

Conveyance Inspection Guidance

(Effective 6/6/2011; Revised 6/13/2012, 2/3/2014, 3/13/2015, 6/6/2017, 1/1/2020 and 1-1-2021)

This guidance document outlines, but does not replace, the requirements of inspection standards listed in the Colorado Conveyance Regulations (7 CCR 1101-8) or the Elevator and Escalator Certification Act (CRS Title 9 Article 5.5). This guidance focuses on the third-party Private Conveyance Inspector procedures as the Approved Authorities Having Jurisdiction (AHJ) may develop alternative procedures for their inspectors. The Approved AHJ may be more stringent than the Division of Oil and Public Safety (OPS) Conveyance Regulations; although, the Approved AHJ must consider the Conveyance Regulations as the minimum standard in Colorado.

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Section A: General Inspection Procedures

The Private Inspector shall:

- (1) Only conduct conveyance inspections in a territory of an Approved AHJ with the approval of the Approved AHJ and in compliance with the procedures of the Approved AHJ. The Private Inspector must be familiar with and obtain any license or certification necessary from the Approved AHJ to work in that territory. The Private Inspector has the responsibility to be knowledgeable of and inspect according to Approved AHJ requirements.
- (2) Maintain *third-party* status.
 - (a) The Private Inspector shall not be affiliated, by employment, family relation or a subsidiary relationship, with the conveyance owner, maintenance contractor or licensed conveyance mechanic performing work on the conveyance to be inspected.
 - (b) The Private Inspector shall not develop specifications for conveyance installation or alteration work **and** conduct the acceptance inspection following the work.
 - (c) The Private Inspector who is also licensed as a mechanic shall not conduct maintenance on a conveyance **and** conduct an acceptance or periodic inspection of the same conveyance.
 - (d) The Private Inspector is allowed to conduct maintenance audits for the conveyance owner and conduct acceptance or periodic inspections of associated conveyances.
- (3) Comply with the QEI-1 Code of Ethics (code of conduct) established by your accredited certifying organization. This Code of Ethics is enhanced as follows.
 - (a) Private Inspectors shall not represent themselves as "State inspectors," but they shall explain that they are licensed by the State to conduct work in Colorado.
 - (b) Private Inspectors shall not state to owners that the owner must select them as their inspector.
 - (c) Private Inspectors shall not represent themselves as being exclusive to any one area within the OPS territory.
 - (d) Private Inspectors shall make known to OPS all potential conflicts of interests.

- (e) Private Inspectors shall not coerce conveyance owners, mechanics or contractors with retaliation under any circumstance.
- (4) Obtain the permission of the Conveyance Owner prior to commencing inspection activities.
- (5) Conduct the inspection using the appropriate edition of adopted code, the latest edition of ASME A17.2 as guidance which includes an inspection checklist and complete the Conveyance Inspection Report Form that is available on the Conveyance Program's Forms web page. The ASME A17.2 guide for inspection refers back to the earlier edition of the ASME A17.1 code (i.e., A17.2-2012 refers to A17.1-2010).
- (6) Possess, and have available during inspections, the references and recommended equipment as listed in ASME QEI-1 and ASME A17.2.
- (7) Legibly document the inspection results and all noted violations to include the applicable code reference on the **Conveyance Inspection Report Form**.

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Section B: Conveyance Inspection Report

It is the sole responsibility of the Private Inspector to fully and accurately complete all components of the inspection report to include the applicable code references. If the report is not complete, the Private Inspector will be subject to enforcement, which will include a requirement for mandatory training on how to properly complete the inspection report form. In addition, the report will be returned to the conveyance owner, a new Certificate of Operation will not be issued and the conveyance owner may be subject to enforcement action for having an expired Certificate of Operation.

Components of the Conveyance Inspection Report are as follows.

