Public Review Draft
April 2020

Proposed Revisions
for
ASME A17.2-20XX
Revision to
ASME A17.2-2017
Guide for Inspection of Elevators, Escalators, and Moving Walks

TENTATIVE
SUBJECT TO REVISION OR WITHDRAWAL
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ASME Codes and Standards
TN 12-2277 (Dumbwaiter)

As a result of the ballot comments, the proposal was editorially changed to the following:

Proposed Revision to A17.2, Guide for Inspection of Dumbwaiters:

FORM AND ARRANGEMENT

This Guide addresses how-to inspection guidelines, techniques, and cautionary notes in a logical sequence. Subsections are arranged to focus on routine inspection requirements, followed by periodic test (annual and five year) and acceptance criteria. Appropriate references to the latest edition of the Code, in effect at the time of this Guide’s publication, are listed at the end of each subsection. The referenced numbers may not be the same in earlier editions. This Guide is organized as follows: Parts 1 through 6 apply to electric and hydraulic elevators (including LU/LA elevators where applicable), Parts 7 and 8 apply to escalators, Parts 9 and 10 apply to moving walks, and Part 11 applies to machine room-less (MRL) elevators, and Parts 12 through 16 apply to dumbwaiters. The Parts are arranged to show the location of the inspection:

Part 1  Elevator — Inside of Car  
Part 2  Elevator — Machine Room  
Part 3  Elevator — Top of Car  
Part 4  Elevator — Outside Hoistway  
Part 5  Elevator — Pit  
Part 6  Elevator — Firefighters’ Service  
Part 7  Escalator — External  
Part 8  Escalator — Internal  
Part 9  Moving Walk — External  
Part 10 Moving Walk — Internal  
Part 11 Elevator — Machine-Room-Less (MRL)  
Part 12 Dumbwaiter — Inside of Car  
Part 13 Dumbwaiter — Machine Room  
Part 14 Dumbwaiter — Top of Car  
Part 15 Dumbwaiter — Outside Hoistway  
Part 16 Dumbwaiter — Pit

Each inspection location is further subdivided as follows:

X  Location of inspection  
X.X  Item to be inspected  
X.X.1  Periodic inspections (routine)  
X.X.1.1 Electric elevators (as applicable)  
X.X.1.2 Hydraulic elevators (as applicable)  
X.X.1.3 Electric LU/LA elevators (as applicable)  
X.X.1.4 Hydraulic LU/LA elevators (as applicable)  
X.X.2  Periodic test  
X.X.2.1 Electric elevators (as applicable)  
X.X.2.2 Hydraulic elevators (as applicable)  
X.X.2.3 Electric LU/LA elevators (as applicable)  
X.X.2.4 Hydraulic LU/LA elevators (as applicable)  
X.X.3  Acceptance inspection  
X.X.3.1 Electric elevators (as applicable)  
X.X.3.2 Hydraulic elevators (as applicable)  
X.X.3.3 Electric LU/LA elevators (as applicable)  
X.X.3.4 Hydraulic LU/LA elevators (as applicable)
X.X.4 Code references
X.X.4.1 Electric elevators (as applicable)
X.X.4.2 Hydraulic elevators (as applicable)
X.X.4.3 Electric LU/LA elevators (as applicable)
X.X.4.4 Hydraulic LU/LA elevators (as applicable)

When a requirement within A17.1 or A17.3 cross-references another requirement, the cross-reference is shown with the referring requirement in braces, { }. For the A17.1–2000 and later edition requirements, here no direct cross-reference is found within the A17.1–2000 Cross-Reference Table, the prior code Rule (A17.1d–2000 and earlier editions) is shown in parentheses, (), with a preceding “NR” designation.

Subsection numbering of items may not be sequential when there are no inspection or test procedures indicated within this Guide.

NOTE: This Guide addresses the requirements of A17.1–1955 and later editions for Elevators, Escalators and Moving walks, the requirements of A17.1-1993 for Dumbwaiters and latest edition of A17.3. Some requirements in earlier editions of A17.1 are also addressed. The inspector is referred to the particular edition of the A17.1 Code that applies for requirements prior to 1955 or 1993 as applicable.

This Guide has included the pertinent requirement from prior editions of A17.1, which differ from the requirements in the latest edition. As the inspector becomes familiar with the prescribed order of inspection procedures, variations may be appropriate. The Foreword, Preface, and Appendix that are included in this document have been approved by the A17 Committee, but are not part of this American National Standard.

Note: See also para. 2, Application, under the Introduction of this Guide

*Rationale:* Update the Preface to A17.1 to include the appropriate references for Dumbwaiters that are being added in this revision. Include the code requirements for Dumbwaiters added by this revision (A17.1-1993 and later).

**Part 12**

**Dumbwaiter – Car**

Parts 12 through 16 are an informative guide for the inspection of dumbwaiters. These parts are intended to be used in conjunction with ASME A17.1 – 2010/CSA B44-10 and later editions and will permit those jurisdictions requiring acceptance inspections to have procedures available to their inspectors. In addition, these parts will be available to such other interested inspection parties who might be called upon to examine dumbwaiter installations for conformance to the Code and contains some important warnings/cautions for existing dumbwaiters.

**DUMBWAITERS**

**ITEM 12.1**

**DOOR REOPENING DEVICE**

Where power operation of the doors or gates is provided, they must conform to the specific requirements prescribed for dumbwaiters. Kinetic energy requirements apply to both horizontally and vertically sliding doors. Power collapsible gates, are restricted as to the distance they can be opened by power.
12.1.1 Periodic Inspection

12.1.2 Periodic Tests

12.1.3 Acceptance
Power opening of the car door is permitted to take place only within the specified distance from the landing.
   (a) Mechanical Reopening device (safety edge). Actuate the device while the door is being closed and note whether the car door stops and reopens.
   (b) Electronic and or Photoelectric Reopening Device. Place an object in front of the leading edge of the car door at various positions while the door is being closed. The car door must stop and reopen.

12.1.4 References
ASME A17.1-1993 through A17.1d-2000 – Rules 700.13, 112.2b(1) and 112.2a(1) and definition of landing zone in Section 3.
ASME A17.1-2000/CSA B44-00 and later editions - Requirement 7.1.13, 2.13.2.1.1 and definition of landing zone in 1.3.

ITEM 12.2
OPERATING CONTROL DEVICES

Dumbwaiters may be hand or power operated. If power operated the operating controls must be adjacent to each landing entrance.

12.2.1 Periodic Inspection

12.2.2 Periodic Tests

12.2.3 Acceptance
   (a) Continuous-Pressure Operation. Operate the car in each direction by means of the operating buttons or other devices at the landing. Determine that they do not stick or bind, are properly marked, and that the car stops when the operating device is released, except when an anti-creep leveling device is provided.
   (b) Automatic Operation. Operate the car, making stops in both the up and down direction. At each stop, open the car door or gate and note the accuracy of stopping. Verify operating push buttons work properly.
   (c) Car Leveling Device. When inching buttons are provided, test them to verify that they will operate the car only within the zone allowed by the Code

12.2.4 References

ITEM 12.3
SILLS AND CAR FLOOR

12.3.1 Periodic Inspection

12.3.2 Periodic Tests

12.3.3 Acceptance
   (a) Sills and Car Floor. Determine the condition of the car floor and landing sills.
   (b) Horizontal Car Clearance. Verify the clearance between the car and landing sills. The distance between the car platform sill and the hoistway edge of the landing sill must be within the specified distances allowed by code.

12.3.4 References
ITEM 12.4
CAR LIGHTING

12.4.1 Periodic Inspection

12.4.2 Periodic Tests

12.4.3 Acceptance
Where provided, light bulbs or tubes must be guarded or recessed to provide protection from accidental breakage, and glass panels and their structure must be capable of withstanding the required dumbwaiter tests without damage.

12.4.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirement 7.2.1.3.

ITEM 12.5
CAR DOOR OR GATE

12.5.1 Periodic Inspection

12.5.2 Periodic Tests
On dumbwaiters, that can operate with no car door/gate or with the car door/gate in the open position, confirm that the slack rope/chain switch (see Item 14.26.2) is properly functioning.

12.5.3 Acceptance
(a) Examination of Doors and Gates. Examine the car door or gate and note any broken, bent, or sprung members. Operate doors or gates to determine that they operate freely in their guiding members, are securely fastened, and will not permit the doors or gates to come out of their guiding members at any position in their travel. Car doors and gates must guard the full width of the opening.

(b) Collapsible Gates. Collapsible gates in the fully closed position must reject a ball 113mm (4.5 in.) in diameter.

(c) Test for Closed Position. Verify that the car will not move under normal operation unless the car door or gate is within the code specified distance of the closed position.

12.5.4 References
ASME A17.1-1993 through A17.1d-2000 – Rules 700.13, 112.2a(1) and 701.5(b).
ASME A17.1-2000/CSA B44-00 and later editions - Requirement 7.1.13, 2.13.2.2.1 and 7.2.1.2.

ITEM 12.6
POWER CLOSING OF DOORS OR GATES

12.6.1 Periodic Inspection

12.6.2 Periodic Tests

12.6.3 Acceptance
Where a door open button is provided, check that when depressed and the door is closing it causes the door to stop or to stop and reopen.

12.6.4 References
ITEM 12.7
POWER OPENING OF DOORS OR GATES

12.7.1 Periodic Inspection

12.7.2 Periodic Tests

12.7.3 Acceptance
(a) Leveling Zone. Determine that power opening of the doors or gates can occur only when the car is within the specified distance of the landing.
(b) Leveling Speed. Verify that the leveling speed does not exceed 0.75 m/s (150 ft/min).
(c) Inner Landing Zone. On static control dumbwaiters verify that the zone in which the car can move with the doors open is no more than 75 mm (3 in.) above or below the landing.

12.7.4 References

ITEM 12.8
CAR VISION PANELS

12.8.1 Periodic Inspection

12.8.2 Periodic Tests

12.8.3 Acceptance
Where provided with glass vision panels, verify that the glass is the right type (wired or laminated). Check that the size of a glass vision panel does not exceed 0.016 m² (25 in.²). Where the vision panel in the car door does not contain glass, the perforations must reject a ball 38 mm (1.5 in.) in diameter.

12.8.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirement 7.2.1.1.10.

ITEM 12.9
CAR ENCLOSURE

12.9.1 Periodic Inspection

12.9.2 Periodic Tests

12.9.3 Acceptance
Check that nonmetal cars are reinforced with metal from the bottom of the car to the point of suspension. Check the dimensions of the car. The car height is not to exceed 1220 mm (48 in.) Hinged or removable panels are not permitted in the car top. Verify that any grille or perforated construction rejects a ball 38 mm (1.5 in.) in diameter. Determine that the car enclosure is structurally sound and is securely fastened to the platform.

12.9.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirements 7.2.1.1.
ITEM 12.10
SIGN AND OPERATING DEVICE SYMBOLS

12.10.1 Periodic Inspection

12.10.2 Periodic Tests

12.10.3 Acceptance
Verify that a “No Riders” sign is located in the car.

12.10.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirements 7.2.3.4.

ITEM 12.11
RATED LOAD, PLATFORM VOLUME, AND DATA CAPACITY PLATE

12.11.1 Periodic Inspection

12.11.2 Periodic Tests

12.11.3 Acceptance
Measure the inside dimensions of the car and compute the inside net car volume \((\text{width } \times \text{ depth } \times \text{ height})\). Divide the rated load by the volume and check to ensure that it is not less than the 221 kg/m\(^3\) (13.9 lb/ft\(^3\)). Check to be sure the inside net platform area is not more than 1 m\(^2\) (10.75 ft\(^2\)). Check that the capacity plate is installed inside the car and the data plate is installed on the car top or crosshead.

12.11.4 References
ASME A17.1-1993 through A17.1d-2000 – Rules 701.8a, 701.8b and 701.8c.
ASME A17.1-2000/CSA B44-00 and later editions - Requirement 7.2.3.1, 7.2.3.2 and 7.2.3.3.

ITEM 12.12
CAR RIDE

12.12.1 Periodic Inspection

12.12.2 Periodic Tests

12.12.3 Acceptance
The car speed must not exceed the value specified on the data plate. Operate the car at normal operating speed from one terminal landing to the other, and listen for unusual noise which may indicate that the car or counter-weight guide rails are not properly aligned. If such noise occurs, check for loose guide shoes or rollers and proper alignment of the guide rails.

12.12.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirement 7.2.9.

Part 13
Machinery Spaces, Machine Rooms Control Spaces, and Control Rooms

ITEM 13.1
ACCESS TO EQUIPMENT SPACE
13.1.1 Periodic Inspection

13.1.2 Periodic Tests

13.1.3 Acceptance
Check that access to the machinery space, machine room, control space, or control room meets the access requirements of the Code. For access doors required to have fire-protection ratings, check for proper labeling. Check that the maintenance path and clearances meet the requirements of the code or that the equipment is guarded to prevent accidental contact with moving parts and the guarding permits visual inspection without complete removal.

13.1.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirement 7.1.7 and 2.7.

ITEM 13.2
HEADROOM

13.2.1 Periodic Inspection

13.2.2 Periodic Tests

13.2.3 Acceptance
There are no headroom requirements in ASME A17.1/CSA B44 other than those working clearances specified in the NFPA 70, National Electric Code or CSA C22.1.

13.2.4 References
CSA C22.1
NFPA 70

ITEM 13.3
LIGHTING AND RECEPTACLES

13.3.1 Periodic Inspection

13.3.2 Periodic Tests

13.3.3 Acceptance
Check machinery space, machine room, control space, or control room for adequate lighting. Check that a GFCI duplex receptacle has been provided in these spaces.

13.3.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirement 7.1.7.9.
CSA C22.1
NFPA 70

ITEM 13.4
MACHINERY SPACE, MACHINE ROOM, CONTROL SPACE, AND CONTROL ROOMS

13.4.1 Periodic Inspection
13.4.2 Periodic Tests

13.4.3 Acceptance
Check that all exposed moving parts are guarded when dumbwaiter machine or control equipment is located in a room or space containing other building operation equipment.

13.4.4 References
ASME A17.1- 2010/CSA B44-10 and later editions - Requirement 7.1.8.2.

ITEM 13.5
HOUSEKEEPING

13.5.1 Periodic Inspection
Check that the machinery space, machine room, control space, or control room area is not used for the storage of any flammable liquids with a flash point less than 110°F (43°C), and for materials and articles not necessary for the maintenance and operation of the dumbwaiter.
Check the floor area for cleanliness, noting any accumulation of oil, grease, or dirt.
Check that the tops of cars are kept clean, dry, and are not being used for storage.

13.5.2 Periodic Tests

13.5.3 Acceptance

13.5.4 References
ASME A17.1-1993 through A17.1d-2000 - Rules 1206.5 and 1206.2b.

ITEM 13.6
VENTILATION

13.6.1 Periodic Inspection

13.6.2 Periodic Tests

13.6.3 Acceptance
If a machinery space, machine room, control space, or control room is provided check that adequate ventilation is provided by natural or mechanical means to ensure safe and normal operation of the Dumbwaiter.

13.6.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirement 7.1.7.9.

ITEM 13.7
FIRE EXTINGUISHER

13.7.1 Periodic Inspection
In jurisdiction not enforcing the NBCC, check to see that a class “ABC” fire extinguisher is mounted convenient to the access door of the dumbwaiter machine room, control room or control space outside the hoistway intended for full bodily entry.

13.7.2 Periodic Tests

13.7.3 Acceptance
ITEM 13.8
PIPE, WIRING, AND DUCTS

13.8.1 Periodic Inspection

13.8.2 Periodic Tests

13.8.3 Acceptance
Pipes not required for operation of the dumbwaiter that convey steam, gas or liquid must not be installed in the hoistway.

