



# HYDRAULIC ELEVATOR

Minimum Maintenance & Test Standards; ASME A17.1, 2010 Section 8.11

Call (503) 373-1298 for information – Visit [www.bcd.oregon.gov](http://www.bcd.oregon.gov) for more checklists.

Site Name: \_\_\_\_\_ Maintenance Company: \_\_\_\_\_

## General Instructions

This checklist reflects the **minimum routine** maintenance and testing standards that apply to your **hydraulic** passenger and freight elevators.

Not all of the items that appear on this checklist will be applicable to your equipment. A licensed elevator contractor is capable of assisting you in determining those items that pertain to your equipment. Check the “**N/A**” box for all items that **do not apply**.

Item numbers (e.g. Item 1.1, 2.12, etc.) found in the description column refer to **ASME A17.2, Guide for Inspection of Elevators, Escalators and Moving Walks**. This guide provides information on how to perform routine maintenance checks and periodic tests. (Available through the Tech Bookstore; 800-ASK-BOOK)

The checklist is to be kept in the respective elevator machine room in clear view and kept up-to-date. **You will need one checklist for each elevator per year.**

## Who Should Perform Elevator Maintenance and Testing?

Only properly licensed elevator personnel or owner-authorized personnel are allowed to perform maintenance and tests on elevator equipment.

Please refer to the **shaded** items in the description column on the checklist. The shaded items may be performed by persons authorized by the building owner. The items not shaded can only be performed by **licensed elevator personnel**.

Any owner-authorized person performing maintenance or testing *must* know how to perform the maintenance evaluation or test and be capable of recognizing incorrect elevator standards or operation. Corrections in operation or other repairs must be performed by **licensed elevator personnel** employed by a **licensed elevator contractor**.

## Filling Out the Checklist

The owner is responsible for ensuring the checklist is kept current. The person or firm performing the required items must be indicated on the checklist. Where there is insufficient room to enter all information on the checklist, a separate sheet or log book may be used. The log book entry should clearly reference the checklist item number found after each maintenance and test description entry. In all cases, the date (mm/dd or mm/yyyy as applicable) must be entered on the checklist.

The small checkbox () following the item description is to be checked **only** if the task was performed by owner-authorized personnel. Leave the box unchecked if the item was performed by licensed elevator personnel.

## Example: Routine Checklist Entries

N/A	(1 <sup>st</sup> ) Jan-Jun	(2 <sup>nd</sup> ) Jul-Dec	Description
<input type="checkbox"/>	4/25	10/15	Door reopening device (Item

Last Updated 12/08/2011

			1.1 <input checked="" type="checkbox"/> (Note: owner performed)
<input type="checkbox"/>	3/26	9/22	Power closing of doors or gates (Item 1.9) <input type="checkbox"/> (Note: performed by elevator personnel)
<input type="checkbox"/>	3/26 26 lb.	9/22 26 lb.	Door closing force (Item 1.8)
<input type="checkbox"/>	5/22	11/16	Controller wiring, fuses, grounding, etc. (Item 2.12)

When measurements are required, they should be entered in the date box associated with the item. For example, the pressure relief reading should be entered as noted in the following example:

## Example: Checklist Entry & Measurement

N/A	Date Due	Date Tested	Description
<input type="checkbox"/>	12/2003	11/2003 550 psi	8.11.3.2.1 Relief Valve Setting and System Pressure Test.

## Additional Record Keeping

The owner is also required to provide a means to document trouble calls and other information that pertain to the operational history of the elevator. The documentation must also describe abnormalities that were discovered or occurred during routine maintenance checks and tests and what was done to correct the abnormalities.

This log should be kept on site and preferably in the elevator machine room. There is currently no particular format for keeping this information.

New checklists will be available online at [www.bcd.oregon.gov](http://www.bcd.oregon.gov) or may be obtained from this office by calling (503) 373-1298.



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Site Name: \_\_\_\_\_ Maintenance Company: \_\_\_\_\_