- (1) Facility and Owner Information: all facility and owner contact information fields must be completed.
- (2) Elevator Information
 - (a) The State Registration ID Number can be obtained by accessing the <u>OPS Conveyance Database</u>.
 - (b) For Code Data Plate information, refer to Section 2-7(6) of the Conveyance Regulations.
 - (i) For conveyances installed on or after 7/1/1997, a code data plate must be present or a new data plate must be installed.
 - (ii) For conveyances installed prior to 7/1/1997, use the existing data plate (if present) or the ASME A17.1 edition adopted by the Administrator at time of installation. If the Administrator did not have an adopted edition, then the ASME A17.1 edition in effect at the time of installation will become the date for the code data plate.
 - (iii) For an altered conveyance, the new data plate installed must indicate the original code data information as well as the code adopted at the time of each subsequent alteration and alteration scope.
 - (c) Year Installed: enter the year the elevator was installed. This information is critical, as it will be used to determine the code to which the conveyance is required to be inspected. This information will also be used to determine if the conveyance is required to comply with other provisions of the Conveyance Regulations.
 - (d) Conveyance Type: select the specific conveyance type as listed on the form.
 Note: Vertical Reciprocating Conveyors (VRC) are listed in ASME B20.1 and are exempt from the Conveyance Regulations per the Elevator and Escalator Certification Act.

(3) Inspection Information

- (a) Inspection Date and Time: this field shall include the time the inspection began and the date the inspection was completed. For an acceptance inspection, the inspection date is the date on which the inspection was completed, even though the safety test may have been completed at an earlier date.
- (b) Inspection Type: select the type of inspection. The options include witnessing a Category test, if it was performed and a witness is warranted.

- (c) Test Tags and Test Dates: indicate whether the test tags are in place and, if so, indicate the test dates as listed on the tags.
- (d) Effective January 1, 2021 the conveyance owner shall ensure that conveyance testing and inspection are aligned as described in Section 2-3-2 (4) of <u>Conveyance Regulations</u>. The expectation is that the inspector will encourage the owner to align the testing and inspections as soon as possible. Although there is flexibility for performance of the annual testing, the ideal situation is alignment of the annual testing, witnessed testing (when required) and annual inspection on the same day and during the same month each year.
- (e) Test(s) Witnessed: indicate whether you are witnessing a test during this inspection. Test witnessing shall be conducted as follows.
 - (i) The Private Inspector shall ensure that testing is completed according to the associated adopted code or standard and properly documented on the **Conveyance Test Report** provided on the <u>OPS website</u>.
 - (ii) The Private Inspector shall be present during and witness all components of the acceptance test.
 - (iii) Category 1 and 5 Tests shall be witnessed on the frequency listed in Table 1.

Table 1. Category 1 and 5 Test Performance and Witness Frequency

	Category 1 Test		Category 5 Test	
Conveyance Type	Performed	Witnessed	Performed	Witnessed
Traction Elevators	Annually	Every 5 years	Every 5 years	Every 5 years
Hydraulic Elevators ¹	Annually	Every 5 years	Every 5 years ¹	Every 5 years ¹
Dumbwaiters	Every 5 years	Not Required	Not Required	Not Required
Other Elevators ²	Annually	Every 5 years	Every 5 years	Every 5 years
Platform Lifts – installed indoors	Every 5 years	Every 5 years	Every 5 years	Every 5 years
Platform Lifts – installed outdoors	Every 3 years	Every 6 years	Every 3 years	Every 6 years
Escalators & Moving Walks	Annually	Annually	Not required	Not required
Private Residence Elevators installed in commercial buildings	Every 5 years	Every 5 years	Every 5 years	Every 5 years

¹For hydraulic elevators, a Category 5 test is only required to be conducted and witnessed if the elevator is equipped with safeties, a plunger gripper, a governor, an oil buffer or an overspeed valve.

²Includes Roped Hydraulic Elevators, LU/LA Elevators and Hydraulic Elevators that have car safeties, governors, oil buffers, plunger grippers or overspeed valves.

- (iv) The test shall be properly conducted by the licensed mechanic. The Private Inspector may verify that the mechanic is licensed by OPS for the type of test (e.g., a mechanic with a Type 1 license may conduct a 5-year test on an elevator but may have an exclusion that prohibits him or her from working on and testing escalators).
- (v) If the test is **not** properly conducted, The Private Inspector shall **not** sign the **Conveyance Test Report** and shall report the event to OPS.
- (vi) If the test is properly completed, the Private Inspector and mechanic shall sign the **Conveyance Test Report**.

(vii) The test reports shall not be submitted to OPS but must be made available to OPS upon request.

