shall verify that the elevator door reopening devices that may be affected by smoke or hot gases (e.g. photoelectric devices,...) are rendered inoperative after the door has been held open for 20 seconds by such a device*, where the normal car operation is in effect, and
*NOTE: A paper sheet or a tape may be used to simulate smoke.
- b) If the smoke/gases sensitive device is the sole door reopening device, you shall verify that, after the device becomes inoperative, the door closing kinetic energy is reduced to 3.5J or less, and
*NOTE: If the door is equipped with two devices, one of which is not smoke/gases sensitive, the kinetic energy need not be reduced, and
- c) If the elevator is equipped with manual (see B44 clause 3.12.15.2.3(g)(iv)) or automatic (see clause 3.12.15.3) emergency recall operation in addition to 'a' and 'b' you shall verify that:
 - c1) Any reopening device that may be affected by smoke or hot gases is rendered inoperative as soon as the recall operation is initiated; and
 - c2) The kinetic energy of closing door is reduced as in 'b' if such device is the sole reopening device.

1.2 Actions Required Where Non-Conformance is Identified

Where any non-conformance is identified you shall carry out necessary readjustments, repairs or alterations in order to bring the elevator up to full conformance with the requirements specified in ORDER 1. This work shall be completed before March 1, 1994.

If the required work does not constitute a part of your maintenance contract and you cannot obtain authorization from the owner to complete the work, you must inform this branch immediately, in writing, indicating the elevator INSTALLATION NUMBERS (send to the attention of N.L. Benn, noting reference to EDB Ruling 103/93), so that we may issue a corresponding order to the owner.

2. BACKGROUND

Investigations following a recent occurrence have indicated that there are an unidentified number of elevators, to which the EXCEPTIONS do not apply, but are equipped with smoke/hot gases sensitive door reopening devices that do not meet code requirements (quoted in 1.1 above) and/or equipped with door operators that do not reduce the door closing kinetic energy when required.

In most cases, this non-conformance was created when the original pressure-sensitive door reopening devices were replaced with smoke/gases sensitive devices without adding the "timing-out" component and/or without providing for the reduction in the door closing kinetic energy.

An accident occurred when an occupied car, under normal operation, opened its door at the fire floor. The door could not be closed anymore because of the smoke affect on the door reopening device. Several people suffered injuries and one subsequently died. Manual recall was later initiated. However, the door could not close because at least one unconscious person's body was in the door path.

Archive
Superseded by REV



Elevating and Amusement Devices Safety Division	Ref. No.: 103/93	Rev. No.: 1
DIRECTOR'S RULING	Date: January 20, 1993	Date: July 15, 1993

Subject: EXISTING ELEVATOR DOOR REOPENING DEVICES MAY REQUIRE ALTERATION TO CONFORM WITH CLAUSE 2.13.5 OF THE B44 CODE

Sent to: ELEVATOR CONTRACTORS IN SCOPE A1 & F1 & CONSULTANTS

1. ORDER TO CONTRACTORS

1.1 Checking for Conformance with Safety Code Required

Within 60 days from the date of this Ruling, you shall examine the operation of each ELEVATOR WITH POWER-OPERATED HORIZONTALLY-SLIDE-TYPE DOOR that is maintained by your company to verify conformance with clause 2.13.5 of CSA Standard B44, Safety Code for Elevators, with exceptions outlined below. Specifically:

- a) You shall verify that the elevator door reopening devices that may be affected by smoke or hot gases (e.g. photoelectric devices,...) are rendered inoperative after the door has been held open for 20 seconds by such a device*, where the normal car operation is in effect, and

*NOTE: A paper sheet or a tape may be used to simulate smoke.

- b) If the smoke/gases sensitive device is the sole door reopening device, you shall verify that, after the device becomes inoperative, the door closing kinetic energy is reduced to 3.5J or less, and

*NOTE: If the door is equipped with two devices, one of which is not smoke/gases sensitive, the kinetic energy need not be reduced, and

- c) If the elevator is equipped with manual (see B44 clause 3.12.15.2.3(g)(iv)) or automatic (see clause 3.12.15.3) emergency recall operation in addition to 'a' and 'b' you shall verify that:
- c1) Any reopening device that may be affected by smoke or hot gases is rendered inoperative as soon as the recall operation is initiated; and
- c2) The kinetic energy of closing door is reduced as in 'b' if such device is the sole reopening device.

EXCEPTIONS:

Order 1.1(a) and (b) does not apply to elevators installed before CSA-44 Supplement #2 1980 came into force, (date of design submission January 1, 1981) and to elevators that were equipped before that date with smoke/hot gasses sensitive door reopening devices.

1.2 Actions Required Where Non-Conformance is Identified

Where any non-conformance is identified you shall carry out necessary readjustments, repairs or alterations in order to bring the elevator up to full conformance with the requirements specified in ORDER 1. This work shall be completed before March 1, 1994.

If the required work does not constitute a part of your maintenance contract and you cannot obtain authorization from the owner to complete the work, you must inform this branch immediately, in writing, indicating the elevator INSTALLATION NUMBERS (send to the attention of N.L. Benn, noting reference to EDB Ruling 103/93), so that we may issue a corresponding order to the owner.

2. **BACKGROUND**

Investigations following a recent occurrence have indicated that there are an unidentified number of elevators, to which the EXCEPTIONS do not apply, but are equipped with smoke/hot gases sensitive door reopening devices that do not meet code requirements (quoted in 1.1 above) and/or equipped with door operators that do not reduce the door closing kinetic energy when required.

In most cases, this non-conformance was created when the original pressure-sensitive door reopening devices were replaced with smoke/gases sensitive devices without adding the "timing-out" component and/or without providing for the reduction in the door closing kinetic energy.

An accident occurred when an occupied car, under normal operation, opened its door at the fire floor. The door could not be closed anymore because of the smoke affect on the door reopening device. Several people suffered injuries and one subsequently died. Manual recall was later initiated. However, the door could not close because at least one unconscious person's body was in the door path.

Archive
Superseded by Rev



Elevating and Amusement Devices Safety Division	Ref. No.: 103/93	Rev. No.: 2
DIRECTOR'S RULING	Date: January 20, 1993	Date: January 5, 1995

Subject: EXISTING ELEVATOR DOOR REOPENING DEVICES MAY REQUIRE ALTERATION TO CONFORM WITH CLAUSE 2.13.5 OF THE B44 CODE

Sent to: ELEVATOR CONTRACTORS IN SCOPE U1,L1,FI & CONSULTANTS

1. ORDER TO CONTRACTORS

1.1 Checking for Conformance with Safety Code Required

Within 60 days from the date of this Ruling, you shall examine the operation of each ELEVATOR WITH POWER-OPERATED HORIZONTALLY-SLIDE-TYPE DOOR that is maintained by your company to verify conformance with clause 2.13.5 of CSA Standard B44, Safety Code for Elevators, with exceptions outlined below. Specifically:

- a) You shall verify that the elevator door reopening devices that may be affected by smoke or hot gases (e.g. photoelectric devices...) are rendered inoperative after the door has been held open (*3) for 20 seconds by such a device (*1), where the normal car operation is in effect, and
- b) If the smoke/gases sensitive device is the sole (*2) door reopening device, you shall verify that, after the device becomes inoperative, the door closing kinetic energy is reduced to 3.5J or less, and
- c) If the elevator is equipped with manual (see B44 clause 3.12.15.2.3(g)(iv)) or automatic (see clause 3.12.15.3) emergency recall operation in addition to 'a' and 'b' you shall verify that:
 - c1) Any reopening device that may be affected by smoke or hot gases is rendered inoperative as soon as the recall operation is initiated; and
 - c2) The kinetic energy of closing door is reduced as in 'b' if such device is the sole reopening device.

EXCEPTIONS:

Order 1.1(a) and (b) does not apply to elevators installed before CSA-B44 Supplement #2-1980 came into force, (date of design submission January 1, 1981) and to elevators that were equipped before that date with smoke/hot gasses sensitive door reopening devices.

***NOTES:**

- *1) A paper sheet or a tape may be used to simulate smoke.
- *2) If the door is equipped with two devices, one of which is not smoke/gases sensitive, the kinetic energy need not be reduced.

- *3) The 20 seconds interval should commence from the moment the door-operator would normally receive a start-door-closing command. The command may come from a preprogrammed automatic dispatching system or from a car or a landing call.

To verify the 20 seconds limit when the door-closing is initiated by an automatic dispatcher, one must first establish the preprogrammed-door-open interval. For that purpose one would (a) call the car to a landing, (b) ensure that no further car or landing call is registered and (c) count the time, e.g. xyz seconds, that the doors remain open. The test should then be repeated with a smoke-simulating-obstruction placed in the door path (see note *2). The doors should close automatically against the obstruction not later than xyz + 20 seconds. Reduction in the door kinetic energy should also be verified during the second test if order 1.1(b) is applicable.

NOTE also that the following condition of an elevator would constitute contravention of the requirements of Clause 2.11.6.1: The elevator, that is equipped with horizontally sliding doors and controlled by an automatic dispatching system, if so programmed that its car would normally wait at a landing an unlimited length of time with open doors until eventually a car or landing call is registered.

1.2 Actions Required Where Non-conformance is Identified

Where any non-conformance is identified you shall carry out necessary readjustments, repairs or alterations in order to bring the elevator up to full conformance with the requirements specified in ORDER 1. This work shall be completed before March 1, 1994.

If the required work does not constitute a part of your maintenance contract and you cannot obtain authorization from the owner to complete the work, you must inform this branch immediately, in writing, indicating the elevator INSTALLATION NUMBERS (send to the attention of N.L. Benn, noting reference to EDB Ruling 103/93), so that we may issue a corresponding order to the owner.

2. BACKGROUND

Investigations following a recent occurrence have indicated that there are an unidentified number of elevators, to which the EXCEPTIONS do not apply, but are equipped with smoke/hot gases sensitive door reopening devices that do not meet code requirements (quoted in 1.1 above) and/or equipped with door operators that do not reduce the door closing kinetic energy when required.

In most cases, this non-conformance was created when the original pressure-sensitive door reopening devices were replaced with smoke/gases sensitive devices without adding the "timing-out" component and/or without providing for the reduction in the door closing kinetic energy.

An accident occurred when an occupied car, under normal operation, opened its door at the fire floor. The door could not be closed anymore because of the smoke affect on the door reopening device. Several people suffered injuries and one subsequently died. Manual recall was later initiated. However, the door could not close because at least one unconscious person's body was in the door path.

3. BACKGROUND TO REVISION B

Note (*3) added to clarify the starting point of the 20 second interval specified in Clause 2.13.5.



Elevating and Amusement Devices Safety Division	Ref. No.: 104/93	Rev. No.: -
DIRECTOR'S RULING	Date: January 20, 1993	Date: -

Subject: ELEVATORS EQUIPPED WITH DOVER 105B OR GD105 MACHINES AND MP-1 CONTROL RETROFITTING OF MACHINE BRAKES REQUIRED

Sent to: ALL ELEVATOR CONTRACTORS IN SCOPE A1 & F1 (& CONSULTANTS)

1. Order to Contractors

If you are maintaining elevators that are equipped with both,
DOVER 105B OR GD105 MACHINES and MP-1 CONTROL:
you shall ensure that, not later than JULY 1, 1993, the machine brake arm and controller brake resistor on such elevators are retrofitted and readjusted, if necessary, in accordance with the DOVER recommendations copied below (see underlined paragraphs) and instructions contained in DOVER kit No. 363280.

NOTE: Machine type 105B or GD105 is identified on the machine data plate. Controller type MP-1 is identified on its data plate located at the top central part of the controller cabinet.

If the required work does not constitute a part of your maintenance contract and you cannot obtain authorization from the owner to complete the work, you must inform this branch immediately, indicating the elevator installation numbers (to the attention of N.L. Benn, re EDB Ruling 104/93), so that we may issue an order to that owner to have the retrofit completed.

2. Dover Retrofit Recommendation

The following are excerpts from a Dover letter sent to this ministry explaining the inherent deficiencies and containing the procedure for necessary retrofits (underlined).

We have recently discovered some potential deficiencies with the brakes on the above mentioned type of equipment. The Dover branches have been advised of these deficiencies and are attending to those we still maintain as quickly as possible, but those jobs being maintained by other companies should be reviewed and corrected if required.

The conditions that exist are as follows:

- 1) The original installation instructions did not specify that there should be 100 VDC across that brake solenoid coil when the brake is lifted (measured between B3 & B4 on the terminal panel), and has been found to be as low as 35 V which may be insufficient to lift the brake under certain conditions, causing the brakes to drag, and linings to wear out.

We are recommending that Dover Kit No. 363280 be ordered which includes a 25 ohm resistor with mounting hardware (to be put in series with the existing resistor), and detailed rework and maintenance instructions which can be applied to the inside of one of the controller doors for future reference.

- 2) It is possible to mount the solenoid onto the brake arm in such a way as to cause the rear guide pin of the solenoid core to rub on the bottom of the clearance slot in the brake arm, which will make the problem of low coil voltage worse.

We are recommending that the solenoid be removed, and the clearance slot IN THE BRAKE ARM be filled down about 2-3 mm. The solenoid can then be reinstalled, and re-aligned to ensure that the push rod is well centred in the core tube. The stroke adjustment screw is then adjusted to ensure that there is approximately 11 mm of stroke in the solenoid core when the brake is applied. The 3/16" free play mentioned on the brake tag was intended to be Minimum value before readjustment is necessary, but it may have been interpreted as the desired initial setting.

We ask that this notice be passed on to any firm maintaining this type of equipment.

The above mentioned kit (363280) can be obtained from:

Dover Elevators- National Distribution Centre

25 Connell Court, Unit 4 Toronto, Ontario, M8Z 1E8 (416) 253 – 8087



Elevating and Amusement Devices Safety Division	Ref. No.: 105/93	Rev. No.:
DIRECTOR'S RULING	Date: February 17/93	Date:

Subject: Rules For Fire Code Retrofit Elevators – Residential Elevators In Buildings With Residential Occupancies* When Retrofitted In Conformance With Article 9.6.5.6 Of Ontario Fire Code (O. Reg. 627/92 Under The Fire Marshals Act)

Sent to: ALL ELEVATOR CONTRACTORS IN SCOPE A1 & B1

***NOTE:** Refer to EDB Ruling #60/88-REV 'A' for Ontario rules applicable to elevators in health care facilities retrofitted in conformance with article 9.4.5.3 on Ontario Fire Code.

1. ORDER TO CONTRACTORS RETROFITTING EXISTING ELEVATORS

- 1.1 Where elevators, in existing** buildings with residential occupancies and with the vertical distance between the floor of the top storey and grade exceeding 18m, are retrofitted "for use by firefighters" in conformance with requirements of article 9.6.5.6 of the Ontario Fire Code, Ontario Regulation 627/92 made under the Fire Marshals Act, such elevators shall conform either to:
- a) the "Ontario Rules for Fire Code Retrofit Elevators - Residential", as attached to this ruling, or
 - b) the Canadian Standard CAN/CSA-B44, Safety Code for Elevators (the latest edition and supplement as adopted through O.Regulation under the Elevating Devices Act) and the Ontario Building Code.
- ** Term "existing" is defined in part 1 of the Ontario Fire Code.
- 1.2 The order that elevator(s) in specific buildings must be retrofitted is in the Ontario Fire Code and the follow-up orders will be issued by the authority enforcing the Ontario Fire Code. This branch enforces rules and standards applicable to the retrofitted elevator features.
- 1.3 In accordance with clause 1(1)26(b)(ii) of Ontario Regulation under the Elevating Devices Act, any work on existing elevators leading to the designation of "the Fire Code Retrofit Elevator", constitutes a "minor alteration type A".
- 1.4 A design submission, covering the alteration, must be registered with this branch. It must include:
- a) Application (form ID-29400)
 - b) One of the following: (1) key plan to show location of all elevators controlled by the recall switch, identifying those intended for use by firefighters, or, (2) a statement in item 189 of the specification sheet that "all elevators, inst. #....., sharing the same shaft with the FCR elevator(s), inst. #....., are recalled by the same recall switch", and
 - c) Specification sheet (forms 29426 or 29410) with entries in "general" and "special emergency service" section filled in accordance with guidelines and item 192 shall indicate that this ruling is applied.
- 1.5 Retrofitted elevators shall be inspected by this branch. If elevator(s) are to be returned to service before the inspection, the installing contractor must ensure that the safety of the elevator is not affected by the alteration. The inspection of all elevators in the same shaft shall be carried out not later than 5 working days after the last altered elevator in that shaft is returned to service.

2. BACKGROUND

2.1 The Office of the Fire Marshal* explained that the intent of elevator retrofit requirements in the Fire Code was not to upgrade all elevators to the full provisions and protection required in Ontario Building Code and Canadian Standard CAN/CSA-B44, Safety Code for Elevators, but rather to enable manual recall of at least one elevator to the street floor to assist the firefighters in capturing the elevator and to operate the elevator from within the car by bypassing floor call buttons.

*See attached MEMORANDUM from the Office of the Fire Marshal to all Fire Chiefs and Fire Prevention Officers, dated February 26/93.

2.2 The Office of the Fire Marshal further clarified that the intent was:

- Not to require recall of all elevators in the building but only the elevators located in the same shaft where the elevator designated for the firefighters' use is located;
- Not to require that all elevators be equipped with in-car operation but one only as a minimum;
- Not to require that emergency power supply be added for elevators where it has not already existed, except for the elevator system that requires transfer from one elevator to another to reach all floors above the grade in a building over 36m in height;
- Not to require upgrading of fire rating of landing or car doors or car enclosures;
- Not to require any automatic recall operation, to the ground floor, alternate floor or by machine room smoke detectors;

2.3 At a meeting called at the Office of the Fire Marshal on January 18, 1993, the requirements of B44 clause 3.12.15 and 3.12.13 were reviewed in light of the intent of the Fire Code and it was agreed that a separate set of elevator rules, based on selected and revised B44 rules, would be an effective way of interpreting the intent of the Fire Code. Further, it was agreed that all markings of elevators, retrofitted under the Fire Code and the new set of rules, should be in a yellow colour to identify differences from markings on elevators equipped with all special emergency service and firefighters' elevators features in accordance with OBC and B44 rules, which are in red.

2.4 Note that the attached rules apply only to elevators retrofitted in existing residential buildings per article 9.6.5.6 of OFC. Elevators retrofitted for use by firefighters and designated as "firefighters' elevator" in any other building must fully conform with the B44 Code and OBC, with the exception of elevators in health care facilities, where EDB ruling #60/88 may be applied.

FIRE CODE RETROFIT ELEVATORS - RESIDENTIAL *

The Rules form an integral part of and should be used as explained in the Elevating Devices Branch Director's Ruling # 105/93, of February 17, 1993.

*Retrofit Elevators in Health Care Facilities are Covered in Ontario Rules #60/88

CAN/CSA-B44-M90 & 92-Safety Code for Elevators

ONTARIO RULES # 105/93

3.12.15 Special Emergency Service

FCR Fire Code Retrofit Elevators - Part 2

~~3.12.15.1 General~~

FCR.1 General

~~3.12.15.1.1~~

FCR.1.1

Where special emergency service is provided either voluntarily or when required by the National Building Code (see Subsection 3.2.6):

Where elevators or elevator systems in buildings with residential occupancies and with the vertical distance between the floor of the top storey and grade exceeding 18m, are retrofitted for use by firefighters to conform with requirements of Article 9.6.5.6. of Ontario Fire Code (Ontario Regulation 627/92 made under the Fire Marshals Act):

- (a) manual emergency recall operation shall conform to Clause 3.12.15.2;
- (b) automatic recall operation shall conform to Clause 3.12.15.3;
- (c) in-car emergency service shall conform to Clause 3.12.15.8;
- (d) elevators intended for use by firefighters and identified as firefighters' elevators shall conform to Clause 3.12.15.9 (see also Clause 9.6.2.1.2).

- (a) At least one elevator or elevator system ** shall be
 - (i) equipped with in-car emergency operation in conformance with Rule FCR.8, and
 - (ii) identified "FIRECODE RETROFIT ELEVATOR" in conformance with Rule FCR.9.3. as the elevator(s) intended for use by firefighters (FCR Elevator for short);
- (b) At least the identified FCR elevator or elevator system and all other elevators located in the same* shaft shall be provided with manual emergency recall operation conforming to Rule FCR.2.

Notes: * Where there is no continuance and imperforate enclosure between two adjacent elevator shafts.

**for term "elevator system" refer to sentence 9.6.5.6.(3) of OFC.

~~3.12.15.1.2~~

Emergency recall operation to the alternate floor level in conformance with Clause 3.12.15.5 shall be provided whenever the automatic recall operation is provided and the floor area of the main recall level is not sprinklered.

FCR.1.2 Where both of the following two conditions exist in a building (see clause 9.6.5.6.(3)(c) in OFC) emergency power, capable of operating at least one elevator car at a time, shall be provided and shall conform to Rule FCR.12. The two conditions are: a) the vertical distance between the floor of the top storey and grade exceeds 36 m; and b) elevator system requires transfer from one elevator to another to reach all floors above grade.

~~3.12.15.1.3~~

Emergency recall operation shall be initiated by smoke sensors in the machine room in conformance with Clause 3.12.15.4 if both machine room water sprinklers (see Clause 2.4.3) and emergency recall operation are provided.

FCR.1.3 Except where required in Rule FCR.1.2 the emergency power supply, automatic recall operation, emergency recall to the alternate floor, emergency recall operation initiated by smoke sensors in the machine room, elevator identification and floor numbers are not required. If provided voluntarily, they must conform to applicable requirements of CAN/CSA-B44, Elevator Safety Code. Unless the whole special emergency service fully conforms to B44, the marking of retrofitted elevators shall be in accordance with these FCR rules (FCR.2.2e, FCR.8.1 and FCR.9.3).

3.12.15.2 Manual Emergency Recall Operation

FCR.2 Manual Emergency Recall Operation

~~3.12.15.2.1 General~~

Manual emergency recall operation shall be controlled by switches in accordance with Clause 3.12.15.2.2, and the recall operation when initiated shall conform to Clause 3.12.15.2.3.

FCR.2.1 General

Manual emergency recall operation shall be controlled by switches in accordance with Rule FCR.2.2 and the recall operation when initiated shall conform to Rule FCR.2.3.

~~3.12.15.2.2 Recall Switches and Visual Indicators~~

Recall switches and visual indicators shall be provided and shall conform to the following:

- (a) a switch shall be conspicuously located in the lobby of each group (bank) of elevators at the recall level in full view of all corresponding elevator entrances, and a duplicate switch, if required by the applicable building codes, shall be located at the building's central alarm and control facility;
- (b) the means shall be provided adjacent to each recall switch to indicate visually that the elevators controlled by that switch are on emergency recall operation;
- (c) each switch shall have two positions, marked "ON" and "OFF" (see also Clause 3.12.15.3);
- (d) each switch shall be key controlled (see Clause 3.12.15.11) with keys accessible to authorized persons only; the key shall be removable in both positions;
- (e) each switch shall be marked "EMERGENCY RECALL" in red lettering a minimum of 5 mm in height; in addition, each switch located at the building's central alarm and control facility shall be identified with all elevators controlled by that switch;
- (f) the manual recall operation of elevators serving the elevator lobby where the switch is located shall be initiated by turning any of the switches referred to in Item (a) to the "ON" position;
- (g) the manual recall operation shall be terminated when both switches referred to in Item (a) are in the "OFF" position and all elevators shall be returned to normal service, except those on in-car emergency service (see Clause 3.12.15.8); the "OFF" position shall not override the smoke detectors referred to in ~~Clause 3.12.15.5.~~

FCR.2.2 Recall Switches

Recall switches shall be provided and shall conform to the following:

- (a) A switch shall be conspicuously located in the lobby of the FCR elevator on the street floor and the transfer floor where applicable in view of entrance to that elevator and all other elevators, if any (see Rule FCR.1.1(b), that are recalled by that switch).

If the central alarm and control facilities exist in the building, a duplicate recall switch shall be located at the facilities.

- (b) Visual indication not required.
- (c) The switch shall have two positions, marked "ON" and "OFF".
- (d) The switch shall be key controlled (see rule FCR.11). The key shall be removable in both positions. (For key location refer to sentence 3.2.6.8(4) in Ontario Building Code).
- (e) The switch shall be marked "EMERGENCY RECALL" in YELLOW lettering a minimum of 5.0mm in height.
- (f) The manual recall operation of elevators controlled by the switch (see rule FCR.1.1.b) shall be initiated by turning any of the switches, referred to in item (a) to the "ON" position;
- (g) The manual recall operation shall be terminated by turning both switches referred to in item (a) to the "OFF" position and all elevators shall be returned to normal service, except those on in-car emergency service (see rule FCR.8.).

3.12.15.2.3 Emergency Recall Operation to the Recall Level

~~When the recall operation has been initiated~~

(a) all elevators controlled by the recall switch and all of those on automatic operation, including independent service operation, shall return directly to the recall level where the doors shall open and remain open; the elevators shall not respond to the landing or car call buttons (travelling to a terminal landing first and then reversing to travel to the recall level is not acceptable);

(b) elevators that are stopped with the doors closed, or are travelling towards the recall level, shall proceed nonstop to the recall level;

~~(c) elevators travelling away from the recall level shall reverse at or before the next available landing without opening their doors;~~

(d) a car stopped at a landing shall have its emergency stop switch rendered inoperative as soon as the doors are closed and the car starts to move; a moving car shall have its emergency stop switch rendered inoperative until it reaches the recall level and the doors open in accordance with Item (a);

(e) all call registered lights and directional lanterns shall be extinguished and remain inoperative;

Note: Position indicators, if provided, should remain in service.

(f) all cars shall be provided with a visual and audible signal system that shall be activated to alert passengers that the car is on the emergency recall operation; at a minimum the visual signal shall remain operative until the car reaches the recall level;

(g) an elevator equipped with power-operated horizontally sliding doors shall close its doors:

(i) an elevator having automatic power-operated horizontally sliding doors shall close its doors;

(ii) an elevator having power-operated vertically sliding doors provided with automatic closing or momentary pressure closing (see Clause 2.13.3.4) shall have the

FCR.2.3 Emergency Recall Operation to the Recall Level

When the recall operation required in rule FCR.1.1(b) has been initiated, the operation of elevators controlled by the recall switch (see FCR.2.2) shall be in accordance with the following:

(a) Same as in B44 except that travelling to a terminal landing first, and then reversing to travel to the recall level is acceptable.

(b) Same as in B44

(c) Elevators travelling away from the recall level shall reverse as soon as possible without opening their doors;

(d) Same as in B44

(e) Same as in B44

(f) Same as in B44

(g) Same as in B44

closing sequence initiated;

(iii) an elevator having power-operated doors provided with continuous pressure closing (see Clause 2.13.3.2) shall be considered as being operated by a designated attendant and shall comply with Item (h);

(iv) door reopening devices that may be affected by smoke or hot gases shall be rendered inoperative and shall remain inoperative until the elevator is returned to the normal operation in accordance with Clause 3.12.15.8.2(i). Door re-opening devices not sensitive to smoke or hot gases (eg, mechanically activated devices) shall remain operative during recall operation (see Clause 3.12.15.8.2(d)).

(v) all door opening and closing buttons located at landings shall be rendered inoperative;

(h) on elevators with manually operated doors, the audible and visible signal provided in accordance with Item (f), or another signal system, shall alert the passenger to close the doors; after the doors are closed, the elevator shall proceed automatically, nonstop to the recall level;

(h) Same as in B44

(i) on elevators being operated by a designated attendant (hospital service, attendant operation), the audible and visual signal provided in accordance with Item (f), or another signal system, shall alert the attendant to close the doors and return the elevator to the recall level where the power-operated doors shall open and remain open; and

(i) Same as in B44

(j) on elevators on inspection operation (top-of-car or in-car), or stopped by the in-car stop switch (see Clause 3.12.2.29), the audible signal provided in accordance with Item (f), or an additional signal, shall warn the inspector to return the car to the recall level; the elevator shall remain under the control of the inspector.

(j) Same as in B44. In addition, elevator cars controlled by the switch referred to in Rule FCR.2.2(a) shall be equipped with the top-of-car inspection operation in conformance with Clause 3.12.1.2.2.

~~3.12.15.3 Automatic Emergency Recall Operation~~

FCR.3 Automatic Emergency Recall Operation - not required (see rule FCR.1.3).

3.12.15.4 Automatic Emergency Recall Operation by Machine Room Smoke Sensors

FCR.4 Automatic Emergency Recall Operation by Machine Room Smoke Sensors - not required (see rule FCR.1.3).

3.12.15.5 Emergency Recall Operation to the Alternate Level

FCR.5 Emergency Recall Operation to the Alternate Level - not required (see rule FCR.1.3).

3.12.15.6 Elevator Identification

FCR.6 Elevator identification - not required (see rule FCR.1.3).

~~3.12.15.7 Floor Numbers~~

FCR.7 Floor Numbers - not required (see rule FCR.1.3).

3.12.15.8 In-Car Emergency Service

FCR.8 In-Car Emergency Service

3.12.15.8.1 In-Car Emergency Service Switch

FCR.8.1 In-Car Emergency Service Switch

~~A keyed switch marked "EMERGENCY" in red lettering a minimum of 5.0 mm in height, conspicuous and readily accessible, shall be provided in or adjacent to an operating panel in the elevator car. This switch shall~~

(a) have three positions marked "OFF", "HOLD", and "ON" with the key (see Clause 3.12.15.11) removable in each position; and

(b) initiate in-car emergency service operation when in the "ON" position, provided the emergency recall operation (see Clauses 3.12.15.2, 3.12.15.3 and 3.12.15.5) is in effect and the car has returned to the recall level.

A keyed switch marked "EMERGENCY" in YELLOW lettering a minimum of 5.0mm in height, conspicuous and readily accessible, shall be provided in or adjacent to an operating panel in the car of the FCR elevator(s) (see rule FCR.1.1(a)(i). This switch shall

- (a) have 3 positions marked "OFF-HOLD-ON" with the key (see rule FCR.11) removable in each position;
- (b) initiate in-car emergency service operation when in the "ON" position, provided the emergency recall operation (see rule FCR.2) is in effect and the car has returned to the recall level;

3.12.15.8.2 In-Car Emergency Operation

FCR.8.2 In-Car Emergency Operation

When in-car emergency service has been initiated, the elevator shall operate as follows:

All same as in B44 except as marked below.

- (a) the elevator shall be operable only by a person in the elevator;
- (b) the elevator shall not respond to elevator landing calls;
- (c) the opening of power-operated doors shall be controlled only by continuous pressure on the "DOOR OPEN" button; if the "DOOR OPEN" button is released during the

"open" motion, the doors shall reclose immediately; when doors are fully open, they shall remain open until closed as in Item (e);

(d) door reopening devices for power-operated doors shall be rendered inoperative;

(e) the car shall be started by registering a car call and closing the door by means of constant pressure on a "DOOR CLOSE" button which shall be identified in accordance with Clause 3.6.1.10.1;

(f) provision shall be made to cancel registered car calls by momentary operation of the keyed switch to the "HOLD" position. Operation to the "HOLD" position, when the car is moving shall cancel calls and cause the car to stop ~~at or before the next available landing.~~

change to read:
"to stop as soon as possible".

(g) when the car is at a landing and the keyed switch in the car is turned to the "HOLD" position, the doors shall remain open and car calls shall not be registered;

(h) when the car is at a landing with the doors fully open and the keyed switch in the car is turned to the "OFF" position, the doors shall close automatically and the car shall automatically return to the recall level as on emergency recall operation (see

(see rules FCR.2 and FCR.3).

Clauses 3.12.15.2 and 3.12.15.3) regardless of the position of the emergency recall switch;

(i) the elevator shall be returned to normal operation only when the car is at the recall level and both the in-car emergency service switch is in the "OFF" position and the emergency recall switch has been reset to the normal position;

(j) where provided (see Clause 3.12.2.5), the emergency stop switch shall be operational. When the switch is activated to stop the car and then released, the operation in accordance with Item (a) shall be reinstated immediately or ~~not later than when the car reaches the next available landing.~~

change to read:
"or as soon as possible".

3.12.15.9 Firefighters' Elevator

~~3.12.15.9.1~~

~~Elevators designated as firefighters' elevators shall conform to Clauses 3.6.2.1.2, and 3.12.15.1 to 3.12.15.8, and to Clause 3.2.6.4 in the National Building Code, or the applicable building code for elevators for use by firefighters.~~

3.12.15.9.2

Emergency power conforming to Clause 3.12.13.3 shall be provided for every elevator designated as a firefighters' elevator.

3.12.15.9.3

A symbol showing a red firefighter's hat on a contrasting background, as shown in Figure 9, shall be used exclusively to identify elevators that comply with Clause 3.12.15. This identification shall be located on the elevator entrance frame or adjacent to it, at the emergency recall level and also in the car adjacent to the in-car emergency switch. The identification on the entrance frame, or adjacent to it, shall be a minimum of 50 mm in height, and the identification in the car shall be a minimum of 10 mm in height.

Note: See Clause 3.6.2.1.2.

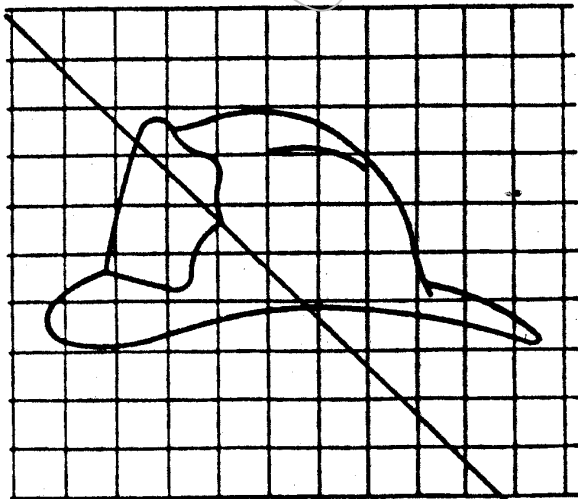


Figure 8
Symbol for Firefighters' Elevator

FCR.9 Fire Code Retrofit Elevator

FCR.9.1

Elevators intended for use by firefighters shall conform to rules FCR.2 and FCR.8 and to sentence 9.6.5.6(2) or (3) of Ontario Fire Code.

Note: The hoistway enclosure and doors and car enclosure need not be upgraded to conform to current CAN/CSA B44 and Ontario Building Code with respect to fire separation and flame spread rating.

FCR.9.2

Emergency power supply shall be provided in conformance with rule FCR.12 when required in rule FCR.1.2.

FCR.9.3

A symbol showing a yellow firefighter's hat on a contrasting background, as shown in Figure FCR shall be used exclusively to identify elevator(s) that fully comply with rule FCR.1.1(a). This identification shall be located on the elevator entrance frame or adjacent to it, at the emergency recall level at street floor and transfer floor if applicable and also in the car adjacent to the in-car emergency switch. The identification on the entrance frame, or adjacent to it, shall be a minimum of 50mm in height, and the identification in the car shall be a minimum of 10mm in height.

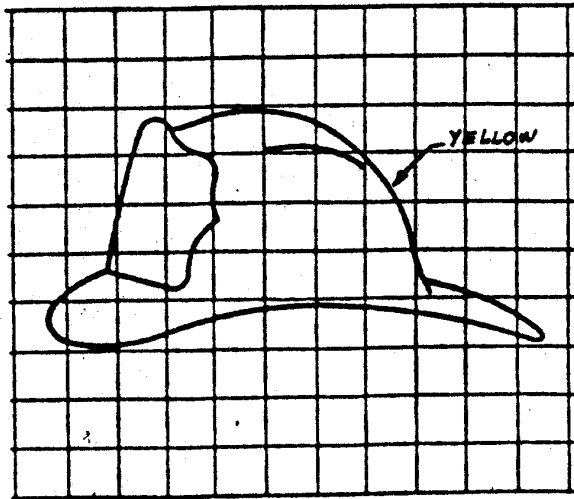


Figure FCR
Symbol for Fire Code Retrofit Elevator

~~3.12.15.10 Multi-compartment Elevators~~

3.12.15.11 Keys

~~The keys used for the emergency recall switch (see Clause 3.12.15.2) and the in-car emergency service switch (see Clause 3.12.15.8) shall be identical and shall be used exclusively for the switches. They shall be accessible to authorized persons only.~~

~~Note: See Sentence 3.2.6.8(4) in NBC 1990 code.~~

3.12.13 Emergency Power System

3.12.13.1

~~When an emergency power supply is provided to operate an elevator in the event of normal power supply failure, the following requirements shall be complied with:~~

~~(a) the emergency power supply shall be capable of operating the elevators* at least one at a time, when they are carrying their rated load (see Clause 3.9.8 and 3.12.13.3);~~

~~(b) the transfer between the normal and the emergency power supply shall be automatic;~~

~~(c) a signal light marked "ELEVATOR EMERGENCY POWER" shall be provided in the elevator lobby at the street floor level to indicate that the emergency power is in effect;~~

~~(d) where the emergency power supply is not capable of operating all elevators* simultaneously;~~

~~(i) a selector switch marked "ELEVATOR EMERGENCY POWER" in ~~red~~ lettering a minimum of 5.0 mm in height, accessible to authorized persons only (see Clause 3.15(c)(iii)), shall be provided ~~at the street floor level~~ to permit the selection of the elevator(s) to operate on emergency power; ~~the positions of the switch shall be marked to correspond with the elevator identification (see Clause 3.12.15.6); the switch shall be in view of all street floor elevator entrances, or the means shall be provided adjacent to the switch to indicate that~~~~

FCR.10 Multi-compartment Elevators.
The need for this rule not envisioned.

