

Public Review Draft  
February 2008

Proposed Revisions for  
ASME A17.1b-200x ADDENDA  
To  
ASME A17.1-2007, Safety Code for Elevators and Escalators

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**TN 02-2268**

**Revise Section 1.3 as follows:**

~~**clearance, top car, electric elevators:** the shortest vertical distance between the top of the car crosshead, or between the top of the car where no crosshead is provided, and the nearest part of the overhead structure of any other obstruction when the car floor is level with the top terminal landing.~~

~~**clearance, top car, hydraulic elevators:** the shortest vertical distance within the hoistway between the horizontal plane described by the top of the car enclosure and the horizontal plane described by the lowest part of the overhead structure or other obstruction, when the car floor is level with the top terminal landing.~~

*REASON: The definition was deleted since it is clearly defined in the rule and to eliminate any possibility of conflict with the requirements..*

**Revise Section 2.4 as follows:**

**2.4.6 Maximum Upward Movement of the Car Top Car Clearances for Counterweighted Elevators**

**2.4.6.1 Counterweighted Elevators General Requirements.** The maximum upward movement of a counterweighted elevator above the top landing ~~top car clearance~~ shall be ~~not less no more~~ than the sum of the following:

- (a) for elevators without tie down compensation dimensions specified in 2.4.6.1.1~~2~~(a) through ~~(dc)~~; or
- (b) for elevators with tie down compensation dimensions specified in 2.4.6.1.1~~2~~(a), (b), ~~(e)~~, and ~~(ed)~~.

**2.4.6.2 Components of the Top Car Clearances.**

**2.4.6.2.1** The following shall be ~~considered~~ used when calculating the maximum upward movement of a counterweighted elevator ~~minimum top car clearances~~:

- (a) the designed maximum bottom counterweight runby [see 2.4.4(b)];
- (b) the stroke of the counterweight buffer, determined as follows:
  - (1) for full stroke buffers, the stroke of the buffer used, or the remaining stroke when the buffer is compressed with the car at the top terminal landing (see 2.4.2 and 2.22.4.8); or
  - (2) for reduced stroke oil buffers (see 2.22.4.1.2), the full stroke required by 2.22.4.1.1.
- ~~(c) 600 mm (24 in.) or the distance which any sheave or any other equipment mounted in or on the car crosshead projects above the top of the car crosshead, whichever is greater, but in no case shall there be less than 150 mm (6 in.) clearance above the equipment, exclusive of guide shoe assemblies or gate posts for vertically sliding gates, mounted on the car top or in or on the car crosshead when the car has reached its maximum upward movement.~~

*NOTE [2.4.6.2(c)]: See also 2.4.12, requirements for refuge space on top of car enclosure.*

~~(dc)~~  $\frac{1}{2}$  one-half of the gravity stopping distance, based on:

- (1) 115% of the rated speed where oil buffers are used, or 115% of the reduced striking speed when emergency terminal-speed limiting devices meeting the requirements of 2.25.4 are used and no compensating rope tie-down device in conformance with 2.17.17 is provided (see 8.2.54 for gravity stopping distances); or
- (2) the governor tripping speed where spring buffers are used.

~~(ed)~~ the distance to which the compensating rope tie-down device, if provided (see 2.21.4.2) limits the jump of the car when the counterweight strikes the buffers at speeds specified in 2.4.6.1.1~~2~~(~~dc~~) plus the distance to account for the amount of compensation rope stretch.

*REASON: If Tie-Down device operates, the compensation ropes will stretch reducing the overhead clearance.*

#### **2.4.6.27 Top Car Clearance for Uncounterweighted Elevators**

~~The maximum upward movement of an uncounterweighted elevator above the top landing top car clearance shall be not less no more than the distance from the top landing to the point, for a winding drum machine where the driving machine operates the final terminal stopping switch (2.25.3.3.2),~~

~~greater of the following:~~

~~(a) 750 mm (29.5 in.); or~~

~~(b) 150 mm (6 in.), plus the amount that any equipment mounted on the car crosshead, or above the car top when no crosshead is provided, projects vertically above the crosshead or top.~~

*NOTE (2.4.7): See also 2.4.12, requirements for refuge space on top of car enclosure.*

*REASON: Coordination with revised definition and top car clearance requirements. To codify a condition that is referred to in a number of Code requirements. This has already been addressed by TN 05-1579.*

#### **2.4.7 Top of Car Clearances**

2.4.7.1 When the car has reached its maximum upward movement, the clearance above the car top, measured vertically up to the horizontal plane described by the lowest part of the overhead structure or other obstruction and measured within the projection of the car enclosure top exclusive of the area outside the standard railing (2.10.2) where provided, shall be not less than

1 100mm (43 in.). In no case shall the following additional clearances be less than:

(a) 600 mm (24 in.) above the car crosshead assembly except as permitted in 2.4.7.1(b) when the crosshead is located over the car enclosure top or the distance which any sheave assembly mounted in or on the crosshead projects above the top of the car crosshead, whichever is greater, but in no case shall there be less than 150mm (6 in.) clearance above the sheave assembly.

(b) 300 mm (12 in.) above the car crosshead assembly where the crosshead is adjacent to the car enclosure top. The crosshead shall not overlap the car enclosure top by more than 100 mm (4 in.) horizontally.

(c) 600 mm (24 in.) above equipment attached to and projecting above the car enclosure top, exclusive of:

(1) standard railings (see also 2.14.1.7.2);

(2) areas outside of the standard railing the vertical clearance shall be not less than 100 mm (4 in.).

(3) roller and sliding guide assemblies (see also 2.4.9); and

(4) gate post(s) for vertically sliding gates(see also 2.4.9). Spreader bars between gateposts with horizontal and vertical clearances not in compliance with requirement 2.14.1.7.2 shall have yellow and black diagonal stripes of not less than 25 mm (1 in.) wide along the length of the spreader bar, mounted at a location visible from the car top.

2.4.7.2 Any horizontal area above the car enclosure top and within the railing if supplied which could contain a circle with a diameter of equal to or greater than 350 mm (14 in.) that does not have a vertical clearance of 1 100 mm (43 in.) when the car has reached its maximum upward movement shall be clearly marked. The marking shall consist of alternating 50 mm (2 in.) diagonal red and white stripes. In addition, when markings are provided, sign(s) with the words "DANGER LOW CLEARANCE" shall be prominently posted on the crosshead and be visible from the hoistway entrance(s). The sign(s) shall conform to ANSI Z535.2 or CAN/CSA-Z321, whichever is applicable (see Part 9). The sign(s) shall be of such material and construction that the letters and figures stamped, etched, cast, or otherwise applied to the face shall remain permanently legible.

NOTE (2.4.7): See Nonmandatory Appendix G.

**REASON:** *To provide adequate space for elevator ~~personal~~ personnel when they are on top-of-car enclosure and to warn them when the clearance is inadequate. ISO 15534-3-2000 anthropometric data is used to establish sufficient space on top of the car in which a human being can be placed when a car is at its maximum upward movement.*

#### **2.4.8 Vertical Clearances With Underslung Car Frames**

~~Where an underslung car frame is used, the clearances between the overhead car rope dead end hitch or overhead car sheave and the portions of the car structure vertically below them, when the car floor is level with the top terminal landing, shall be not less than the following:~~

- ~~(a) where no counterweight is used, 230 mm (9 in.); and~~
- ~~(b) where a counterweight is used, the sum of the following items:
  - ~~(1) the bottom counterweight runby (see 2.4.2);~~
  - ~~(2) the stroke of the counterweight buffer used, or the remaining stroke when the buffer is compressed with the car at the top terminal landing (see 2.4.2 and 2.22.4.8);~~
  - ~~(3) 150 mm (6 in.); and~~
  - ~~(4) 1.2 the gravity stopping distance based on 115% of the rated speed where oil buffers are used, or 115% of the reduced striking speed when emergency terminal speed limiting devices meeting the requirements of 2.25.4 are used and no provision is made to prevent the jump of the car at counterweight buffer engagement, or on governor tripping speed where spring buffers are used (see 8.2.5 for gravity stopping distances).~~~~

~~NOTE [2.4.8(b)(4)]: See also 2.4.12, requirements for refuge space on top of car enclosure.~~

**REASON:** *Clearances are now addressed in 2.4.6 and 2.4.7.*

#### **2.4.89 Top of Counterweight Clearances**

The top of counterweight clearance shall be not less than the sum of the following items:

- (a) the bottom car runby (see 2.4.2);
- (b) the stroke of the car buffer used, or the remaining stroke when the buffer is compressed with the car at the bottom terminal landing (see 2.4.2 and 2.22.4.8);
- (c) 150 mm (6 in.); and
- (d) ~~1/2~~ one-half the gravity stopping distance based on
  - (1) 115% of the rated speed where oil buffers are used, or 115% of the reduced striking speed when emergency terminal speed-limiting devices meeting the requirements of 2.25.4 are used and no provision is made to prevent the jump of the car at counterweight buffer engagement;
  - or
  - (2) the governor tripping speed where spring buffers are used (see 8.2.5 for gravity stopping distances).
- (e) the distance to which the compensating rope tie-down device, if provided (see 2.21.4.2) limits the jump of the counterweight when the car strikes the buffers at speeds specified in 2.4.8(d) plus the distance to account for the amount of compensation rope stretch.

**REASON:** *Renumbered for coordination. Add additional clearance considerations in (e) as done for car in 2.4.6.1.1(d).*

#### **2.4.10 Overhead Clearances Where Overhead Beams Are Not Over Car Crosshead**

~~Where overhead beams or other overhead hoistway construction, except sheaves, are located vertically over the car, but not over the crosshead, the requirements of 2.4.10.1 and 2.4.10.2 shall be met.~~

~~2.4.10.1~~ The clearance from the car top to such beams or construction, when the car is level with the top landing, shall be not less than the amount specified in 2.4.6 and 2.4.7.

~~2.4.10.2~~ Such beams or construction shall be located not less than 600 mm (24 in.) horizontally from the crosshead.

*REASON: The issue is addressed in 2.4.7.*

#### **2.4.944 Equipment on Top of Car Not Permitted to Strike Overhead Structure**

When the car has reached its maximum upward movement (2.4.6), roller and sliding guide assemblies and gate posts for vertically sliding gates crosshead, or car top where no crosshead is provided, is at a distance equal to that specified in 2.4.6.2(c) from the nearest obstruction above it, no equipment on top of the car shall not strike any part of the overhead structure or the equipment located in the hoistway.

*REASON: Clarification and coordination with 2.4.7.*

#### **2.4.12 Refuge Space on Top of Car Enclosure**

~~2.4.12.1~~ An unobstructed horizontal area of not less than 0.5 m 2 (5.4 ft 2 ) shall be provided on top of the car enclosure for refuge space. It shall measure not less than 600 mm (24 in.) on any side. This area shall be permitted to include the space utilized for the top emergency exit [see 2.14.1.5.1(f)]. The minimum vertical distance in the refuge area between the top of the car enclosure and the overhead structure or other obstruction shall be not less than 1 100 mm (43 in.) when the car has reached its maximum upward movement.

~~2.4.12.2~~ In any area outside the refuge space where the vertical clearance between the top of the car enclosure and the overhead structure or other obstructions is less than specified in 2.4.12.1, the top of the car enclosure shall be clearly marked. The marking shall consist of alternating 100 mm (4 in.) diagonal red and white stripes. In addition, a sign with the words "DANGER LOW CLEARANCE" shall be prominently posted on the crosshead and be visible from the entrance. The sign shall conform to ANSI Z535.2 or CAN/CSA Z321 whichever is applicable (see Part 9). The sign shall be of such material and construction that the letters and figures stamped, etched, cast, or otherwise applied to the face shall remain permanently and readily legible.

*REASON: New requirements 2.4.7 and 2.14.1.6.2 provide adequate vertical clearance for elevator personnel when on top-of-car enclosure.*

**Revise 2.14.1.6 as follows:**

#### **2.14.1.6 Car Enclosure Tops**

**2.14.1.6.1** The Tops of car enclosures top shall be so designed and installed as to be capable of sustaining a load of 135 kg (300 lb) on any area 600 mm by 600 mm (24 in. by 24 in.), or 45 kg (100 lb) applied to any point, without permanent deformation. The resulting deflection under these loads shall be limited to prevent damage to any equipment, devices, or lighting assemblies fastened to or adjacent to the car enclosure top.

**2.14.1.6.2** Two unobstructed horizontal areas, each one not less than 350 mm (14 in.) by 350 mm (14 in.) shall be provided on the car enclosure top. The two unobstructed areas shall be no closer to one another than 600mm (24in), centerline to centerline apart. The areas shall be within the projection of the car enclosure top exclusive of the area outside of a standard railing (2.10.2) where provided.

**REASON:** *To require separate footprints for two people to occupy on top-of-car enclosure. ISO 15534-3-2000 anthropometric data used to establish dimensions.*

**Revise 2.14.1.7 as follows:**

**2.14.1.7 Railing and Equipment on Car Enclosure Top of Cars**

**2.14.1.7.1** A standard railing conforming to 2.10.2 shall be provided on the outside perimeter of the car enclosure top on all sides where the perpendicular distance between the edges of the car enclosure top and the adjacent hoistway enclosure exceeds 300 mm (12 in.) horizontal clearance. If clearances require (see 2.14.1.7.2) the standard railing to be located more than 100 mm (4 in.) from the edge of the outside perimeter of the car enclosure top, the top of the car enclosure outside of the railing shall be clearly marked. The marking shall consist of alternating 100 mm (4 in.) diagonal red and white stripes. The forces specified in 2.10.2.4 shall not deflect the railing beyond the perimeter of the car top.

The top of the car enclosure, or other surface specified by the elevator installer, shall be the working surface referred to in 2.10.2.

**2.14.1.7.2** When the car has reached its maximum upward movement (2.4.6.1), the following minimum clearances shall be provided from the top rail of the standard railing to building structure or equipment not attached to the car:

- (a) 100 mm (4 in.) vertically;
- (b) 100 mm (4 in.) horizontally in the direction towards the hoistway enclosure; and
- (c) 300 mm (12 in.) horizontally towards the centerline of the car enclosure top.

*NOTE (2.14.1.7.2): See Nonmandatory Appendix G.*

**2.14.1.7.32** A working platform or equipment that is not required for the operation of the elevator or its appliances, except where specifically provided herein, shall not be located above the top of an elevator car.

**2.14.1.7.34** Devices that detect...

**REASON:** *To provide adequate clearances against shearing and crushing hazards if elevator personnel has hand on top rail of standard railing when car reaches maximum upward movement. ISO 15534-3-2000 anthropometric data used to establish dimensions.*

**Revise 2.26.1.4.2 by adding a new (g):**

**2.26.1.4.2 Top-of-Car Inspection Operation**

Top-of-car inspection operation shall conform to 2.26.1.4.1 and the following:

- (a) A stop switch (see 2.26.2.8) .....
- (g) The inspection operating devices shall be readily accessible to a person while standing in one of the horizontal areas described in 2.14.1.6.2 on the car enclosure top.

**REASON:** *To ensure that the top of car inspection operating device can be reached from a safe area by elevator personnel while they are on the car top.*

**Add the following to 2.28.1:**

### 2.28.1 Information Required on Layout Drawings

Elevator layout drawings shall, in addition to other data, indicate the following:

- (j) the maximum upward movement (see 2.4.6).

*REASON: To ensure elevator inspectors have the necessary dimensions to take measurements from top landing to verify top car clearance complies with the Code requirements.*

Revise Section 3.4 as follows:

#### 3.4.4 Maximum Upward Movement Top Car Clearance

~~The maximum upward movement shall be the distance the car sill is above the top landing when the plunger stop (3.18.4) is engaged. top car clearance shall not be less than the sum of the following two items (see Appendix F):~~

- ~~(a) the top car runby;~~
- ~~(b) the height of the refuge space on top of the car (see 3.4.7) or the clearance required for equipment projecting above the car top or crosshead (see 3.4.5), whichever is greater.~~

*REASON: Coordination with revised definition and top car clearance requirements. To codify a condition that is referred to in a number of Code requirements.*

#### 3.4.5 Top of Car Clearances Equipment Projecting Above the Car Top

The top of car clearances shall conform to 2.4.7 except as specified in 3.4.8

NOTE (3.4.5): See Nonmandatory Appendix G.

When the car reaches its maximum upward movement

- ~~(a) all equipment attached to and projecting above the car top, other than equipment mentioned in 3.4.5(b) shall be at least 150 mm (6 in.) from striking any part of the overhead structure or any equipment located in the hoistway;~~
- ~~(b) guide shoe assemblies or gate posts for vertically sliding gates shall not strike any part of the overhead structure; and~~
- ~~(c) the car crosshead shall have a minimum of 300 mm (12 in.) vertical clearance to the horizontal plane described by the lowest point of the overhead structure (see 1.3).~~

*REASON: Coordination with electric elevator requirements.*

#### 3.4.7 Equipment on Top of Car Not Permitted to Strike Overhead Structure Refuge

Space on Top of Car Enclosure

Equipment on top of the car shall conform to the requirements in 2.4.9.

