

**Elevator Violation Checklist For Cable
Installed Prior To 1968 And
Between 1968 And 1984**

Meets Code			Code/ Year	Item No.	Code Requirements
N/A	Yes	No			
			210.2e	1.	Emergency Stop Switch A) Stop Switches are Required 1. Shall be toggle or push pull 2. No keys or push buttons
			211.1	2.	Car Emergency Signals A) Non-Attended Buildings: Items 1 or 2 1. Phone to central exchange is required (No Alarm Bell in car required) 2. Alarm Bell in Car and Bell with sign on outside of building with Automatic Emergency Power Back Up. (if travel exceeds 65'-0" or floor to floor exceeds 15'-0" an intercom is required) B) Attended Buildings: Items 1 or 2 1. Phone to central exchange 2. Alarm Bell on emergency power, (if travel exceeds 65'-0" or floor to floor exceeds 15'-0" an intercom is required)
			207.3	3.	Capacity and Data Plates A) Capacity plates inside all cabs. B) Crosshead data plates with manufacturer, speed, capacity, no. or ropes, size, breaking strength, weight of car
			207.5	4.	Signs in Freight Elevators A) Type of loading sign B) "No Passenger" sign
			204.1 204.3	5.	Car Enclosures A) All Cabs 1. Shall be fully enclosed with Non Combustible Material 2. Have Top Exits 16" x 25" minimum a) Opening from outside of the cab only, be hinged or attached to the car top 3. Glass shall be laminated safety glass B) Freight Cabs 1. Shall be solid metal to a height of 6"-0" above the floor and full height in front of and 6" on each side of the counterweight 2. Car tops may be perforated metal with top exit
			204.2C	6.	Ventilation A) Passenger Elevators 1. Where solid doors are used ventilation is required 2. Vents shall not be located between 1'-0" and 6'-0" above the floor 3. Vent openings above 6'-0" shall reject 2" diameter ball B) Freight Elevators 1. If vents are provided they shall comply with items 2 & 3 above
			204.2D	7.	Side Exits A) Side exits are required on all cable elevators with a distance between cars no greater than 30" B) All exits shall be latched and have contacts C) Side exits are not required on hydraulic elevators
			204.4	8.	Car Door or Gate A) A door or gate shall be provided at each entrance to the car B) All passenger car doors shall be made of non combustible material C) All freight car Gates may be wood or metal D) All freight car Doors shall be of metal E) Vision Panels are not required 1. Where provided shall not exceed 1 foot square, maximum 6" wide and be laminated glass

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			204.4e	9.	Location of Doors A) Distance between face of car door or gate to face of hoistway door B) All Other – 5 ½ " maximum
			204.4 204.5 204.6	10.	Gates A) All Collapsible Gates 1. Shall have at least every fourth vertical member guided at the top and every second vertical member guided at the bottom 2. Gates shall reject 3" diameter ball on passenger elevators – full height of opening 3. Gated shall reject 4 ½ " diameter ball on freight elevators (6'-0" high minimum) B) Vertical sliding gates shall reject a 2" diameter ball 6'-0" height minimum on freight
			111.2	11.	Closed Door or Gate Electric Contacts A) All door and gates shall be provided with approve type electric contacts inaccessible from inside care
			111.8C	12.	Closed Position of Car Doors and Gates A) Horizontal sliding doors and gated not to exceed 2" from leading edge to jamb B) Vertical sliding doors and or gates 2" from leading edge to car sill C) Horizontal/vertical bi-parting = 2" apart
			112.3	13.	Power Closing of Door or Gates A) By continuous pressure 1. Release of button causes door to stop and/or stop and reopen 2. Shall be zoned not to close doors at any other landing B) Automatic closing 1. A switch is required to cause the doors to stop and/or stop and reopen and have safe edge 2. Vertical sliding doors or gates a) Warning bell five (5) seconds prior to closing b) Carr gates shall have safe edge and close first
			112.3a	14.	Closing Force A) Passenger elevator not to exceed 30FT/LBS
			210.12	15.	Floating Platform A) Floating platforms which permit operation of the elevator when the car door or gate is not closed position are prohibited
			204.7	16.	Car Lighting A) Each cab shall have not less than two (2) lamps B) Control, if provided, shall be key operated C) Light bulbs shall be guarded to prevent breakage
			204.7a3	17.	Car Emergency Lighting A) Passenger elevators shall have battery operated emergency lights
			203.9	18.	Car Platform Guard A) A toe guard shall be provided for all cars 1. Be not less than 16 Ga steel 2. Be full width of hoist way door opening 3. Extend below floor surface at least the leveling zone plus 3" 4. Bottom to be beveled 60 degrees to 75 degrees
			100.1	19.	Hoistway Enclosures A) Hoistways shall be fully enclosed with fire-resistive rated enclosure in compliance with local authorities 1. No open grille work is acceptable
			111.1	20.	Hoistway Door Locking Devices A) All hoist way doors shall have mechanical and electrical interlocks to prevent the operation of the car outside the leveling zone unless the landing doors are closed and locked