FCR.11 Keys

The keys used for emergency recall switch (see rule FCR.2) and in-car emergency service switch (see rule FCR.8) shall be identical and shall be used exclusively for either these switches or for corresponding switches required in accordance with clauses 3.12.15.2 and 3.12.15.8 of CAN-B44. They shall be accessible to authorized persons only. (For key location refer to sentence 3.2.6.8(4) in Ontario Building Code).

FCR.12 Emergency Power Operation

FCR.12.1

When an emergency power supply is provided to meet the requirements in rule FCR.1.2, the following requirements shall be complied with:

(a) Same as B44, except after "the elevators" insert: "intended for use by fire-fighters (see rule FCR.9)"

(b) Not required

(c) Not required

(d) Same as B44, except after "all elevators" insert: "intended for use by fire-fighters (see rule FCR.9)"

(i) Same, except as marked.

~~the elevator is at the street floor level with the doors fully open;~~

~~(ii) in addition to the requirement in Item (i), for elevators equipped with emergency recall service (see Clause 3.12.15), automatic power selection shall be provided that will return each elevator to the street floor level, or alternate level, one or more at a time; the selector switch required by Item (i) shall also have a position marked "AUTO" to permit automatic power selection, and shall be normally locked in that position; failure of the selected car to move shall cause power to be transferred to another car;~~

(ii) Not required

(e) when the emergency power system is designed to operate only one elevator at a time, the energy absorption means (if required) may be located on the supply side of the elevator power disconnecting means, provided all other requirements of Clause 3.12.10 are conformed to when operating any of the elevators the power might serve; other building loads, such as power and light that may be supplied by the emergency power system, shall not be considered as a means of absorbing the regenerated energy for the purpose of conforming to Clause 3.12.10, unless such loads are using their normal power from the emergency power system when it is activated.

(e) Same as B44

~~3.12.15.2~~

~~Observation elevators exposed to the weather shall be provided with an emergency power system capable of lowering the elevator to the nearest landing.~~

Not Applicable

~~3.12.13.3~~

~~When an emergency power system is provided in conjunction with special emergency service (see Clause 3.12.15), it shall conform to Clause 3.12.13.1 and to Article 3.2.6.10 of the National Building Code 1985, First Revisions January 1986.~~

Not Applicable



Ontario

File Reference
Référence

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MEMO TO: All Fire Chiefs and
Fire Prevention Officers

RE: Article 9.6.5.6. of the Ontario Fire Code
Elevator for Firefighters' Use

Joint discussions between the Fire Marshal's Office, the Ontario Association of Fire Chiefs and the Elevation Devices Branch of the Ministry of Consumer and Commercial Relations have revealed the need for a uniform marking identifying a Fire Code Retrofit elevator which is readily distinguishable from a firefighters' elevator under the Building Code. It was agreed that a yellow firefighter's hat and yellow lettering on the manual recall button would represent compliance with the Retrofit requirements under the Fire Code and that this designation would be used in every municipality throughout the province. A red firefighter's hat and red lettering would only be used to identify an elevator that is in full compliance with the Building Code requirements for a firefighters' elevator. This is consistent with current policy for health care facilities.

In order to address any concerns with respect to the application of the CAN/CSA-B44-M90, Elevator Safety Code, we have enclosed for your information the Elevating Devices Branch Director's Ruling No.105 of February 17, 1993 which outlines the rules applicable to a Fire Code Retrofit elevator.

Please take any appropriate actions to ensure that your fire prevention program implements the above-mentioned ruling.

B. Silvestri, P. Eng.
Unit Manager
Research & Standards

File:\Silvestr\Elevator.FF



Elevating and Amusement Devices Safety Division	Ref. No.: 105/93	Rev. No.: 1
DIRECTOR'S RULING	Date: February 17/93	Date: March 1, 1994

Subject: Rules For Fire Code Retrofit Elevators – Residential Elevators In Buildings With Residential Occupancies* When Retrofitted In Conformance With Article 9.6.5.6 Of Ontario Fire Code (O. Reg. 627/92 Under The Fire Marshals Act)

Sent to: ALL ELEVATOR CONTRACTORS IN SCOPE A1 & B1

*NOTE: Refer to EDB Ruling #60/88-REV 'A' for Ontario rules applicable to elevators in health care facilities retrofitted in conformance with article 9.4.5.3 on Ontario Fire Code.

1. ORDER TO CONTRACTORS RETROFITTING EXISTING ELEVATORS

- 1.1 Where elevators, in existing** buildings with residential occupancies and with the vertical distance between the floor of the top storey and grade exceeding 18m, are retrofitted "for use by firefighters" in conformance with requirements of article 9.6.5.6 of the Ontario Fire Code, Ontario Regulation 627/92 made under the Fire Marshals Act, such elevators shall conform either to:
- a) the "Ontario Rules for Fire Code Retrofit Elevators - Residential", as attached to this ruling, or
 - b) the Canadian Standard CAN/CSA-B44, Safety Code for Elevators (the latest edition and supplement as adopted through O.Regulation under the Elevating Devices Act) and the Ontario Building Code.
** Term "existing" is defined in part 1 of the Ontario Fire Code.
- 1.2 The order that elevator(s) in specific buildings must be retrofitted is in the Ontario Fire Code and the follow-up orders will be issued by the authority enforcing the Ontario Fire Code. (deleted sentence) ①
- 1.3 In accordance with clause 1(1)26(b)(ii) of Ontario Regulation under the Elevating Devices Act, any work on existing elevators leading to the designation of "the Fire Code Retrofit Elevator", constitutes a "minor alteration type A", except as permitted in Order 1.6 below. ①
- 1.4 A design submission, covering the alteration, must be registered with this branch. It must include:
- a) Application (form ID-29400)
 - b) One of the following: (1) key plan to show location of all elevators controlled by the recall switch, identifying those intended for use by firefighters, or, (2) a statement in item 189 of the specification sheet that "all elevators, inst. #...., sharing the same shaft with the FCR elevator(s), inst. #...., are recalled by the same recall switch", and
 - c) Specification sheet (forms 29426 or 29410) with entries in "general" and "special emergency service" section filled in accordance with guidelines and item 192 shall indicate that this ruling is applied. Any exception used (see FCR.13 in the attachment) shall be delineated in item 189. ①
- 1.5 Retrofitted elevators shall be inspected by this branch (except as permitted in Order 1.6 below). If elevator(s) are to be returned to service before the inspection, the installing contractor must ensure that the safety of the elevator is not affected by the alteration. The inspection of all elevators in the same shaft shall be carried out not later than 5 working days after the last altered elevator in that shaft is returned to service. ①
- 1.6 Notwithstanding Orders 1.3 to 1.5, the elevators that were equipped with the "recall operation" and "in-car service" before issuance of this ruling and are found to meet all applicable requirements in FCR.1 to FCR.13, except FCR.9.3 (no identification at the street floor level by a "firefighter's hat"), may be identified by means of a "yellow firefighter's hat" as the "Fire Code Retrofit Elevators". No design submission and inspection per Orders 1.4 and 1.5 are required in such cases, provided that the conformance with this Ruling is certified and addition of the "yellow hat" is authorized by a professional ①

engineer in the elevator log book, or the copy of the certification is retained by the contractor and referenced in the log book. In the latter case, the log book shall state that engineer XY has authorized the contractor YZ on date to post the "yellow hat" sign. ①

2. **BACKGROUND**

2.1 The Office of the Fire Marshal* explained that the intent of elevator retrofit requirements in the Fire Code was not to upgrade all elevators to the full provisions and protection required in Ontario Building Code and Canadian Standard CAN/CSA-B44, Safety Code for Elevators, but rather to enable manual recall of at least one elevator to the street floor to assist the firefighters in capturing the elevator and to operate the elevator from within the car by bypassing floor call buttons.

*See attached MEMORANDUM from the Office of the Fire Marshal to all Fire Chiefs and Fire Prevention Officers, dated February 26/93.

2.2 The Office of the Fire Marshal further clarified that the intent was:

- Not to require recall of all elevators in the building but only the elevators located in the same shaft where the elevator designated for the firefighters' use is located;
- Not to require that all elevators be equipped with in-car operation but one only as a minimum;
- Not to require that emergency power supply be added for elevators where it has not already existed, except for the elevator system that requires transfer from one elevator to another to reach all floors above the grade in a building over 36m in height;
- Not to require upgrading of fire rating of landing or car doors or car enclosures;
- Not to require any automatic recall operation, to the ground floor, alternate floor or by machine room smoke detectors;

2.3 At a meeting called at the Office of the Fire Marshal on January 18, 1993, the requirements of B44 clause 3.12.15 and 3.12.13 were reviewed in light of the intent of the Fire Code and it was agreed that a separate set of elevator rules, based on selected and revised B44 rules, would be an effective way of interpreting the intent of the Fire Code. Further, it was agreed that all markings of elevators, retrofitted under the Fire Code and the new set of rules, should be in a yellow colour to identify differences from markings on elevators equipped with all special emergency service and firefighters' elevators features in accordance with OBC and B44 rules, which are in red.

2.4 Note that the attached rules apply only to elevators retrofitted in existing residential buildings per article 9.6.5.6 of OFC. Elevators that are to be modernized in order to be designated as "firefighters' elevator" in any other building must fully conform with the B44 Code and OBC, with the exception of elevators in health care facilities, where EDB ruling #60/88 may be applied. ①

3. **RATIONALE FOR REVISION #1**

The enclosed "Ontario Rules" are revised by adding FCR.13 to clarify that existing equipment need not be upgraded to the current B44 requirements if it meets the intent of the Ontario Fire Code (see 2.2 above) and the elevator safety rules set in any previous edition of the B44 Code. Order 1.6 above is added to recognize that there are elevators currently in operation that can be identified as the "firefighter's elevators" without the design registration and inspection procedure and related expenses.

FIRE CODE RETROFIT ELEVATORS - RESIDENTIAL*

The Rules form an integral part of and should be used as explained in the Elevating Devices Branch Director's Ruling #105/93, of February 17, 1993 as revised January 31, 1994.

*Retrofit Elevators in Health Care Facilities are Covered in Ontario Rules #60/88

CAN/CSA-B44-M90 & 92-Safety Code for Elevators

ONTARIO RULES # 105/93

3.12.15 Special Emergency Service

FCR Fire Code Retrofit Elevators - Part 2

~~3.12.15.1 General~~

~~3.12.15.1.1~~

Where special emergency service is provided either voluntarily or when required by the National Building Code (see Subsection 3.2.6):

- (a) manual emergency recall operation shall conform to Clause 3.12.15.2;
- (b) automatic recall operation shall conform to Clause 3.12.15.3;
- (c) in-car emergency service shall conform to Clause 3.12.15.8;
- (d) elevators intended for use by firefighters and identified as firefighters' elevators shall conform to Clause 3.12.15.9 (see also Clause 3.6.2.1.2).

~~3.12.15.1.2~~

Emergency recall operation to the alternate floor level in conformance with Clause 3.12.15.5 shall be provided whenever the automatic recall operation is provided and the floor area of the main recall level is not sprinklered.

~~3.12.15.1.3~~

Emergency recall operation shall be initiated by smoke sensors in the machine room in conformance with Clause 3.12.15.4 if both machine room water sprinklers (see Clause 2.4.3) and emergency recall operation are provided.

3.12.15.2 Manual Emergency Recall Operation

~~3.12.15.2.1 General~~

Manual emergency recall operation shall be controlled by switches in accordance with Clause 3.12.15.2.2, and the recall operation when initiated shall conform to Clause 3.12.15.2.3.

FCR.1 General

FCR.1.1

Where elevators or elevator systems in buildings with residential occupancies and with the vertical distance between the floor of the top storey and grade exceeding 18m, are retrofitted for use by firefighters to conform with requirements of Article 9.6.5.6. of Ontario Fire Code (Ontario Regulation 627/92 made under the Fire Marshals' Act):

- (a) At least one elevator or elevator system ** shall
 - (i) equipped with in-car emergency operation in conformance with Rule FCR.8, and
 - (ii) identified "FIRECODE RETROFIT ELEVATOR" in conformance with Rule FCR.9.3. as the elevator(s) intended for use by firefighters (FCR Elevator for short);
- (b) At least the identified FCR elevator or elevator system and all other elevators located in the same* shaft shall be provided with manual emergency recall operation conforming to Rule FCR.2.

Notes: * Where there is no continuance and imperforate enclosure between two adjacent elevator shafts.

** For term "elevator system" refer to sentence 9.6.5.6.(3) of OFC.

FCR.1.2 Where both of the following two conditions exist in a building (see clause 9.6.5.6.(3)(c) in OFC) emergency power, capable of operating at least one elevator car at a time, shall be provided and shall conform to Rule FCR.1. The two conditions are: a) the vertical distance between the floor of the top storey and grade exceeds 36 m; and b) elevator system requires transfer from one elevator to another to reach all floors above.

FCR.1.3 Except where required in Rule FCR.1.2 the emergency power supply, automatic recall operation, emergency recall to the alternate floor, emergency recall operation initiated by smoke sensors in the machine room, elevator identification and floor numbers are not required. If provided voluntarily, they must conform to applicable requirements of CAN/CSA-B44, Elevator Safety Code. Unless the whole special emergency service fully conforms to B44 the marking of retrofitted elevators shall be in accordance with these FCR rules (FCR.2.2e, FCR.8.1 and FCR.9.3).

FCR.2 Manual Emergency Recall Operation

FCR.2.1 General

Manual emergency recall operation shall be controlled by switches in accordance with Rule FCR.2.2 and the recall operation when initiated shall conform to Rule FCR.2.3.

~~3.12.15.2.2 Recall Switches and Visual Indicators~~

Recall switches and visual indicators shall be provided and shall conform to the following:

- (a) a switch shall be conspicuously located in the lobby of each group (bank) of elevators at the recall level in full view of all corresponding elevator entrances, and a duplicate switch, if required by the applicable building codes, shall be located at the building's central alarm and control facility;
- (b) the means shall be provided adjacent to each recall switch to indicate visually that the elevators controlled by that switch are on emergency recall operation;
- (c) each switch shall have two positions, marked "ON" and "OFF" (see also Clause 3.12.15.3);
- (d) each switch shall be key controlled (see Clause 3.12.15.11) with keys accessible to authorized persons only; the key shall be removable in both positions;
- (e) each switch shall be marked "EMERGENCY RECALL" in red lettering a minimum of 5 mm in height; in addition, each switch located at the building's central alarm and control facility shall be identified with all elevators controlled by that switch;
- (f) the manual recall operation of elevators serving the elevator lobby where the switch is located shall be initiated by turning any of the switches referred to in Item (a) to the "ON" position;
- (g) the manual recall operation shall be terminated when both switches referred to in Item (a) are in the "OFF" position and all elevators shall be returned to normal service, except those on in-car emergency service (see Clause 3.12.15.8); the "OFF" position shall not override the smoke detectors referred to in ~~Clause 3.12.15.5.~~

FCR.2.2 Recall Switches

Recall switches shall be provided and shall conform to the following:

- (a) A switch shall be conspicuously located in the lobby of the FCR elevator on the street floor and the transfer floor where applicable in view of entrance to that elevator and all other elevators, if any (see Rule FCR.1.1(b), that are recalled by that switch).

If the central alarm and control facilities exist in the building, a duplicate recall switch shall be located at the facilities.

- (b) Visual indication not required.
- (c) The switch shall have two positions, marked "ON" and "OFF".
- (d) The switch shall be key controlled (see rule FCR.11). The key shall be removable in both positions. (For key location refer to sentence 3.2.6.8(4) in Ontario Building Code).
- (e) The switch shall be marked "EMERGENCY RECALL" in YELLOW lettering a minimum of 5.0mm in height.
- (f) The manual recall operation of elevators controlled by the switch (see rule FCR.1.1.b) shall be initiated by turning any of the switches, referred to in item (a) to the "ON" position;
- (g) The manual recall operation shall be terminated by turning both switches referred to in item (a) to the "OFF" position and all elevators shall be returned to normal service, except those on in-car emergency service (see rule FCR.8.).

3.12.15.2.3 Emergency Recall Operation to the Recall Level
When the recall operation has been initiated

- (a) all elevators controlled by the recall switch and all of those on automatic operation, including independent service operation, shall return directly to the recall level where the doors shall open and remain open; the elevators shall not respond to the landing or car call buttons (travelling to a terminal landing first and then reversing to travel to the recall level is not acceptable);
 - (b) elevators that are stopped with the doors closed, or are travelling towards the recall level, shall proceed nonstop to the recall level;
 - ~~(c) elevators travelling away from the recall level shall reverse at or before the next available landing without opening their doors;~~
 - (d) a car stopped at a landing shall have its emergency stop switch rendered inoperative as soon as the doors are closed and the car starts to move; a moving car shall have its emergency stop switch rendered inoperative until it reaches the recall level and the doors open in accordance with Item (a);
 - (e) all call registered lights and directional lanterns shall be extinguished and remain inoperative;
- Note: Position indicators, if provided, should remain in service.*
- (f) all cars shall be provided with a visual and audible signal system that shall be activated to alert passengers that the car is on the emergency recall operation; at a minimum the visual signal shall remain operative until the car reaches the recall level;
 - (g) an elevator equipped with power-operated horizontally sliding doors shall close its doors:
 - (i) an elevator having automatic power-operated horizontally sliding doors shall close its doors;
 - (ii) an elevator having power-operated vertically sliding doors provided with automatic closing or momentary pressure closing (see Clause 2.13.3.4) shall have the

FCR.2.3 Emergency Recall Operation to the Recall Level
When the recall operation required in rule FCR.1.1(b) has been initiated, the operation of elevators controlled by the recall switch (see FCR.2.2) shall be in accordance with the following:
(a) Same as in B44 except that travelling to a terminal landing first, and then reversing to travel to the recall level is acceptable.

(b) Same as in B44

(c) Elevators travelling away from the recall level shall reverse as soon as possible without opening their doors;

(d) Same as in B44, except as permitted in FCR.13 for special cases. (R1)

(e) Same as in B44

(f) Same as in B44, except as permitted in FCR.13 for special cases. (R1)

(g) Same as in B44 except (iv). (R1)

closing sequence initiated;

(iii) an elevator having power-operated doors provided with continuous pressure closing (see Clause 2.13.3.2) shall be considered as being operated by a designated attendant and shall comply with Item (h);

(iv) door reopening devices that may be affected by smoke or hot gases shall be rendered inoperative and shall remain inoperative until the elevator is returned to the normal operation in accordance with Clause 3.12.15.8.2(i). Door re-opening devices not sensitive to smoke or hot gases (eg, mechanically activated devices) shall remain operative during recall operation (see Clause 3.12.15.8.2(d)).

(iv) For exceptions in special cases refer to FCR.13. (R1)

(v) all door opening and closing buttons located at landings shall be rendered inoperative;

(h) on elevators with manually operated doors, the audible and visible signal provided in accordance with Item (f), or another signal system, shall alert the passenger to close the doors; after the doors are closed, the elevator shall proceed automatically, nonstop to the recall level;

(h) Same as in B44

(i) on elevators being operated by a designated attendant (hospital service, attendant operation), the audible and visual signal provided in accordance with Item (f), or another signal system, shall alert the attendant to close the doors and return the elevator to the recall level where the power-operated doors shall open and remain open; and

(i) Same as in B44

(j) on elevators on inspection operation (top-of-car or in-car), or stopped by the in-car stop switch (see Clause 3.12.2.29), the audible signal provided in accordance with Item (f), or an additional signal, shall warn the inspector to return the car to the recall level; the elevator shall remain under the control of the inspector.

(j) Same as in B44. In addition, elevator cars controlled by the switch referred to in Rule FCR.2.2(a), that were not previously equipped with any top-of-car inspection operation, shall be retrofitted with the inspection operation in conformance with Clause 3.12.1.2.2. (R1)

~~3.12.15.3 Automatic Emergency Recall Operation~~

FCR.3 Automatic Emergency Recall Operation - not required (see rule FCR.1.3).

~~3.12.15.4 Automatic Emergency Recall Operation by Machine Room Smoke Sensors~~

FCR.4 Automatic Emergency Recall Operation by Machine Room Smoke Sensors - not required (see rule FCR.1.3).

~~3.12.15.5 Emergency Recall Operation to the Alternate Level~~

FCR.5 Emergency Recall Operation to the Alternate Level - not required (see rule FCR.1.3).

~~3.12.15.6 Elevator Identification~~

FCR.6 Elevator identification - not required (see rule FCR.1.3).

~~3.12.15.7 Floor Numbers~~

FCR.7 Floor Numbers - not required (see rule FCR.1.3).

3.12.15.8 In-Car Emergency Service

FCR.8 In-Car Emergency Service

~~3.12.15.8.1 In-Car Emergency Service Switch~~

FCR.8.1 In-Car Emergency Service Switch

~~A keyed switch marked "EMERGENCY" in red lettering a minimum of 5.0 mm in height, conspicuous and readily accessible, shall be provided in or adjacent to an operating panel in the elevator car. This switch shall~~

(a) have three positions marked "OFF", "HOLD", and "ON" with the key (see Clause 3.12.15.11) removable in each position; and

(b) initiate in-car emergency service operation when in the "ON" position, provided the emergency recall operation (see Clauses 3.12.15.2, 3.12.15.3 and 3.12.15.5) is in effect and the car ~~has returned to the recall level.~~

A keyed switch marked "EMERGENCY" in YELLOW lettering a minimum of 5.0mm in height, conspicuous and readily accessible, shall be provided in or adjacent to an operating panel in the car of the FCR elevator(s) (see rule FCR.1.1(a)(i)). This switch shall

(a) have 3 positions marked "OFF-HOLD-ON" with the key (see rule FCR.11) removable in each position, except in special cases as permitted in FCR.13.

(b) initiate in-car emergency service operation when in the "ON" position, provided the emergency recall operation (see rule FCR.2) is in effect and the car has returned to the recall level;

3.12.15.8.2 In-Car Emergency Operation

FCR.8.2 In-Car Emergency Operation

When in-car emergency service has been initiated, the elevator shall operate as follows:

All same as in B44 except as marked below.

- (a) the elevator shall be operable only by a person in the elevator;
- (b) the elevator shall not respond to elevator landing calls;
- (c) the opening of power-operated doors shall be controlled only by continuous pressure on the "DOOR OPEN" button; if the "DOOR OPEN" button is released during the

"open" motion, the doors shall reclose immediately; when doors are fully open, they shall remain open until closed as in Item (e);

(d) door reopening devices for power-operated doors shall be rendered inoperative;

(e) the car shall be started by registering a car call and closing the door by means of constant pressure on a "DOOR CLOSE" button which shall be identified in accordance with Clause 3.6.1.10.1;

(f) provision shall be made to cancel registered car calls by momentary operation of the keyed switch to the "HOLD" position. Operation to the "HOLD" position, when the car is moving shall cancel calls and cause the car to stop ~~at or before the next available landing;~~

(g) when the car is at a landing and the keyed switch in the car is turned to the "HOLD" position, the doors shall remain open and car calls shall not be registered;

(h) when the car is at a landing with the doors fully open and the keyed switch in the car is turned to the "OFF" position, the doors shall close automatically and the car shall automatically return to the recall level as on emergency

recall operation (see Clauses 3.12.15.2 and 3.12.15.3) regardless of the position of the emergency recall switch;

(i) the elevator shall be returned to normal operation only when the car is at the recall level and both the in-car emergency service switch is in the "OFF" position and the emergency recall switch has been reset to the normal position;

(j) where provided (see Clause 3.12.2.5), the emergency stop switch shall be operational. When the switch is activated to stop the car and then released, the operation in accordance with Item (a) shall be reinstated ~~immediately or not later than when the car reaches the next available landing.~~

(e) See FCR.13 for exceptions in special cases. (R)

(f) See FCR.13 for exceptions in special cases. Also, change the last sentence to read: "....to stop as soon as possible".

(g) See FCR.13 for exceptions in special cases.

(h) See FCR.13 for exceptions in special cases. Also, change the text in brackets to read: "(see rules FCR.2 and FCR.3)".

(j) Change the end of this paragraph to read: "....or as soon as possible". (R)

3.12.15.9 Firefighters' Elevator

~~3.12.15.9.1~~

~~Elevators designated as firefighters' elevators shall conform to Clauses 3.6.2.1.2, and 3.12.15.1 to 3.12.15.8, and to Clause 3.2.6.4 in the National Building Code, or the applicable building code for elevators for use by firefighters.~~

3.12.15.9.2

Emergency power conforming to Clause 3.12.13.3 shall be provided for every elevator designated as a firefighters' elevator.

3.12.15.9.3

A symbol showing a red firefighter's hat on a contrasting background, as shown in Figure 9, shall be used exclusively to identify elevators that comply with Clause 3.12.15. This identification shall be located on the elevator entrance frame or adjacent to it, at the emergency recall level and also in the car adjacent to the in-car emergency switch. The identification on the entrance frame, or adjacent to it, shall be a minimum of 50 mm in height, and the identification in the car shall be a minimum of 10 mm in height.

Note: See Clause 3.6.2.1.2.

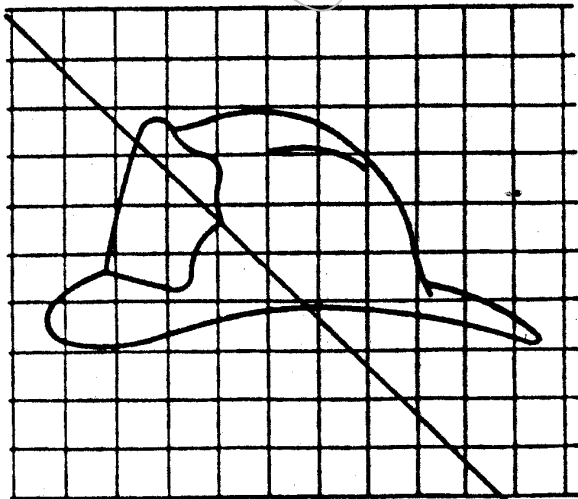


Figure 8
Symbol for Firefighters' Elevator

FCR.9 Fire Code Retrofit Elevator

FCR.9.1

Elevators intended for use by firefighters shall conform to rules FCR.2 and FCR.8 and to sentence 9.6.5.6(2) or (3) of Ontario Fire Code.

Note: The hoistway enclosure and doors and car enclosure need not be upgraded to conform to current CAN/CSA B44 and Ontario Building Code with respect to fire separation and flame spread rating.

FCR.9.2

Emergency power supply shall be provided in conformance with rule FCR.12 when required in rule FCR.1.2.

FCR.9.3

A symbol showing a yellow firefighter's hat on a contrasting background, as shown in Figure FCR shall be used exclusively to identify elevator(s) that fully comply with rule FCR.1.1(a). This identification shall be located on the elevator entrance frame or adjacent to it, at the emergency recall level at street floor and transfer floor if applicable and also in the car adjacent to the in-car emergency switch. The identification on the entrance frame, or adjacent to it, shall be a minimum of 50mm in height, and the identification in the car shall be a minimum of 10mm in height.

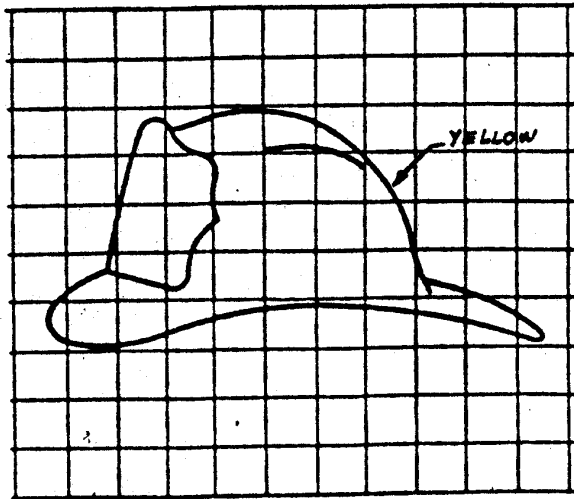


Figure FCR
Symbol for Fire Code Retrofit Elevator

~~3.12.15.10 Multi-compartment Elevators~~

3.12.15.11 Keys

~~The keys used for the emergency recall switch (see Clause 3.12.15.2) and the in-car emergency service switch (see Clause 3.12.15.8) shall be identical and shall be used exclusively for the switches. They shall be accessible to authorized persons only.~~

~~Note: See Sentence 3.2.6.8(4) in NBC 1990 code.~~

3.12.13 Emergency Power System

3.12.13.1

~~When an emergency power supply is provided to operate an elevator in the event of normal power supply failure, the following requirements shall be complied with:~~

~~(a) the emergency power supply shall be capable of operating the elevators* at least one at a time, when they are carrying their rated load (see Clause 3.9.8 and 3.12.13.3);~~

~~(b) the transfer between the normal and the emergency power supply shall be automatic;~~

~~(c) a signal light marked "ELEVATOR EMERGENCY POWER" shall be provided in the elevator lobby at the street floor level to indicate that the emergency power is in effect;~~

~~(d) where the emergency power supply is not capable of operating all elevators* simultaneously;~~

~~(i) a selector switch marked "ELEVATOR EMERGENCY POWER" in ~~red~~ lettering a minimum of 5.0 mm in height, accessible to authorized persons only (see Clause 3.15(c)(iii)), shall be provided ~~at the street floor level~~ to permit the selection of the elevator(s) to operate on emergency power; ~~the positions of the switch shall be marked to correspond with the elevator identification (see Clause 3.12.15.6); the switch shall be in view of all street floor elevator entrances, or the means shall be provided adjacent to the switch to indicate that~~~~

FCR.10 Multi-compartment Elevators.
The need for this rule not envisioned.

FCR.11 Keys

The keys used for emergency recall switch (see rule FCR.2) and in-car emergency service switch (see rule FCR.8) shall be identical and shall be used exclusively for either these switches or for corresponding switches required in accordance with clauses 3.12.15.2 and 3.12.15.8 of CAN-B44. They shall be accessible to authorized persons only. (For key location refer to sentence 3.2.6.8(4) in Ontario Building Code).

FCR.12 Emergency Power Operation

FCR.12.1

When an emergency power supply is provided to meet the requirements in rule FCR.1.2, the following requirements shall be complied with:

(a) Same as B44, except after "the elevators" insert: "intended for use by fire-fighters (see rule FCR.9)"

(b) Not required

(c) Not required

(d) Same as B44, except after "all elevators" insert: "intended for use by fire-fighters (see rule FCR.9)"

(i) Same, except as marked.

~~the elevator is at the street floor level with the doors fully open;~~

~~(ii) in addition to the requirement in Item (i), for elevators equipped with emergency recall service (see Clause 3.12.15), automatic power selection shall be provided that will return each elevator to the street floor level, or alternate level, one or more at a time; the selector switch required by Item (i) shall also have a position marked "AUTO" to permit automatic power selection, and shall be normally locked in that position; failure of the selected car to move shall cause power to be transferred to another car;~~

(ii) Not required

(e) when the emergency power system is designed to operate only one elevator at a time, the energy absorption means (if required) may be located on the supply side of the elevator power disconnecting means, provided all other requirements of Clause 3.12.10 are conformed to when operating any of the elevators the power might serve; other building loads, such as power and light that may be supplied by the emergency power system, shall not be considered as a means of absorbing the regenerated energy for the purpose of conforming to Clause 3.12.10, unless such loads are using their normal power from the emergency power system when it is activated.

(e) Same as B44

~~3.12.15.2~~

~~Observation elevators exposed to the weather shall be provided with an emergency power system capable of lowering the elevator to the nearest landing.~~

Not Applicable

~~3.12.13.3~~

~~When an emergency power system is provided in conjunction with special emergency service (see Clause 3.12.15), it shall conform to Clause 3.12.13.1 and to Article 3.2.6.10 of the National Building Code 1985, First Revisions January 1986.~~

Not Applicable

FCR.13 Clarifications and Exceptions

(R1)

FCR13.1 Elevators, that were equipped with "Firefighter's operation" or "Special emergency service" in compliance with a previous edition of CSA-B44 Safety Code for Elevators are deemed to meet the requirements of the Ontario Fire Code.

FCR13.2 Furthermore, elevators that were equipped with any type of "recall operation" and/or "in-car service" before issuance of this Ruling, but were not identified as such in accordance with any previous edition of B44 Code, may be designated the "Fire Code Retrofit Elevators", provided they meet all applicable requirements in FCR.1 to FCR.12, whereby the exceptions in FCR.13.3 are acceptable. Note that the exceptions are not acceptable for the equipment being retrofitted after the date of this Ruling.

FCR.13.3 Exceptions to FCR.2 and FCR.8

EXCEPTIONS PRIMARILY APPLICABLE TO EXISTING S.E.S. THAT INTENDED TO MEET FCR 13

- FCR.2.3(d) The emergency stop switch may be rendered inoperative as soon as the recall operation is initiated.

- FCR.2.3(f) Cars with any audible signal system are acceptable. Visual signal is not mandatory.

- FCR.2.3(g)(iv) Door re-opening devices that are not sensitive to smoke or hot gases may also be rendered inoperative.

- FCR.8.1(a) A 2-position switch marked "ON-OFF" or "OFF-ON" is acceptable.

- FCR.8.2(e) Alternatively, the door may be closed by constant pressure on the floor button in the car.

- FCR.8.2(f) Alternatively, where a 2-position in-car switch is used (see above exception to FCR.8.1(a)), the cancelling of registered calls shall be possible by the momentary operation of the switch to the "OFF" position.

- FCR.8.2(g) Not applicable where 2-position switch is used, as permitted in FCR.8.1(a) above.

- FCR.8.2(h) Full compliance is not required where 2-position switch is used.



Ontario

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Référence

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MEMO TO: All Fire Chiefs and
Fire Prevention Officers

RE: Article 9.6.5.6. of the Ontario Fire Code
Elevator for Firefighters' Use

Joint discussions between the Fire Marshal's Office, the Ontario Association of Fire Chiefs and the Elevation Devices Branch of the Ministry of Consumer and Commercial Relations have revealed the need for a uniform marking identifying a Fire Code Retrofit elevator which is readily distinguishable from a firefighters' elevator under the Building Code. It was agreed that a yellow firefighter's hat and yellow lettering on the manual recall button would represent compliance with the Retrofit requirements under the Fire Code and that this designation would be used in every municipality throughout the province. A red firefighter's hat and red lettering would only be used to identify an elevator that is in full compliance with the Building Code requirements for a firefighters' elevator. This is consistent with current policy for health care facilities.

In order to address any concerns with respect to the application of the CAN/CSA-B44-M90, Elevator Safety Code, we have enclosed for your information the Elevating Devices Branch Director's Ruling No.105 of February 17, 1993 which outlines the rules applicable to a Fire Code Retrofit elevator.

Please take any appropriate actions to ensure that your fire prevention program implements the above-mentioned ruling.

