VERSION 3.6
SEPTEMBER 12, 2024

Staying Home
ELEVATE YOUR LIFE

Model EZ3 and EZ4
Front Entry Car

ELEVATOR INSTALLATION INSTRUCTIONS

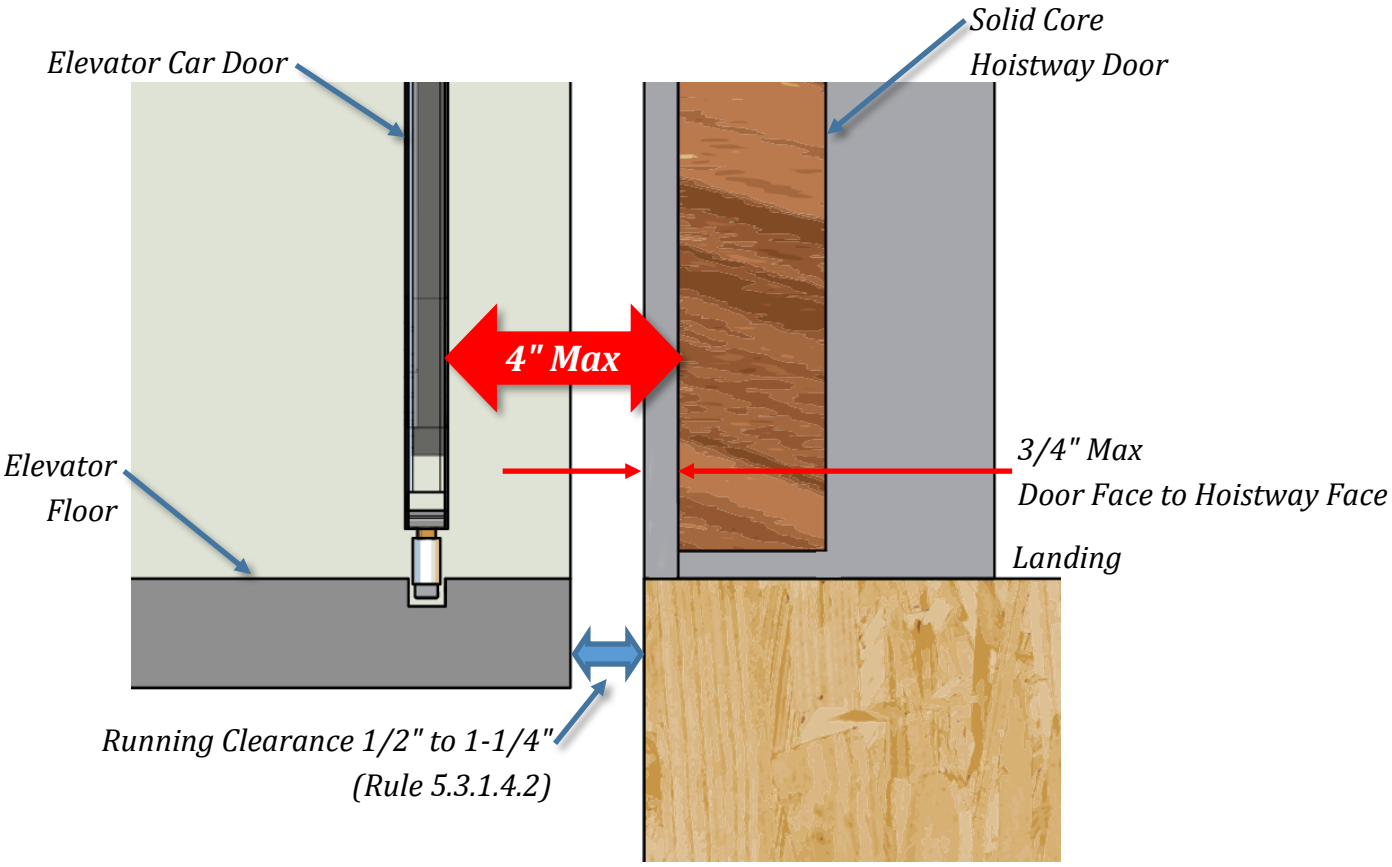
Home Elevator 3/4" x 4" Rule when Installed Inside a Hoistway

This is a safety issue.