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			111.9	21.	Access to Hoistways A) Access to hoist way must be provided at one upper landing and at the bottom landing minimum
			106.1d	22.	Access to Pit A) An incombustible fixed vertical ladder is required for all pits over 4'-0" deep, to be with reach of the access door
			102.1c 68-84	23.	Traveling Cable A) Shall be flame retardant and moisture resistant
			209.4	24.	Speed Limiting Switches A) Required with reduced stroke buffers
			100.5	25.	Windows in Hoistway (Excluding Stationary Glass) A) Permitted on exterior walls only B) Where allowed must be fire windows (Metal Sash) C) Windows facing a car opening shall be guarded with sheet metal, grating or bars D) Hoistway windows ten (10) stories or less above thoroughfare must be: 1. Metal sash window with 1/8 " steel muntins – maximum 8" apart or 2. Guard by 5/8 " bars 10" O.C. vertical
			206.5	26.	Governor Rope A) Shall be 3/8 " diameter minimum B) Can not be tiller rope
			107.1	27.	Car and Counterweight Top Clearance A) Top of car clearance equals the sum of the following: (measured from top of crosshead) 1. 2'-0", or distance which equipment projects above crosshead whichever is greater 2. Bottom CWT run by 3. CWT buffer stroke 4. ½ gravity stopping distance (see chart 1304.1) a) Oil buffer, use 115% rated speed b) Spring buffer, use governor trop speed B) Top counterweight clearance equals the sum of the following: 1. 6" 2. Bottom car runby 3. Car buffer stroke 4. ½ gravity stopping distance (see chart) a) Oil buffer, use 115% rated speed b) Spring buffer, use governor trip speed VELOCITY IN FEET PER MINUTE GRAVITY STOPPING DISTANCE IN INCHES
			108.	28.	Hoistway Dimensions and Clearances A) ¾" between car and hoistway minimum B) 1" between car and counterweight minimum C) ¾" to 1 ½ " running clearance car to landing sill 1. Except ½" minimum for vertical bi-parting doors D) Car still to wall or fascia 1. 7 ½ " for vertical slide doors maximum 2. 5" all other doors maximum

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			209.2	29.	Normal Terminal Stopping Devices A) Required without exception either in hoistway or machine room
			209.3	30.	Final Terminal Stopping Devices A) Required without exception 1. Traction, in hoistway 2. Winding drum, in hoistway and on machine B) Shall directly open main line switch
			210.2h	31.	Stop Switch on Car Top A) Required on all elevators
			210.1h	32.	Top of Car Operating Device A) Required on all elevators 1. Continuous pressure 2. Speed on to exceed 150 FPM 3. Provide total control of the elevator 4. Portable stations shall be attached to car
			202	33.	Counterweights 1. Sash weights are acceptable 2. Tie rods shall be cotter pinned 3. Sash weights are prohibited 4. Counterweights shall be in steel frame 5. Two (2) tie rods with cotter pins are lock nuts are required
			100.1d	34.	Multiple Hoistways A) No more than four (4) elevators in one hoist way
			100.6 Pre-68 68-84	35.	Projection, Recesses in Hoistway A) Sides used for loading 1. Walls shall be substantially flush a) Sills and headers may project inside wall line with toe guards and bevels B) Sides not used for loading 1. Projections and recesses are allowed without bevels 2. Projections or recesses greater than 2" shall have a minimum 75 degree bevel
			100.3	36.	Floor Over Hoistways A) Metal or concrete floor is required 1. Above or level with top of machine beams 2. Below overhead sheaves when machine is not over hoist way 3. Not required below secondary or deflector sheaves if a means of access and servicing is provided B) If Metal Floor 1. If bar type must reject a ¾" ball 2. If perforated must reject a 1" ball C) If floor does not cover entire hoistway a 42" high railing shall be provided
			1004.4	37.	Venting of Hoistway A) Hoistways serving more than three (3) landings shall be provided with ventilation to the outer air 1. 3 square feet minimum area required 1/3 fixed open or auto-open damper minimum 2/3 1/8" plain glass.
			200	38.	Guide Rails and Fastening A) Guide rails, clips, brackets shall be made of steel B) Cast iron may not be used C) Wood guides may be used where steel may cause a hazard and the rated speed does not exceed 150 FPM
			102.1 Pre-68 68-84	39.	Raceways and Wiring in Hoistway A) Existing electric wiring and raceways are allowed in the hoistway and machine room B) Only such electrical wiring, raceways and cables used for the elevator may be installed in the hoistway and machine room C) Traveling cables shall have a flame resistant and moisture resistant cover D) All wiring shall conform to N.E.C.

