

## **Section 6**

### **PROPER USE OF JUMPERS**

- (a) It is recognized that temporary circuit jumpers or clips (jumpers) may be required for conducting some service work on elevators, escalators or moving walks. All field personnel shall be trained in the proper use of jumpers for defeating safety circuits. When jumpers are used they shall have the following characteristics:
  - (1) Extra-long, tied in knots, and brightly colored wires or clips.
  - (2) Jumpers shall be numbered in sequence.
  - (3) The ends of jumper wires shall be affixed with insulated alligator clips.
  - (4) Each employee shall have his/her name or personnel number marked in indelible ink on a label permanently attached to each jumper.
- (b) Make sure you understand what effect using or removing a jumper will have on the entire elevator or escalator system prior to use.
- (c) Jumper wires shall never be placed or configured to resemble permanent wiring.
- (d) The number of jumpers carried shall be limited so that all jumpers can be accounted for at all times (numbering jumpers in sequence will help). Jumpers shall be removed and accounted for when returning equipment to service.
- (e) Equipment shall never be returned to service with jumpers left on. Equipment found in this condition shall be reported to your Superintendent/Manager immediately.

## 6.1 Maintenance and Troubleshooting

### 6.1.1 Rules

- (a) Jumpers shall not be used as a diagnostic tool. Always use a meter to troubleshoot circuits.
- (b) Temporary bridging (e.g., tomahawk) devices shall not be used to short out hall door contacts.
- (c) Do not jump out door and gate at the same time.  
NOTE: You may deviate from this requirement only when a second qualified person is on site and in direct communication. **USE EXTREME CAUTION WHEN THESE CIRCUITS ARE JUMPED OUT.**
- (d) Ensure that elevator is on inspection before placing jumpers on door, gate, or safety circuits. Make a visual inspection that all hoistway doors are mechanically closed.
- (e) **Ensure all jumpers are removed before placing equipment back in service.**

### 6.1.2 Procedures for Jumper Use

- (a) Remove elevator from public use and ensure no passengers are in the elevator.
- (b) Place jumper kit on machine room door handle or other conspicuous place.
- (c) Verbally communicate to all other elevator personnel on the jobsite when jumper(s) are to be used. This communication provides needed information on circuits bypassed and equipment affected.
- (d) When work is complete, all jumpers shall be removed, counted and returned to the jumper kit.
- (e) Never leave jumpers on equipment or in the machine room.

## 6.2 Modernization and New Construction

On modernization and construction many jumpers are used to operate elevators.

- (a) Jumpers shall be brightly colored, easily identifiable and shall be long and conspicuous.
- (b) A Jumper Log shall be established to ensure that affected personnel are aware of the safety circuits which are not functioning. It is the responsibility of the mechanic/mechanic in charge to ensure that the Jumper Log is completed. The Jumper Log shall be kept with the controller and shall not be removed until all jumpers are removed.
- (c) Door, gate, or other safety circuits shall never be jumped out unless car is on inspection in the controller.
- (d) Jumpers shall be removed as soon as they are no longer needed, maintenance and troubleshooting procedures outlined above shall be followed.

In addition to the above, stickers shall be placed in the controller cabinet, in close proximity to the inspection/automatic switches, which read as follows:

DOOR, GATE OR SAFETY CIRCUITS SHALL NEVER BE JUMPED OUT UNLESS CAR IS ON INSPECTION IN THE CONTROLLER.
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Before moving car with open doors, verify car is on inspection.

## 6.3 Door Bypass Procedure

- (a) Inspection operation with open door circuits (ASME A17.1, Requirement 2.26.1.5) shall only be utilized when it is necessary to move an elevator when the car gate and/or door lock circuit is electrically open. Before utilizing this, steps shall be taken to identify the problem circuit (car gate or door lock) and bypass only that circuit. Once a decision is made to utilize door bypass circuitry, the elevator shall be placed on inspection operation via the car top or the in-car inspection switches. Once on inspection operation, the pertinent switch(es) can be switched to “bypass” position. Then, whenever possible, the elevator shall always be operated from the top of the car.
- (b) Extreme caution shall be taken prior to and while moving the elevator to ensure the safety of the public and elevator personnel, i.e., unprotected openings, body parts clear of moving equipment, equipment unobstructed, etc.
- (c) Once the purpose for using the door bypass circuitry has been met, the switch(es) are to be switched to the “open” position. A thorough check of the car gate/door lock circuitry shall then be performed to ensure proper operation. Once this is confirmed, the elevator shall be placed back on automatic operation and returned to service.