Elevator Model SE is designed and manufactured to comply with ASME A17.1 - 2016, section 5.3 Private Residence Elevators.

ASME Rule 5.3.1.7.2 references code Clearance between Hoistway Doors and Landing Sills/Car Door:

- The clearance between a hoistway door and the hoistway edge of the landing sill shall not exceed 3/4".
- The distance between the hoistway door and the car door must reject a 4" diameter sphere at all points.



Note: If the hoistway isn't plumb, it will affect the clearances and make it hard to comply with the code. The hoistway doors must be plumb from floor to floor.

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Please refer to the Owner's Manual for warranty information and operating instructions.

If you have questions about installation or service, call the Service Department at 877-378-4275. It is essential that you read and understand all information, supplemental prints, and labels on the equipment before attempting installation.

Depending on the options ordered, not all instructions may apply.

Also, please observe all cautions and warnings.

Key Symbols:

- Caution: indicates possible damage to equipment if instruction is not followed.
- Warning: indicates possible bodily injury.
- Emphasizes the importance of the instruction.

The following is a list of tools and additional materials that may be needed during the installation of the residential elevator:

- Safety items: hard hats, safety glasses, steel toe shoes, etc.
- Materials to close off hoistway hole cut in floor during installation
- Set of screwdrivers (slotted and phillips)
- Hammer
- 4' level
- Framing square
- Plumb line and plumb bob
- Chalk line
- 12' tape measure
- 3 /8" reversible drill
- 3/8" impact driver
- Drift pin
- Set of hex keys
- Socket and wrench set
- 7/32" hex socket
- 3/8-16 Tap and tap handle
- 1-3/8" open end wrench (or large crescent wrench) for eccentric roller adjustment
- Multi-meter
- Step ladder

We recommend inspecting all material and hardware prior to beginning installation. If there is damage, it must be noted on the Bill of Lading and claim handled directly with the carrier.

You have 30 days from the date you receive this equipment to determine if all parts are included and free of damage. If you discover any missing or damaged parts after 30 days, Staying Home Corp will not be responsible for replacing those parts.

Preliminary Checks

Prior to the installation of the elevator, the following items should be verified at the jobsite:

- Verify the floor to floor dimensions match the dimensions on the approved layout drawing. This is critical, if these dimensions do not match, new track may need to be ordered.
- Verify the actual overhead clearance matches the application drawings.
- Verify the width and depth of the hoistway or opening through floor is not smaller than the minimum dimensions shown on the application drawings.
- Verify walls are plumb. There may be running clearance problems if the hoistway is not plumb.

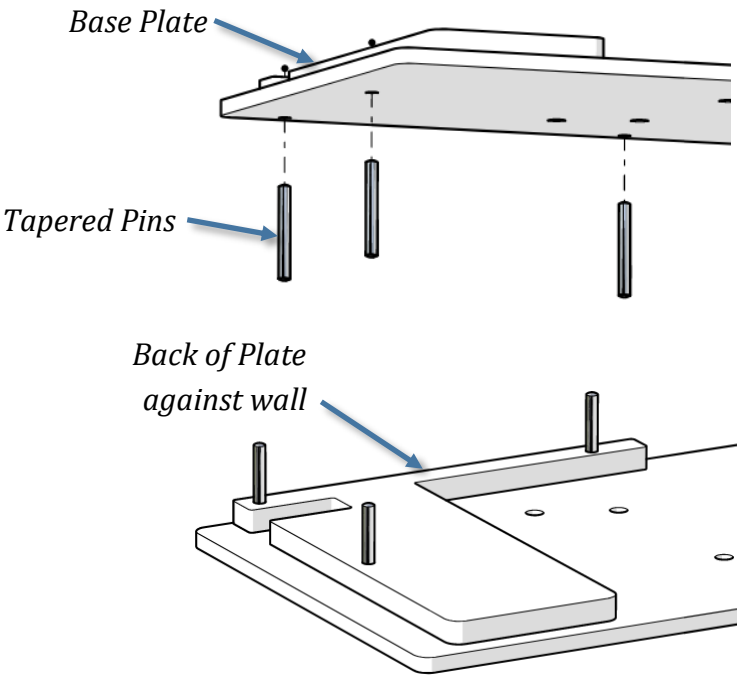
If necessary, have the contractor make alterations to hoistway to accept the elevator.