13.8.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirement 7.1.8

ITEM 13.9
GUARDING OF EQUIPMENT

13.9.1 Periodic Inspection

13.9.2 Periodic Tests

13.9.3 Acceptance
Check that appropriate guards have been installed on the driving machine and moving equipment.

13.9.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirement 7.1.10

ITEM 13.10
NUMBERING OF DUMBWAITERS, MACHINES, AND DISCONNECT SWITCHES

13.10.1 Periodic Inspection

13.10.2 Periodic Tests

13.10.3 Acceptance
Where there is more than one dumbwaiter machine in the same machine room or machinery space, verify that they are properly identified.

13.10.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirement 7.1.14

ITEM 13.11
DISCONNECTING MEANS AND CONTROL

13.11.1 Periodic Inspection

13.11.2 Periodic Tests
13.11.3 Acceptance
Check that the main line disconnecting means has been located where it is readily accessible to authorized persons and within sight of the motor controller. Driving machines or motion and operation controllers not within sight of the disconnecting means must be provided with a manually operated switch installed in the control circuit to prevent starting. The manually operated switch(es) must be installed adjacent to this equipment. The location must meet the working clearance requirements of NFPA 70 or, in jurisdictions enforcing the NBCC CSA 22.1. Verify that disconnects are properly rated and fused per machine requirements. If there are multiple power sources, verify that the controller is marked and the disconnect is labeled to indicate which power source is being disconnected.

13.11.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirements 7.2.12.
NFPA 70
CSA 22.1.

ITEM 13.12
CONTROLLER WIRING, FUSES, GROUNDING, ETC.

13.12.1 Periodic Inspection

13.12.2 Periodic Tests

13.12.3 Acceptance
Inspection Made with Power Off. Check for proper fuse type and rating and any jumper wires or temporary wiring changes. Check that fuses are not jumped out or shorted. Check that sufficient clear working space has been provided around control panels and disconnecting means, to provide safe and convenient access to all live parts of the equipment necessary for maintenance and adjustment. Verify compliance with CAN/CSA B44.1/ASME A17.5 by the certification label issued by an independent testing laboratory.

13.12.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirements 7.2.12.
NFPA 70
CSA 22.1.

ITEM 13.13
GOVERNOR

13.13.1 Periodic Inspection

13.13.2 Periodic Tests

13.13.3 Acceptance
If provided, check the governor marking plate to determine that it is marked with size, material, and construction of the governor rope used and the governor-tripping speed. The tachometer reading must be taken after the car has reached its constant speed. Record speed readings with no load in the car and with rated load in the car in both the up and down directions. To ensure accuracy, tachometer readings must be taken from the side of the governor rope or hoisting ropes. Where the car is roped 2:1, the car speed is one-half the hoist rope speed. Verify that means of adjusting tripping speed and pull-through force are sealed. If the governor is not sealed it must be sealed and tagged after the test. Verify that a governor rope tag has been installed and that it contains the necessary information.

13.13.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirements 7.2.5 and 2.18.5.3.
ITEM 13.14
CODE DATA PLATE

13.14.1 Periodic Inspection

13.14.2 Periodic Tests

13.14.3 Acceptance
Check that the code data plate is installed and that the code data plate is mounted on the controller or inside the controller such that it is in plain view when the controller door is open. Verify that the data on the plates correctly corresponds to the equipment installed.

13.14.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirement 8.9

ITEM 13.15
OVERHEAD BEAM AND FASTENINGS

13.15.1 Periodic Inspection

13.15.2 Periodic Tests

13.15.3 Acceptance
Examine machine and sheave beam supports and fastenings. Record the dimensions and span of beams and check them against manufacturer recommended installation procedures.

13.15.4 References
ASME A17.1-2000/CSA B44-00 and later editions – 7.1.9.

ITEM 13.16
DRIVE MACHINE BRAKE

13.16.1 Periodic Inspection

13.16.2 Periodic Tests

13.16.3 Acceptance
(a) Inspection Made with Power On. Run the car and observe the operation of the brake. The brake must not chatter. It may apply on or before the completion of the slowdown and leveling operation. Check to see that the brake is automatically applied on or after normal stops.

(b) Inspection Made With Power Off

(1) Examine the brake and drum or disc to determine that the brake linings are free of oil and whether there is any scoring of the drum.

(2) If the dumbwaiter has been running, the braking surface may be warm but must not be uncomfortable to the touch. A hot drum usually indicates a dragging brake shoe.

13.16.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirement 7.2.10.1.3 and 2.26.8.
ITEM 13.17
TRACTION DRIVE MACHINES

13.17.1 Periodic Inspection

13.17.2 Periodic Tests

13.17.3 Acceptance
Have the dumbwaiter operated in each direction, making frequent stops, and observe the operation of the machine. Excessive lubrication of the wire ropes may result in reduced traction. Test traction by operating the empty car in the up direction and stop it by opening the safety circuit.

13.17.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirements 7.2.6.1.1(a), (b), and 7.2.6.3, 7.2.6.5, 7.2.6.6, 7.2.6.7, 7.2.6.8, and 7.2.10.1.2.

ITEM 13.18
GEARS, BEARINGS, AND FLEXIBLE COUPLINGS

13.18.1 Periodic Inspection

13.18.2 Periodic Tests

13.18.3 Acceptance
Have the dumbwaiter operated in each direction, making frequent stops. Observe if there is unusual noise. Check the oil level.

13.18.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirements 2.20.6, 2.20.7, and 7.2.10.1.2.

ITEM 13.19
WINDING DRUM MACHINE

13.19.1 Periodic Inspection

13.19.2 Periodic Tests
See 14.26 for the test of the slack rope switch. Note (13.9.2): This is especially important for existing units that have no car door/gate or can run with the car door/gate in the open position.

13.19.3 Acceptance
Open the mainline disconnect switch and examine the hoisting rope fastenings in the drum. Note that not less than one full turn of rope would remain on the drum if the car is resting on its fully compressed buffer or resting on pit floor. Visually examine the drum for defects or cracks. Test them with light blows from a small hammer. If the sound resulting from the blows is dull and flat, unlike the ring given by sound metal, the drum must be examined carefully for cracks. Where the ropes extend beyond their clamps or sockets, check to see that means have been provided to prevent the rope ends from coming out of the inside of the drum and interfering with other parts of the machine. Check and record that the drum diameter conforms to the approved drawings and specifications. Ensure that the rope is spooling properly, without stacking or crossovers. Verify a rope data tag has been provided.

13.19.4 References
ASME A17.1-1993 through A17.1d-2000 – Rules 212.6, 212.7 and 701.9a(2).
ASME A17.1-2000/CSA B44-00 and later editions – Requirements 2.20.6, 2.20.7, and 7.2.10.1.2.
ITEM 13.20
CHAIN DRIVE MACHINE AND DRIVE SPROCKETS

13.20.1 Periodic Inspection

13.20.2 Periodic Tests

13.20.3 Acceptance
Make sure the chain is cogging correctly on the sprocket and is not trying to climb off the sprocket. Verify a chain data tag has been provided.

13.20.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirements 7.2.6.1.1(c) and 7.2.6.3.

ITEM 13.21
ABSORPTION OF REGENERATED POWER

13.21.1 Periodic Inspection

13.21.2 Periodic Tests

13.21.3 Acceptance
If the normal power source is incapable of absorbing the energy generated by an overhauling load, a separate means such as resistor bank must be provided on the load side of each dumbwaiter power supply line disconnecting means to absorb the regenerated power.

13.21.4 References

ITEM 13.22
AC DRIVE MOTOR FROM A DC SOURCE

13.22.1 Periodic Inspection

13.22.2 Periodic Tests

13.22.3 Acceptance
The person or firm installing or maintaining an AC drive from a DC source should demonstrate that the dumbwaiter conforms to Code requirements.
(a) Run the car and demonstrate that either of two devices will prevent the flow of alternating current to the AC motor and cause the car to stop. At least one of the devices must be an electromechanical relay, which in its de-energized position prevents alternating current from flowing in the hoist motor.
(b) Prevent the above relay from being energized and register a call. Demonstrate, with the doors closed, that the brake will not lift and the car will not move.
(c) Demonstrate that either of two contactors in the brake circuit will prevent the brake from lifting.
(d) Demonstrate that the operation of any of the electrical protective devices will cause both devices specified in Item 12.2.24.2.3(a) to prevent the flow of alternating current to the hoist motor.

13.22.4 References
ITEM 13.23
TRACTION SHEAVES

13.23.1 Periodic Inspection

13.23.2 Periodic Tests

13.23.3 Acceptance
Tractive forces may be noted by observing slippage between ropes and traction sheaves. Note any evidence of lost motion or misalignment of the traction sheaves with other sheaves. Check that the sheaves and drums are permanently and legibly marked to state the minimum groove bottom diameter permissible for regrooving and required to maintain structural integrity. Check that the rope height on the sheave is the same for each rope. Uneven rope height indicates possible groove wear.

13.23.4 References
ASME A17.1-1993 through A17.1d-2000 – Rule 701.9a
ASME A17.1-2000/CSA B44-00 and later editions - Requirement 7.2.10.1

ITEM 13.24
SECONDARY AND DEFLECTOR SHEAVES OR SPROCKETS

13.24.1 Periodic Inspection

13.24.2 Periodic Tests

13.24.3 Acceptance
Check and record the results for conformity to approved drawings and specifications; the diameter of drums, overhead sheaves, and secondary sheaves. Examine the overhead secondary and deflector sheaves and test them with light blows from a small hammer. If the sound resulting from the blows is dull and flat, unlike the ring given by sound metal, sheave parts must be examined carefully for cracks. Look for evidence of any misalignment of sheaves.

13.24.4 References
ASME A17.1-1993 through A17.1d-2000 – Rule 701.9a
ASME A17.1-2000/CSA B44-00 and later editions - Requirement 7.2.10.1

ITEM 13.25
ROPE AND CHAIN FASTENINGS

13.25.1 Periodic Inspection

13.25.2 Periodic Tests

13.25.3 Acceptance
Rope
Determine that all lock nuts and cotter pins are in place. Verify the data shown on the rope data tag attached to one of the wire rope fastenings. Verify the size of the wedge and the body of the shackle housing are matched.

Chain
Check that any master links are correctly installed in roller chain and that the locking clip is correctly positioned and secured. Verify that any removable link pins are secured in place and that locking features are used to protect against pin rotation.

13.25.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirements 7.2.6.8.
ITEM 13.26
TERMINAL STOPPING DEVICES

13.26.1 Periodic Inspection

13.26.2 Periodic Tests

13.26.3 Acceptance
In some cases, the normal terminal stopping switches may be located in the machine room or space and operated by a rope, tape, or chain attached to the car. The person or firm installing or maintaining the dumbwaiter should check normal terminal device as follows:
(a) If provided, render inoperative the normal stopping means.
(b) Run the car into the bottom terminal and verify that the car slows down and stops at or near the bottom terminal.
(c) Repeat the above test at the top terminal.
(d) If provided, restore the normal stopping means.
(e) Check normal dumbwaiter operation.

13.26.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirements 7.2.11.

ITEM 13.27
CAR AND COUNTERWEIGHT SAFETIES

13.27.1 Periodic Inspection

13.27.2 Periodic Tests

13.27.3 Acceptance
Examine the car and counterweight guide shoes and their fastenings to determine that they are properly secured, aligned, and adjusted. Check the gibs or rollers for excessive wear. Verify that the clearance between the guide rail and each rail gripping face of the safety parts is approximately equal. Test the car safeties with rated load on the car. Test counterweight safeties with an empty car. Make sure the gripping face of the safety does not drag on the rail while in the resting position regardless of load. After the safety has been inspected, position the car or counterweight in the lower portion of the hoistway.
(a) If a speed governor is provided for safety operation, have the person(s) performing the test jump out the switches on the governor and safety that would prevent a full setting of the safety. Start the car or counterweight, whichever is being tested, in the down direction and have the person(s) performing the test trip the governor by hand. Continue running down until the drive machine stalls, or drives through the hoisting ropes. Have the person(s) performing the test open the main line disconnect switch and remove jumpers. Next visually inspect safeties to see if they have been equally applied.
(b) On counterweighted and non-counterweighted dumbwaiters equipped with a slack rope type safety, have the car or counterweight lowered on to vertically placed wood block substantial enough to carry the load and create a slack rope condition. With the ropes slack and power removed from the machine have the person(s) performing the test use the rod to dislodge the blocking from the underside of the car being sure to stay clear and to the outside of the hoistway. The car or counterweight must securely set on the safeties. With the safeties set restore power to the controller and verify the removal of power to the motor and brake.

To release safeties have the person(s) performing the test move the car or counterweight up, whichever is being tested. Once the safeties have been released examine all parts to determine that they have returned to their normal operating positions.
Inspect the guide rails to determine if the scoring on the rails is equal. Dress any scoring on the rails after the visual inspection.

13.27.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirement 7.2.4, 7.1.6

ITEM 13.28
HYDRAULIC POWER UNIT

13.28.1 Periodic Inspection
13.28.2 Periodic Tests
13.28.3 Acceptance
Have the dumbwaiter operated in the up direction, making several starts and stops and observe the operation of the motor, pump, and drive. Check for excessive noise, misalignment, and loose mounting. With the car at the top landing verify the hydraulic fluid level for operation with the supplied fluid level measuring device. Listen for pump cavitation due to partially plugged fluid lines or pickup strainer.

13.28.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirement 7.3.5.

ITEM 13.29
RELIEF VALVES

13.29.1 Periodic Inspection
13.29.2 Periodic Tests
13.29.3 Acceptance
Check the working pressure given on the dumbwaiter layout with that on the data plate. Have the person(s) performing the test install a pressure gauge in the system or use the gauge supplied by the manufacturer and run the car up at rated speed with rated load. Verify the gauge indicates the working pressure. Have the person(s) performing the test, test the relief valve by inching the car at slow speed against the stop ring, then cause the controls to attempt to run the car at full speed and read the gauge. The full output of the pump must bypass at a gauge reading 150% or less of the working pressure. After the test, have the means of adjustment sealed and check the car for proper operation and visually inspect the system for leaks.

13.29.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirement 7.3.5.

ITEM 13.30
CONTROL VALVE

13.30.1 Periodic Inspection
13.30.2 Periodic Tests
13.30.3 Acceptance
The valves, fittings and interconnecting piping must be checked for pressure rating, leakage, adequate support, and applicable certification.
ITEM 13.31
TANKS

13.31.1 Periodic Inspection
13.31.2 Periodic Tests
13.31.3 Acceptance
Note whether the tank is covered to prevent entrance of foreign material and is suitably vented to the atmosphere. A means is required for indicating the permissible minimum and maximum liquid level. Check for any damage that may have resulted from handling and installation.

13.31.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirement 7.3.5.

ITEM 13.32
FLEXIBLE HYDRAULIC HOSE AND FITTING ASSEMBLIES

13.32.1 Periodic Inspection
13.32.2 Periodic Tests
13.32.3 Acceptance
Visually examine flexible hydraulic hoses and check that the hose is not installed in the hoistway and does not project into or through any wall. Also check that the hose does not have any twists, kinks, or a sharp bending radius. The hose must have the proper rating identification in relationship to the working pressure. Check the installation date of the hose(s). Hoses must be replaced if more than 6 years has elapsed since their installation or if there is no recorded installation date.

13.32.4 References
ASME A17.1- 2000/CSA B44-00 through ASME A17.1/2004/CSA B44-04 – Requirements 7.3.5, 8.6.9.1 and 8.6.1.6.5.
ASME A17.1 – 2007/CSA B44-07 and later editions - Requirements 7.3.5, 8.6.10.1 and 8.6.5.6.