Firefighter Service Operation

- (i) Phase I and II Fire Service Operation when applicable must be tested by The Private Inspector during the periodic inspection.
- (ii) Fire service operation upgrade is **not** required by OPS if **one** of the following exists:
 - The elevator complies with ASME A17.1 1981 Rules 211.1 & 211.3;
 - The total rise is less than 75 feet above or below the emergency personnel access; or

• The building is equipped with an automatic sprinkling system that meets the requirements of the International Building Code. To verify this condition, The Private Inspector must contact the local jurisdiction, which may be the building or fire department.

If none of these scenarios exists, the elevator must comply with the current adopted version of ASME A17.1. In addition, a local jurisdiction may have more stringent requirements than those of OPS.

- (g) Alternate Certificates of Operation or Status: for dormant, removed from service, construction use and temporary use inspections, The Private Inspector shall obtain OPS approval for the status.
 - (i) Dormant: the conveyance is dormant per Section 2-9 of the Conveyance Regulations.
 - The traction (electric) elevator car is parked at the top of the hoistway and the counterweights are parked at the bottom of the hoistway, or the hydraulic elevator car is parked at the bottom of the hoistway.
 - The hoistway doors are latched in the closed position.
 - The fuses are removed from the mainline disconnect (if applicable).
 - The mainline disconnect is locked in the "off" position with a wire seal or OPS red tag on the disconnect switch.
 - (ii) Removed from service: the conveyance shall be removed from service per Section 2-10 of the Conveyance Regulations.
 - Traction (Electric) Elevators, Dumbwaiters and Material Lifts
 - The mainline disconnect is locked in the "off" position with an OPS red tag or a wire seal and an OPS red tag on the disconnect switch.
 - Suspension ropes are removed.
 - Car and counterweights are parked at the bottom of the hoistway.
 - The hoistway doors are permanently barricaded or sealed in the closed position on the hoistway side. The lowest landing hoistway door may be sealed on the lobby side.
 - Hydraulic Elevators
 - The mainline disconnect is locked in the "off" position with an OPS red tag or a wire seal and an OPS red tag on the disconnect switch.
 - The hydraulic elevator car is parked at the bottom of the hoistway.
 - If provided, suspension means are removed and counterweight is parked at the bottom of the hoistway.
 - Pressure piping has been disassembled and a section removed from the premises.
 - The hoistway doors are permanently barricaded or sealed in the closed position on the hoistway side. The lowest landing hoistway door may be sealed on the lobby side.
 - Escalators/Moving Walks
 - The mainline disconnect is locked in the "off" position with an OPS red tag or a wire seal and an OPS red tag on the disconnect switch.
 - Entrances are permanently barricaded.
 - (iii) Construction use: the conveyance shall be operated for construction use only per Section 2-3-1-4 of the Conveyance Regulations.
 - The inspection is for the issuance of a Construction Certificate of Operation (CCO) for a period of 90 days.
 - The conveyance cannot be accessible to the public.
 - The conveyance must be re-inspected to extend the CCO for another 90-day term or for the issuance of an Annual Certificate of Operation.
 - (iv) Temporary use: the conveyance shall be operated temporarily per Section 2-3-1-3 of the Conveyance Regulations.

- The inspection results warrant the issuance of a Temporary Certificate of Operation (TCO) for a period of time as determined by OPS, not to exceed 180 days from the date of issuance.
- The conveyance can be accessible to the public.
- The conveyance must not have violations that pose an imminent danger to the riding public, as determined by OPS.
- (h) Writing of Violations: the following procedures shall be followed when writing violations.
 - (i) A description of all code violations shall be noted on the report and shall include a reference to the applicable code and rule numbers in effect at the time of conveyance installation or as referenced on the code data plate.
 - (ii) New and altered conveyances: the following are the appropriate references for inspection of new and altered conveyances.
 - Conveyance Regulations
 - ASME A17.1 2019 Safety Code for Elevators and Escalators
 - ASME A18.1 2017 Safety Standard for Platform Lifts
 - Other codes referenced by ASME A17.1 or A18.1
 - (iii) Existing conveyances: the following are the appropriate references for the inspection of existing conveyances.
 - Conveyance Regulations
 - ASME A17.1 2019 Safety Code for Elevators and Escalators, Sections 5.10, 8.1, 8.6, 8.7, 8.8, 8.9, 8.10 and 8.11
 - ASME A18.1 *Safety Standard for Platform Lifts* (for lifts installed in or after 1997; refer to ASME A17.1 for lifts installed prior to 1997)
 - ASME A17.3 2005 *Safety Code for Existing Elevators and Escalators* (for conveyances installed after January 1, 2008, unless there has been a substantial alteration or a material risk is present; refer Section 2-7(1) and (2) of the Conveyance regulations)
 - Other codes referenced by ASME A17.1 or A18.1
 - Code violation references shall be from the applicable code stated on the code data plate, if present. Refer to Section 2-7 (6) of the Conveyance Regulations for instructions regarding conveyances with no code data plate.