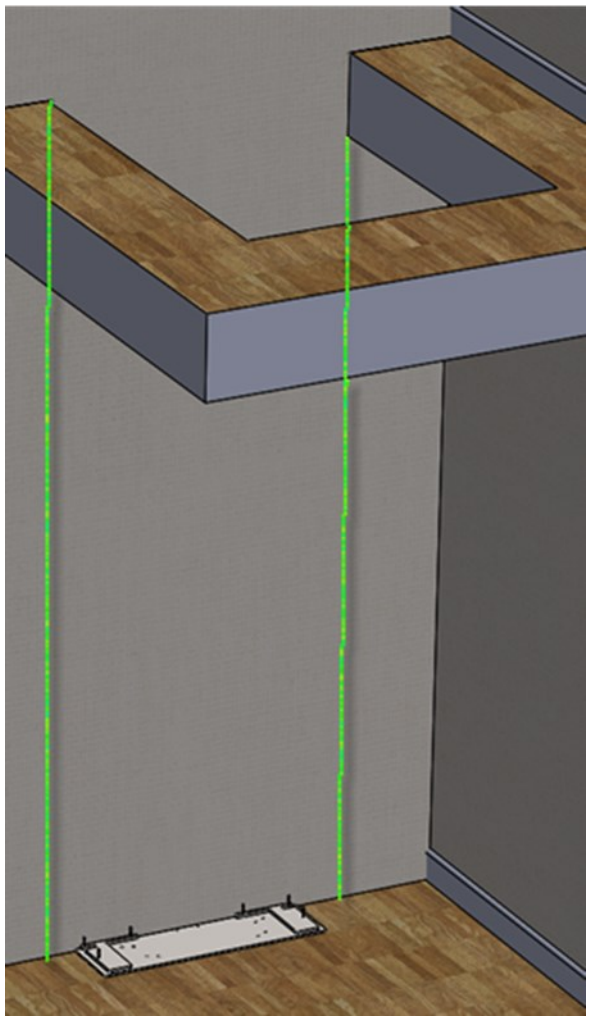
Track and Carriage

The aluminum track sets down onto the smaller diameter of the pin. Tap (6) 3/16" x 1.5" tapered alignment pins through the bottom of the base plate with the smaller diameter pointing upward.

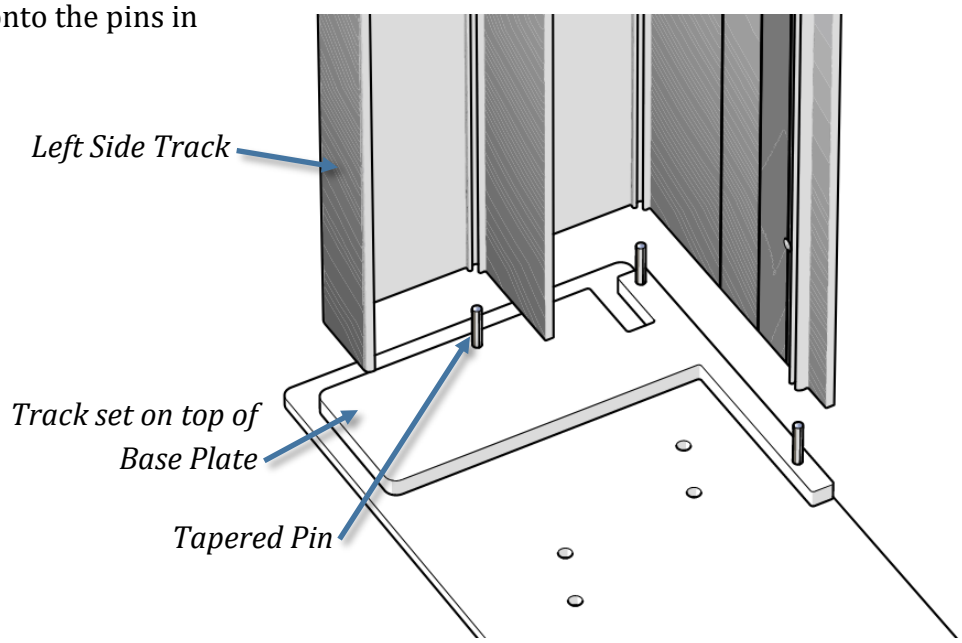
The base plate must be set on the floor with the back of the plate against the track mounting wall and centered on the opening through the floor above.