~~An unobstructed horizontal area of not less than 0.51 m<sup>2</sup> (5.49 ft<sup>2</sup>) shall be provided on top of the car enclosure for refuge space. It shall measure not less than 600 mm (24 in.) on any side. The area shall be permitted to include the space utilized for top emergency exit [see 2.14.1.5.1(f)]. The minimum vertical distance in the refuge area between the top of the car enclosure and the horizontal plane described by the lowest point of the overhead structure or other obstruction shall be not less than 1 100 mm (43 in.) when the car has reached its maximum upward movement.~~

**REASON:** *Coordination with electric elevator requirements.*

#### **3.4.8 Vertical Clearances With Underslung Car Frames**

~~Where an underslung car frame is used, the clearances between the overhead car rope dead end hitch, or overhead car sheave, and the portions of the car structure vertically below them, when the car floor is level with the top terminal landing, shall be not less than the following:~~

- ~~(a) where no counterweight is used, the sum of the following items:
  - ~~(1) the car top runby; and~~
  - ~~(2) 200 mm (8 in.); and~~~~
- ~~(b) where a counterweight is used, the sum of the following items:~~

**REASON:** *This issue is addressed in 3.4.6 and 3.4.7.*

#### **3.4.8 Vertical Clearance Above Hydraulic Jack Projecting Above the Car**

When the car has reached its maximum upward movement, a vertical clearance of 100 mm (4 in.) shall be provided from a hydraulic jack attached to the car and the jacks' attachment means to the horizontal plane described by the lowest part of the overhead structure or other obstruction adjacent to the car enclosure top within the vertical projection of the hydraulic jack and its attachment means. Additionally a horizontal clearance in the direction of the centerline of the car top of a least 300mm (12 in.) shall be provided from the top of the hydraulic jack to any object creating a shearing hazard.

*NOTE (3.4.8): See Nonmandatory Appendix G, Fig. G5.*

**REASON:** *To specify clearance requirements when a hydraulic jack extends above the car enclosure top. ISO 15534-3-2000 anthropometric data used to establish sufficient space over hydraulic jack.*

Revise **Nonmandatory Appendix G** as follows:

Delete Fig G1 and G2 and insert the following new Fig. G1 through G5.

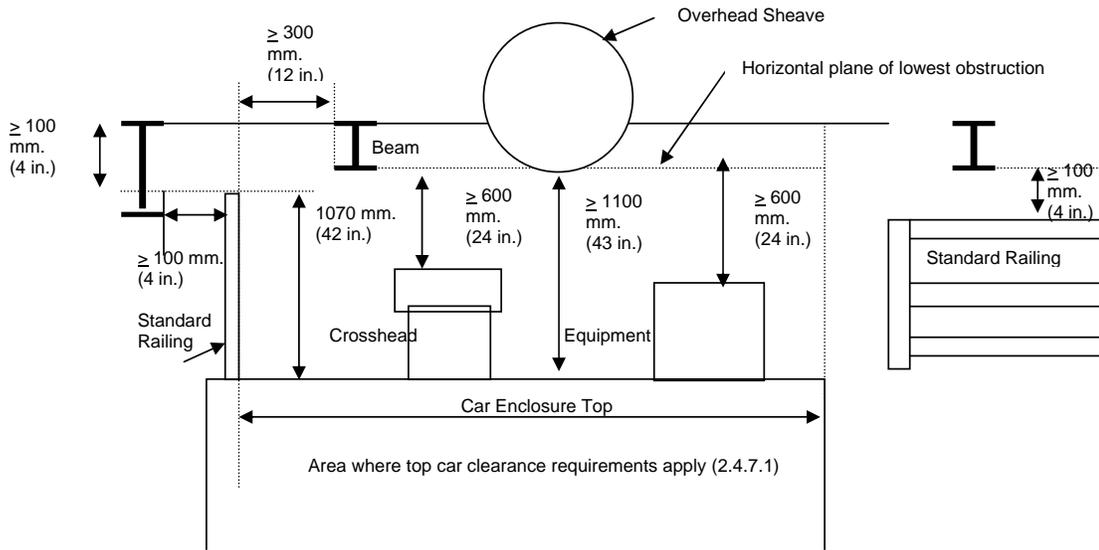
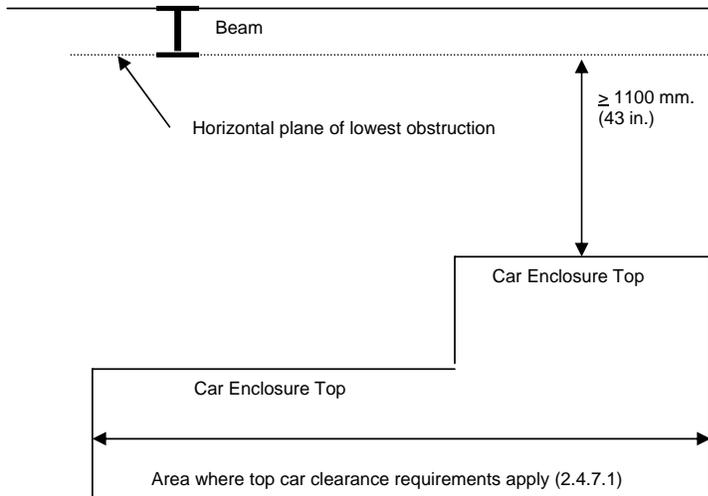
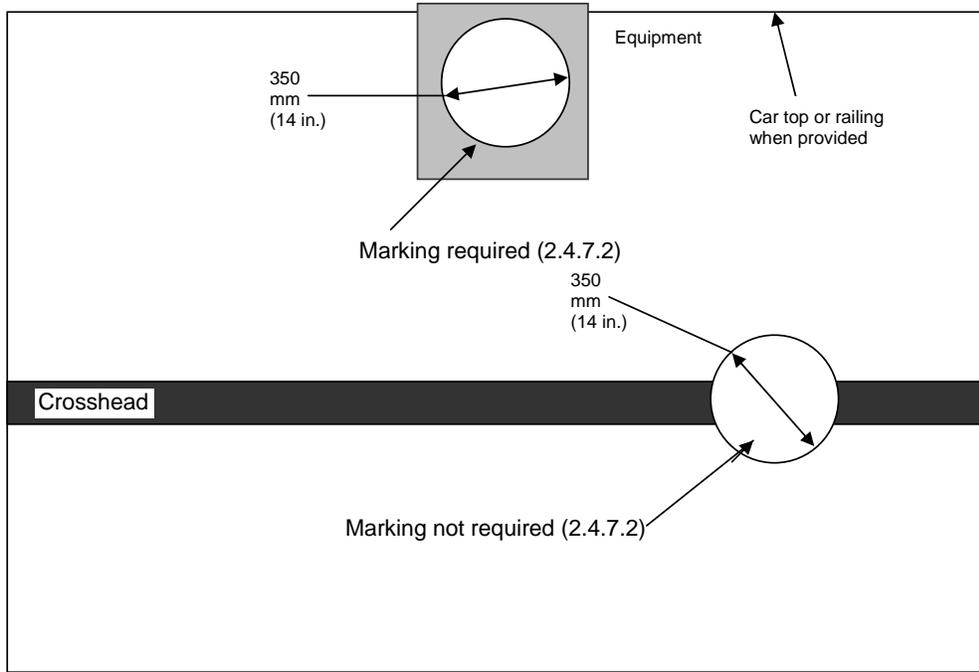


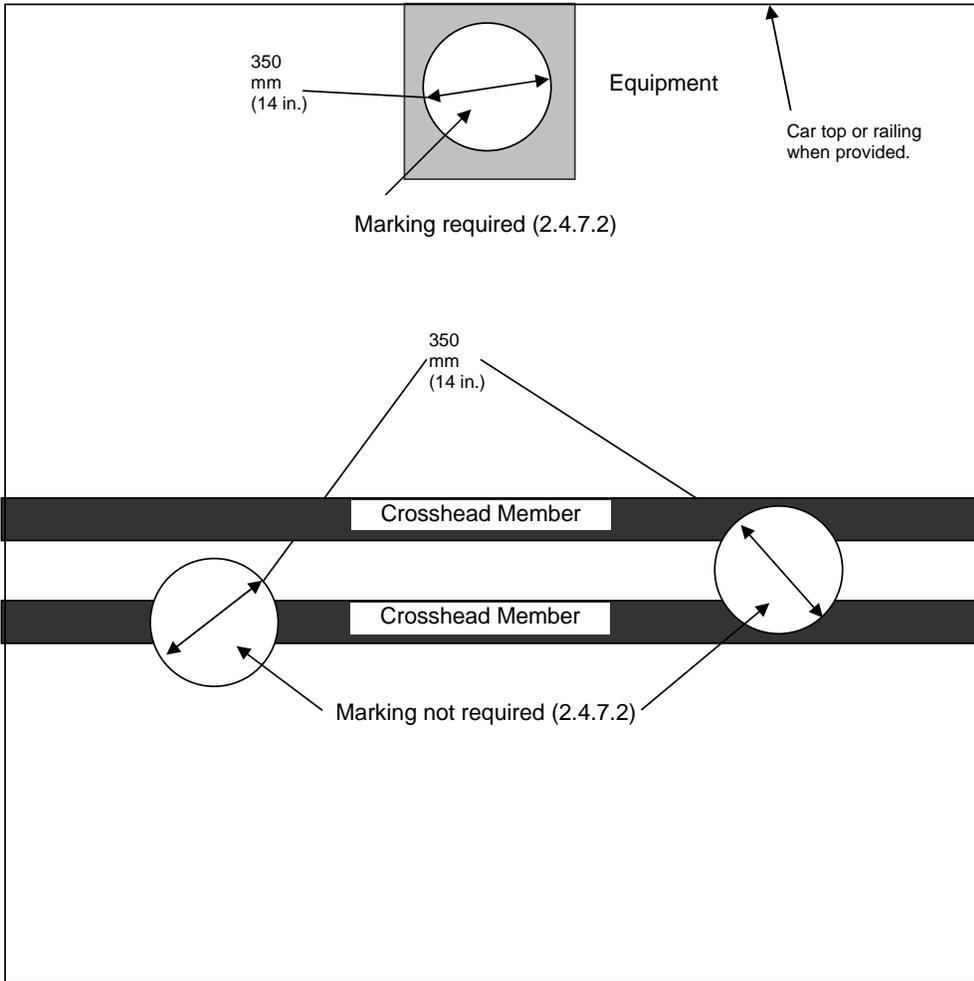
Fig. G1 Top of Car Clearances ~~Top of Car~~ (2.4.7.1)



**Fig. G2 Top of Car Clearance (2.4.7.1)**



**Fig. G3 Top of Car Marking Requirements (2.4.7.2)**



**Fig. G4 Top of Car Marking Requirements (2.4.7.2)**

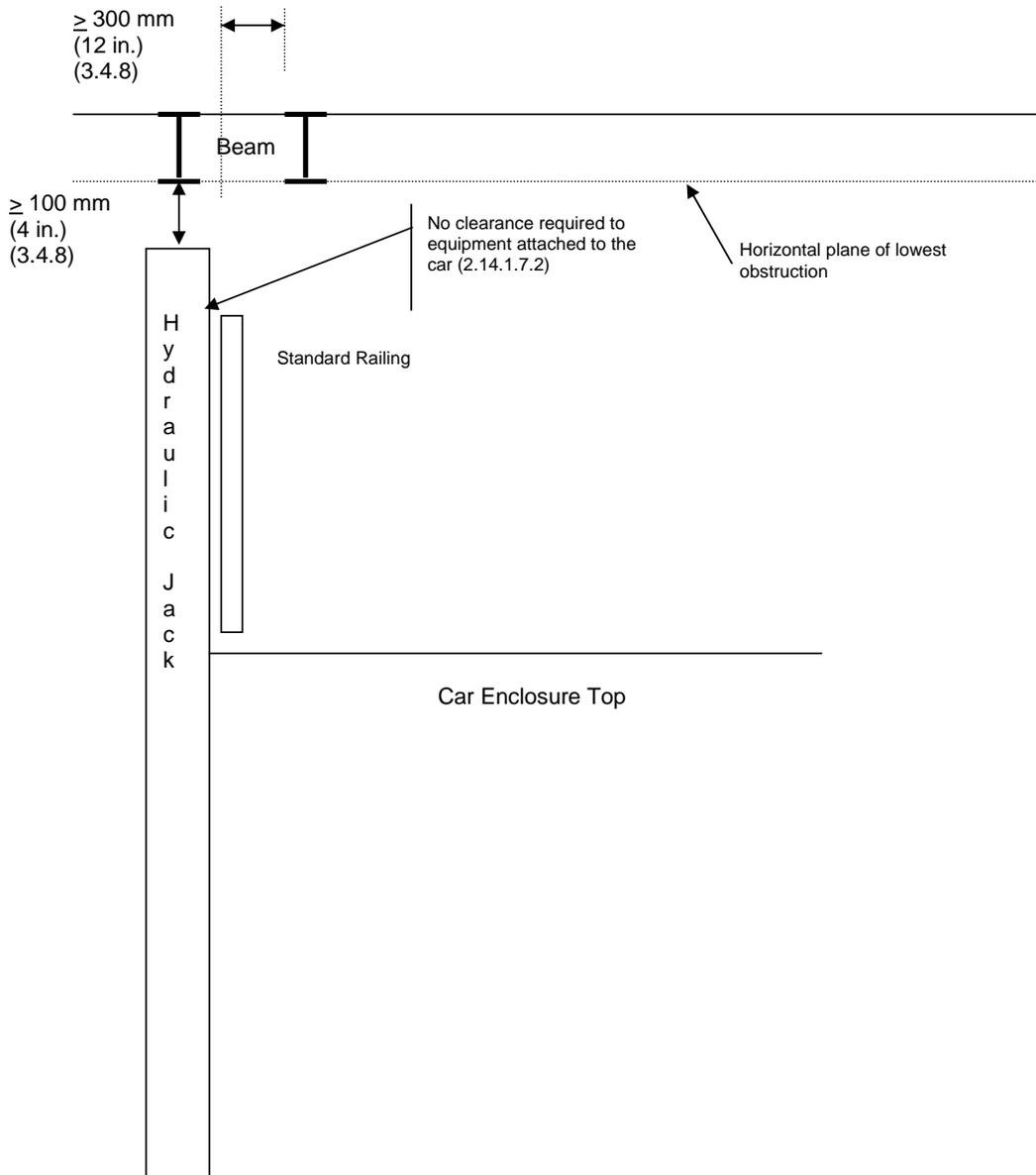
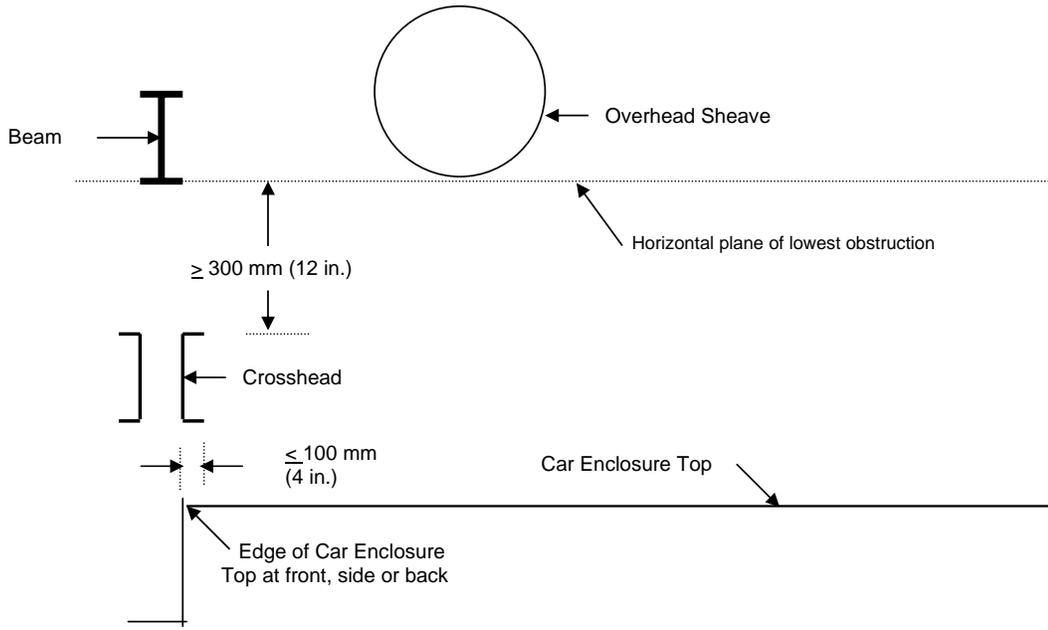


Fig. G5 Additional Top of Car Clearance Requirements



**Fig. G6 Additional Top of Car Clearances (2.4.7.1(b))**

**TN 02-2276**

*Proposed Revision to A17.1, Revised 2.7.3.3.5 and add new Requirement 2.7.3.3.6:*

**2.7.3.3.5** A permanent, noncombustible platform or floor shall be provided at the top of the stairs ~~conforming with the following: with noncombustible railings conforming to 2.10.2.1, 2.10.2.2, and 2.10.2.3 on each open side. In jurisdictions not enforcing the NBCC, the size of the platform shall be sufficient to permit the full swing of the door plus 600 mm (24 in.) from the top of the riser to the swing line of the door. The floor of the platform shall be at the level of not more than 200 mm (8 in.) below the level of the access door sill. Where the door swings inward, the width of the platform shall be not less than 750 mm (29.5 in.), and the length not less than the width of the door.~~

(a) Railings conforming to 2.10.2 shall be provided on each open side.

(b) The floor of the platform shall be at the level of not more than 200 mm (8 in.) below the level of the access-door sill.

(c) The depth of the platform shall be not less than 750 mm (29.5 in.), and the width not less than the width of the door.

(d) The size of the platform shall be sufficient to permit the full swing of the door plus 600 mm (24 in.) from the top riser to the swing line of the door.

**2.7.3.3.6** Where a ladder is provided, a permanent, noncombustible platform or floor shall be provided at the top of the ladder, conforming with the following:

(a) Railings conforming to 2.10.2 shall be provided on each open side.

(b) The floor of the platform shall be located below the level of the access door sill by a vertical distance of not more than 200 mm (8 in.) where full bodily entry is required, and by a vertical distance of not more than 900 mm (35 in.) where full bodily entry is not required.

(c) The depth of the platform shall be not less than 915 mm (36 in.), and the width not less than the width of the door or a minimum of 915 mm (36 in.) whichever is greater.