B. Silvestri, P. Eng.
Unit Manager
Research & Standards

File:\Silvestr\Elevator.FF



Elevating and Amusement Devices Safety Division	Ref. No.: 105/93	Rev. No.: 2
DIRECTOR'S RULING	Date: February 17, 1993	Date: October 25, 1994

Subject: Rules For Fire Code Retrofit Elevators – Residential Elevators In Buildings With Residential Occupancies* When Retrofitted In Conformance With Article 9.6.5.6 Of Ontario Fire Code (O. Reg. 627/92 Under The Fire Marshals Act)

Sent to: ALL ELEVATOR CONTRACTORS IN SCOPE A1 & B1

*NOTE: Refer to EDB Ruling #60/88-REV 'A' for Ontario rules applicable to elevators in health care facilities retrofitted in conformance with article 9.4.5.3 on Ontario Fire Code. Rev#2 contains additions and deletions to Item 1.6

1. ORDER TO CONTRACTORS RETROFITTING EXISTING ELEVATORS

- 1.1 Where elevators, in existing** buildings with residential occupancies and with the vertical distance between the floor of the top storey and grade exceeding 18m, are retrofitted "for use by firefighters" in conformance with requirements of article 9.6.5.6 of the Ontario Fire Code, Ontario Regulation 627/92 made under the Fire Marshals Act, such elevators shall conform either to:
- a) the "Ontario Rules for Fire Code Retrofit Elevators - Residential", as attached to this ruling, or
 - b) the Canadian Standard CAN/CSA-B44, Safety Code for Elevators (the latest edition and supplement as adopted through O.Regulation under the Elevating Devices Act) and the Ontario Building Code.
** Term "existing" is defined in part 1 of the Ontario Fire Code.
- 1.2 The order that elevator(s) in specific buildings must be retrofitted is in the Ontario Fire Code and the follow-up orders will be issued by the authority enforcing the Ontario Fire Code. (deleted sentence) ①
- 1.3 In accordance with clause 1(1)26(b)(ii) of Ontario Regulation under the Elevating Devices Act, any work on existing elevators leading to the designation of "the Fire Code Retrofit Elevator" constitutes a "minor alteration type A", except as permitted in Order 1.6 below. ①
- 1.4 A design submission, covering the alteration, must be registered with this branch. It must include:
- a) Application (form ID-29400)
 - b) One of the following: (1) key plan to show location of all elevators controlled by the recall switch, identifying those intended for use by firefighters, or, (2) a statement in item 189 of the specification sheet that "all elevators, inst. #...., sharing the same shaft with the FCR elevator(s), inst. #...., are recalled by the same recall switch", and
 - c) Specification sheet (forms 29426 or 29410) with entries in "general" and "special emergency service" section filled in accordance with guidelines and item 192 shall indicate that this ruling is applied. Any exception used (see FCR.13 in the attachment) shall be delineated in item 189. ①
- 1.5 Retrofitted elevators shall be inspected by this branch (except as permitted in Order 1.6 below). If elevator(s) are to be returned to service before the inspection, the installing contractor must ensure that the safety of the elevator is not affected by the alteration. The inspection of all elevators in the same shaft shall be carried out not later than 5 working days after the last altered elevator in that shaft is returned to service. ①
- 1.6 Notwithstanding Orders 1.3 to 1.5, the elevators that were equipped with the "recall operation" and "in-car service" before issuance of this ruling and are found to meet all applicable requirements in FCR.1 to FCR.13, except FCR.9.3 (no identification at the street floor level by a "firefighter's hat"), may be identified by means of a "yellow firefighter's hat" as the "Fire Code Retrofit Elevators". No design submission and inspection per Orders 1.4 and 1.5 are required in such cases, provided that the conformance with this Ruling is certified and addition of the "yellow hat" is authorized by a professional ①

engineer or a contractor in the elevator log book, or the copy of the certification is retained by the contractor and referenced in the log book. In the latter case, the log book shall state that engineer XY has authorized the contractor YZ on date to post the "yellow hat" sign. ②

2. BACKGROUND

- 2.1 The Office of the Fire Marshal* explained that the intent of elevator retrofit requirements in the Fire Code was not to upgrade all elevators to the full provisions and protection required in Ontario Building Code and Canadian Standard CAN/CSA-B44, Safety Code for Elevators, but rather to enable manual recall of at least one elevator to the street floor to assist the firefighters in capturing the elevator and to operate the elevator from within the car by bypassing floor call buttons.

*See attached MEMORANDUM from the Office of the Fire Marshal to all Fire Chiefs and Fire Prevention Officers, dated February 26/93.

- 2.2 The Office of the Fire Marshal further clarified that the intent was:

- Not to require recall of all elevators in the building but only the elevators located in the same shaft where the elevator designated for the firefighters' use is located;
- Not to require that all elevators be equipped with in-car operation but one only as a minimum;
- Not to require that emergency power supply be added for elevators where it has not already existed, except for the elevator system that requires transfer from one elevator to another to reach all floors above the grade in a building over 36m in height;
- Not to require upgrading of fire rating of landing or car doors or car enclosures;
- Not to require any automatic recall operation, to the ground floor, alternate floor or by machine room smoke detectors;

- 2.3 At a meeting called at the Office of the Fire Marshal on January 18, 1993, the requirements of B44 clause 3.12.15 and 3.12.13 were reviewed in light of the intent of the Fire Code and it was agreed that a separate set of elevator rules, based on selected and revised B44 rules, would be an effective way of interpreting the intent of the Fire Code. Further, it was agreed that all markings of elevators, retrofitted under the Fire Code and the new set of rules, should be in a yellow colour to identify differences from markings on elevators equipped with all special emergency service and firefighters' elevators features in accordance with OBC and B44 rules, which are in red.

- 2.4 Note that the attached rules apply only to elevators retrofitted in existing residential buildings per article 9.6.5.6 of OFC. Elevators that are to be modernized in order to be designated as "firefighters' elevator" in any other building must fully conform with the B44 Code and OBC, with the exception of elevators in health care facilities, where EDB ruling #60/88 may be applied. ①

3. RATIONALE FOR REVISION #1

The enclosed "Ontario Rules" are revised by adding FCR.13 to clarify that existing equipment need not be upgraded to the current B44 requirements if it meets the intent of the Ontario Fire Code (see 2.2 above) and the elevator safety rules set in any previous edition of the B44 Code. Order 1.6 above is added to recognize that there are elevators currently in operation that can be identified as the "firefighter's elevators" without the design registration and inspection procedure and related expenses.

4. RATIONALE FOR REVISION #2

Item 1.6 has been revised to give authority to a registered contractor, in addition to a professional engineer, to verify and certify compliance of existing equipment with application requirements in FCR.1 to FCR.13 and to authorize the addition of the "yellow hat".



FIRE CODE RETROFIT ELEVATORS - RESIDENTIAL*

The Rules form an integral part of and should be used as explained in the Elevating Devices Branch Director's Ruling #105/93, of February 17, 1993 as revised January 31, 1994.

***Retrofit Elevators in Health Care Facilities are Covered in Ontario Rules #60/88**

CAN/CSA-B44-M90 & 92-Safety Code for Elevators

ONTARIO RULES # 105/93

3.12.15 Special Emergency Service

FCR Fire Code Retrofit Elevators - Part 2

~~3.12.15.1 General~~

~~3.12.15.1.1~~

~~Where special emergency service is provided either voluntarily or when required by the National Building Code (see Subsection 3.2.6):~~

- ~~(a) manual emergency recall operation shall conform to Clause 3.12.15.2;~~
- ~~(b) automatic recall operation shall conform to Clause 3.12.15.3;~~
- ~~(c) in-car emergency service shall conform to Clause 3.12.15.8;~~
- ~~(d) elevators intended for use by firefighters and identified as firefighters' elevators shall conform to Clause 3.12.15.9 (see also Clause 3.6.2.1.2).~~

~~3.12.15.1.2~~

~~Emergency recall operation to the alternate floor level in conformance with Clause 3.12.15.5 shall be provided whenever the automatic recall operation is provided and the floor area of the main recall level is not sprinklered.~~

~~3.12.15.1.3~~

~~Emergency recall operation shall be initiated by smoke sensors in the machine room in conformance with Clause 3.12.15.4 if both machine room water sprinklers (see Clause 2.4.3) and emergency recall operation are provided.~~

3.12.15.2 Manual Emergency Recall Operation

~~3.12.15.2.1 General~~

~~Manual emergency recall operation shall be controlled by switches in accordance with Clause 3.12.15.2.2, and the recall operation when initiated shall conform to Clause 3.12.15.2.3.~~

FCR.1 General

FCR.1.1

Where elevators or elevator systems in buildings with residential occupancies and with the vertical distance between the floor of the top storey and grade exceeding 18m, are retrofitted for use by firefighters to conform with requirements of Article 9.6.5.6. of Ontario Fire Code (Ontario Regulation 627/92 made under the Fire Marshals' Act):

- (a) At least one elevator or elevator system ** shall
 - (i) equipped with in-car emergency operation in conformance with Rule FCR.8, and
 - (ii) identified "FIRECODE RETROFIT ELEVATOR" in conformance with Rule FCR.9.3. as the elevator(s) intended for use by firefighters (FCR Elevator for short);
- (b) At least the identified FCR elevator or elevator system and all other elevators located in the same* shaft shall be provided with manual emergency recall operation conforming to Rule FCR.2.

Notes: * Where there is no continuance and imperforate enclosure between two adjacent elevator shafts.

** For the term "elevator system" refer to sentence 9.6.5.6.(3) of OFC.

FCR.1.2 Where both of the following two conditions exist in a building (see clause 9.6.5.6.(3)(c) in OFC) emergency power, capable of operating at least one elevator car at a time, shall be provided and shall conform to Rule FCR.1. The two conditions are: a) the vertical distance between the floor of the top storey and grade exceeds 36 m; and b) elevator system requires transfer from one elevator to another to reach all floors above.

FCR.1.3 Except where required in Rule FCR.1.2 the emergency power supply, automatic recall operation, emergency recall to the alternate floor, emergency recall operation initiated by smoke sensors in the machine room, elevator identification and floor numbers are not required. If provided voluntarily, they must conform to applicable requirements of CAN/CSA-B44, Elevator Safety Code. Unless the whole special emergency service fully conforms to B44 the marking of retrofitted elevators shall be in accordance with these FCR rules (FCR.2.2e, FCR.8.1 and FCR.9.3).

FCR.2 Manual Emergency Recall Operation

FCR.2.1 General

Manual emergency recall operation shall be controlled by switches in accordance with Rule FCR.2.2 and the recall operation when initiated shall conform to Rule FCR.2.3.

~~3.12.15.2.2 Recall Switches and Visual Indicators~~

Recall switches and visual indicators shall be provided and shall conform to the following:

- (a) a switch shall be conspicuously located in the lobby of each group (bank) of elevators at the recall level in full view of all corresponding elevator entrances, and a duplicate switch, if required by the applicable building codes, shall be located at the building's central alarm and control facility;
- (b) the means shall be provided adjacent to each recall switch to indicate visually that the elevators controlled by that switch are on emergency recall operation;
- (c) each switch shall have two positions, marked "ON" and "OFF" (see also Clause 3.12.15.3);
- (d) each switch shall be key controlled (see Clause 3.12.15.11) with keys accessible to authorized persons only; the key shall be removable in both positions;
- (e) each switch shall be marked "EMERGENCY RECALL" in red lettering a minimum of 5 mm in height; in addition, each switch located at the building's central alarm and control facility shall be identified with all elevators controlled by that switch;
- (f) the manual recall operation of elevators serving the elevator lobby where the switch is located shall be initiated by turning any of the switches referred to in Item (a) to the "ON" position;
- (g) the manual recall operation shall be terminated when both switches referred to in Item (a) are in the "OFF" position and all elevators shall be returned to normal service, except those on in-car emergency service (see Clause 3.12.15.8); the "OFF" position shall not override the smoke detectors referred to in ~~Clause 3.12.15.5.~~

FCR.2.2 Recall Switches

Recall switches shall be provided and shall conform to the following:

- (a) A switch shall be conspicuously located in the lobby of the FCR elevator on the street floor and the transfer floor where applicable in view of entrance to that elevator and all other elevators, if any (see Rule FCR.1.1(b), that are recalled by that switch).

If the central alarm and control facilities exist in the building, a duplicate recall switch shall be located at the facilities.

- (b) Visual indication not required.
- (c) The switch shall have two positions, marked "ON" and "OFF".
- (d) The switch shall be key controlled (see rule FCR.11). The key shall be removable in both positions. (For key location refer to sentence 3.2.6.8(4) in Ontario Building Code).
- (e) The switch shall be marked "EMERGENCY RECALL" in YELLOW lettering a minimum of 5.0mm in height.
- (f) The manual recall operation of elevators controlled by the switch (see rule FCR.1.1.b) shall be initiated by turning any of the switches, referred to in item (a) to the "ON" position;
- (g) The manual recall operation shall be terminated by turning both switches referred to in item (a) to the "OFF" position and all elevators shall be returned to normal service, except those on in-car emergency service (see rule FCR.8.).

3.12.15.2.3 Emergency Recall Operation to the Recall Level
When the recall operation has been initiated

- (a) all elevators controlled by the recall switch and all of those on automatic operation, including independent service operation, shall return directly to the recall level where the doors shall open and remain open; the elevators shall not respond to the landing or car call buttons (travelling to a terminal landing first and then reversing to travel to the recall level is not acceptable);
- (b) elevators that are stopped with the doors closed, or are travelling towards the recall level, shall proceed nonstop to the recall level;
- ~~(c) elevators travelling away from the recall level shall reverse at or before the next available landing without opening their doors;~~
- (d) a car stopped at a landing shall have its emergency stop switch rendered inoperative as soon as the doors are closed and the car starts to move; a moving car shall have its emergency stop switch rendered inoperative until it reaches the recall level and the doors open in accordance with Item (a);

(e) all call registered lights and directional lanterns shall be extinguished and remain inoperative;

Note: Position indicators, if provided, should remain in service.

- (f) all cars shall be provided with a visual and audible signal system that shall be activated to alert passengers that the car is on the emergency recall operation; at a minimum the visual signal shall remain operative until the car reaches the recall level;
- (g) an elevator equipped with power-operated horizontally sliding doors shall close its doors:
 - (i) an elevator having automatic power-operated horizontally sliding doors shall close its doors;
 - (ii) an elevator having power-operated vertically sliding doors provided with automatic closing or momentary pressure closing (see Clause 2.13.3.4) shall have the

FCR.2.3 Emergency Recall Operation to the Recall Level

When the recall operation required in rule FCR.1.1(b) has been initiated, the operation of elevators controlled by the recall switch (see FCR.2.2) shall be in accordance with the following:

- (a) Same as in B44 except that travelling to a terminal landing first, and then reversing to travel to the recall level is acceptable.
- (b) Same as in B44
- (c) Elevators travelling away from the recall level shall reverse as soon as possible without opening their doors;
- (d) Same as in B44, except as permitted in FCR.13 for special cases.
- (e) Same as in B44
- (f) Same as in B44, except as permitted in FCR.13 for special cases.
- (g) Same as in B44 except (iv).

(R1)

(R1)

(R1)

closing sequence initiated;

(iii) an elevator having power-operated doors provided with continuous pressure closing (see Clause 2.13.3.2) shall be considered as being operated by a designated attendant and shall comply with Item (h);

(iv) door reopening devices that may be affected by smoke or hot gases shall be rendered inoperative and shall remain inoperative until the elevator is returned to the normal operation in accordance with Clause 3.12.15.8.2(i). Door re-opening devices not sensitive to smoke or hot gases (eg, mechanically activated devices) shall remain operative during recall operation (see Clause 3.12.15.8.2(d)).

(v) all door opening and closing buttons located at landings shall be rendered inoperative;

(h) on elevators with manually operated doors, the audible and visible signal provided in accordance with Item (f), or another signal system, shall alert the passenger to close the doors; after the doors are closed, the elevator shall proceed automatically, nonstop to the recall level;

(i) on elevators being operated by a designated attendant (hospital service, attendant operation), the audible and visual signal provided in accordance with Item (f), or another signal system, shall alert the attendant to close the doors and return the elevator to the recall level where the power-operated doors shall open and remain open; and

(j) on elevators on inspection operation (top-of-car or in-car), or stopped by the in-car stop switch (see Clause 3.12.2.29), the audible signal provided in accordance with Item (f), or an additional signal, shall warn the inspector to return the car to the recall level; the elevator shall remain under the control of the inspector.

(iv) For exceptions in special cases refer to FCR.13. (R1)

(h) Same as in B44

(i) Same as in B44

(j) Same as in B44. In addition, elevator cars controlled by the switch referred to in Rule FCR.2.2(a), that were not previously equipped with any top-of-car inspection operation, shall be retrofitted with the inspection operation in conformance with Clause 3.12.1.2.2. (R1)

~~3.12.15.3 Automatic Emergency Recall Operation~~

FCR.3 Automatic Emergency Recall Operation - not required (see rule FCR.1.3).

~~3.12.15.4 Automatic Emergency Recall Operation by Machine Room Smoke Sensors~~

FCR.4 Automatic Emergency Recall Operation by Machine Room Smoke Sensors - not required (see rule FCR.1.3).

~~3.12.15.5 Emergency Recall Operation to the Alternate Level~~

FCR.5 Emergency Recall Operation to the Alternate Level - not required (see rule FCR.1.3).

~~3.12.15.6 Elevator Identification~~

FCR.6 Elevator identification - not required (see rule FCR.1.3).

~~3.12.15.7 Floor Numbers~~

FCR.7 Floor Numbers - not required (see rule FCR.1.3).

3.12.15.8 In-Car Emergency Service

FCR.8 In-Car Emergency Service

3.12.15.8.1 In-Car Emergency Service Switch

FCR.8.1 In-Car Emergency Service Switch

~~A keyed switch marked "EMERGENCY" in red lettering a minimum of 5.0 mm in height, conspicuous and readily accessible, shall be provided in or adjacent to an operating panel in the elevator car. This switch shall~~

(a) have three positions marked "OFF", "HOLD", and "ON" with the key (see Clause 3.12.15.11) removable in each position; and

(b) initiate in-car emergency service operation when in the "ON" position, provided the emergency recall operation (see Clauses 3.12.15.2, 3.12.15.3 and 3.12.15.5) is in effect and the car ~~has returned to the recall level.~~

A keyed switch marked "EMERGENCY" in YELLOW lettering a minimum of 5.0mm in height, conspicuous and readily accessible, shall be provided in or adjacent to an operating panel in the car of the FCR elevator(s) (see rule FCR.1.1(a)(i). This switch shall

(a) have 3 positions marked "OFF-HOLD-ON" with the key (see rule FCR.11) removable in each position, except in special cases as permitted in FCR.13.

(b) initiate in-car emergency service operation when in the "ON" position, provided the emergency recall operation (see rule FCR.2) is in effect and the car has returned to the recall level;

3.12.15.8.2 In-Car Emergency Operation

FCR.8.2 In-Car Emergency Operation

When in-car emergency service has been initiated, the elevator shall operate as follows:

All same as in B44 except as marked below.

- (a) the elevator shall be operable only by a person in the elevator;
- (b) the elevator shall not respond to elevator landing calls;
- (c) the opening of power-operated doors shall be controlled only by continuous pressure on the "DOOR OPEN" button; if the "DOOR OPEN" button is released during the

"open" motion, the doors shall reclose immediately; when doors are fully open, they shall remain open until closed as in Item (e);

(d) door reopening devices for power-operated doors shall be rendered inoperative;

(e) the car shall be started by registering a car call and closing the door by means of constant pressure on a "DOOR CLOSE" button which shall be identified in accordance with Clause 3.6.1.10.1;

(f) provision shall be made to cancel registered car calls by momentary operation of the keyed switch to the "HOLD" position. Operation to the "HOLD" position, when the car is moving shall cancel calls and cause the car to stop ~~at or before the next available landing;~~

(g) when the car is at a landing and the keyed switch in the car is turned to the "HOLD" position, the doors shall remain open and car calls shall not be registered;

(h) when the car is at a landing with the doors fully open and the keyed switch in the car is turned to the "OFF" position, the doors shall close automatically and the car shall automatically return to the recall level as on emergency recall operation (see

Clauses 3.12.15.2 and 3.12.15.3) regardless of the position of the emergency recall switch;

(i) the elevator shall be returned to normal operation only when the car is at the recall level and both the in-car emergency service switch is in the "OFF" position and the emergency recall switch has been reset to the normal position;

(j) where provided (see Clause 3.12.2.5), the emergency stop switch shall be operational. When the switch is activated to stop the car and then released, the operation in accordance with Item (a) shall be reinstated ~~immediately or not later than when the car reaches the next available landing.~~

(e) See FCR.13 for exceptions in special cases. (R)

(f) See FCR.13 for exceptions in special cases. Also, change the last sentence to read: "....to stop as soon as possible".

(g) See FCR.13 for exceptions in special cases.

(h) See FCR.13 for exceptions in special cases. Also, change the text in brackets to read: "(see rules FCR.2 and FCR.3)".

(j) Change the end of this paragraph to read: "....or as soon as possible". (R)

3.12.15.9 Firefighters' Elevator

~~3.12.15.9.1~~

~~Elevators designated as firefighters' elevators shall conform to Clauses 3.6.2.1.2, and 3.12.15.1 to 3.12.15.8, and to Clause 3.2.6.4 in the National Building Code, or the applicable building code for elevators for use by firefighters.~~

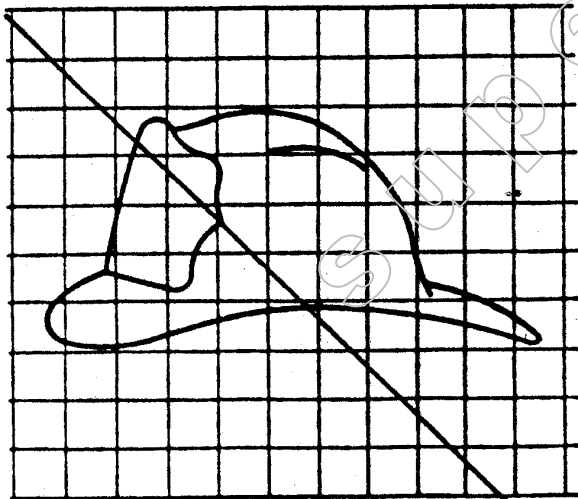
3.12.15.9.2

Emergency power conforming to Clause 3.12.13.3 shall be provided for every elevator designated as a firefighters' elevator.

3.12.15.9.3

A symbol showing a red firefighter's hat on a contrasting background, as shown in Figure 9, shall be used exclusively to identify elevators that comply with Clause 3.12.15. This identification shall be located on the elevator entrance frame or adjacent to it, at the emergency recall level and also in the car adjacent to the in-car emergency switch. The identification on the entrance frame, or adjacent to it, shall be a minimum of 50 mm in height, and the identification in the car shall be a minimum of 10 mm in height.

Note: See Clause 3.6.2.1.2.



~~Figure 8
Symbol for Firefighters' Elevator~~

FCR.9 Fire Code Retrofit Elevator

FCR.9.1

Elevators intended for use by firefighters shall conform to rules FCR.2 and FCR.8 and to sentence 9.6.5.6(2) or (3) of Ontario Fire Code.

Note: The hoistway enclosure and doors and car enclosure need not be upgraded to conform to current CAN/CSA B44 and Ontario Building Code with respect to fire separation and flame spread rating.

FCR.9.2

Emergency power supply shall be provided in conformance with rule FCR.12 when required in rule FCR.1.2.

FCR.9.3

A symbol showing a yellow firefighter's hat on a contrasting background, as shown in Figure FCR shall be used exclusively to identify elevator(s) that fully comply with rule FCR.1.1(a). This identification shall be located on the elevator entrance frame or adjacent to it, at the emergency recall level at street floor and transfer floor if applicable and also in the car adjacent to the in-car emergency switch. The identification on the entrance frame, or adjacent to it, shall be a minimum of 50mm in height, and the identification in the car shall be a minimum of 10mm in height.

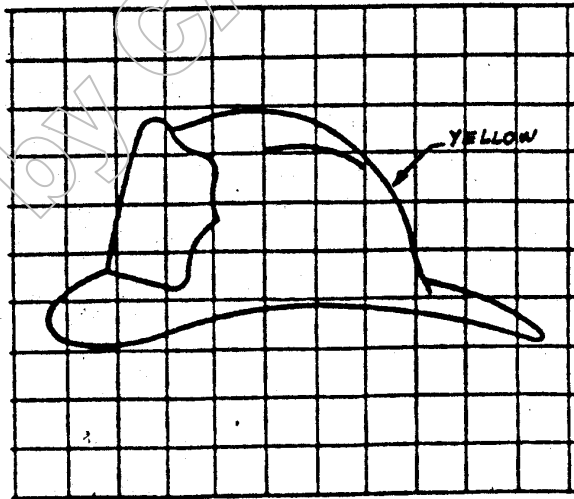


Figure FCR
Symbol for Fire Code Retrofit Elevator

~~3.12.15.10 Multi-compartment Elevators~~

3.12.15.11 Keys

~~The keys used for the emergency recall switch (see Clause 3.12.15.2) and the in-car emergency service switch (see Clause 3.12.15.8) shall be identical and shall be used exclusively for the switches. They shall be accessible to authorized persons only.~~

~~Note: See Sentence 3.2.6.8(4) in NBC 1990 code.~~

3.12.13 Emergency Power System

3.12.13.1

~~When an emergency power supply is provided to operate an elevator in the event of normal power supply failure, the following requirements shall be complied with:~~

~~(a) the emergency power supply shall be capable of operating the elevators* at least one at a time, when they are carrying their rated load (see Clause 3.9.8 and 3.12.13.3);~~

~~(b) the transfer between the normal and the emergency power supply shall be automatic;~~

~~(c) a signal light marked "ELEVATOR EMERGENCY POWER" shall be provided in the elevator lobby at the street floor level to indicate that the emergency power is in effect;~~

~~(d) where the emergency power supply is not capable of operating all elevators* simultaneously;~~

~~(i) a selector switch marked "ELEVATOR EMERGENCY POWER" in ~~red~~ lettering a minimum of 5.0 mm in height, accessible to authorized persons only (see Clause 3.15(c)(iii)), shall be provided ~~at the street floor level~~ to permit the selection of the elevator(s) to operate on emergency power; ~~the positions of the switch shall be marked to correspond with the elevator identification (see Clause 3.12.15.6); the switch shall be in view of all street floor elevator entrances, or the means shall be provided adjacent to the switch to indicate that~~~~

FCR.10 Multi-compartment Elevators.
The need for this rule not envisioned.

FCR.11 Keys

The keys used for emergency recall switch (see rule FCR.2) and in-car emergency service switch (see rule FCR.8) shall be identical and shall be used exclusively for either these switches or for corresponding switches required in accordance with clauses 3.12.15.2 and 3.12.15.8 of CAN-B44. They shall be accessible to authorized persons only. (For key location refer to sentence 3.2.6.8(4) in Ontario Building Code).

FCR.12 Emergency Power Operation

FCR.12.1

When an emergency power supply is provided to meet the requirements in rule FCR.1.2, the following requirements shall be complied with:

(a) Same as B44, except after "the elevators" insert: "intended for use by fire-fighters (see rule FCR.9)"

(b) Not required

(c) Not required

(d) Same as B44, except after "all elevators" insert: "intended for use by fire-fighters (see rule FCR.9)"

(i) Same, except as marked.

~~the elevator is at the street floor level with the doors fully open;~~

(ii) Not required

~~(ii) in addition to the requirement in Item (i), for elevators equipped with emergency recall service (see Clause 3.12.15), automatic power selection shall be provided that will return each elevator to the street floor level, or alternate level, one or more at a time; the selector switch required by Item (i) shall also have a position marked "AUTO" to permit automatic power selection, and shall be normally locked in that position; failure of the selected car to move shall cause power to be transferred to another car;~~

(e) when the emergency power system is designed to operate only one elevator at a time, the energy absorption means (if required) may be located on the supply side of the elevator power disconnecting means, provided all other requirements of Clause 3.12.10 are conformed to when operating any of the elevators the power might serve; other building loads, such as power and light that may be supplied by the emergency power system, shall not be considered as a means of absorbing the regenerated energy for the purpose of conforming to Clause 3.12.10, unless such loads are using their normal power from the emergency power system when it is activated.

(e) Same as B44

~~3.12.15.2~~

~~Observation elevators exposed to the weather shall be provided with an emergency power system capable of lowering the elevator to the nearest landing.~~

Not Applicable

~~3.12.13.3~~

~~When an emergency power system is provided in conjunction with special emergency service (see Clause 3.12.15), it shall conform to Clause 3.12.13.1 and to Article 3.2.6.10 of the National Building Code 1985, First Revisions January 1986.~~

Not Applicable

FCR.13 Clarifications and Exceptions

R1

FCR13.1 Elevators, that were equipped with "Firefighter's operation" or "Special emergency service" in compliance with a previous edition of CSA-B44 Safety Code for Elevators are deemed to meet the requirements of the Ontario Fire Code.

FCR13.2 Furthermore, elevators that were equipped with any type of "recall operation" and/or "in-car service" before issuance of this Ruling, but were not identified as such in accordance with any previous edition of B44 Code, may be designated the "Fire Code Retrofit Elevators", provided they meet all applicable requirements in FCR.1 to FCR.12, whereby the exceptions in FCR.13.3 are acceptable. Note that the exceptions are not acceptable for the equipment being retrofitted after the date of this Ruling.

FCR.13.3 Exceptions to FCR.2 and FCR.8

- FCR.2.3(d) The emergency stop switch may be rendered inoperative as soon as the recall operation is initiated.
- FCR.2.3(f) Cars with any audible signal system are acceptable. Visual signal is not mandatory.
- FCR.2.3(g)(iv) Door re-opening devices that are not sensitive to smoke or hot gases may also be rendered inoperative.
- FCR.8.1(a) A 2-position switch marked "ON-OFF" or "OFF-ON" is acceptable.
- FCR.8.2(e) Alternatively, the door may be closed by constant pressure on the floor button in the car.
- FCR.8.2(f) Alternatively, where a 2-position in-car switch is used (see above exception to FCR.8.1(a)), the cancelling of registered calls shall be possible by the momentary operation of the switch to the "OFF" position.
- FCR.8.2(g) Not applicable where 2-position switch is used, as permitted in FCR.8.1(a) above.
- FCR.8.2(h) Full compliance is not required where 2-position switch is used.

EXCEPTIONS PRIMARILY APPLICABLE TO EXISTING S.E.S. THAT INTENDED TO MEET FCR.13



Ontario

File Reference
Référence

Ministry of
the Solicitor
General

Office of
the Fire
Marshal

7 Overlea Boulevard
3rd Floor
Toronto, Ontario M4H 1A8

Ministère du
Solliciteur
général

Bureau du
commissaire
des incendies

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3^e étage
Toronto (Ontario) M4H 1A8

Telephone/Téléphone:
(416) 325-3200

February 26, 1993

FAX (416) 325-3213

MEMO TO: All Fire Chiefs and
Fire Prevention Officers

RE: Article 9.6.5.6. of the Ontario Fire Code
Elevator for Firefighters' Use

Joint discussions between the Fire Marshal's Office, the Ontario Association of Fire Chiefs and the Elevation Devices Branch of the Ministry of Consumer and Commercial Relations have revealed the need for a uniform marking identifying a Fire Code Retrofit elevator which is readily distinguishable from a firefighters' elevator under the Building Code. It was agreed that a yellow firefighter's hat and yellow lettering on the manual recall button would represent compliance with the Retrofit requirements under the Fire Code and that this designation would be used in every municipality throughout the province. A red firefighter's hat and red lettering would only be used to identify an elevator that is in full compliance with the Building Code requirements for a firefighters' elevator. This is consistent with current policy for health care facilities.

In order to address any concerns with respect to the application of the CAN/CSA-B44-M90, Elevator Safety Code, we have enclosed for your information the Elevating Devices Branch Director's Ruling No.105 of February 17, 1993 which outlines the rules applicable to a Fire Code Retrofit elevator.

Please take any appropriate actions to ensure that your fire prevention program implements the above-mentioned ruling.

B. Silvestri, P. Eng.
Unit Manager
Research & Standards

File:\Silvestr\Elevator.FF



Elevating and Amusement Devices Safety Division	Ref. No.: 106/93	Rev. No.:
DIRECTOR'S RULING	Date: May 10, 1993	Date:

**Subject: ALERT - USE OF JUMPERS
SAFE TROUBLE-SHOOTING PROCEDURE REQUIRED**

Sent to: ALL ELEVATOR CONTRACTORS IN SCOPE U1 & L1

1. JUMPERS CAUSE ACCIDENTS

A number of accidents recorded over the years have been caused by unsafe use of jumpers in the course of elevator repairs, specifically when identifying faults in the car and/or landing door circuits. Even momentary application of jumper wires across the door circuits, while the car is on the automatic operation, may cause the car to move with open door(s) and endanger the life of passengers.

2. ORDER TO CONTRACTORS AND MECHANICS

2.1 Each contractor shall have written procedures for troubleshooting (locating faults) the elevator circuits incorporating car and landing door electric contacts in order to ensure that the troubleshooting process will not endanger the safety of elevator users, the general public, or any person.

The procedure may apply to one or more elevator type/model and may include specification of tools instructions and condition for their use, precautionary measures, warning signs e.g. in the controller cabinet, etc.

2.2 Each contractor is responsible for ensuring that their mechanics understand the procedure and are equipped to follow it.

2.3 Each mechanic, when repairing elevators, shall adhere to the procedure.

Note that Section 17 of the Elevating Devices Act prohibits any person from "performing any work on an elevating device in such a manner as to impair the safe operation of the elevating device or endanger himself or any other person".

3. BACKGROUND

A recent fatal accident was caused by two momentary applications of jumpers, which some mechanics might consider "quite acceptable".

In this case, a mechanic observed the faulty elevator car from the machine room and concluded that doors were closed. He then went to the controller, momentarily applied jumpers to the door circuits to locate the fault. Since the machine was out of his sight and noise was coming from other machines, the mechanic was not sure whether the car had moved, in other words whether the fault was in the circuits he jumped. He decided to try with jumpers again.

He did not know that just prior to his first application of jumpers, two persons had entered the elevator. The jumpers caused the car to move upwards two or three feet with doors open and that scared the passengers. As they were trying to get out of the car, the jumpers were applied for the second time and that caused the elevator to move again. One passenger managed to escape but the second person's head became trapped between the car platform and the hoistway enclosure.



Elevating and Amusement Devices Safety Division	Ref. No.: 107/93	Rev. No.:
DIRECTOR'S RULING	Date: June 21, 1993	Date:

**Subject: INCONSISTENCIES IN REPORTING DEVICES
MAINTAINED IN ONTARIO.**

Sent to: ALL MAINTAINING GENERAL CONTRACTORS

Due to the inconsistencies in reporting devices maintained in Ontario by all registered contractors, we are asking all maintaining contractors to review the attached list of devices currently showing as "not maintained" in our computer system according to the maintenance lists submitted by all maintaining contractors this year.

We would ask that you check these installation numbers (in numerical sequence horizontally across the page) and if you do indeed maintain any of these installations, put a check (✓) on the right side of the number; if you do not maintain these installations, either draw a line through the number or highlight it. Please do not "blackout" the number as we have to be able to read it.

This information is to be returned to this office (3300 Bloor St. W., 3rd Floor, West Tower, Etobicoke, Ontario M8X 2X4) to the attention of Carol Robyn by July 12, 1993.