The base plate must be level; shim as necessary to achieve this.





The bottom left side track is set onto the pins in the base plate.



If there is more than one splice, the location will be marked on the tracks.

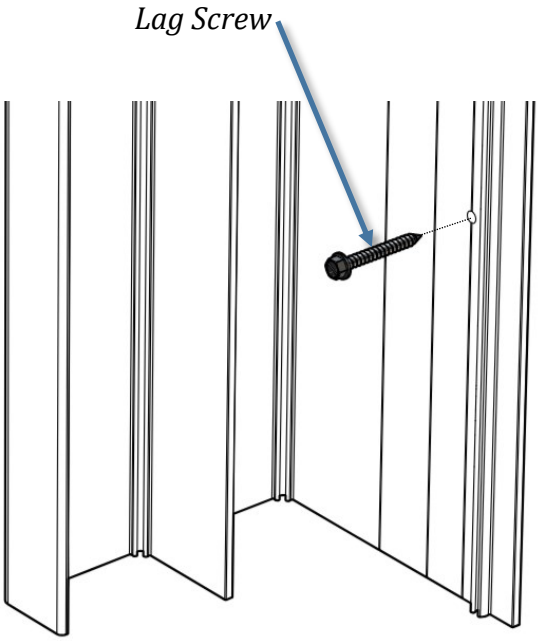
Use a level to ensure the track is plumb.

Mount the track to the wall near the top and bottom with #14 X 2.5" lag screws. 1/4" holes are predrilled near the ends of the track.

Drill 1/4" mounting holes in the center of the wall stud approximately every 30" and securely lag the track to the wall.

Do not tighten the top two screws until the top piece of track is set in place.

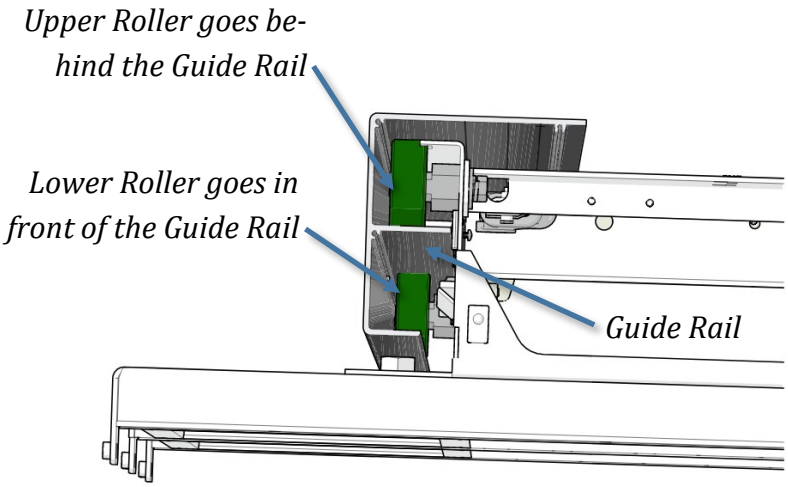
The right side track will be installed after the carriage is in place.



⚠ Please take care not to damage the limit switches on the back of the carriage when moving the carriage from the shipping container to the track.

⚠ The carriage is very heavy, so be careful. To move the carriage, stand it up and slide it inside the track that is mounted to the wall.

Be sure to protect the finished floor of the home.

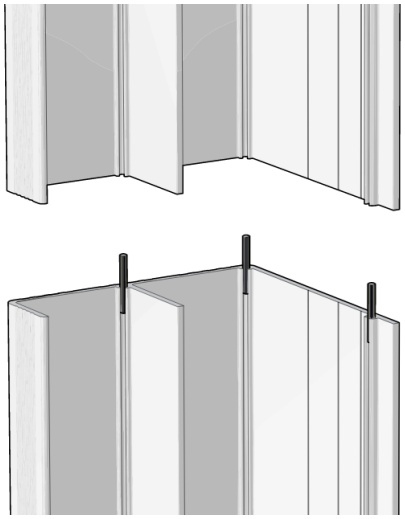


Stand the right side track onto the alignment pins in the base plate.