ITEM 13.33
SUPPLY LINE AND SHUTOFF VALVE

13.33.1 Periodic Inspection
13.33.2 Periodic Tests
13.33.3 Acceptance
Inspect the supply line between the cylinder and the pumping unit for adequate support or evidence of any damage and verify that they are in installed so as to permit disassembly and inspection of components. Shutoff valves are to be located outside the hoistway adjacent to the hydraulic machine. Where the hydraulic machine is located in the hoistway, the shutoff valve is permitted to be located inside the hoistway provided it is accessible from outside the hoistway to elevator personnel only. Verify that the manufacturer’s pressure rating of the supply line and fittings are greater than the working pressure indicated on the data plate.
ITEM 13.34
HYDRAULIC CYLINDERS

13.34.1 Periodic Inspection

13.34.2 Periodic Tests

13.34.3 Acceptance
This test must be performed after the relief valve test in Item 13.29 and the flexible hose examination in Item 13.33. Cylinders that cannot be visually inspected must be tested in the following manner with no load in the car. Mark the location of the car at any convenient position. Open the disconnect switch for 15 minutes. Note the position of the car platform with respect to the reference mark. A change in position that cannot be accounted for by visible oil leakage, valve leakage, or temperature change of the oil indicates a leak of the cylinder or in the underground piping and a need for further investigation.

13.34.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirement 7.3.5.

ITEM 13.35
PRESSURE SWITCH

13.35.1 Periodic Inspection

13.35.2 Periodic Tests

13.35.3 Acceptance
Where a pressure switch is required to prevent operation of the valves if there is no pressure in the line between the down valve and cylinder have the person(s) performing the test place the car at the top landing, and simulate an indication of low pressure from the pressure switch. Have the person(s) performing the test try to run the car in the down direction. The car must not run by normal means. Have the person(s) performing the test open the main line disconnect and connect a circuit continuity tester, such as an ohm meter, across the pressure switch. Have the person(s) performing the test lower the car to the pit with the manual lowering valve. The ohmmeter must indicate that the pressure switch sensing low pressure when the car comes to rest on the buffer.

13.35.4 References
ASME A17.1-2000/CSA B44-00 and later editions- Requirement 7.3.11.9

ITEM 13.36
CONTROLS FOR HYDRAULIC AND ROPE OR CHAIN HYDRAULIC DUMBWAITERS

13.36.1 Periodic Inspections

13.36.2 Periodic Test

13.36.3 Acceptance
The person or firm installing or maintaining a dumbwaiter employing hydraulic operation must demonstrate conformance with the Code as follows:
(a) If in the up direction, the pump motor is the only control means, run the car and demonstrate that there are two devices provided to remove power independently from the pump motor. At least one device must be an electromechanical contactor.

(b) If in the up direction, the pump motor is one control means and there is a second control means (e.g., a valve), run the car and demonstrate that a device is provided to remove power independently from each control means. At least one device must be an electromechanical contactor or relay.

(c) Prevent the above electromechanical contactor or relay from being energized and register a call. Demonstrate, with the doors closed, that the car will not move.

(d) Demonstrate that the operation of the devices specified in Items 12.2.39.3(a) and (b) will remove power from each control means.

13.36.4 References
ASME A17.1 - 2007/CSA B44-07 and later editions- Requirement 7.3.11.7

Part 14
Dumbwaiter – Top of Car

Inspectors are cautioned not to get on the car top unless it is intended and equipped for top of car inspection.

ITEM 14.1
TOP-OF-CAR STOP SWITCH

14.1.1 Periodic Inspection

14.1.2 Periodic Tests

14.1.3 Acceptance
Where provided or required, check the top-of-car stop switch in both directions to ensure it is functioning properly before proceeding with the inspection.

14.1.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirement 7.2.12.10

ITEM 14.2
TOP-OF-CAR OPERATING DEVICE

14.2.1 Periodic Inspection

14.2.2 Periodic Tests

14.2.3 Acceptance
Where provided or required, check the top-of-car operating device for proper operation.

14.2.4 References

ITEM 14.3
TOP-OF-CAR CLEARANCE AND REFUGE SPACE

14.3.1 Periodic Inspection

14.3.2 Periodic Tests
14.3.3 Acceptance
Determine hoistway provides adequate top of car clearances based on the requirements of the code.

14.3.4 References

ITEM 14.4
NORMAL TERMINAL STOPPING DEVICE

14.4.1 Periodic Inspection

14.4.2 Periodic Tests

14.4.3 Acceptance
Normal terminal stopping devices are usually located in the hoistway, but they may be located in the machine room and mechanically connected to and driven by the car.
Determine that the dumbwaiter car will stop at or near the terminal landing once the normal terminal stopping device is activated while in normal operation. When no car top inspection station is provided the following procedure can be used. See item 12.2.28.

The person or firm installing or maintaining the dumbwaiter should check normal terminal device as follows:
(a) If provided, render inoperative the normal stopping means.
(b) Run the car at contract speed, into the bottom terminal and verify that the car slows down and stops at or near the bottom terminal.
(c) Repeat the above test at the top terminal.
(d) If provided, restore the normal stopping means.
(e) Check normal dumbwaiter operation.

Electric dumbwaiters with a rated speed greater than 0.75m/s (150 ft/min) and all hydraulic dumbwaiters must be equipped with a normal terminal stopping device that operates independently from the normal stopping means at the terminals. Ensure that the normal stopping means is disabled when testing the normal terminal stopping device. Verify that the car will move in the opposite direction when the normal terminal stopping device is activated at each end of the hoistway.
Verify that the stopping switches, vanes, cams, switch rollers, magnets, vanes, etc. as applicable are in the correct alignment and securely fastened. The alignment of the bottom terminal stopping device can be checked by stopping the car near the bottom terminal and sighting the alignment of the cam and switch roller. The switch roller must strike the bevel of the cam. Also, determine the condition of the limit switch rollers, as a reduction of the effective roller diameter due to either wear or loss of the roller(s) or any of its components may interfere with or prevent proper switch operation. The combination of excessively worn guide shoes and limit switch rollers may cause cars to overrun their terminals.

14.4.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirement 7.2.11 and 7.3.10.

ITEM 14.5
FINAL TERMINAL STOPPING AND TERMINAL SPEED REDUCING DEVICES

14.5.1 Periodic Inspection

14.5.2 Periodic Tests

14.5.3 Acceptance
14.5.3.1 Electric Dumbwaiters. Verify the bottom final terminal stopping device will stop a car in down
direction at no load at rated speed. Verify that both the top and bottom final terminal stopping devices are set
to stop the car after it travels past the normal terminal stopping device and before an obstruction is struck.

When no car top inspection station is provided the following procedure can be used. The person or firm
installing or maintaining the dumbwaiter should check final terminal device as follows:
(a) If provided, render inoperative the normal stopping means and normal terminal stopping means.
(b) Run the car into the bottom terminal and verify that the car slows down and stops after passing the normal
terminal stopping device.
(c) Repeat the above test at the top terminal.
(d) If provided, restore the normal stopping means and the normal terminal stopping means.
(e) Check normal dumbwaiter operation.

14.5.3.2 Hydraulic Dumbwaiters. Hydraulic dumbwaiters require a terminal speed reducing device at the top
terminal landing when the car speed exceeds 0.25 m/s (50 ft/min). Final terminal stopping devices are not required.

14.5.4 References

ASME A17.1-2000/CSA B44-00 and later editions – Requirement 7.2.11.

14.5.4.2 Hydraulic Dumbwaiters
ASME A17.1-2000/CSA B44-00 and later editions – Requirement 7.3.10

ITEM 14.6
CAR LEVELING AND ANTICREEP DEVICES

14.6.1 Periodic Inspection

14.6.2 Periodic Tests

14.6.3 Acceptance
Observe that the anticreep device keeps the car to within 25 mm (1 in.) of the floor level. Verify that the anticreep
device remains operational regardless of car or hoistway door position, car door position, hinged car platform sill
position and broke rope, tape, or chain switches on normal stopping devices when such devices are located in the
machine room, machinery space or overhead space.
For continuous pressure operated dumbwaiters, verify that the anticreep device operates in both directions.

14.6.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirement 7.3.11.3.

ITEM 14.7
HOISTWAY CONSTRUCTION

14.7.1 Periodic Inspection

14.7.2 Periodic Tests

14.7.3 Acceptance
Determine if the hoistway enclosure conforms to the building code requirements.

14.7.4 References
ITEM 14.8
PIPES WIRING AND DUCTS

14.8.1 Periodic Inspection

14.8.2 Periodic Tests

14.8.3 Acceptance
Verify that there are no pipes conveying steam, gas or liquids installed in the hoistway. Where sprinklers are provided, check that sprinkler risers and returns have been located outside the hoistway.

14.8.4 References

ITEM 14.9
WINDOWS PROJECTIONS, RECESSES AND SETBACKS

14.9.1 Periodic Inspection

14.9.2 Periodic Tests

14.9.3 Acceptance
(a) Hoistway Windows. Windows in hoistways are only permitted in jurisdiction enforcing the NBCC. Where windows are permitted, verify they are in compliance with the local building code.
(b) Projections, Recesses, and Setbacks. Verify that any projections, recesses, and setbacks greater than 100 mm (4 in.) are appropriately beveled and if necessary braced.

14.9.4 References

ITEM 14.10
HOISTWAY CLEARANCE

14.10.1 Periodic Inspection

14.10.2 Periodic Tests

14.10.3 Acceptance
Verify that the horizontal dimensions and clearances are within guidelines.

14.10.4 Reference
ASME A17.1-2000/CSA B44-00 and later editions – Requirement 7.1.5 and 2.5.

ITEM 14.11
MULTIPLE HOISTWAYS

14.11.1 Periodic Inspection

14.11.2 Periodic Tests
14.11.3 Acceptance
Verify multiple hoistways are constructed in compliance with the elevator code. Measure the running clearance between cars including equipment attached to the car.

14.11.4 Reference
ASME A17.1-2000/CSA B44-00 and later editions – Requirement 7.1.1 and 7.1.5.

ITEM 14.12
TRAVELING CABLES AND JUNCTION BOXES

14.12.1 Periodic Inspection

14.12.2 Periodic Tests

14.12.3 Acceptance
Verify that traveling cables are properly installed, supported and protected against damage.

14.12.4 References

ITEM 14.13
DOOR AND GATE EQUIPMENT

14.13.1 Periodic Inspection

14.13.2 Periodic Tests

14.13.3 Acceptance
Verify that the hoistway doors meet the requirements of the code. Check that the interlocks or combination mechanical locks and electric contacts and car door or gate electric contacts are labeled properly as a listed/certified device.

14.13.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirements, 7.1.11, 7.1.12.1, 7.1.12.2 and 7.2.1.2.

ITEM 14.14
CAR FRAME AND STILES

14.14.1 Periodic Inspection

14.14.2 Periodic Tests

14.14.3 Acceptance
Determine through visual inspection that no cracks exist in the stiles or car frame.

14.14.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirements 7.2.2.

ITEM 14.15
GUIDE RAIL FASTENING AND EQUIPMENT
14.15.1 Periodic Inspection

14.15.2 Periodic Tests

14.15.3 Acceptance
Determine through visual inspection that the guide rails are adequately fastened to the structure. Verify that the guiding means are properly engaged in the guide rails

14.15.4 References
ASME A17.1-2000/CSA B44-00 and later editions - Requirements 7.2.9.

ITEM 14.16
GOVERNOR ROPE

14.16.1 Periodic Inspection

14.16.2 Periodic Tests

14.16.3 Acceptance
If a governor has been provided, verify that the governor rope is the proper material and correct size as recorded on the governor rope tag.

14.16.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirements 7.2.4.4and 7.2.5.

ITEM 14.17
WIRE ROPE OR CHAIN FASTENING AND HITCH PLATE

14.17.1 Periodic Inspection

14.17.2 Periodic Tests

14.17.3 Acceptance
Verify that the ropes or chains conform to the specifications on the data plate and are properly fastened at each end.

14.17.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirements 7.2.6.1, 7.2.6.2, 7.2.6.3and 7.2.6.8

ITEM 14.18
SUSPENSION ROPE OR CHAIN

14.18.1 Periodic Inspection

14.18.2 Periodic Tests

14.18.3 Acceptance
Inspect ropes for high wires, breaks or bird-caging as well as for even tensioning. See wire rope replacement criteria in A17.6.
Inspect chains to confirm proper lubrication, alignment and tensioning. Chains must be replaced if any of the following conditions are observed:
(a) link plates worn more than 5% of their total height.
(b) abnormal protrusion of pins or evidence of pin rotation.
(c) cracked link plates
(d) enlarged pin holes
(e) corrosion
(f) broken cracked or deformed rollers

Ensure that rope or chain data tags are provided.

14.18.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirements 7.2.6.

ITEM 14.19
TOP COUNTERWEIGHT CLEARANCE

14.19.1 Periodic Inspection

14.19.2 Periodic Tests

14.19.3 Acceptance
With the car at the bottom landing, check the top counterweight clearance.

14.19.4 References

ITEM 14.20
CAR, OVERHEAD AND DEFLECTOR SHEAVES

14.20.1 Periodic Inspection

14.20.2 Periodic Tests

14.20.3 Acceptance
Verify sheaves are of proper size as indicated on the layout drawings provided by the equipment manufacturer.
Verify sheaves are designed to prevent ropes from leaving the grooves and are adequately lubricated.

14.20.4 References
ASME A17.1-1993 through A17.1d-2000 – Rules 701.9a, 701.9a(2) and 702.5b.
ASME A17.1-2000/CSA B44-00 and later editions – Requirements 7.2.10.1, 7.2.10.1.2and 7.3.6.2.

ITEM 14.21
BROKEN ROPE, CHAIN OR TAPE SELECTOR SWITCH

14.21.1 Periodic Inspection

14.21.2 Periodic Tests

14.21.3 Acceptance
(a) Check the device by manually opening the switch, and attempt to move the car. The car should not move.
(b) Verify the linkage attached to the switch permits free operation of the switch.

14.21.4 References
ASME A17.1-2000/CSA B44-00 and later editions and later editions – Requirements 7.2.11.
ITEM 14.22
DATA PLATES

14.22.1 Periodic Inspection

14.22.2 Periodic Tests

14.22.3 Acceptance
Verify the location of and information on the capacity plate, data plate, and if applicable the rope or chain data plate. The capacity plate is located in the car. The data plate may be located on the car crosshead, on the car top or inside the car.

14.22.4 References
ASME A17.1-2000/CSA B44-00 and later editions- Requirements 7.2.3.2, 7.2.3.3, 7.2.6.2 and 7.2.6.3.

ITEM 14.23
COUNTERWEIGHT AND COUNTERWEIGHT BUFFER

14.23.1 Periodic Inspection

14.23.2 Periodic Tests

14.23.3 Acceptance
Determine that the counterweights, sheaves and buffers are securely fastened and adequately lubricated.

14.23.4 References
ASME A17.1-2000/CSA B44-00 and later editions- Requirements 7.2.7and 7.2.8.

ITEM 14.24
COUNTERWEIGHT SAFETIES

14.24.1 Periodic Inspection

14.24.2 Periodic Tests

14.24.3 Acceptance
If a counterweight is provided and the space below the hoistway is not permanently secured against access, verify that a counterweight safety is provided. Test the counterweight safeties as outlined in Item 12.2.29.

14.24.4 References

ITEM 14.25
SPEED TEST

14.25.1 Periodic Inspection

14.25.2 Periodic Tests

14.25.3 Acceptance
Check and verify the speed information on the data plate. Have the rated load placed in the car and use a tachometer to verify the rated speed going up and the operating speed in the down direction.
14.26 Slack Rope or Slack Chain Device

14.26.1 Periodic Inspection
Verify that the slack rope/chain switch prevents operation if any one rope or chain fails. See the maintenance control program for the recommended procedure.

