FIRE SERVICE
code compliance solutions

Technical Support: 1-800-447-5442

Recommended Installation Procedures

Covers:

- Preparation Checklist
- Pre-installation Tools
- Required Signage
- Field Installer Notes

ELECTRODYN
elevator retrofit solutions

Step 1: Job Survey

The importance of a proper job survey cannot be over emphasized. Like all major elevator work, it is the foundation on which to build. The following is a list of items to be aware of, however, it is not all inclusive. Each job has its own particulars that need to be taken into account. Check items off the list below as you complete them.

- ☐ Job print condition. Is it easily readable?
- ☐ Machine room locations. If remote, plan accordingly for the possibility of difficult cable runs.

- ☐ Check for locations to install new Fire Service overlay panel in the machine room and mark location with chalk for install team.
- ☐ Determine length of hoistway rise so proper lengths of traveler can be provided. Also determine length of conduit and multi-cables that will be required.

  Note: Take motor room and top-of-car cable run measurements into account.
- ☐ Determine if there are at least five spare conductors (and what type) within hoistway conduit at the bottom of the hoistway (having enough spares would obviously eliminate the need to run conduit and wires for Phase I key switch & fire hat).
- ☐ Does existing hall fixture box lend itself to an all inclusive surface mount? Or does the hoistway wall have to be chipped and a new box installed for Phase I key switch and fire hat?
- ☐ Determine what type of door reopening device is in play (e.g. mechanical safety edge or electronic detector).
- ☐ Type of door operator (make and model).
- ☐ Check fixture needs and order accordingly.
- ☐ New Phase II cab panel location (preferably next to COP or, when necessary, on cab side wall).
- ☐ Identify which Fire Service key is required (determined by AHJ).

Survey Notes:

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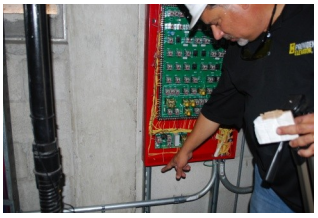
Step 2: Pre-Installation

Determine and set-up a pre-install team (example: [80%] mechanic and helper). Once determined, provide the team members this Pre-installation checklist to ensure ease of installation. Take the necessary time to train the pre-install team to follow these procedures. Technicians need to know where conductors originate from and terminate to. All the fixture panels should have the **same wiring sheet** so that each team member knows exactly which cable/wire they're hooking up, including the traveling cable.



Tip: Do not mount Fire Service panel directly onto the concrete.

- ☐ Install Fire Service panel in machine room in preselected location (preferably on controller panel/frame, or nearby).
- ☐ Pipe (where needed) to equipment. Example: Fire Service panel to controller, selector, or where otherwise needed.

One example of wire management from Fire Service panel to controller.

- ☐ Install conduit in hoistway for Phase I fixture (includes Phase I key switch and fire hat) at the designated floor.

Note: Though not typical, the floor location of this fixture may require local AHJ and or fire marshal approval.

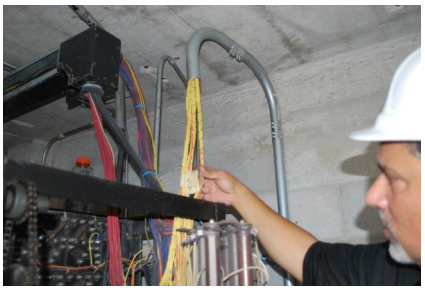
- ☐ If necessary, install multi-conductor cable within newly installed hoistway conduit and terminate wires at Phase I fixture.

Note: Wiring to all fixtures shall be with the same master wiring sheet including traveling cables on all jobs and done by Lead Technician.

- ☐ Determine whether or not the COP, door reopening device (2 wires) and door operator (2 wires) are going to be wired in at the controller or at the respective places on the car (whether within the cab or on top).
- ☐ Properly install (homerunned) traveler to top of hoistway and to elevator cab, then terminate wires to cab fixture that has Phase II key switch and fire hat as well as door open and close buttons.

Reminder: Wiring to be done to all fixtures with the same master wiring sheet and done by Lead Technician.

- ☐ Important: New wiring is not to be interfaced with elevator controller or new fixtures until time of final installation to controller by Lead Technician.
- ☐ The multi-conductors and traveling cables should be stripped and ready to wire at the Fire Service overlay panel and controller, and all other points where needed.



Tip: Number each wire with its designated wiring diagram number for easier connection.

Pre-installation Issues/Questions:

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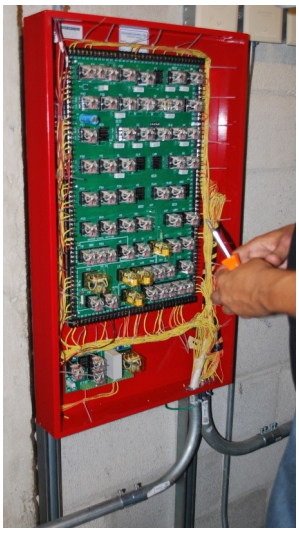
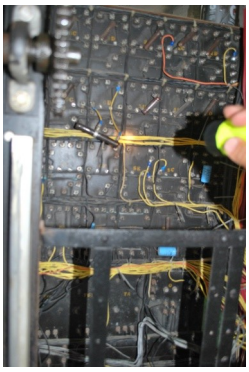
Step 3: Installation

Below are installation instructions for the Fire Service overlay.



- ☐ The installation wiring should follow the master wiring sheet supplied by Electrodyn.
- ☐ The lead technician that is familiar with existing controls should then wire the Fire Service panel and interface to the controller as well as new fixtures in cab and hall.
- ☐ Technician should then perform any troubleshooting (if needed) and final adjustments including - tying-in the fire alarm and performing pretesting.
- ☐ Perform final testing with inspector and owner (for training).