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			102.2 Pre-68 68-84	40.	Pipes and Ducts in Hoistway and Machine Room A) All existing pipes and ducts may remain in these areas provided they are guarded so that any discharge will not affect the operation of the elevator B) Existing pipes and ducts not pertaining to the operation of the elevator shall be separated or removed from the hoistway and/or machine room Exceptions: 1. Low pressure heat pipes for heating these areas 2. Ducts fro heating and cooling these areas 3. Sprinklers are allowed, branch lines only with shut off valves outside these areas (shunt trip breakers are not required) 4. Sump pumps are allowed																																										
			110.14 B	41.	Landing Sill Guards A) All sills shall be guarded full width and opening 1. Without leveling a) Must be beveled 60 degrees – 75 degrees 2. With leveling a) Extend vertical for a distance of the leveling zone plus 3" than beveled 60 degrees to 75 degrees																																										
			203.13	42.	Suspension Rope Hitch Plate A) Shall be steel B) Shall be secured to the underside of the crosshead																																										
			212.2	43.	Wire Rope Data Tag A) Located on one rope B) Indicate diameter, breaking strength material, month and year installed, construction, name of installing company and name of manufacturer																																										
			212.9	44.	Rope Sockets A) Babbitted sockets or approved alternate shackles are required B) U-Bolt clamps shall not be used																																										
			206.2	45.	Governor Trip Speed A) Shall be set at not less than 115% of the rated speed B) See Chart 206.2a <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: center;">Table No. 206.2a**</th> </tr> <tr> <th colspan="3" style="text-align: center;">Maximum Speed in Feet Per Minute at Which Speed Govern Trips and Governor Over Speed Switch Operates</th> </tr> <tr> <th style="text-align: left;">Rated Speed</th> <th style="text-align: center;">Max Governor Trip Speed</th> <th style="text-align: center;">Max Speed at Which Governor Over Speed Switch Operates, Down</th> </tr> </thead> <tbody> <tr><td>0-125</td><td style="text-align: center;">175</td><td style="text-align: center;">175+</td></tr> <tr><td>150</td><td style="text-align: center;">210</td><td style="text-align: center;">210+</td></tr> <tr><td>175</td><td style="text-align: center;">250</td><td style="text-align: center;">225</td></tr> <tr><td>200</td><td style="text-align: center;">280</td><td style="text-align: center;">252</td></tr> <tr><td>225</td><td style="text-align: center;">308</td><td style="text-align: center;">277</td></tr> <tr><td>250</td><td style="text-align: center;">337</td><td style="text-align: center;">303</td></tr> <tr><td>300</td><td style="text-align: center;">395</td><td style="text-align: center;">355</td></tr> <tr><td>350</td><td style="text-align: center;">452</td><td style="text-align: center;">407</td></tr> <tr><td>400</td><td style="text-align: center;">510</td><td style="text-align: center;">459</td></tr> <tr><td>450</td><td style="text-align: center;">568</td><td style="text-align: center;">512</td></tr> <tr><td>500</td><td style="text-align: center;">625</td><td style="text-align: center;">563</td></tr> </tbody> </table>	Table No. 206.2a**			Maximum Speed in Feet Per Minute at Which Speed Govern Trips and Governor Over Speed Switch Operates			Rated Speed	Max Governor Trip Speed	Max Speed at Which Governor Over Speed Switch Operates, Down	0-125	175	175+	150	210	210+	175	250	225	200	280	252	225	308	277	250	337	303	300	395	355	350	452	407	400	510	459	450	568	512	500	625	563
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			206.4a	46.	Governor Over speed Switch and Car Safety Mechanism Switch (shall be manually reset) A) Governor over speed switch is required on all card whose speed exceed 150 FPM 1. Set 90% of the governor trip speed 2. 95% for speeds greater than 500 FPM 3. 100% in up direction B) Car safety mechanism switches 1. Required on cars a) Operates when safeties are applied																																										