Note: On existing units, if there is no car door or gate or if the car can run with the car door/gate in the open position, then it is especially important that the slack rope/chain switch operates correctly as the car can hang up if the loads shifts and the car can descend uncontrolled when freed.

14.26.3 Acceptance
Verify that the slack rope/chain switch prevents operation if any one rope of chain fails. See manufacturers recommend procedure.

14.26.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirements 7.2.3.3.2(b)

ITEM 14.27
Traveling Sheave

See Item 14.20

ITEM 14.28
Compensating Ropes or Chains

14.28.1 Periodic Inspection
Examine compensating chains and fastenings for excessive wear, damage, or deterioration. Sash cord wear is no indication of chain damage. See Item 14.18 for inspection of compensating ropes.

14.28.3 Acceptance

14.28.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirements 7.3.11.4.1

Part 15 Dumbwaiter – Outside Hoistway

ITEM 15.1
Car Guards

15.1.1 Periodic Inspection

15.1.2 Periodic Tests
15.1.3 Acceptance
For all dumbwaiters where leveling or inching devices are provided that operate with the hoistway door(s) in the open position, check that there is a smooth metal guard extending a distance below the platform floor and above the top of the car equal to the length of the inching or leveling zone plus 13 mm (0.5 in.) on the entrance side of the platform. This guard must not strike the pit floor and must extend the full width of the widest hoistway door.

15.1.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirement 7.2.2.8.

ITEM 15.2
HOISTWAY DOORS

15.2.1 Periodic Inspection
15.2.2 Periodic Tests
15.2.3 Acceptance
Examine hoistway doors or gates, locking devices and latching means. Measure the distances between the hoistway face of the doors or gates and the hoistway edge of the landing sill. Measure the distance between the hoistway face of the landing doors or gates and the car door or gate. Verify that the clearances meet the requirements. Check that opening the door or gate does not require reaching behind any structure. Verify that only permitted hardware projects into the hoistway beyond the sill line.

15.2.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirements 7.1.11.

ITEM 15.3
VISION PANELS

15.3.1 Periodic Inspection
15.3.2 Periodic Tests
15.3.3 Acceptance
Verify that where required vision panels are in place and in good condition. Where vision panels are provided, check that each clear panel opening rejects a ball 150 mm (6 in.) in diameter, the glass is clear wire glass or other transparent glazing material not less than 6mm (0.25 in.) thick that meets the applicable impact standards (16 CFR Part 1201 or CAN/CGSB 12.1, CAN/CGSB-12.11 OR CAN/CGSB-12.2), that they are substantially flush with the landing door surface, that the total area of vision panels does not exceed 0.016 m² (25 in²) and muntins between panels are noncombustible and of substantial construction.

15.3.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirement 7.1.11.8.

ITEM 15.4
HOISTWAY DOOR LOCKING DEVICES

15.4.1 Periodic Inspection
15.4.2 Periodic Tests
15.4.3 Acceptance
15.4.3.1 Electric and Hydraulic Dumbwaiters
Verify that the locking device has been type tested and is properly labeled and inaccessible from the landing side. Verify that the car does not respond to calls with the hoistway door open. Verify that when the car is outside of the unlocking zone the hoistway door cannot be opened.

15.4.3.2 Hand Dumbwaiters
Verify that a spring-type latch is provided on each hoistway door to hold the door closed. The latch must be accessible from both the hoistway and landing side of the door regardless of the car position.

15.4.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirements 7.1.12 and 8.3.3.

ITEM 15.5
ACCESS TO HOISTWAY

15.5.1 Periodic Inspection

15.5.2 Periodic Tests

15.5.3 Acceptance
(a) Verify that hoistway doors or gates at the top and bottom terminal landings are fitted with an unlocking device.
(b) Hoistway access switches are permitted at the top and bottom landing. Check for proper operation, Verify that the switch key is kept in a location where it is available only to elevator personnel.
(c) Where hoistway access doors are provided, check that an electric contact is provided that will prevent operation of the dumbwaiter when the door is open.

15.5.4 References

ITEM 15.6
POWER CLOSING OF HOISTWAY DOORS

15.6.1 Periodic Inspection

15.6.2 Periodic Tests

15.6.3 Acceptance
Where both hoistway and car door are closed by power, verify they are
(a) both horizontally sliding; or
(b) both of the vertical sliding type.

15.6.4 References

ITEM 15.7
HOISTWAY ENCLOSURE

15.7.1 Periodic Inspection
15.7.2 Periodic Tests

15.7.3 Acceptance
Check hoistway for the installation of any pipes or ducts not related to the operation of the dumbwaiter.

15.7.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirements 7.1.1 and 7.1.8.

ITEM 15.8
SEPARATE COUNTERWEIGHT HOISTWAY

15.8.1 Periodic Inspection

15.8.2 Periodic Tests

15.8.3 Acceptance
Verify that the counterweight enclosure (if provided), is equipped with a door which is self-closing and self-locking. If the available space is sufficient for full bodily entry, the door must be openable from the inside without the use of key or other instrument. Verify that a stop switch is located so that it is readily reached from outside the enclosure.

15.8.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirement 7.1.3

Part 16 Dumbwaiter – Pit

ITEM 16.1
PIT ACCESS, LIGHTING, STOP SWITCH AND CONDITION

16.1.1 Periodic Inspection

16.1.2 Periodic Tests

16.1.3 Acceptance
Pits are not required. When provided examine pit construction for code compliance and guarding.

16.1.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirement 7.1.2

ITEM 16.2
BOTTOM CLEARANCE and RUNBY

16.2.1 Periodic Inspection

16.2.2 Periodic Tests

16.2.3 Acceptance
Check the bottom of car and counterweight clearance to ensure that the car and counter weight and any equipment attached thereto does not strike the pit or floor beneath the lowest landing or any equipment in the hoistway except a buffer of bumper.
**16.2.4 References**
ASME A17.1-2000/CSA B44-00 and later editions – Requirement 7.1.4.1

**ITEM 16.3**
FINAL AND EMERGENCY TERMINAL STOPPING DEVICES

See Item 14.5

**ITEM 16.4**
NORMAL TERMINAL STOPPING DEVICES

See Item 14.4

**ITEM 16.5**
TRAVELING CABLES

16.5.1 Periodic Inspection

16.5.2 Periodic Tests

16.5.3 Acceptance
Verify the traveling cable is supported properly and does not come in contact with the pit floor or rub hoistway wall or other objects in hoistway.

16.5.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirement 7.2.12

**ITEM 16.6**
GOVERNOR ROPE TENSIONING DEVICE

16.6.1 Periodic Inspection

16.6.2 Periodic Tests

16.6.3 Acceptance
If provided, verify that the governor rope tensioning device is securely fastened and lubricated properly.

16.6.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirements 7.2.5 and 2.18.5.3

**ITEM 16.7**
CAR FRAME AND PLATFORM

See Item 14.14

**ITEM 16.8**
CAR SAFETIES AND GUIDING MEMBERS

16.8.1 Periodic Inspection

16.8.2 Periodic Tests
16.8.3 Acceptance
If provided, examine data on safety marking plate and verify it meets requirements for speed and load of installation.

16.8.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirement 7.2.4.

ITEM 16.9
BUFFER

16.9.1 Periodic Inspection

16.9.2 Periodic Tests

16.9.3 Acceptance
If buffers are provided, compare and verify information on buffer data plate with layout drawing and code requirements. If buffers are not provided, bumpers are required.

16.9.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirements 7.2.8.

ITEM 16.10
PLUNGER AND CYLINDER

16.10.1 Periodic Inspection

16.10.2 Periodic Tests

16.10.3 Acceptance
Verify that the information on data plate matches the information on layout drawing and is in compliance with code requirements.

16.10.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirement 7.3.5

ITEM 16.11
CAR BUFFER

See Item 16.9

ITEM 16.12
GUIDING MEMBERS

16.12.1 Periodic Inspection

16.12.2 Periodic Tests

16.12.3 Acceptance
Verify guide members are adequately secured and properly aligned and adjusted.
16.12.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirements 7.2.4.6.1, 7.2.9 and 7.3.9.

ITEM 16.13
SUPPLY PIPING

16.13.1 Periodic Inspection

16.13.2 Periodic Tests

16.13.4 Acceptance
Verify hydraulic piping, valves and fittings are the proper size, pressure rating and are not leaking. Ensure adequate support is provided.

16.13.4 References
ASME A17.1-2000/CSA B44-00 and later editions – Requirement 7.3.5.

Rationale: to add inspection procedures for dumbwaiters to the A17.2 guide.
TN 14-1902 (Inspections)

TN 14-1902

Proposed Revision to A17.2, Items 7.17 and 9.17 Skirt Panel Deflection:

7.17.1 Periodic Inspection

Add the following to the end of 7.17.1:

Verification of conformance with applicable skirt deflection requirements for units installed under A17.1-20XX/B44-XX and later editions or that have skirt panels or their supporting components that are altered to A17.1-20XX/B44-XX and later editions must be documented in the On-Site Maintenance Records.

7.17.3 Acceptance

Item 7.17.3:

Check that the skirt panels extend to a height of at least 1 in. (25 mm) vertically above the step tread nose line and that they meet Code deflection requirements. Inspect the exposed surfaces and the joints of the skirt panels adjacent to the steps for smoothness.

The person or firm installing the equipment must provide Engineering Test documentation in the On-Site Documentation to verify that each skirt panel design does not deflect more than 1.6 mm (0.0625 in.) under a force of 667 N (150 lbs). Where skirt panels or their supports have been altered, skirt panel deflection must be verified as specified in 8.10.4.1.1(p)(3).

7.17.4 References

A17.1d–2000 and earlier editions — Rules 802.3e, 802.3f, 802.3k, 1008.2s, 1008.2t, 1206.6b, and 1206.6c.
A17.1d–2000/B44-00 to A17.1–2007/B44-07 — Requirement 8.11.4.2.19.
A17.1–2000/B44-00 to A17.1b–2003/B44a-05 — Requirements 6.1.3.3.5, 6.1.3.3.6, 6.1.3.3.7, 8.6.8.2, 8.6.8.3, 8.6.8.5, 8.10.4.1.1(p), and 8.11.4.1(q).
A17.1–2004/B44a-05 and later editions — Requirements 6.1.3.3.5, 6.1.3.3.6, 6.1.3.3.9, 8.6.8.2, 8.6.8.3, 8.6.8.5, 8.10.4.1.1(p), and 8.11.4.1(q).
A17.1b–2008/B44a-05 and later editions — Requirements 6.1.3.3.5, 6.1.3.3.6, 6.1.3.3.9, 8.6.8.2, 8.6.8.3, 8.6.8.5, 8.10.4.1.1(p), 8.11.4.1(q), and 8.6.8.15.9.
A17.1-XXXX/B44-XX and later editions — Requirements 6.1.3.3.6, 8.3.XX, 8.6.1.2.2(c), 8.6.1.4.1(d), 8.6.8.5, 8.7.6.1.19, 8.10.4.1.1(p), 8.10.4.2.2, 8.10.4.3 and 8.10.4.3.1.

9.17.1 Periodic Inspection

Add the following to the end of 9.17.1:

Verification of conformance with applicable skirt deflection requirements for units installed under A17.1-20XX/B44-XX and later editions or that have skirt panels or their supporting components that are altered to A17.1-20XX/B44-XX and later editions must be documented in the On-Site Maintenance Records.

9.17.3 Acceptance

Check that the skirt panels, where provided, extend to a height of at least 1 in. (25 mm) vertically above the treadway tread nose line and that they meet Code deflection requirements. Skirt panels should not deflect more than 1/16 in. (1.6 mm) under a force of 150 lbf (667 N). Inspect the exposed surface and the joints of the skirt panels adjacent to the treadway for smoothness.
The person or firm installing the equipment must provide Engineering Test documentation in the On-Site Documentation to verify that each skirt panel design does not deflect more than 1.6 mm (0.0625 in.) under a force of 667 N (150 lbs). Where skirt panels or their supports have been altered, skirt panel deflection must be verified as specified in 8.10.4.1.1(p)(3).

9.17.4 References
A17.1d–2000 and earlier editions — Rules 902.3e and 902.3f.
A17.1–2000/B44-00 and later editions — Requirements 6.2.3.3.5, 6.2.3.3.6, 8.10.4.1.1(p), and 8.11.4.1(q).
A17.1a–2005/B44a-05 and later editions — Requirements 6.2.3.3.5, 6.2.3.3.6, 8.6.9.13, 8.10.4.1.1(p), and 8.11.4.1(q).
A17.1–XXXX/B44-XX and later editions — Requirements 6.2.3.3.5, 6.2.3.3.6, 8.6.9.14, 8.3.XX, 8.6.1.2.2(e), 8.10.4.1.1(p), 8.6.9.14, 8.7.6.2.18 and 8.11.4.1(q).
A17.3 — Paragraphs 9.3.3.3 and 9.3.3.4.

Rationale: Limiting skirt deflection is one of the important components in preventing entrapments between steps and skirt panels. Verification of the deflection requirements is required in 8.10.4.1.1(p)(3) but no methods are currently codified. Requirements were added for engineering test verification of skirt panel designs for deflection for new, altered, replaced and repaired skirt panel and to assist field verification for escalators and moving walks. Publication of this TN will be contingent on approval of TN 16-1623 and revisions to A17.2 are published a year after the corresponding revisions to A17.1 are published.
ITEM 5.9  
**CAR & COUNTERWEIGHT BUFFERS AND EMERGENCY TERMINAL SPEED LIMITING DEVICES**

5.9.1 Periodic Inspections

5.9.1.1 Electric Elevators

(a) **Oil Buffers.** Make the following examinations:
   (1) Check the bolts holding the buffers and mounting to determine verify that they are tight.
   (2) Check the buffer oil level by the means provided to determine that it is within the maximum and minimum allowable limits.
   (3) Test the plunger for excessive side play.
   (4) Verify that the plunger is free of dirt or rust.
   (5) Check the buffer marking plate. A17.1–1987 and later editions require the stroke to be shown on the buffer marking plate. Check that the maximum and minimum loads, the maximum striking speed, and the oil viscosity, index number, and pour point are provided. A17.1–2000 and later editions also require that name, trademark, or file number for identification of the manufacturer and the certification markings on the buffer data plate.

(b) **Spring Buffers.** Check car and counterweight spring buffers to determine verify that
   (1) they and their supports are securely fastened in place.
   (2) they are vertical and in alignment with striker plates on the car or counterweight.
   (3) springs are properly seated in the cup or other mounting provided.
   (4) springs have not been deformed, obviously weakened, or damaged.
   (5) the buffer marking plate is in place and contains all of the required information. A17.1–1986 and later editions require the number of springs to be shown indicated on the buffer marking plate in addition to the other data.
   (6) removable springs are identified and that the marking plate indicates the identification.

(c) **Solid Bumpers.** Prior to the A17.1–1978 edition solid bumpers were allowed on passenger elevators with rated speed not exceeding 50 ft/min (0.25 m/s) and freight elevators with rated speed not exceeding 75 ft/min (0.38 m/s). A17.1–1978 and later editions did not allow the use of solid bumpers (except with Type C safeties). Check car and, when they are used, counterweight solid bumpers to determine verify that
   (1) they and their supports are securely fastened in place
   (2) no damage or deterioration exists
   (3) they are vertical and in alignment with the striker plates of the car or counterweight

(d) **Elastomeric Buffers.** A17.1-2016/CSA B44-16 and later editions allow elastomeric buffers capable of absorbing the energy of a fully loaded car. Inspect as outlined in 5.9.1.1(c) and (d) and in addition, verify that removable springs are identified and that the marking plate indicates the identification in addition to the other data.