Contractor's Name:

Reg. #:

ELEVATING DEVICES BRANCH
DEVICES WITH NO OR INSPECTION ONLY MAINTENANCE

1993/06/10 PAGE 1

WINEGARJ

000002	000025	000026	000031	000088	000113	000133	000147	000184	000185	000186	000187	000194	000195	000196
000197	000198	000199	000202	000203	000204	000220	000221	000226	000227	000238	000244	000246	000247	000253
000260	000263	000279	000281	000282	000302	000315	000316	000328	000334	000341	000355	000356	000360	000362
000375	000376	000377	000382	000383	000385	000386	000389	000407	000411	000413	000464	000465	000476	000495
000496	000499	000504	000528	000547	000554	000557	000564	000583	000595	000597	000598	000611	000616	000618
000619	000620	000631	000632	000652	000654	000668	000676	000681	000683	000690	000691	000692	000699	000703
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000823	000836	000837	000854	000872	000893	000901	000902	000903	000904	000906	000907	000925	000927	000934
000935	000947	000952	000957	000966	000974	000988	000989	000993	000995	000996	000999	001085	001086	001088
001091	001103	001109	001115	001116	001138	001139	001141	001147	001156	001157	001158	001159	001160	001161
001162	001171	001179	001193	001203	001206	001209	001211	001218	001222	001243	001244	001247	001251	001289
001306	001309	001311	001313	001315	001330	001331	001338	001339	001340	001367	001368	001371	001372	001375
001378	001380	001388	001389	001390	001392	001394	001413	001433	001436	001437	001443	001450	001477	001492
001500	001516	001520	001521	001536	001545	001546	001551	001557	001563	001565	001567	001581	001593	001611
001612	001631	001669	001671	001697	001698	001706	001707	001708	001709	001724	001725	001727	001735	001749
001750	001752	001758	001775	001778	001779	001780	001789	001790	001791	001792	001793	001796	001825	001828
001833	001844	001869	001896	001897	001904	001905	001919	001923	001930	001934	001964	001965	001969	001984
002004	002007	002013	002015	002020	002025	002042	002063	002064	002068	002069	002085	002096	002099	002100
002108	002131	002132	002143	002145	002147	002151	002154	002169	002170	002198	002201	002202	002225	002227
002228	002229	002230	002237	002238	002240	002243	002244	002252	002274	002276	002277	002291	002292	002295
002299	002307	002309	002311	002312	002316	002321	002324	002325	002338	002355	002358	002388	002394	002397
002458	002459	002461	002462	002463	002534	002540	002542	002543	002544	002546	002547	002550	002558	002562
002566	002567	002569	002594	002608	002615	002635	002644	002666	002672	002720	002721	002731	002744	002762
002763	002764	002765	002766	002771	002814	002815	002816	002873	002886	002896	002897	002909	002910	002924
002937	002952	002953	002955	002970	003003	003014	003020	003026	003031	003032	003035	003036	003054	003055
003096	003104	003109	003113	003118	003140	003147	003170	003176	003178	003180	003188	003202	003208	003219
003236	003238	003241	003243	003244	003252	003261	003263	003280	003303	003304	003305	003306	003310	003311

ELEVATING DEVICES BRANCH
DEVICES WITH NO OR INSPECTION ONLY MAINTENANCE

003318	003357	003358	003359	003368	003381	003386	003391	003392	003394	003397	003398	003406	003407	003410
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003656	003682	003702	003705	003706	003707	003713	003721	003739	003742	003743	003756	003761	003771	003778
003782	003787	003788	003805	003806	003807	003811	003820	003823	003836	003851	003853	003858	003867	003879
003907	003909	003964	003965	003971	003981	003982	003983	003990	003992	003996	003998	004004	004008	004014
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004165	004167	004170	004171	004179	004201	004206	004207	004217	004230	004235	004249	004251	004256	004273
004294	004303	004306	004313	004327	004328	004338	004359	004361	004362	004363	004381	004401	004404	004413
004422	004435	004436	004439	004443	004444	004445	004446	004447	004448	004456	004459	004460	004472	004473
004474	004475	004476	004501	004504	004505	004506	004508	004521	004524	004525	004526	004527	004529	004550
004552	004563	004566	004571	004572	004585	004586	004588	004591	004595	004612	004626	004627	004659	004668
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009312	009318	009330	009334	009338	009350	009359	009364	009383	009386	009397	009400	009420	009435

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010245	010268	010274	010286	010287	010288	010289	010290	010291	010331	010334	010346	010347	010348	010355
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012184	012185	012186	012194	012196	012203	012237	012241	012261	012263	012264	012269	012270	012289	012297
012307	012308	012309	012310	012313	012323	012337	012338	012404	012416	012430	012441	012478	012491	012505
012534	012536	012537	012538	012539	012540	012541	012542	012584	012622	012626	012633	012636	012645	012648
012656	012666	012667	012669	012680	012702	012730	012756	012762	012784	012818	012819	012828	012866	012869
012875	012883	012891	012913	012918	012919	012940	012941	012953	012972	012982	012988	012989	012992	012999
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013166	013167	013168	013191	013196	013229	013263	013264	013268	013274	013289	013318	013344	013347	013355
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019083	019103	019107	019135	019165	019166	019177	019181	019225	019256	019308	019338	019339	019377	019399
019400	019424	019443	019453	019481	019482	019483	019484	019492	019551	019569	019583	019637	019733	019741
019742	019756	019778	019793	019798	019811	019853	019882	019886	019901	019902	019917	019933	020015	020054
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020364	020365	020400	020409	020420	020452	020477	020484	020566	020567	020597	020634	020639	020647	020650

020663	020677	020682	020691	020710	020750	020804	020849	020864	020877	020976	020977	020978	020979	020980
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024272	024280	024293	024305	024346	024364	024369	024370	024390	024391	024397	024398	024403	024407	024408
024410	024413	024423	024426	024428	027013	027031	027050	027091	027147	027154	027155	027179	027206	027207
027208	027211	027232	027245	027246	027247	027250	027260	027270	027298	027320	027354	027393	027420	027437
027461	027476	027503	027513	027548	027590	027645	027651	027699	027700	027702	027710	027722	027724	027725
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028078	028105	028123	028124	028127	028128	028140	028173	028213	028224	028255	028277	028284	028299	028304
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030823	030850	030865	030906	030924	030928	030938	030970	030992	031012	031017	031030	031080	031108	031148

ELEVATING DEVICES BRANCH
DEVICES WITH NO OR INSPECTION ONLY MAINTENANCE

031149	031164	031173	031202	031210	031211	031239	031240	031253	031295	031317	031326	031378	031379	031393
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031673	031674	031676	031704	031731	031734	031767	031842	031847	031858	031875	031915	031922	031933	031976
031977	031978	032004	032029	032031	032033	032038	032061	032073	032089	032099	032146	032175	032176	032182
032183	032200	032229	032230	032240	032247	032293	032295	032296	032298	032299	032307	032310	032311	032335
032350	032353	032354	032358	032377	032382	032405	032439	032445	032464	032465	032477	032484	032485	032490
032491	032492	032493	032496	032505	032544	032547	032555	032578	032580	032583	032590	032591	032645	032648
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037918	037920	037922	037925	037932	037933	037936	037943	037950	037952	037953	037954	037955	037959	037960
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038081	038082	038083	038084	038087	038088	038089	038103	038104	038105	038106	038124	038125	038127	038156
038161	038166	038167	038168	038170	038176	038182	038191	038192	038193	038199	038203	038206	038207	038208
038213	038214	038223	038224	038260	038291	038297	038305	038306	038310	038316	038320	038333	038334	038350
038353	038356	038357	038359	038375	038376	038379	038392	038408	038433	038442	038461	038468	038470	038477
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062387	062396	062398	062401	062402	062418	062451	062454	062455	062457	062463	062466	062467	062482	062493
062494	062509	062549	062554	062557	062574	062585	062598	062599	062603	062604	062605	062606	062607	062614
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063517	063522	063537	063538	063552	063553	063569	063578	063582	063588	063604	063605	063612	063615	063617

WINEGARJ	ELEVATING DEVICES BRANCH DEVICES WITH NO OR INSPECTION ONLY MAINTENANCE										1993/06/10	PAGE	11	
063618	063633	063642	063643	063646	063649	063651	063652	063654	063661	063662	063664	063665	063666	063667
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ELEVATING DEVICES BRANCH
DEVICES WITH NO OR INSPECTION ONLY MAINTENANCE

066291	066292	066293	066295	066296	066298	066300	066301	066302	066303	066304	066307	066317	066318	066321
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068761	068762	068763	068764	068765	068766	068767	068768	068769	068770	068771	068772	068773	068774	068775
068776	068777	068778	068779	068780	068781	068782	068783	068784	068785	068786	068787	068788	068789	068790
068791	068792	068793	068794	068795	068796	068797	068798	068799	068800	068801	068802	068803	068804	068805
068806	068807	068808	068809	068810	068811	068812	068813	068814	068815	068818	068819	068820	068821	068822
068823	068824	068825	068826	068827	068828	068829	068830	068831	068832	068833	068834	068835	068836	068837
068838	068839	068840	068841	068842	068843	068844	068845	068846	068847	068848	068849	068850	068851	068852
068853	068854	068855	068856	068857	068858	068859	068860	068861	068862	068863	068864	068865	068866	068867
068868	068869	068870	068871	068872	068873	068874	068875	068876	068877	068878	068879	068880	068881	068882

ELEVATING DEVICES BRANCH
 DEVICES WITH NO OR INSPECTION ONLY MAINTENANCE

068883	068884	068885	068886	068887	068888	068889	068890	068891	068892	068893	068894	068895	068896	068897
068898	068899	068900	068901	068902	068903	068904	068905	068906	068907	068908	068909	068910	068911	068912
068913	068914	068915	068916	068917	068918	068919	068920	068921	068922	068923	068924	068925	068926	068927
068928	068929	068930	068931	068932	068933	068934	068935	068936	068937	068938	068939	068940	068941	068942
068943	068944	068945	068946	068947	068948	068949	068950	068951	068952	068953	068954	068955	068956	068957
068958	068959	068960	068961	068962	068963	068964	068965	068966	068967	068968	068969	068970	068971	068972
068973	068974	068975	068976	068977	068978	068979	068980	068981	068982	068983	068984	068985	068986	068987
068988	068989	068990	068991	068992	068993	068994	068995	068996	068997	068998	068999	069000	069001	069002
069003	069004	069005	069006	069007	069008	069009	069010	069011	069012	069013	069014	069015	069016	069017
069018	069019	069020	069021	069022	069023	069024	069025	069026	069027	069028	069029	069030	069031	069032
069033	069034	069035	069036	069037	069038	069039	069040	069041	069042	069043	069044	069045	069046	069047
069048	069049	069050	069051	069052	069053	069054	069055	069056	069057	069058	069059	069060	069061	069062
069063	069064	069065	069066	069067	069068	069069	069070	069071	069072	069073	069074	069075	069076	069077
069078	069079	069080	069081	069082	069083	069084	069085	069086	069087	069088	069089	069090	069091	069092
069093	069094	069095	069096	069097	069098	069099	069100	069101	069102	069103	069104	069105	069106	069107
069108	069109	069110	069111	069112	069113	069114	069115	069116	069117	069118	069119	069120	069121	069122
069123	069124	069125	069126	069127	069128	069129	069130	069131	069132	069133	069134	069135	069136	069137
069138	069139	069140	069141	069142	069143	069144	069145	069146	069147	069148	069149	069150	069151	069152
069153	069154	069155	069156	069157	069158	069159	069160	069161	069162	069163	069164	069165	069166	069167
069168	069169	069170	069171	069172	069173	069174	069175	069176	069177	069178	069179	069180	069181	069182
069183	069184	069185	069186											

TOTAL DEVICES PRINTED = 6,784



Elevating and Amusement Devices Safety Division	Ref. No.: 108/93	Rev. No.:
DIRECTOR'S RULING	Date: July 12 1993	Date:

Subject: 1) SAFETY CIRCUIT RELAYS TO BE CONTINUOUSLY MAINTAINED IN SAFE OPERATING CONDITION
2) RECOMMENDED WIRING IMPROVEMENTS ON ARMOR VV CONTROLLERS

Sent to: ALL ELEVATOR CONTRACTORS SCOPE U1, L1 and F1

1. ORDER TO CONTRACTORS

- 1.1 When carrying out inspection and examination of elevators, at regular intervals, you shall insure that all relays and contactors are in safe operating condition and will remain so until the next scheduled inspection and examination, as required in Clause 22(3)(a) and subsection 22(4) of O. Regulation under the Elevating Devices Act.
- 1.2 For elevators equipped with ARMOR VV controllers, it is recommended that wiring changes be completed as explained in 2.4 below and the enclosed schematic diagram.

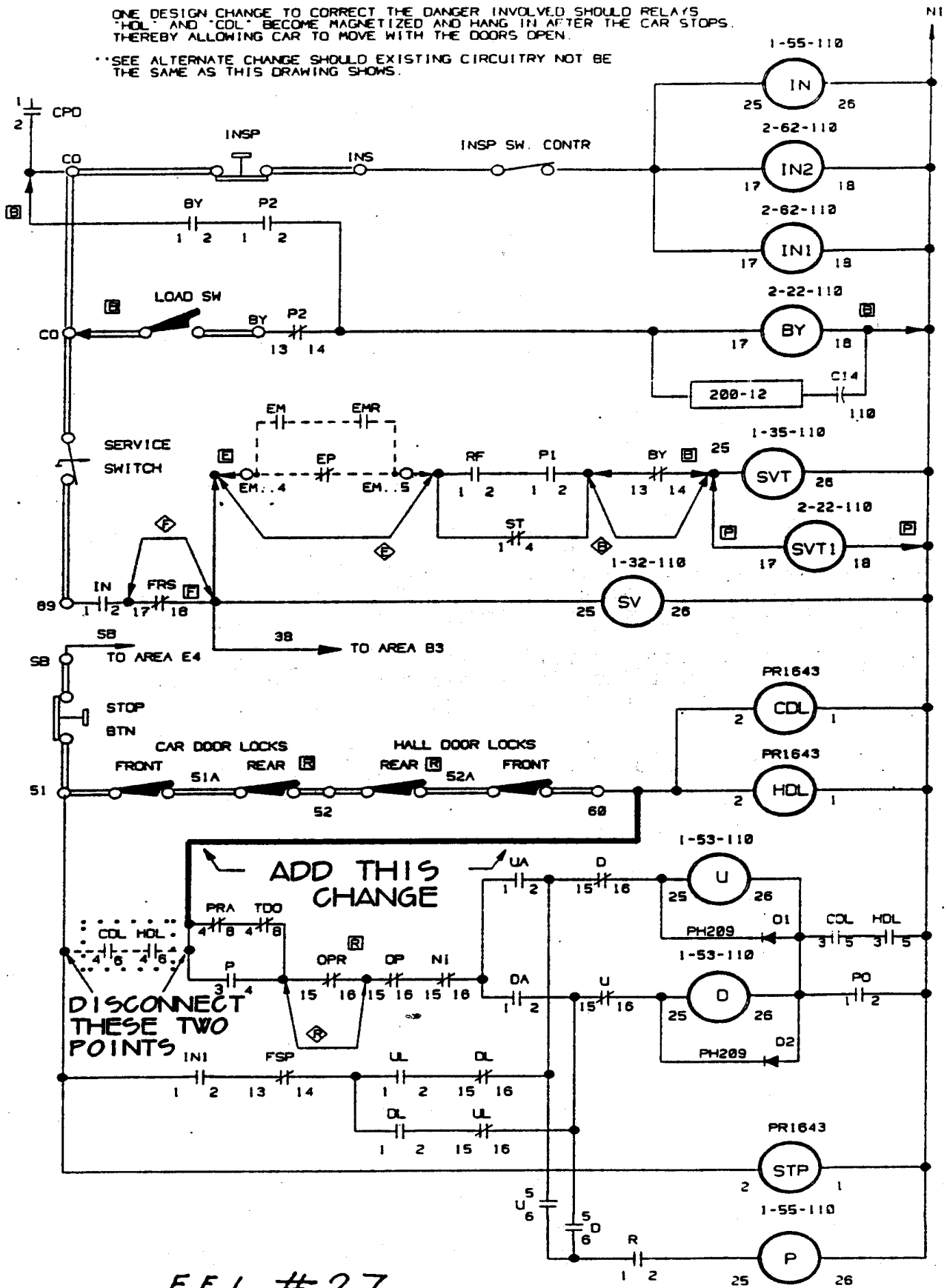
2. BACKGROUND

- 2.1 Schindler Elevator Corporation reported an incident where an elevator, equipped with the ARMOR VV controller, ran with both landing and car door open. Both the CDL and HDL relays (see enclosed schematics), failed in the "closed position", since they were "magnetized", allowing the main direction relays U and D to pick up regardless of the door status.
- 2.2 This elevator had been installed before the requirement in clause 3.12.9(d) of CSA-B44-M90 Code came into force, which now requires that the car shall not be permitted to restart should this type of failure occur.
- 2.3 For that reason, regular inspections and maintenance of all relays in safety circuits for the purpose of identifying any wear and tear that could affect their safe operation, is of paramount importance for maintaining the elevator in safety operating condition as required in subsection 22(4) of O. Regulation under the Elevating Devices Act.
- 2.4 In addition, wiring improvements could be carried out in order to minimize the affect of relay failures on the safe operation of the elevator, as it is, for example, recommended in the attached schematics by Schindler Elevator Corp. in regard to ARMOR VV controllers. Their solution is to feed the U and D relays directly through the door lock circuits. According to Schindler Elevator Corp., it should take about an hour for a mechanic familiar with the controller to make the wiring changes.

DESIGN CHANGE #1

ONE DESIGN CHANGE TO CORRECT THE DANGER INVOLVED SHOULD RELAYS "HOL" AND "COL" BECOME MAGNETIZED AND HANG IN AFTER THE CAR STOPS. THEREBY ALLOWING CAR TO MOVE WITH THE DOORS OPEN.

**SEE ALTERNATE CHANGE SHOULD EXISTING CIRCUITRY NOT BE THE SAME AS THIS DRAWING SHOWS.



F.E.L. #27



Elevating and Amusement Devices Safety Division	Ref. No.: 108/93	Rev. No.: 1
DIRECTOR'S RULING	Date: July 12, 1993	Date: March 18, 1996

Subject: 1) **RELAYS IN SAFETY CIRCUITS TO BE MAINTAINED IN SAFE OPERATING CONDITION**
 2) **WIRING CHANGES ON HORN/ARMOR AND MAYBE NECESSARY ON OTHER CONTROLLERS**

Sent to: **ALL ELEVATOR CONTRACTORS SCOPE U1, L1 AND F1**

1. ORDER TO CONTRACTORS

- 1.1 When carrying out inspection and examination of elevators, at regular intervals, the contractor shall ensure that all safety related relays and contactors are in safe operating condition and will remain so until the next scheduled inspection and examination, as required in subsections 23(3)(a) and 23(4) of O. Regulation under the Elevating Devices Act.
- 1.2 On each elevator equipped with HORN or ARMOR controllers having relays marked CD or CDL in the car door contact circuit, and relays marked HD or HDL in the hall door interlocks circuits, and on any other controller, for which the contractor establishes that the relays in the car door and/or hall door circuits cannot be positively maintained in safe operating condition as required in 1.1 above (e.g., residual magnetization, unreliable springs, etc.);

The contractor maintaining such an elevator shall, not later than September 30, 1996, take the following actions:

- (a) Ensure that the relays are replaced with relays of a design which can be maintained in safe operating condition, as required in 1.1 above, or
- (b) Carry out such wiring changes in the controller to ensure that simultaneous failures of relays in the car door and hall door circuits could not cause the car to leave a landing with car or hall or both doors open, as illustrated in the enclosed diagram, supplied by Schindler Elevator, to be used for ARMOR/HORN controllers.
- 1.3 If the work required in Order 1.2 above, items (a) and (b) does not constitute a part of the contractor's maintenance contract, and the authorization from the owner to complete the work cannot be obtained, the contractor shall inform the Technical Standards Division immediately (to the attention of N.L. Benn, Chief Inspector, Re: Director's Ruling 108/93), indicating the elevator installation numbers and the scope of work proposed by the contractor.

2. BACKGROUND

- 2.1 This Ruling #108/93 was originally issued in 1993 following a report from Schindler Elevator Corporation on an incident where an elevator ran with both landing and car doors open, due to simultaneous failure (residual magnetization) of both, CDL and HDL relays in the closed position, allowing the main directional relays U and D to pick-up while the doors were open (as illustrated in the diagram on Hard Copy).

- 2.2 In another incident on an ARMOR elevator during October, 1995 a person was injured, when struck by the car door header, while stepping from the car to the landing. The car moved in the down direction with both doors open due to the failure of relays marked CD and HD, as reported by Schindler Elevator Corporation.
- 2.3 Other controller makes, equipped with relays that cannot be positively maintained in safe operating condition, could also initiate similar incidents.
- 2.4 All the incidents are related to elevators that were installed before the requirement in Clause 3.12.9(d) of CSA-B44-M90 Code came into force, which now requires that the car shall not be permitted to restart should these type of failures occur.
- 2.5 For that reason, regular inspections and maintenance of all relays in safety circuits for the purpose of identifying any wear and tear that could affect their safe operation, is of paramount importance for maintaining the elevator in safe operating condition as required in subsection 23(4) of O. Regulation under the Elevating Devices Act.
- 2.6 Furthermore, wiring changes, such as those illustrated in the enclosed diagram, which is proposed by Schindler Elevator Corporation for HORN and ARMOR controllers, should further minimize the affect of relay failures on the safety of elevators.

Archive
Compliance Past Due
Superseded by GAD

95-10-25

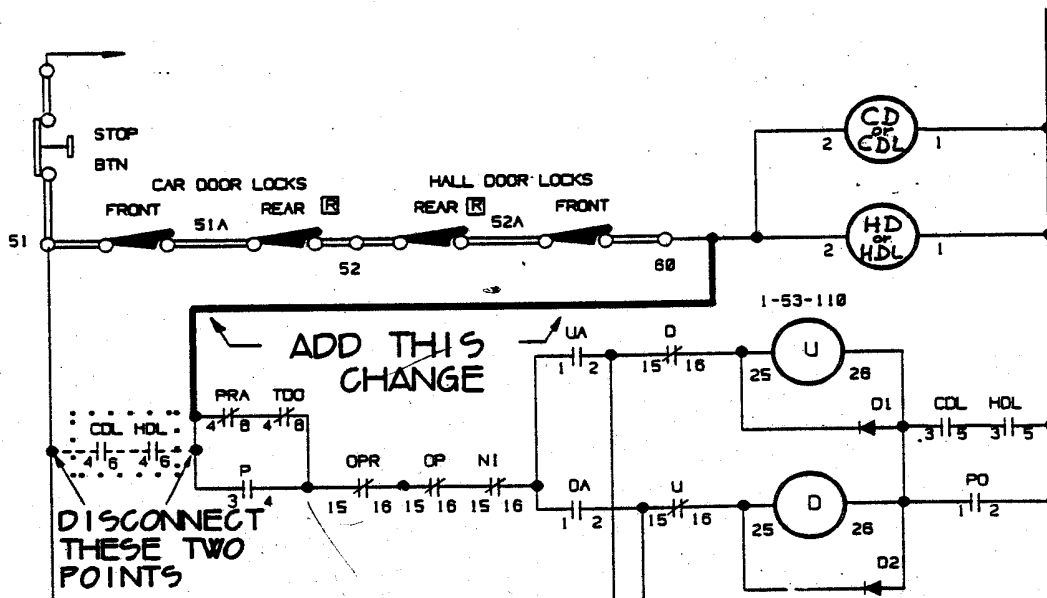
FIELD ENGINEERING LETTER # 44

HORN / ARMOR CONTROLLERS - NEED FOR CIRCUIT CHANGE

An incident has been reported recently where an elevator installed about 25 years ago moved with both hall and car doors open. The cause of this incident was the simultaneous failure of two relays HDL and CDL (Also called HD and CD in some circuitry) due to magnetization. These two relays are fed through the hall door locks and car gate switch in series.

Contacts from the above relays are used to activate U and D relays to run the elevator. Since redundancy check of the back up components was not a code requirement prior to 1994, the failure was not detected until both relays failed. The potential safety problem can be corrected by a simple wiring change by deleting CDL/CD and HDL/HD contacts from U and D circuit and feeding them directly through the door locks and car gate switch. A typical circuit is shown below. Variations to this circuit may be found on some controllers. However, the principle remains the same i.e. U and D relays should be fed through hall doors and car door locks to ensure that car will move out side the door zone only when the doors are closed.

A field engineering letter with a similar concern was issued in 1992. In that letter the reference was only to HDL and CDL relays. However, we have found that there are controllers where the relays with the same function are called HD and CD.





Elevating and Amusement Devices Safety Division	Ref. No.:	Rev. No.:
	109/93	
DIRECTOR'S RULING	Date:	Date:
	July 14, 1993	

**Subject: WARNING: EFFECTIVENESS OF SAFETY RETAINERS DEPENDS ON
PANEL-SILL CLEARANCES**

Sent to: ELEVATOR CONTRACTORS IN SCOPE U1, L1, F1

1. ORDER TO CONTRACTORS

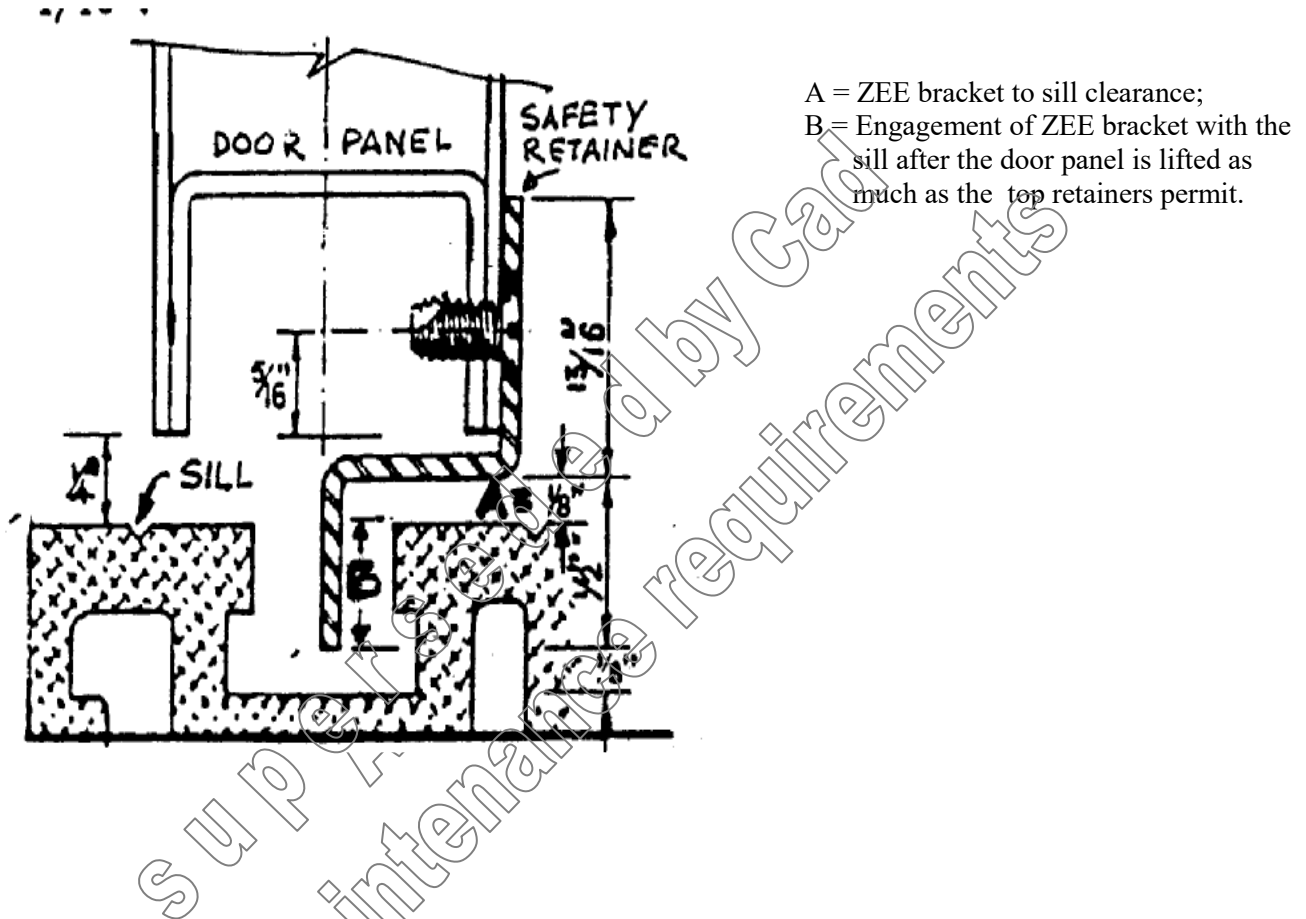
- 1.1 Contractors, who have installed hall door safety retainers on new elevators or under the retrofitting program, required by Director's Ruling #61/88, shall ensure that these installations met;
 - (a) All critical door-panel bottom and top maximum clearances, taking into consideration the possible maximum upward movement of the door panel;
 - (b) The minimum retainer-sill engagement, measured with the door panel in the closed position and with panel lifted as much as the top retainers permit;
 - (c) All other measurements to ensure that the installation of retainers was done in accordance with instructions supplied by the manufacturer of the door safety retainers.
- 1.2 Considering the safety risk to the general public from improperly installed safety retainers, contractors shall carry out all necessary checks, paying particular attention to retrofitted elevators, so as to verify conformance.
- 1.3 Non-conforming elevators shall be immediately corrected.

2. BACKGROUND

- 2.1 A person has been seriously injured after falling into the hoistway pit through a closed landing single-panel-sliding door. The door bottom safety retainers, retrofitted as required by the Director's Ruling #61/88 as well as the door prime guiding means disengaged from the sill-track, allowing the bottom of the door to swing into the hoistway.
- 2.2 The safety retainers did not fulfill their intended function in preventing this type of accident. Why?

2.3 According to the retainer's manufacturer's drawing, supplied with the retrofit kit and attached to the Ruling #61/88:

- Clearance A was to be not more than 1/8" ...but was actually 5/16" to 3/8".
- Engagement B was to be at least 1/4" ...but was actually only 3/64" to 1/16".



2.4 Note that, with the door-panel in the door-open position, the clearances were as required in the manufacturer's instructions. However, since the door sill was not level, the clearance A would increase and engagement B reduce when the panel is in the door-closed position.

2.5 Since the engagement 'B' with door closed was not in accordance with the manufacturer's drawings, the force that such installed safety retainers could withstand, was significantly reduced.



Elevating and Amusement Devices Safety Division	Ref. No.: 110/93	Rev. No.:
DIRECTOR'S RULING	Date: July 14, 1993	Date:

Subject: 1) CONTINUITY OF COMMON GROUND ON CONTROLLERS TO BEVERIFIED
2) VERIFICATION METHOD FOR BECKETT VV CONTROLLERS

Sent to: ALL ELEVATOR CONTRACTORS SCOPE U1, L1 AND F1

1. ORDER TO CONTRACTORS

- 1.1 Inspect each elevator controller, maintained by your company, to ensure that the common ground connection, from its source, to every coil or device shown in applicable schematics, is maintained as a ground buss. Any connection made via a bolt or stud must be made by washer, lockwasher and nut.
- 1.2 All ground connections must be checked on a regular basis for continuity and to ensure that they function as intended.
- 1.3 With respect to Beckett VV controllers, Beckett Elevator Ltd. advises: "Make coil connections via spade type terminal that insures the loop integrity or alternatively solder wires together at each coil position".

2. BACKGROUND

- 2.1 An incident was reported of a car moving with car and landing door open. The machine brake was held open, while the drive motor was not under power. Continuity of the common ground on the controller was interrupted between contactors U and M, as shown in the enclosed Beckett schematic diagram. The ground, upstream from U, became "hot", delivering sufficient voltage from P to keep U and M relays and ultimately MX in closed position. MX, in turn, caused the brake to open.
- 2.2 Reason for the ground failure: The ground loop was not installed in the form of an integral wire. Instead, the grounding was achieved by means of a screw connection. It became loose and created a partial loss of ground.



Elevating and Amusement Devices Safety Division	Ref. No.: 111/93	Rev. No.:
DIRECTOR'S RULING	Date: August 13, 1993	Date:

Subject: LOAD TESTING OF THE ABOVE-SURFACE PASSENGER ROPEWAYS

Sent to: ALL CONTRACTORS IN GROUP 8 AND SUBMITTING ENGINEERS

1. ORDER

All new and existing above-surface passenger ropeways shall be load-tested periodically at intervals not exceeding five (5) years. The periodic load testing of the ropeway shall be carried out under the direction and supervision of the designer/manufacturer of the ropeway or a qualified professional engineer. The test shall confirm that the ropeway meets the requirements of CAN/CSA-Z98-M91 and Supplement No. 1-92 to the CAN/CSA-Z98-M91, Passenger Ropeway standard and the manufacturer/designer's specification.

Report the results of the load-test in a form provided by the Director. Keep the original test report in the log book on site for the ropeway, and send a copy of the report to the Elevating Devices Branch within thirty (30) days of the load testing.

2. CLARIFICATION

Above-surface passenger ropeways include chair lift, gondolas, tramways, etc. Surface passenger ropeways include T-bars, rope tows, etc. This ruling applies to the above-surface passenger ropeways only. The load-test and report must be witnessed and signed by an authorized representative of manufacturer/designer or a qualified professional engineer.

3. STRATEGY FOR LOAD TESTING OF EXISTING ROPEWAYS

Out of one hundred and twenty-eight (128) existing above-surface passenger ropeways, eighty (80) ropeways would require immediate load testing according to Section 1 of this Ruling. The Branch has decided to order load-testing of relatively older ropeways prior to 1993/1994 ski season and balance of the eighty (80) ropeways prior to 1994/1995 ski season. The Branch will notify the affected ropeway owners of the load testing to be completed prior to 1993/1994 and 1994/1995 ski seasons.

Load-test dates of the remaining forty-eight (48) ropeways shall be forwarded to the Branch by the owners. The next load-test shall be performed at five (5) years intervals from the last load-test date. The owners must inform the Branch of the load-test dates thirty days in advance.

4. CAUTION

Any owner who fails to comply with any provision of this Ruling, the Director may:

- a) Suspend or revoke the licence to operate the ropeway and/or
- b) Charge the owner under Section 30 of the Elevating Devices Act

Attachments: Form "Periodic Load-Test Report for the Above-Surface Passenger Ropeways"

Periodic Load-Test Report For The Above-surface Passenger Ropeway
 Under the Director's Ruling # 111/93

Licensee Name:		Installation No.		
Address:				
Ropeway Designed To Carry Load: <input type="checkbox"/> Uphill <input type="checkbox"/> Downhill		Type of Main Drive: <input type="checkbox"/> Electrical <input type="checkbox"/> Diesel <input type="checkbox"/> Other		
Test Date:	Last Test Date:	Type of Ropeway: <input type="checkbox"/> Chair Lift <input type="checkbox"/> Gondola <input type="checkbox"/> Tramway		
No. of Carriers:	Carrier Capacity: <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Quad.	Ropeway Carries Load: <input type="checkbox"/> Uphill <input type="checkbox"/> Down Hill		
Note: Column 1 shall be completed by a person who is either a registered professional engineer in Ontario or a designer/manufacture of the passenger ropeway.		Column 1	Column 2	Column 3
		Designed Limit or Range of Values	Load Test Results	Explain steps to correct discrepancies between the load test results & the designed limit or range of values
EMPTY TEST RESULTS				
MAIN DRIVE:				
Maximum haul rope speed, m/s				
Service brake only stopping distance, m				
Service brake only stopping time, s				
Emergency brake only stopping distance, m				
Emergency brake only stopping time, s				
Both service & emergency brakes stopping distance, m				
Both service & emergency brakes stopping time, s				
Electrical deceleration to stop distance, m				
Electrical deceleration to stop time, s				
Evacuation drive: Maximum haul rope speed, m/s				
UPHILL LOAD TEST RESULTS				
Number of carriers loaded: _____, Load on each carrier, kN: _____, Required load on ropeway, kN: _____				
Actual load on ropeway, kN: _____, Type of loads used: Sand bags <input type="checkbox"/> , Water containers <input type="checkbox"/> , Other _____				
MAIN DRIVE:				
		Column 1	Column 2	Column 3
Service brake holding torque value, N.m				
Emergency brake holding torque value, N.m				
Anti-roll back device holding torque value, N.m(if applicable)				
Maximum haul rope speed, m/s				

	Column 1	Column 2	Column 3
Service brake only stopping distance, m			
Service brake only stopping time, s			
Service brake only is able to hold the load <input type="checkbox"/> Yes or <input type="checkbox"/> No			
Emergency brake only stopping distance, m			
Emergency brake only stopping time, s			
Both service & emergency brakes stopping distance, m			
Both service & emergency brakes stopping time, s			
Check the distance along drive sheave circumference for the actuation of the emergency brake upon the lift roll-back: less than <input type="checkbox"/> 200 mm or <input type="checkbox"/> 1/2 of 1sheave revolution, or Other _____			
Roll back stopping distance with emergency brake only, mm			
Check the distance along drive sheave circumference for the actuation of the anti-roll back device upon the lift roll-back: less than <input type="checkbox"/> 200 mm or <input type="checkbox"/> Closest sheave spoke or Other _____			
Roll-back stopping distance with anti-roll back device only, mm			
Drive sheave overspeed mechanism tripped at <input type="checkbox"/> 110% or <input type="checkbox"/> 115% of the maximum haul rope speed			
Electrical deceleration to stop distance, m			
Electrical deceleration to stop distance, m			
Evacuation drive: Maximum haul rope speed, m/s			

DOWNHILL LOAD TEST RESULTS

Number of carriers loaded: _____, Load on each carrier, kN: _____, Required load on ropeway, kN: _____

Actual load on ropeway, kN: _____, Type of loads used: Sand bags , Water containers , Other _____

MAIN DRIVE:

	Column 1	Column 2	Column 3
Maximum haul rope speed, m/s			
Service brake only stopping distance, m			
Service brake only stopping time, s			
Service brake only is able to hold the load <input type="checkbox"/> Yes or <input type="checkbox"/> No			
Emergency brake only stopping distance, m			
Emergency brake only stopping time, s			
Both service & emergency brakes stopping distance, m			
Both service & emergency brakes stopping time, s			
Check the distance along drive sheave circumference for the actuation of the emergency brake upon the lift roll-back: less than <input type="checkbox"/> 200 mm or <input type="checkbox"/> 1/2 of 1sheave revolution, or Other _____			
Roll back stopping distance with emergency brake only, mm			

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14 August, 1993

Page 2 of 3

	Column 1	Column 2	Column 3
Check the distance along drive sheave circumference for the actuation of the anti-roll back device upon the lift roll-back: less than <input type="checkbox"/> 200 mm or <input type="checkbox"/> Closest sheave spoke or Other			
Roll-back stopping distance with anti-roll back device only, mm			
Drive sheave overspeed mechanism tripped at <input type="checkbox"/> 110% or <input type="checkbox"/> 115% of the maximum haul rope speed			
Electrical deceleration to stop distance, m			
Electrical deceleration to stop distance, m			
Evacuation drive: Maximum haul rope speed, m/s			

OTHER TESTS. DESCRIBE:

COMMENTS:

WITNESS'S STATEMENT:

The following statement shall be attested by a person who is either a qualified professional engineer registered in Ontario or a qualified representative of the designer/manufacturer of the passenger ropeway:

I _____ of _____ having witnessed on _____
(Name of Witness) (Name of Employer) (Date)
 the load-test of the above-surface passenger ropeway having installation # _____, hereby certify that the load test results were found acceptable within the designed limit or range of values for this ropeway. Appropriate measures were taken to correct the discrepancies between the load test results and the designed limit or range of values for this ropeway. The test confirms that the ropeway meets the requirements of the Director's Ruling # 111/93.