Current Year: _____		Code Date: ____/____/____	
State ID: _____ - _____		Bldg. ID: _____	
<b>8.11.3 Inspection and Test Periods</b>			
The routine inspection and tests of passenger and freight hydraulic elevators shall be made at intervals no greater than 6 months. All references to "Item" are to A17.2 2001, Guide for Inspection of Elevators, Escalators and Moving Walks.			
<b>8.11.3.1 Inspection and Test Requirements</b>			
The routine inspections and tests shall include the following:			
N/A	(1 <sup>st</sup> ) Jan-Jun	(2 <sup>nd</sup> ) Jul-Dec	Description
<b>8.11.3.1.1 Inspections made from Inside the Car</b>			
<input type="checkbox"/>			(a) Door reopening device (Item 1.1) <input type="checkbox"/>
<input type="checkbox"/>			(b) Stop switches (Item 1.2) <input type="checkbox"/>
<input type="checkbox"/>			(c) Operating control dev. (Item 1.3) <input type="checkbox"/>
<input type="checkbox"/>			(d) Car floor & landing sill (Item 1.4) <input type="checkbox"/>
<input type="checkbox"/>			(e) Car lighting (Item 1.5) <input type="checkbox"/>
<input type="checkbox"/>			(f) Car emergency signal (Item 1.6) <input type="checkbox"/>
<input type="checkbox"/>			(g) Car door or gate (Item 1.7)
<input type="checkbox"/>			(h) Door closing force (Item 1.8)
<input type="checkbox"/>			(i) Power closing of doors or gates (Item 1.9) <input type="checkbox"/>
<input type="checkbox"/>			(j) Power opening of doors or gates (Item 1.10)
<input type="checkbox"/>			(k) Car vision panels and glass car doors (Item 1.11) <input type="checkbox"/>
<input type="checkbox"/>			(l) Car enclosure (Item 1.12) <input type="checkbox"/>
<input type="checkbox"/>			(m) Emergency exit (Item 1.13 & 1.20)
<input type="checkbox"/>			(n) Ventilation (Item 1.14) <input type="checkbox"/>
<input type="checkbox"/>			(o) Signs and operating device symbols (Item 1.15) <input type="checkbox"/>
<input type="checkbox"/>			(p) Rated load, platform area, and data plate (Item 1.16) <input type="checkbox"/>
<input type="checkbox"/>			(q) E-power operation (Item 1.17) <input type="checkbox"/>
<input type="checkbox"/>			(r) Restricted opening of car or hoistway doors (Item 1.18)
<input type="checkbox"/>			(s) Car-ride (Item 1.19) <input type="checkbox"/>
<input type="checkbox"/>			(t) Door Monitoring System (Item 2.26.5)
<input type="checkbox"/>			(u) Stopping accuracy (Item 2.26.11) <input type="checkbox"/>
<input type="checkbox"/>			(v) Machinery Space/Control Space (Item 8.11.3.1.2)
<input type="checkbox"/>			(w) Working Areas in the Car (Item 3.7 and 2.7.5.1) (1) means to prevent unexpected movement (Item 2.7.5.1.1) (2) Unexpected car movement device (Item 2.26.2.34) (3) operating instructions for unexpected car movement device

<input type="checkbox"/>			(Item 8.6.10.7) (x) Equipment Access panel electrical device (Items 3.26.1 and 2.26.2.35)
<b>8.11.3.1.2 Inspections made in Machine Room/Space</b>			
<input type="checkbox"/>			(a) Equipment Exposure to weather (Item 3.7.1)
<input type="checkbox"/>			(b) Means of access (Item 2.1)
<input type="checkbox"/>			(c) Headroom (Item 2.2)
<input type="checkbox"/>			(d) Means Necessary for tests (Item 3.7)
<input type="checkbox"/>			(e) Inspection and test panel (Item 3.7.1)
<input type="checkbox"/>			(f) Lighting and receptacles (Item 2.3)
<input type="checkbox"/>			(g) Enclosure of machine room/spaces, control room/ spaces (Item 2.4)
<input type="checkbox"/>			(h) Housekeeping (Item 2.5)
<input type="checkbox"/>			(i) Ventilation and Heating (Item 2.6)
<input type="checkbox"/>			(j) Fire Extinguisher (Item 2.7)
<input type="checkbox"/>			(k) Pipes, wiring, and ducts (Item 2.8)
<input type="checkbox"/>			(l) Guarding of equipment (Item 2.9)
<input type="checkbox"/>			(m) Numbering of elevators, machines, and disconnect (Item 2.10)
<input type="checkbox"/>			(n) Maintenance path and maintenance clearance (Item 3.7.1)
<input type="checkbox"/>			(o) Stop switch (Items 3.7.1 and 3.26.1)
<input type="checkbox"/>			(p) Disconnecting means and control (Item 2.11)
<input type="checkbox"/>			(q) Controller wiring, fused, Grounding (Item 2.12)
<input type="checkbox"/>			(r) Hydraulic power unit (Item 2.30 & 2.42.1.2)
<input type="checkbox"/>			(s) Relief valve (Item 2.31)
<input type="checkbox"/>			(t) Control valve (Item 2.32)
<input type="checkbox"/>			(u) Tanks (Item 2.33)
<input type="checkbox"/>			(v) Flexible hydraulic hose and fittings (Item 2.34)
<input type="checkbox"/>			(w) Supply line and shutoff valve (Item 2.35)
<input type="checkbox"/>			(x) Hydraulic cylinders and hydraulic fluid loss record (Items 8.6.5.7 and 2.36)
<input type="checkbox"/>			(y) Pressure switch (Item 2.37)
	(1 <sup>st</sup> ) Jan-Jun	(2 <sup>nd</sup> ) Jul-Dec	Description
<input type="checkbox"/>			(z) Recycling operation [8.10.3.2.2 (u)]
<input type="checkbox"/>			(aa) Code Data Plate (Item 8.6.1.3)



