

Your Solution To Managed Maintenance

Maintenance Control Program

History of Code Required Maintenance
Relevant to MCP

John W. Koshak, Daniel Swett, Kenneth Smith
eMCP LLC.

Elevator World, Inc. is the approved retail partner for eMCP

Conveyance Maintenance Learn Why an MCP is Needed

Vertical Equipment Maintenance

History of Code Required Maintenance in A17.1/B44 Safety Code for Elevators and Escalators

1921 through 1999 – Lubricate and clean. Very general, predicated on the past practices of good maintenance.

Declining maintenance drove code writers to act.

1996 in Canada, 2000 in the US - Added an extensive maintenance section

2002 through today - The requirements coalesced into a **“Maintenance Control Program”**

Section 8.6

Maintenance, Repair, Replacement, and Testing

Requirement 8.6 applies to maintenance, repairs, replacements, and testing.

NOTES:

- (1) See 8.7 for alteration requirements.
- (2) See “General” in Preface for assignment of responsibilities.

8.6.1 General Requirements

8.6.1.1 Maintenance, Repair, and Replacement

The MCP in laymen's terms

1. **Applicable components are to remain in compliance with the Code.**
2. An analysis must be done to establish the interval between maintenance tasks of applicable components.
3. Cleaning, lubricating, adjusting, examining, and testing applicable components must be pursuant to procedures.
4. Procedures must be provided to elevator personnel.
5. Records of maintenance, repairs, replacement, callbacks, and testing must be available for 5 years.
6. Wiring diagrams of Electrical Protective Devices and Critical Operating Circuits for the unit must be made available.
7. A Code Data Plate must be provided.
8. Monthly fire service testing records must be provided.
9. Procedures for Special Conditions as required must be provided.
10. Emergency Evacuation instructions must be provided.

- 8.6.1.1.1** Equipment covered within the scope of this Code *shall be maintained in accordance with 8.6.*
- 8.6.1.1.2** Maintenance, repairs, replacements, and tests shall conform to 8.6 and the applicable
- (a) Code at the time of the installation; and
 - (b) Code requirements at the time of any alteration; and
 - (c) ASME A17.3 if adopted by the authority having jurisdiction
- 8.6.1.1.3** It is not the intent of 8.6 to require changes to the equipment to meet the design, nameplate or performance standard other than those specified in 8.6.1.1.2, unless specifically stated in 8.6.

The MCP in laymen's terms

1. Applicable components are to remain in compliance with the Code.
2. An analysis must be done to establish the interval between maintenance tasks of applicable components.
3. Cleaning, lubricating, adjusting, examining, and testing applicable components must be pursuant to procedures.
4. Procedures must be provided to elevator personnel.
5. Records of maintenance, repairs, replacement, callbacks, and testing must be available for 5 years.
6. Wiring diagrams of Electrical Protective Devices and Critical Operating Circuits for the unit must be made available.
7. A Code Data Plate must be provided.
8. Monthly fire service testing records must be provided.
9. Procedures for Special Conditions as required must be provided.
10. Emergency Evacuation instructions must be provided.

8.6.1.2 General Maintenance Requirements

...

- (a) The Maintenance Control Program shall consist of but not be limited to:
- (1) *examinations, maintenance, and tests of equipment at scheduled intervals in order to ensure that the installation conforms to the requirements of 8.6. The maintenance procedures and intervals shall be based on:*
 - (a) *equipment age, condition, and accumulated wear*
 - (b) *design and inherent quality of the equipment*
 - (c) *usage*
 - (d) *environmental conditions*
 - (e) *improved technology*
 - (f) *the manufacturer's recommendations for any SIL rated devices or circuits*

The MCP in laymen's terms

1. Applicable components are to remain in compliance with the Code.
2. An analysis must be done to establish the interval between maintenance tasks of applicable components.
3. **Cleaning, lubricating, adjusting, examining, and testing applicable components must be pursuant to procedures.**
4. **Procedures must be provided to elevator personnel.**
5. Records of maintenance, repairs, replacement, callbacks, and testing must be available for 5 years.
6. Wiring diagrams of Electrical Protective Devices and Critical Operating Circuits for the unit must be made available.
7. A Code Data Plate must be provided.
8. Monthly fire service testing records must be provided.
9. Procedures for Special Conditions as required must be provided.
10. Emergency Evacuation instructions must be provided.