Date:

Witness:

Professional Engineer Designer/Manufacturer of the ropeway

Name:

Employer:

Address:

P. ENG's stamp and signature

Witness Signature:

Licensee Signature:



Elevating and Amusement Devices Safety Division	Ref. No.: 112/94	Rev. No.:
DIRECTOR'S RULING	Date: April 26, 1994	Date:

**Subject: ADOPTION OF CSA-B355-94
LIFTS FOR PERSONS WITH PHYSICAL DISABILITIES**

Sent to: ALL CONTRACTORS IN SCOPE U6 & CONSULTANTS

1. Each newly installed elevating device for the handicapped (or a lift for persons with physical disabilities) for which a design submission is received by this division on or after the 1st day of September 1994 shall fully conform to the requirements of the following standard:

CSA-B355-94, Lifts for Persons with Physical Disabilities

The standard is now available from Canadian Standards Association, 178 Rexdale Blvd., Rexdale, Ontario M9W 1R3 - telephone 416-747-4000.

Contractors are urged to study all revisions and amendments, that are identified with vertical lines in the margins of the standard, to ensure that their lift designs, equipment and installations meet the standard requirement as of the specified date.

2. The CSA-B355-94 standard, however, does not apply to the location of, access to, and usage of the lifts. These factors are regulated by Part VII, sections 65 to 72 of Regulation 316 under the Elevating Devices Act, Revised Statutes of Ontario 1990, Chapter E.8. Copies are available from Publication Ontario, 880 Bay Street, Toronto, Ontario M7A 1N8 - telephone 416-326-5300 or from Ontario 1-800-668-9938.

Your attention is particularly drawn to provisions of Regulation 316, requiring OWNERS:

- To prevent public access to specified lift types while in operation;
- To ensure that the lifts are used primarily for the transportation of the handicapped and that the operation is restricted to persons who have received instructions and training that emphasizes the hazards associated with improper use of the lifts;
- To ensure assistance of a trained attendant to those handicapped persons not previously trained in the use and operation of the lifts;
- To sign a report on the form supplied by the ministry;

The Regulation also:

- Requires that operating devices be controlled by a key or other means;
- Specifies responsibilities of persons operating specific types of lifts;
- Requires specific signage, notices, signalling devices, etc.

3. Since the Elevating Devices Act requires the mechanics to have full knowledge of the codes applicable to the elevating devices upon which they are assigned to work, we would expect that every mechanic in your company will be provided with a copy of the new edition of CSA Standard B355-94.

K. Taylor, Acting Director Engineering & Standards Branch



Elevating and Amusement Devices Safety Division	Ref. No.: 112/94	Rev. No.: 1
DIRECTOR'S RULING	Date: April 26, 1994	Date: November 4, 1994

**Subject: ADOPTION OF CSA-B355-94
LIFTS FOR PERSONS WITH PHYSICAL DISABILITIES**

Sent to: ALL CONTRACTORS IN SCOPE U6 & CONSULTANTS

1. ORDER TO CONTRACTORS

Each newly installed elevating device for the handicapped (or a lift for persons with physical disabilities) for which a design submission is received by this division on or after the 1st day of September 1994 shall fully conform to the requirements of the following standard:

CSA-B355-94, Lifts for Persons with Physical Disabilities

NOTES

- a) The standard is now available from Canadian Standards Association, 178 Rexdale Blvd., Rexdale, Ontario M9W 1R3 - telephone 416-747-4000.
- b) Contractors are urged to study all revisions and amendments, that are identified with vertical lines in the margins of the standard, to ensure that their lift designs, equipment and installations meet the standard requirement as of the specified date.
- c) During September 1994, the CSA published "GENERAL INSTRUCTION NO. 2 to B355-94" containing revisions to clause 5.2.4 covering testing and certification of interlocks, locks and contacts. Devices that are certified either in accordance with the original clause 5.2.5 of the 1986 edition, or this revised clause 5.2.4, are acceptable. The "General Instruction No. 2" is available from the CSA at no charge if you purchased the B355-94 edition.

2. DESIGN SUBMISSION TO DEMONSTRATE COMPLIANCE

- 2.1 Compliance with the 1994 edition of B355 code shall be stated in item #192 of the specification sheet or in a separate affidavit.
- 2.2 In order to demonstrate conformance with the revised clause 8.4.2, each design submission received for registration after **November 15, 1994** shall include detailed analysis of every levelling circuit and each circuit that incorporates any electrical protective device (see clause 8.5), explaining how the conformance is achieved in the design and what procedure should be followed at the initial inspection to verify conformance.
- 2.3 The analysis shall address each magnetically operated switch contactor and relay, also each static control device and every levelling switch installed in the critical circuits (often referred to as "safety circuits") and explain:

- (i) what measures are taken (e.g. provision of back-up relays, contactor, etc.) to prevent the possibility of a single failure of any such component to render any electric protective device inoperative, and
- (ii) how will the single failure or occurrence of a single ground cause the lift to be removed from service in accordance with clause 8.4.2(b).

3. INSTRUCTIONS

3.1 The CSA-B355-94 standard, however, does not apply to the location of, access to, and usage of the lifts. These factors are regulated by Part VII, sections 65 to 72 of Regulation 316 under the Elevating Devices Act, Revised Statutes of Ontario 1990, Chapter E.8. Copies are available from Publication Ontario, 880 Bay Street, Toronto, Ontario M7A 1N8 - telephone 416-326-5300 or from Ontario 1-800-668-9938.

Your attention is particularly drawn to provisions of Regulation 316, requiring OWNERS:

- To prevent public access to specified lift types while in operation;
- To ensure that the lifts are used primarily for the transportation of the handicapped and that the operation is restricted to persons who have received instructions and training that emphasizes the hazards associated with improper use of the lifts;
- To ensure assistance of a trained attendant to those handicapped persons not previously trained in the use and operation of the lifts;
- To sign a report on the form supplied by the ministry;

The Regulation also:

- Requires that operating devices be controlled by a key or other means;
- Specifies responsibilities of persons operating specific types of lifts;
- Requires specific signage, notices, signalling devices, etc.

3.2 Since the Elevating Devices Act requires the mechanics to have full knowledge of the codes applicable to the elevating devices upon which they are assigned to work, we would expect that every mechanic in your company will be provided with a copy of the new edition of CSA Standard B355-94.



Elevating and Amusement Devices Safety Division	Ref. No.: 112/94	Rev. No.: 2
DIRECTOR'S RULING	Date: April 26, 1994	Date: December 6, 1994

**Subject: ADOPTION OF CSA-B355-94
LIFTS FOR PERSONS WITH PHYSICAL DISABILITIES**
Sent to: CONTRACTORS IN SCOPE A & CONSULTANTS

1. ORDER TO CONTRACTORS

Each newly installed elevating device for the handicapped (or a lift for persons with physical disabilities) for which a design submission is received by this division on or after the 1st day of September 1994 shall fully conform to the requirements of the following standard:

CSA-B355-94, Lifts for Persons with Physical Disabilities,

except that clause 8.4.2 from 1986 edition of CSA-B355 may be applied on lifts that are initially inspected on or before May 31, 1995.

NOTES:

- a) Standard CSA-B355-94 is available from Canadian Standards Association, 178 Rexdale Blvd., Rexdale, Ontario M9W 1R3 - telephone 416-747-4000, since January, 1994.
- b) Contractors are urged to study all revisions and amendments, that are identified with vertical lines in the margins of the standard, to ensure that their lift designs, equipment and installations meet the standard requirement as of the specified date.
- c) During September 1994, the CSA published "GENERAL INSTRUCTION NO. 2 to B355-94" containing revisions to clause 5.2.4 covering testing and certification of interlocks, locks and contacts. Devices that are certified either in accordance with the original clause 5.2.5 of the 1986 edition of CSA-B355, or this revised clause 5.2.4, are acceptable. The "General Instruction No. 2" is available from the CSA at no charge if you purchased the B355-94 edition.

2. DESIGN SUBMISSION TO DEMONSTRATE COMPLIANCE

- 2.1 Compliance with the 1994 edition of B355 code shall be stated in item #192 of the specification sheet or in a separate affidavit. Where a lift does not conform to the revised clause 8.4.2 (1994 edition), that is permitted in Section 1 of the Ruling until May 31, 1995, that exception shall be identified in Section 189 of the specification sheet or in a separate affidavit; e.g. by stating "Clause 8.4.2 of B355-86 is applied in this design submission".
- 2.2 Where a lift is designed in accordance with the revised clause 8.4.2 (1994 edition), conformance with that rule shall be demonstrated as follows:
 - a) The design submission shall include details analysis of every levelling circuit and each circuit that incorporates any electrical protective device (see clause 8.5), explaining how the conformance is achieved in the design and what procedure should be followed at the initial inspection to verify conformance.

- b) The analysis shall address each magnetically operated switch contactor and relay, also each static control device and every levelling switch installed in the critical circuits (often referred to as “safety circuits”) and explain:
- (i) what measures are taken (e.g. provision of back-up relays, contactors, etc.) to prevent the possibility of a single failure of any such component to render any electric protective device inoperative, and
 - (ii) how will the single failure or occurrence of a single ground cause the lift to be removed from service in accordance with clause 8.4.2(b).

3. INSTRUCTIONS

- 3.1 The CSA-B355-94 standard, however, does not cover the location of, access to, and usage of the lifts. These factors are regulated by Part VII, section 65 to 72 of Regulation 316 under the Elevating Devices Act, Revised Statutes of Ontario 1990, Chapter E.8. Copies are available from Publication Ontario, 880 Bay Street, Toronto, Ontario M7A 1N8 - Telephone 416-326-5300 or from Ontario 1-800-668-9938.

Your attention is particularly drawn to provisions of Regulation 316, requiring OWNERS:

- To prevent public access to specified lift types while in operation;
- To ensure that the lifts are used primarily for the transportation of the handicapped and that the operation is restricted to persons who have received instructions and training that emphasizes the hazards associated with improper use of the lifts;
- To ensure assistance of a trained attendant to those handicapped persons not previously trained in the use and operation of the lifts;
- To sign a report on the form supplied by the ministry;

The Regulation also:

- Requires that operating devices be controlled by a key or other means;
- Specifies responsibilities of persons operating specific types of lifts;
- requires specific signage, notices, signalling devices, etc.

- 3.2 Since the Elevating Devices Act requires the mechanics to have full knowledge of the codes applicable to the elevating devices upon which they are signed to work, we would expect that every mechanic in your company will be provided with a copy of the new edition of CSA Standard B355-94.

4. BACKGROUND TO REVISION #2

A group of manufacturers requested postponement of the date of enforcement of the revised clause 8.4.2., “Protection in the case of failure”, stating complexity of R & D related to the change, as the rationale.



Elevating and Amusement Devices Safety Division	Ref. No.: 113/94	Rev. No.:
DIRECTOR'S RULING	Date: July 20, 1994	Date:

Subject: REVISED CSA-B44 CLAUSE 3.12.1.5 - DOOR MONITORING SYSTEM-TO BE ENFORCED AS OF NOVEMBER 1, 1994 ON NEW DESIGN SUBMISSIONS

Sent to: Elevator Contractors Registered For Installation U1 And Consultants

1. ORDER TO CONTRACTORS

Notwithstanding current requirements in the CSA-B44 Code and our previous orders, elevators whose design is submitted for registration on or after November 1, 1994 shall meet the following requirements:

3.12.1.5 System to Monitor and Prevent Automatic Operation of the Elevator with Faulty Door Contact Circuits

Means shall be provided to monitor the position of power operated car doors that are mechanically coupled with the landing doors while the car is in the landing zone in order

- (a) to prevent the operation of the car if the car door is not closed (see Clause 3.6.4.6), regardless whether the portion of the circuits incorporating the car door contact and/or landing door the interlock contact of the landing door coupled with car door, or both, are
- (b) except as permitted in Clause 3.12.1.4, to prevent the power closing of the doors if the car door is fully open and the circuits incorporating car and/or landing door contacts are closed, except as permitted in Clause 3.12.1.4 any of the following conditions exist: closed or open, except as permitted in Clause 2.12.9, 3.12.1.3, and 3.12.1.4; and
 - (i) the car door contact is made or the portion of the circuit, incorporating this contact is bypassed,
 - (ii) the interlock contact of the landing door that is coupled to the opened car door is made or the portion of the circuit, incorporating this contact is bypassed,
 - (iii) the car door contact and the interlock contact of the door, that is coupled to the opened car door, are made or the portions of the circuits, incorporating these contacts are bypassed.

NOTE: Crossed words means deletion, underlined words mean addition to the current B44 requirements.

2. BACKGROUND

- a) With Director's Ruling #94/92 Rev. A, dated January 20, 1993, the implementation of requirements for door monitoring system in the newly introduced clause 3.12.1.5 was mandated for elevator designs submitted for registration on or after July 1, 1993.
- b) Clause 3.12.1.5 currently reads: "Means shall be provided to monitor position of power operated car doors that are mechanically coupled with the landing doors while the car is in the landing zone in order to...(b) prevent the power closing of the doors if the car door is fully open and the circuits incorporating car and/or landing door contacts are closed..."
- c) When the enforcement started, it was revealed that the rule did not clearly reflect the safety intent. The intent was that the monitoring system should detect the failure of (or a jumper across) the car door contact

only, or landing door contacts only, or car and landing door simultaneously. Some controller designers, however, read the rule as requiring only the detection of a jumper across the car and landing door, but not across one door contact only, or the other way around.

- d) Consequently, the B44 Technical Committee approved (in February 1994) with the letter ballot #54 revisions to clause 3.12.1.5 to clarify the original intent and to eliminate ambiguities. Wording of the revised clause 3.12.1.5 is copied in the above order and rationale for the revision is included in the attachment to this Ruling.
- e) To avoid undue hardship for the industry, we instructed our design registration engineers and inspectors to accept, as conforming, any monitoring system that meets the current B44 requirement in clause 3.12.1.5, when read with “or” only or “and” only or both, pending publishing of the revised clause in the new B44 edition which was originally scheduled for April or May of 1994.
- f) However, the CSA will not publish the 1994 edition of the B44 Code until later this year. Full enforcement of the rules related to “door monitoring system” should start as soon as possible, since it is important for the safety of users. With that in mind, we decided to issue the above order.

1st Draft (January 1994) of Proposed New Edition of CSA Standard B44, Safety Code for Elevators: Letter Ballot No. 54 - Closing March 2nd, 1994

3.12.1.5 System to Monitor and Prevent Automatic Operation of the Elevator with Faulty Door Contact Circuits

Means shall be provided to monitor the position of power operated car doors that are mechanically coupled with the landing doors while the car is in the landing zone in order

- (a) to prevent the operation of the car if the car door is not closed (see Clause 3.6.4.6), regardless whether the portion of the circuits incorporating the car door contact and/or landing door the interlock contact of the landing door coupled with car door, or both, are closed or open, except as permitted in Clause 2.12.9, 3.12.1.3, and 3.12.1.4; and
- (b) except as permitted in Clause 3.12.1.4, to prevent the power closing of the doors if the car door is fully open and the circuits incorporating car and/or landing door contacts are closed, except as permitted in Clause 3.12.1.4 any of the following conditions exist:
 - (i) the car door contact is made or the portion of the circuit, incorporating this contact is bypassed,
 - (ii) the interlock contact of the landing door that is coupled to the opened car door is made or the portion of the circuit, incorporating this contact is bypassed,
 - (iii) the car door contact and the interlock contact of the door, that is coupled to the opened car door, are made or the portions of the circuits, incorporating these contacts are bypassed.

Rationale for Revisions - Proposed in Letter Ballot 54

Item5 - Clause 3.12.1.5

At the request of an elevator manufacturer at the B44 Executive Committee meeting held July 19-21, 1993 in Québec City, H. Mansour of CSA explained that phrase “and/or” in existing Clause 3.12.1.5(b) means that the rule may be read with “and” only, or “or” only, or both. In other words, the existing clause may be interpreted as meaning:

“Power closing of the doors shall be prevented if the car door is fully open and the circuits incorporating car and landing door contacts are closed”.

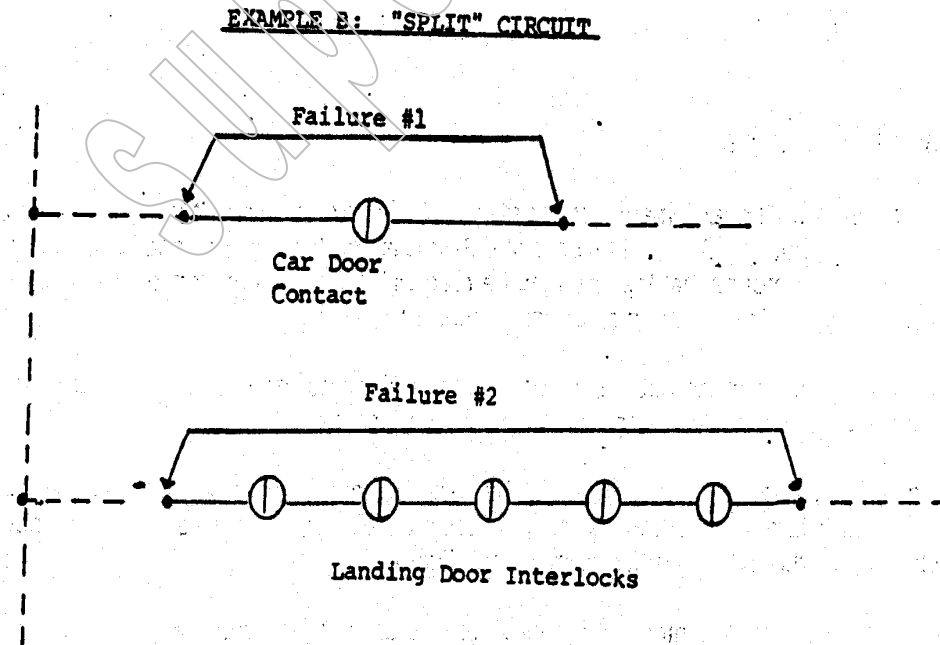
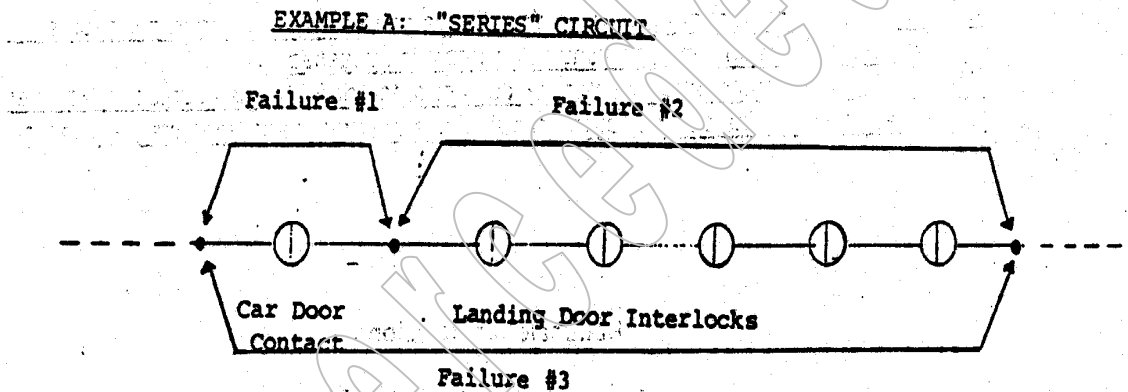
In that case if only one of them is closed or by passed (jumped), the monitoring systems would not detect that failure and the elevator may continue to operate with the car or landing door contacts failed in the made position or bypassed (jumped).

This, however, was not the intent. If the elevator was allowed to operate with a landing door contact failed in the made position or bypassed (jumped), the following hazards would not be prevented:

- Shearing hazard for inspectors or mechanics when entering the car top, before they activate the transfer switch or the top of car stop switch, or
- The hazard of falling into hoistway for persons who may be able to open an unlocked landing door, since the car-landing-door coupling disengages before the landing door is mechanically locked, etc.

One Executive Committee member explained that the intent of the rule in Clause 3.12.1.5(b) was to prevent automatic operation of the elevator in the case the car door is fully open and any of the following types of failures:

- (1) car-door contact made or bypassed,
- (2) landing door contact made or bypassed,
- (3) car and landing door contacts made or bypassed by a single jumper.



Failure #3: Not Possible by Using a Single Jumper Between Two Terminals



Elevating and Amusement Devices Safety Division	Ref. No.: 113/94	Rev. No.: 1
DIRECTOR'S RULING	Date: July 20, 1994	Date: October 21, 1994

Subject: REVISED CSA-B44 CLAUSE 3.12.1.5 - DOOR MONITORING SYSTEM - TO BE ENFORCED AS OF JANUARY 20, 1995 ON NEW DESIGN SUBMISSIONS

Sent to: All Elevator Contractors REGISTERED FOR INSTALLATION U1 & CONSULTANTS

1. ORDER TO CONTRACTORS

Notwithstanding current requirements in the CSA-B44 Code and our previous orders, elevators whose design is submitted for registration on or after January 20, 1995 shall meet the following requirements:

3.12.1.5 System to Monitor and Prevent Automatic Operation of the Elevator with Faulty Door Contact Circuits

Means shall be provided to monitor the position of power operated car doors that ~~are mechanically coupled with the landing doors while the car is in the landing zone in order~~

- (a) to prevent the operation of the car if the car door is not closed (see Clause 3.6.4.6), regardless whether the portion of the circuits incorporating the car door contact and/or landing door the interlock contact of the landing door coupled with car door, or both, are closed or open, except as permitted in Clause 2.12.9, 3.12.1.3, and 3.12.1.4; and
- (b) except as permitted in Clause 3.12.1.4, to prevent the power closing of the doors if the car door is fully open and ~~the circuits incorporating car and/or landing door contacts are closed, except as permitted in Clause 3.12.1.4~~ any of the following conditions exist:
 - (i) the car door contact is made or the portion of the circuit, incorporating this contact is bypassed,
 - (ii) the interlock contact of the landing door that is coupled to the opened car door is made or the portion of the circuit, incorporating this contact is bypassed,
 - (iii) the car door contact and the interlock contact of the door, that is coupled to the opened car door, are made or the portions of the circuits, incorporating these contacts are bypassed.

NOTE: Crossed words mean deletion, underlined words mean addition to the current B44 requirements.

2. BACKGROUND

- a) With Director's Ruling #94/92 Rev. A, dated January 20, 1993, the implementation of requirements for door monitoring system in the newly introduced clause 3.12.1.5 was mandated for elevator designs submitted for registration on or after July 1, 1993.
- b) Clause 3.12.1.5 currently reads: "Means shall be provided to monitor position of power operated car doors that are mechanically coupled with the landing doors while the car is in the landing zone in order to...(b) prevent the power closing of the doors if the car door is fully open and the circuits incorporating car and/or landing door contacts are closed..."

- c) When the enforcement started, it was revealed that the rule did not clearly reflect the safety intent. The intent was that the monitoring system should detect the failure of (or a jumper across) the car door contact only, or landing door contacts only, or car and landing door simultaneously. Some controller designers, however, read the rule as requiring only the detection of a jumper across the car and landing door, but not across one door contact only, or the other way around.
- d) Consequently, the B44 Technical Committee approved (in February 1994) with the letter ballot #54, revisions to clause 3.12.1.5 to clarify the original intent and to eliminate ambiguities. Wording of the revised clause 3.12.1.5 is copied in the above order and rationale for the revision is included in the attachment to this Ruling.
- e) To avoid undue hardship for the industry, we instructed our design registration engineers and inspectors to accept, as conforming, any monitoring system that meets the current B44 requirement in clause 3.12.1.5, when read with "or" only or "and" only or both, pending publishing of the revised clause in the new B44 edition which was originally scheduled for April or May of 1994.
- f) However, as of July 20, 1994, the CSA could not confirm the actual date of publication of the new B44 edition and indicated that it may not be until later this year*. Full enforcement of the rules related to "door monitoring system" should start as soon as possible, since it is important for the safety of users. With that in mind, we decided to issue the above order.
- *Date: CSA-B44-1994 edition was published on September 23, 1994.
- g) At the request of NEEA-CECA joint Liaison Committee, submitted on October 11, 1994, the enforcement date of the revised clause 3.12.1.5 has been changed to coincide with 6 months following the date of this Ruling.

Archived
Superseded by Code



Elevating and Amusement Devices Safety Division	Ref. No.: 114/94	Rev. No.:
DIRECTOR'S RULING	Date: July 20, 1994	Date:

Subject: MCCR PROCEDURE FOR INITIAL INSPECTION AND TESTING OF:
- **BYPASS SWITCHES (B44 CLAUSE 3.12.1.4)**
- **DOOR MONITORING SYSTEM (B44 CLAUSE 3.12.1.5)**

Sent to: All Elevator Contractors Registered For Installation U1 & Consultants

1. ORDER TO CONTRACTORS

- 1.1. Starting immediately, the contractor who has installed an elevator, shall facilitate inspection and tests of "bypass switches" for conformance with B44 clause 3.12.1.4 and where applicable, the "door monitoring system" for conformance with B44 clause 3.12.1.5, in accordance with the procedure described in the attachment to this Ruling.
- 1.2. The contractors who undertake to inspect and test the bypass switches and door monitoring systems differently than outlined in the attachment to this ruling shall submit their procedure **IN WRITING** as follows:
- a) For elevators, whose design submission is received for registration before November 1, 1994, the proposed procedure must be received by the Chief Elevator Inspector (fax # 416-234-6037) at least 3 working days before the date of inspection.
 - b) For elevators whose design submission is received for registration on or after November 1, 1994, the proposed procedure must form part of the design submission.

2. BACKGROUND

- 2.1 In accordance with Director's Ruling #94/92 REV. A of January 20, 1993, the subject B44 rules have been enforced on new and altered elevators for which design submissions are received on or after July 1, 1993.
- 2.2 Inspectors, however, have been encountering difficulties in agreeing upon the inspection and test procedures with the contractors.
- 2.3 In order to avoid future disagreements and speed up the inspection process, we have decided, with this Ruling, to make our inspection procedure public in order to enable contractors to prepare for the required tests or to propose an alternative procedure.

SEE ENCLOSURE

Annex to Director's Ruling #114/94 of July 20, 1994

INITIAL INSPECTION PROCEDURE FOR:

- Door Bypass Switches (per clause 3.12.1.4)
- Door Monitoring System (per clause 3.12.1.5 in B44 - General instruction No. 3-1992 and, as of November 1, 1994 per Director's Ruling #114/94)

1. INSPECTION PRE-REQUIREMENTS

- 1.1 Effective means of 2-way voice communication shall be provided between the machine room and the car (top-of-car, inside car or landing door, as the case may be) for the purpose of carrying out the following tests and inspections. The means shall be provided by the contractor.
- 1.2 The normal operating and control devices must be tested to verify conformance with applicable code rules; specifically:
- a) top-of-car transfer switch (no operation from car-top with this switch in "off" position),
 - b) car door contacts and landing door interlocks or contacts.

2. DOOR BYPASS SWITCHES (clause 3.12.1.4)

2.1 SWITCHES AND CIRCUITS

Check that:

- a) At least one switch marked "CAR DOOR BYPASS" and at least one switch marked "LANDING DOOR BYPASS" is provided in the controller;
- b) Each switch has two positions, marked "bypass" and "off";
- c) If more than two bypass switches are provided, each is identified by referring to the doors it bypasses;
- d) Contacts of the switches are positively open in both positions;
- e) Circuits incorporating the switches meet "redundancy" requirements in clause 3.12.9c.

Note re 1.1e): Every critical component in the circuits, such as a relay, solid state, etc., if any, will be identified in Supplement 'A' to the specification sheet along with instructions for testing.

2.2 SWITCHES TO DISCONNECT ALL MODES OF OPERATION

Turn one switch at a time to "BYPASS" position and verify that car does not respond to:

- a) any car or landing call and any of the following, if provided;
- b) SES recall,
- c) hoistway access switch, (consideration for this switch to remain operative)
- d) levelling operation, and
- e) truck-zone operation.

2.3 SWITCHES TO ENABLE TOP-OF-CAR INSPECTION OPERATION

Turn the top-of-car transfer switch to "maintenance" position and follow this procedure:

2.3.1. Car Door Bypass

- a) turn "CAR DOOR BYPASS" switch to "BYPASS" position,
- b) force* the car door open with all landing doors closed,
- c) verify that car moves on the inspection operation,
- d) close the door and return the bypass switch to "OFF",
- e) if there are two car doors, repeat the procedure for each door.

2.3.2. Landing Door Bypass

- a) turn "landing door bypass" switches to "BYPASS" position,
- b) force* any landing door open with all car doors closed,
- c) verify that car moves on inspection operation,
- d) close the door and return the bypass switch to "OFF".

2.3.3. Car and Landing Door Bypass

- a) turn both "landing" and "car door" bypass switches to "BYPASS",
- b) force* a car door and corresponding landing door open,
- c) verify that car moves on inspection operation,
- d) close all doors and return both switches to "OFF",
- e) if there are two car doors, repeat the procedure for each door.

*Note: Instead of forcing the door open, the opening of the door contact or interlock may be simulated by disconnecting the wiring leading to the contact or interlock.

2.4 IN-CAR INSPECTION OPERATION

If this feature is provided, follow procedures in 2.3, after the in-car transfer switch is turned to the "maintenance" position.

2.5 MACHINE ROOM INSPECTION OPERATION WITH BYPASSED DOORS

If this feature is provided, first verify that:

- a) elevator is equipped with power operated horizontally sliding car and landing doors that are mechanically coupled while the car is in a landing zone;
- b) a sign, conforming to clause 3.12.1.4.4(d) is placed near the machine room transfer switch;
- c) communication with the car is possible from the machine room in accordance with clause 3.12.1.4.4.d(ii).

Turn the machine room transfer switch to "maintenance" position and follow this procedure:

2.5.1. Car Door Bypass

Same as in 2.3.1.

2.5.2. Landing Door Bypass

Same as in 2.3.2.

2.5.3. Landing Door Bypass with Faulty Car Door Circuits

- a) Turn "landing door bypass" switch to "bypass" position.
- b) Place a jumper over the car door contact.
- c) Force* a landing and corresponding car door partially open.
- d) Verify that the car cannot be moved by using the machine room inspection operation.
- e) Close all doors, remove the jumper and return the switch to "OFF".

*Note: see note following 2.3.3.

2.5.4. Car and Landing Door Bypass

- a) Same as 2.3.3(a).
- b) Same as 2.3.3(b).
- c) Verify that the car cannot be moved by using machine room inspection operation.
- d) Close all doors and return both switches to "OFF".
- e) Same as 2.3.3(e).

3. DOOR MONITORING SYSTEM (clause 3.12.1.5)

All of the following tests are carried out while the elevator is on automatic operation.

Caution: All tests should be carried on from inside the car, having good voice communication between the car and the person in the machine room and always assuming that the car may move unexpectedly if the monitoring system is faulty.

3.1 CAR DOOR NEITHER CLOSED NOR FULLY OPEN (CLAUSE 3.12.1.5A)

- a) Obstruct the closing of the car door and maintain stalled car and landing door condition (neither closed or fully open); if there are two car doors, repeat this procedure with each car door, while the other car door is closed.
- b) After each of the following conditions is created, complete steps (c) to (e):
 - i) **TEST A** - A jumper is placed across the car door contact* or the car door contact closed manually;
 - ii) **TEST B** - A jumper is placed across the related landing door interlock contact* or the interlock contact made manually;
 - iii) **TEST C** - One jumper placed across the car door contact* and another jumper across the related landing door interlock contact* (combination of Test A and B).

*Note: The jumpers may be placed directly across the contacts or at the controller across the terminals if a separate set of terminals lead to a car door contact and another set to the related landing door interlock contacts.
 - iv) **TEST D** - One jumper placed across two terminals of the controller between which the car door contact and all corresponding landing door interlock contacts are connected in a series. This test would not be possible to carry out on so called "split" circuits, where a single jumper wire cannot bypass the car and landing door contacts.
- c) Place a car call to another landing.
- d) Observe that the car remains inoperative until the car door blocking is removed and doors close fully.

ANALYSIS OF TEST RESULTS:

- (i) It is expected that each test will show results as in 3.1d).
- (ii) For the reasons explained in Director's Ruling #113/94, and until the date set in that Ruling, it is acceptable that a monitoring system successfully passes at least tests "A", "B" and "C" or alternatively only "D" where this test can be performed.

3.2 CAR DOOR FULLY OPEN (CLAUSE 3.12.1.5B)

- a) Open the car and related landing door and maintain the car door in fully open position. If there are two car doors, repeat this procedure with each car door, while the other door is closed.
- b) Same as 3.1(b).
- c) Same as 3.1(c).
- d) Observe that the power door closing is inoperative even when the "door close" button is activated.
- e) Remove all jumper wires or reinstate door contacts and observe that the car returns to normal operation, including the power closing.

ANALYSIS OF TEST RESULTS:

Same as analysis following tests in 3.1.



Elevating and Amusement Devices Safety Division	Ref. No.: 115/94	Rev. No.:
DIRECTOR'S RULING	Date: November 4/94	Date:

**Subject: ADOPTION OF CSA/CSA-B44-M94 SAFETY CODE FOR ELEVATORS
- NEW EDITION**

Sent to: ALL CONTRACTORS IN SCOPE U & L-1,2,3,4,5,

1. ORDER

- a) Each newly installed or altered elevator, escalator, dumbwaiter, moving walk and freight platform lift for which the DESIGN is submitted to this branch for registration on or after:

the 23rd day of March 1995

shall conform to the requirements of the CSA/CSA-B44-M94 Safety Code for Elevators, except for clause 3.12.1.5 that will be enforced as of the date specified in Director's Ruling #113/94-REV #1.
- b) Compliance with this edition of B44 Code shall be stated in the design submission, in item 192 of the specification sheet or in a separate affidavit.

2. NOTES

Contractors are urged to study all revisions and amendments to ensure conformance by the specified date. Major revisions are introduced to clause 3.12.1.5, section 8 and section 10.

3. INSTRUCTIONS

- a) In the case of existing elevators, escalators, etc., the application of any newly adopted code is restricted to the sections covering the inspection, testing, maintenance and use of the elevating devices, unless otherwise required by the Regulation under the Elevating Devices Act.
- b) CAN/CSA-B44-M94 Safety Code for Elevators, is available from the Canadian Standards Association, 178 Rexdale Blvd., Rexdale, Ontario M9W 1R3, telephone - (416) 747-4000.
- c) Since the Elevating Devices Act requires all mechanics to have full knowledge of the codes applicable to the elevating devices on which they are assigned to work, we would expect that the mechanics involved in the construction, installation and maintenance of elevators, escalators, etc. will be provided with a copy of the subject standard.



