

**Elevator Violation Checklist For Hydraulic
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 o 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. of 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 locked 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 Panel 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 hoist way door a) Swing Type Door – 4" maximum 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. Gates 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 of freight
			111.2	11.	Car Door or Gate Electric Contacts A) All door and gates shall be provided with approved type electric contact inaccessible from inside car
			111.8C	12.	Closed Position of Car Doors and Gates A) Horizontal sliding doors and gates not to exceed 2" from leading edge to jamb B) Vertical sliding doors 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) Car 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 in 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

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			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
			111.9	21.	Access to Hoistways A) Access to hoistway shall 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 within reach of the access door
			102.1c 68-84	23.	Traveling Cable A) Shall be flame retardant and moisture resistant
			100.5	24.	Windows in Hoistway (Excluding Stationary Glass) A) Permitted on exterior walls only B) Where allowed shall 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 shall be: 1. Metal sash windows with 1/8 " steel muntins – maximum 8" apart OR 2. Guard by 5/8 " bars 10" O.C. vertical
			301-1 Pre-68 68-84 304.1d	25.	Bottom and Top Car Clearances and Runby A) Bottom car Clearance 1. 2'-0" between underside of platform and the pit floor when car is on compressed buffers 2. 2'-0" between pit floor and lowest mechanical or structural part of the car except under car bracing located within 6" from the edge of the platform B) Minimum bottom runby 1. 3" for speeds not exceeding 100 FPM 2. 6" for speeds exceeding 100 FPM C) Top car clearance 1. 2'-0" or distance which equipment projects above crosshead which ever is greater plus the top extreme limit of travel 2. 2'-0" from car top to overhead beams when not within 2'-0" horizontally of the crosshead
			108.	26.	Hoistway Dimensions and Clearance 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 sill to wall or fascia 1. 7 ½ " for vertical slide doors maximum 2. 5" all other doors maximum
			209.2	27.	Normal Terminal Stopping Devices A) Required without exception either in hoist way or machine room
			209.3	28.	Final Terminal Stopping Devices 1. Are not required on hydraulics
			210.2h	29.	Stop Switch on Car Top A) Required on all elevators
			210.1d	30.	Top of Car Operating Device A) Required on all elevators 1. Continuous pressure 2. Speed not to exceed 150 FPM 3. Provide total control of the elevator 4. Portable stations shall be attached to car

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			100.1d	31.	Multiple Hoistways A) No more than four (4) elevators in one hoistway
			100.6	32.	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	33.	Floor Over Hoistway 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 hoistway 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 shall reject a ¾ " ball 2. If perforated shall reject a 1" ball C) If floor does not cover entire hoist way a 42" high railing shall be provided
			100.4	34.	Venting of Hoistway A) Hoistway 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.	35.	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	36.	Raceways and Wiring on 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.
			102.2 Pre-68 68-84	37.	Pipes and Ducts in Hoist way 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 hoist way and/or machine room Exceptions: 1. Low pressure heat pipes for heating these areas 2. Ducts for 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
			110.14B	38.	Landing Sill Guards A) All sills shall be guarded full width and opening 1. Without leveling a) Shall 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
			300.2	39.	Machine Rooms A) Machine rooms can be open cage full height with door if controllers are in an enclosed cabinet

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			101.2 Pre-68 68-84	40.	Equipment in Machine Room A) Overhead machine room 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	41.	Access to Machine Room 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" b) 60 degree stairs required when level exceeds 3'-0" 2. If access is across roof a) A stairway shall be provided from top level of building to roof b) If roof slope exceed 15 degrees a 24" 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	42.	Head Room in Machine Room A) Existing is acceptable B) 7'-0" clear
			101.5b	43.	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	44.	Guards for Exposed Equipment A) Exposed equipment shall be guarded to prevent accidental contact
			208.10	45.	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	46.	Mainline Disconnect Switches A) A fused disconnect switch or circuit breaker is required for each elevator and located in sight of the machine location
			201	47.	Car and Counterweight Buffers A) Spring or oil buffers are required on: 1. Passenger cars with speed exceeding 75 FPM 2. Freight elevators with speed exceeding 50 FPM B) Spring buffers may be used where speed does not exceed 200 FPM C) 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
			201.3	48.	Spring Buffer Construction A) Buffer stroke shall be equal to or greater than the following: 1. 1 ½" for 100 FPM 2. 2 ½" for 101 FPM to 150 FPM 3. 4" for 151 FPM to 200 FPM

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			306	49.	Protection of Space Below the Pit A) Where spaces below the pit are accessible the following requirements are necessary: 1. Cylinder shall be supported to withstand the entire load which may be imposed on it 2. Car shall have one of the following: a) Oil buffers or b) Spring buffers which will not fully compress by a fully loaded car
			106.1c	50.	Guards Between Pits A) Where there is a 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	51.	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	52.	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
			203.6	53.	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 platform shall: 1. Be covered with 27 Ga steel minimum - or 2. Be painted with fire retardant paint
			110.1C3	54.	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
			321.3	55.	Leveling Switches A) All hydraulic elevators shall have anti-creep devices and shall work with stop switch off
			318.2a	56.	Relief Check Valves A) Each pump shall have a relief valve 1. Located between pump and check valve 2. Set to open at 125% of working pressure at the pump
			318.2b	57.	Check Valves A) Each elevator shall have a check valve 1. To hold car with rated load 2. Or when the maintained pressure drops below minimum operating pressure
			318.1d	58.	Flexible Hoses and Fittings Under Pressure 1. Where provided, shall not be installed in the hoistway 2. Shall not project into or through any wall 3. Shall have a burst strength equal to ten (10) times the working pressure 4. Shall have a tag with date and pressure test 5. Be replaced every six (6) years
			319	59.	Tanks and Oil Levels A) All tanks shall be covered B) The minimum liquid level shall be clearly indicated

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N/A	Yes	No	318.1c	60.	Piping and Supports A) Pipes shall be provided with supports B) Cast iron pipes and fittings shall not be used C) Minimum schedule 40 pipe shall be used
			319.3	61.	Pressure Tanks A) Tanks shall be made, tested and marked in accordance with ASME Code for Unfired Pressure Vessels, 1965
			317.3f	63.	Cylinder Air Relief A) Cylinder shall be provided with a means to release air or other gas
			317.3e	63.	Cylinder Oil Collection A) Means shall be provided to collect any oil leakage from the cylinder packing gland
			317.2b	64.	Plungers A) Gray cast iron shall not be used for the plunger B) The plunger shall be connected to the platform or car frame

ADDITIONAL HYDRAULIC ELEVATOR VIOLATIONS

Code

101	Repair hoisting/car door interlock
102	Repair telephone
103	Repair/replace emergency lighting
104	Repair piston seal from leaking
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
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
120	Replace V-belts to motor
121	Re secure 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