NOTE: For LU/LA elevators, elastomeric bumpers are permitted. Emergency terminal speed-limiting devices do not apply.

5.9.1.2 Hydraulic Elevators

(a) **Oil Buffers.** When they are used refer to Item 5.9.1.1 (a) for Periodic Inspections.

(b) **Spring Buffers.** Refer to Item 5.9.1.1 (b) for Periodic Inspections.

(c) **Solid Bumpers.** A17.1–1982 and later editions allow solid bumpers on hydraulic elevators that have an operating speed in the down direction of less than 50 ft/min (0.25 m/s). Inspect as outlined in 5.9.1.1(c) (1) (2) (3) and in addition, verify that removable springs are identified and that the marking plate indicates the identification in addition to the other data.

(d) **Elastomeric Buffers.** A17.1-2016/CSA B44-16 and later editions allow elastomeric buffers capable of absorbing the energy of a fully loaded car. Inspect as outlined in 5.9.1.1(c) and (d).
5.9.1.3 Electric LU/LA Elevators
A17.1b-1995 and later editions allow elastomeric bumpers capable of absorbing the energy of a fully loaded car. Inspect as outlined in 5.9.1.1(c) and (d) Emergency terminal speed-limiting devices do not apply.

5.9.1.4 Hydraulic LU/LA Elevators
A17.1b-1995 and later editions allow elastomeric bumpers capable of absorbing the energy of a fully loaded car. Inspect as outlined in 5.9.1.3 Emergency terminal speed-limiting devices do not apply.

5.9.2 Periodic Test

5.9.2.1 Electric Elevators
(a) Yearly Test of Oil Buffers (for A17.1d–2000 and Earlier Editions); Category 1 Test of Oil Buffers (for A17.1–2000 and Later Editions). Test the gravity and spring-return type oil buffers by fully compressing the plunger and verifying that it will return to a full extended position in 90 s. If the buffer cannot be manually depressed, it will be necessary to place blocking between the car or counterweight and operating downward at slow speed. This can be done by suspending a 4 X 4 beneath the car or counterweight in alignment with the buffer. It is usually best to operate the car at slow speed from the car top operator for this test. If the 4 X 4 cannot be suspended, it may be held in place with a 1 X 4 attached to it. This will allow the person holding it to position themselves in a safe position in case the 4 X 4 slips off of the buffer and/or the car continues to move. If possible, the person should be positioned outside the hoistway or in an adjacent pit with the adjacent pit car out of service. Test buffers on Type C safeties in the same manner. Then place a 50 lb (23 kg) weight on spring-return type oil buffer and depress it 2 in. (51 mm). This can be done using a small hydraulic jack between the car and buffer. Release the buffer and verify that it will return to its fully extended position within 30 s. Test the compression switch on gas spring-return-type buffers by compressing the buffer 1/2 in. (13 mm) and using an ohmmeter to determine that the switch opens. Then move the car up, take one lead off of the switch, and verify that the car cannot operate with the switch open. Test the buffer compression switch on Type C safety buffers by having the buffer compressed 10% of its stroke and use an ohmmeter to verify that the switch opens. Then move the car allowing the buffer to return to a fully extended position. Remove one of the leads from the switch and attempt to operate the car. The car must not operate with the lead removed. Restore the lead and remove one lead from the oil level switch. Again attempt to operate the car. This should also prevent operation of the car.

(b) 5-Year Test of Oil Buffers (for A17.1d–2000 and Earlier Editions); Category 5 Test of Oil Buffers (for A17.1–2000 and Later Editions)

(1) For car buffers, if the elevator is equipped with counterweight safeties, tie down the counterweight safety lift lever with four wraps of No. 16 gage copper wire or equivalent. This will avoid an accidental setting of the counterweight safety by inertia. Do not block the counterweight safety; it must remain workable. Reverse the procedure for testing the counterweight buffer. Place the rated load in the car. Jump out the terminal slow downs and directional switches. The final terminal stopping device must remain operative but temporarily relocated to permit full compression of the buffer. Take the cars in adjacent hoistways out of service.

(-a) Full-Stroke Buffer. Move the car up sufficient to obtain rated speed and run the car into the buffer.
(-b) Reduced Stroke Buffer. Temporarily reduce the speed of the car to the speed on the buffer marking plate. Then run the car into the buffer at this speed.
(-c) Emergency Terminal Speed Limiting Device. Where such a device is provided, determine that it is operational. Then run the car into the terminal at rated speed. The device should slow the car down so that the stop is no more severe than that produced by running the car into the buffer at the buffer design speed.

(2) After the test

(-a) remove any jumpers that were installed
(-b) examine the buffer for damage, excess oil loss and determine that the plunger returns to full extended position in 90 s
(-c) examine the car (including car interior) for damage
(-d) restore the final terminal stopping device to the proper position and test it as outlined in Item 5.4
(-e) remove any tie-down that was wrapped on the car or counterweight lift lever
(-f) have the required test tags installed
For counterweight buffer, remove the rated load from the car and test the counterweight buffer as outlined for car buffers.

NOTE: This test is not required where Type C safeties are used. However, where Type C safeties are applied, check the buffer portion of Type C safeties to determine that the oil level is within allowable limits. Also, test the buffer compression switch and the oil level device for proper functioning.

5.9.2.2 Hydraulic Elevators.
Refer to Item 5.9.2.1 (a) Yearly Test of Oil Buffers (for A17.1d–2000 and Earlier Editions); Category 1 Test of Oil Buffers (for A17.1–2000 and Later Editions) for Periodic Test.

5.9.3 Acceptance

5.9.3.1 Electric Elevators. Compare the data on the buffer marking plate with the data on the elevator layout drawings and the actual installed conditions of the elevator and verify that it meets Code requirements, especially for load rating, stroke, and speed, or number of springs. For Elastomeric buffers a written checkout procedure must be part of the On Site Documentation (see 8.6.1.2.2 (c)(1).

5.9.4.1 Electric Elevators. A17.1d–2000 and earlier editions — Section 201 and Rules 109.1, 210.2(w), 1002.3f, 1003.2e, 1206.1f, and 1308.2.
A17.1–2000/B44-00 to A17.1–2007/B44-07 — Requirements 2.22 and 2.6, 2.26.2.22, 8.11.2.3.6, 8.10.2.2.5(c), 8.2.3, 8.3.1.3, and 8.11.2.2.1.
A17.1a–2008/B44a-08 and later editions — Requirements 2.22 and 2.6, 2.26.2.22, 8.2.3, 8.3.1.3, 8.6.4.19.1, 8.6.4.20.3, 8.6.4.20.6, and 8.10.2.2.5(c).
A17.1-2016 and later editions— Requirements 2.6, 2.22, 2.26.2.22, 8.2.3, 8.3.1.3, 8.6.4.19.1, 8.6.4.4.2, 8.6.4.20.3, 8.6.4.20.6, 8.10.4.20.6 and 8.10.2.2.5(c).
A17.3 — Section 3.1 and para. 3.10.4(m).

5.9.4.2 Hydraulic Elevators. A17.1d–2000 and earlier editions — Rules 301.3, 306.4, 1004.2(e) (4), 1206.1e, and 1308.7.
A17.1–2000/B44-00 and later editions — Requirements 3.22.1, 3.26.4, 8.11.3.1.5(d), 8.6.4.4, and 8.2.3.2.
A17.3 — Paragraph 4.2.1.

5.9.4.3 Electric LU/LA Elevators. A17.1d–2000 and earlier editions — Rules 2500.10, 2501.2, and 2501.11.
A17.1–2000/B44-00 and later editions to A17.1-2013/B44-13 — Requirements 5.2.1.6, 5.2.1.22, and 5.2.1.26.
A17.1–2016/B44-16 and later editions — Requirements 5.2.1.6, 5.2.1.22, and 5.2.1.26, 8.6.1.2.2 (c)(1).

5.9.4.4 Hydraulic LU/LA Elevators.
A17.1–2000/B44-00 through A17.1b-2003/B44-03 — Requirements 5.2.2.9 and 5.2.2.13.
A17.1–2004/B44-04 through A17.1a-2005/B44-05 — Requirements 5.2.2.10 and 5.2.2.14.
A17.1–2007/B44-07 and later editions — Requirements 5.2.2.9 and 5.2.2.13.
A17.1–2000/B44-00 and later editions — Requirements 5.2.2.

5.12 CAR BUFFERS. RESERVED
5.12.1 Periodic Inspection
5.12.1.2 Hydraulic Elevators
(a) Spring Buffers. Check car spring buffers to verify that
(1) they and their supports are securely fastened in place.
(2) they are vertical and in alignment with striker plates on the car.
(3) springs are properly seated in the cup or other mounting provided.
(4) springs have not been deformed, obviously weakened, or damaged.
(5) the buffer marking plate is in place and contains all of the required information. A17.1d-1986 — and later editions require that the number of springs be indicated on the marking plate in addition to the other data.
(6) removable springs are identified and that the marking plate indicates the identification.

(b) Oil Buffers.
When they are used, refer to Item 5.3 for the required inspection and test.

c) Solid Bumpers. Prior to the A17.1-1978 edition, solid bumpers were allowed on passenger elevators with rated speed not exceeding 50 ft/min (0.25 m/s) and freight elevators with rated speed not exceeding 75 ft/min (0.38 m/s). A17.1-1978 did not allow the use of solid bumpers (except with Type C safeties). A17.1a-1982 and later editions allow solid bumpers on hydraulic elevators that have an operating speed in the down direction of less than 50 ft/min (0.25 m/s). Check solid bumpers to verify that
(1) they and their supports are securely fastened in place
(2) no damage or deterioration exists
(3) they are vertical and in alignment with the striker plates of the car
(4) removable springs are identified and that the marking plate indicates the identification

NOTE: For LU/LA elevators, elastomeric bumpers are permitted.

5.12.2 Periodic Test

5.12.3 Acceptance

5.12.3.2 Hydraulic Elevators.
Compare the data on the buffer marking plate with the data on the elevator layout drawings and the actual installed conditions of the elevator and verify that it meets Code requirements, especially for load rating, stroke, and speed, or number of springs.

5.12.4 References

A17.1-2000/B44-00 and later editions — Requirements 3.22.1, 3.26.4, 8.10.3.2.5(d), 8.11.3.1.5(d), 8.6.4.4, and 8.2.3.2.
A17.3 — Paragraph 4.2.1.

A17.1-2000/B44-00 through A17.1b-2003/B44-03 — Requirements 5.2.2.9 and 5.2.2.13.
A17.1-2004/B44-04 through A17.1a-2005/B44-05 — Requirements 5.2.2.10 and 5.2.2.14.
A17.1-2007/B44-07 and later editions — Requirements 5.2.2.9 and 5.2.2.13

A17.2-2014

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HYDRAULIC CHECKLIST

Checklist for Hydraulic Elevators (Con’t)

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Mandatory Appendix II

GUIDE FOR INSPECTION OF PRIVATE RESIDENCE ELECTRIC AND HYDRAULIC ELEVATORS

ITEM II-3.28 COUNTERWEIGHT AND COUNTERWEIGHT BUFFER
II-3.28.1 Acceptance. **Determine** verify that the weights, sheaves, and buffers are securely fastened and adequately lubricated. **Verify** that for elastomeric bumpers the marking plate is in place and the manufacturers recommended replacement criteria has not been met. A written checkout procedure must be part of the On Site Documentation required by 8.6.1.2.2 (c)(1).

II-3.28.2 References. A17.1–2007/B44-07 and later editions — Requirements 5.3.1.13, 5.3.1.14, 5.4.9, and 5.4.10.

**Rationale:** Item 5.9 basically includes all of the text in item 5.12, except that apparently Item 5.9 was carried over from A17.2.1 Electric Elevators and Item 5.12 apparently was carried over from A17.2.2 Hydraulic Elevators. See the references. This proposed revision is to relocate Item 5.12 into Item 5.9; and add requirements to Item 5.9 to recognize the Solid Bumper requirements pre and post A17.1-1978 Code as well as to add requirements to recognize Elastomeric Buffers introduced in the A17.1-2016 edition. Due to these additional requirements additions to the A17.2-2014 headings entitled Contents, Hydraulic Checklist and the Mandatory Appendix II Items were necessary. In order to strengthen the language the use of “determine” was changed to “verify”. A17.1 Section 5.12 to be “Reserved” for future use.
Proposed Revision to A17.2, Revise the use of the word “Routine” as needed in Inspection and Testing:

**A17.2-2014 Preface-Form and Arrangement:**  
This Guide addresses how-to inspection guidelines, techniques, and cautionary notes in a logical sequence. Regarding the use of the terms “routine inspection” & “periodic inspection”, it is understood that routine inspection refers to A17.1d-2000 & earlier editions & periodic inspection refers to A17.1-2000/B44-00 & later. Subsections are arranged to focus on routine inspection/Periodic Inspection requirements, followed by periodic test (annual and five year) and acceptance criteria. Appropriate references to the latest edition of the Code, in effect at the time of this Guide’s publication, are listed at the end of each subsection. The referenced numbers may not be the same in earlier editions. This Guide is organized as follows: Parts 1 through 6 apply to electric and hydraulic elevators (including LU/LA elevators where applicable), Parts 7 and 8 apply to escalators, Parts 9 and 10 apply to moving walks, and Part 11 applies to machine-room-less (MRL) elevators. The Parts are arranged to show the location of the inspection: 

...  

**Rationale:** Provide clarification to the inspection community regarding the use and meaning of the words routine and periodic.
Revise A17.2 as follows:

ITEM 1.1

DOOR REOPENING DEVICE

1.1.1 Periodic Inspections For elevators installed under A17.1–1955 through A17.1d–1975, power opening of the car door was permitted to take place anywhere in the hoistway. For elevators installed under A17.1e–1975, power opening of the car door was permitted to take place only within the landing zone.

CAUTION: In any of the following tests where the inspector uses an object to test the reopening device, the object must not be inserted when the door is nearing its fully closed position.

1.1.1.1 Detection Means of Objects in the Door Path

(a) Mechanical Reopening Device (Safety Edge). Actuate the device while the doors are being closed and note whether car and hoistway doors stop and reopen. For vertically sliding car doors or gates, a stop and reopen is not required for obstructions within 5 in. (127 mm) of the sides of the opening.

(b) Electronic Reopening Device. Place an object in front of the leading edge of the car door at various positions while it is being closed. The car and hoistway doors should stop and reopen. For vertically sliding car doors or gates, a stop and reopen is not required for obstructions within 5 in. (127 mm) of the sides of the opening.

(c) Photoelectric Reopening Device. To qualify as a reopening device that complies with the Code, the device must sense the presence of the obstruction anywhere within the opening along the leading edge of the car door. Determine the location of the light beam or beams with relation to the car floor. Where an invisible beam is used, the position of the beam can be determined by an examination of the equipment. While the car and hoistway doors are being closed, obstruct the beam, which should cause the doors to stop and reopen. This type of device is usually installed in addition to a mechanical or electronic reopening device.

1.1.1.2 Detection Means of Approaching Objects.

For passenger elevators installed under A17.1-2019/B44-19 and later editions, the following applies: Walk at a normal pace toward the closing horizontally sliding elevator hoistway doors, the means is required to sense you approaching in a zone ranging from 500 mm (20 in.) to 225 mm (9 in.) when the doors are more than 450 mm (18 in.) from fully closed and when you are in front of the leading edge of the door panel(s). After the doors are less than 450 mm (18 in.) from the fully closed position (see 2.12.2.2(a)) or 20 seconds after initial detection have transpired, the means is permitted to be rendered inoperative. Verify that when an approaching person is detected and 15 seconds have not yet transpired, the approaching objects detection means has not been rendered inoperative, and the doors stop moving and reopen a minimum of 915 mm (36 in.) and/or to fully open.