(iv) Violation writing example

• A traction elevator was installed in 2000 and was altered in 2005. The annual (periodic) inspection is conducted using the current edition of ASME A17.2 as a guide. The original code data plate was present and indicated that the code in effect at the time of installation was ASME A17.1 – 1996, although there was no reference to the components altered in 2005. In addition, the pit light was not operational. The two violations would be written in any of the following methods:

Code Reference			Violation Description	
Edition	Year	Reference	Violation Description	
A17.1	2013	8.9	Install code data plate that identifies altered components	
A17.1	2013	8.6.1.5	Install code data plate that identifies altered components	
A17.1	2013	8.11.2.1.5(a)	Repair pit light to operation	
A17.1	1996	106.1e	Repair pit light to operation	

Note: An existing elevator does not need to comply with the requirements in the currently adopted edition of A17.1. In the example above, The Private Inspector cannot write up the pit light violation as A17.1 – 2013 2.2.5 because A17.1 states that, "This Code applies to new installations only, except Part 1, and 5.10, 8.1, 8.6, 8.7, 8.8, 8.9, 8.10, and 8.11, that apply to both new and existing installations."

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Section C: Inspection Results – Pass/Fail

(1) **Passing** inspection options are as follows.

- (a) No violations identified
- (b) Violations are not listed in Table 2
- (c) Violations are listed in Table 2 with a TCO option, where there is not a consideration for shut-down. The Private Inspector must contact OPS for approval.
- (d) Violations are listed in Table 2 where there is a consideration for shut-down, but OPS has approved a TCO.

Note: In all cases of a passing inspection, The Private Inspector shall inform the owner that the inspection report must be immediately submitted to OPS with appropriate fees in order to receive a Certificate of Operation for the conveyance.

(2) **Failed** inspection is the result when any violation listed in Tables 2 and 3 is noted during any inspection where there is a consideration for shutdown and OPS has approved a shutdown.

Note: An inspection report shall not be submitted to OPS for a failed inspection. The conveyance shall be shut-down and the Private Inspector shall immediately notify the owner and OPS about the situation.

Table 2: Violations Warranting TCO or Shutdown for Elevators			
Deficiency Identified	тсо	Shutdown	
Failure of witnessed Acceptance Tests for a new Installation or alteration.		x	
Failure of components tested with full load (or via alternative testing) during a witnessed Category 5 test (see Section 2-3-2 of these regulations), such as, brakes, car and counterweight safeties, governor, buffer, or overspeed valve.		х	
Required electrical protective safety device missing or inoperable (stop switch, door interlock, final terminal stop, car top exit device, etc.).		x	
Any past due safety tests as listed in Table 2-3-2 of these regulations.	Х		
Violations (other than those listed in this table) that are not mitigated prior to the next annual Periodic Inspection.	Х		
Maintenance Control Program (MCP) is missing or is not complete.	Х		
Failure of Category 1 (see Section 2-3-2 of these regulations) test items listed on the Administrator's test form <u>except</u> for the items listed in rows below which may warrant a TCO instead of a shutdown.		х	
 Governor rope nominal size is: Less than 8mm and is undersized, the wire break criteria is not met, or there is evidence of rouging. Greater than 8mm and is undersized or the wire break criteria is not met. 	х		
Wire suspension means are undersized or have breaks not meeting code requirements.	х		
Suspension means monitoring devices are missing or inoperable.	Х		
 Door restrictors are missing or inoperable for elevators: Installed between January 1,1990 to present Altered between January 1,1990 and present, where the Alteration required the installation of door restrictors (i.e., Alteration of hoistway openings or change in Type of Service) Where there is evidence that door restrictors have been previously installed on the elevator 	х		
Top and/or bottom hoistway door retainers are missing. (NOTE: Required hoistway door bottom guides that are missing requires shutdown.)	х		
Door closing force exceeds 30 foot-pounds (lbf).	Х		
Firefighters' emergency operation components are inoperable (not including signage).	Х		