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<input type="checkbox"/>			2.14)
<input type="checkbox"/>			(bb) Governor over speed switch and seal (Item 2.13)
<input type="checkbox"/>			(cc) Wiring diagrams (Item 8.6.1.6.3)
<b>8.11.3.1.3 Inspections made from Top of Car</b>			
<input type="checkbox"/>			(a) Top-of-car stop switch (Item 3.1)
<input type="checkbox"/>			(b) Car top light and outlet (Item 3.2)
<input type="checkbox"/>			(c) Top-of-car operating device (Item 3.3)
<input type="checkbox"/>			(d) Top-of-car clearance and refuge space (Item 3.4)
<input type="checkbox"/>			(e) Normal terminal stopping device (Item 3.5)
<input type="checkbox"/>			(f) Emergency terminal speed limiting devices (Item 3.6)
<input type="checkbox"/>			(g) Anti-creep leveling device (Item 3.7)
<input type="checkbox"/>			(h) Speed Test (Item 3.30)
<input type="checkbox"/>			(i) Top emergency exit (Item 3.8)
<input type="checkbox"/>			(j) Floor and emergency identification numbering (Item 3.9)
<input type="checkbox"/>			(k) Hoistway construction (Item 3.10)
<input type="checkbox"/>			(l) Hoistway smoke control (Item 3.11)
<input type="checkbox"/>			(m) Pipes, wiring, and ducts (Item 3.12)
<input type="checkbox"/>			(n) Windows, projections, recesses and setbacks (Item 3.13)
<input type="checkbox"/>			(o) Hoistway clearances (Item 3.14)
<input type="checkbox"/>			(p) Multiple hoistways (Item 3.15)
<input type="checkbox"/>			(q) Traveling cables and junction boxes (Item 3.16)
<input type="checkbox"/>			(r) Door and gate equipment (Item 3.17)
<input type="checkbox"/>			(s) Car frame and stiles (Item 3.18)
<input type="checkbox"/>			(t) Guide rails fastening and equipment (Item 3.19)
<input type="checkbox"/>			(u) Governor, safety, ropes, and counterweights (Item 3.20)
<input type="checkbox"/>			(v) Governor rope releasing carrier (Item 3.21)
<input type="checkbox"/>			(w)-Wire rope fastening and hitch plate (Item 3.22)
<input type="checkbox"/>			(x) Suspension rope (Item 3.23)
N/A	(1 <sup>st</sup> ) Jan-Jun	(2 <sup>nd</sup> ) Jul-Dec	Description
<input type="checkbox"/>			(y) Slack rope device (Item 3.31)
<input type="checkbox"/>			(z) Traveling sheave (Item 3.32)
<input type="checkbox"/>			(aa) Counterweight and counterweight buffer (Item 3.28)
<input type="checkbox"/>			(bb) Crosshead data plate (Item 3.27)