NOTE: For LU/LA elevators, vertical reopening devices do not apply. Vertically opening doors are not permitted.
1.1.2 Periodic Test

1.1.3 Acceptance

1.1.4 References

1.1.4.1 Electric Elevators.
A17.1d–2000 and earlier editions — Section 112 and Rule 1001.2(a)(1).
A17.1–2000/B44-00 and later editions — Requirements 2.13, 8.10.2.2.1(a), and 8.11.2.1.1(a).
**A17.1-20XX/B44-XX and later editions – Requirements 2.13.5.**
A17.3 — Section 2.8.

1.1.4.2 Hydraulic Elevators.
A17.1d–2000 and earlier editions — Section 112 (Rule 300.13); and Rules 1001.2(a)(1) and 1004.2(a)(1).
A17.1–2000/B44-00 and later editions — Requirements 2.13 (3.13), 8.10.3.2.1(a), and 8.11.3.1.1(a).
**A17.1-20XX/B44-XX and later editions – Requirements 2.13.5.**
A17.3 — Section 2.8.

1.1.4.3 Electric LU/LA Elevators.
A17.1d–2000 and earlier editions — Section 2500.13, 112 (NR 112.2(b)(3), 112.3(b), 112.3(d), and 112.6).
A17.1–2000/B44-00 and later editions — Requirements 5.2.1.13, 2.13 (NR 2.13.1(b), 2.13.2.2.3, **2.13.3.4,** 2.13.6).
**A17.1-20XX/B44-XX and later editions – Requirements 2.13.5.**

1.1.4.4 Hydraulic LU/LA Elevators.
A17.1d–2000 and earlier editions — Section 2500.13, 112 (NR 112.2(b)(3), 112.3(b), 112.3(d), and 112.6).
A17.1–2000/B44-00 and later editions — Requirements 5.2.1.13, 2.13 (NR 2.13.1(b), 2.13.2.2.3, **2.13.3.4,** 2.13.6).
**A17.1-20XX/B44-XX and later editions – Requirements 2.13.5.**

Rationale: To add inspection requirements for door reopening devices. To correct reference to vertically sliding doors. No test objects are required for the detection means of approaching objects.
ITEM 1.10
POWER OPENING OF DOORS OR GATES

1.10.1 Periodic Inspections
If collapsible gates are power operated, check that power opening is limited. Check finger guards on collapsible gates. For equipment installed under ASME A17.1-2013/CSA B44.13 and later editions, verify that passenger elevator power door opening does not occur unless the elevator is within ±175 mm (7 in.) of floor level. Power opening remains the same for freight elevators with vertically sliding doors (± 450 mm (18 in.)). The door controller manufacturer, controller manufacturer, or installer shall provide the procedures for testing. The testing procedures shall be made part of the Maintenance Control Program.

NOTE: For LU/LA elevators, power-operated swing doors and horizontally operating car doors are permitted.

1.10.2 Periodic Test
(a) 5-Year Test, Advance Power Opening (for A17.1d–2000 and earlier editions); Category 5 Test, Advance Power Opening (for A17.1–2000/B44-00 and later editions through A17.1-2010/B44-10). Verify that power opening of the doors can occur only when the car is within 18 in. (457 mm) of the landing. In the case of static control, installed under A17.1a–1988 and later editions, the person or firm performing the test must demonstrate that power is not applied to open the doors when the car is more than 12 in. (305 mm) from the landing. Verify that the car is stopped or substantially level with the landing before the hoistway door is fully open. Also, see Fig. 1.10.2.

(b) 5-Year Test of Leveling Zone and Leveling Speed (for A17.1d–2000 and Earlier Editions); Category 5 Test of Leveling Zone (for A17.1–2000/B44-00 and Later Editions). Check that the zone in which the leveling device will move the car toward the landing does not exceed 30 in. (762 mm) for an automatic device or 10 in. (254 mm) for a manual device. The leveling speed is not permitted to exceed 150 ft/min (0.76 m/s). For static control elevators, installed under A17.1a–1988 and later editions, the person or firm installing or maintaining the elevator must provide a written checkout procedure, and demonstrate to the authority having jurisdiction that the leveling speed with the doors open is limited to a maximum of 150 ft/min (0.76 m/s) and that the limiting (or speed monitor) means is independent of the operation of the normal means to control this speed.

For equipment installed under ASME A17.1-2013/CSA B44.13 and later editions, verify that passenger elevator power door opening does not occur unless the elevator is within ±175 mm (7 in.) of floor level. Power opening remains the same for freight elevators with vertically sliding doors (± 450 mm (18 in.)). The testing procedures should be part of the Maintenance Control Program.

1.10.2.1 Electric Elevators. 5-Year Test of Inner Landing Zone (for A17.1d–2000 and Earlier Editions); Category 5 Test of Inner Landing Zone (for A17.1–2000/B44-00 and Later Editions). On static control elevators, installed under A17.1a–1988 and later editions, the person or firm installing or maintaining the equipment is required to submit a written procedure and demonstrate that the zone in which the car can move with the doors open is no more than 3 in. (76 mm) above or below the landing.

1.10.2.2 Hydraulic Elevators. For static control elevators, installed under A17.1a–1988 and later editions, the person or firm installing or maintaining the elevator must provide a written checkout procedure, and demonstrate to the authority having jurisdiction that the leveling speed with the doors open is limited to a maximum of 150 ft/min (0.76 m/s) and that the limiting (or speed monitor) means is independent of the operation of the normal means to control this speed.

1.10.3 Acceptance

1.10.4 References

1.10.4.1 Electric Elevators. A17.1d–2000 and earlier editions — Rules 111.12, 210.1e, 210.9c, 1001.2(a)(10), 1002.3g, 1002.3h, and 1002.3i.
TN 16-2566 (Inspections)

A17.1–2000/B44-00 and later editions — Requirements (NR 111.12), 2.26.1.6, 2.26.9 (2.26.9.3), 8.10.2.2.1(j), 8.11.2.1.1(j), 8.11.2.2.8, 8.11.2.3.7, 8.11.2.3.8, c8.11.2.3.8, and 8.11.2.3.9.
A17.1a–2008/B44a-08 and later editions — Requirements 2.12.5, (NR 111.12), 2.26.1.6, 2.26.9 (2.26.9.3), 8.10.2.2.1(j), 8.11.2.1.1(j), 8.6.4.19.8, 8.6.4.20.7, 8.6.4.20.8, and 8.6.4.20.9.
A17.1-2013/B44-13 – Requirements 1.3, 2.14.5.7, 2.26.1.6, 2.26.9 (2.26.9.3), 8.10.2.2.1(j), 8.11.2.1.1(j), 8.6.4.19.8, 8.6.4.20.7, 8.6.4.20.8, and 8.6.4.20.9.
A17.1-2016/B44-16 and later editions – Requirements 2.12.1, 2.14.5.7, 2.26.9 (2.26.9.3), 8.10.2.2.1(j), 8.11.2.1.1(j), 8.6.4.19.8, 8.6.4.20.7, 8.6.4.20.8, and 8.6.4.20.9.

1.10.4.2 Hydraulic Elevators. A17.1d–2000 and earlier editions — Rules 111.5 {300.12}, 210.1e, 210.9(c), 306.3, and 1004.2(a)(10).
A17.1–2000/B44-00 through A17.1–2007/B44-07 — Requirements 2.12.5 {3.12}, 2.26.1.6, 2.26.9 (2.26.9.3), 3.26.3, 8.10.3.2.1(j), 8.11.3.1.1(j), and 8.11.3.2.3(g).
A17.1a–2008/B44a-08 and later editions — Requirements 2.12.5 {3.12}, 2.26.1.6, 2.26.9 (2.26.9.3), 3.26.3, 8.10.3.2.1(j), and 8.6.5.14.3(g).
A17.1-2013/B44-13 – Requirements 1.3, 2.14.5.7 {3.14}, 2.26.1.6, 2.26.9 (2.26.9.3) {3.26}, 8.10.3.2.1(j), 8.11.3.1.1(i), 8.6.5.14.3(g).
A17.1-2016/B44-16 and later editions – Requirements 2.12.1 (3.12), 2.26.9 (2.26.9.3) {3.26}, 8.10.2.2.1(j), 8.11.2.1.1(j), 8.6.5.14.3(g).

1.10.4.3 Electric LU/LA Elevators. A17.1d–2000 and earlier editions—Rule 2500.13, Section 112 {NR 112.3(d), 112.6}.
A17.1–2000/B44-00 and later editions — Requirements 5.2.1.13 and 2.13 {NR 2.13.3.4, 2.13.6}.
A17.1-2013/B44-13 – Requirements 1.3, 2.14.5.7, 2.26.1.6, 2.26.9 (2.26.9.3), 8.10.2.2.1(i), 8.11.2.1.1(i), 8.6.4.19.8, 8.6.4.20.7, 8.6.4.20.8, and 8.6.4.20.9.
A17.1-2016/B44-16 and later editions – Requirements 2.12.1 (5.2.1.12), 2.14.5.7 {5.2.1.14(m)}, 2.26.9 (2.26.9.3) {5.2.1.26}, 8.10.5.13, 8.11.5.12.

1.10.4.4 Hydraulic LU/LA Elevators. A17.1d–2000 and earlier editions — Rule 2500.13, Section 112 {NR 112.3(d) and 112.6}.
A17.1–2000/B44-00 and later editions — Requirements 5.2.1.13 and 2.13 (NR 2.13.3.4, 2.13.6).
A17.1-2013/B44-13 – Requirements 1.3, 2.14.5.7 {3.14}, 2.26.1.6, 2.26.9 (2.26.9.3) {3.26}, 8.10.3.2.1(i), 8.11.3.1.1(i), 8.6.5.14.3(g).

Rationale: To update power door opening requirements due to the change for passenger elevator unlocking zone in the 2013 edition of the code and to include the change to the Cat 5 test requirements in 8.6.4.20.7 that also occurred in the 2013 edition.
Figure 1.10.2 Door Operation Relative to Car Position

- **Truck Zone**: Car allowed to move with doors open (Requirements 2.12.6 & 2.26.6.6)
- **Landing Zone (Automatic Operation Elevator)**: Horizontal slides of swing doors must be closed mechanically when outside of this zone (Requirements 2.13.3.2.11.3)
- **Unlocking Zone (Maximum-Freight Elevators w/ Vertical Doors Only)**: Opening of car and/or holdaway doors permitted (Requirements 2.13.3.2.11.1.2.3.1.2 & 2.13.3.2.11.1.2.3.1.2.5)
- **Unlocking Zone (Maximum-Passenger Elevators with Horizontally Operating Doors)**: Opening of car doors permitted (2014 & later editions) (Requirements 2.13.3.2.11.1.2.3.1.2 & 2.13.3.2.11.1.2.3.1.2.5)
- **Unlocking Zone (Minimum-Passenger Elevators with Horizontal Operating Doors)**: Manual opening of car & holdaway doors required (Requirements 2.13.3.2.14 & 2.13.3.2.14.5.7)
- **Antiropel Leveling Zone (Hydraulic Elevator)**: Antiropel leveling device shall maintain car within this zone (Requirement 2.13.3.1.2.13.3.1.2.1.2 & 2.13.3.1.2.13.3.1.2.1.6)
- **Leveling Zone (Automatic Leveling with Static Controls)**: Inlet of power opening of doors permitted (Requirements 2.13.3.1.2.13.3.1.2.1 & 2.13.3.1.2.13.3.1.2.1.6)
- **Leveling Zone (Automatic Leveling Without Static Controls)**: Inlet of power opening of doors permitted (Requirements 2.13.3.1.2.13.3.1.2.1 & 2.13.3.1.2.13.3.1.2.1.6)

**GENERAL NOTES**:
- (a) Refer to Requirement numbers for details
- (b) 1 in = 25.4 mm
- (c) Refer to applicable edition of the Code.
Proposed Revision to A17.2, Item 1.18.1 Restricted Opening of Car or Hoistway Doors:

1.18.1 Periodic Inspections

(a) All passenger elevators installed under A17.1b–1980 and later editions must comply with restricted opening of the hoistway or car doors. When the car is outside a specified zone, this requires that either the hoistway door or car door can be opened no more than 4 in. (102 mm) from inside the car but the car door can be opened from outside the car without special tools. The specified zone in which restricted opening applies depends on when an elevator was installed as follows:

(1) On elevators installed under A17.1b–1980 through A17.1a–1982, the specified zone is outside the landing zone [18 in. (457 mm) above or below the landing].
(2) On elevators installed under A17.1b–1983 through A17.1a–1988 and those that must comply with A17.3, the specified zone is outside the unlocking zone. The unlocking zone is a distance set by the manufacturer between 0 in. and 18 in. (457 mm) above and below the landing. (An unlocking zone is not required.)
(3) On elevators installed under A17.1b–1989 and later editions through A17.1-2010/B44-10, the doors must be able to be opened from 0 in. to 3 in. (76 mm) above and below the landing [an unlocking zone is required and doors may be opened up to 18 in. (457 mm) above and below the landing]. The car or hoistway door must meet the restricted opening requirements when the car is more than 18 in. (457 mm) above and below the landing.
(4) For elevators installed under A17.1-2013/B44-13 and later editions, the passenger elevator unlocking zone was reduced from 450 mm (18 in.) to 175 mm (7 in.). Freight elevators were not affected by this change. Also changed in A17.1/B44-2013, was the requirement for the means to restrict opening to only act upon the car door. Previous language included the hoistway door and to allow a car door interlock in lieu of the means to restrict the car door opening.

(b) Some manufacturers comply with this by locking the car door rather than the hoistway door. Some manufacturers incorporate the locking into the door operator, and some install vanes or other mechanisms on the doors and hoistway to achieve compliance. Follow the procedure below to verify compliance with this requirement.

(1) For elevators installed under A17.1b–1980 and later editions through A17.1-2010/B44-10 and elevators required to comply with A17.3, have the car stopped at a point beyond 18 in. (457 mm) above and then below the landing. With the power off, attempt to manually open the car door. If the car door opens more than 4 in. (102 mm), the hoistway door must not open more than 4 in. (102 mm) from inside the car with the car in any position more than 18 in. (457 mm) above or below the landing.
(2) For elevators installed under A17.1-2013/B44-13 and later editions, have the car stopped at 175 mm (7 in.) above and then below the landing. With the power off, attempt to manually open the car door. Verify that the car door does not open more than 100 mm (4 in.). If hoistway door(s) are coupled to the car door(s) to allow for pre-opening doors, the hoistway door may be unlocked but must not open more than 100 mm (4 in.). Next, have the car stopped at a point beyond 175 mm (7 in.) at a point where the car door(s) are not coupled to the hoistway door(s). Verify that the car door does not open more than 100 mm (4 in.) and that the hoistway door remains locked.
(3) For elevators installed under A17.1b–1989 and later editions, follow the previous procedure. If found satisfactory, have the car stopped at the 3 in. (76 mm) point and verify that the doors can be manually opened.
(4) Both of the previous checks will only be required at one or two landings if the restricted opening mechanism can be inspected from the car top.

1.18.3 Acceptance

See Fig. 1.10.2

1.18.4 References

A17.1–2000/B44-00 and later editions — Requirements (NR 111.12), 8.10.2.2.1(r), and 8.11.2.1.1(r).
A17.1-2013/B44-13 and later editions – Requirements 2.14.5.7, NR 111.12), 8.10.2.2.1(r), and 8.11.2.1.1(r).
A17.3 — Paragraph 2.7.5.
1.18.4.2 Hydraulic Elevators. A17.1d–2000 and earlier editions — Rules 111.5 {300.12} and 1004.2(a)(18).
A17.1–2000/B44-00 and later editions — Requirements 2.12.5 {3.12}, 8.10.3.2.1(r), and 8.11.3.1.1(r).
A17.1-2013/B44-13 and later editions – Requirements 2.14.5.7 {3.14}, 10.3.2.1(r), and 8.11.3.1.1(r).
A17.3 — Paragraph 2.7.5 {Section 4.1}.