Mount the track to the wall with lag screws. Ensure that the track is plumb and parallel to the left side track. There should be 13 inches between the inside of the two tracks. Drill clearance holes at the same elevation as the lag screws on the left track. The carriage will be in the way of some of the hole locations; these screws can be added after the elevator is run up to the second floor.

Do not tighten the top two screws until the top piece of track is set in place.

Tap (3) tapered alignment pins into the top of each wall-mounted track. The pins are tapered, so the larger diameter goes into the lower track pieces. Tap the pins into the track so that about 3/4" of the pins are exposed. If necessary, you can clean paint out of the track with a 3/16" drill bit.

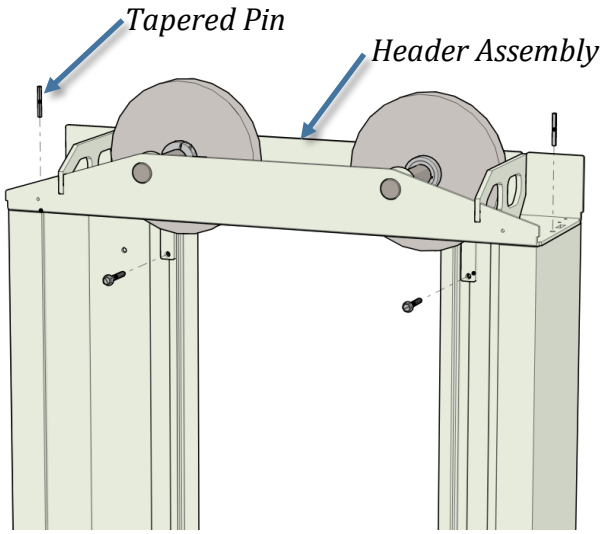


Next, place the next two pieces of track onto the alignment pins in the installed tracks.

Mount these track pieces to the wall with lag screws at approximately every 30". The tracks must be plumb and parallel to the other tracks.

The tracks must extend a minimum of 82-1/2" above the top floor.

To install the header assembly, place it on top of the tracks and use a level to ensure that it is level. If necessary, use shims to level the header.

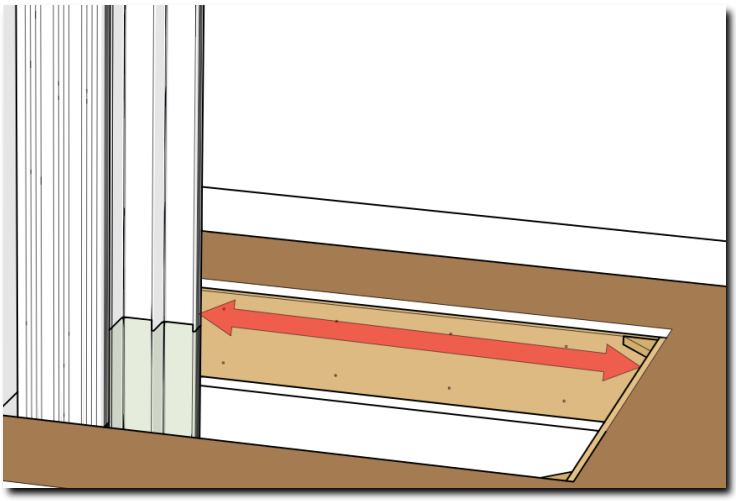


Next, drive (2) tapered alignment pins through the top of the header and into the tracks.

Then, drill (2) 1/4" holes in the aluminum tracks through the holes in the mounting tabs.

Finally, fasten the header to the wall with flat washers and #14 x 2-1/2" lag bolts.

Wood Liner



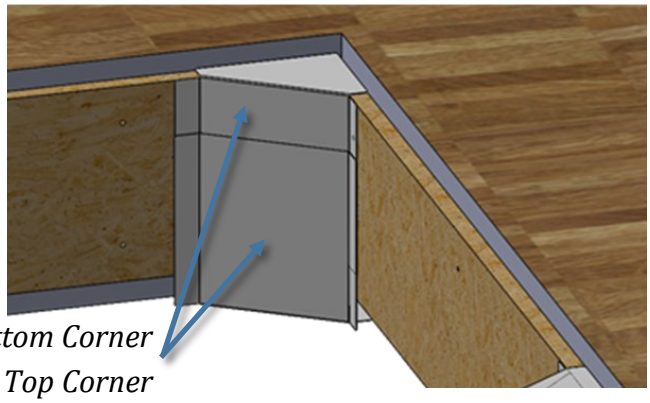
The Wood Liner is placed into the floor hole. *Temporary boards are attached to the Wood Liner to allow it to be supported by the floor.*

The distance from the face of the track to the inside of the wood liner is 39.5 inches for the EZ4 model and 30.5 inches for the EZ3 model.

