



KCA TOOL BOX TALK: Elevator Car Installation - Improper Support Hazard

The safe work procedures and equipment which need to be utilized in order to work safely on elevated car platforms have been developed over the years by the elevator construction industry. The two groups which represent this industry and have documents related to this subject matter are the National Elevator Manufacturing Industry, Inc. (NEMI), also known as the National Elevator Industry, Inc. (NEII), and the National Elevator Industry Educational Program (NEIEP).

Compliance and consultation personnel should be aware that the improper support of elevator cars during construction of traction elevators can and has caused death and serious injuries. Additionally, they should be aware that the industry has specific procedures and equipment it utilizes to positively control elevator hazards.

The elevator car can be assembled and then roped at either the top or the bottom of the hoistway. Diagram No. 1 ([see attachment](#)) is an illustration of a roped up governor for a car sling and platform. In some cases, the car sling is assembled at the bottom of the hoistway and then is hoisted to the top to be roped. However, in these cases, the car must be positively supported at this level and backup systems must be used to insure that there is no support failure which results in the platform being dropped.

There are specific safety procedures and equipment which are required by the elevator construction industry to prevent this type of incident. Those procedures and equipment are listed below:

1. The governor must be roped up and the car's safeties (e.g. "wedges" or "safety jaws" which act as rail brakes that grab the elevator's guide rails) made operational prior to hoisting the car sling. In the event of a safety failure (e.g. failure of a support sling(s)) or a drop in the platform the governor is designed to mechanically actuate the car's safeties, which are part of the car sling and platform. When the safeties engage, the car stops prior to falling to the bottom of the shaft, thus preventing a "free fall" of the car sling.

2. All employees working in the hoistway at a level greater than 6 feet above the bottom of the shaft must use fall protection consisting of a body belt/harness and lanyard connected to an independent lifeline.

3. When the car sling and platform is raised/hoisted to the top of the shaft to be roped, it must be positively secured by setting the car's safeties ("wedges") at this elevated level. In addition, one or a combination of the following must be completed:

1) A deck or platform of sufficient strength must be built immediately below the car platform to support the platform in the event of a safety failure.

2) The car sling must be positively secured by placing bolts through the car guide rails so the "safety jaws" rest on these bolts.

3) The top member of the car sling (commonly referred to as the "cross head") must be lashed to the rails and/or the division beams using at least one wire rope sling of sufficient strength per rail. To prevent deterioration of the slings, padding or other means of protection must be provided at the points where the slings contact the structural members.

For more information visit OSHA REGULATIONS: 1926.552

Signatures

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