(d) The size of the platform shall be sufficient to permit the full swing of the door plus 600 mm (24 in.) from the standard railing to the swing line of the door.

(e) The ladder or handgrips shall extend a minimum of 1220 mm (48 in.) above the platform floor level and shall be located on the access door/panel strike jamb side of the platform.

(f) The railing on the access side shall be provided with a hinged section not less than 600 mm (24 in.) wide with a latchable end adjacent to the ladder.

*Proposed Revision to A17.1, Requirement 2.7.3.3:*

**2.7.3.3 Means of Access.** The means of access to the following shall conform to 2.7.3.3.1 through ~~2.7.3.3.5~~ 2.7.3.3.6:

- (a) machine rooms.....

***Rationale:*** *To clarify and to provide a safe means for entry and exit to machine rooms or machinery spaces and to provide an area to stand for access openings where full bodily entry is not necessary for maintenance and inspection when a ladder is used for access.*

*Revised to harmonize requirements that were previously excluded in jurisdictions enforcing NBCC.*

**TN 02-2442**

Based on approved TN 05-568.

Revise A17.1, requirements 8.7.2.27.4, 8.7.3.31.5, and 8.7.3.31.6 as follows:

**8.7.2.27.4 Controllers**

(a) Where a motion controller or operation controller is installed without any change in the type of operation control or motion control as part of an alteration, it shall conform to the following:

(1) Terminal stopping devices shall conform to 2.25.

(2) The operating devices and control equipment shall conform to 2.26.1.4, 2.26.1.5, 2.26.1.6, 2.26.2.2.26.4 through 2.26.9; and 2.26.11.

(3) 2.27.2 through 2.27.8. Requirement 2.27.2 applies when emergency power is provided.

(4) In jurisdictions not enforcing NBCC, requirements 2.27.3 through 2.27.9 apply:

(a) when travel is 8 m (25 ft) or more above or below the designated landing or

(b) on installations when firefighters emergency operation was required or provided at the time of installation.

(5) In jurisdictions enforcing NBCC, requirements 2.27.3 through 2.27.9 applies only if firefighters emergency operation was required or provided at the time of the installation.

(b) Where a controller for the operation of hoistway doors, car doors, or car gates is installed ~~as part of an alteration~~, all new and modified equipment and wiring shall conform to 2.26.4.1 and 2.26.4.2.

**8.7.2.27.5 Change in Type of Motion Control.** Where there is a change in the type of motion control ,the installation shall conform to the following:

(a) The protection of the hoistway landing openings shall conform to 2.11.1 through 2.11.13, except 2.11.11.9, 2.12, and 2.13.

(b) Car enclosures and car doors or gates shall conform to 2.14, except that where existing car enclosures and/or car doors or gates are retained, conformance with the following requirements is not required:

(1) requirements 2.14.1.3, 2.14.1.5.1, and 2.14.1.8

(2) requirements 2.14.2.1, 2.14.2.3, and 2.14.2.4

(3) requirement 2.14.3

(4) requirements 2.14.4.3 and 2.14.4.6

(c)The car safety, the counter weight safety (where provided), and the governor shall conform to 2.17 and 2.18, except that the pitch diameter of speed governor sheaves and governor tension sheaves are not required to conform to 2.18.7.

(d)The capacity and loading shall conform to 2.16.

(e)The terminal stopping devices shall conform to 2.25.

(f)The operating devices and control equipment shall conform to 2.26. The requirements of 2.26.4.2, 2.26.4.3, and 2.26.4.4 shall not apply to electrical equipment unchanged by the alteration.

(g)In jurisdictions not enforcing NBCC, emergency operation and signaling devices shall be provided and shall conform to 2.27. In jurisdictions enforcing NBCC, emergency operation and signaling devices where required by NBCC shall be provided and shall conform to 2.27.

(h)Car overspeed protection and unintended movement protection shall conform to 2.19.

**8.7.3.31.5 Controllers**

(a) Where a motion controller or operation controller is installed without any change in the type of operation control or motion control ~~as part of an alteration~~, it shall conform to the following:

(1) Terminal stopping devices shall conform to 2.26.1.4, 2.26.1.5, 2.26.4.1, 2.26.4.2, 2.26.4.3, 2.26.5, 2.26.7, 3.26.2, 3.26.3, 3.26.5, 3.26.7, 3.26.10, and 3.25.

(2) The operating devices and control equipment shall conform to 3.26. Requirements of 2.26.1.1, 2.26.1.3 and 2.26.12 do not apply.

(3) Requirement 2.27.2 applies when emergency power is provided.

(4) In jurisdiction not enforcing NBCC, requirements 3.27.1 through 3.27.4 and 2.27.3 through 2.27.9 apply:

(a) when travel is 8 m (25 ft) or more above or below the designated landing or

(b) on installations when firefighters emergency operation was required or provided at the time of the installation.

(5) In jurisdictions enforcing NBCC, requirements 3.27.1 through 3.27.4 and 2.27.3 through 2.27.9

applies only if firefighters emergency operation was required or provided at the time of the installation.

(b) Where a controller for the operation of hoistway doors, car doors, or car gates is installed as part of an alteration, all new and modified equipment and wiring shall conform to 2.26.4.1 and 2.26.4.2.

**8.7.3.31.6 Change in Type of Motion Control.** Where there is a change in the type of motion control, the installation shall conform to the following:

(a) The protection of the hoistway landing openings shall conform to 2.11.1 through 2.11.13 except 2.11.11.9, as modified by 3.11.1, and conform to 3.12.1 and 3.13.

(b) Car enclosures and car doors or gates shall conform to 3.14, except that where existing car enclosures and/or car doors or gates are retained, conformance with the following requirements is not required:

(1) Requirements 2.14.1.3, 2.14.1.5.1, and 2.14.1.8

(2) Requirements 2.14.2.1, 2.14.2.3, and 2.14.2.4

(3) Requirement 2.14.3

(4) Requirements 2.14.4.3 and 2.14.4.6

(c) The car safety (where provided), the counterweight safety (where provided), shall conform to 3.17 and the governor (where provided) shall conform to 2.18, except that the pitch diameter of speed governor sheaves and governor tension sheaves are not required to conform to 2.18.7.

(d) The capacity and loading shall conform to 3.16.

(e) The terminal stopping devices shall conform to 3.25.

(f) The operating devices and control equipment shall conform to 3.26. The Requirements of 2.26.4.2 and 2.26.4.4 shall not apply to electrical equipment unchanged by the alteration.

(g) In jurisdictions not enforcing NBCC, Emergency emergency operation and signaling devices shall conform to 3.27. In jurisdictions enforcing NBCC, emergency operation and signaling devices where required by NBCC shall be provided and shall conform to 2.27.

*Rationale: To make alteration requirements for Electric and Hydraulic elevators consistent for installation of controllers and change in type of motion control. The requirements of Fire Fighters' Service Emergency Operation (Fire Fighters' emergency operations includes all previous descriptions for Fire Fighters' Service.) are consistent with A17.3, NFPA 101 (section 9432), NFPA 1 (Section 1131), and International Fire Code (IFC, section 607.1).  
Requirements applicable to the building structure are not within the scope of the alteration.*

**TN 02-4174**

Proposal to Harmonize A17.1 Sections 8.6 and 8.6.12 (B44). It is based on A17.1-2007.

**Item 1**

**Section 8.6 — Maintenance, Repair, Replacement and Testing**

Requirement 8.6 applies to maintenance, repairs, replacements and testing. ~~Requirements 8.6.1 thru 8.6.10 apply in jurisdictions not enforcing NBCC. Requirement 8.6.12 applies in jurisdictions enforcing NBCC.~~

NOTES:

- (1) See 8.7 for alteration requirements.
- (2) See "General" in Preface, for assignment of responsibilities.

*Rationale: Delete, since harmonized Section 8.6 applies to A17.1/B44.*

**Item 2**

**8.6.1.1.2** Maintenance, repairs, replacements and tests shall conform to 8.6 and the applicable:

- (a) Code at the time of the installation; and
- (b) Code requirements at the time of any alteration; and
- (c) ASME A17.3 if adopted by the authority having jurisdiction.

*Rationale: Clarification that the adopted code is applicable.*

**Item 3**

~~**8.6.1.5.1** A data plate that indicates the Code and edition in effect at the time of installation and any alteration (see 8.7.1.8) shall be provided. The data plate shall also specify the Code and edition in effect at the time of any alteration and the applicable requirements of 8.7.~~

*Rationale: 8.6.1.5.1 is not necessary because it is covered by Section 8.9. Section 8.9 applies to existing equipment and is retroactive.*

**Item 4**

**8.6.1.6.3 Controllers, Wiring, and Wiring Diagrams**

(f) Substitution of any wire or current-carrying device for the correct fuse or circuit breaker in an elevator circuit shall not be permitted.

*Rationale: Add new (f) from B44. Not previously covered by A17.1.*

**Item 5**

**8.6.3.3 Replacement of Ropes Other than Governor Ropes**

8.6.3.3.1(e) ~~Data tags conforming to 2.20.2.2 shall be applied.~~ A new rope data tag conforming to 2.20.2.2 shall be installed at each rope replacement, and the date of the rope replacement shall be recorded in the maintenance records (8.6.1.4).

*Rationale: Add new (e) from B44 to clarify that the rope data tag and the maintenance records are updated at each rope replacement.*

**Item 6**

**8.6.3.4.6** A new rope data tag conforming to 2.18.5.3 shall be installed at each rope replacement, and the date of the rope replacement shall be recorded in the maintenance records (8.6.1.4).

*Rationale: Add new requirement for rope data tag from B44. Not covered by A17.1*

**Item 7**

**8.6.4.5 Safety Mechanisms**

**8.6.4.5.1** Safety mechanisms shall be kept lubricated and free of rust, corrosion and dirt that can interfere with the operation of the safety.

*Rationale: Add "corrosion" for clarification and to include B44 requirement.*

**Item 8**

**8.6.7.7 Special Purpose Personnel Elevators**

Except in jurisdictions enforcing NBCC, the maintenance of special purpose personnel elevators shall conform to 8.6.1 through 8.6.3 and the applicable requirements of 8.6. (See Section 5.7).

*Rationale: To recognize that. Section 5.7 is not applicable in jurisdictions enforcing NBCC. SPPEs are covered by the CSA B311 Code.*

**Item 9**

**8.6.7.9 Mine Elevators**

Except in jurisdictions enforcing NBCC maintenance of mine elevators shall conform to 8.6.7.9.1 through 8.6.7.9.3.

*Rationale: To recognize that Section 5.9 is not applicable in jurisdictions enforcing NBCC. Mine Elevators are covered by other standards in Canada.*

**Item 10**

**8.6.8.3.3** The escalator step/skirt performance index shall be one of the following, whichever is applicable:

- (a)  $\leq 0.15$
- (b)  $\leq 0.25$  for escalators installed under ASME A17.1a-2002/CSA B44-00 Update 1 and later editions and when a skirt deflector device complying with the requirements of 6.1.3.3.7 is provided
- (c)  $\leq 0.4$  for escalators installed under ASME A17.1-2000/CSA B44-00 and earlier editions and a skirt deflector device is provided.

*Rationale: To include applicable B44 Codes.*

**Item 11**

**8.6.8.5 Escalator Skirt Panels and Skirt Obstruction Devices**

(a) The exposed surface of the skirt panels adjacent to the steps, if not made from, shall be treated with, a friction-reducing material. Damaged skirt panels shall be replaced or repaired.

(b) The skirt obstruction devices shall be checked for proper adjustment and operation;

*Rationale: To add B44 requirement not currently included in A17.1 to include skirt obstruction devices.*

**Item 12**

**8.6.8.15.1 Machine Space.** The machine space access, lighting, receptacles, operation, and conditions shall be examined (Items 8.1 and 10.1).

All escalator components shall be cleaned and examined. These components shall include, but not be limited to

- (a) oil drip pans;
- (b) upper and lower stations;
- (c) steps and rollers;
- (d) step frames, risers, and treads;
- (e) tracks; and
- (f) truss components.

*Rationale: To add B44 requirements not currently covered in A17.1.*

*Item 13*

**8.6.12 Maintenance of elevators, dumbwaiters, escalators, and moving walks**

**8.6.12.1 Scope**

**8.6.12.1.1**

8.6.12 applies to all existing installations and all new installations that have been placed in service. It provides the minimum standards for these installations. However, it is not the intent of this Section to require the alteration or replacement of equipment to meet design, nameplate, and performance standards not required by an earlier edition of this Code that was in force at the time the equipment was installed.

**8.6.12.1.2**

8.6.12 applies also to the maintenance of other devices, analogous in design and usage, that are covered by this Code, such as material lifts.

**8.6.12.2 General maintenance requirements**

**8.6.12.2.1 Maintenance required**

Each elevator, dumbwaiter, and escalator installation shall be maintained in accordance with the requirements of 8.6.12.2.1 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, 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

**8.6.12.2.2 Maintenance intervals**

The maintenance required in 8.6.12.2.1 shall be carried out at intervals established on the basis of

- (a) the age and inherent quality of the equipment
- (b) the frequency and method of usage
- (c) the original manufacturer's recommendations or a professional engineer's recommendation

*Note: Appendix J contains recommended maintenance intervals and functions for installations where there is not sufficient data on the age, inherent quality of the equipment, and frequency and method of usage, or where the original manufacturer's recommendations are not available.*

**8.6.12.2.3 Actions respecting defective parts**

Where a part directly affecting the safety of the operation is found to be defective, it shall be immediately adjusted, repaired, or replaced.

**8.6.12.2.4 Maintenance mechanics**

Persons performing maintenance, including repair and replacement work, shall have training, be experienced, and be qualified.

*Note: Maintenance mechanics should*

- (a) understand the operational and safety functions of all components of the installation maintained in order to appreciate all safety hazards for maintenance personnel and for the general public that might be created during any maintenance procedure*
- (b) be able to reasonably assess compatibility of replacement components*
- (c) be able to carry out the work required in this Section*

**8.6.12.2.5 Log book**

A log pertaining to all maintenance activities specified in 8.6.12 (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 all tests, inspections, and other maintenance duties referred to in this Section that have been performed in the previous five years (see 8.6.12.4.1.1). For records kept in an electronic format, a hard copy shall be placed in the job site log within a maximum of three months of the initial recording.

#### **8.6.12.2.6 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.

### **8.6.12.3 Maintenance procedure applicable to all installations**

#### **8.6.12.3.1 Making safety-related devices inoperative**

##### **8.6.12.3.1.1**

No person shall at any time make inoperative any component on which safety of users is dependent, nor shall any electrical protective device be made inoperative, except where necessary during testing, inspections, and maintenance.

##### **8.6.12.3.1.2**

During such tests, inspections, and maintenance, the installation shall not be made available to the public. Immediately upon completion, the installation shall be restored to its normal operating condition in conformity with the applicable requirements.

##### **8.6.12.3.1.3**

Substitution of any wire or current carrying device for the proper fuse or circuit breaker in an elevator circuit shall not be permitted.

#### **8.6.12.3.2 Hoistways, pits, and machine rooms**

##### **8.6.12.3.2.1**

Hoistways, trusses, and pits shall be kept clean and dry. Accumulation of rubbish in elevator pits and the use of these areas for storage shall not be permitted.

##### **8.6.12.3.2.2**

The machine room floor shall be kept clean and free from oil or grease. Articles or materials that are not necessary for the maintenance or operation of the elevator shall not be stored in the machine room. Flammable liquids having a flashpoint of less than 44°C shall not be kept in the machine room.

##### **8.6.12.3.2.3**

Access doors shall be kept closed and locked, except during periods when a qualified person is in the machine room or secondary sheave space.

##### **8.6.12.3.2.4**

Care shall be used in the painting of the equipment to ensure that the paint does not interfere with the proper function of the equipment. Brakes, governors, car safety parts, and buffer parts shall be tested for proper operation after completion of painting.

#### **8.6.12.3.3 Top of cars**

The top of cars shall be kept free of oil or grease and shall not be used for storing lubricants, tools, or other material.

#### **8.6.12.3.4 Cleaning of car and hoistway transparent enclosures**

If the requirements of 2.11.1.4 or 2.14.2.6 are not met, cleaning of transparent enclosures on the exterior of an elevator car or on the interior of an elevator hoistway shall be done under the direct supervision of a maintenance mechanic who shall be present at the site of the cleaning.

#### **8.6.12.3.5 Lubrication**

##### **8.6.12.3.5.1 General**

All parts of the machinery and equipment requiring lubrication shall be maintained with lubricants of a grade and quantity recommended by the manufacturer.

**8.6.12.3.5.2 Lubrication of suspension wire ropes**

Precautions shall be taken in lubricating suspension wire ropes to prevent loss of traction (see 2.20.2.2(j)).

**8.6.12.3.5.3 Lubrication of governor wire ropes**

Governor wire ropes shall not be lubricated unless recommended by the manufacturer of the governor (see 2.18.9(e)).

**8.6.12.3.5.4 Lubrication of guide rails**

**8.6.12.3.5.4.1**

Guide rails shall be lubricated only on elevators equipped with guiding members requiring lubrication. Rail lubricants or coatings shall comply with 2.17.16. Means shall be provided at the base of the rails to collect excess lubricant.

**8.6.12.3.5.4.2**

Rails shall be kept clean and free of excess lubricant, lint, and dirt accumulation. Where necessary, a nonflammable or high flashpoint solvent shall be used for cleaning the rails.

**8.6.12.3.5.4.3**

Rust preventive compounds such as paint, lubricants such as graphite or oil, and similar coatings shall not be applied unless recommended by the manufacturer.

*Note: Rust preventive compounds or improper lubricants can interfere with and, in many cases, prevent proper operation of the safety devices. Such substances can even cause complete failure of the safeties. If it is considered necessary for any reason to use any of these substances, the manufacturer of the elevator should be consulted before their application.*

**8.6.12.3.6 Car and counterweight safeties mechanism**

All moving parts of car and counterweight safeties mechanism shall be kept clean and free of rust and dirt and shall be lubricated at frequent intervals.