The liner should be centered on the track and square. The top of the liner should be 3/4 inches below the floor.

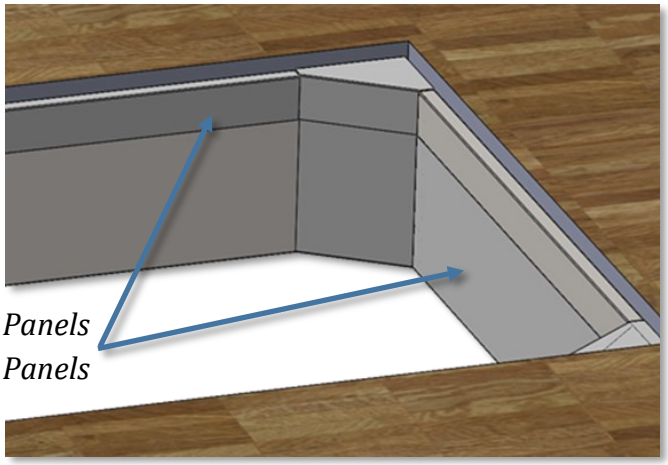
Attach the Wood Liner to the floor joists with #10 x 3.5-inch flat-head wood screws, shimming as necessary and remove the temporary boards.

Fasten the upper metal Corner Liner panels to the Wood Liner with nails. Overlap the upper Corner panel with the lower Corner panel. Fasten the lower metal Corner Liner panels with nails and #8 x 1.5" flat head wood screws from the bottom.



Bottom Corner overlaps Top Corner

Fasten the upper front and side metal Liner panels to the Wood Liner with nails. Overlap the upper panels with the lower front and side metal Liner panels and fasten with nails and #8 X 1.5" flat head wood screws from the bottom.



Bottom Panels overlap Top Panels

Batteries

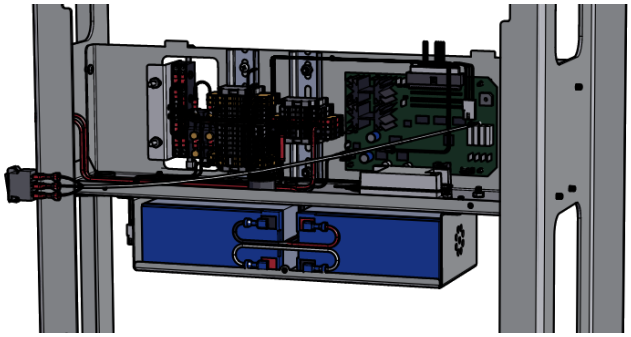
To connect the batteries, place two batteries into the battery tray, below the controller.

Connect the red wire to the positive terminal on the right battery.

Connect the long black wire to the negative terminal on the left battery.

Connect one end of the short white wire to the positive terminal of the left battery and the other end to the negative terminal on the right battery.

During installation, it is recommended that the circuit board only be powered up while the moving elevator.



Drive Cable Setup

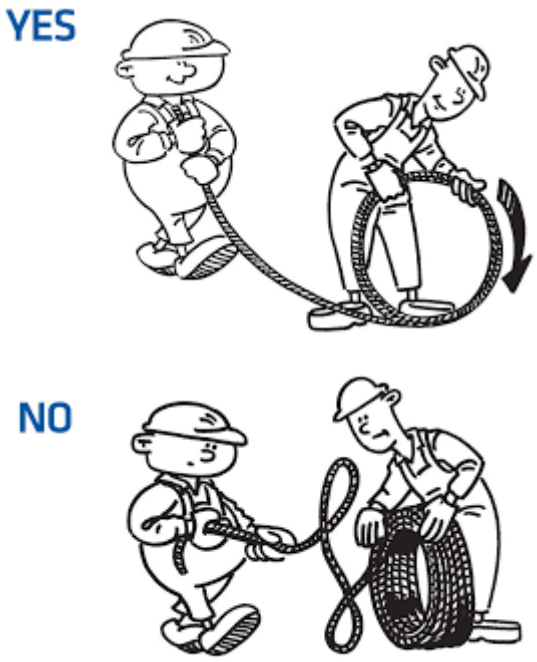
The loose end of each cable is coiled in a loop and the cables wound on the drums are held onto the drums with tape.