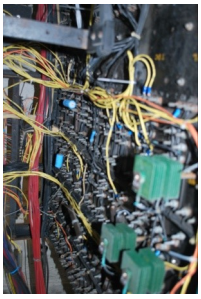
Field Installer's Recommendations

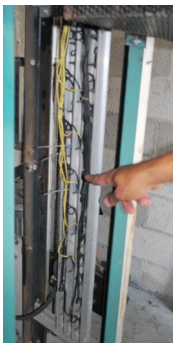


- ☐ Through experience, installers have determined that the number of times there are enough spare conductors in existing traveling cables has been less than 1%. This is why it is highly recommended that a small traveling cable be homerunned from the car to the Fire Service panel.
- ☐ The preinstall team should pipe from the Fire Service panel to the controller and all other necessary equipment (Like an Otis selector or the group panel on multi-car jobs).
- ☐ Homerun multi-conductors to the Fire Service panel from Lobby Phase 1 key switch or added car fixture.
- ☐ Do not allow the preinstall team to interrupt the existing car(s) operation. They should only install and mount components as well as pull wires to where they are required.

IMPORTANT NOTE:

Coordinate with fire alarm contractors, either hired by you or the owner. You do not want the liability associated with working on building fire alarm systems.



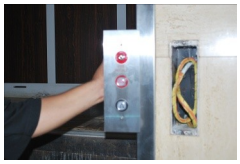


What's Required

Teams need to be outfitted with the proper tools along with a description of job site visits/surveys of where the panels and fixtures are to be located. Lead technicians need to create pull sheets and inform the preinstall team of how many wires to pull between panels.

Note: We recommend a 20 conductor (18 gauge) traveler and a 39 conductor (18 gauge) multi-cable.

- ☐ Proper length of twenty conductor 18 gauge traveling cable should be ordered with strain cable so it will hang properly. It is not a large cable and so it is easily handled by two people (completed job will have a few spare conductors).
- ☐ Proper length of 39 conductor 18 gauge multi-cable (see above).
- ☐ EMT & Flexible (a.k.a. Greenfield) Conduit, strut channel (a.k.a. Unistrut, Kindorf), straps, hardware, connectors and four - 4" x 4" x 1 1/2" (aka1900) electrical boxes (with covers). Minimum of two required.
- ☐ Hall Fixtures—w/fire hat and Phase I key switch. Suggest the possible use of a surface mount type.
- ☐ Cab Fixtures—to include box that mounts to cab wall. Box should have locked cover to conceal "Door Open/Close" and "Call Cancel" buttons as well as Phase II key switch.
- ☐ Electrical wire connectors, electrical tape, butt splices (a.k.a. Sta-Kon's), ring and fork terminals, tie wraps, wire nuts, etc.
- ☐ Proper Signage (check with AHJ's for wording differences).



Tools Needed

- ☐ Porta-band
- ☐ Sawzall
- ☐ EMT Pipe cutter
- ☐ Conduit benders
- ☐ Knockout set
- ☐ Drills, bits and Hole-Saws
- ☐ Rotary Hammer Drill (example: Hilti)
- ☐ Grinder
- ☐ Die grinder – to cut stainless steel
- ☐ Hand tools
- ☐ Tape and wire connectors

Required Signage

Below are elevator code notable mention references:

Signage Required

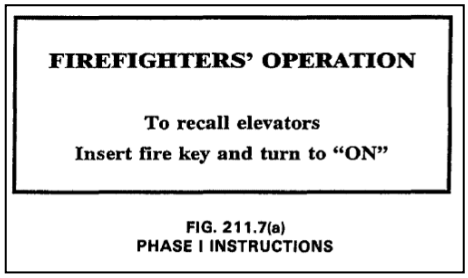
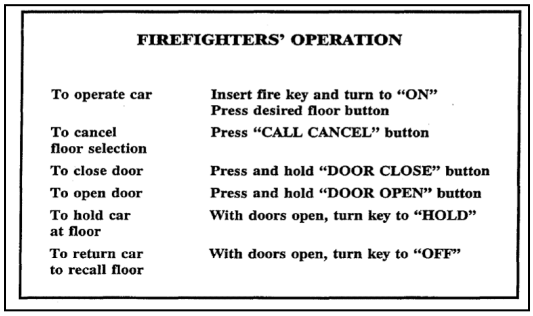
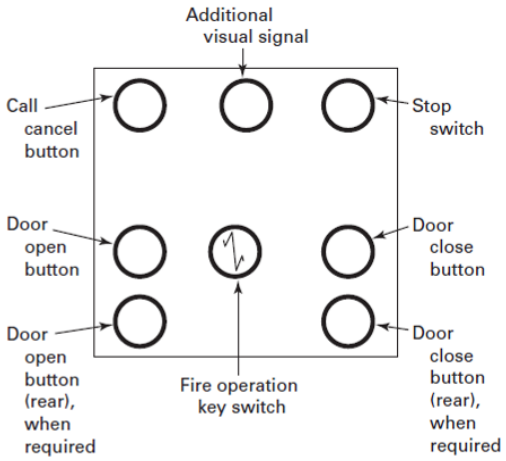


FIG. 211.7(a)
PHASE I INSTRUCTIONS



Phase II in Car Instructions



GENERAL NOTES:
(a) Switches and buttons show only the location not the labeling.
(b) When manually operated doors are provided, door open and close buttons and instructions for their use are not required.
(c) Not to scale.

Electrodyn Systems Standard Button Specification