8.6.1.2.1(a) The Maintenance Control Program shall consist of but not be limited to:

(2) cleaning, lubricating, and adjusting applicable components at regular intervals and repairing or replacing all worn or defective components where necessary to maintain the installation in compliance with the requirements of 8.6.

(3) tests of equipment at scheduled intervals (8.6.1.7) in order to ensure that the installation conforms to the requirements of 8.6.

(4) all Code required written procedures (e.g., check out, inspection, testing, and maintenance).

The MCP in laymen's terms

1. Applicable components are to remain in compliance with the Code.
2. An analysis must be done to establish the interval between maintenance tasks of applicable components.
3. Cleaning, lubricating, adjusting, examining, and testing applicable components must be pursuant to procedures.
4. Procedures must be provided to elevator personnel.
5. Records of maintenance, repairs, replacement, callbacks, and testing must be available for 5 years.
6. Wiring diagrams of Electrical Protective Devices and Critical Operating Circuits for the unit must be made available.
7. A Code Data Plate must be provided.
8. Monthly fire service testing records must be provided.
9. Procedures for Special Conditions as required must be provided.
10. Emergency Evacuation instructions must be provided.

8.6.1.4 Maintenance Records

8.6.1.4.1 *Maintenance records shall document compliance with 8.6 of the Code and shall include records on the following activities:*

- (a) description of maintenance task performed and dates*
- (b) description and dates of examinations, tests, adjustments, repairs, and replacements*
- (c) description and dates of call backs (trouble calls) or reports that are reported to elevator personnel by any means, including corrective action taken*
- (d) written record of the findings on the firefighter's service operation required by 8.6.11.1.*
- (e) written record to document compliance with replacement criteria specified in ASME A17.6.*

The MCP in laymen's terms

1. Applicable components are to remain in compliance with the Code.
2. An analysis must be done to establish the interval between maintenance tasks of applicable components.
3. Cleaning, lubricating, adjusting, examining, and testing applicable components must be pursuant to procedures.
4. Procedures must be provided to elevator personnel.
5. Records of maintenance, repairs, replacement, callbacks, and testing must be available for 5 years.
6. Wiring diagrams of Electrical Protective Devices and Critical Operating Circuits for the unit must be made available.
7. A Code Data Plate must be provided.
8. Monthly fire service testing records must be provided.
9. Procedures for Special Conditions as required must be provided.
10. Emergency Evacuation instructions must be provided.

8.6.1.2.2 On-Site Documentation The following documents specified in 8.6.1.2.2 (a), (b), and (c) shall be written and permanently kept on-site in the machine room, machinery space, control room, control space, or in the means necessary for test (2.7.6.4) in hard copy for each unit for elevator personnel.

(a) *Up-to-date wiring diagrams detailing circuits of all electrical protective devices (see 2.26.2) and critical operating circuits (see 2.26.3).*

- (b) *Procedures for inspections and tests not described in A17.2 and procedures or methods required for elevator personnel to perform maintenance, repairs, replacements, and adjustments, as follows:*
- (1) *All procedures specifically identified in the code as required to be written (e.g. 8.6.4.20.8 check out procedure for leveling, 8.6.5.16.5 check out procedure for over speed valve, and 8.6.8.15.7 check out procedure for reversal stop switch, etc),*

- (2) *unique maintenance procedures or methods required for inspection, tests, and replacement of SIL rated E/E/PES electrical protective devices and circuits. See 2.26.4.3.2, 2.26.9.3.2(b), 2.26.9.5.1(b), and 2.26.9.6.1(b),*
- (3) *unique maintenance procedures or methods required for inspection, tests, and replacement of equipment applied under alternative arrangements (see 1.2.2.1) shall be provided by the manufacturer or installer,*
- (4) *Unique maintenance procedures or unique methods required for inspection and test of equipment specified in an A17.7/ B44.7 Code Compliance Document (CCD).*

The MCP in laymen's terms

1. Applicable components are to remain in compliance with the Code.
2. An analysis must be done to establish the interval between maintenance tasks of applicable components.
3. Cleaning, lubricating, adjusting, examining, and testing applicable components must be pursuant to procedures.
4. Procedures must be provided to elevator personnel.
5. Records of maintenance, repairs, replacement, callbacks, and testing must be available for 5 years.
6. Wiring diagrams of Electrical Protective Devices and Critical Operating Circuits for the unit must be made available.
7. **A Code Data Plate must be provided.**
8. Monthly fire service testing records must be provided.
9. Procedures for Special Conditions as required must be provided.
10. Emergency Evacuation instructions must be provided.