Elevating and Amusement Devices Safety Division	Ref. No.: 116/95	Rev. No.:
DIRECTOR'S RULING	Date: February 20, 1995	Date:

Subject: ALTERATIONS OF ELEVATORS, DUMBWAITERS, FREIGHT PLATFORMS,
ESCALATORS AND MOVING WALKS PER CSA B44-1994 CODE
REVISED PROCEDURE FOR DESIGN SUBMISSIONS AND INSPECTIONS

Sent to: ALL CONTRACTORS IN SCOPE U & L-1,2,3,4,5

1. INTRODUCTION

With Director's Ruling 115/94 you have been notified that the new edition CAN/CSA-B44-94, Safety Code for Elevators will apply to each newly installed or altered elevating device listed in the subject for which the DESIGN is submitted to this Ministry for registration on or after the 23rd day of March 1995.

By reviewing the new B44 Code, you will have noticed that Section 10, "Alterations", has been substantially revised. The list of possible alterations has been expanded, and the requirements that must be fulfilled in the course of an alteration have been specified in greater detail.

In addition, previous classifications - "minor" and "major" alterations have been deleted.

The changes have created inconsistencies with definitions and types of alterations specified in Ontario regulations.

The purpose of this ruling is to eliminate the inconsistencies.

Note that this ruling applies only to elevating devices listed in the subject. Alterations to all other elevating devices shall be carried out in accordance with Ontario Regulations and previously established procedures.

2. ORDER TO CONTRACTORS CARRYING OUT ALTERATIONS

Each alteration to an elevating device listed in the subject, for which the DESIGN is submitted for registration to this Ministry on or after the 23rd day of May, 1995, shall be carried out in accordance with this Ruling.

3. WHAT IS AN ALTERATION?

3.1 The term "alteration" is defined in the Elevating Devices Act. Effectively it is any work performed on previously licenced elevating device, other than the work performed during:

- a) maintenance, which means routine examinations, lubrication, cleaning and adjustment, except that adjustment of a component previously sealed by an inspector (See 3.2(c)1 below) constitutes an alteration,
- b) replacement, which means the substitution of a device, assembly or component, in its entirety, with a new unit that is basically* the same as the original, except that replacements specified in 3.2(c) and (d) below, constitute an alteration, and
- c) repair, which means the process of rebuilding or replacement of parts of a device, assembly or component, with parts that are basically* the same as the original, except for repairs necessitating breaking a seal affixed by an inspector, that constitutes an alteration, as specified in 3.2(c)2) below.

*Note re 3.1 (b) & (c): A replaced device, assembly or component, or a rebuilt or replaced part is "basically the same as the original" if is identical or somewhat different, provided that the differences have no affect on safety, original design and operational characteristics.

3.2 Any work performed on an elevating device, other than specified in 3.1 a) to c), constitutes an alteration. The following types of alteration work are listed in the enclosed table:

- a) Modification/change (Column 3) means a change to the original design or characteristics of a component, assembly or the device as a whole, such as material, strength, size, dimension, rating, setting, function, operational mode, design parameters etc., whereby the change may be made on existing equipment or by substituting new modified equipment. Note that a change of the component make or model, without any other change, may constitute an alteration (see item (d) below).
- b) Addition (Column 4) means addition of a new component or a design feature, e.g. addition of top-of-car operating devices.
- c) Replacement with same (Column 5) means one of the following:
 - 1) The substituted device, assembly or component is basically the same as the original, but B44 - Section 10.1.1. classifies eleven specific replacements as alterations and requires that the substituted component and/or the elevating device as a whole meets the specific current code requirements.
 - 2) The original component was sealed by an inspector and after having been repaired or substituted, the component requires resealing by an inspector.
- d) Replacement with different make and model (Column 6) means that the substituted device, assembly or component is basically the same as the original in its design, performance and safety characteristics, except that it is of a different make and/or model. Only replacements of the components listed below are designated alterations of this type. Item numbers correspond to the numbers in applicable specification forms:

Elevators: 48 (control valve), 62&63 (gearbox), 84&85 (oil buffers),
95 (safety retainers), 101 (locks and interlocks),
127 (door operator), 134, 135 and 149 (freefall, overspeed and low speed),
137 (car/CWT safeties) and 145 (speed governor).

Dumbwaiters: item #31 (controller), 55 (locks/interlocks)

Freight

Platform lifts: item #88 (machine), 88 (locks/interlocks), 96 (safeties)

Escalators and

Moving Walks: none

3.3 In addition to 3.2, any other work performed on an elevating device, that results in a change to the Inherent safety or operational characteristics, will constitute an alteration even though there may be no change in the original design. The list in the enclosed table is not all inclusive.

4. **LIST OF ALTERATIONS**

4.1 Definitions of "Major", "Minor", "Minor A" and "Minor B" as contained in the Ontario Regulation Subsection 1(1) do not apply to the subject elevating devices, and designations contained in the enclosed table shall apply.

4.2 The enclosed table lists alterations for:

- Electric elevators, in Table - Part #10.3 and 10.4
- Hydraulic elevators, in Table - Part 10.5
- Escalators, in Table - Part #10.6

By analogy, Table - Part #10.3 to 10.5 shall apply to:

- Dumbwaiters, and
- Freight platform lifts

- * Example: Some work is to be performed on the anticreep levelling device of a Freight platform lift. One will find in Column 1 of the enclosed table, rule 10.5.8.3 for anticreep on hydraulic elevators. The table indicates that "modification" or "replacememt with same" of the anticreep device constitutes an alteration, type Minor B, and that a hydraulic elevator alteration would have to meet clause 4.22.3. The freight platform lift, however, will have to meet the corresponding rule in Section 15, which is Clause 15.8.1.3 (d).

Also by analogy, Table - Part #10.6 shall apply to:

- Moving Walks.

4.3 The enclosed table contains the following information:

Column 2	<u>Subject and scope of alterations</u> corresponds to subjects covered in specific clauses of B44 section 10. Several more subjects are added, that are mandatory under the Elevating Devices Act. (see marking "*" in column 1)
Column 1	<u>Applicable B44 Clause</u> lists rules that must be complied with when a specific alteration is carried out.
Column 3-6	Indicates the required <u>type of design submissions</u> and corresponding type of inspection depending on whether the alteration work is leading to the "modification/change", or "addition" or "replacement with same" or "replacement with different", of an assembly, component, unit or feature.

The entries in column 3-6 may be one of the following:

MAJOR	- means Major alterations
Minor A	- means Minor alteration type A
Minor B	- means Minor alteration type B
(-)	- means that the specific type of the work is not anticipated, or that such work would not constitute an alteration or that such work is covered elsewhere in the table
New	- means, not an alteration but a new installation

5. DESIGN SUBMISSION/NOTIFICATION

5.1 Type of Design Submission

Type of design submission will be designated in accordance with instructions in the enclosed table, Column 3 to 6, and based on the "Subject and Scope" of the alteration in Column 2.

Where a design submission covers alterations to more than one component or feature, which would require different types of submissions, the type of such submission will be of the "highest rank" e.g. combination of Minor B and Major will be designated as a Major alteration.

5.2 Forms and Procedures

Requirements for forms and procedure remain unchanged, including fees, with additional requirements and exceptions specified below.

While it remains permissible that "Design for Minor A alteration" and "Notification for Minor B alteration" be submitted for registration not later than 5 working days after completion of the alteration, contractors are advised to submit the documents in advance of the work start to ensure that no expense will be incurred should the registration of the proposed design or a requested variance be rejected.

5.3 Additional Requirements Re Design Submission and Notification

A design submission or notification must clearly specify, for each alteration covered by the document, based on the information given in the table, (1) the applicable B44 Clause, (2) subject and scope of alteration and (3) whether the type of the alteration work is a "modification", or "addition", or "replacement". In the case of a "modification" the submitted document must also clearly indicate the existing status before the alteration if the modification has an impact on the overall safety of the elevating device; e.g. speed, load rating and type of control/operation...

Further information may be obtained by contacting: Director - ED/AD Division, Technical Standards and Safety Authority,
4th Floor – West Tower, 3300 Bloor St. West, Etobicoke ON., M8X 2X4 Ph:416 325 2000 Fx:416 326 8248

5.4 Exceptions to Current Forms Requirements

In the case of a "major alteration", the abridged form may be used instead of the full spec. form, where clarity is not compromised.

Where, however, a minor alteration A or B involves changes to many spec. items, the submitters should use the full spec. forms instead of the "abridged" form or the "notification" form.

Whenever the abridged form is used, all items affected by the alteration shall be identified by the item number and text as shown in the full spec. forms.

6. **INSPECTIONS**

Requirements for the type of inspections following each alteration and related fees remain unchanged with the following:

Additional Requirements Re Inspections

In the case of a Minor A or B type alteration, the contractor who completed the alteration shall arrange for a "special inspection" to be carried out not later than 60 days from the date of the completion of the alteration, and shall arrange for performance of tests required by the inspector. A registered design submission or notification shall be available at the time of inspection.

Note that an elevating device that has undergone a "Major Alteration", shall not be returned to operation before "initial inspection" is completed.

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DIRECTOR'S RULING # 116/95 - ALTERATIONS

NOTES: 1. This is not a complete list of all potential types of alterations. For special cases write to the director (see page 1 of this Ruling)

2. See definitions of Type of Alteration Work in the text of this Ruling - items 3.2.(a) to (d)

1 Applicable B44 Clause	2 Subject and Scope of Alteration	3 4 5 6 For Type of Alteration Work			
		Modification Change	Addition	Replacement with	
				same	different.

10.3 Alterations to Hoistways, Machine Rooms and Related Equipment for Electric Elevators

The following Type of Submission is Req'd

10.3.1	Hoistway: Enclosure, Top, Bottom, Ventilation	Major	Major	-	-
10.3.2.1	Machine Rooms and Machinery Spaces - Enclosures	Minor B	-	-	-
10.3.2.2	Means of Access to Machine Rooms	Minor B	-	-	-
10.3.2.3	Access Doors and Openings in Machine Rooms	Minor B	-	-	-
10.3.2.4 to 6	Machine Room Headroom, Lighting, Ventilation	Minor B	Minor B	-	-
10.3.3	Electrical Equipment, Wiring, Pipes and Ducts in H/W & M/R	Minor B	Minor B	-	-
10.3.4	Location and Guarding of Counterweights	Major	Major	-	-
10.3.5	Machinery and Sheave: Beams, Supports, and Foundation	Major	Major	-	-
10.3.6	Pits per Cl.2.7.1.1 to 4, 2.7.3 & 4 and 2.7.7 / other rules in this section	Major/Min.A	-	-	-
10.3.7	Bottom and Top Car and Counterweight Clearance and Runbys (Decrease only)	Major	-	-	-
10.3.8	Horizontal Car and Counterweight Clearances (Decrease only)	Major	-	-	-
10.3.9	Protection of Spaces Below Hoistways	Minor B	Major	-	-
10.3.10	Hoistway Openings incl. Landing Door, Emergency and Pit Door	Major	Major	-	-
10.3.11.1 & 2	Landing Door Locking Devices	Major	Major	-	Minor B
10.3.11.3 & 4	Access Switches and Parking Devices	Minor A	Minor A	-	-
10.3.11.5	Door Safety Retainers Other Than Made to Ruling #62	Minor B	Minor A	-	Minor B
10.3.12	Power Operation of Doors (for Controller see 10.4.12.4.2)	Minor A	Minor A	-	Minor A

10.4 Alterations to Machinery and Equipment for Electric Elevators

10.4.1	Guide Rails, Supports and Fastenings (or Stress Increased by 5%)	Major	-	-	-
10.4.2	Car and Counterweight Buffers and Bumpers	Major	-	-	Minor B
10.4.3	Counterweights (excl. Guiding Members)	Minor A	-	-	-
10.4.4.1	Car Frames and Platforms	Major	-	-	-
10.4.4.2	Change of Car Wt by More Than 5% of As-Installed Car Wt plus Rated Load	Major	-	-	-
* N/A	Change of Car Wt by Less Than 5% of As-Installed Car Wt plus Rated Load	Minor B	-	-	-
10.4.5.1	Car Enclosures and Lining (all new) - (see 10.4.5.3 if partly modified)	Major	-	-	-
10.4.5.2(a)	Top Emergency Exit	Minor B	Minor B	-	-
10.4.5.2(b)	Side Emergency Exit	Major	Major	-	-
10.4.5.2(c)	Installation of Glass in Elevator Cars	Minor B	Minor B	-	-
10.4.5.2(d)	Equipment in Elevator Cars	Minor B	Minor B	-	-
10.4.5.2(e)	Car Ventilation	Minor B	-	-	-
10.4.5.2(f)	Car Illumination (Decrease only)	Minor B	-	-	-
10.4.5.2(g)	Partitions Installed in Elevator Cars	Major	Major	-	-
10.4.5.3	Car: Enclosure and Lining, Door or Gate other than in 10.4.5.1 and 2	Minor A	Minor A	-	-
10.4.6	Car and Counterweight Safeties	Major	Major	-	Minor A
* 3.8	Sealing of Governor	-	-	Minor B	-
10.4.7	Speed Governor	Major	Major	-	Minor A
10.4.8.1	Change from Freight to Passenger or Passenger to Freight	Major	-	-	-
10.4.8.2	Change in Class of Loading	Major	-	-	-
10.4.8.3	Freight Elevator to Carry Passengers	Major	-	-	-
10.4.8.4	Increase in Rated Load	Major	-	-	-
10.4.9.1.1	Replacement of Driving Machines (see 10.4.9.1.2 if modified)	-	-	Major	-
* N/A	Driving Machine - Replacement of Gear Box only	-	-	-	Minor A
10.4.9.1.2 to 4	Modification of Driving Machine, Sheave, Brake	Major	-	-	-
10.4.9.2	Change in Location of Driving Machine	Major	-	-	-
10.4.10.1	Increase or Decrease of Travel	Major	-	-	-
10.4.10.2	Increase in Rated Speed	Major	-	-	-
10.4.11	Terminal Stopping Devices	Minor B	Minor B	-	-
10.4.12.1	Top-of-Car Operating Devices	Minor B	Minor A	-	-
10.4.12.2	Car-Levelling or Truck-Zoning Devices	Minor A	Minor A	-	-
* 3.12.1.4 & 5	Door By-Pass Switches and Door Monitoring System	Minor A	Major	-	-
10.4.12.3	Change in Power Supply	Major	-	-	-
10.4.12.4.1	Replacement of an Existing Elevator Controller	-	-	Major	-
10.4.12.4.2	Replacement of an Existing Door Controller	-	-	Minor B	-
10.4.12.5	Change in the System of Control	Major	-	-	-
10.4.12.6	Change in the Type of Operation	Major	-	-	-
10.4.13.1	Emergency Signaling Devices	Minor B	Minor B	-	-
10.4.13.2	Emergency Power System	Minor B	Minor A	-	-
10.4.13.3	Special Emergency Service Operation	Minor B	Minor A	-	-
10.4.14.1 & 2	Suspension Ropes - Change in Number or Diameter/Material, Grade or Constr.	Major/Min.A	-	-	-
10.4.14.3	Change or Addition of Rope Equalizer	Minor B	Minor B	-	-
10.4.15	Protection against Car Free-Fall, Car Overspeed and Uncontrolled Low Speed	Minor A	Major	-	Minor A

1	2	3	4	5	6
Applicable B44 Clause	Subject and Scope of Alteration	For Type of Alteration Work			
		Modification Change	Addition	Replacement with	
				same	different.

10.5 Alterations to Hydraulic Elevators

The following Type of Submission is Req'd

10.5.1.1	Hoistway: Enclosure, Top, Bottom, Ventilation	Major	Major	-	-
10.5.1.2	Machine Room: Enclosures, Access, Doors, Headroom, Lighting, Ventilation	Minor B	-	-	-
10.5.1.3	Electrical Equipment, Wiring, Pipes and Ducts in H/W & M/R	Minor B	Minor B	-	-
10.5.1.4	Location and Guarding of Counterweights	Major	Major	-	-
10.5.1.5 & 6	Machinery and Sheaves: Beams, Supports and Foundations and Pits	Major	Major	-	-
10.5.1.7	Bottom and Top Car and Counterweight Clearances and Runbys (Decrease only)	Major	-	-	-
10.5.1.8	Horizontal Car and Counterweight Clearances (Decrease only)	Major	-	-	-
10.5.1.9	Protection of Spaces Below Hoistways	Major	-	-	-
10.5.1.10	Hoistway Openings incl. Landing Door, Emergency and Pit Door	Major	Major	-	-
10.5.1.11	Landing Door Locking Devices	Major	Major	-	-
10.5.1.11	Access Switch, Parking Device	Minor A	Minor A	-	-
* 2.11.10.5	Door Safety Retainers Other Than Made to Ruling #62	Minor A	Minor A	-	Minor B
10.5.1.12	Power Operation of Doors (for Controller see 10.5.8.5)	Minor A	Minor A	-	Minor B
10.5.2.1	Guide Rails, Supports and Fastenings or Stress Increase by 5%	Major	-	-	-
10.5.2.2	Buffers and Bumpers (oil buffer only in column 6)	Major	-	-	Minor B
10.5.2.3	Counterweights (excluding Guiding Members)	Major	-	-	-
10.5.2.4	Car Frames and Platforms	Major	-	-	-
10.5.2.5	Car Enclosures, Lining, Emerg. Exit, Glass, Equipment, Ventilation, Door, Stop Sw.	SEE 10.4.5.1, 2, 3 AND 4			
10.5.2.6	Car and Counterweight Safeties	Major	Major	-	Minor A
* 3.8	Sealing of Governor	-	-	Minor B	-
10.5.2.7	Speed Governors	Major	Major	-	Minor A
10.5.2.8	Change from Freight to Passenger or from Passenger to Freight	Major	-	-	-
10.5.2.9	Change in Class of Loading	Major	-	-	-
10.5.2.10	Use of Freight Elevator to Carry Passengers	Major	-	-	-
10.5.2.11	Increase in Rated Load	Major	-	-	-
10.5.2.12	Increase of Car Wt by More Than 5% of As-Installed Car Wt plus Rated Load	Major	-	-	-
* N/A	Increase of Car Wt by Less Than 5% of As-Installed Car Wt plus Rated Load	Minor B	-	-	-
10.5.3.1	Driving Machine (Jack Assembly)	Major	-	Major	-
10.5.3.2	Plunger	Major	-	Minor A	-
10.5.3.3	Cylinder	Major	-	Minor A	-
10.5.3.4	Increase in Working Pressure by More Than 5%	Major	-	-	-
10.5.3.5	Change in Location of Cylinder	Major	-	-	-
10.5.3.6	Relocation of Pumping Unit	Minor A	-	-	-
10.5.4.1	Increase or Decrease of Travel	Major	-	-	-
10.5.4.2	Increase in Rated Speed	Major	-	-	-
* 4.19.2.1	Sealing of Relieve Valve	-	-	Minor B	-
10.5.5	Valves, Supply Piping and Fittings (only control valve in column 6)	Minor A	Minor A	Minor B	Minor B
10.5.6	Tanks	Minor B	-	Minor B	-
10.5.7	Terminal Stopping Devices	Minor B	Minor B	-	-
10.5.8.1	Top-of-Car Operating Devices	Minor B	Minor A	-	-
10.5.8.2	Car Levelling or Truck-Zoning Devices	Minor A	Minor A	-	-
10.5.8.3	Anticreep Levelling Device	Minor B	-	Minor B	-
* 3.12.1.4.& 5	Door By-Pass Switches and Door Monitoring System	Minor A	Major	-	-
10.5.8.4	Change in Power Supply	Major	-	-	-
10.5.8.5.1	Replacement of an Existing Elevator Controller	-	-	Major	-
10.5.8.5.2	Replacement of an Existing Door Controller	-	-	Minor B	-
10.5.8.6	Change in System of Control	Major	-	-	-
10.5.8.7	Change in Type of Operation	Major	-	-	-
10.5.8.8.1	Emergency Signalling Devices	Minor B	Minor B	-	-
10.5.8.8.2	Emergency Power System / Emergency Lowering (4.22.7.6)	Minor B	Minor A / B	-	-
10.5.8.8.3	Special Emergency Service	Minor B	Minor A	-	-
10.5.9.1	Suspension Ropes - Change in Number or Diameter/Material, Grade, Constr.	Major/Min.A	-	-	-
10.5.9.3	Change or Addition of Rope Equalizer	Minor B	Minor B	-	-

10.6 Alterations to Escalators

10.6.2	Relocation of Escalators	New	-	-	-
10.6.5.1 & 2	Angle of Inclination or Cross-Section of Escalator	Major	-	-	-
10.6.5.3	Balustrades Including Skirt Panels and Well Guards	Minor A	Minor A	-	-
10.6.6	Handrails	Minor A	-	-	-
10.6.7	Step System, Step Configuration, Step Design	Major	-	-	-
10.6.8	Combplates	Minor A	-	-	-
10.6.9.1	Trusses and Girders	Major	-	-	-
10.6.9.2	Installation of an Escalator into Existing Trusses	New	-	-	-
10.6.10	Step Wheel Tracks	Major	-	-	-
10.6.11	Increase in Rated Load and Speed	Major	-	-	-
10.6.12	Driving Machine, Motor and Brake	Major	-	-	-
10.6.13	Operating and Safety Devices	Minor A	Minor A	-	-
10.6.14	Lighting, Access and Electrical Work	Minor B	Minor B	-	-

Further information may be obtained by contacting: Director - ED/AD Division, Technical Standards and Safety Authority,
4th Floor - West Tower, 3300 Bloor St. West, Etobicoke ON., M8X 2X4 Ph:416 325 2000 Fx:416 326 8248



Elevating and Amusement Devices Safety Division	Ref. No.: 116/95	Rev. No.: 1
DIRECTOR'S RULING	Date: February 20, 1995	Date: July 30, 1996

Subject: ALTERATIONS OF ELEVATORS, DUMBWAITERS, FREIGHT PLATFORMS,
ESCALATORS AND MOVING WALKS PER CSA B44-1994 CODE
REVISED PROCEDURE FOR DESIGN SUBMISSIONS AND INSPECTIONS

Sent to: ALL CONTRACTORS IN SCOPE U & L-1,2,3,4,5

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Note that this ruling applies only to elevating devices listed in the subject. Alterations to all other elevating devices shall be carried out in accordance with Ontario Regulations and previously established procedures.

2. ORDER TO CONTRACTORS CARRYING OUT ALTERATIONS

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3.1 The term "alteration" is defined in the Elevating Devices Act. Effectively it is any work performed on previously licenced elevating device, other than the work performed during:

- a) maintenance, which means routine examinations, lubrication, cleaning and adjustment. See ruling #120
- b) replacement, which means the substitution of a device, assembly or component, in its entirety, with a new unit that is basically* the same as the original, except that replacements specified in 3.2(c) and (d) below, constitute an alteration, and
- c) repair, which means the process of rebuilding or replacement of parts of a device, assembly or component, with parts that are basically* the same as the original.

*Note re 3.1 (b) & (c): A replaced device, assembly or component, or a rebuilt or replaced part is "basically the same as the original" if is identical or somewhat different, provided that the differences have no affect on safety, original design and operational characteristics.

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- b) Addition (Column 4) means addition of a new component or a design feature, e.g. addition of top-of-car operating devices.
- c) Replacement with same (Column 5) means: The substituted device, assembly or component is basically the same as the original, but B44 - Section 10.1.1., classifies eleven specific replacements as alterations and requires that the substituted component and/or the elevating device as a whole meets the specific current code requirements.
- d) Replacement with different make and model (Column 6) means that the substituted device, assembly or component is basically the same as the original in its design, performance and safety characteristics, except that it is of a different make and/or model. Only replacements of the components listed below are designated alterations of this type. Item numbers correspond to the numbers in applicable specification forms:

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Dumbwaiters: item #31 (contoller), 55 (locks/interlocks)

Freight Platform lifts: item #88 (machine), 88 (locks/interlocks), 96 (safeties)

Escalators and Moving Walks: none

3.3 In addition to 3.2, any other work performed on an elevating device, that results in a change to the Inherent safety or operational characteristics, will constitute an alteration even though there may be no change in the original design. The list in the enclosed table is not all inclusive.

4. LIST OF ALTERATIONS

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- Hydraulic elevators, in Table - Part 10.5
- Escalators, in Table - Part #10.6

By analogy, Table - Part #10.3 to 10.5 shall apply to:

- Dumbwaiters, and
- Freight platform lifts

* Example: Some work is to be performed on the anticreep levelling device of a Freight platform lift. One will find in Column 1 of the enclosed table, rule 10.5.8.3 for anticreep on hydraulic elevators. The table indicates that "modification" or "replacemnt with same" of the anticreep device constitutes an alteration,

type Minor B, and that a hydraulic elevator alteration would have to meet clause 4.22.3. The freight platform lift, however, will have to meet the corresponding rule in Section 15, which is Clause 15.8.1.3 (d).

Also by analogy, Table - Part #10.6 shall apply to:

- Moving Walks.

4.3 The enclosed table contains the following information:

Column 2 Subject and scope of alterations corresponds to subjects covered in specific clauses of B44 section 10. Several more subjects are added, that are mandatory under the Elevating Devices Act. (see marking "*" in column 1)

Column 1 Applicable B44 Clause lists rules that must be complied with when a specific alteration is carried out.

Column 3-6 Indicates the required type of design submissions and corresponding type of inspection depending on whether the alteration work is leading to the "modification/change", or "addition" or "replacement with same" or "replacement with different", of an assembly, component, unit or feature.

The entries in column 3-6 may be one of the following:

- MAJOR - means Major alterations
- Minor A - means Minor alteration type A
- Minor B - means Minor alteration type B
- (-) - means that the specific type of the work is not anticipated, or that such work would not constitute an alteration or that such work is covered elsewhere in the table
- New - means, not an alteration but a new installation

5. DESIGN SUBMISSION/NOTIFICATION

5.1 Type of Design Submission

Type of design submission will be designated in accordance with instructions in the enclosed table, Column 3 to 6, and based on the "Subject and Scope" of the alteration in Column 2.

Where a design submission covers alterations to more than one component or feature, which would require different types of submissions, the type of such submission will be of the "highest rank" e.g. combination of Minor B and Major will be designated as a Major alteration.

5.2 Forms and Procedures

Requirements for forms and procedure remain unchanged, including fees, with additional requirements and exceptions specified below.

While it remains permissible that "Design for Minor A alteration" and "Notification for Minor B alteration" be submitted for registration not later than 5 working days after completion of the alteration, contractors are advised to submit the documents in advance of the work start to ensure that no expense will be incurred should the registration of the proposed design or a requested variance be rejected.

5.3 Additional Requirements Re Design Submission and Notification

A design submission or notification must clearly specify, for each alteration covered by the document, based on the information given in the table, (1) the applicable B44 Clause, (2) subject and scope of alteration and (3) whether the type of the alteration work is a "modification", or "addition", or "replacement". In the case of a "modification" the submitted document must also clearly indicate the existing status before the alteration if the modification has an impact on the overall safety of the elevating device; e.g. speed, load rating and type of control/operation...

5.4 Exceptions to Current Forms Requirements

In the case of a "major alteration", the abridged form may be used instead of the full spec. form, where clarity is not compromised.

Where, however, a minor alteration A or B involves changes to many spec. items, the submitters should use the full spec. forms instead of the "abridged" form or the "notification" form.

Whenever the abridged form is used, all items affected by the alteration shall be identified by the item number and text as shown in the full spec. forms.

6. **INSPECTIONS**

Requirements for the type of inspections following each alteration and related fees remain unchanged with the following:

Additional Requirements Re Inspections

In the case of a Minor A or B type alteration, the contractor who completed the alteration shall arrange for a "special inspection" to be carried out not later than 60 days from the date of the completion of the alteration, and shall arrange for performance of tests required by the inspector. A registered design submission or notification shall be available at the time of inspection.

Note that an elevating device that has undergone a "Major Alteration", shall not be returned to operation before "initial inspection" is completed.

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DIRECTOR'S RULING # 116/95 REVISION A - ALTERATIONS

NOTES: 1. This is not a complete list of all potential types of alterations. For special cases write to the director (see page 1 of this Ruling)

2. See definitions of Type of Alteration Work in the text of this Ruling - items 3.2.(a) to (d)

1	2	3	4	5	6
Applicable B44 Clause	Subject and Scope of Alteration	For Type of Alteration Work			
		Modification Change	Addition	Replacement with	
				same	different.

10.3 Alterations to Hoistways, Machine Rooms and Related Equipment for Electric Elevators

The following Type of Submission is Req'd					
10.3.1	Hoistway: Enclosure, Top, Bottom, Ventilation	Major	Major	-	-
10.3.2.1	Machine Rooms and Machinery Spaces - Enclosures	Minor B	-	-	-
10.3.2.2	Means of Access to Machine Rooms	Minor B	-	-	-
10.3.2.3	Access Doors and Openings in Machine Rooms	Minor B	-	-	-
10.3.2.4 to 6	Machine Room Headroom, Lighting, Ventilation	Minor B	Minor B	-	-
10.3.3	Electrical Equipment, Wiring, Pipes and Ducts in H/W & M/R	Minor B	Minor B	-	-
10.3.4	Location and Guarding of Counterweights	Major	Major	-	-
10.3.5	Machinery and Sheave: Beams, Supports, and Foundation	Major	Major	-	-
10.3.6	Pits per Cl.2.7.1.1 to 4, 2.7.3 & 4 and 2.7.7 / other rules in this section	Major/Min.A	-	-	-
10.3.7	Bottom and Top Car and Counterweight Clearance and Runbys (Decrease only)	Major	-	-	-
10.3.8	Horizontal Car and Counterweight Clearances (Decrease only)	Major	-	-	-
10.3.9	Protection of Spaces Below Hoistways	Minor B	Major	-	-
10.3.10	Hoistway Openings incl. Landing Door, Emergency and Pit Door	Major	Major	-	-
10.3.11.1 & 2	Landing Door Locking Devices	Major	Major	-	Minor B
10.3.11.3 & 4	Access Switches and Parking Devices	Minor A	Minor A	-	-
10.3.11.5	Door Safety Retainers Other Than Made to Ruling #62	Minor B	Minor A	-	Minor B
10.3.12	Power Operation of Doors (for Controller see 10.4.12.4.2)	Minor A	Minor A	-	Minor B

10.4 Alterations to Machinery and Equipment for Electric Elevators

10.4.1	Guide Rails, Supports and Fastenings (or Stress Increased by 5%)	Major	-	-	-
10.4.2	Car and Counterweight Buffers and Bumpers	Major	-	-	Minor B
10.4.3	Counterweights (excl. Guiding Members)	Minor A	-	-	-
10.4.4.1	Car Frames and Platforms	Major	-	-	-
10.4.4.2	Change of Car Wt by More Than 5% of As-Installed Car Wt plus Rated Load	Major	-	-	-
* N/A	Change of Car Wt by Less Than 5% of As-Installed Car Wt plus Rated Load	Minor B	-	-	-
10.4.5.1	New Car - (see 10.4.5.3 if partly modified)	Major	-	-	-
10.4.5.2(a)	Top Emergency Exit	Minor B	Minor B	-	-
10.4.5.2(b)	Side Emergency Exit	Major	Major	-	-
10.4.5.2(c)	Installation of Glass in Elevator Cars	Minor B	Minor B	-	-
10.4.5.2(d)	Equipment in Elevator Cars	Minor B	Minor B	-	-
10.4.5.2(e)	Car Ventilation	Minor B	-	-	-
10.4.5.2(f)	Car Illumination (Decrease only)	Minor B	-	-	-
10.4.5.2(g)	Partitions Installed in Elevator Cars	Major	Major	-	-
10.4.5.3 Part 1	Car: Enclosure, Door or Gate other than in 10.4.5.1 and 2	Minor A	Minor A	-	-
10.4.5.3 Part 2	Car Interior Lining all new or partly modified (see also 10.4.4.2)	Minor B	Minor B	-	-
10.4.6	Car and Counterweight Safeties	Major	Major	-	Minor A
* 3.8	Sealing of Governor - RESINDED By DR#120/95	-	-	-	-
10.4.7	Speed Governor	Major	Major	-	Minor A
10.4.8.1	Change from Freight to Passenger or Passenger to Freight	Major	-	-	-
10.4.8.2	Change in Class of Loading	Major	-	-	-
10.4.8.3	Freight Elevator to Carry Passengers	Major	-	-	-
10.4.8.4	Increase in Rated Load	Major	-	-	-
10.4.9.1.1	Replacement of Driving Machines (see 10.4.9.1.2 if modified)	-	-	Major	-
* N/A	Driving Machine - Rplacement of Gear Box only	-	-	-	Minor A
10.4.9.1.2 to 4	Modification of Driving Machine, Sheave, Brake	Major	-	-	-
10.4.9.2	Change in Location of Driving Machine	Major	-	-	-
10.4.10.1	Increase or Decrease of Travel	Major	-	-	-
10.4.10.2	Increase in Rated Speed	Major	-	-	-
10.4.11	Terminal Stopping Devices	Minor B	Minor B	-	-
10.4.12.1	Top-of-Car Operating Devices	Minor B	Minor A	-	-
10.4.12.2	Car-Levelling or Truck-Zoning Devices	Minor A	Minor A	-	-
* 3.12.1.4 & 5	Door By-Pass Switches and Door Monitoring System	Minor A	Major	-	-
* 3.12.1.4 & 5	Door By-Pass Switches and Door Monitoring System	Minor A	Major	-	-
10.4.12.3	Change in Power Supply	Major	-	-	-
10.4.12.4.1	Replacement of an Existing Elevator Controller	-	-	Major	-
10.4.12.4.2	Replacement of an Existing Door Controller	-	-	Minor B	-
10.4.12.5	Change in the System of Control	Major	-	-	-
10.4.12.6	Change in the Type of Operation	Major	-	-	-
10.4.13.1	Emergency Signaling Devices	Minor B	Minor B	-	-
10.4.13.2	Emergency Power System	Minor B	Minor A	-	-
10.4.13.3	Special Emergency Service Operation	Minor B	Minor A	-	-
10.4.14.1 & 2	Suspension Ropes - Change in Number or Diameter/Material, Grade or Constr.	Major/Min.A	-	-	-
10.4.14.3	Change or Addition of Rope Equalizer	Minor B	Minor B	-	-
10.4.15	Protection against Car Free-Fall, Car Overspeed and Uncontrolled Low Speed	Minor A	Major	-	Minor A

1 Applicable B44 Clause	2 Subject and Scope of Alteration	3 For Type of Alteration Work			
		4 Modification Change	5 Addition	6 Replacement with	
				same	different.