*Note: This is especially important where the equipment is exposed to water or corrosive vapors or excessively damp conditions, as corrosion or rusting of the parts can prevent operation of the safety.*

**8.6.12.3.7 Hydraulic components**

**8.6.12.3.7.1**

Plungers of water hydraulic elevators and dumbwaiters shall be thoroughly cleaned periodically to remove any buildup of rust or scale.

**8.6.12.3.7.2**

Where valves and cylinders use packing glands, the packing glands shall be periodically checked and tightened or replaced as necessary to prevent excessive loss of the fluid.

**8.6.12.3.7.3**

Oil leakage collected from the cylinder packing gland shall not exceed 20 L (5.28 US gal) before removal.

**8.6.12.3.7.4**

The level of oil in the oil tanks shall be checked and, where necessary, adjusted to comply with the prescribed minimum and maximum level (see J.2.9).

**8.6.12.3.8 Oil buffers**

**8.6.12.3.8.1**

The oil shall be maintained at the level indicated by the manufacturer.

**8.6.12.3.8.2**

~~Buffer plungers shall be kept clean and shall not be coated or painted with a substance that will interfere with their operation.~~

#### **8.6.12.3.9 Controller contactors and relays**

~~Controller components shall be kept clean and free from dirt, and, where necessary, shall be lubricated as recommended by the manufacturer.~~

#### **8.6.12.4 Repairs and replacement**

##### **8.6.12.4.1 Replacement parts and quality of work**

###### **8.6.12.4.1.1 Replacement parts or components**

Unless otherwise required in 8.6.12.5, any repair and replacement of damaged or worn parts or components shall be with parts of material and strength equivalent to or better than the original manufacturer's design. Any change in the design of components other than those specified in 8.6.12.5 or 8.7, that might affect the safe operation of the equipment shall be certified for use by a professional engineer. A copy of the certification shall be retained by the contractor and recorded in the log book.

###### **8.6.12.4.1.2 Quality of work**

~~Repair and replacement shall be done in a competent manner. Care should be taken during operations such as torquing, drilling, cutting, and welding to ensure that no component of the assembly is damaged or weakened so as to affect the safe operation of the equipment. Rotating parts shall be properly aligned within the manufacturer's design tolerances.~~

##### **8.6.12.4.2 Refastening or resocketing of car hoisting ropes on winding drum machines**

###### **8.6.12.4.2.1**

The hoisting ropes of elevators or dumbwaiters that have winding drum driving machines with 1:1 roping, if of the babbitted rope socket type, shall be resocketed, or other types of fastenings replaced or moved on the rope to a point above the existing fastening at the car ends, at intervals no longer than

- (a) 1 year, for machines located over the hoistway
- (b) 2 years, for machines located below or at the side of the hoistway

###### **8.6.12.4.2.2**

~~When resocketing babbitted rope sockets or replacing other types of fastenings, a sufficient length shall be cut from the end of the rope to remove damaged or fatigued portions. The fastenings shall conform to the requirements of 2.20.9.4.~~

###### **8.6.12.4.2.3**

A legible metal tag shall be securely attached to one of the wire rope fastenings after each resocketing or each change to other types of fastenings and shall bear the following information:

- (a) the name of the person or firm who performed the resocketing or changed the types of fastenings
- (b) the date on which the rope was resocketed or the types of fastening were changed

##### **8.6.12.4.3 Procedure for replacement of governor ropes**

###### **8.6.12.4.3.1**

~~Replacement governor ropes shall be of the same size, material, and construction as the rope originally furnished by the elevator manufacturer. Related tests shall be performed (see J.2.2.2 and J.2.3.3).~~

###### **8.6.12.4.3.2**

~~A new rope data tag conforming to 2.20.2.2 shall be installed at each rope renewal, and the date of the rope replacement and the data from the tag shall be recorded in the log book for the device.~~

##### **8.6.12.4.4 Procedure for replacement of all ropes other than governor ropes**

###### **8.6.12.4.4.1**

~~Replacement ropes shall be specified by the original elevator manufacturer or be at least equivalent in strength and design to the original ropes.~~

###### **8.6.12.4.4.2**

~~When replacing suspension, compensating, and car or drum counterweight ropes, all ropes in a set shall be replaced. The ropes in the set shall all be from the same manufacturer and of the same material, grade, construction, and diameter.~~

**8.6.12.4.4.3**

~~A new rope data tag conforming to 2.20.2.2 shall be installed at each rope renewal, and the date of the rope replacement and the data from the tag shall be recorded in the log book for the device.~~

**8.6.12.4.4.4**

~~For runby and clearances, refer to 8.6.3.3.3.~~

**8.6.12.4.5 Procedure for replacement of belts or chain sets**

~~If one belt or entire chain of a set is worn or stretched beyond the manufacturer's service recommendation or is damaged so as to require replacement, the entire set shall be replaced. Sprockets and toothed sheaves shall also be replaced if worn beyond the manufacturer's service recommendation.~~

**8.6.12.5 Replacement of specific elevator components**

**8.6.12.5.1 General**

~~Replacement of elevator components specified in 8.6.12.5.2 to 8.6.12.5.7 shall constitute an alteration and shall comply with requirements specified therein and also with the applicable requirements in 8.7.1.3.~~

**8.6.12.5.2 Replacement of Driving Machine**

~~Where a driving machine is replaced, the installation shall conform to the requirements specified in 8.7.2.25.1(a).~~

**8.6.12.5.3 Replacement of controller**

**8.6.12.5.3.1 Elevator controller**

~~Where an elevator controller is replaced it shall conform to the requirements specified in 8.7.2.27.4(a) or 8.7.3.31.5(a), whichever is applicable.~~

**8.6.12.5.3.2 Door controller**

~~When a controller for operation of the hoistway doors, car doors, or gates is replaced, the replacement controller and wiring shall conform to the requirements of 2.26.4.1 and 2.26.4.2.~~

*Rationale: With the acceptance of Items 1-12, a separate B44 Maintenance section is no longer required.*

**TN 03-1840**

*Add the following requirements to 2.27.1.1:*

~~2.27.1.1.2 When the two-way communications location is not staffed 24 h a day, by authorized personnel who can take appropriate action, the means of two-way communications shall automatically be directed within 30 s to an additional on- or offsite location, staffed by authorized personnel, where an appropriate response can be taken.~~

(a) Two-way communications shall be directed to a location(s) staffed by authorized personnel who can take appropriate action.

(b) If the call is not acknowledged [2.27.1.1.3(c)] within 45 s the call shall be automatically directed to an alternate on- or off- site location.

***Rationale:** To clarify that if the location is not staffed at all times the means of two-way communications needs to be forwarded to another location staffed by authorized personnel to ensure a person in the car can always reach authorized personnel that can take appropriate action. Based on input from communications system suppliers, the response time is increased to 45 s to allow adequate time to acknowledge the call and to prevent unnecessary forwarding.*

**2.27.1.1.3** The two-way communication means within the car shall comply with the following requirements:

(a) (no change)

(b) A push button to actuate the two-way communication means shall be provided in or adjacent to a car operating panel. The push button shall be visible and permanently identified as “HELP” (see 2.26.12.4). The identification shall be on or adjacent to the “HELP” button. When the push button is actuated, the emergency two-way communication means shall initiate a call for help and establish two-way communications.

(c)- (i) (no change)

***Rationale:** To clarify that code users need to be aware of the requirement in 2.26.12.4 to mark the HELP button with the “PHONE” symbol.*

**2.27.1.1.5**

If the ~~emergency two-way~~ communications means is normally connected to the building power supply, it shall automatically transfer to a source of standby or emergency power as required by the applicable building code or, where applicable, Standard for Health Care Facilities (ANSI/NFPA-99), after the normal power supply fails. The power source shall be capable of providing for illumination of the visual indication [see 2.27.1.1.3(c)] within the car, and the means of ~~emergency two-way~~ communications for at least 4 h; and the audible signaling device (see 2.27.1.2) for at least 1 h.

***Rationale:** Editorial clarification for consistency with the rest of 2.27.1.1.*

**2.27.1.1.6**

(a) The two-way communications means within the car shall include a means to verify operability of the telephone line. Verification of the telephone line operability shall be automatically performed at least on a daily basis and shall not require activation of the two-way communications link(s). If means other than a telephone line (e.g. VOIP, network, intercom, etc.) is used for the two-way communications, similar verification of this equivalent means shall be performed.

(b) If the verification means in 2.27.1.1.6(a) determines that the telephone line or equivalent means is not functional an audible and illuminated visual signal shall be activated. A minimum of one visual

and one audible signal shall be provided for each group of elevators controlled by a "FIRE RECALL" switch.

(1)The visual signal shall:

(a) be located at the designated landing in the vicinity of the "FIRE RECALL" switch and visible to elevator user(s);

(b) be labeled "ELEVATOR COMMUNICATIONS FAILURE" in red letters a minimum of 5 mm (0.25 in.) high;

(c) illuminate intermittently; and

(d) continue illuminating intermittently until the telephone line or equivalent means is functional.

(2) The audible signal shall:

(a) be 10 dBA minimum above ambient, but shall not exceed 80 dBA measured at the designated landing "FIRE RECALL" switch;

(b) sound at least once every 30 seconds with a minimum duration of half a second.

(c) continue to sound until silenced by authorized personnel or the telephone line or equivalent means is functional.

(3) The means to silence the audible signal shall be accessible only to authorized personnel. The signal when silenced shall remain silent unless activated by the next verification [see 2.27.1.1.6(a)].

**Rationale:** Add verification requirements to the Two-Way Communications system *in each elevator car* (i.e. verify dial tone) that will activate an audible and visual signal at the designated landing to warn elevator users and the building owner if the two-way communications means telephone line is not operative. This change was initiated from a preliminary hazard analysis in the Task Group on Electronic Door Restrictors (TR 98-55 / TN 02-02046). Feedback from the inspection community indicates that a large number of phones are nonfunctional due to disconnected phone lines. Means other than a telephone line such as a VOIP or other type of communications network may not produce a dial tone. Equivalent verification of this means is required.

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**Insert a new 8.6.11.2:**

8.6.11.2 Two-Way Communications Means.

The two-way communications means shall be checked annually by authorized personnel in accordance with the following:

(a) Two-way communications means shall be checked to verify that two-way communications is established; or

(b) All elevators installed under ASME A17.1a-2002 and later editions shall have the two-way communications means checked by pressing the "HELP" button in the car to verify that the visual indicator [2.27.1.1.3(c)] is functional and that the answering authorized personnel can receive the building location and elevator number [2.27.1.1.3(d)]; and

(c) Where communications from the building into the elevator is provided, check the two-way communications means to each car.

Renumber the rest of 8.6.11 and revise references accordingly.

**Rationale:** To add annual testing requirements for the Two-Way Communications means in 2.27.1.1. Some parts of the means such as the correct phone number for an autodialer can only be checked manually.

**TN 04-536**

**8.6.3.8 Replacement of Door Reopening Device.** Where a reopening device for power-operated car doors or gates is replaced, ~~it shall conform to 8.7.2.13.~~ the following requirements shall apply:  
(a) the door closing force shall comply with the code in effect at the time of the installation or alteration.  
(b) the kinetic energy shall comply with the code in effect at the time of the installation or alteration.  
(c) when firefighters' emergency operation is provided, door reopening devices and door closing on Phase I and Phase II shall comply with the requirements applicable at the time of installation of the firefighters' emergency operation.

Rationale: To clarify the requirements for replacements of door reopening device.

**TN 04-1343**

**Proposed Changes:**

**5.2.1.19 Ascending Car Over-speed and Unintended Car Movement Protection**

Ascending car over-speed and unintended car movement protection shall conform to 2.19 and 5.2.1.19.1.

**5.2.1.19.1 Marking Plate Requirements**

The Marking plate requirements in 2.19.3.3 shall include the maximum distance from the landing that it takes to stop and hold the car upon detection and actuation of the device as prescribed in 2.19.2.

**5.2.1.15.2 Platform Guards**

Requirement 2.15.9.2 does not apply. The platform guard shall have a straight vertical face, extending below the floor surface of the platform of not less than the depth of the unlocking zone plus 75mm (3in) but in no case less than the maximum distance from the landing that it takes to stop and hold the car upon detection and actuation of the device as prescribed in 2.19.2.

***Rationale:** For a LU/LA elevator with a maximum speed of 0.15 m/s (30 ft/min) and a speed governor tripping speed maximum of 0.38 m/s (75 ft/min), the device used to conform to requirement 2.19.2 will by design typically stop and hold the car within a very short distance. The maximum distance of 220mm (48in) is still retained, but in those design cases where the equipment will function in a shorter distance it should not be required to have an apron guard protecting a distance greater than that of which the device can operate within. Thereby defeating the lesser pit depth requirements described within the text of Section 5.2. The additional required marking plate data allows for the proper inspection of the apron guard length. Requirement 5.2.1.15.2 has been modified to be performance based in reference to this design choice.*

**TN 05-402**

*Proposed revision to A17.1, Section 1.3, Definitions:*

Hall lantern: an audible and visual signaling device located at a hoistway entrance to indicate which car is answering the call and the car's intended direction of travel.

Car lantern: an audible and visual signaling device located in a car to indicate the car is answering the call and the car's intended direction of travel.

Car-direction indicator: a visual signaling device that displays the current direction of travel.

*Proposed revision to A17.1, requirement 2.27.3.1.6 (f):*

~~(f) All car and corridor call buttons shall be rendered inoperative. All call-registered lights and directional lanterns shall be extinguished and remain inoperative. Car position indicators, where provided, shall remain operative. Where provided, landing position indicators shall be extinguished and remain inoperative, except at the designated level and the building fire control station, where they shall remain operative.~~

**(f) Floor selection means, lanterns and indicators**

(1) In the car:

- (a) floor selection means shall be rendered inoperative;
- (b) car call-registered lights and car lanterns, where provided, shall be extinguished and remain inoperative; and
- (c) position indicators and car-direction indicators, where provided, shall remain operative.

(2) At the building fire control station:

- (a) position indicators and car-direction indicators, where provided, shall remain operative

(3) At the designated level:

- (a) hall call-registered lights and hall lanterns, where provided, shall be extinguished and remain inoperative; and
- (b) position indicators and car-direction indicators, where provided, shall remain operative.

(4) At all landings, except at the designated level:

- (a) hall call-registered lights and hall lanterns, where provided, shall be extinguished and remain inoperative; and
- (b) position indicators and car-direction indicators, where provided, shall be extinguished and remain inoperative.

*Proposed revision to A17.1, requirement 2.27.3.3.1 (b):*

~~(b) The car shall not respond to landing calls. Directional lanterns, where provided, shall remain inoperative. Car position indicators, where provided, shall remain operative. Landing position indicators, where provided, shall remain inoperative, except at the designated level and the building fire control station, where they shall remain operative.~~

**(b) Floor selection means, lanterns and indicators**

(1) In the car:

- (a) floor selection means shall function as required in 2.27.3.3.1(i);
- (b) car call-registered lights, where provided, shall remain operative;
- (c) car lanterns, where provided, shall remain inoperative;

(d) position indicators and car-direction indicators, where provided, shall remain operative.

(2) At the building fire control station:

(a) position indicators and car-direction indicators, where provided, shall remain operative.

(3) At the designated level:

(a) the car shall not respond to hall calls;

(b) hall call-registered lights, where provided, shall remain inoperative, except where associated cars of a group have been returned to group automatic operation; and

(c) position indicators and car-direction indicators, where provided, shall remain operative.

(4) At all landings, except at the designated level:

(a) the car shall not respond to hall calls;

(b) hall call-registered lights, where provided, shall remain inoperative, except where associated cars of a group have been returned to group automatic operation; and

(c) position indicators, car-direction indicators, and hall lanterns, where provided, shall remain inoperative.

***Rationale:*** Clarification of the requirement for elevators on Phase I and Phase II, and to add definitions for hall lanterns, car lanterns and car-direction indicators. When some cars are on Phase II and others are on normal service, landing call buttons and registered lights may be operative for the cars on normal service.

**TN 05-1403**

A17.1 Req 3.18.3.8.2(c), Checking Corrosion Protection Compliance

3.18.3.8 Cylinders Buried in the Ground

3.18.3.8.1 Cylinders buried in the ground shall be protected from corrosion due to galvanic or electrolytic action, salt water, or other underground conditions.

3.18.3.8.2 The methods specified in 3.18.3.8.3 shall be considered as acceptable, provided that they

- (a) are designed and installed with means for monitoring and maintaining them in accordance with ~~recognized industry standards~~ [accepted industry practices](#) applicable to the methods;
- (b) are effective for specific conditions where the cylinder is installed; and
- (c) provide means for checking ongoing compliance with 3.18.3.8.1.

Rationale:

The term “accepted industry practices” is substituted for “recognized industry standards” to better define the industry terminology.

**TN 05-1419**

**A17.1 Electric Sidewalk Elevators, Section 5.5.1**

**5.5.1 Electric Sidewalk Elevators**

**5.5.1.1 Construction of Hoistways and Hoistway Enclosures**

The construction of hoistway enclosures shall conform to 2.1, except as modified by the following:

- (a) Requirement 2.1.1.1. Hoistways are not required to be enclosed above the top landing.
- (b) Requirement 2.1.1.3 does not apply.
- (c) Requirement 2.1.2.1 does not apply.
- (d) Requirement 2.1.3 does not apply.
- ~~(e) Requirement 2.1.4 does not apply.~~

Rationale: To reflect the requirements in 2.1.4 as also being applicable for sidewalk elevators so that they can be arranged for freight handlers to ride them through the sidewalk opening in accordance with the following proposal..