Two-way communication is missing or inoperable.	Х	
Keys described in Section 2-3-1-1(3) of these regulations are not made available.	Х	

Deficiency Identified		Shutdown
Failure of witnessed Acceptance Test (new or altered).		Х
Required electrical protective safety device missing or inoperable (stop switches, broken chain switch or floor access plate switch).		Х
Any past due safety tests as listed in Table 2-3-2 of these regulations.	Х	
Violations (other than those listed in this table) that are not mitigated prior to the next annual Periodic Inspection.	х	
MCP is missing or is not complete.	Х	
Failure of Category 1 test items listed on the Administrator's test form except for the items listed in rows below which may warrant a TCO.		Х
Comb plates with two or more adjacent broken teeth.		Х
Comb plates with one broken tooth not adjacent to another broken tooth.	х	
Failure of a step-skirt indexing test.		Х

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Section D: Inspector Enforcement

The audit enforcement process will help to ensure that all licensed inspectors in Colorado are performing inspections consistently. It is conducted as listed in Table 4 below.

- (1) Enforcement will be based on shutdown items, TCO violations and repeat violations as listed in Section C not being noted on an inspection report within a 12-month period.
- (2) Audit inspections will be based on the date of inspection, customer request or complaint and other factors determined by OPS staff.
- (3) OPS may also conduct field audits as deemed necessary to ensure compliance with the Colorado Conveyance Regulations and the Elevator and Escalator Certification Act.
- (4) The tracking of repeat violations is based on a 12-month period which shall begin the date a violation is found.
- (5) It is the sole responsibility of The Private Inspector to fully and accurately complete all components of the inspection report. If the report is not complete, The Private Inspector will be subject to enforcement that will include a requirement for mandatory training on how to properly complete an inspection form.

Table 4. Inspector Enforcement

		Enforcement Type		
		TCO and Repeat Violations Not Noted by Third-Party Inspector	Shut-Down Items Not Noted by Third- Party Inspector	
Enforcement Action for Each Offense within a 12- Month Period	1 st	Notice issued to the inspector showing the items that were missed	Notice of Violation issued with a \$500 fine	
	2 nd	Notice of Violation issued with a \$500 fine	Notice of Violation issued with a \$1,000 fine and a mandatory meeting with the Conveyance Program Manager	
	3 rd	Notice of Violation issued with a \$1,000 fine and a mandatory meeting with the Conveyance Program Manager	Notice of Violation issued with a \$2,500 fine and recommendation for license suspension up to 180 days	
	4 th	Notice of Violation issued with a \$2,500 fine and a mandatory meeting with the Public Safety Manager	Recommendation for license revocation (any option to reinstate a revoked license will be at the Division Director's discretion)	
	5 th	Notice of Violation issued with a \$2,500 fine and a recommendation for license suspension		
	6 th	Recommendation for license revocation		

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Section E: Due Date and Submittals

- (1) Following completion of the inspection and **Conveyance Inspection Report Form**, The Private Inspector shall do the following.
 - (a) Explain all violations found during the inspection to the conveyance owner
 - (b) Inform the owner that they must submit the inspection report to OPS. The owner may submit the \$30.00 per conveyance certificate fee with the inspection report, or email the inspection report to <u>cdle conveyance@state.co.us</u> and request an invoice.
- (2) The Private Inspector must inform the owner that they must correct the violations noted on the report prior to the next annual inspection, unless a TCO stipulates a shorter time-frame.
- (3) If the conveyance that is being inspected is not registered with OPS, the Private Inspector will inform the owner of the following process.
 - (a) The Private Inspector will inform OPS of the unregistered status of the conveyance.
 - (b) The conveyance may still be inspected.
 - (c) The **Registration Notice** and the **Conveyance Inspection Report Form** can be submitted to OPS concurrently.
 - (d) OPS will not issue a Certificate of Operation until the owner submits the **Registration Notice** with appropriate fees (\$200 per conveyance).
- (4) The Private Inspector must inform the owner that the next inspection must be completed before the last day of the month of the current inspection.

Section F: OPS Contact Information

Current contact information is listed on the OPS website.

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