10.5 Alterations to Hydraulic Elevators

		The following Type of Submission is Req'd			
10.5.1.1	Hoistway: Enclosure, Top, Bottom, Ventilation	Major	Major	-	-
10.5.1.2	Machine Room: Enclosures, Access, Doors, Headroom, Lighting, Ventilation	Minor B	-	-	-
10.5.1.3	Electrical Equipment, Wiring, Pipes and Ducts in H/W & M/R	Minor B	Minor B	-	-
10.5.1.4	Location and Guarding of Counterweights	Major	Major	-	-
10.5.1.5 & 6	Machinery and Sheaves: Beams, Supports and Foundations and Pits	Major	Major	-	-
10.5.1.7	Bottom and Top Car and Counterweight Clearances and Runbys (Decrease only)	Major	-	-	-
10.5.1.8	Horizontal Car and Counterweight Clearances (Decrease only)	Major	-	-	-
10.5.1.9	Protection of Spaces Below Hoistways	Major	-	-	-
10.5.1.10	Hoistway Openings incl. Landing Door, Emergency and Pit Door	Major	Major	-	-
10.5.1.11 Part 1	Landing Door Locking Devices	Major	Major	-	Minor B
10.5.1.11 Part 2	Access Switch, Parking Device	Minor A	Minor A	-	-
* 2.11.10.5	Door Safety Retainers Other Than Made to Ruling #62	Minor A	Minor A	-	Minor B
10.5.1.12	Power Operation of Doors (for Controller see 10.5.8.5)	Minor A	Minor A	-	Minor B
10.5.2.1	Guide Rails, Supports and Fastenings or Strss Increase by 5%	Major	-	-	-
10.5.2.2	Buffers and Bumpers (oil buffer only in column 6)	Major	-	-	Minor B
10.5.2.3	Counterweights (excluding Guiding Members)	Major	-	-	-
10.5.2.4	Car Frames and Platforms	Major	-	-	-
10.5.2.5	Car Enclosures,Lining,Emerg.Exit,Glass,Equipment,Ventilation,Door, Stop Sw.	SEE 10.4.5.1, 2, 3 AND 4			
10.5.2.6	Car and Counterweight Safeties	Major	Major	-	Minor A
* 3.8	Sealing of Governor - RESINDED By DR#120/95	-	-	-	-
10.5.2.7	Speed Governors	Major	Major	-	Minor A
10.5.2.8	Change from Freight to Passenger or from Passenger to Freight	Major	-	-	-
10.5.2.9	Change in Class of Loading	Major	-	-	-
10.5.2.10	Use of Freight Elevator to Carry Passegers	Major	-	-	-
10.5.2.11	Increase in Rated Load	Major	-	-	-
10.5.2.12	Increase of Car Wt by More Than 5% of As-Installed Car Wt plus Rated Load	Major	-	-	-
* N/A	Increase of Car Wt by Less Than 5% of As-Installed Car Wt plus Rated Load	Minor B	-	-	-
10.5.3.1	Driving Machine (Jack Assembly)	Major	-	Major	-
10.5.3.2	Plunger	Major	-	Minor A	-
10.5.3.3	Cylinder	Major	-	Minor A	-
10.5.3.4	Increase in Working Pressure by More Than 5%	Major	-	-	-
10.5.3.5	Change in Location of Cylinder	Major	-	-	-
10.5.3.6	Relocation of Pumping Unit	Minor A	-	-	-
10.5.4.1	Increase or Decrease of Travel	Major	-	-	-
10.5.4.2	Increase in Rated Speed	Major	-	-	-
* 4.19.2.1	Sealing of Relieve Valve - RESINDED By DR#120/95	-	-	-	-
10.5.5	Valves, Supply Piping and Fittings (only control valve in column 6)	Minor A	Minor A	Minor B	Minor B
10.5.6	Tanks	Minor B	-	Minor B	-
10.5.7	Terminal Stopping Devices	Minor B	Minor B	-	-
10.5.8.1	Top-of-Car Operating Devices	Minor B	Minor A	-	-
10.5.8.2	Car Levelling or Truck-Zoning Devices	Minor A	Minor A	-	-
10.5.8.3	Anticreep Levelling Device	Minor B	-	Minor B	-
* 3.12.1.4.& 5	Door By-Pass Switches and Door Monitoring System	Minor A	Major	-	-
10.5.8.4	Change in Power Supply	Major	-	-	-
10.5.8.5.1	Replacement of an Existing Elevator Controller	-	-	Major	-
10.5.8.5.2	Replacement of an Existing Door Controller	-	-	Minor B	-
10.5.8.6	Change in System of Control	Major	-	-	-
10.5.8.7	Chane in Type of Operation	Major	-	-	-
10.5.8.8.1	Emergency Sygnalling Devices	Minor B	Minor B	-	-
10.5.8.8.2	Emergency Power System / Emergency Lowering (4.22.7.6 & 4.22.16)	Minor B	MinorA / B	-	-
10.5.8.8.3	Special Emergency Service	Minor B	Minor A	-	-
10.5.9.1	Suspension Ropes - Change in Number or Diameter/Material, Grade, Constr.	Major/Min.A	-	-	-
10.5.9.3	Change or Addition of Rope Equalizer	Minor B	Minor B	-	-

10.6 Alterations to Escalators

10.6.2	Relocation of Escalators	New	-	-	-
10.6.5.1 & 2	Angle of Inclination or Cross-Section of Escalator	Major	-	-	-
10.6.5.3	Balustrades Including Skirt Panels and Well Guards	Minor A	Minor A	-	-
10.6.6	Handrails	Minor A	-	-	-
10.6.7	Step System, Step Configuration, Step Design	Major	-	-	-
10.6.8	Combplates	Minor A	-	-	-
10.6.9.1	Trusses and Girders	Major	-	-	-
10.6.9.2	Installation of an Escalator into Existing Trusses	New	-	-	-
10.6.10	Step Wheel Tracks	Major	-	-	-
10.6.11	Increase in Rated Load and Speed	Major	-	-	-
10.6.12	Driving Machine, Motor and Brake	Major	-	-	-
10.6.13	Operating and Safety Devices	Minor A	Minor A	-	-
10.6.14	Lighting, Access and Electrical Work	Minor B	Minor B	-	-



Elevating and Amusement Devices Safety Division	Ref. No.: 117/95	Rev. No.:
DIRECTOR'S RULING	Date: August 5/95	Date:

Subject: GUIDELINES FOR REPORTING OF ACCIDENTS/INCIDENTS ON ELEVATING DEVICES

Sent to: ALL ELEVATING DEVICES CONTRACTORS & OWNERS

INTRODUCTION

Section 29 of the Elevating Devices Act requires reporting, to the Director, of the accidents and incidents occurring in conjunction with elevating devices. This Ruling contains related guidelines. The enclosed forms give a summary of the guidelines as to the reporting responsibilities of owners and contractors.

1. ACCIDENTS IN CONJUNCTION WITH AN ELEVATING DEVICE

1.1 FATAL AND SERIOUS INJURY ACCIDENTS (reportable by owners)

- (1) Subsection 29 (1) of the Elevating Devices Act, provides that where an accident occurs in connection with an elevating device that results in the death of or serious injury to any person, it is the owner's responsibility to notify the Director by telephone forthwith.
- (2) For greater certainty, no reporting is required under subsection 29(1) where an accident results in minor injury only. In such cases, the obligation to report is that of the owner and the contractor pursuant to subsection 29 (2) (refer to 1.2 in this Ruling).
- (3) No reporting by the contractor maintaining the elevating device is required by subsection 29 (1), unless ordered in writing by an inspector.

1.2 ACCIDENTS CAUSING INJURY TO ANY PERSON (reportable by owners and contractors, with exceptions)

- (1) Subsection 29 (2) of the Elevating Devices Act provides that where any accident occurs that causes injury to any person the owner and the contractor maintaining the elevating device must:
 - (a) Notify the Director by telephone within twenty-four hours;
 - (b) Submit a written report giving full particulars as outlined in subsection 1.2(3) of this Ruling, within seven days thereafter.
- (2) For greater certainty, the following guidelines apply:
 - (a) Subsection 29 (2) does not apply where an accident occurs that results in death or serious injuries. In such cases, the obligation to report is that of the owner pursuant to subsection 29 (1), and not the contractor (see 1.1 in this Ruling).
 - (b) Subsection 29 (2) applies where an accident occurs that results in minor injuries.

- (c) For the purpose of this guideline, minor injuries include such injuries as bruises, minor cuts, or major shock which do not require clinical or other medical practitioner's attention, but may require the attention of a medical nurse.
 - (d) In addition, circumstances in which a person has only been affected physically or emotionally in a minor way (for example, through torn clothing or minor shock) are not considered to involve "injuries" giving rise to any obligation to report.
 - (e) Contractors need not report an accident that causes only minor injury provided that:
 - (i) the accident was not, in the opinion of the contractor, initiated by any failure or malfunction of any elevating device component, and
 - (ii) the contractor has been assured, in writing or orally, that the owner has reported the accident to the Technical Standards Division.
- (3) Where a report containing full particulars is required, the report should describe:
- (a) the accident,
 - (b) the event that initiated the accident (for example, equipment failure or malfunction),
 - (c) the contributing factors to the initiating event or accident (for example, factors relating to maintenance or overloading), and
 - (d) any corrective action taken.
- (4) It is understood that the contractor will investigate the incident and will report on facts reasonably available to the contractor.
- (5) When reporting to MCCR, the parties reporting should apply the following test: If the information provided, whether technical, financial or proprietary, were released to the public, would that release harm the business interests of the submitter? If the conclusion is that it would, please include a covering letter with the following statement:

"The enclosed information contains technical, commercial, and/or financial information which is the property of _____. It is being supplied to the Ministry on the understanding that it will be kept confidential. Disclosure of this information may result in harm to the business interests of the submitter."

2. INCIDENTS IN CONNECTION WITH AN ELEVATING DEVICE

2.1 INCIDENTS OR FIRE TO BE REPORTED (By owners and contractors or contractor only)

- (1) Subsection 29 (2) of the Elevating Devices Act further provides that where there has been an incident involving an elevating device that indicates that the elevating device is in a potentially hazardous condition, or where there has been a fire involving an elevating device, both the owner and the contractor maintaining the elevating device must:
- (a) notify the Director by telephone within twenty-four hours, and
 - (b) submit a written report giving full particulars within seven days thereafter.

- (2) For greater certainty, the following guidelines apply:
- (a) The obligation of the owner to report arises where the owner has been notified of the incident or where the owner directly observes the incident, or results of the incident, including fire.
 - (b) The obligation of the maintaining contractor to report arises only where the contractor has been notified of the incident or fire by the owner or an employee of the contractor responsible for maintaining the elevating device has directly observed the incident.
- (3) Where a report containing full particulars is required, the report should describe:
- (a) the safety hazard that occurred or that might occur,
 - (b) the event that causes the hazard or the possibility of hazard (for example, equipment failure or malfunction),
 - (c) the factors which the contractor or the owner, as the case may be, believes contributed to the occurrence of this event (for example, factors relating to maintenance or misuse of the elevating device), and
 - (d) any corrective action taken.
- (4) It is understood that the contractor will investigate the incident and will report on facts reasonably available to the contractor.
- (5) When reporting to MCCR, the parties reporting should apply the following test: If the information provided, whether technical, financial or proprietary, were released to the public, would that release harm the business interests of the submitter? If the conclusion is that it would, please include a covering letter with the following statement:
- "The enclosed information contains technical, commercial, and/or financial information which is the property of _____. It is being supplied to the Ministry on the understanding that it will be kept confidential. Disclosure of this information may result in harm to the business interests of the submitter."

2.2 REPORTABLE INCIDENTS

The following constitute incidents which are required to be reported pursuant to subsection 29 (2) of the Elevating Devices Act.

- (1) The failure of any safety related component to operate or function as intended or the circumventing of a component's function with the result that an actual safety hazard of any type listed in section 3.1(1) below, is created. For greater certainty, an actual safety hazard is a condition which poses an imminent threat of substantial harm (for example, where an elevator car leaves a landing and the landing door remains open). This also includes incidents of entry by unauthorized persons into the hoistway of an elevator, dumbwaiter, construction hoist or a platform lift;
- (2) Such failure or such circumvention of function resulting in a potential safety hazard of any type listed in subsections 3.1(1)(a), (d) and (e) below. For greater certainty, a potential hazard is a condition which poses a possible but not imminent threat of substantial harm, (for example, where an elevator car leaves a landing and the landing door remains closed but unlocked, with the result that there is an imminent threat of harm if the door is opened by a person at the landing); and

- (3) The failure of such specific safety related components as listed in section 3.2 below. For greater certainty, the report of this type of incident must be submitted within one month from the occurrence;

3. REPORTABLE HAZARDS AND FAILURES

3.1 REPORTABLE HAZARDS

- (1) For greater certainty, the following circumstances constitute incidents which are required in Sections 2.2(1) and 2.2(2) of this Ruling to be reported on the basis that they pose either an actual or potential risk of injury.
- (a) An actual or potential hazard of a person falling from a height exceeding 0.6m. This would exist, for example, where an elevator car is out of level by more than 0.6m, where an elevator landing door is open or may be opened while the car is away from the landing, where an elevator car has been in free fall, or where a landing or elevator car door panel is missing;
 - (b) An actual hazard of a very harsh stop with retardation more than 1g. This would exist, for example, where an elevator car is stopped by fully compressed and deformed buffers. For greater certainty, a harsh stop does not include a stop by a brake, car safeties or buffers of a car moving at a speed for which those components have been designed;
 - (c) An actual hazard of a person tripping over an unexpected obstruction having a height of more than 150mm. This would exist, for example, where an elevator car is out of level by more than 150mm;
 - (d) An actual or potential hazard of a person's head or body being crushed. This would exist, for example, where an elevator car overspeeds up into an overhead structure;
 - (e) An actual or potential hazard of the shearing or crushing of a person's body or limb. This would exist, for example, where an elevator car moves more than 450mm with open car and landing doors, where escalator steps are missing or out of mesh with the escalator combplate, or where a dumbwaiter car travels with open doors;
 - (f) The occurrence of a major fire caused by the elevating device and endangering the life of elevating device users or making the device unsafe for use;
 - (g) An actual hazard of electric shocks caused by direct exposure to the potential to ground exceeding 50V.
- (2) For greater certainty, no reporting of the following occurrences is required, provided that no actual hazard, specified in section 3.1 above is created:
- (a) The stopping of an elevating device in an emergency situation due to the activation of the emergency stopping devices;
 - (b) The stopping of an elevating device as a result of the application of car safeties or any device designed to protect against overspeed;
 - (c) The stopping of an elevating device due to the activation of final limit switches; and
 - (d) The stopping of a car or counterweight by buffers which are not fully compressed.

3.2 REPORTABLE FAILURES

Reporting of the following occurrences is required by contractors within one month from the date of occurrence if they have not created hazards referred to in sections 2.2(1) or 2.2(2) of this Ruling:

- (1) Electric Machines and Ropes - Breakage of a drive sheave or drum shaft (except where the break occurs inside the hub), breakage of a worm shaft, stripping of a gear ring (excluding cracks in worm or gear teeth), and total failure of one or more means of suspension such as ropes, shackle rods, or a hitch plate;
- (2) Brakes - Any brake failure that prevents an elevator car from stopping at a landing during normal operation, or that disables the brake from holding the car at the landing with the power to the machine disconnected, or that results from a faulty brake circuit;
- (3) Hydraulic Machines - The parting of a cylinder head; cylinder failure as a result of a rupture or major leak, or oil line failure as a result of a rupture or major leak, or any valve failure that caused the car not to stop when required.
- (4) Safeties, Governors, Overspeed and Low Speed Protection - Any failure that makes safeties, governors, or devices designed to protect against free fall, overspeed or low speeds inoperative. For greater certainty, no reporting is required with respect to the failure of safety switches, or in the event of a minor reduction in pull through force;
- (5) Controllers - Any failure that creates any hazard listed in section 3.1, including RF interference or the failure of both primary and redundant circuitry;
- (6) Car and Landing Door Contacts and Closers - Any failure allowing an elevator car to move with its doors open (other than due to the car door pre-opening feature or while the elevator is relevelling), or with its landing doors not closed or locked, including jumpers in car door or landing door contact circuits, also failure in means interconnecting two panels, if only one panel is locked;
- (7) Guide-Rails - Any failure resulting in the car or counterweight not being held in place by guiderails;
- (8) Car/Counterweight Structure - Any major damage resulting in the weakening of the car or counterweight structure;
- (9) Escalators - Breakage of the main drive; the failure of a brake to retard a descending escalator when the stop button is activated; a faulty stopping switch; any fault preventing the escalator from stopping when a stop is initiated; and any fault resulting in steps running out of the track or piling up.

4. BACKGROUND

4.1 Representatives of NEEA and CECA requested more detailed rules regarding the enforcement of section 29 of the Elevating Devices Act, noting that:

- (1) In the case of minor injury accidents (for example, on escalators), not caused by any equipment failure, report are routinely submitted by owners and another report by the maintaining contractors would be redundant;
- (2) The concept of an "incident" that "indicates that the elevating device is in a potentially hazardous condition is ambiguous. The reference to a "potentially" hazardous condition may be interpreted as meaning only the incidents where a malfunction alone does not create an actual safety hazard, but in combination with one or two additional failures, would create such a hazard; and
- (3) It is important to distinguish between those matters which are required to be reported by owners and those required to be reported by contractors.

4.2 The Ruling has been drafted in close co-operation with the NEEA.CECA Liaison Committee.



Mail or Fax to: Elevating Devices Duty Officer 3300 Bloor St W, 4th Floor - West Tower Toronto ON M8X 2X4 Fax #: (416) 326-1662	In case of Death or Serious Injury call: Office hours (416) 325-1131 After hours (416) 325-1090	For Ministry Use Only Occurrence # Data entry by:
--	--	--

Check applicable box(es) - see guidelines on reverse side for definitions ^{(1),(2)} etc.

Report by : [] Owner⁽¹⁾ of an [] Accident⁽³⁾ on a/an [] Elevator [] Construction Hoist
 [] Contractor⁽²⁾ [] Incident⁽⁴⁾ [] Dumbwaiter [] Freight Platform Lift
 [] Manlift [] ED for Handicapped
 [] Incline Lift [] Ski Lift/Rope:way

Occurrence Date and Time	Location of the Elevating Device within building and Address
Elevating Device's Installation Number ⁽⁶⁾	

Injured Person - (use one form per each injured person or attach list)

In owner's report only leave blank if incident	Name	Address	Telephone Number
	Sex [] M [] F	Age	Did he/she have any obvious disability before this accident? [] No [] Yes (describe):
	Describe injuries and Medical/Hospital help received		

Witness - if any witnesses to accident or incident

Name	Address	Telephone Number
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a) Describe the whole occurrence. In case of an incident, describe the safety hazard that occurred.

b) Your opinion of what initiated this accident/incident and what/who contributed to the severity of injuries or safety hazard⁽⁶⁾.

c) Describe actions taken (if any) by the owner and/or contractor to prevent or reduce the chance of a recurrence on this elevating device(s).

d) Will action be taken on any similar elevating device?

Owner only	Specify the name of the contractor you have notified of this occurrence	Date
------------	---	------

Reported by

Name and Position	Date
Signature	Phone No. Fax No.

GUIDELINES TO MCCR ELEVATING DEVICES ACCIDENT/INCIDENT REPORT FORM

The following guidelines are provided for information only. For complete instructions, refer to the Elevating Devices Act, and MCCR's Director's Ruling #117.

a) Is reporting of accidents/incidents mandatory?

Yes, required by the Elevating Devices Act. The Act specifies fines for failure to comply.

b) Is use of this form mandatory?

No, you may use your own reporting format, provided that you submit all data required in this form.

c) Owner is required to report - Every accident⁽¹⁾, incident⁽⁴⁾ and damage by fire, except for "failure of specific safety related components" described in guideline (d) (iii).

d) Contractor is required to report:

- (i) Every minor injury accident⁽²⁾, except those accidents which, in the opinion of the contractor, were not initiated by any failure or malfunction of any elevating device component and the contractor has been advised that the owner will report the accident;
- (ii) Every incident⁽⁴⁾ (and fire damage) that the contractor has observed or been notified of;
- (iii) Every failure of safety related components listed in section 3.2 of MCCR Director's Ruling #117; and
- (iv) Any other accident or incident if ordered by an inspector.

e) When to report?:

- (i) Accidents resulting in a death - Immediately.
- (ii) Accidents resulting in serious injury to any person - Immediately.
- (iii) Accidents resulting in minor injuries such as bruises, minor cuts or major shock, which do not require clinical or other medical practitioner's attention, but may require the attention of a medical nurse - Within 24 hours by telephone and in writing within seven days of the accident. Note that occurrences in which a person has only been affected physically or emotionally in a minor way (for example, through torn clothing or minor shock) need not be reported.
- (iv) Incidents - Within 24 hours by telephone and in writing within seven days of the incident.
- (v) Failure of safety related components specified in 3.2 of MCCR Director's Ruling #117 - Within one month.

Definitions of terms used in the form

- (1) "OWNER" includes the person in charge of an elevating device as owner, licensee, agent, etc.
- (2) "CONTRACTOR" is a person/company who performs maintenance of the elevating device. If the "owner" is own "contractor", one report should be submitted with both boxes checked.
- (3) "ACCIDENT" is an occurrence initiated by or related to the operation of an elevating device involving person(s) who, as a result, suffer a degree of injury or upset.
- (4) "INCIDENT" is an occurrence of a safety hazard⁽⁵⁾ on an elevating device, that could cause injuries to persons should they be involved. It also includes fire and failure of specific safety related components.
- (5) "INSTALLATION NUMBER" is the Ontario elevating device installation number shown on the metal plate that is permanently attached to the elevating device; e.g. inside the elevator car. It is also shown on the Licence issued by MCCR.
- (6) "SAFETY HAZARD" - a situation that could cause injury or death, e.g. by falling from a height, tripping over an obstruction, or by having a body part crushed or sheared, or by being exposed to fire, electric shock . . . etc.



Elevating and Amusement Devices Safety Division	Ref. No.: 117 / 95	Rev. No.: 1
DIRECTOR'S RULING	Date: August 5/95	Date: March 1/ 05

IN THE MATTER OF:

**THE *TECHNICAL STANDARDS AND SAFETY ACT* 2000,
S.O. 2000, c. 16**

- and -

**ONTARIO REGULATION 209/01 made under the
Technical Standards and Safety Act 2000
(Elevating Devices)**

Subject: GUIDELINES FOR REPORTING OF ACCIDENTS/INCIDENTS ON ELEVATING DEVICES

Sent to: ALL ELEVATING DEVICES CONTRACTORS & OWNERS

INTRODUCTION

Section 36 of the Ontario Regulation 209/01 (Elevating Devices) requires reporting, to the Director, of the accidents and incidents occurring in conjunction with elevating devices. This Ruling contains related guidelines. The enclosed forms give a summary of the guidelines as to the reporting responsibilities of owners and contractors.

1. ACCIDENTS IN CONJUNCTION WITH AN ELEVATING DEVICE

1.1 FATAL AND SERIOUS INJURY ACCIDENTS (reportable by owners)

- (1) Subsection 36.(1) of Ontario Regulation 209/01 (Elevating Devices), provides that where an accident occurs in connection with an elevating device that results in the death of or serious injury to any person, it is the owner's responsibility to notify the Director by telephone forthwith.
- (2) For greater certainty, no reporting is required under subsection 36.(1) where an accident results in minor injury only. In such cases, the obligation to report is that of the owner and the contractor pursuant to subsection 36.(2) (refer to 1.2 in this Ruling).
- (3) No reporting by the contractor maintaining the elevating device is required by subsection 36.(1), unless ordered in writing by an inspector.

1.2 ACCIDENTS CAUSING INJURY TO ANY PERSON (reportable by owners and contractors, with exceptions)

- (1) Subsection 36.(2) of Ontario Regulation 209/01 (Elevating Devices) provides that where any accident occurs that causes injury to any person the owner and the contractor maintaining the elevating device must:
 - (a) Notify the Director by telephone within twenty-four hours;
 - (b) Submit a written report giving full particulars as outlined in subsection 1.2(3) of this Ruling, within seven days thereafter.
- (2) For greater certainty, the following guidelines apply:

- (a) Subsection 36.(2) does not apply where an accident occurs that results in death or serious injuries. In such cases, the obligation to report is that of the owner pursuant to subsection 36.(1), and not the contractor (see 1.1 in this Ruling).
 - (b) Subsection 36.(2) applies where an accident occurs that results in minor injuries.
 - (c) For the purpose of this guideline, minor injuries include such injuries as bruises, minor cuts, or major shock which do not require clinical or other medical practitioner's attention, but may require the attention of a medical nurse.
 - (d) In addition, circumstances in which a person has only been affected physically or emotionally in a minor way (for example, through torn clothing or minor shock) are not considered to involve "injuries" giving rise to any obligation to report.
 - (e) Contractors need not report an accident that causes only minor injury provided that:
 - (i) the accident was not, in the opinion of the contractor, initiated by any failure or malfunction of any elevating device component, and
 - (ii) the contractor has been assured, in writing or orally, that the owner has reported the accident to TSSA, Elevating Devices Program.
- (3) Where a report containing full particulars is required, the report should describe:
- (a) the accident,
 - (b) the event that initiated the accident (for example, equipment failure or malfunction),
 - (c) the contributing factors to the initiating event or accident (for example, factors relating to maintenance or overloading), and
 - (d) any corrective action taken.
- (4) It is understood that the contractor will investigate the incident and will report on facts reasonably available to the contractor.
- (5) When reporting to TSSA, the parties reporting should apply the following test: If the information provided, whether technical, financial or proprietary, were released to the public, would that release harm the business interests of the submitter? If the conclusion is that it would, please include a covering letter with the following statement:

"The enclosed information contains technical, commercial, and/or financial information which is the property of _____. It is being supplied to the TSSA on the understanding that it will be kept confidential. Disclosure of this information may result in harm to the business interests of the submitter."

2. INCIDENTS IN CONNECTION WITH AN ELEVATING DEVICE

2.1 INCIDENTS OR FIRE TO BE REPORTED (By owners and contractors or contractors only)

- (1) Subsection 36.(2) of Ontario Regulation 209/01 (Elevating Devices), further provides that where there has been an incident involving an elevating device that indicates that the elevating device is in a potentially hazardous condition, or where there has been a fire involving an elevating device, both the owner and the contractor maintaining the elevating device must:
 - (a) notify the Director by telephone within twenty-four hours, and
 - (b) submit a written report giving full particulars within seven days thereafter.
- (2) For greater certainty, the following guidelines apply:
 - (a) The obligation of the owner to report arises where the owner has been notified of the incident or where the owner directly observes the incident, or results of the incident, including fire.
 - (b) The obligation of the maintaining contractor to report arises only where the contractor has been notified of the incident or fire by the owner or an employee of the contractor responsible for maintaining the elevating device has directly observed the incident.
- (3) Where a report containing full particulars is required, the report should describe:
 - (a) the safety hazard that occurred or that might occur,
 - (b) the event that causes the hazard or the possibility of hazard (for example, equipment failure or malfunction),
 - (c) the factors which the contractor or the owner, as the case may be, believes contributed to the occurrence of this event (for example, factors relating to maintenance or misuse of the elevating device), and
 - (d) any corrective action taken.
- (4) It is understood that the contractor will investigate the incident and will report on facts reasonably available to the contractor.
- (5) When reporting to TSSA, the parties reporting should apply the following test: If the information provided, whether technical, financial or proprietary, were released to the public, would that release harm the business interests of the submitter? If the conclusion is that it would, please include a covering letter with the following statement:

"The enclosed information contains technical, commercial, and/or financial information which is the property of _____. It is being supplied to the TSSA on the understanding that it will be kept confidential. Disclosure of this information may result in harm to the business interests of the submitter."

2.2 REPORTABLE INCIDENTS

The following constitute incidents which are required to be reported pursuant to subsection 36.(2) of Ontario Regulation 209/01 (Elevating Devices).

- (1) The failure of any safety related component to operate or function as intended or the circumventing of a component's function with the result that an actual safety hazard of any type listed in section 3.1(1) below, is created. For greater certainty, an actual safety hazard is a condition which poses an imminent threat of substantial harm (for example, where an elevator car leaves a landing and the landing door remains open). This also includes incidents of entry by unauthorized persons into the hoistway of an elevator, dumbwaiter, construction hoist or a platform lift;
- (2) Such failure or such circumvention of function resulting in a potential safety hazard of any type listed in subsections 3.1(1)(a), (d) and (e) below. For greater certainty, a potential hazard is a condition which poses a possible but not imminent threat of substantial harm, (for example, where an elevator car leaves a landing and the landing door remains closed but unlocked, with the result that there is an imminent threat of harm if the door is opened by a person at the landing); and
- (3) The failure of such specific safety related components as listed in section 3.2 below. For greater certainty, the report of this type of incident must be submitted within one month from the occurrence;

3. REPORTABLE HAZARDS AND FAILURES

3.1 REPORTABLE HAZARDS

- (1) For greater certainty, the following circumstances constitute incidents, which are required in Sections 2.2(1) and 2.2(2) of this Ruling to be reported on the basis that they pose either an actual or potential risk of injury.
 - (a) An actual or potential hazard of a person falling from a height exceeding 0.6m. This would exist, for example, where an elevator car is out of level by more than 0.6m, where an elevator landing door is open or may be opened while the car is away from the landing, where an elevator car has been in free fall, or where a landing or elevator car door-panel is missing;
 - (b) An actual hazard of a very harsh stop with retardation more than 1g. This would exist, for example, where an elevator car is stopped by fully compressed and deformed buffers. For greater certainty, a harsh stop does not include a stop by a brake, car safeties or buffers of a car moving at a speed for which those components have been designed;
 - (c) An actual hazard of a person tripping over an unexpected obstruction having a height of more than 150mm. This would exist, for example, where an elevator car is out of level by more than 150mm;
 - (d) An actual or potential hazard of a person's head or body being crushed. This would exist, for example, where an elevator car overspeeds up into an overhead structure;
 - (e) An actual or potential hazard of the shearing or crushing of a person's body or limb. This would exist, for example, where an elevator car moves more than 450mm with open car and landing doors, where escalator steps are missing or out of mesh with the escalator combplate, or where a dumbwaiter car travels with open doors;
 - (f) The occurrence of a major fire caused by the elevating device and endangering the life of elevating device users or making the device unsafe for use;
 - (g) An actual hazard of electric shocks caused by direct exposure to the potential to ground exceeding 50V.
- (2) For greater certainty, no reporting of the following occurrences is required, provided that no actual hazard, specified in section 3.1 above is created:

- (a) The stopping of an elevating device in an emergency situation due to the activation of the emergency stopping devices;
- (b) The stopping of an elevating device as a result of the application of car safeties or any device designed to protect against overspeed;
- (c) The stopping of an elevating device due to the activation of final limit switches; and
- (d) The stopping of a car or counterweight by buffers, which are not fully compressed.

3.2 REPORTABLE FAILURES

Reporting of the following occurrences is required by contractors within one month from the date of occurrence if they have not created hazards referred to in sections 2.2(1) or 2.2(2) of this Ruling:

- (1) Electric Machines and Ropes - Breakage of a drive sheave or drum shaft (except where the break occurs inside the hub), breakage of a worm shaft, stripping of a gear ring (excluding cracks in worm or gear teeth), and total failure of one or more means of suspension such as ropes, shackle rods, or a hitch plate;
- (2) Brakes - Any brake failure that prevents an elevator car from stopping at a landing during normal operation, or that disables the brake from holding the car at the landing with the power to the machine disconnected, or that results from a faulty brake circuit;
- (3) Hydraulic Machines - The parting of a cylinder head; cylinder failure as a result of a rupture or major leak, or oil line failure as a result of a rupture or major leak, or any valve failure that caused the car not to stop when required.
- (4) Safeties, Governors, Overspeed and Low Speed Protection - Any failure that makes safeties, governors, or devices designed to protect against free fall, overspeed or low speeds inoperative. For greater certainty, no reporting is required with respect to the failure of safety switches, or in the event of a minor reduction in pull through force;
- (5) Controllers - Any failure that creates any hazard listed in section 3.1, including RF interference or the failure of both primary and redundant circuitry;
- (6) Car and Landing Door Contacts and Closers - Any failure allowing an elevator car to move with its doors open (other than due to the car door pre-opening feature or while the elevator is relevelling), or with its landing doors not closed or locked, including jumpers in car door or landing door contact circuits, also failure in means interconnecting two panels, if only one panel is locked;
- (7) Guide-Rails - Any failure resulting in the car or counterweight not being held in place by guiderails;
- (8) Car/Counterweight Structure - Any major damage resulting in the weakening of the car or counterweight structure;
- (9) Escalators - Breakage of the main drive; the failure of a brake to retard a descending escalator when the stop button is activated; a faulty stopping switch; any fault preventing the escalator from stopping when a stop is initiated; and any fault resulting in steps running out of the track or piling up.

4. BACKGROUND – 117/95

4.1 Representatives of NEEA and CECA requested more detailed rules regarding the enforcement of section 29 of the Elevating Devices Act, noting that:

- (1) In the case of minor injury accidents (for example, on escalators), not caused by any equipment failure, report are routinely submitted by owners and another report by the maintaining contractors would be redundant;
- (2) The concept of an "incident" that "indicates that the elevating device is in a potentially hazardous condition is ambiguous. The reference to a "potentially" hazardous condition may be interpreted as meaning only the incidents where a malfunction alone does not create an actual safety hazard, but in combination with one or two additional failures, would create such a hazard; and
- (3) It is important to distinguish between those matters which are required to be reported by owners and those required to be reported by contractors.

4.2 The Ruling has been drafted in close co-operation with the NEEA.CECA Liaison Committee.

5. BACKGROUND – 117/95-r1

5.1 Revision number 1 updates this Directors Order to reflect the requirements of the TSS Act and supporting Ontario Regulation 209/01 requirements of section 36 (previously section 29 of the Elevating Devices Act).

Roland Hadaller, Director, TSS Act 2000, [Elevating Devices]

Archived
Superseded by Reg



**Technical Standards
& Safety Authority**
www.tssa.org

ELEVATING DEVICES ACCIDENT/INCIDENT REPORT

Page ____ of ____

Mail Elevating Devices
Or 3300 Bloor St. W. 15th Fl.
Fax to: Toronto, ON M8X 2X4
Fax: 416-231-5435

In case of Death or Serious Injury call :
Office hours: 416-734-3327
After hours: 416-325-3000

FOR OFFICE USE ONLY:

Occurrence #

Data Entry by:

Check applicable box(es). See guidelines on reverse side for definitions ^{(1),(2)} etc.

Report by: Owner ⁽¹⁾ **or** Contractor ⁽²⁾ **of an** Accident ⁽³⁾ **or** Incident ⁽⁴⁾ **on**
 Elevator Dumbwaiter Material Lift Escalator Moving Walk
 Incline Lift Construction Hoist Manlifts Lifts for Persons with Physical Disabilities
 Stage Lift
 Owner/Contractor Name: _____

Occurrence Date _____ Time _____

Location/Address of the Elevating Device

Elevating Device Installation Number ⁽⁵⁾ _____

Injured Person – (use one form per each injured person or attach list)

OWNER'S REPORT leave blank if incident	Name		Address:	Telephone Number:
	Sex <input type="checkbox"/> M <input type="checkbox"/> F	Age	Did he/she have any obvious disability before this accident <input type="checkbox"/> No <input type="checkbox"/> Yes (describe):	
	Describe Injuries And Medical/Hospital Help Received (Use Additional Sheet if required)			

Witness – If any witnesses to accident or incident (Attach list for more than one witness)

Name	Address	Telephone Number
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Description of the Type & Cause of Accident/Incident ^(5A) (Use additional sheet if required)

Describe type of Accident/Incident	Describe cause of Accident/Incident
------------------------------------	-------------------------------------

Location: Getting on Getting off When riding Not known Other (describe)

Describe actions taken (if any) by the owner to prevent or reduce the chance of a reoccurrence on this elevating device :

Name & Position	Date
Signature	Phone No. Fax No.

Updated: Feb 10/05 Page 1 Rev. 2

SEE REVERSE FOR GUIDELINES

ELEVATING DEVICE INSTALLATION # IS MANDATORY

INSTALLATION # IS MANDATORY

GUIDELINES TO THE ELEVATING DEVICE ACCIDENT/INCIDENT REPORT FORM

The following guidelines are provided for information only. For complete instructions, refer to the Technical Standards & Safety Act, 2000 and Ontario Regulation 209/01 Elevating Devices.

a) Is reporting of accidents/incidents mandatory?

Yes, required by the Technical Standards & Safety Act, 2000 and section 36 of the Ontario Regulations 209/01. Section 37 of the Act specifies fines for failure to report any accident or incident.

b) Is the use of this form mandatory?

No, you may use your own reporting format, provided that you submit all data required in this form and the installation number of the device is specified.

c) Owners and Contractors are required to report:

Immediately

- (i) Accident resulting in a death
- (ii) Accident resulting in serious injury

Within 24 Hours by Phone and In-writing Within Seven (7) Days

- (i) Any critical component failure either mechanical or electrical that makes the device a potential safety hazard or may cause injury to a person.
- (ii) All fires pertaining to the elevating device.
- (iii) Accidents resulting in minor injuries such as bruises, or minor cuts, which require medical or first aid attention.
- (iv) Malfunction or failure of a safety related component, which makes the device potentially dangerous or could cause injury should persons be involved.

Definitions of terms used in the form

1. "OWNER" includes the person in charge of an elevating device as owner, license holder, lessee, agent, or otherwise, but does not include an attendant or operator of the device;
2. "CONTRACTOR" means a person who performs for his or her own benefit or for the benefit of another, with or without compensation, any work with respect to the installation, alteration, repair or maintenance of an elevating device or part thereof but does not include an employee;
3. "ACCIDENT" is an occurrence initiated by or related to the operation of an elevating device involving person(s) who, as a result, suffer a degree of injury or upset.
4. "INCIDENT" is an occurrence of a safety hazard⁽⁶⁾ on an elevating device, that could cause injuries to persons should they be involved. It also includes fire and failure of specific safety related components.
5. "INSTALLATION NUMBER" is the Ontario elevating device installation number shown on the metal plate that is permanently attached to the elevating device; e.g. inside the elevator car. It is also shown on the License issued;
6. "SAFETY HAZARD" - a situation that could cause injury or death, (e.g. by falling from a height, tripping over an obstruction, or by having a body part crushed or sheared, or by being exposed to fire, electric shock etc.) including failure of a safety related component.
7. "SERIOUS INJURY" – An injury in which an individual is admitted to hospital for treatment. Such injuries include burns, fractures, head injuries (concussion), internal injuries and shocks.

