

## Section 8

### HOISTWAYS AND MACHINE ROOMS

#### 8.1 Hoistway Access Safety

Prior to gaining access to the hoistway, determine whether power is needed to perform the required task. If not, the appropriate lockout/tagout procedure shall be used. (See Section 7.) Do not open the hoistway door more than 6 in. (152 mm) until you determine the car or car top is located in a safe position to access.

##### *8.1.1 Top-of-Car Access/Egress Procedure*

**CAUTION:** Besides examination, inspection, maintenance and adjustment work that must be done on the car top, there is a considerable amount of work in the hoistway which must be done from the top of the car and, at times with the car in motion. **Examples of safe access/egress procedures are outlined below.**

##### *8.1.1.1 Accessing Top-of-Car*

**Prior to accessing the hoistway always verify that the elevator has arrived before stepping into or on the car.**

#### **(a) Hoistway Access Switch Provided:**

- Capture the elevator, and take it to the top access landing.
- Activate the means to disable the operating devices, (in car inspection service) located in the COP. Verify that the elevator is not on automatic operation by attempting to register multiple car calls.
- Insert proper door wedge tool to mechanically hold the door(s) in the open position, stay clear from the entrance and lower the car to a safe height by using the hoistway access switch to run the car in the down direction. Note: Be aware of car door clearances.

- Remove key from hallway access switch.
- Reach into the hoistway and place the top-of-car stop switch in the “STOP” position and turn the car top work light “ON”.
- Insert key into the hall access switch and try to move elevator in both directions. It should not move. Remove key.
- Place the car top inspection switch in the “INSPECT” position and the car top STOP switch to “RUN”. Reinsert the access key switch and try to run the car in both directions. It should not move. Remove key.
- Before stepping onto the car top, activate STOP switch to “STOP”, locate a safe refuge area and access the car top.
- Remove door wedge tool and allow doors to close.
- Proceed with necessary tasks in hoistway ensuring car top station remains on INSPECT and stop switch is in the STOP position when work is being performed.

**CAUTION:** Be sure you have a surface to stand on that will support your weight. Don’t stand on the car top emergency exit or the fan unit and use special care where the car tops are curved or domed.

#### **(b) Without Hoistway Access Switch:**

- Capture the elevator, and take it to the top access landing.
- Establish down demand by activating 2 in-car car calls.
- Using an approved door unlocking device, stop the elevator in flight to verify the door interlock by opening the hoistway no more than 6 inches. Be sure to stop the elevator in a safe position to safely reach the car top inspection run box.
- Insert proper door wedge tool and place the top-of-car stop switch in the “STOP” position, remove your door wedge tool and allow the doors to close

- Wait ten seconds and open the hoistway door no more than 6 inches to verify the top-of-car stop switch is working. Car should not move.
- Insert proper door wedge tool and place the car top inspection switch in the “INSPECT” position and the car top STOP switch to “RUN”. Remove your door wedge tool and allow the doors to close.
- Wait ten seconds and open the hoistway door no more than 6 inches to verify the top-of-car inspection switch is working. Car should not move.
- Insert proper door wedge tool and activate car top STOP switch to “STOP” position.
- Locate a safe refuge area and access the car top. Remove door wedge tool and allow doors to close.
- Proceed with necessary tasks in hoistway ensuring car top station remains on INSPECT and stop switch is in the STOP position when work is being performed.

**CAUTION:** Be sure you have a surface to stand on that will support your weight. Don’t stand on the car top emergency exit or the fan unit and use special care where the car tops are curved or domed.

- (c) When in a multiple hoistway, **never place any part of your body in the runway of an adjacent operational elevator.**

**NOTE:** On elevators without top-of-car inspection stations, use the proper procedures in Section 8.1.2 (j).

#### *8.1.1.2 Exiting Top-of-Car*

- (a) Position top-of-car level with the egress landing. When a hoistway access switch is provided, position the top-of-car at the landing where the top access switch is located.
- (b) Place the top-of-car stop switch in the “STOP” position.
- (c) Check for tools, keys, rags or any other equipment.

- (d) Slowly open hoistway door and place door wedge tool into the sill.
- (e) Step off top-of-car onto landing.
- (f) Place the inspection switch in the “NORMAL” position.
- (g) Place the top-of-car stop switch in the “RUN” position and turn off the car top work light.
- (h) When a hoistway access switch is provided, with the hoistway door(s) in the open position, activate hoistway access switch to run the car up. Stay clear of moving car. Deactivate the means to disable operating devices.
- (i) Remove door wedge tool and close hoistway door to engage pickup rollers with door clutch.
- (j) Inside cab return “Access-Enable” to NORMAL or OFF position disabling access switch.
- (k) Verify elevator is operational by placing a hall call.

#### *8.1.2 Safety precautions when working on car tops:*

- (a) Familiarize yourself with the position of the car and counterweights of the car being accessed as well as any other cars/counterweights in the vicinity and take appropriate measures to keep yourself and others away from hazards.
- (b) If movement of the car is needed while on top of the car, be sure to have a firm hold on the crosshead, or other part of the car structure.
- (c) Never stand or sit on the crosshead when the car is moving.
- (d) Never hold onto the ropes, sheaves or sheave guard.
- (e) If the car top is not clean (i.e., oil, grease), clean it prior to performing any activities.
- (f) Verify proper operation of top-of-car inspection operating buttons.
- (g) Where outlets are provided, use a grounded portable light with a suitable, non-conductive or grounded lamp guard and reflector.

- (h) Electrical cords are not to be hung on car or counterweight ropes.
- (i) When a top-of-car operating device is available and operational, use it to operate the car instead of depending on an operator in the car.
- (j) If top-of-car operating device is not available and you must ride on top of the car ensure:
  - (1) The person on the car top shall identify and be positioned in a safe refuge space. Do not enter areas marked with Red and White strips.
  - (2) The operator in the car is briefed on the signals to be used.
  - (3) The operator in the car repeats instructions each time before moving the car.
  - (4) That hall buttons cannot control the car.
  - (5) The operator shall only run the car on the slowest possible speed and only in the specified direction.
  - (6) In the case of single and collective-operation elevators or any elevator whose reversal at the terminals is automatically controlled, instruct the operator to reverse the direction of the car before the terminals by means of the reversal switch in the car.
- (k) When a fall hazard exists, fall protection shall be used. (See Section 4.)
- (l) Wire ropes shall only be inspected or lubricated when the car is stopped. Avoid pinch points.
- (m) When opening hoistway doors from the car top, do so slowly so that no one steps in from the landing thinking a car has arrived.
- (n) Observe overhead clearances.
- (o) Use extra care when working on car tops that are curved, domed, or located in unenclosed hoistways.
- (p) Do not leave parts, lubricants, etc on the top of elevator cars. This is a violation of the ASME A17.1 Code.