**5.5.1.25.2 Operation Through Openings in Sidewalk or Other Area Exterior to the Building.**

The operation of elevators through openings in the sidewalk, or through openings in other exterior areas, and which are protected by hinged doors or vertically lifting covers, shall conform to the following:

- (a) The elevator shall be operated through the opening, in both the up and down directions, only from the sidewalk or other exterior area or from on the car as permitted by 5.5.1.25.2 (g) and at a speed not exceeding 0.13 m/s (25 ft/min). The operation shall be by means of (1) key-operated continuous-pressure-type up-and-down switches; or
- (2) continuous-pressure-type up-and-down operating buttons on the free end of a detachable, flexible cord not more than 1 525 mm (60 in.) in length.
- (b) Key-operated switches shall be of the continuous- pressure spring return type and shall be operated by a cylinder type lock having not less than a five-pin or five-disk combination with the key removable only when the switch is in the "OFF" position.
- (c) Key-operated switches and plug receptacles for flexible cords shall be weatherproof and shall be installed above the sidewalk or other area on the side of the building wall, located 450 mm (18 in.) or less horizontally from one side of the opening.

(d) Operating buttons may be provided in the elevator car and at any landing below the top landing, provided that such buttons shall operate the car only when the bow-iron or stanchions are not in contact with the doors or covers in the sidewalk or other exterior area.

(e) When the bow-iron or stanchions are in contact with the doors or covers at the sidewalk or other exterior area, it shall be possible to operate the car only by means of either the key switches or the continuous-pressure-type up-and-down buttons on the free end of the flexible cord specified in 5.5.1.25.2(a).

(f) Flexible cords and operating keys shall not be left where they are accessible to unauthorized persons for operation of the elevator.

(g) On sidewalk door openings protected by hinged doors and hinged metal screen panels once the hinged sidewalk doors are in the full opened position the elevator shall be permitted to be operated from on the car with the sidewalk doors in the full opened position subject to the following:

(1) The elevator shall be provided with self closing hinged metal screen panels in accordance with 5.5.1.11.3 which cover the entire sidewalk opening.

(2) Where the side of the sidewalk door opening is more than 100 mm (4 inches) from any building wall or other obstruction it shall be provided with a secured barrier that can be removed for loading and unloading the elevator at the sidewalk level and that shall be put in place to protect the sidewalk opening when the elevator is being operated from on the car below the sidewalk level. The secured barrier ~~must~~ shall comply with 2.10.2.

(3) All of the required sidewalk level barriers are in place and their proper placement has electrically enabled the car operating circuit.

Rationale: To provide the necessary precautions for safe operation of sidewalk elevators through the sidewalk opening from on the car in a manner that will permit authorized personnel to safely ride and operate sidewalk elevators through sidewalk openings. This proposal has been deemed to be necessary as it has been found that building owners and operators are currently utilizing sidewalk elevators in this manner without the necessary safety features which are included in this proposal.

**TN 06-794**

*Proposed Revision to A17.1, Requirement 2.1.4 as follows:*

**2.1.4 Control of Smoke and Hot Gases**

When required by the building code, hoistways shall be provided with means to prevent the accumulation of smoke and hot gases.

Where ~~air hoistway~~ pressurization of the hoistway is provided, it shall be designed, installed and maintained so as not to impede elevator operation. ~~utilized as a means of smoke and hot gas control,~~

NOTE (2.1.4): Excessive pressurization could prevent doors, complying with 2.13.4, from closing. the air  
Air shall not be introduced into the hoistway in such a manner as to could cause erratic operation by impingement of traveling cables, selector tapes, governor ropes, compensating ropes, and other components sensitive to excessive movement or deflection.

***Rationale:*** Clarification of intent.

**TN 06-796**

*Proposed Revision to A17.1, Requirement 2.26.2.33:*

**2.26.2.33 Firefighter's Stop Switch.** ~~A firefighter's stop switch that conforms to the requirements of 2.26.2.5(a), (b), and (c) shall be provided where required by 2.27.3.3.1(m).~~ Where required by 2.27.3.3.1(m), a firefighter's stop switch shall  
(a) be of the manually opened and closed type  
(b) have red operating handles or buttons  
(c) be conspicuously and permanently marked "STOP," and shall indicate the "STOP" and "RUN" positions  
(d) be of a toggle or push-to-stop configuration

***Rationale:***

- 1) To establish uniformity and consistency for firefighters stop switch required by 2.27.3.3.7 where firefighters need to operate the switch with a gloved hand
- 2) *This prohibits "push to run" buttons, which could be moved to the run position by closing the cover. Under normal operation the switch will be left in the run position.*

**TN 06-798**

*Proposed Revision to A17.1, Requirements 6.1.8.2 and 6.1.3.15:*

**6.1.8.2 Precipitation.** A cover, directly over the horizontal projection of the escalator, shall be provided. The cover shall extend outward from the centerline of the handrail so that a line extended from the edge of the cover to the centerline of the handrail forms an angle of not less than 15 deg from the vertical. The sides shall be permitted to be open.

When the escalator is indirectly subject to snow or freezing rain, heaters shall be operated to prevent accumulation and freezing on the steps, landing plates, and skirt deflector devices.

Drains shall be provided ~~in the lower pit~~ where ground water and runoff can collect within the equipment.

*Rationale:* To clarify the type of water that we want to prevent from accumulating at any place within the escalator.

**6.2.8.2 Precipitation.** A cover, directly over the horizontal projection of the moving walk, shall be provided. The cover shall extend outward from the centerline of the handrail so that a line extended from the edge of the cover to the centerline of the handrail forms an angle of not less than 15 deg from the vertical. The sides shall be permitted to be open.

When the moving walk is indirectly subject to snow or freezing rain, heaters shall be operated to prevent accumulation and freezing on the treadway and landing plates.

Drains shall be provided ~~in all pits~~ where ground water and runoff could can collect within the equipment.

*Rationale:* To clarify the type of water that we want to prevent from accumulating at any place within the moving walk.

**6.1.3.15 Water Accumulation.** Permanent provisions shall be made to prevent accumulation of ground water in the pit. Drains and sump pumps, where provided, shall comply with ~~2-2-2.4~~ the applicable plumbing code.

*Rationale:* To clarify the type of water that we want to prevent from accumulating.

**TN 06-1003**

Proposal for Changes to 8.7:

**8.7.2.10 Entrances and Hoistway Openings**

**8.7.2.10.1 General Requirements**

- (a) Where all new hoistway entrances are installed, they shall conform to 2.11, 2.12, ~~and 2.13,~~ and 2.29.2.
- (b) Where one or more, but not all, new hoistway entrances are installed, they shall conform to 2.11.2 through 2.11.8 and 8.7.2.10.5. The entire installation shall also conform to 2.11.6, 2.12, ~~and 2.13,~~ and 2.29.2.
- (c) Where an alteration is made to any hoistway entrance, it shall conform to 2.11.3, 2.11.5, 2.11.7, 2.11.8, and 8.7.2.10.5. The entire installation shall also conform to 2.12, ~~and 2.13,~~ and 2.29.2.
- (d) Where an emergency door is added or altered, it shall conform to 2.11.1 and 8.7.2.10.5.
- (e) Where access openings for cleaning are installed, they shall conform to 2.11.1.4 and 8.7.2.10.5.

**8.7.2.27.4 Controllers**

- (a) Where a controller is installed as part of an alteration, it shall conform to 2.25, 2.26.1.4, 2.26.1.5, 2.26.4 through 2.26.9, 2.27.2 through 2.27.8.
- (b) Where a controller for the operation of hoistway doors, car doors, or car gates is installed as part of an alteration, all new and modified equipment and wiring shall conform to 2.26.4.1 and 2.26.4.2.
- (c) Equipment and floors shall be identified as required by 2.29

**8.7.2.27.5 Change in Type of Motion Control.** Where there is a change in the type of motion control, the installation shall conform to the following:

- (a) The protection of the hoistway landing openings shall conform to 2.11.1 through 2.11.13, 2.12, and 2.13.
- (b) Car enclosures and car doors or gates shall conform to 2.14, except that where existing car enclosures and/or car doors or gates are retained, conformance with the following requirements is not required:
  - (1) requirements 2.14.1.3, 2.14.1.5.1, and 2.14.1.8
  - (2) requirements 2.14.2.1, 2.14.2.3, and 2.14.2.4
  - (3) requirement 2.14.3
  - (4) requirements 2.14.4.3 and 2.14.4.6
- (c) The car safety, the counterweight safety (where provided), and the governor shall conform to 2.17 and 2.18, except that the pitch diameter of speed governor sheaves and governor tension sheaves are not required to conform to 2.18.7.
- (d) The capacity and loading shall conform to 2.16.
- (e) The terminal stopping devices shall conform to 2.25.
- (f) The operating devices and control equipment shall ~~conform~~ conform to 2.26. The requirements of 2.26.4.2, 2.26.4.3, and 2.26.4.4 shall not apply to electrical equipment unchanged by the alteration.
- (g) In jurisdictions not enforcing NBCC, emergency operation and signaling devices shall be provided and shall conform to 2.27. In jurisdictions enforcing NBCC, emergency operation and signaling devices where required by NBCC shall be provided and shall conform to 2.27.
- (h) Car overspeed protection and unintended movement protection shall conform to 2.19.
- (i) Equipment and floors shall be identified as required by 2.29

**8.7.2.27.6 Change in Type of Operation Control.** Where there is a change in the operation control, the installation shall conform to the following:

- (a) The protection of the hoistway landing openings shall conform to 2.11.1 through 2.11.13, 2.12, and 2.13.
- (b) Car enclosures and car doors or gates shall conform to 2.14, except that where existing car enclosures and/or car doors or gates are retained, conformance with the following requirements is not required:
  - (1) requirements 2.14.1.3, 2.14.1.5.1, and 2.14.1.8
  - (2) requirements 2.14.2.1, 2.14.2.3, and 2.14.2.4
  - (3) requirement 2.14.3

- (4) requirement 2.14.4.3 and 2.14.4.6
- (c) The car safety, the counterweight safety (where provided), and the governor shall conform to 2.17 and 2.18, except that the pitch diameter of speed governor sheaves and governor tension sheaves are not required to conform to 2.18.7.
- (d) The capacity and loading shall conform to the 2.16.
- (e) The terminal stopping devices shall conform to 2.25.
- (f) The operating devices and control equipment shall conform to 2.26. The requirements of 2.26.4.2, 2.26.4.3, and 2.26.4.4 shall not apply to electrical equipment unchanged by the alteration.
- (g) Emergency operation and signaling devices shall be provided and shall conform to 2.27.
- (h) Equipment and floors shall be identified as required by 2.29

#### 8.7.3.31.5 Controllers

- (a) Where a controller is installed without any change in the type of operation control or motion control as part of an alteration, it shall conform to 2.26.1.4, 2.26.1.5, 2.26.4.1, 2.26.4.2, 2.26.4.3, 2.26.5, 2.26.7, 3.26.2, 3.26.3, 3.26.5, 3.26.7, 3.26.10, and 3.25.
- (b) Where a controller for the operation of hoistway doors, car doors, or car gates is installed as part of an alteration, all new and modified equipment and wiring shall conform to 2.26.4.1 and 2.26.4.2.
- (c) Equipment and floors shall be identified as required by 2.29

**8.7.3.31.6 Change in Type of Motion Control.** Where there is a change in the type of motion control, the installation shall conform to the following:

- (a) The terminal stopping devices shall conform to 3.25.
- (b) The operating devices and control equipment shall conform to 3.26. The requirements of 2.26.4.2 and 2.26.4.4 do not apply to electrical equipment unchanged by the alteration.
- (c) Emergency operation and signaling devices shall conform to 3.27.
- (d) Equipment and floors shall be identified as required by 2.29

**8.7.3.31.7 Change in Type of Operation Control.** Where there is a change in the type of operation control, the installation shall conform to the following:

- (a) The protection of the hoistway landing openings shall conform to 2.11.1 through 2.11.13 as modified by 3.11.1, and conform to 3.12.1 and 3.13.
- (b) Car enclosures and car doors or gates shall conform to 3.14, except that where existing car enclosures and/or car doors or gates are retained, conformance with the following requirements is not required:
  - (1) requirements 2.14.1.3, 2.14.1.5.1, and 2.14.1.8
  - (2) requirements 2.14.2.1, 2.14.2.3, and 2.14.2.4
  - (3) requirement 2.14.3
  - (4) requirements 2.14.4.3 and 2.14.4.6
- (c) The capacity and loading shall conform to 3.16.
- (d) The terminal stopping devices shall conform to 3.25.
- (e) The operating devices and control equipment shall conform to 3.26. The requirements of 2.26.4.2, 2.26.4.3, and 2.26.4.4 shall not apply to electrical equipment unchanged by the alteration.
- (f) Emergency operation and signaling devices shall be provided and shall conform to 3.27.
- (g) Equipment and floors shall be identified as required by 2.29

#### 8.10.2.3 Inspection and Test Requirements for Altered Installations

##### 8.10.2.3.2

(o) Where an alteration is made such that a hoistway entrance is added (see 8.7.2.10.1), tests shall be performed as specified in 8.10.2.2.1(a), (c)(3), (h), (i), (j), (r), and (t); 8.10.2.2.2(z)(2); 8.10.2.2.3(c)(3), (o), (w); 8.10.2.2.4(b) through (g), and (j); and 8.10.2.2.6.

(s) Where a controller is installed as part of an alteration without any change to the type of operation or control (see 8.7.2.27.4), tests shall be performed as specified in 8.10.2.2.1(c), (j), (l)(5), (q), and (t); 8.10.2.2.2(k), (l), (m), (o), (t), (u), (y), (z), (cc), and (dd); ~~and 8.10.2.2.6 and 8.10.2.2.3(o).~~

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(t) Where an alteration is made that results in a change in the type of motion or operation control (8.7.2.27.5 and 8.7.2.27.6), tests shall be performed as specified in 8.10.2.2.2 ~~(l) and (m)~~ (s) and (t). All electrical protective devices shall be tested for proper operation.

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### 8.10.3.3 Inspection and Test Requirements for Altered Installations

#### 8.10.3.3.2

(p) Where an alteration consists of a change in operation control (8.7.3.31.7), tests shall be performed as specified in 8.10.3.2.1(a), (b), (c), (e) through (j), (l), (q), (s), and (t); 8.10.3.2.2(j), (l), (t), (u), (x), and (y); 8.10.3.2.3(a), (c), (e), (f), ~~and (g)~~, (j), and (cc); 8.10.3.2.4(b) through (g), (j), and (k); 8.10.3.2.5(a) and (e); and 8.10.3.2.6.

(q) Where an alteration is made that results in a new hoistway door, car door or car gate controller without any change to the operation or control [8.7.3.31.5(b)], test shall be performed as specified in 8.10.2.2.2(j) and 8.10.3.3(l)(1), (l)(2), (l)(3), and (l)(5).

(r) Where an alteration is made that results in a change in the type of motion control (8.7.2.27.5), tests shall be performed as specified in 8.10.3.2.1(l); 8.10.3.2.2(j), (l), (m), (t), ~~and (u)~~, and 8.10.3.2.3(j). All electrical protective devices shall be tested for proper operation.

(s) Where an alteration is made and results in a replacement of a new controller without any change to the type of operation control or motion (8.7.3.31.5), tests shall be performed as specified in 8.10.2.2.1(l)(5), and 8.10.2.2.2(j), (l), (m)(1), (m)(2), (m)(4), and (ee); and 8.10.2.2.1(t), and 8.10.2.2.3(o). All electrical protective devices shall be tested for proper operation.

Rationale: Incorporating the requirements of 2.29 when appropriate alterations are completed. Based on these proposed changes to Section 8.7, incorporating these items into the Inspection process for Altered equipment.

**TN 06-1341**

***Proposed Revision to A17.1:***

*Add Requirement 8.10.3.2.3(ee) as follows:*

**8.10.3 Acceptance Inspection and Tests of Hydraulic Elevators**

**8.10.3.2.3 Top of car**

(ee) Broken Rope, Chain, or Tape Switch (Item 3.26).

*Add Requirement 8.11.3.1.3(ee) as follows:*

**8.11.3 Periodic Inspection and Tests of Hydraulic Elevators**

**8.11.3.1.3 Top of Car**

(cc) Broken Rope, Chain, or Tape Switch (Item 3.26).

***Rationale:*** *The broken rope, chain or tape switch for roped hydraulic elevators should be checked in 3.26, but need to be added to 8.10 first.*

**TN 06-1474**

*Proposed Revision to A17.1, Requirement 6.1.1.1 and 6.1.3.6.6:*

**6.1.1 Protection of Floor Openings**

**6.1.1.1 Protection Required.** Floor openings for escalators shall be protected against falls, the passage of flame, heat, and/or smoke in accordance with the provisions of the applicable building code (see Part 9).

**~~6.1.3.6.6 Floor opening protection adjacent to escalator wellway~~**

Floor openings adjacent to the entire length of the escalator wellway shall be provided with protection in accordance with the applicable building code (see Part 9).