1.18.4.3 Electric LU/LA Elevators. A17.1d–2000 and earlier editions — Rules 2501.5 and 204.
A17.1–2000/B44-00 and later editions — Requirement 5.2.1.14 and Section 2.14.
A17.1-2013/B44-13 and later editions – Requirements 2.14.5.7 {3.14}, 10.3.2.1(r), and 8.11.3.1.1(r).

1.18.4.4 Hydraulic LU/LA Elevators. A17.1d–2000 and earlier editions — Rules 2501.5 and 204.
A17.1–2000/B44-00 and later editions — Requirement 5.2.1.14 and Section 2.14.
A17.1-2013/B44-13 and later editions – Requirements 2.14.5.7 {3.14}, 10.3.2.1(r), and 8.11.3.1.1(r).

Rationale: To update references and language involving the anti-egress device technical changes that occurred in the 2013 edition of the code. Also to update language that relates to the change in the unlocking zone for passenger elevators that occurred in the 2013 of the code.
Proposed Revision to A17.2, Item 2.1.3 Access to Machine Space:

2.1.1 Periodic Inspections
(a) Check that permanent, safe, and convenient means of access to machine rooms and machinery spaces have been provided and maintained. Check stairways and ladders to see they are stable and secure.
(b) Check that the access door is maintained in the closed and locked position. It must be self-closing and openable from the inside without a key. For elevators installed under A17.1–1978 and later editions, also check that the door is self-locking.

2.1.2 Periodic Test

2.1.3 Acceptance
Check that stairs leading to a roof access, machine room, control room, or control space do not exceed 60° from horizontal.

Note: There are also OSHA requirements for industrial stairs (industrial stairs are those that lead to machinery spaces within a building). These should not be confused with stairs that are used for egress as they are covered under the building code. Since OSHA limits the slope of the stair between 35 and 50 degrees, it is recommended that the installer consult with the AHJ to determine whether OSHA requirements are being used in lieu of the elevator requirements.

2.1.3.1 Electric Elevators. Check that access to the machine room meets the accessibility requirements of the Code. For access doors required to have fire protection ratings, check for proper labeling. Access to the machine room includes passage from the top building floor to the machine room.

2.1.3.2 Hydraulic Elevators. Check that access to the machine room meets the accessibility requirements of the Code. For access doors required to have fire protection ratings, check for proper labeling.

2.1.4 References

A17.1–2000/B44-00 to A17.1a–2005 — Requirements 2.7.1.1, 2.7.3.1, 2.7.3.2, 2.7.3.3, 2.7.3.4, 8.10.2.2.2(a), and 8.11.2.1.2(a).
A17.1–2007/B44-07 and later editions — Requirements 2.7.1.1, 2.7.3.1, 2.7.3.2, 2.7.3.3, 2.7.3.4, 8.10.2.2.2(d), and 8.11.2.1.2(b).
A17.3 — Paragraph 2.2.2.
NFPA 70 or CSA C22.1, as applicable.

A17.1–2000/B44-00 to A17.1a–2005/B44a-05 — Requirements 3.7, 8.10.3.2.2(a), and 8.11.3.1.2(a).
A17.1–2007/B44-07 and later editions — Requirements 3.7, 8.10.3.2.2(d), and 8.11.3.1.2(b).
A17.3 — Paragraph 2.2.2 {Section 4.1}.
NFPA 70 or CSA C22.1, as applicable.

A17.1–2000/B44-00 and later editions — Requirement 5.2.1.7.

A17.1–2000/B44-00 and later editions—Requirement 5.2.1.7.
NOTE: For LU/LA elevators, wood floors are permitted.

Rationale: Provides language to check for the slope of stairs leading to elevator related spaces or rooms. It also provides a note for OSHA requirements which may be enforced in some jurisdictions. OSHA has a maximum slope of 50 degrees for industrial stairs while the elevator code allows up to 60 degrees.
2.42.1 Periodic inspection
(a) Verify that all rope retainers or rope guards are in place.
(b) Verify that equipment in the machine room, control panels, machines, machine beams, support beams, and sheaves are properly fastened to the overhead beams and floor to prevent overturning, where required.

2.42.1.1 Electric Elevators
(a) If the seismic switch is used exclusively for control of the elevator, check to see that the switch is located in the machine room and on a vertical structural member or at the nearest accessible vertical load-bearing member.
(b) Verify that there is a momentary reset button or switch, for each elevator, located in its control panel.

2.42.1.2 Hydraulic Elevators
(a) Verify that a means is provided which will prevent the tank from overturning during seismic activity is still in place.
(b) Verify that all the pipe supports are still in place.

2.42.2 Periodic Test

2.42.3 Acceptance
Verify that rope retainers are continuous over not less than 2/3 of the arc of contact between the rope and its sheave or drum and located so not more than 1/6 of the arc of contact is exposed. For double wrap, the arc of contact is the length of arc that is uninterrupted by the entry/exit of the ropes leading to/from the car or counterweight. Rope restraints may be used in lieu of retainers and, if they are used, there must be one for each 30 deg or less of arc contact.

2.42.3.1 Electric Elevators
(a) Verify that the seismic switch operates properly. When the switch is tripped, the elevator in motion shall proceed to the nearest available floor, the doors shall open, and the elevator shall shut down. If Phase II emergency in-car operation is in effect, the door operation shall conform to 2.27.3.3.
(b) Check the operation of the displacement switch. When this switch is actuated, the elevator, if in motion, shall stop (emergency stop) and then proceed away from the counterweight at a speed not to exceed 150 ft/min (0.75 m/s) to the nearest available floor, open the doors, and shut down. If Phase II operation is in effect, door operation must conform to 2.27.3.3.
(c) If a car with power-operated doors is just reaching a landing, the doors shall open and remain open. If an elevator is standing at a floor with its doors open, the elevator shall remain at that floor. If an elevator is standing at a floor with the doors to the elevator closed, the doors shall open. If Phase II operation is in effect, door operation shall conform to 2.27.3.3. If an elevator is not in operation when an earthquake protective device is actuated, the elevator shall remain at the floor on which it is located.
(d) An elevator may be operated at a speed not exceeding 150 ft/min (0.75 m/s) as long as the displacement switch operated by the counterweight is the continuous monitoring type and is not actuated. If the displacement switch is actuated then the car shall not operate except with the top-of-car inspection operating devices and shall prevent operation of the car by the Phase I, Phase II, hospital emergency keys, or any other similar types of operation. In a power loss situation, the status of the earthquake protective device or slow speed status of the elevator shall not be cancelled when power is restored. The electric protective devices of 2.26.2 shall not be rendered inoperative or bypassed by any earthquake devices.

2.42.3.2 Hydraulic Elevators
(a) If the building is designed with an expansion joint, the machine room and the hoistway shall be located on the same side of the expansion joint.
(b) Verify that the proper number of supports are used to support the hydraulic lines and that supports to resist transverse motion are provided near changes in direction and at valves and joints.
(c) Verify that a means is provided which will prevent the tank from overturning during seismic activity.
(d) Verify that all the pipe supports are in place.
2.42.4 References

2.42.4.1 Electric Elevators. A17.1–1993 through A17.1d–2000 editions — Rules 2401, 2400.1, 2408, and 2409. A17.1–2000/B44-00 and later editions — Requirements 8.4.2, 8.4.3.1, 8.4.9, and 8.4.10.

2.42.4.2 Hydraulic Elevators. A17.1–1993 through A17.1d–2000 editions — Rules 2401, 2400.1, 2410.1, and 2410.7. A17.1–2000/B44-00 and later editions — Requirements 8.4.2, 8.4.3.1, 8.4.11.1, 8.4.11.3, and 8.4.11.6.

2.42.4.3 Electric LU/LA Elevators. A17.1–2000/B44-00 and later editions — Requirements 8.4.2, 8.4.3.1, 8.4.9, and 8.4.10.

2.42.4.4 Hydraulic LU/LA Elevators. A17.1–2000/B44-00 and later editions — Requirements 8.4.2, 8.4.3.1, 8.4.11.1, 8.4.11.3, and 8.4.11.6.

Rationale: Requirements to prevent the tank from being overturned and pipe supports should be verified during an acceptance inspection as opposed to being verified during a periodic inspection. However, it is prudent to verify that these conditions are still in place during a periodic inspection.
Proposed Revision to A17.2, Item 1.7.1 Car Door or Gates:

(c) Location of Car Doors or Gates. A17.3 and A17.1–1937 and later editions specify the maximum distance from the face of the car door or gate to the face of the hoistway door. Where the distance is exceeded, verify that space guards are provided on either car or hoistway doors, and that sight guards are provided for horizontally sliding hoistway doors. Take measurements to confirm compliance with these requirements.

NOTE: For LU/LA elevators, vertical sliding car doors are not permitted. Car doors must be of the unperforated horizontally sliding type. Folding doors (accordion or bi-fold types) are not permitted on LULA elevators installed under the A17.1/B44-2016 and later editions. Verify that no more than two entrances are provided on the car.

Rationale: to correlate with the change in ASME A17.1-2016/CSA B44-16 that prohibits the use of accordion or bi-fold doors on LU/LA elevators.
Proposed Revision to A17.2, Item 5.17 Plunger Gripper:

Item 5.17
Plunger Gripper

5.17.1 Periodic Inspections

Plunger grippers are permitted for direct-acting hydraulic elevators using hydraulic jacks equipped with plungers. Examine all working parts of plunger gripper to determine Check that the plunger gripper, where provided, is in satisfactory operating condition and that it conforms to the applicable requirements. Observe the surface of the plunger for visual indication of previous plunger gripper actuation to ensure that any residual marks do not affect the results of the tests to be performed. Observe that the plunger gripper in the normally retracted position has sufficient clearance such that any contact does not cause premature degradation of the plunger or gripping surface. Verify that the testing instructions are provided in the on-site documentation. Visually inspect the condition of the hydraulic or electrical means to actuate the plunger gripper. Verify the presence and accuracy of the plunger gripper marking plate.

5.17.2 Periodic Test

5.17.2.2 Hydraulic Elevators:
(a) Periodic Test: Yearly Test (for A17.1d–2000 & Earlier Editions); Category 1 Test (for A17.1–2000/B44-00 and Later Editions)
Verify and review applicable procedures are in the On-Site Documentation. After determining electrical and/or hydraulic test means are provided, have all means tested for proper operation.
(1) The test is conducted with no load on the car in the down direction, at slowest possible speed.
(2) Have the car placed out of service and run up to the second landing with the doors disabled.
(3) Have the car moved down and the plunger gripper actuated while running down.
(4) Observe that power is removed from the hydraulic machine before or at the time of application of the plunger gripper
(5) Note the location of the stopped position of the car. Check the plunger for any gouges or deformation.
(6) After the test, mark the date on the periodic test record.

(b) 5-yr Test (for A17.1a-2000 and Earlier Editions); Category 5 Test (for A17.1a-2002/B44-00 and Later Editions)
After determining electrical and/or hydraulic test means are provided, have all means tested for proper operation. (See ASME A17.1/CSA B44, 8.6.5.16.4)
(a1) The test is conducted with rated load on the car, at not less than the operating speed in the down direction or by overspeeding the car in the down direction.
(b2) Follow the manufacturer’s instructions for use of an acceleration-measuring device if one is used to determine the point at which actuation occurs and the deceleration rate.
(c3) Have the car placed out of service, the weights loaded, and the car run up to the second landing with the doors disabled.
(d4) Have the car run down and the plunger gripper actuated while running down.
(e5) Observe that power is removed from the hydraulic machine before or at the time of application of the plunger gripper.
(f6) Note the location of the stopped position of the car. Have the car moved to observe the residual marks on the plunger. Check the plunger for any gouges or deformation that would damage the packing gland. Measure the length of the residual marks and subtract the height of the gripping surface; the difference is the slide distance.
(g7) After the test, mark the date on the plunger gripper marking plate and periodic test record. (See ASME A17.1/CSA B44, Requirements 3.17.3.8, 8.10.3.2.5(n) and 8.10.1.1.4.)

5.17.3 Acceptance

5.17.3.2 Hydraulic Elevators. After determining electrical and/or hydraulic test means are provided, have all means tested for proper operation. Follow the procedures in 5.17.1 and 5.17.2.2(b) for Acceptance Inspection and Testing. Having a test as seen in 5.17.2.2(a) may be warranted prior to testing at higher speeds with rated load.
(a) Have the person(s) performing the test demonstrate that the plunger gripper is released during a loss of hydraulic pressure by performing the following:
(1) Have the car placed out of service and run up to the second landing with the doors disabled.
(2) Have the manual lowering valve opened to simulate an uncontrolled downward motion.

5.17.4 References

5.17.4.2 Hydraulic Elevators A17.1a-2002 through A17.1a-2005 - Section 1.3, Requirements 3.1.1(b), 3.17.3, 8.2.8.6 and 8.7.3.23.7, A17.1-2004 through A17.1a-2005 – Nonmandatory Appendix P.
Rationale: Provide comprehensive guidance on inspection and testing language for plunger grippers so as to improve operations in the inspection community and attempt to prevent undue damage to equipment & mitigate/eliminate hazards to personnel performing the inspection & testing.
Proposed Revision to A17.2, Item 3.23 Suspension Means:

ITEM 3.23
SUSPENSION MEANS

NOTE: In July 2010, ASME published ASME A17.6-2010, Standard for Elevator Suspension, Compensation, and Governor Systems. This is recognized in and cross referenced by ASME A17.1–2010/CSA B44-10 and later editions, Safety Code for Elevators and Escalators, requirement 2.20.1. ASME A17.6-2010 is divided into three Parts. Part 1 addresses stranded carbon steel wire ropes for elevators, Part 2 addresses aramid fiber ropes for elevators, and Part 3 addresses noncircular elastomeric coated steel suspension members for elevators. Each of these Parts contains a section titled, “Replacement Criteria.” Since this data in ASME A17.6-2010 is pertinent to field inspection, inspectors are advised to use and apply this information.

It is also important to note that replacement criteria are also addressed in ASME A17.1–2010/CSA B44-10 and later editions, Maintenance, Repair, Replacement, and Testing (8.6.3.2). For jurisdictions that have adopted ASME A17.1–2010/CSA B44-10 and later editions, replacement criteria in ASME A17.6-2010 apply to all equipment.