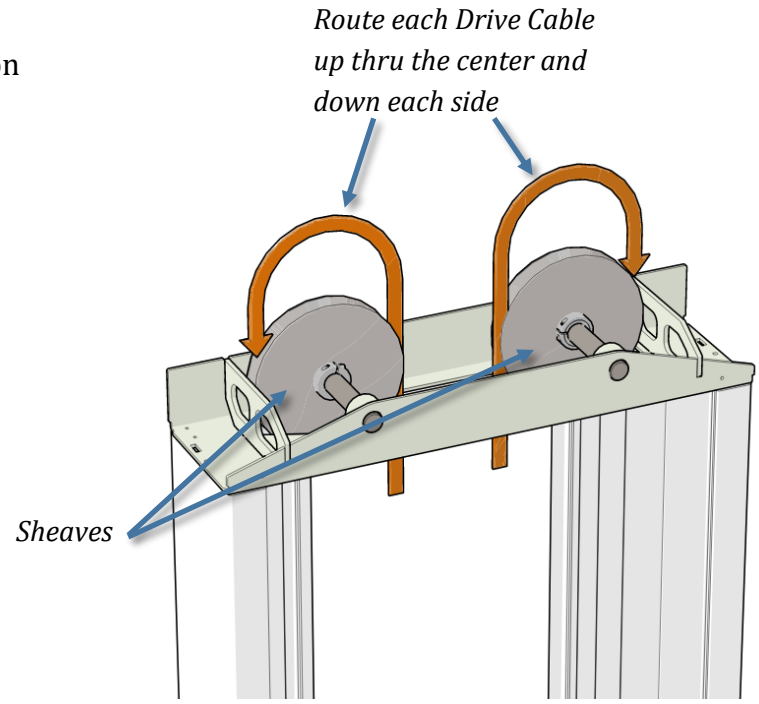
Carefully unwind the loose cables. Ensure the cables are not twisted.

While keeping tension on the cables, run the elevator motor in the down direction to let enough cable off the winding drums to go up over the sheaves and back down to the wedge sockets.

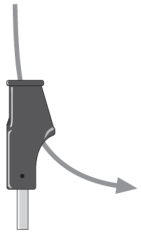
Use the service switch (small rocker switch attached to the main wire harness) to run the motor. Pressing the switch on the side with the RED wire runs the motor in down direction. The service switch allows you to run the motor without the safety circuits being closed. Run the cables down to the cable hitch.

Route the drive cables over the sheaves in the header and down through the wedge sockets on the carriage.





Attach each cable to the wedge sockets:



Insert the drive cable through the top of the wedge socket body.



Thread the cable end back up through the top of the wedge socket body. Leave a loop of cable just large enough to insert the wedge.



Insert the wedge into the loop.



While pulling down on the cable with one hand to keep it taut, pull up on the loose end of the cable to seat the wedge.

The tension on each cable should be close to equal. Tension will be adjusted later in the installation, after the car is assembled.

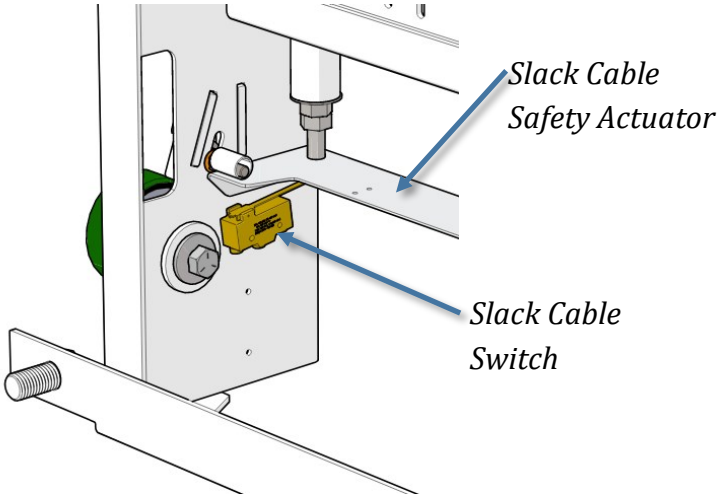
Temporarily, use zip-ties to secure the loose cable that was pulled through the wedge sockets. cable retaining clamps will be added later in the installation.