<input type="checkbox"/>			(cc) Machinery space/control space (Item 8.11.3.1.2)
<input type="checkbox"/>			(dd) Working area on the car top 3.7.1 (1) means to prevent unexpected movement (Item 2.7.5.1.1) (2)-Unexpected car movement device (Item 2.26.2.34) (3) Operating instructions for unexpected car movement device (Item 8.6.10.6) (4) Operating instructions for egress and reentry procedure (Item 8.6.10.7)
<input type="checkbox"/>			(ee) Equipment exposure to weather (Item 3.7.1)
<input type="checkbox"/>			(ff) Machinery supports and fastenings (Items 2.9.1 and 2.9.3)
<input type="checkbox"/>			(gg) Guarding of equipment (Item 2.10.1)
<b>8.11.3.1.4 Inspections made from Outside the Hoistway</b>			
<input type="checkbox"/>			(a) Car platform guard (Item 4.1)
<input type="checkbox"/>			(b) Hoistway doors (Item 4.2)
<input type="checkbox"/>			(c) Vision panels (Item 4.3) <input type="checkbox"/>
<input type="checkbox"/>			(d) Hoistway door locking device (Item 4.4)
<input type="checkbox"/>			(e) Access to hoistway (Item 4.5)
<input type="checkbox"/>			(f) Power closing of hoistway doors (Item 4.6)
<input type="checkbox"/>			(g) Sequence operation (Item 4.7) <input type="checkbox"/>
<input type="checkbox"/>			(h) Hoistway enclosure (Item 4.8) <input type="checkbox"/>
<input type="checkbox"/>			(i) Elevator parking device (Item 4.9)
<input type="checkbox"/>			(j) Emergency doors in blind hoistways (Item 4.10) <input type="checkbox"/>
<input type="checkbox"/>			(k) Standby power selection switch (Item 4.12) <input type="checkbox"/>
<input type="checkbox"/>			(l) Means necessary for tests (Items 2.7.6.4, 3.7.1.8, 3.7.1.9 and 3.7.1.10) <input type="checkbox"/>
<input type="checkbox"/>			(m) Inspection and test panel (Items 3.7.1 and 2.7.6.5), Inspection Operation (Item 2.26.1.4.1) and Inspection Operation with open door circuits (Item 2.26.1.5) <input type="checkbox"/>
<input type="checkbox"/>			(n) Equipment exposure to weather (Item 3.7.1) <input type="checkbox"/>
<b>8.11.3.1.5 Inspections made in the Pit</b>			
<input type="checkbox"/>			(a) Pit access, lighting, stop switch, and condition (Item 5.1)
<input type="checkbox"/>			(b) Bottom clearance and runby (Item 5.2)
<input type="checkbox"/>			(c) Plunger and cylinder (Item 5.11)
<input type="checkbox"/>			(d) Car buffer (Item 5.12)
<input type="checkbox"/>			(e) Normal terminal stopping devices (Item 5.4)



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<input type="checkbox"/>			(f) Traveling cables (Item 5.5)	
<input type="checkbox"/>			(g) Car frame and platform (Item 5.7)	
<input type="checkbox"/>			(h) Guiding members (Item 5.8)	
<input type="checkbox"/>			(i) Supply piping (Item 5.14)	
<input type="checkbox"/>			(j) Governor rope tension device (Item 5.6)	
<input type="checkbox"/>			(k) Machinery space/control space (Item 8.11.3.1.2)	
<input type="checkbox"/>			(l) Working area in the pit (Items 3.7.1 and 2.7.5.2) (1) means to prevent unexpected movement (Item 2.7.5.2 a or b) (2) Unexpected car movement device (Item 2.26.2.34) (3) operating instructions for unexpected car movement device (Item 8.6.10.6) (4) operating instructions for egress and re entry procedure (Item 8.6.10.7)	
<input type="checkbox"/>			(m) Equipment exposure to weather (Item 3.7.1)	
<input type="checkbox"/>			(n) Machinery supports and fastenings (Items 2.9.1 and 2.9.3)	
<input type="checkbox"/>			(o) Guarding of equipment (Item 2.10.1)	
<input type="checkbox"/>			(p) Pit inspection operation (Item 3.26.2)	
<input type="checkbox"/>			(q) Seismic Risk Zones, overspeed valve & pipe supports (5.15.2.2)	
<b>Quarterly Fire Service Test (8.6.10.1)</b>				
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
<input type="checkbox"/>				
<b>NOTE: Attach Test Tags to Equipment as Appropriate</b>				
<b>8.11.3.2 Category 1 Test Requirements (Annual)</b>				
N/A	Date Due	Date Tested	Description	
<input type="checkbox"/>			8.11.3.2.1 Relief Valve Setting and System Pressure Test.	
<input type="checkbox"/>			8.11.3.2.2 Cylinders (2.36)	
<input type="checkbox"/>			8.11.3.2.3(a) Normal and final terminal stopping devices (8.11.2.2.5; Item 3.5.2)	
<input type="checkbox"/>			8.11.3.2.3 (b) Governors (8.11.2.2.3)	
<input type="checkbox"/>			8.11.3.2.3 (c) Safeties (8.11.2.2.2)	
<input type="checkbox"/>			8.11.3.2.3 (d) Oil buffers (8.11.2.2.1)	
<input type="checkbox"/>			8.11.3.2.3(e) Firefighter's emergency conditions (8.11.2.2.6; Item 6.1) <b>Include smoke detectors</b> <input type="checkbox"/>	
<input type="checkbox"/>			8.11.3.2.3(f) Standby or emergency power operation [8.11.2.2.7; Item 1.17.2(a)] <input type="checkbox"/> NOTE [8.10.8.2.3(f)]: Absorption of regenerated power (Rule 2.26.10) does not apply to hydraulic elevators	
<input type="checkbox"/>			8.11.3.2.3(g) Power operations of door system (8.11.2.2.8; Items 4.6	