***Rationale:** to clarify that floor opening protection is addressed in the applicable building code. Moving handrails are not intended to be used for floor opening protection.*

**TN 06-1647**

*Proposed Revision to A17.1, Requirement 6.2.3.13:*

~~**6.2.3.13 Chain Drives.** Chain drives shall be of the type covered by ASME B29.1M and ANSI/SAE SP-68. When operating at the machinery rated load, the load imposed on such chains shall not exceed the horsepower rating established by these standards. The loading shall be considered to be uniform and the service to be 24 h per day.~~

***Rationale:** the safety factor for power transmission chains (6.2.3.11.3) adequately covers the requirements for moving walk chains. This is consistent with the requirements for escalators (6.1.3.10.3).*

**TN 07-103**

***Preface to changes:***

This project was started for a few reasons:

- 1) *The anti-creep requirements and truck leveling zone requirements for a Type 'B' material lift should not be the same as for a Hydraulic Elevator as the Type 'B' material lift has special conditions that require specific rules for consistency.*
- 2) *Next, there are few modes of automatic operation that seem to conflict with the safety principle of maintaining operator control through the use of continuous pressure. The operation modes giving concern were automatic leveling and anticreep operation with 18" zone and low oil protection that automatically lowers a car.*
- 3) *Finally the changes ease up on a requirement that is probably not necessary on a lift with limitations in speed, control, and travel. Instead of requiring the door or gate to be closed and locked before leaving a landing, the proposal permits the car to leave the landing with the door or gate only closed. Once out of a small zone, interlocks must be used to lock the doors or gates shut.*

*In implementing these changes, it was discovered conflicts in the intended requirements are present as a result of section 7.6 referencing both section 7.5 and 3.26 which in turn both modify section 2.26 in their own way. The referencing has been updated in this proposal to eliminate potential conflicts in the requirements.*

**7.4.14 Hoistway door locking devices and electric contacts, and hoistway access switches**

Hoistway door locking devices, hoistway door and car door or gate electric contacts, and hoistway access switches shall conform to 2.12, except as modified by 7.4.14.1 through 7.4.14.57.

**7.4.14.1** Requirement 2.12.1.4 does not apply.

**7.4.14.2** Requirement 2.12.2.3 does not apply to Type B Material Lifts. The operation of a Type B Material Lift driving machine when a hoistway door or gate is not in the closed position (see 2.12.2.2) shall be permitted by a car leveling or truck zoning device (see 7.5.12.2.5), or by an anticreep device (see 7.6.8.2). The operation of a Type B Material Lift driving machine when a hoistway door or gate is unlocked, but in the closed position shall be permitted by a car leveling or truck zoning device, by an anticreep device, or by continuous pressure control devices located inside the car or at a landing when the car is within 75mm (3 in.) above or below the landing. Hoistway door close contacts (see 7.5.12.2.19) shall be provided when the driving machine is operated with the hoistway door or gate unlocked, but in the closed position. The hoistway door close contacts shall be positively opened by the opening action of the door or gate. They shall be maintained in the open position by the action of gravity or by a restrained compression spring, or by both, or by positive mechanical means.

**7.4.14.3** Requirement 2.12.2.4.3 applies to Type B Material Lifts except a device to permit operation of the driving machine when the door or gate is closed but before it is locked shall be permitted in accordance to 7.4.14.2.

**7.4.14.24** Requirement 2.12.5 does not apply.

**7.4.14.35** Requirement 2.12.6 applies except that unlocking devices are required at only the lowest and top landings.

**7.4.14.46** Requirement 2.12.7 applies only to Type A Material Lifts.

**7.4.14.57** For Type B Material Lifts, the interlock or mechanical lock and electric contact shall not be readily accessible from inside the platform.

***Rationale:** To allow a Type B Material lift to leave the floor while the doors or gates are closed but not locked. Motion with doors not locked is only permitted in a small zone. The qualities of an interlock are maintained outside of this zone. Once out of the zone the interlock circuit will be checked. This is a similar operation to private residence locks. This operation will permit fixed cams to be used on the car rather than a retiring cam.*

**7.5.2.4**

Requirement 2.15.9.2 applies ~~to for~~ Type A Material Lifts and Type B Material Lifts that operate in a leveling or truck zone in accordance to 7.5.12.2.5 only, except the minimum allowance of 1 220mm (48in.)

in (a) does not apply to Type A and Type B Material Lifts and the minimum allowance of 525 mm (21in.)  
in (b) does not apply to Type B Material Lifts.

*Rationale: When Type B material lifts can operate in a leveling or trucking zone above a landing with doors or gate open, etc then the shear hazard between the platform and the landing sill needs to be eliminated. If it can not operate in the leveling zone with the doors or gates open then a platform apron is not required.*

**7.5.12.1.16** Requirement 2.26.4.3 does not apply. The following switches shall have contacts that are positively opened mechanically; their opening shall not be solely dependent on springs.

- (a) stop switch in pit (see 2.26.2.7)
- (b) stop switch on top-of-car (see 2.26.2.8)
- (c) car safety mechanism switch (see 2.26.2.12)
- (d) speed-governor overspeed switch (see 2.26.2.10)
- (e) final terminal stopping device (see 7.5.11)
- (f) hoistway door locking devices for power material lifts (see 7.4.14)
- (g) hoistway door close contacts (see 7.5.12.2.19)

*~~NOTE: All following requirements are new or completely rewritten so underline and strikeout has not been used.~~*

#### **7.5.12.2.5 Operation in leveling or truck zone**

Requirement 2.26.1.6 does not apply. Operation of a material lift in a leveling or truck zone at any landing by a car leveling or truck-zoning device, when the hoistway doors, or the car doors or gates, or any combination thereof, are not in the closed position, is permissible, subject to the requirements of 7.6.8.2.5.1 through 7.6.8.2.5.4.

*Rationale: This requirement will become 7.5.12.2.5 and current subsequent numbers will be incremented accordingly. It is very similar to rule 3.26.3.2. The speed limitation has been removed so that the maximum rated Type B speed may be used. It is only 0.025 m/s (5 ft/min) faster than the ordinary elevator leveling speed. It is placed in section 7.5.12.2 because it also applies to Electric Type B Material Lifts. Numbering will have to be updated.*

**7.5.12.2.5.1 Operating devices of manually operated car leveling devices or truck zoning devices shall be of the continuous-pressure type and located in the car.**

*Rationale: This is a copy of 2.26.1.6.1*

**7.5.12.2.5.2 The Material Lift leveling zone at any landing shall not extend more than 75 mm (3 in.) above and below any landing. Operation in the leveling zone above any landing shall only be permitted when a car apron conforming to 2.15.9 is provided except the minimum allowances of 1220mm (48in.) in 2.15.9.2(a) and 525 mm (21in.) in 2.15.9.2(b) do not apply.**

*Rationale: Create a Type B material lift leveling zone specific to the characteristics of a device with no car doors, little or no car apron, and continuous pressure operation. The same small zone will be used for anticreep operation. Add requirement for car apron when leveling zone extends above a landing,*

#### **7.5.12.2.5.3**

The Material Lift truck zone at any landing shall not extend more than 1 700 mm (67 in.) above the landing. Truck zones shall only be permitted when a car apron conforming to 2.15.9 is provided, except the minimum allowances of 1220 mm (48 in.) in 2.15.9.2(a) and 525 mm (21 in.) in 2.15.9.2 (b) do not apply.

*Rationale: To create conditions that will permit a truck zone. Current rules do not restrict them even though aprons are not required.*

#### **7.5.12.2.5.4**

Requirement 2.26.1.6.5 shall apply.

*Rationale: More rules for truck and leveling zone. Same as elevators.*

~~7.5.12.2.56~~  
~~7.5.12.2.67~~  
~~7.5.12.2.78~~  
~~7.5.12.2.89~~  
~~7.5.12.2.910~~  
~~7.5.12.2.4011~~  
~~7.5.12.2.4112~~  
~~7.5.12.2.4213~~  
~~7.5.12.2.4314~~  
~~7.5.12.2.4415~~  
~~7.5.12.2.4516~~  
~~7.5.12.2.4617~~  
~~7.5.12.2.4718~~

**7.5.12.2.19 Hoistway door close contacts**

Hoistway door close contacts, conforming to 7.4.14.2, shall be provided for all Type B Material Lifts that can operate with hoistway doors or gates closed but not locked within 75 mm (3 in.) above or below a landing and are provided with interlocks. These contacts are electrical protective devices.

*Rationale: To define the hoistway door close contacts as a Type B material Lift Electrical Protective Device. It should be numbered 7.5.12.2.4819 to coordinate with other EPDs. Subsequent numbering requires update.*

~~7.5.12.2.4820~~  
~~7.5.12.2.4921~~  
~~7.5.12.2.2022~~  
~~7.5.12.2.2123~~  
~~7.5.12.2.2224~~  
~~7.5.12.2.2325~~  
~~7.5.12.2.2426~~  
~~7.5.12.2.2527~~  
~~7.5.12.2.2628~~  
~~7.5.12.2.2729~~  
~~7.5.12.2.2830~~  
~~7.5.12.2.2931~~  
~~7.5.12.2.3032~~  
~~7.5.12.2.3133~~  
~~7.5.12.2.3234~~

**7.6.8 Operating devices and control equipment**

~~Operating devices and control equipment shall conform to 3.26, except as modified by 7.5.12.~~

**7.6.8.1 Operating devices and control equipment**

Operating devices and control equipment shall conform to 2.26 as specified by 7.5.12, except as modified by the following:

- (a) Requirements 7.5.12.1.5 through 7.5.12.1.14 and 7.5.12.2.5 through 7.5.12.2.17 for electrical protective devices apply as specified in 7.6.8.3.
- (b) Requirements 2.26.6, 7.5.12.1.20, and 7.5.12.2.23 do not apply.
- (c) Requirement 2.26.8 does not apply.
- (d) Requirements 2.26.9.1, 2.26.9.2, 2.26.9.5, 2.26.9.6, and 2.26.9.7 do not apply.
- (e) Requirement 2.26.10 does not apply.

The words “driving machine motor and brake” in 2.26 and 7.5.12 shall be replaced with “hydraulic machine”.

**7.6.8.2 Anticreep operation**

Each hydraulic Type A material lift shall be provided with anticreep operation in conformance with 3.26.3. Each hydraulic Type B material lift shall be provided with an anticreep operation to correct automatically a change in car level below any landing. It shall conform to 7.6.8.2.1 through 7.6.8.2.5.

*Rationale: Because of high speed possibility, automatic operation, car doors, and car apron, Type A hydraulics can meet same anticreep requirements as a hydraulic elevator. Special conditions of Type B require specific rules.*

**7.6.8.2.1**

The anticreep leveling zone shall not extend more than 75 mm (3 in.) below any landing.

*Rationale: Anticreep (form of automatic leveling) zone is the same size as leveling zone.*

**7.6.8.2.2**

The anticreep device shall maintain the car within 25 mm (1 in.) of the landing.

*Rationale: This is the floor level tolerance for the anticreep feature. Same as hydraulic elevator (3.26.3.1.2).*

**7.6.8.2.3**

The anticreep device shall be required to operate the car only in the up direction.

*Rationale: Same as hydraulic elevator (3.26.3.1.2).*

**7.6.8.2.4**

When operation dependant on the availability of electric power is provided, requirement 3.26.3.1.4 shall apply.

*Rationale: Same as hydraulic elevator*

**7.6.8.2.5**

Only the following, when activated, shall prevent operation of the anticreep device:

- (a) all electrical protective devices except those listed in 7.6.8.3.
- (b) recycling operation (3.26.7)
- (c) inspection transfer switch (2.26.1.4.1(b))
- (d) low oil protection means (7.6.8.5)
- (e) oil tank temperature shutdown devices

*Rationale: Correct references to point to the modified versions of the switches found.*

**7.6.8.3 Electrical protective devices**

When in the open position, all electrical protective devices shall prevent operation by all operating means except the following devices shall not prevent operation of the anticreep device:

- (a) emergency stop switch, 7.5.12.2.5
- (b) hoistway door interlocks or hoistway door contacts, 2.26.2.14
- (c) car door or gate electric contacts (7.5.12.2.12)
- (d) hinged car platform sill electric contacts (2.26.2.20)
- (e) hoistway door close contacts (7.5.12.2.19)

*Rationale: Simplified version of requirement 3.26.4. The references to 2.26.2 and "hydraulic machine" are relocated to appropriate places. Deceleration not discussed.*

**7.6.8.4**

Requirements 3.26.5 through 3.26.8 apply to all hydraulic material lifts. Requirements 3.26.9 and 3.26.10 shall apply to Type A hydraulic material lifts only.

*Rationale: Features that can be copied exactly from hydraulic elevator section.*

**7.6.8.5 Low oil protection**

A means shall be provided to render normal control of a Type B hydraulic material lift inoperative if for any reason the liquid level in the tank falls below the permissible minimum. Suitable means include, but are not limited to, the following:

(a) direct sensing of liquid level

(b) a pump-run timer

Actuation of the means shall prevent the hydraulic pump from running, preventing further upward motion. Continuous pressure operation shall continue to function in the downward direction. The means shall require local manual reset before returning the car to service.

*Rationale: Want to limit the amount of automatic operation on these lifts. Having a lift go automatically down while the operator is pressing the continuous pressure button to go up removes the operator's control of the device. Ideally only leveling including anticreep in a very small zone will be operated automatically. All other operation should be continuous pressure to allow the operator to maintain control at all times. This special Low oil feature will not allow the car to go up or the pump to run, but will allow the car to descend under control of the operator.*

**FINAL NOTE:** *The changes in leveling and locking would result in Material lift seen frequently in Ontario, Canada under variances from code. These Hydraulic Type B lifts have, swing doors with interlocks, 3" door zone, automatic anticreep (door open), no leveling with door open, inching within zone when door is closed, ability to leave landing with door closed but unlocked (interlock checked outside zone), no automatic lowering under low oil (power removed from pump but operator controls down valve with constant pressure buttons). The combination of features work well.*

**TN 07-297**

*Proposed Revision to A17.1, Requirement 6.2.3.18:*

**6.2.3.18 Water Accumulation.** Permanent provisions shall be made to prevent accumulation of ground water in the pit. Drains and sump pumps, where provided, shall comply with the applicable plumbing code.

***Rationale:*** *To address the type of water that we want to prevent from accumulating.*

**TN 07-461**

*Proposed Change to A17.1, Add new Requirement 2.14.4.2.6:*

**2.14.4.2.6**

A hoistway door interlock meeting the requirements of 2.12.2 and 2.12.4 shall be permitted to be used as a car door interlock.

***Rationale:** The function, description, testing, listing, and marking requirements for a hoistway door interlock are the same as for a car door interlock. There should be no need to re-submit an approved hoistway door interlock so that it can also be used as a car door interlock.*

**TN 07-462**

**Modify Requirement 2.27.3.2:**

**2.27.3.2.1** In jurisdictions not enforcing the NBCC, fire alarm initiating devices used to initiate Phase I Emergency Recall Operation shall be installed in conformance with the requirements of NFPA 72, and shall be located

- (a) at each floor served by the elevator
- (b) in the associated elevator machine room, [machinery space containing a motor controller or electric driving machine](#), control space, or control room
- (c) in the elevator hoistway, when sprinklers are located in those hoistways

**2.27.3.2.2**

In jurisdictions enforcing the NBCC, smoke detectors, or, if applicable, the building fire alarm system (fire alarm initiating devices), used to initiate Phase I Emergency Recall Operation, shall be installed in conformance with the requirements of the NBCC, and shall be located in:

- (a) each elevator lobby; and
- (b) the machine room, [machinery space containing a motor controller or electric driving machine, control space, or control room](#)

NOTE (2.27.3.2.2) Fire alarm initiating devices are referred to as fire detectors in the NBCC.

**Modify Requirement 3.27:**

**SECTION 3.27**

**EMERGENCY OPERATION AND SIGNALING DEVICES**

Emergency operation and signaling devices shall conform to 2.27, except as modified by the following: The requirements of 3.26.9 and 3.18.2.7 shall be modified when Phase I Emergency Recall Operation and Phase II Emergency In-Car Operation are in effect, as specified in 3.27.1 through 3.27.4. [The requirements of 2.27.3.2.1\(b\) and 2.27.3.2.2\(b\) shall be modified to include a machinery space containing a hydraulic machine.](#)

***Rationale:** It is important to have a Fire Alarm Initiating Device (FAID) or smoke detector in a space containing a motor controller, electric driving machine and hydraulic machine since these devices have significant energy available to generate smoke and heat. This objective is reflected in the requirements prior to A17.1S-2005 for a FAID or smoke detector.*

However, requirement 2.7.6.3.2 does permit a motor controller to be located in a machinery space. Therefore in this case a FAID or smoke detector should also be required in the machinery space. Also in 2.27.3.2.2 control space and control room were added to be consistent with 2.27.3.2.1(b).

**TN 07-464**

*Proposed Revision to A17.1, Requirement 2.27.4:*

**2.27.4 Firefighters' Emergency Operation: Nonautomatic Elevators**

Firefighters' Emergency Operation shall apply to all non-automatic elevators, except as follows:

- ~~(a) where the hoistway or a portion thereof is not required to be fire-resistive construction (see 2.1.1.1), the travel does not exceed 2 000 mm (80 in.), and the hoistway does not penetrate a floor,~~
- ~~(b) in jurisdictions enforcing the NBCC where the NBCC does not require Firefighters' Emergency Operation~~
- ~~(c) where Firefighters' Emergency Operation is provided voluntarily these requirements shall also apply~~

***Rationale:*** *To harmonize 2.27.4 and delete the Canadian exceptions. The requirements for all elevators to have automatic recall have now been harmonized and will be reflected in the next edition of the code. During the process this area of the code was overlooked unintentionally and needs to be brought in line with the requirements for automatic elevators in order to provide an increased level of safety.*

**TN 07-465**

*Proposed Revision to A17.1, Requirement 2.27.3.3.7:*

**2.27.3.3.7** The “FIRE OPERATION” switch (2.27.3.3), the “CALL CANCEL” button [2.27.3.3.1(h)], the “STOP” switch [2.27.3.3.1(m)], the door open button(s), the door close button(s), the additional visual signal (2.27.3.3.8), and the operating instructions shown in Fig. 2.27.7.2 shall be grouped together at the top of a main car operating panel behind a locked cover.

The firefighters’ operation panel cover shall be openable by the same key that operates the “FIRE OPERATION” switch. The key shall be rotated clockwise to allow the panel to be opened. The cover shall be permitted to open automatically when the car is on Phase I Emergency Recall Operation and at the recall level. When the key is in the “FIRE OPERATION” switch, the cover shall not be capable of being closed. When closed, the cover shall be self-locking.