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			206.3	47.	Governor Seal A) All governors shall be sealed 1. All governors without seals shall be tested
			101.1	48.	Enclosures of Machine Rooms A) Shall have fire resistive enclosures
			101.2 Pre-68 68-84	49.	Equipment in Machine Room A) Overhead machine rooms 1. May be located in a room containing other equipment essential to the building operation B) Other than overhead rooms 1. May be located with other equipment 2. Shall be in a room without other equipment
			Pre-68 68-84	50.	Access to Machine Rooms A) A permanent and safe access is required B) Door to room shall be kept closed and locked C) Lock shall be spring type D) Access shall be permanent and safe 1. Difference in floor levels a) Vertical ladder required when less than 3'-0" 2. If access is across roof a) A stairway shall be provided from top level of building or roof b) If roof slope exceed 15 degrees a 2" walkway with handrail shall be provided 3. Machine room doors shall be: a) 2'-6" x 6'-0" minimum b) Self closing c) Kept locked with spring type lock set
			101.4 Pre-68 68-84	51.	Head Room in Machine Room A) Existing is acceptable B) 7'-0" clear
			101.5b	52.	Lighting and Ventilation A) Permanent light and switch is required B) Natural or mechanical ventilation is required to avoid overheating of equipment, Existing conditions are acceptable if machinery does not overheat
			104.1	53.	Guards for Exposed Equipment A) Exposed equipment shall be guarded to prevent accidental contact
			208.1 Pre-68 Only Pre-68 Only 68-84 All	54.	Machines A) Winding drums are allowed (shall be periodically re shackled and date tagged per 1203.3A) 1. Shall have slack rope device with manual re settable switch 2. Shall have adjustable machine automatic terminal stopping devices directly driven by machine 3. Prohibited a) Set screw fasteners to transmit torque b) Cast iron worm or gear c) Friction clutches d) Mechanically released brakes B) Indirect Drive machine 1. Minimum of three matched and preloaded belts or chains shall be used 2. Off set links in chains shall not be used 3. Chain and belt drives shall be guarded to prevent accidental contact 4. Chain driver and driven sprockets shall be assembled into a common hub 5. Each belt or chain in a set shall be monitored by a broken belt or chain device which will interrupt the power to the machine and set the brake a) Device to manually reset 6. If on belt or chain requires replacement, the entire set shall be replaced 7. Brake shall be directly attached to the machine, not the motor C) All machines shall be traction type (See Exception 208.1) D) Sheaves and drums can be cast iron or steel

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			208.10	55.	Numbering of Machine and Disconnect A) Where more than one elevator is located in a machine room, each machine and its disconnect switch shall have a number applied to it																											
			210.5	56.	Mainline Disconnect Switches A) A fused disconnect switch or circuit breaker is required for each elevator and located in sight of the machine location																											
			210.6	57.	Phase Protection A) Reverse phase relay and phase failure protection is required on all cable elevators																											
			107 Pre-68 Only 68-84	58.	Bottom Clearance for Car and Counterweight and Run by A) Bottom car clearance 1. 2'-0" between underside of platform and the pit floor when the car is on compressed buffers 2. 2'-0" between pit floor and lowest mechanical or structural part except shoes, safety and guard within 12" of the edge of the platform B) Car and counterweight run by shall 1. 6" maximum 2. Maximum run by a) 24" for cars b) 36" for counterweights																											
			201	59.	Car and Counterweight Buffers A) Spring or oil buffers are required on: 1. Passenger cars and counterweight with speed exceeding 50 FPM 2. Freight elevators and counterweight with speed exceeding 75 FPM B) Spring buffers may be used where speed does not exceed 200 FPM C) Oil buffers shall be used where speed exceeds 200 FPM D) Solid bumpers may be used, if spring buffers are not used, on passenger elevators not exceeding 50 FPM and freight elevators not exceeding 75 FPM																											
			201.4	60.	Construction of Oil Buffers A) Stroke 1. The minimum stroke of oil buffers shall be according to the chart 201.4a Table No. 201.4a Minimum Buffer Strokes <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Rated Speed in Feet Per Minute</th> <th>115% of Rated Speed in Feet Per Minute</th> <th>Minimum Strokes of Oil Buffers in Inches</th> </tr> </thead> <tbody> <tr><td>200</td><td>230</td><td>2 3/4</td></tr> <tr><td>225</td><td>259</td><td>3 1/2</td></tr> <tr><td>250</td><td>288</td><td>4 1/4</td></tr> <tr><td>300</td><td>345</td><td>6 1/4</td></tr> <tr><td>350</td><td>402</td><td>8 1/4</td></tr> <tr><td>400</td><td>460</td><td>11</td></tr> <tr><td>450</td><td>517</td><td>13 3/4</td></tr> <tr><td>500</td><td>575</td><td>17</td></tr> </tbody> </table>	Rated Speed in Feet Per Minute	115% of Rated Speed in Feet Per Minute	Minimum Strokes of Oil Buffers in Inches	200	230	2 3/4	225	259	3 1/2	250	288	4 1/4	300	345	6 1/4	350	402	8 1/4	400	460	11	450	517	13 3/4	500	575	17
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			201.4e	61.	Oil Buffer Plunger Return A) Gravity return and spring return oil buffers shall return to its fully extended position 90 seconds after being fully compressed B) Spring type oil buffer with 50 lbs. Weight testing on it, shall return to its fully extended position 30 seconds after being depressed 2"																											
			201.4f	62.	Oil Buffer Gauge A) All oil buffers shall have a means to determine the oil level B) Glass gauges shall not be used																											