			and 4.7)
<input type="checkbox"/>			8.11.3.2.3(h) Emergency terminal speed limiting device and emergency terminal stopping device (Rule 3.25.2; Item 3.6.2)
<input type="checkbox"/>			8.11.3.2.3(i) Low Oil Protection (2.23)
<input type="checkbox"/>			8.11.3.2.4 Flexible Hose and Fitting Assemblies
<input type="checkbox"/>			8.11.3.2.5 Pressure Switch
<input type="checkbox"/>			8.11.2.2.10 Seismic Devices
<input type="checkbox"/>			8.11.2.2.11 Rope Brakes
<b>8.11.3.3 Category 3 Test Requirements (3-year)</b>			
<input type="checkbox"/>			8.11.3.3.1 Unexposed Portions of Pistons
<input type="checkbox"/>			8.11.3.3.2 Pressure Vessels
<b>8.11.3.4 Category 5 Test Requirements (5-year)</b>			
<input type="checkbox"/>			8.11.3.4.1 Governors, safeties, and oil buffers, where provided, shall be inspected and tested as specified in Req. 8.11.3.2.3 every 5 years. Where activation is allowed or required both by over speed and slack rope, the safety shall have both means of activation tested.
<input type="checkbox"/>			8.11.3.4.2 Coated ropes shall be required to have a magnetic flux test capable of detecting broken wires in addition to a visual examination.
<input type="checkbox"/>			8.11.3.4.3 Wire rope fastenings shall be inspected in accordance with Item 3.2.1 of A17.2. Fastenings on roped-hydraulic elevators utilizing hydraulic jacks equipped with pistons which are hidden by cylinder head seals shall also be inspected even if it is temporarily necessary to support the car by other means and disassemble the cylinder head.

**TROUBLE CALL LOG, MAINTENANCE, REPAIR AND TEST DOCUMENTATION**

Item:	Trouble Call <input type="checkbox"/>	Maintenance/Repair <input type="checkbox"/>	Test Documentation <input type="checkbox"/>	Other <input type="checkbox"/>
Date: / /	Time in: : <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.	Time out: : <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.		
Work description:				
Work performed by: <input type="checkbox"/> Owner/Owner Rep. <input type="checkbox"/> Elevator Contractor Tech. <input type="checkbox"/> Other: _____				

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Item:	Trouble Call <input type="checkbox"/>	Maintenance/Repair <input type="checkbox"/>	Test Documentation <input type="checkbox"/>	Other <input type="checkbox"/>
Date: / /	Time in: : <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.	Time out: : <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.		
Work description:				
Work performed by: <input type="checkbox"/> Owner/Owner Rep. <input type="checkbox"/> Elevator Contractor Tech. <input type="checkbox"/> Other: _____				

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Item:	Trouble Call <input type="checkbox"/>	Maintenance/Repair <input type="checkbox"/>	Test Documentation <input type="checkbox"/>	Other <input type="checkbox"/>
Date: / /	Time in: : <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.	Time out: : <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.		
Work description:				
Work performed by: <input type="checkbox"/> Owner/Owner Rep. <input type="checkbox"/> Elevator Contractor Tech. <input type="checkbox"/> Other: _____				

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Item:	Trouble Call <input type="checkbox"/>	Maintenance/Repair <input type="checkbox"/>	Test Documentation <input type="checkbox"/>	Other <input type="checkbox"/>
Date: / /	Time in: : <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.	Time out: : <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.		
Work description:				
Work performed by: <input type="checkbox"/> Owner/Owner Rep. <input type="checkbox"/> Elevator Contractor Tech. <input type="checkbox"/> Other: _____				

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Item:	Trouble Call <input type="checkbox"/>	Maintenance/Repair <input type="checkbox"/>	Test Documentation <input type="checkbox"/>	Other <input type="checkbox"/>
Date: / /	Time in: : <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.	Time out: : <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.		
Work description:				
Work performed by: <input type="checkbox"/> Owner/Owner Rep. <input type="checkbox"/> Elevator Contractor Tech. <input type="checkbox"/> Other: _____				

**Create as many copies of this page as you need.**

**Trouble call:** Included any information related to the cause and correction of a malfunction.  
**Maintenance/Repair:** Include any items that required correction that were discovered during a routine maintenance visit and any measurements or other readings required to be taken.  
**Test Documentation:** Describe any abnormalities discovered during testing and the corrections taken.