Where rear doors are.....

***Rationale:*** *to standardize operation consistent with the Phase I and Phase II key switches.*

**TN 07-1118**

*Proposed Revision to A17.1, Requirement 6.1.6.3.1 and 6.2.6.3.1, Emergency Stop Buttons:*

**6.1.6.3.1 Emergency Stop Buttons**

*(a) Location. ~~In jurisdictions not enforcing NBCC, a~~ A red stop button shall be visibly located at the top and the bottom landings on the right side facing the escalator. In jurisdictions not enforcing NBCC, ~~Remote stop buttons are prohibited. In jurisdictions enforcing NBCC, a red stop button shall be visibly located at the top and the bottom landings on the right side facing the escalator. If auxiliary emergency-stop~~ remote buttons are provided, they shall be located within view of the escalator.*

**6.2.6.3.1 Emergency Stop Buttons**

*(a) Location. ~~In jurisdictions not enforcing NBCC, a~~ A red stop button shall be visibly located at the top and the bottom landings on the right side facing the ~~escalator~~ escalator moving walk. In jurisdictions not enforcing NBCC, ~~Remote stop buttons are prohibited. In jurisdictions enforcing NBCC, a red stop button shall be visibly located at the top and the bottom landings on the right side facing the escalator. If auxiliary emergency-stop~~ remote buttons are provided, they shall be located within view of the ~~escalator~~ escalator moving walk.*

***Rationale:*** *To clarify the intent of the requirement. This is the basic text as it was found in B44 prior to the harmonization of B44/A17.1-2007 with the exception that auxiliary emergency-stop was changed to remote.*

*Text from B44:*

***“6.1.6.3.1 Emergency Stop Buttons***

*(a) Location. In jurisdictions not enforcing NBCC, a red stop button shall be visibly located at the top and the bottom landings on the right side facing the escalator. Remote stop buttons are prohibited.*

***c6.1.6.3.1(a) Emergency Stop Buttons***

*(a) In jurisdictions enforcing NBCC, a red stop button shall be visibly located at the top and the bottom landings on the right side facing the escalator. If auxiliary emergency-stop buttons are provided, they shall be located within view of the escalator.”*

**TN 07-1119** (Editorial)

*Editorial Revision to A17.1, Requirement 6.1.3.5.4:*

**6.1.3.5.4 Clearance Between Steps.** The maximum clearance between step treads on the horizontal run shall be 6 mm (0.25 in.). ~~(See Nonmandatory Appendix I, Fig. I-6.)~~

**Rationale:** *to eliminate incorrect reference.*

**TN 07-1149**

*This is a proposed revision to ASME A17.1 / CSA B44, Requirement 2.12.7.1:*

**2.12.7 Hoistway Access Switches**

**2.12.7.1 General**

~~2.12.7.1.1 When a hoistway access switch is provided it shall be located at the lowest landing for access to the pit or top landing for access to the top of the car. When two hoistway access switches are provided, one shall be located at the lowest landing and one at the top landing.~~

**2.12.7.1.2<sup>1</sup>** Hoistway access switches shall be provided when the rated speed is greater than 0.75 m/s (150 ft/min) at

- (a) the lowest landing when a separate pit access door is not provided; and
- (b) the top landing.

~~2.12.7.1.3<sup>2</sup>~~ For elevators with a rated speed of 0.75 m/s (150 ft/min) or less, a hoistway access switches shall be provided at the top landing when the distance from the top of the car to the landing sill exceeds 900 mm (35 in.) when the car platform is level with the landing immediately below the top landing.

**2.12.7.1.3** When one or more hoistway access switches are provided but not required, the switch(es) shall be provided at the landing(s) specified in 2.12.7.1.1. Additional hoistway access switches shall be permitted at other landings only when switches specified in 2.12.7.1.1 have been provided.

*This is a proposed revision to A17.1 / CSA B44, Requirement 2.12.7.3.7.*

**2.12.7.3.7** The movement of the car initiated and maintained by the ~~upper~~-access switch at a landing other than the lowest landing shall be limited in the down direction to a travel not greater than the height of the car crosshead above the car platform, and limited in the up direction to the distance the platform guard extends below the car platform.

**RATIONALE:** *to clarify where hoistway access switches, provided in addition to required access switches, must be located, and to establish when additional access switches are permitted. By assuring required switches remain in a consistent location, elevator personnel unfamiliar with a jobsite can safely access the pit or top of the car.*

**TN 07-1153**

*Proposed Revision to A17.1, Requirement 2.14.7.1.3(f):*

- (f) Battery-operated units, where provided, shall
- (1) comply with CSA C22.2 No. 141 or UL 924 (see Section ~~94~~)
  - (2) have a 4 h rating minimum
  - (3) be permanently connected to the car light branch circuit
  - (4) have an output rating that includes the auxiliary lights and if connected, the emergency signaling device (see 2.27.1.1.3)

*Revise Section 9.1 as follows:*

<b>Designation</b>	<b>Standard</b>	<b>Publisher</b>	<b>Applicable to</b>
CSA C22.2 No. 141-M1985 (R1992)	Unit Equipment for Emergency Lighting	CSA	<u>US, Canada</u>
UL 924	Standard for Safety Emergency Lighting and Power Equipment	UL	<u>US, Canada</u>

***Rationale:*** *To add the appropriate UL ~~US~~ reference standard and make both applicable in the US and Canada.*

**TN 07-1152**

*This is a proposed revision to A17.1, Requirement 2.12.7.3:*

**2.12.7.3 Operating Requirements.** The operation of the switch shall permit movement of the car with the hoistway door ~~at this landing located adjacent to the switch~~ unlocked or not in the closed position, and with only the car door or gate associated with this hoistway door unlocked or not in the closed position, subject to the requirements of 2.12.7.3.1 through 2.12.7.3.8.

***RATIONALE:*** *to clarify that the hoistway access switch located at a landing with multiple entrances will only operate in conjunction with the hoistway door located adjacent to the access switch, and with only the car door or gate associated with this hoistway door. This is consistent with the response to Inquiry 04-36 and the response to Inquiry 06-53.*

**TN 07-1154**

**Proposed Revision to A17.1, Requirement 2.14.1.7.1**

**2.14.1.7 Railing and Equipment on Top of Cars**

**2.14.1.7.1** A standard railing conforming to 2.10.2 shall be provided on the outside perimeter of the car top on all sides where the perpendicular distance between the edges of the car top and the adjacent hoistway enclosure exceeds 300 mm (12 in.) horizontal clearance and on sides where there is no hoistway enclosure.

***Rationale:*** To indicate all conditions when a railing is required

**TN 07-1157**

**2.27.3.2.2** In jurisdictions enforcing the NBCC, smoke detectors, or heat detectors in environments not suitable for smoke detectors ~~or, if applicable, the building fire alarm system~~ (fire alarm initiating devices), used to initiate Phase I Emergency Recall Operation, shall be installed in conformance with the requirements of the NBCC, and shall be located ~~in~~

(a) at each floor served by the elevator

(b) in the associated elevator machine room, control space, or control room.

~~(a) each elevator lobby~~

~~(b) the machine room~~

NOTE (2.27.3.2.2): Smoke and heat detectors ~~(Fire alarm initiating devices)~~ are referred to as fire detectors in the NBCC. Pull stations are not deemed to be fire detectors.

**Rationale:** *To ensure that pull-stations are not used to initiate Phase I operation and to harmonize the requirements with 2.27.3.2.1.*

**TN 07-1158**

Proposed Revision to A17.1, Requirement 2.27.3.2.3(a):

**2.27.3.2.3**

(a) The activation of a fire alarm initiating device as specified in 2.27.3.2.1(a) or 2.27.3.2.2(a) at any floor...

***Rationale:** The structure of the rule 2.27.3.2.3 is intended to address lobby detectors in (a), machine room detectors in (b), and hoistway detectors in (c). Without this qualifier, machine room and hoistway detectors are addressed twice.*

**TN 07-1163 (Editorial)**

*Proposed Revision to 2.27.3.2.4:*

**2.27.3.2.4** Phase I Emergency Recall Operation to an alternate level (see 1.3) shall conform to the following:

(a) the activation of a fire alarm initiating device specified in 2.27.3.2.1(a) or 2.27.3.2.2(~~ab~~) that is located at the designated level, shall cause all elevators serving that level to be recalled to an alternate level, unless Phase I Emergency Recall is in effect

(b) the requirements of 2.27.3.1.6(f), (j), (m), and (n)

(c) the requirements of 2.27.3.1.6(a), (b), (c), (d), (e), (g), (h), (i), (k), and (l), except that all references to the “designated level” shall be replaced with “alternate level”.

***Rationale:*** Update to correct reference.

**TN 07-1593**

Proposed revision to A17.1, Requirement 8.7.2.7

**8.7.2.7 Machine Rooms and Machinery Spaces-Machinery Spaces, Machine Rooms, Control Spaces, and Control Rooms**

**8.7.2.7.1** Enclosures. Where an alteration consists of the construction of a new machinery spaces, machine rooms, control spaces, or control rooms~~machine room or machinery space enclosure~~, it shall conform to 2.7. Electrical equipment clearances shall conform to NFPA70 or CSA-22.1, whichever is applicable. Where alterations are made to any portion of a machinery spaces, machine rooms, control spaces, or control rooms~~machinery room or machinery space~~, that portion which is altered shall conform to 2.7.

*Rationale:* Section 2.7 previously, Machine Rooms and Machinery Spaces, changed in A17.1S-2005 to Machinery Spaces, Machine Rooms, Control Spaces, and Control Rooms  
The alteration requirements of 8.7.2.7.1 need to be updated to remain aligned with the restructured section 2.7.  
Revise the title of 8.7.2.7 and body of 8.7.2.7.1 to address new control rooms and spaces.

~~Requirements related to the alteration of a control rooms or a control spaces must be defined.~~  
~~Section 2.7 now includes requirements for control rooms and spaces and alteration requirements 8.7.2.7 should be amended accordingly.~~

**TN 07-1641**

*Proposed Revision to A17.1:*

**5.3.1.4.2 Between Car and Landing Sill**

The clearance between the car platform sill and the landing sill shall be not less than 13 mm (0.5 in.) nor more than ~~38 mm (1.5 in.)~~ 32 mm (1.25 in.).

*Rationale: To provide correlation with the requirements in Section 2 and with the requirements of ICC/ANSI A117.1 Accessible and Usable Buildings and Facilities*

**TN 07-1643**

*Revise A17.1 as follows:*

**8.7.2.25.1 Alterations to Driving Machines and Sheaves**

(a) Where a driving machine is installed as part of an alteration, the installation shall conform to ~~2.7.2 2.7.2.3~~, 2.9, 2.10.1, 2.19, 2.20, 2.24, and 2.26.8. Requirement ~~2.7.2 2.7.2.2~~ applies to the extent existing installations permit.

***Rationale:** The requirements of 2.7.2.2 moved to 2.7.2, not 2.7.2.3 as shown in the revised requirement. The previous editorial change is incorrect. The referencing needs to be corrected.*

**8.7.2.25.2 Change in Location of Driving Machine**

(a) Where the location of the driving machine is changed with no increase or decrease in rise, the installation shall conform to ~~2.7.2 2.7.2.2~~, 2.9, 2.10.1, and 2.24.2.3.

***Rationale:** The requirements of 2.7.2.2 moved to 2.7.2. The editorial changes should reflect this renumbering.*

**TN 07-1651**

Add to A17.1, additional requirements 3.16.3(c) and 3.16.3(d) as follows:

**3.16.3 Capacity and Data Plates**

The requirements of 2.16.3 shall apply, except:

- (a) requirement 2.16.3.2.1(a) shall not apply to hydraulic elevators.
- (b) on data plates (see 2.16.3.2.2), the weight of the plunger is not to be included in the weight of the complete car, even though it is attached. The plunger weight is to be indicated independently. The operating speed in the down direction shall also be indicated.
- (c) requirement 2.16.3.2.2(c) applies only for roped-hydraulic elevators.
- (d) requirement 2.16.3.2.2(e) applies only where car safeties are provided.

Rationale:

For hydraulic elevator data plates, wire rope data is only required for roped-hydraulic elevators. A rail lubrication plate is only required where car safeties are used.

**TN 07-1663**

Revise A17.1 – 2007:

| **5.3.1.17.1(d)** Terminal stopping switches shall conform to 2.25.1.

Deleted: b

Rationale: Editorial

**TN 07-1817 (Editorial)**

*Revise A17.1 as follows:*

**2.27.3.5 Multicompartment Elevators.** Multicompartment elevators shall also conform to 2.27.3.5.1 ~~and through 2.27.3.5.74.~~

*Rationale: To correct publishing mistake and reference correct requirements.*

**TN 07-1818 (Editorial)**

*Editorially revise A17.1 as follows:*

**2.27.3.5.3** A means to display the entire floor area in the lower compartment shall be located in the upper compartment. The means shall display the lower compartment only when ~~Phase I and Phase II~~ Firefighters' Emergency Operation is in effect.

**TN 07-1850 (Editorial)**

*Proposed Revision to A17.1, Requirement 6.1.6.7:*

**6.1.6.7 Reserved for Future Use.**

***Rationale:** Requirement 6.1.6.7 Step Demarcation Lights was deleted in the 2007 edition. However, the subsequent requirements were not renumbered. As a result the numbers are out of sequence. Recommend this editorial change to avoid confusion and superfluous inquiries.*

**TN 07-1851 (Editorial)**

*A17 Escalator Committee Editorial Discoveries in Edition A17.1 – 2007:*

**Background:** 1996 Code Contained Rule 805.3:

**805.3g Rolling Shutter Device.** Rolling shutters, if used, shall be provided with a device which shall be actuated as the shutters begin to close to cause the electric power to be removed from the escalator driving machine motor and brake.

**905.3f Rolling Shutter Device.** Rolling shutters, if used, shall be provided with a device which shall be actuated as the shutters begin to close to cause the electric power to be removed from the moving walk driving machine motor and brake.

*These rules seem to have disappeared in the 2000 and subsequent editions. The index shows that the Rolling Shutter Device is covered by requirement 6.1.6.3.7 and 6.2.6.3.6 but these requirements cover the Escalator Egress Restriction Device.*

**6.1.6.3.7 Escalator Egress Restriction Device.** Egress restrictors that would prevent the free and continuous exiting of passengers, if used, shall provide a signal to a device on the escalator that shall cause the electric power to be removed from the escalator driving-machine motor and brake when the exit restrictors begin to close.

**6.2.6.3.6 Moving Walk Egress Restriction Device.** Egress restrictors, if used, that would prevent the free and continuous exiting of passengers, shall provide a signal to a device on the moving walk that shall cause the electric power to be removed from the moving walk driving-machine motor and brake when the exit restrictors begin to close.

*Proposed Revision to A17.1, Index:*

Rolling shutters device (see Egress Restriction)  
~~Escalators, 6.1.6.3.7;~~  
~~moving walks, 6.2.6.3.6~~

*Add the following to the A17.1 index:*

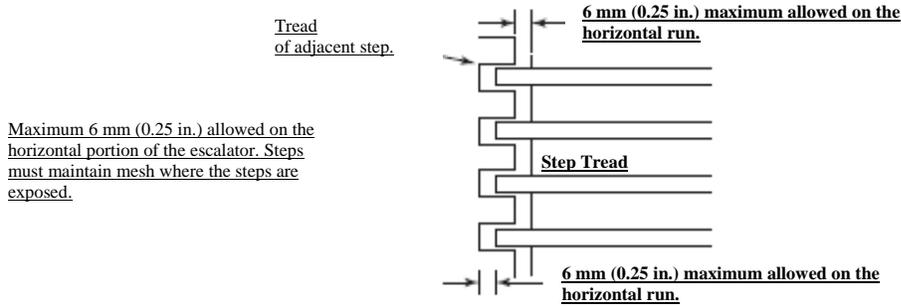
Egress restriction  
Escalators, 6.1.6.3.7  
moving walks, 6.2.6.3.6

**Rationale:** to reference correct requirements.

**TN 07-1852**

*Proposed Revision to A17.1:*

**6.1.3.5.4 Clearance Between Steps.** The maximum clearance between step treads on the horizontal run shall be 6mm (0.25 in.). (See Nonmandatory Appendix I, Fig. I-12)



**Fig. I-12 Clearance between Escalator Steps**

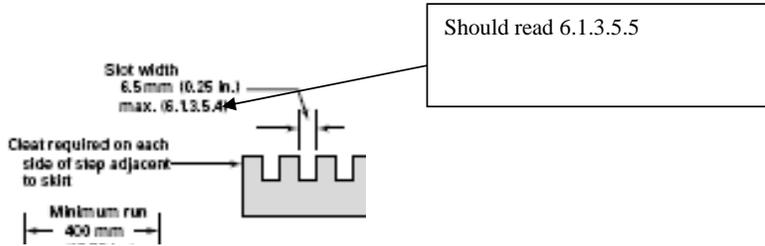
**Rationale:** to add correct figure in Appendix I. 6.1.3.5.4 Clearance Between Steps – Refers to Appendix I, Fig. I-6. Propose that we develop a diagram and place it in Appendix I as Fig. I-12.