8.6.1.5 Code Data Plate

8.6.1.5.1 *The Code data plate shall comply with 8.9.*

8.9.1 Required Information An individual data plate shall be provided and maintained for each unit (see 1.1.1).

The data plate shall indicate the Code to be used for inspections and tests (see 8.10.1.2).

The data plate shall indicate the Code and edition in effect at the time of installation.

The data plate shall also indicate the Code in effect at the time of any alteration and indicate the applicable requirements of 8.7.

Where the installation or alteration contains SIL rated devices, the following wording, "Installation contains SIL rated devices," shall be included on the data plate or on an additional plate located adjacent to the Code Data Plate.

8.9.2 Location The data plate shall be in plain view, securely attached to each main line disconnect or controller. It shall also be permitted to locate the data plate in the controller as long as it is in plain view with the controller door open. An additional data plate shall be installed in the vicinity of one of the starting switches on the exterior of escalators and moving walks.

8.9.3 Material and Construction The data plate shall be of such material and construction that the letters and figures stamped, etched, cast, or otherwise applied to the face shall remain permanently and readily legible. The height of the letters and figures shall be not less than 3.2 mm (0.125 in.).

8.9.3 Material and Construction (continued)

- All data plates not located in the controller shall be provided with either
- (a) a durable means to prevent common contaminants (such as paint, adhesives, oil, and grease) from adhering to the data plate parent surface and permit the removal of these contaminants, without obscuring the Code required data, or
 - (b) letters and figures that are raised or depressed a minimum of 0.8 mm (0.03125 in.) from the plate surface face, and have a minimum character-stroke width of 0.5 mm (0.02 in.)
- If the plates are exposed to weathering or a chemical atmosphere, then a durable means shall be provided to protect the information from deterioration while permitting the information to be easily read.

The MCP in laymen's terms

1. Applicable components are to remain in compliance with the Code.
2. An analysis must be done to establish the interval between maintenance tasks of applicable components.
3. Cleaning, lubricating, adjusting, examining, and testing applicable components must be pursuant to procedures.
4. Procedures must be provided to elevator personnel.
5. Records of maintenance, repairs, replacement, callbacks, and testing must be available for 5 years.
6. Wiring diagrams of Electrical Protective Devices and Critical Operating Circuits for the unit must be made available.
7. A Code Data Plate must be provided.
8. **Monthly fire service testing records must be provided.**
9. Procedures for Special Conditions as required must be provided.
10. Emergency Evacuation instructions must be provided.

8.6.1.4.1 On-Site Maintenance Records (continued)

(c) *Other Records* The following written records shall be kept on-site for each unit. ... The record shall include the date and name of person(s) and/or firm performing the task.

(1) A record of oil usage (8.6.5.7).

(2) *A record of findings for firefighter's service operation required by 8.6.11.1 with identification of the person(s) that performed the operation.*

(3) *Periodic tests* (see 8.6.1.7) shall be documented or recorded in accordance with 8.6.1.7.2.

(4) written record to document compliance with replacement criteria specified in ASME A17.6 requirement 1.10.1.1(c).

1.10.1.1

...

(c) For rope diameters less than 8 mm (0.315 in.), the ropes shall be replaced in accordance with 1.10.1.2(a) through (g), 1.10.1.2.1 and 1.10.1.2.2, and 1.10.3. In addition, other replacement criteria based on the application shall be permitted to be applied. The replacement criteria shall be documented in the Maintenance Control Program (see ASME A17.1/CSA B44, requirement 8.6.1.4.1).

Are you providing the necessary level of maintenance as required by code?

Does your MCP comply?

If the answer to either question is “no”, or “I’m not sure”, then eMCP can help!

Contact Us:

- To receive a tailored solution, including pricing information for your business, please email:
- Brad O'Guynn (brad@elevatorworld.com) or
- Caleb Givens (caleb@elevatorworld.com)

- Phone: +1.251.479.4514, Ext. 38
- Elevator World, Inc is the approved retail partner for eMCP.

elevatorbooks.com
ELEVATOR WORLD'S ONLINE BOOKSTORE