

Mechanical locking brake requirement for MRL elevators

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- Code/edition/section:** 2011 Oregon Elevator Specialty Code
ASME A17.1—2010, Sections 2.7.5.1.1 through 2.7.5.1.4
- Date:** Dec. 20, 2022
- Subject:** Mechanical locking brake requirement for machine room-less (MRL) elevator
- Question:** May a machine room-less (MRL) elevator manufacturer rely on an electrical emergency brake or are they required to build the elevator with a mechanical locking brake?
- Answer:** The manufacturer of an MRL elevator must build the elevator with a mechanical locking brake.
- Analysis:** The following code sections in ASME A17.1, *Safety Code for Elevators and Escalators*, apply:
- Section 2.7.5.1** – Working Areas in the Car or on the Car Top.
The requirements of Sections 2.7.5.1.1 through 2.7.5.1.4 shall be complied with if maintenance or inspections of the elevator driving machine brake, emergency brake, elevator motion controller, or motor controller are to be carried out from inside the car or from the car top.
- Section 2.7.5.1.2(a)**
The means shall (a) be independent of the elevator driving-machine brake, emergency brake, motion controller, and motor controller.
Maintenance inspections do not eliminate the process of troubleshooting or investigating that is done by the maintenance/service/repair mechanic if the unit is not operating properly as part of a routine examination due to unsatisfactory performance. Nor does it limit the word to just “visual” inspections. Therefore, under the condition of a reported “performance issue” specific to the possibility that the brake, emergency brake, motor controller and motion controller or their subsystems are not functioning properly, a mechanic is going to access the car top for the purpose of an investigation, i.e., an examination of the braking system and *as per code* those devices should be there to prevent unintended vertical movement.
- Conclusion:** All MRL Elevators that have equipment in the hoistway that is subject to service, repair, inspection, or replacement shall have a blocking device installed to prevent unintended movement.
ASME A17.1 Section 8.6.1.1.1. All devices are subject to examination and replacement and required safe design.
- Contact:** Visit the division website to [contact a building code specialist](#).