Updated: Feb 10/05 Page 2 Rev. 2



Elevating and Amusement Devices Safety Division	Ref. No.: 118/95	Rev. No.:
DIRECTOR'S RULING	Date: June 16/95	Date:

Subject: FALL PROTECTION ON ELEVATOR CAR-TOPS

Sent to: ALL INSTALLING ELEVATOR CONTRACTORS

BACKGROUND:

In 1991, the Occupational Health and Safety Act, Ministry of Labour, provided the following:

26. (1) Unless a safety net or travel restraint system is being used, a worker shall wear a fall arrest system if the worker may fall,
- (a) a distance of more than three metres;
 - (b) into operating machinery
 - (c) into water or another liquid; or
 - (d) into or onto a hazardous substance or object.
- (2) In subsection (1), "travel restraint system" means a mechanism which restricts the movement of a worker on a work surface.

As you are aware, several members of the Elevator Industry expressed concern with regards to the above requirements.

During the past several months, discussions have taken place amongst the various members of the Provincial Labour-Management Health and Safety Committee representing Manufacturers, Labour, Contractors, Ministry of Labour (MOL) and M.C.C.R. A number of options were explored to meet the Ontario Health & Safety Act requirements. Of all the proposed options, the one using guard-rails was considered to be the most desirable and was recommended to the Ministry of Labour pending further evaluations.

The above recommendations were discussed recently with members of the Elevator Industry as well as our Inspection staff. It has come to our attention that there seems to be inaccurate and inconsistent information relayed to the Industry.

In order to avoid confusion, until the above recommendation has been fully investigated and considered by the MOL and further instructions issued by MOL, we have emphasized to our inspectors the need to fully comply with the current requirements of the Ontario Health and Safety Act. Therefore, effective immediately, we expect our inspectors to wear the necessary fall protection equipment.



Elevating and Amusement Devices Safety Division	Ref. No.: 119/95	Rev. No.:
DIRECTOR'S RULING	Date: July 18, 1995	Date:

**Subject: MAINTENANCE AND REPAIR OF ELEVATING DEVICES
BY QUALIFIED MECHANICS**

Sent to: ALL ELEVATOR CONTRACTORS

Maintenance and repair of elevators, escalators, and other elevating devices must be performed in accordance with the requirements of the Ontario Regulation 316/90, under the Elevating Devices Act, 1990.

Section 15 (1) of Regulation	No work shall be undertaken on an elevating device by a contractor unless it is performed by a mechanic or by a mechanic-in-training under the supervision of a mechanic.
Section 15 (3) of Regulation	No mechanic shall be assigned or undertake work beyond the scope of his or her experience or training.
Section 1	"Mechanic" means a person who has a minimum of 4 years work experience directly related to the work assigned to him or her, and...

You are reminded, that if personnel, other than those whose regular duties include servicing of elevating devices, are assigned to this work in the event of a labour disruption, they must be qualified in accordance with the Act and Regulation.



Elevating and Amusement Devices Safety Division	Ref. No.: 120/95	Rev. No.:
DIRECTOR'S RULING	Date: August 1, 1995	Date:

Subject: REPLACEMENT OF SEALS ON COMPONENTS PREVIOUSLY SEALED BY AN INSPECTOR AMENDMENT TO DIRECTOR'S RULING 116/95 OF FEB.20, 1995

Sent to: ALL CONTRACTORS IN SCOPE U & L-1,2,3,4,5

1. RULING

On the request from the Elevating Devices Advisory Committee, it is ruled that a replacement of a broken seal on a component previously sealed by an inspector is no longer considered to be an alteration, hence, a "NOTIFICATION OF AN ALTERATION" is not required to be submitted to this office.

2. INSTRUCTIONS

The contractor who undertakes repairs leading to a seal replacement (see note below) shall, within 5 working days of completion, notify the district inspector by leaving a message on his/her voice mail to arrange for the witnessing of the seal replacement. The inspector's call shall be deemed to be a "special inspection" with the appropriate fee charged.

3. CLARIFICATIONS

With this ruling, point 3.2c)(2) of Director's Ruling #116/95 is rescinded and items *3.8 - sealing of governors and *4.19.2.1 - sealing of relief valves are eliminated from the list of alterations.

NOTE: Repairs which result in replacement with a different make and model, or in addition or modification to the design of a sealed component, or in change of its setting constitute an alteration and are subject to the requirements and procedures set in Director's Ruling #116/95.



Elevating and Amusement Devices Safety Division	Ref. No.: 121/95	Rev. No.:
DIRECTOR'S RULING	Date: August 1, 1995	Date:

**Subject: STEP FATIGUE TEST FOR ESCALATORS
COMPLIANCE WITH NEW CSA-B44-94, CLAUSE 8.3.5.8**

Sent to: ALL CONTRACTORS IN SCOPE U3 & L3

The new edition of the CSA-B44-94 Safety Code for Elevators which was adopted by Director's Ruling #115/94, introduced a new Clause 8.3.5.8 requiring fatigue testing for escalator steps as described in Clause 11.5.2.

Order to Submitting Engineers and Escalator Contractors

Design documents for every newly installed or altered (see note 1) escalator submitted for registration in accordance with Director's Ruling #115/94, shall demonstrate conformance to Clause 8.3.5.8 of CSA-B44-94 as follows:

- a) The results of the fatigue test (see note 2) carried out in accordance with Clause 11.5.2 of CSA-B44-94 shall be certified by either:
 - i) a qualified laboratory, or
 - ii) by a professional engineer
- b) The certificate shall clearly indicate:
 - i) the facility which conducted the test
 - ii) the name of the manufacturer of the step
 - iii) the step type and width
 - iv) a statement to the effect that the step has been tested (see note 2) in accordance with, and has met the test requirements of Clause 11.5.2 of CSA-B44-94, and
 - v) any pertinent remarks or limitations of use, e.g. that the step may be used only on a specific escalator make and model.
- c) The certificate shall be filed with this office on the basis of "Component Filing" in accordance with the O. Regulation-316, subsection 11(4), and
- d) The "Component Filing" number for the particular step used in the design shall be quoted in the design specification, e.g. in box 189.
- e) Alternatively to the requirements in (c) and (d), the certificate may be attached to each individual design submission.

NOTE: (1) Applicable only to alterations specified in Clauses 10.6.2, 10.6.7, 10.6.9.2, 10.6.10 and 10.6.11 of CSA-B44-94.

NOTE: (2) The full test report is not required to be submitted with the certificate but this office reserves the right to inspect same at any time on request.



Elevating and Amusement Devices Safety Division	Ref. No.: 122/95	Rev. No.:
DIRECTOR'S RULING	Date: September 15/95	Date:

**Subject: CENTRE-OPENING AND TWO-SPEED HALL AND CAR DOORS –
RELATING DEVICES EQUIPPED WITH 1/8" DIA AIR CORD
OF 7X7 STRAND CONSTRUCTION**

Sent to: ALL CONTRACTORS IN SCOPE U1& L1

1. BACKGROUND

It has been brought to our attention that some centre-opening and two-speed hall and car door relating devices may be equipped with 1/8" diameter door relating cables (1/8" air cord) with only 7x7 stranding rather than more flexible 7x19 stranding. Individual wires of 7x7 stranding are courser and stiffer and more susceptible to fatigue failure as they bend around the pulleys. According to reports, their service life is only 2 to 4 years as opposed to 10 to 30 years for 7x19 construction, and once breaks begin, cable failure can occur within 1 to 2 months. The potential hazard arising is that the car can run with an open door panel.

2. ORDER TO CONTRACTORS MAINTAINING THE SUBJECT TYPE EQUIPMENT

- 2.1 On your next visit to the subject elevators, carefully examine the condition of the door relating device cables and determine their construction.
- 2.2 If any cable is found with seven strands each comprising only seven individual wires, it shall be replaced with 7x19 cable within a month, even if no breaks are visible.
- 2.3 If, for any reason, you cannot obtain authorization for the replacement from the elevator owner, you must notify this office immediately, in writing (attention N. Benn - Chief Inspector), indicating installation numbers of the relevant elevators.
- 2.4 Before installing a new cable, you must verify that the stranding of the replacement cable is 7x19.



Elevating and Amusement Devices Safety Division	Ref. No.: 123/96	Rev. No.:
DIRECTOR'S RULING	Date: January 31, 1996	Date:

Subject: ORDER TO RETROFIT DOVER 105B AND GD105 GEARED MACHINES

Sent to: ALL ELEVATOR CONTRACTORS IN SCOPE U1, L1, F1 AND CONSULTANTS

1. **ORDER TO CONTRACTORS**

1.1 If you are maintaining elevators that are equipped with:

- a Dover geared machine type 105B or GD105, as marked on the machine data plate, and
- the brake having brake arms made of formed sheet steel*
you shall ensure, that no later than by July 1, 1996 the machine brakes are retrofitted:
- as specified in Section B of this Ruling, and
- as it was specified in Director's Ruling #104/93 of January 30, 1993, if not previously complied with.

1.2 If the required work does not constitute a part of your maintenance contract, and you cannot obtain authorization from the owner to complete the work, you shall inform this office immediately, indicating the elevator installation numbers (to the attention of Mr. Norm Benn, Chief Inspector, re: Director's Ruling #123/96), so that we may issue an order to have the retrofit completed.

*NOTE, that the Order A.1 does not apply to the machines 105B or GD105 with cast iron brake arms.

2. **DOVER RETROFIT PROGRAM**

Dover Elevator Systems - Canada has initiated a program to replace the machine brake solenoids and brake spring rods on Dover 105B and GD105 geared machines (units with formed sheet steel brake arms):

- 1) If the rear bushing of the brake solenoid (visible through the slot in the brake arm on the sheave side) is black or yellow, the replacement of the solenoid is required (Dover part No. 362144). If the bushing is red, the replacement is not required;
- 2) If the threaded portion of the brake spring rod extends into the hold in the brake arm, the replacement of rod is required (Dover part No. 261356);
- 3) Printed brake maintenance and adjustment instructions (Dover part No. 363277) for this type of machines with formed sheet steel arms shall be posted inside the controller.

3. **CLARIFICATION**

Dover will supply the replacement parts to all contractors, as well as carry out the whole retrofit, if required.



Elevating and Amusement Devices Safety Division	Ref. No.: 124/96	Rev. No.:
DIRECTOR'S RULING	Date: January 31/96	Date:

Subject: SAFETY ALERT: MAINTENANCE HAZARDS ON ESCALATORS

Sent to: ESCALATOR CONTRACTORS SCOPE U3, L3 AND F3

1. INFORMATION TO CONTRACTORS

Two recent accidents in Alberta, involving escalator mechanics, highlighted safety hazards to which mechanics may be exposed while working on escalators should they not take specific precautionary measures.

The Canadian Elevator Contractors Association (CECA) has taken lead in distributing to their members a related safety alert. With their permission (received from Mr. A. Brown), we are attaching the CECA publication for information to all contractors, including owner-contractors, that are registered for maintenance of escalators.

2. BACKGROUND

The following are excerpts from the Report of the Association of the Provincial Chief Elevator Inspectors to the CSA B44 Technical Committee on September 20, 1995 related to, two accidents occurred in Alberta, during the Summer of 1995:

- a) Serious injury resulted when a mechanic slipped from the escalator landing plate into the step band where some steps had been removed while attempting to position the escalator using the normal start/stop station switches to check for wear. The escalator went into the "run" mode because, when he slipped, he was unable to activate the stop switch. Fortunately, his helper was working directly in front of the disconnect switch and shut the escalator off very quickly. While the mechanic was severely crushed, he survived the ordeal.
- b) Death resulted when a mechanic was standing inside the step band where some steps had been removed. It appears that he attempted to position the escalator to make some checks using the normal stop/start station switches when he lost his hold on the switches. The escalator went into the "run" mode. The mechanic's body was caught between the combplate and the landing plate and the steps running up from behind him. His body was severed just below the chest. He died almost instantly.

CECA Safety Spotlight for December

Maintenance Hazard on Escalators

The recent death of a mechanic in Alberta has highlighted a special hazard peculiar to some escalators which can be fatal. If you have mechanics maintaining escalators, please pass them this reminder.

Unlike elevators, most escalators lack "inspection" operation. To move the steps a bit on maintenance, the mechanic must turn the start key and then must

manually stop the motor using the stop pushbutton. Obviously constant-pressure operation would be safer, but the reality is that many run until stopped.

The hazard is that a mechanic might find himself unable to reach the stop button. Worse, a faulty switch or a pinched wire might start the escalator running unexpectedly while the mechanic is working inside.

A Suggested Approach if Maintaining Escalators Without Inspection Operation:

- TRAIN mechanics to be aware of their risk from escalators with "run until stopped" operation.
- FIND each escalator lacking a constant-pressure "inspection" operation and Post Warnings on Controllers - "Maintenance Hazard - This escalator may start at any time and will run until stopped. Use extreme caution when moving steps."
- USE LOCKOUT PROCEDURE - Lock out disconnect before entering truss.
- USE EXTREME CARE to avoid even the possibility of personal entrapment.
- TWO-MAN CREWS NOTE - do not permit one person to 'jog' escalator if a second is even remotely at risk of entrapment.

PLUS - A Suggestion to Reduce the Risk:

- Install a maintained-contact "inspection" switch in the running contactor holding circuits!



Elevating and Amusement Devices Safety Division	Ref. No.: 125/96	Rev. No.:
DIRECTOR'S RULING	Date: March 1, 1996	Date:

**Subject: RETROFIT OF PIVOT PINS ON NORTHERN TYPE "N" TWO-SPEED
DOOR RELATING LINKAGE**

Sent to: ALL CONTRACTORS IN SCOPE U1, L1 & F1

1. ORDER TO CONTRACTORS

- 1.1 If you are maintaining elevators equipped with the subject two-speed type "N" doors manufactured by Northern Elevator Limited you shall replace the existing pins on the door relating arms in accordance with the instructions contained in the exhibits 1, 2 and 3 attached with this Ruling by not later than September 1, 1996.
- 1.2 If, for any reason, you cannot obtain authorization for the replacement work from the elevator owner, you must notify this office immediately, in writing (attention Norm Benn - Chief Inspector, re: Director's Ruling #125/96) including installation numbers of the relevant elevators, so that this office may issue an order to the owner to have the retrofit completed.

2. CLARIFICATION

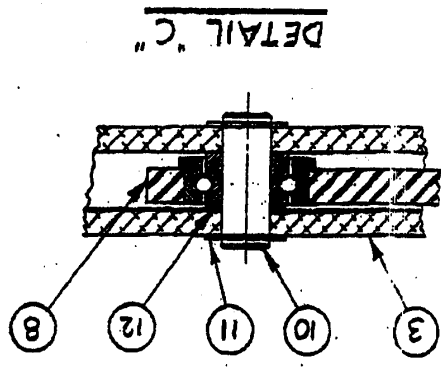
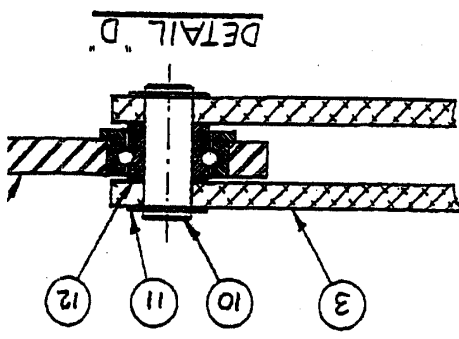
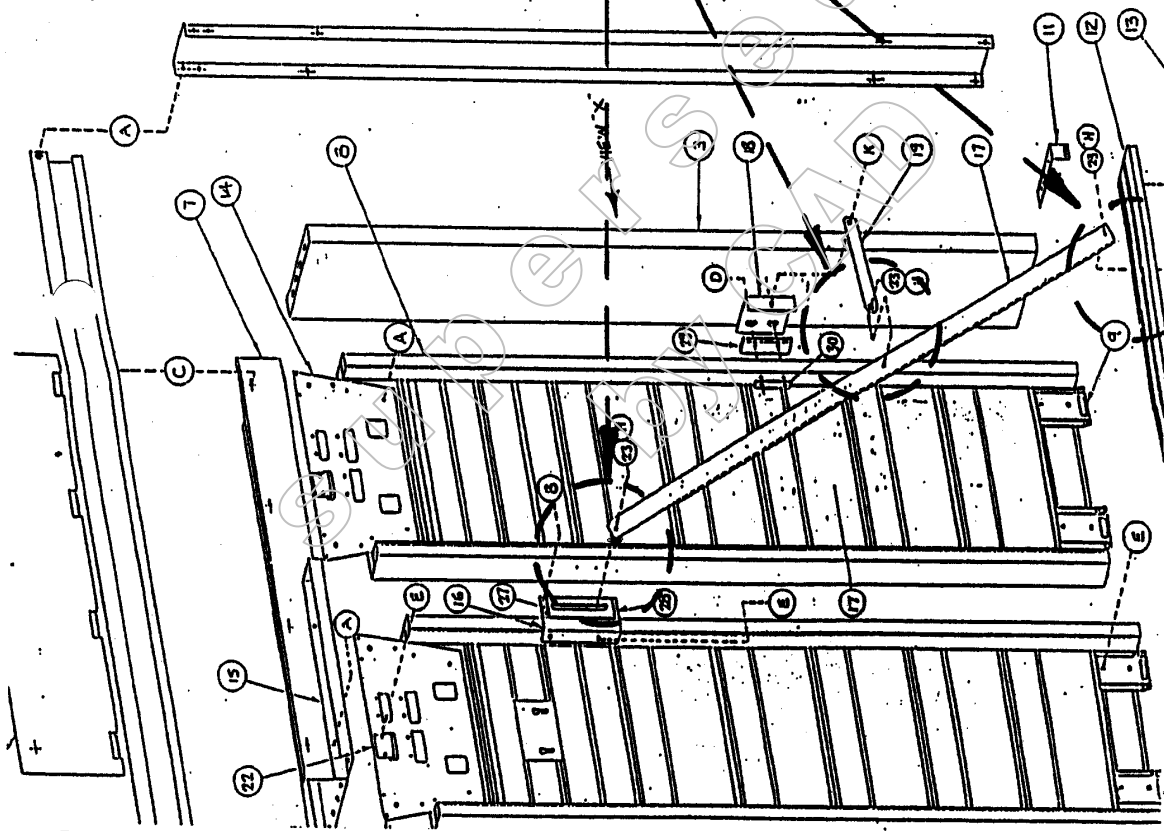
- 2.1 "N" type doors manufactured by Northern Elevator Limited can be recognized by the horizontal reinforcing ribs exposed on the hoistway side of door panels as shown in exhibit 1. The "N" type doors have been manufactured since March of 1985.
- 2.2 The existing pins which must be replaced are identified in exhibit 1.
- 2.3 The retrofit kits #A-830-2068, as per exhibit 3 are available at no charge from:

Northern Elevator Limited
270 Finchdene Square
Scarborough, Ontario M1X 1A5

Telephone: (416) 291-2549
FAX: (416) 291-4654

3. BACKGROUND

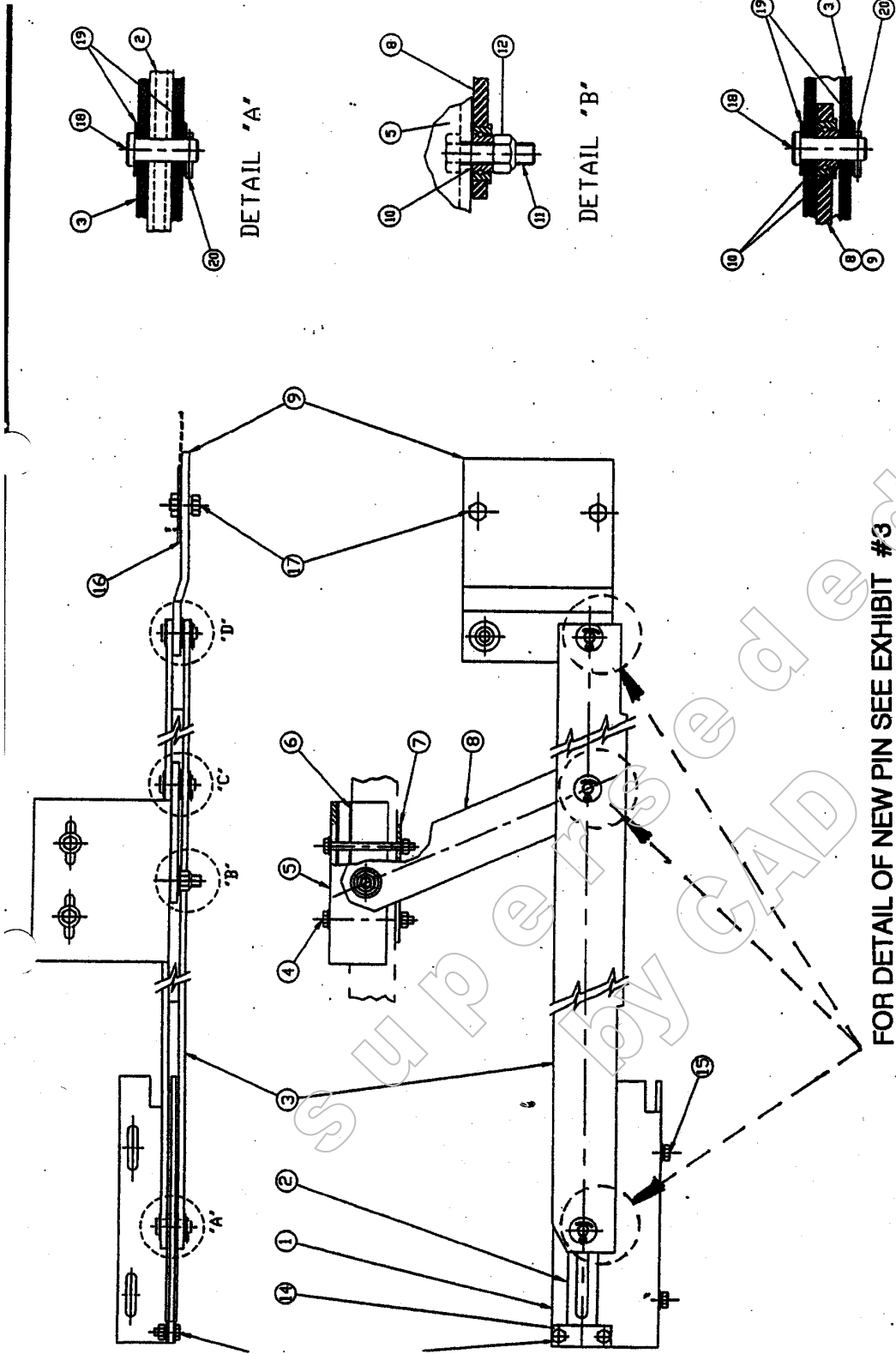
It has been brought to our attention by Northern Elevator Limited that the relating linkage of the subject doors can become disengaged by failure of the retaining clip on the linkage arm's pivot pins. This may cause the door panels to separate and to allow the elevator to run with partially open doors.



REPLACE EXISTING PINS
INSTRUCTIONS ON EXHIBIT #2 & 3

DETAIL OF EXISTING PIN
(FOR DETAIL OF NEW PIN SEE EXHIBIT #3)

EXHIBIT 1
LOCATION OF PINS - GENERAL VIEW FROM HOISTWAY SIDE
AND DETAIL OF EXISTING PIN



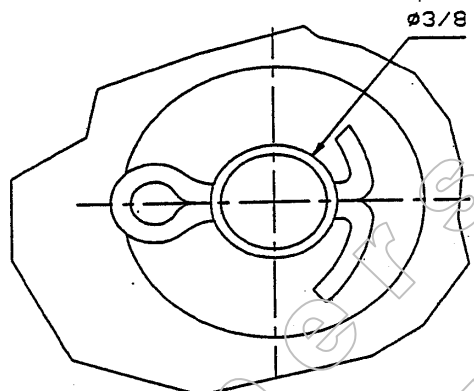
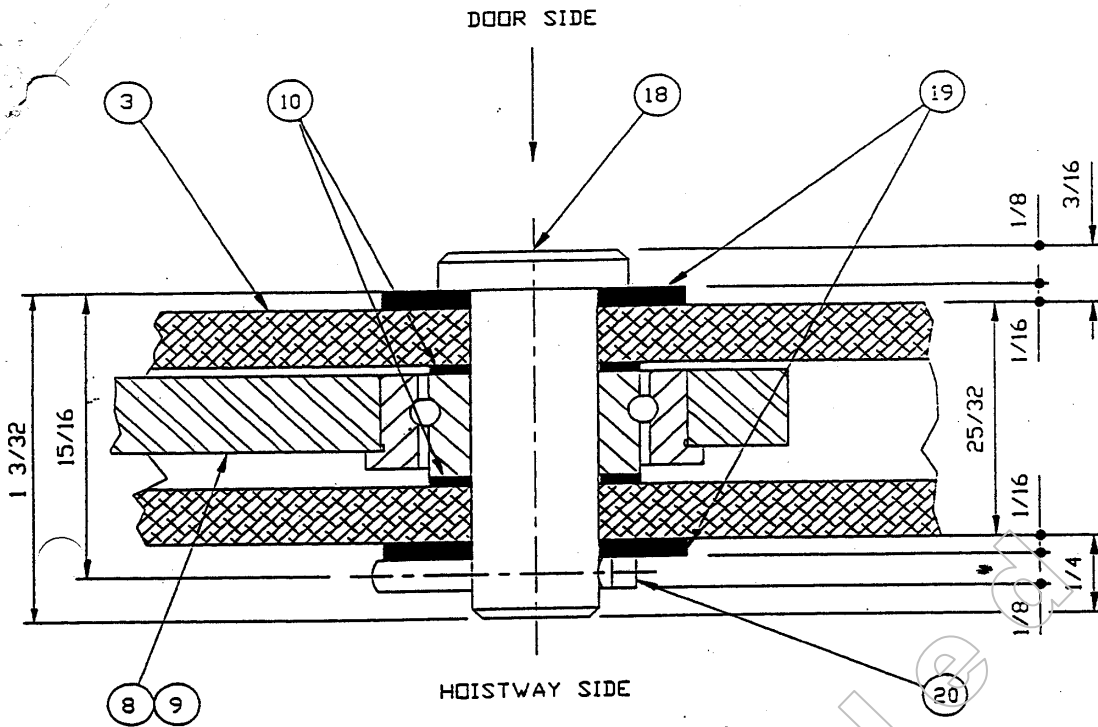
DETAIL "A"

DETAIL "B"

TYP. DETAIL "C" AND "D"

FOR DETAIL OF NEW PIN SEE EXHIBIT #3

EXHIBIT 2
RELATING ARM WITH NEW PINS



RETROFIT KIT		
ITEM	DESCRIPTION	QTY
10	WASHER SPACER (XA-835-2013)	4
18	CLEVIS PIN (3/8x1 3/32 LG)	3
19	PLAIN WASHER (5/16-3/8x7/8x.065)	6
20	COTTER PIN (1/8x1 LG)	3

EXHIBIT 3

NEW PIN DETAIL

NOTE: 3 SETS PER DOOR REQ'D.

MATERIAL	DRAWN	CHU VU
WEIGHT	CHKD.	
FILE No A8302068	DATE NOV. 08 1995	SCALE DOUBLE
NORTHERN ELEVATOR LIMITED		

REV.	DESCRIPTION	CHKD.	DATE	BY
	TITLE			
	2 - SPEED ENTRANCES RETROFIT KIT FASTENER CLEVIS PIN DETAIL			
	USED FOR B-830-2040-H (DETAIL 'A', 'C', 'D')			
	A - 830 - 2068			

NE-2A-11.94



Elevating and Amusement Devices Safety Division	Ref. No.: 126/96	Rev. No.:
DIRECTOR'S RULING	Date: August 6, 1996	Date:

Subject: ADOPTION OF THE 1996 EDITION OF STANDARD CAN/CSA-Z98-96 PASSENGER ROPEWAYS

Sent to: ALL CONTRACTORS GROUP 8 & SUBMITTING ENGINEERS

1. ORDER

Each newly installed or altered passenger ropeway for which the DESIGN is submitted to this branch for registration on or after the 1st day of November, 1996, shall conform to the requirements of the Standard CAN/CSA-Z98-96 Passenger Ropeways.

2. INSTRUCTIONS

- (a) In the case of the existing passenger ropeways, the application of any newly adopted standard is restricted to the Section 8 Inspection, Testing, Operation, and Maintenance of Passenger Ropeways, unless otherwise required by the Regulation under the Elevating Devices Act.
- (b) CAN/CSA-Z98-96, Passenger Ropeways is available from the Canadian Standards Association, 178 Rexdale Blvd., Rexdale, Ontario M9W 1R3, ☎ (416) 747 4044.
- (c) Since the Elevating Devices Act requires all mechanics to have full knowledge of the codes and standards applicable to the elevating devices on which they are assigned to work, we would expect that the mechanics involved in the construction, installation and maintenance of passenger ropeways will be provided with a copy of the subject standard.

3. CLARIFICATION

When an existing ropeway is relocated, it shall be treated as a new installation and shall comply with the CAN/CSA-Z98-96 Passenger Ropeways standard.



Elevating and Amusement Devices Safety Division	Ref. No.: 127/96	Rev. No.:
DIRECTOR'S RULING	Date: November 20/96	Date:

Subject: INTERPRETATION OF DIRECTOR'S RULING #105/93; INCLUDING REVISIONS #1 & #2, RELATED TO 'RULES FOR FIRE CODE RETROFIT – RESIDENTIAL BUILDINGS'

Sent to: ELEVATOR CONTRACTORS IN SCOPE U1 AND L1

1. INTRODUCTION

Several misinterpretations of the subject rules have been identified in the course of the inspection of retrofitted elevators.

The purpose of this informative Ruling is to clarify these misinterpretations to all elevator contractors, as to avoid similar issues in future. This Ruling will be updated if new "issues" are identified.

2. ISSUES

2.1 While on "in-car emergency service" operation, the in-car "emergency switch" is turned to OFF, passing through HOLD position. The registered calls are cancelled and the moving car stops as soon as possible. All this is in compliance with the subject rules. However, in two different instances, the elevators continued to operate in two different modes of operation. These have been identified to be non-conforming with the subject Ruling.

- a) First case:
Once the car is stopped (doors still closed) the car automatically reverts to the "emergency recall operation" and travels to the recall level.
- b) Second case:
Once the car is stopped (doors still closed) the car will remain stationary. However, while the in-car switch is still in the OFF position the car will start to travel as soon as an in-car call is registered.

In both cases the car should remain stationary until:

- the switch is turned to the ON position and a call is registered, or
- the door is fully open, which combined with the OFF position of the switch, will initiate automatic door closing and reverting to the "recall operation" to the recall level.



Elevating and Amusement Devices Safety Division	Ref. No.: 128/96	Rev. No.:
DIRECTOR'S RULING	Date: December 13/96	Date:

Subject: HOLD-DOWN AND COMBINATION HOLD-DOWN/SUPPORT SHEAVES AND SHEAVE ASSEMBLIES ON THE ABOVE-SURFACE CHAIR LIFTS

Send to: ALL CONTRACTORS IN GROUP 8, SUBMITTING ENGINEERS, MANUFACTURERS AND OTHER JURISDICTIONS

THIS RULING IS AN EMERGENCY SAFETY ALERT

1. DESIGN AND PERFORMANCE REQUIREMENTS FOR HOLD-DOWN AND COMBINATION HOLD-DOWN/SUPPORT SHEAVES AND SHEAVE ASSEMBLIES

Hold-down and combination hold-down/support sheaves and sheave assemblies on all chair lifts operating in Ontario shall meet the following requirements:

- a. Means shall be provided to restrict the movement of the haul rope to the inside of each sheave and sheave assembly should the rope leave the groove. (Reference Clause 3.19.10.2 of CAN/CSA-Z98-96 Standard)
- b. Means, hence forth referred to as rope catchers, shall be provided to retain the haul rope, in the event that the rope leaves its normal running position, to the outside of each sheave and sheave assembly. (Reference Clause 3.19.10.3 of CAN/CSA-Z98-96 Standard)
- c. Rope catchers shall be located not more than $\frac{1}{2}$ sheave diameter vertically from the normal position of the rope. (Reference Clause 3.19.10.3 of CAN/CSA-Z98-96 Standard)
- d. Rope catchers shall be sized and configured to the shape of hauling rope and the hauling rope grip to allow free passage of the haul rope and carriers while the rope is in or out of the normal position. (Reference Clause 3.19.10.4 of CAN/CSA-Z98-96 Standard)
- e. The stability of the sheaves and sheave assemblies profile and configuration shall be maintained while the hauling rope is retained by the rope catchers on the sheaves and sheave assemblies.
- f. The rope catchers shall be designed to contain the deropement of the hauling rope from sheaves and sheave assemblies.

2. ORDER

All chair lifts shall comply with Section 1 of this Ruling forthwith. Any chair lift not in compliance with Ruling Section 1 shall not be operated for use by the public, until such time as the corrective actions to meet the requirements of this ruling have been completed.

The owner of the chair lift shall obtain services of either a qualified professional engineer registered in Ontario or a qualified representative of the designer/manufacturer of the chair lift to determine compliance of this Ruling. In addition, the owner shall submit to this office within 65 days of the date on which this

Ruling is sent, pertinent documentation approved by the qualified professional engineer registered in Ontario or the qualified representative of the designer/manufacturer of the chair lift in accordance with the Elevating Devices Act and Section 7 of the Ontario Regulation demonstrating compliance of this Ruling. The fee for this type of design submission shall be based on a minor alteration Type 'A'.

3. **CLARIFICATION**

The requirements in Section 1 of this Ruling apply to the specific application described, and do not remove the requirements to comply with the Elevating Devices Act and Regulation including all the adopted Standards in the Regulation.

4. **BACKGROUND**

As the result of a fatal accident that occurred at Snow Valley Ski Resort on Friday December 6, 1996 a potential hazard has been discovered that requires this immediate action.

Director

Archive
Superseded by REV



Elevating and Amusement Devices Safety Division	Ref. No.: 129/97	Rev. No.:
DIRECTOR'S RULING	Date: April 2, 1997	Date:

Subject: ADOPTION OF SUPPLEMENT NO. 1-1997 TO CAN/CSA-B44-94 SAFETY CODE FOR ELEVATORS

Sent to: ALL CONTRACTORS IN SCOPE U & L-1,2,3,4,5 AND CONSULTANTS

1. ORDER

- 1.1 Each newly installed or altered elevator, escalator, dumbwaiter, moving walk and freight platform lift, for which the DESIGN is submitted to this branch for registration on or after the 1st day of August 1997, shall conform to the requirements of Supplement No. 1-1997 to the CAN/CSA-B44-94 Safety Code for Elevators.
- 1.2 Compliance with Supplement shall be confirmed in the design submission, in item 192 of specification sheets or in a separate affidavit.

2. CLARIFICATION

- 2.1 The original edition of CAN/CSA-B44-94 was adopted with the Director's Ruling 115/94.ie
- 2.2 You are advised to study all revisions and additions in this supplement No. 1, that are marked with double vertical lines and take all necessary steps to ensure conformance by date given in order #1. The changes and additions include:
- New requirements for refuge spaces in hoistway pits;
 - Rewritten and amended Section 4, hydraulic elevators and Section 9, inspections;
 - New requirement for redundancy in escalator control circuits.

3. INSTRUCTIONS

- 3.1 In the case of existing elevators, escalators, etc., the application of any newly adopted code is restricted to the sections covering the inspection, testing, maintenance and use of the elevating devices, unless otherwise required by the Regulation under the Elevating Devices Act.
- 3.2 Supplement No. 1-1997 to the CAN/CSA-B44-94, Safety Code for Elevators is available from the:
- Canadian Standards Association
178 Rexdale Blvd.
Rexdale, Ontario M9W 1R3
Telephone: (416) 747-4044
- 3.3 Since the Ontario Elevating Devices Act requires all mechanics to have full knowledge of the codes applicable to the elevating devices on which they are assigned to work, we would expect that the mechanics involved in the construction, installation and maintenance of elevators, escalators, etc. will be provided with a copy of the subject standard.