Rationale: to reflect subsequent Code editions.
### Proposed Revision to A17.2, Table 2.43.3.1 Traction Elevator Brake Type, Function, and Performance:

Table 2.43.3.1 Traction Elevator Brake Type, Function, and Performance

<table>
<thead>
<tr>
<th>Brake Type</th>
<th>Location</th>
<th>Normal Operation Function</th>
<th>Emergency Operation Function</th>
<th>Normal Performance (Minimum)</th>
<th>Emergency Performance (Minimum)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving-machine brake</td>
<td>Electric driving machine (see Section 1.3 and 2.24.8.1)</td>
<td>To hold car stationary at floor [Note (1)] [see 2.24.8.3(a) and (b), and 2.26.8]</td>
<td>Retard car during emergency stop [see 2.24.8.3(c), 2.26.8.3(c) and (d)]</td>
<td>Hold 125% rated load [Note(2)][see 2.24.8.3(a)]</td>
<td>Retard empty car in up direction [see 2.24.8.3(c)]</td>
</tr>
<tr>
<td>Braking system</td>
<td>Not specified</td>
<td>Note(1) (see 2.26.8)</td>
<td>Retard car during emergency stop [see 2.24.8.2 and 2.26.8.3 c) and (d)]</td>
<td>Note(1)</td>
<td>Safely stop and hold car with 125% of rated load in down direction at any speed or empty car in the up direction from the speed at which the governor overspeed switch is set (see 2.24.8.2 and 2.16.8 [Note (2)])</td>
</tr>
<tr>
<td>Emergency brake</td>
<td>Suspension or compensation means system, traction sheave, car or counterweight (see 2.19.3.2)</td>
<td>Not permitted [see 2.19.3.2(c)]</td>
<td>Retard car during ascending car overspeed and unintended car movement, independently of the braking system [see 2.19.1.2(b) and 2.19.2.2(b)]</td>
<td>Not applicable [see 2.19.3.2(c)]</td>
<td>Retard car in up direction [see 2.19.3(a)], up to 110% of governor tripping speed [see 2.19.1.2(a)]. Stop unintended motion: 125% rated load down or empty car up [see Note(2)] [see 2.19.2.2(b)]. Reduce the car and counterweight speed such that the rated buffer striking speed is not exceeded (rated load down or empty car up) [see 2.25.4.1.1]</td>
</tr>
</tbody>
</table>

**Rationale:** To update Item 2.43.2.1(b) and Table 2.43.3.1 to show the change that is being made to Mechanical Design Committee TN 12-1695 and to be consistent with Code requirements in 2.24.8.2, 2.16.8 and Appendix F1.

**NOTE TO INSPECTION COMMITTEE:**

Approved TN 12-1695 contains an error. It states “Safely stop and hold car with 125% of rated load in down direction at any speed or empty car in the up direction from the speed at which the governor overspeed switch is set”. However, 2.24.8.2 requires that the braking system decelerate the car from its rated speed in the down direction not any speed. The MDC should be notified of this error.
Proposed Revision to A17.2, Item 2.42.4 References for Earthquake Operation:

2.42.4.1 Electric Elevators. A17.1-1993 through A17.1d-2000 — Rules 2401, 2400.1, 2408, and 2409. A17.1-2000/B44-00 and later editions — Requirements 8.4.2, 8.4.3.1, 8.4.9, and 8.4.10. A17.1-2016/B44-16 and later editions — Requirement 8.6.4.19.17.

2.42.4.2 Hydraulic Elevators. A17.1-1993 through A17.1d-2000 — Rules 2401, 2400.1, 2410.1, and 2410.7. A17.1-2000/B44-00 and later editions — Requirements 8.4.2, 8.4.3.1, 8.4.11.1, 8.4.11.3, and 8.4.11.6. A17.1-2016/B44-16 and later editions — Requirement 8.6.5.14.8.

2.42.4.3 Electric LU/LA Elevators. A17.1-2000/B44-00 and later editions — Requirements 8.4.2, 8.4.3.1, 8.4.9, and 8.4.10.

2.42.4.4 Hydraulic LU/LA Elevators. A17.1-2000/B44-00 and later editions — Requirements 8.4.2, 8.4.3.1, 8.4.11.1, 8.4.11.13, and 8.4.11.6.

Rationale: to add the references to A17.2 for the Earthquake Inspections and Tests.
Proposed Revision to A17.2, Item 4.13 Equipment in Public Locations:

4.13.1 Periodic Inspections
Check that access panels to elevator equipment are secured and of the appropriate Security Group. Electrical enclosures should be enclosed to protect against accidental contact. Ensure all required signage for equipment identification and use is present.

4.13.2 Periodic Test

4.13.3 Acceptance

4.13.4 References

4.13.4.1 Electric Elevators. A17.1-2016/B44-16 and later editions - Requirements 2.7.6.3.2, 8.1.2(e) & 8.6.11.15.
CSA B44.1-14/ASME A17.5-2014 and later editions – Clause 20.22.
NFPA 70 or CSA C22.1, as applicable.

4.13.4.2 Hydraulic Elevators. A17.1-2016/B44-16 and later editions - Requirements 3.7.1, 8.1.2(e) & 8.6.11.15.
CSA B44.1-14/ASME A17.5-2014 and later editions – Clause 20.22.
NFPA 70 or CSA C22.1, as applicable.

Rationale: With the use of machine-room-less elevators introducing equipment into areas of a building or structure that are not restricted and the public may be prevalent, this proposal intends to provide guidance to the inspection community to verify the equipment is installed and maintained to facilitate protection to persons in the vicinity of equipment but may not be adequately knowledgeable and therefore prepared to protect themselves from the hazards associated with the equipment.
**TN 18-2565**

*Proposed Revision to A17.2, Nonmandatory Appendix XX Emergency Power Acceptance Checklist:*

*Red text indicates editorial changes based on latest comments.*

**Nonmandatory Appendix XX Acceptance Checklist**

**Acceptance Checklist for Standby/Emergency power**

**GENERAL NOTE:** Pass = meets requirement; Fail = does not meet requirement; N/A = not applicable

<table>
<thead>
<tr>
<th>Elevator ID No.:</th>
<th>Building:</th>
<th>Address:</th>
<th>Date:</th>
<th>Inspected by:</th>
<th>Inspector I.D. No.:</th>
<th>Signature:</th>
<th>ASMEA17.1-2019/CSA B44-19</th>
<th>Pass</th>
<th>Fail</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.17.3.1(b)</td>
<td>Building personnel must transfer the power from normal to the emergency power source. Verify that the transfer between the normal and emergency or standby power is automatic.</td>
<td>2.27.2.2</td>
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<td>2</td>
<td>1.17.3.1(a)</td>
<td>Verify that where the emergency power source is not capable of absorbing regenerative power, a means must be provided to absorb such power.</td>
<td>2.27.2.5</td>
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<tr>
<td>3</td>
<td>1.17.3</td>
<td>Ensure that a visual indicator is provided at the designated level that illuminates when the elevators are operating on emergency power. The signal(s) is/are required to be marked &quot;Elevator Emergency Power&quot;.</td>
<td>2.27.2.3</td>
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<td>4</td>
<td>1.17.3</td>
<td>When the emergency power source is not capable of operating all elevators concurrently, verify that a selector switch is provided at the designated level in view of all elevator entrances. The switch must be marked &quot;Elevator Emergency Power&quot; in red lettering not less than 5 mm (0.25 in.) height.</td>
<td>2.27.2.4, 2.27.2.4.1, 2.27.2.4.3</td>
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<tr>
<td>5</td>
<td>1.17.3</td>
<td>Verify that the selector switch is either keyed or behind a locked cover. The key required is to be Group 3 Security.</td>
<td>2.27.2.4.1</td>
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<tr>
<td>6</td>
<td>1.17.3</td>
<td>Verify the selector switch is marked and corresponds with the elevator identification</td>
<td>2.27.2.4.2</td>
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<td>7</td>
<td>1.17.3</td>
<td>Where the switch is located remotely from the elevator entrance(s), verify that a means is provided next the selector switch to indicate that the elevator(s) is at the designated level with the doors in the open position.</td>
<td>2.27.2.4.3</td>
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<tr>
<td>8</td>
<td>1.17.3.1, 1.17.3.2, 1.17.2.1</td>
<td>Ensure the system automatically selects one or more elevators to recall to the designated level. Have the system transferred, by the responsible party, to standby or emergency power as in Step 1. Verify each elevator designated to be operated on standby/emergency power will sequence down to the designated level and open its doors. The speed of each operating elevator must not attain the governor electrical overspeed trip or 125% of rated speed, whichever is less. Any elevator that was passed over has been given a second opportunity to recall.</td>
<td>2.27.2.4.4, 2.26.10</td>
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<tr>
<td>8a</td>
<td>1.17.3.1, 1.17.3.2, 1.17.2.1</td>
<td>Have the elevator(s) that will operate on Standby/Emergency power placed at the top terminal with 125% of rated load for passenger elevators and freight elevators that are permitted to carry passengers for electric elevators</td>
<td>2.27.2.1</td>
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<tr>
<td>8b</td>
<td>1.17.3.1, 1.17.3.2, 1.17.2.1</td>
<td>Have the elevator(s) that will operate on Standby/Emergency power placed at the top terminal with rated load in the car for freight elevators.</td>
<td>2.27.2.1</td>
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<tr>
<td>8c</td>
<td>1.17.3.1, 1.17.3.2, 1.17.2.1</td>
<td>Have the elevator(s) that will operate on Standby/Emergency power placed at the top terminal with 100% rated load for hydraulic elevators</td>
<td>2.27.2.1</td>
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<td>9a</td>
<td>1.17.3.1, 1.17.2.1</td>
<td>Verify that an elevator not on designated attendant operation, hoistway access operation, inspection operation, Firefighters’</td>
<td>2.27.2.4.4(a)</td>
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<td></td>
<td>Phase I or Phase II In-Car Emergency Operation once selected car has returned to the designated level</td>
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<td>9b</td>
<td>1.17.3.1, 1.17.2.1</td>
<td>If the car fails to move within 30 s, the selection has automatically transfer to another elevator.</td>
<td>2.27.2.4.4(a)</td>
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<td>10</td>
<td>1.17.3.1, 1.17.2.1</td>
<td>When any elevator is on; attendant operation, hoistway access operation, inspection operation or Phase II operation and the elevator is moving, verify that transfer to the next car is delayed until the elevator that is selected is stopped for a period of not less than 2 minutes nor more than 3 minutes.</td>
<td>2.27.2.4.4(b)</td>
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<td>11</td>
<td>1.17.3.1, 1.17.2.1</td>
<td>Verify that when an elevator is on Phase I recall operation it will complete its recall to the designated level. Once recall is complete or the elevator fails to move within 30 seconds then the next car will be selected in the sequence</td>
<td>2.27.2.4.4(c)</td>
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<tr>
<td>12a</td>
<td>1.17.3.1</td>
<td>When all elevators have returned to the designated level, from the selector switch, select an elevator for operation and verify that there is a visual means to indicate which elevator is selected.</td>
<td>2.27.2.4.5 2.27.2.4.6</td>
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<tr>
<td>12b</td>
<td>1.17.3.1</td>
<td>Run the selected elevator at rated load up and down the hoistway to insure proper operation. Repeat this process selecting each elevator to ensure proper operation.</td>
<td>2.27.2.4.5</td>
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<tr>
<td>12c</td>
<td>1.17.3.1</td>
<td>Once all elevators that are designed to operate on standby power have been checked, have the system transferred by the responsible party back to normal power and verify that the elevators tested operate properly in normal service.</td>
<td>2.27.2.4.5</td>
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</tbody>
</table>

**Rationale:** to add Nonmandatory Appendix XX Emergency Power Acceptance Checklist to A17.2.
Proposed Revision to A17.2, Scope:

This Guide covers recommended inspection and testing procedures for electric and hydraulic elevators, escalators, and moving walks required to conform to the Safety Code for Elevators and Escalators, A17.1-1955 and later editions, and The Safety Code for Existing Elevators and Escalators, A17.3. This Guide also addresses some requirements from editions of A17.1 prior to 1955.

This Guide also includes Canadian references and applicable exceptions for CSA B44-00 and later editions. Exceptions or deviations applicable in Canada are identified with the same ASME requirement number prefaced with a lowercase “c” for CSA B44.00 through CSA B44.04 Update 1.

Rationale: The designation “c” is no longer applicable since harmonization is essentially complete. This is basically a housekeeping issue.
Proposed Revision to A17.2, New Figure 5.8.1 Showing Minimum Distance between Safety Jaws:

**Proposed Figure 5.8.1**

**Rationale:** To provide assistance to the inspector on measuring clearance.

Note this figure was already approved in TN 14-1906 but mistakenly for A17.1, instead of A17.2. This proposed revision is now being issued for A17.2, not A17.1.
Proposed Revision to A17.2, Item 2.17.2.2 Hydraulic Elevators Class C2 Loading:

2.17.2.2 Hydraulic Elevators, Category 5 Test. For freight elevators designed for Class C2 loading, with the car parked at the landing, increase the load inside the car up to the maximum load indicated on the freight elevator loading sign. The hydraulic system must hold and level this load.

Rationale: To add Category 5 test in accordance with A17.1, Requirement 8.6.5.16.6.

Note: title was changed from Drive Machine Brake to Hydraulic Elevators Class C2 Loading in this proposal.
TN 19-2454

Proposed Revision to A17.2, Items 8.4.3 and 10.4.3 Acceptance; 8.4.4 and 10.4.4 References Escalator Brake:

8.4.3 Acceptance
Check the certification for the drive machine brake.
Check the stopping distance with no load. Compare it with the minimum stopping distance and compare the minimum distance from the skirt-obstruction devices to the combplate against the information on the data plate.
Check the brake certification
The person or firm installing the equipment must provide a written procedure to demonstrate that whenever the driving machine brake is applied that the escalator braking distance monitor detects when the maximum and minimum stopping distance is not achieved and prevents the unit from restarting unless the device is manually reset.

8.4.4 References
A17.1d-2000 and earlier editions — Section 804 and Rule 1008.2d.
A17.1-2000/B44-00 through A17.1-2007/B44-07 — Requirements 6.1.5, 8.10.4.1.2(d), 8.10.4.2.2(g), and 8.11.4.2.4.
A17.1a-2008/B44a-08 through A17.1-2013 and later editions — Requirements 6.1.5, 8.6.8.15.4, 8.10.4.1.2(d), and 8.10.4.2.2(g).
A17.1-2016 and later editions — Requirements 6.1.5, 6.1.6.7, 8.6.8.15.4, 8.10.4.1.2(d), and 8.10.4.2.2(g).
A17.3 — Section 5.2.

10.4.3 Acceptance
Check the stopping distance with no load against the minimum distance information on the data plate.
The person or firm installing the equipment must provide a written procedure to demonstrate that whenever the driving machine brake is applied that the escalator braking distance monitor detects when the maximum and minimum stopping distance is not achieved and prevents the unit from restarting unless the device is manually reset.

10.4.4 References
A17.1d-2000 and earlier editions — Section 904 and Rule 1008.2d.
A17.1-2000/B44-00 through A17.1-2007/B44-07 — Requirements 6.2.5, 8.10.4.1.2(d), 8.10.4.2.2(g), and 8.11.4.2.4.
A17.1a-2008/B44a-08 through A17.1-2013 and later editions — Requirements 6.2.5, 8.6.8.15.4, 8.10.4.1.2(d), and 8.10.4.2.2(g).
A17.1a-2016 and later editions — Requirements 6.2.5, 6.2.6.8, 8.6.8.15.4, 8.10.4.1.2(d), and 8.10.4.2.2(g).
A17.3 — Paragraph 9.5.1.

Rationale: To add testing requirements for Requirements 6.1.6.7 and 6.2.6.8 added in A17.1-2016 and approved Record 18-2576.
Proposed Revision to A17.2, Item 1.17 Standby Power Operation – References:

1.17.4 References

1.17.4.1 Electric Elevators. A17.1d-2000 and earlier editions — Rules 207.8, 210.10, 211.2, 1001.2(a)(17), 1002.2g, and 1002.3e.
A17.1-2000/B44-00 through A17.1-2007/B44-07 — Requirements 2.16.8, 2.26.10, 2.27.2, 8.10.2.2.1(q), 8.11.2.2.7, and 8.11.2.3.5.
A17.1a-2008/B44a-08 and later editions through A17.1-2010/B44-10 — Requirements 2.16.8, 2.26.10, 2.27.2, 8.10.2.2.1(q), 8.11.2.1.1(q), 8.6.4.19.7, and 8.6.4.20.5.
A17.1-2013/B44-13 and later editions. — Requirements 2.16.8, 2.26.10, 2.27.2, 8.10.2.2.1(q), 8.11.2.1.1(q), and 8.6.4.19.7.
A17.3 — Paragraph 3.11.2.

Rationale: To address the removal of Rule 8.6.4.20.5 in the A17.1-2013/B44-13 Code.