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			201.3	63.	Spring Buffer construction A) Buffer stroke shall be equal to or greater than the following: 1. 1 ½" for 100 FPM or less 2. 2 ½" for 101 FPM to 150 FPM 3. 4" for 151 FPM to 200 FPM
			205.1	64.	Car Safeties A) All cable elevators require governor actuated safeties B) All safeties shall be attached to the lower member of the car frame Note: No Crosshead Safeties
			205.4	65.	Counterweight Safeties A) When the space under the hoist way is accessible – counterweight safeties are required B) Shall be governor actuated when speed exceeds 150 FPM
			205.5	66.	Type of Safeties A) Type A – Instantaneous type may be used on elevators whose speed does not exceed 150 FPM B) Type B – Flex clamp or wedge clamp safeties shall be used on elevators whose speed exceed 150 FPM C) Type C Safeties: 1. Instantaneous with oil buffer safety may be used on speeds not exceeding 500 FPM (see code) 2.
			205.14	67.	Marking Plates for Safeties 1. All safeties shall have data tags indicating: a) Type b) Maximum trip speed c) Max weight safety is designed to stop
			103.2	68.	Counterweight Pit Guards A) Solid metal guards are required on all open sides of the counterweight except where pit mounted oil buffers or compensation is used B) Shall extend from a point not more than 1'-0" above the pit floor to a point not less than 7'-0" above the floor
			109.1	69.	Protection of Space Below Pit A) Where spaces below the pit are accessible the following requirements are necessary 1. Counterweight safeties 2. Car and counterweights shall have spring or oil buffers conforming to the code
			106.1c	70.	Guards Between Pits A) Where there is difference in pit floor levels a solid metal or perforated guard shall be installed – the guard shall be not less than 6'-0" above the higher B) Where the difference is less than 2'-0" a 42" railing may be provided in lieu of the guard
			106.1e	71.	Illumination of Pits A) All pits shall have lights B) A light switch shall be provided which is accessible from the pit access door
			106.1f	72.	Stop Switch in Pit A) All elevators shall have a stop switch located in the pit and shall be accessible from the pit access door B) Where access to the pits is through one door all pit stop switches shall be located at the access door
			210.2c	73.	Compensating Rope Sheave Switch A) All compensating sheaves shall have a switch

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			203.6	74.	Car Platforms and Frames A) All car frames are to be made of steel B) Platforms shall be made of steel or wood C) Underside of wood platforms shall: <ol style="list-style-type: none"> 1. Be covered with 27 Ga steel minimum – or 2. Be painted with fire retardant paint
			110.1c3	75.	Bi-Parting Freight Doors A) Rigid members which overlap and center latching devices are prohibited B) A fire resistive non-shearing, non-crushing astragal shall be provided on the top door panel

ADDITIONAL CABLE ELEVATOR VIOLATIONS

Code

101	Repair hoisting/car door interlock
102	Repair telephone
103	Repair/replace emergency lighting
105	Water in elevator pit
106	Clean elevator pit
107	Clean elevator machine room
108	Repair machine room door
109	Repair hall call station(s)
110	Replace emergency stop switch
111	Repair or Adjust Brakes
112	Replace Brakes
113	Repair fire service Phase I or II
114	Repair or replace normal limits
115	Repair or replace final limits
116	Repair controller
117	Equipment in machine room or hoist ways
118	Fire rating in machine room or hoist ways
119	Repair machine room lights/ventilation
121	Resecure all guide rails
122	Repair/replace guide shoes
123	Repair/replace door gibbs
124	Adjust car door torque
125	Replace/repair safety edge or eye
126	Adjust hoist way doors
127	Repair governor
128	Replace hoisting ropes
129	Replace governor rope
130	Smoke detectors for recall
131	Reset of smoke detector fire alarm system
800	Load Test Fail