**Note:** At the September 26, 2007 Standards Meeting It was voted to remove the reference to Figure I-6 in 6.1.3.5.4 as an editorial change. (TN 07-1119)

**TN 07-1854 (Editorial)**

*Proposed Revision to A17.1 – 2007, Appendix I, Figure I-7 Escalator Step Tread:*

**Background:** *The reference in the slot width as 6.1.3.5.4 is incorrect. 6.1.3.5.4 refers to the distance between adjacent steps. The correct reference is 6.1.3.5.5*



**Rationale:** *to correct reference in Fig. I-7.*

**TN 07-1855**

*Proposed Revision to A17.1, Requirement 6.1.3.9 and 6.2.3.10:*

**6.1.3.9 Rated Load**

**6.1.3.9.1 Structural.** For the purpose of structural design, the rated load shall be considered to be not less than the following:

*(SI Units)*

$$\text{Structural rated load (kg)} = \underline{D_1} \underline{0.27} (W + 203) \underline{A/1000}$$

*(Imperial Units)*

$$\text{Structural rated load (lb)} = \underline{D_2} \underline{4.6} (W + 8) \underline{A/12}$$

where

$A$  = length of the horizontal projection of the entire truss measured along its centerline, m (ft)

$\underline{D_1}$  = Loading Factor, =  $270 \text{ kg/m}^2$

$\underline{D_2}$  = Loading Factor, =  $55.2 \text{ lb/ft}^2$

$W$  = width of the escalator, mm (in.) (see 6.1.3.2)

**6.1.3.9.2 Machinery**

(a) For the purpose of driving machine and power transmission calculations, the rated load for all single driving machines shall be considered to be not less than the following:

*(SI Units)*

$$\text{Machinery rated load (kg)} = \underline{D_3} \underline{0.24} (W + 203) \underline{B_1/1000}$$

*(Imperial Units)*

$$\text{Machinery rated load (lb)} = \underline{D_4} \underline{3.5} (W + 8) \underline{B_1/12}$$

(b) The rated load per module for two or more modular driving machines shall be considered to be not less than:

*(SI Units)*

$$\text{Machinery rated load (kg)} = \underline{D_3} \underline{0.24} (W + 203) \underline{B_2/1000}$$

*(Imperial Units)*

$$\text{Machinery rated load (lb)} = \underline{D_4} \underline{3.5} (W + 8) \underline{B_2/12}$$

where

$B_1$  =  $\cot \theta$  x total rise, m (ft)

$B_2$  =  $\cot \theta$  x rise per module, m (ft)

$\underline{D_3}$  = Loading Factor, =  $210 \text{ kg/m}^2$

$\underline{D_4}$  = Loading Factor, =  $42.0 \text{ lb/ft}^2$

$\theta$  = the angle of inclination, deg (see 6.1.3.1)

$W$  = width of the escalator, mm (in.) (see 6.1.3.2)

### 6.1.3.9.3 Brake

(a) For the purpose of brake calculations, the rated load for all single driving machines shall be considered to be not less than the following:

(1) with escalator stopped

(SI Units)

$$\text{Brake rated load (kg)} = \underline{D_3} \ 0.36(W + 203) B_1/1000$$

(Imperial Units)

$$\text{Brake rated load (lb)} = \underline{D_4} \ 6.14(W + 8) B_1/12$$

(2) with escalator running

(SI Units)

$$\text{Brake rated load (kg)} = \underline{D_3} \ 0.21(W + 203)B_1/1000$$

(Imperial Units)

$$\text{Brake rated load (lb)} = \underline{D_4} \ 3.5(W + 8)B_1/12$$

(b) The rated load per module for two or more modular driving machines shall be considered to be not less than the following:

(1) with escalator stopped

(SI Units)

$$\text{Brake rated load (kg)} = \underline{D_3} \ 0.36(W + 203)B_2/1000$$

(Imperial Units)

$$\text{Brake rated load (lb)} = \underline{D_4} \ 6.14(W + 8)B_2/12$$

(2) with escalator running

(SI Units)

$$\text{Brake rated load (kg)} = \underline{D_3} \ 0.21(W + 203)B_2/1000$$

(Imperial Units)

$$\text{Brake rated load (lb)} = \underline{D_4} \ 3.5(W + 8)B_2/12$$

where

$B_1$  =  $\cot \theta$  x total rise, m (ft)

$B_2$  =  $\cot \theta$  x rise per module, m (ft)

$\underline{D_3}$  = Loading Factor, = 210 kg/m<sup>2</sup>

$\underline{D_4}$  = loading Factor, = 42.0 lb/ft<sup>2</sup>

$$\begin{aligned} D_5 &= \text{Loading Factor} = 360 \text{ kg/m}^2 \\ D_6 &= \text{Loading Factor} = 73.7 \text{ lb/ft}^2 \\ \theta &= \text{the angle of inclination, deg (see 6.1.3.1)} \\ W &= \text{width of the escalator, mm (in.) (see 6.1.3.2)} \end{aligned}$$

### 6.2.3.10 Rated Load

**6.2.3.10.1 Structural.** For the purpose of structural design, the rated load shall be considered to be not less than the following:

*(SI Units)*

$$\text{Structural rated load (kg)} = D_7 \cdot 0.49 (W) A / 1000$$

*(Imperial Units)*

$$\text{Structural rated load (lb)} = D_8 \cdot 8.33 (W) A / 12$$

where

$$\begin{aligned} A &= \text{length of the horizontal projection of the entire truss, m (ft)} \\ D_7 &= \text{Loading Factor} = 490 \text{ kg/m}^2 \\ D_8 &= \text{Loading Factor} = 100 \text{ lb/ft}^2 \\ W &= \text{width of the moving walk, mm (in.) (see 6.2.3.2.1 and 6.2.3.7)} \end{aligned}$$

### 6.2.3.10.2 Machinery

(a) For the purpose of driving machine and power transmission calculations, the rated load for all single driving machines shall be considered to be not less than the following:

*(SI Units)*

$$\text{Machinery rated load (kg)} = D_9 \cdot 0.37 (W) C_1 / 1000$$

*(Imperial Units)*

$$\text{Machinery rated load (lb)} = D_{10} \cdot 6.25 (W) C_1 / 12$$

(b) The rated load per module for two or more modular driving machines shall be considered to be not less than the following:

*(SI Units)*

$$\text{Machinery rated load (kg)} = D_9 \cdot 0.37 (W) C_2 / 1000$$

*(Imperial Units)*

$$\text{Machinery rated load (lb)} = D_{10} \cdot 6.25 (W) C_2 / 12$$

where

$$\begin{aligned} C_1 &= \text{length of exposed treadway, m (ft)} \\ C_2 &= \text{length of exposed treadway per module, m (ft)} \end{aligned}$$

$$D_9 - \text{Loading Factor} = 370 \text{ kg/m}^2$$

$$D_{10} = \text{Loading Factor} = 75.0 \text{ lb/ft}^2$$

$W$ =width of the moving walk, mm (in.) (see 6.2.3.2.1 and 6.2.3.7)

### 6.2.3.10.3 Brake

(a) For the purpose of brake calculations, the rated load for all single driving machines shall be considered to be not less than the following:

(1) With moving walk stopped

(SI Units)

$$\text{Brake rated load (kg)} = \underline{D_7} \text{ } \cancel{0.49} (W) C_1 / \underline{1000}$$

(Imperial Units)

$$\text{Brake rated load (lb)} = \underline{D_8} \text{ } \cancel{8.33} (W) C_1 / \underline{12}$$

(2) With moving walk running

(SI Units)

$$\text{Brake rated load (kg)} = \underline{D_2} \text{ } \cancel{0.37} (W) C_1 / \underline{1000}$$

(Imperial Units)

$$\text{Brake rated load (lb)} = \underline{D_{10}} \text{ } \cancel{6.25} (W) C_1 / \underline{12}$$

(b) The rated load per module for two or more modular driving machines shall be considered to be not less than the following:

(1) with moving walk stopped

(SI Units)

$$\text{Brake rated load (kg)} = \underline{D_7} \text{ } \cancel{0.49} (W) C_2 / \underline{1000}$$

(Imperial Units)

$$\text{Brake rated load (lb)} = \underline{D_8} \text{ } \cancel{8.33} (W) C_2 / \underline{12}$$

(2) with moving walk running

(SI Units)

$$\text{Brake rated load (kg)} = \underline{D_2} \text{ } \cancel{0.37} (W) C_2 / \underline{1000}$$

(Imperial Units)

$$\text{Brake rated load (lb)} = \underline{D_{10}} \text{ } \cancel{6.25} (W) C_2 / \underline{12}$$

where

$C_1$ =length of exposed treadway, m (ft)

$C_2$ =length of exposed treadway per module, m(ft)

$\underline{D_7}$  = Loading factor = 490 kg/m<sup>2</sup>

$$\underline{D_8 = \text{Loading Factor} = 100 \text{ l./ft}^2}$$

$$\underline{D_9 = \text{Loading factor} = 370 \text{ kg/m}^2}$$

$$\underline{D_{10} = \text{Loading factor} = 75.0 \text{ lb/ft}^2}$$

$W$ =width of moving walk, mm (in.) (see 6.2.3.2.1 and 6.2.3.7) shall be at least as specified in 6.2.3.11.1 through 6.2.3.11.5.

**Rationale:** While working on another brake rated load TN, (TN05-619), it was observed that the rated load equations have evolved to a state that is not consistent with good engineering and physics practices. The units on either side of the equation do not match nor do they reflect the underlying basic parameters of load, (kg or lbs) per unit area, ( $\text{m}^2$  or  $\text{ft}^2$ ). This revision is simply a dimensional restructuring to correct and clarify this condition and is considered to be editorial.

**TN 07-2035**

**Proposed Revision to A17.1, Requirement 8.9.2:**

**8.9.2 Location**

The data plate shall be in plain view, securely attached to the main line disconnect or on the controller. It shall also be permitted to locate the data plate in the controller as long as it is in plain view with the controller door open. An additional data plate shall be installed in the vicinity of the starting switch on the exterior of escalators and moving walks.

***Rationale:** Clarification based on Inquiry 05-58.*

**TN 08-12**

*Proposed Revision to A17.1 5.2.1(b)(1) and (2), Reference:*

**5.2.1.20.1**

(b) Aircraft cable rope of 7 X 19 construction, classified as MIL-DTL-83420M ~~Mil Spec 83420~~, shall be permitted in those applications where aircraft cable rope is not subjected to crushing pressures, with the following exceptions permitted:

- (1) nonjacketed, carbon steel, tin- or zinc-coated (Type 1A) 7 X 19 construction (Section ~~3-2.4~~ 3.4.3.3 of MIL-DTL-83420M ~~Mil Spec 83420~~)
- (2) identifying color tracer filaments are not required (Section ~~3-5-2~~ 3.6.2 of MIL-DTL-83420M ~~Mil Spec 83420~~)

**Section 9.1**

MIL-DTL-83420M ~~Mil Spec 83420~~ . . . . .

***Rationale:*** *to harmonized with the latest reference document.*

**TN 08-96**

**2.18.7.2** Where jawless governors are used and where the rope force imparted to the governor rope (see 2.18.6.1) is necessary to activate the safety, including tripping or to trip the releasing carrier, if used, and is dependent upon the tension in the governor rope prior to governor tripping, a switch or switches shall be provided which are mechanically opened by the governor tension sheave before the sheave reaches its upper or lower limit of travel ~~shall be provided~~. This switch(es) shall be of the manually reset type and shall conform to 2.26.4.3. Subsequent to the first stop of the car following the opening of the switch, the car shall remain inoperative until the switch is manually reset.

Rationale:

1. Provide clarity that the rule applies only to jawless governor systems (those operated by the available traction in the governor sheave groove) that require enough tension in the governor rope to impart necessary traction to activate the safety and does not apply to other governors.
2. Force required to activate the safety may be greater than tripping the releasing carrier, thus the traction force should trip the releasing carrier, if used, and activate the safety.

**TN 08 – 465**

*Modify the first paragraph of rule 2.27.3.1.6(n) as follows:*

**2.27.3.1.6**

(n) If the normal power supply, emergency power supply, and standby power supply are not available and the elevator is equipped with an alternate source of power that can move the car to a floor, but is insufficient to move the car to the recall level, the following requirements shall apply:

*Modify the first paragraph of rule 2.27.3.3.1(n) as follows:*

**2.27.3.3.1**

(n) If the normal power supply, emergency power supply, and standby power supply are not available and the elevator is equipped with an alternate source of power that can move the car to a floor, but is insufficient to move the car to all landings, the requirements of 2.27.3.1.6(n)(1) through (5) shall apply.

*Rationale:*

The rule was originally intended to address battery operated devices that automatically move the car to a floor to evacuate passengers in the event of a mainline power failure.

The current language can be misread as applying to MRL elevators which have a small battery used to power a speed and position display in accordance with rule 2.7.6.4.1.

**TN 08-466**

*Revise A17.1/B44 Requirement 2.27.3.2.3 (c) as follows:*

(c) In jurisdictions not enforcing NBCC, the activation of a fire alarm initiating device specified in 2.27.3.2.1(c) ~~or in jurisdictions enforcing NBCC, the initiation of a fire detector in the hoistway~~ shall cause all elevators having any equipment in that hoistway, and any associated elevators of a group automatic operation, to be returned nonstop to the designated level, except that initiating device(s) installed at or below the lowest landing of recall shall cause the car to be sent to the upper recall level.

(d) In jurisdictions enforcing the NBCC, the initiation of a fire detector in the hoistway shall cause all elevators having any equipment in that hoistway, and any associated elevators of a group automatic operation, to be returned nonstop to the designated level, except that initiating device(s) installed at or below the lowest landing of recall shall cause the car to be sent to the upper recall level.

~~(e)~~ (e) The Phase I Emergency Recall Operation to the designated level shall conform to 2.27.3.1.6(a) through (n).

**Rationale:** To be consistent with the formatting of previous requirements that addresses the different jurisdictions as enforcing or not enforcing the NBCC.

**TN 08-689 (Editorial)**

*Editorial Revision to A17.1, Requirement 7.1.12.1.1 Correction to references:*

**7.1.12.1.1** Hoistway door interlocks in conformance with ~~7.1.12.1.2~~ [7.1.12.1.3](#) are required at all landings, except that hoistway door combination mechanical locks and electric contacts conforming to ~~7.1.12.1.1~~ [7.1.12.1.2](#) shall be permitted to be used at the following landings:

(a) at landings where the bottom of the door.....

***Rationale:*** *to correct references.*

**TN 08-798 (Editorial)**

*Proposed Editorial Revision to A17.1 Reference*

**8.10.3.2.2**

(cc) *Static Control Elevator*. The person or firm installing a static control elevator shall demonstrate conformance with ~~3.25.2.2.5(b)~~ [3.25.2.4.2](#).

*Rationale: To provide the correct reference. The 3.25 numbering was change in 2007.*

**TN 08-800 (Editorial)**

*Editorial Revision to A17.1, Requirement 8.10.3.2.3(e) and 8.11.3.2.3(a) Correct References:*

**8.10.3.2.3 Top-of-Car.....**

(e) Normal Terminal Stopping Devices (3.25.1) (Item ~~3.5~~ [2.28](#))

**8.11.3.2.3 Additional Tests.** The following.....

(a) Normal Terminal Stopping Devices (8.11.2.2.5) (Item ~~3.5~~ [2.28](#))

***Rationale:*** *The testing is performed in the machine room, Item 2.8 not in the hoistway Item 3.5.*

**Additional Editorial Items:**

Proposed to revise A17.1, requirement 8.5.3.2.2 as follows:

**8.5.3.2.2** At the sliding end or ends, the width or widths of the beam seat shall be capable of accommodating, without damage, at least 1.5 times story drift as obtained by either of the following:

(a) through engineering calculations

(b) by using the maximum code allowed story drift per the ~~NEHRP 1997~~ 2003 FEMA 450 Table 4.5-1 for Allowable Story Drifts.

Note (8.5.3.2.2): This table allows story drifts of  $0.025 h_{sx}$  where  $h_{sx}$  is the building story height.

Rationale: To correct a previous error.

**Section 9.1 Reference Documents**

Designation	Standard	Publisher	Applicable to
FEMA <del>302</del> <u>450</u>	NEHRP Recommended Provisions <u>and Commentary</u> for Seismic Regulations for New Buildings and Other Structures, <del>1997 Edition, Part 1—Provisions</del> <u>FEMA 302) 2003 Edition (FEMA 450)</u>	FEMA	US

Rationale: Editorial.

## Editorial

### **Revision to A17.1, Requirement 2.14.7.1.3**

**2.14.7.1.3** Each elevator shall be provided with auxiliary lighting ~~having its power source located on the car. It~~ and shall conform to the following:

(a) The intensity of auxiliary lighting illumination shall be not less than 2 lx (0.2 fc), measured approximately 1 225 mm(48 in.) above the car floor and 300mm (12 in.) centered horizontally in front of a car operating panel containing any of the following:

- (1) car operating device(s)
- (2) door open button
- (3) rear or side door open button
- (4) door close button
- (5) rear or side door close button
- (6) "HELP" button and operating instructions, or
- (7) "ALARM" switch

(b) Illumination is not required in front of additional car operating panels where the devices listed in 2.14.7.1.3(a) are duplicated.

(c) Auxiliary lights shall be automatically turned on in all elevators in service after normal car lighting power fails.

(d) the power source shall be located on the car.

~~(d)~~ (e) The power system shall be capable of maintaining the light intensity specified in 2.14.7.1.3(a) for a period of at least 4 h.

~~(e)~~ (f) Not less than two lamps of approximately equal wattage shall be used.

~~(f)~~ (g) Battery-operated units, where provided, shall

- (1) comply with CSA C22.2 No. 141 (see Section 4)
- (2) have a 4 h rating minimum
- (3) be permanently connected to the car light branch circuit
- (4) have an output rating that includes the auxiliary lights and if connected, the emergency signaling device (see 2.27.1.1.3)

#### Rationale:

To add clarification regarding the location of power sources for auxiliary lights by grouping the items that need to be complied.

**TN 07-811**

**landing, dumbwaiter:** that portion of a floor, balcony, platform, or landing door used to discharge and receive materials.

landing, bottom terminal: the lowest landing served by the dumbwaiter that is equipped with a hoistway entrance.

landing, top terminal: the highest landing served by the dumbwaiter that is equipped with a hoistway entrance.

***Rationale:*** To include definitions for top and bottom terminal landings for dumbwaiters.