Run the motor in the UP direction, to wind the cables onto the drums. Ensure that the cables are in the drum grooves and wrapped tightly. Continue to wrap the cables onto the drums until the cables pick the carriage up off the floor.

The carriage can now be moved as needed to accommodate the rest of the installation.

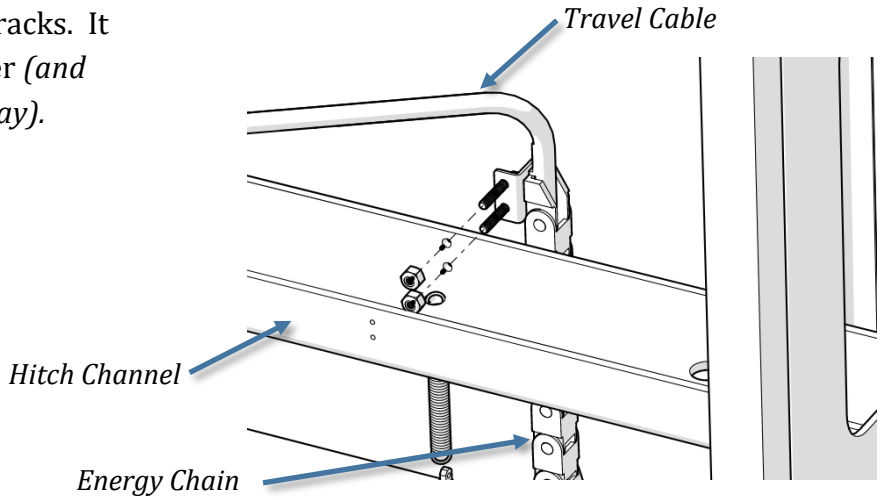
Release the slack cable safety device by cutting the large zip-ties that hold the actuator in place.

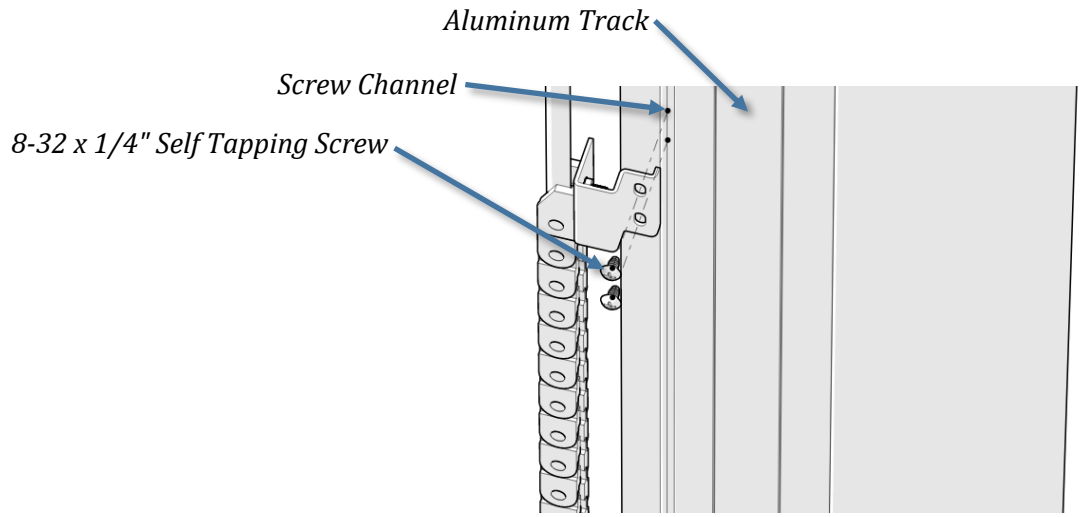
Press the button on the bottom of the slack cable safety switch to reset the switch.

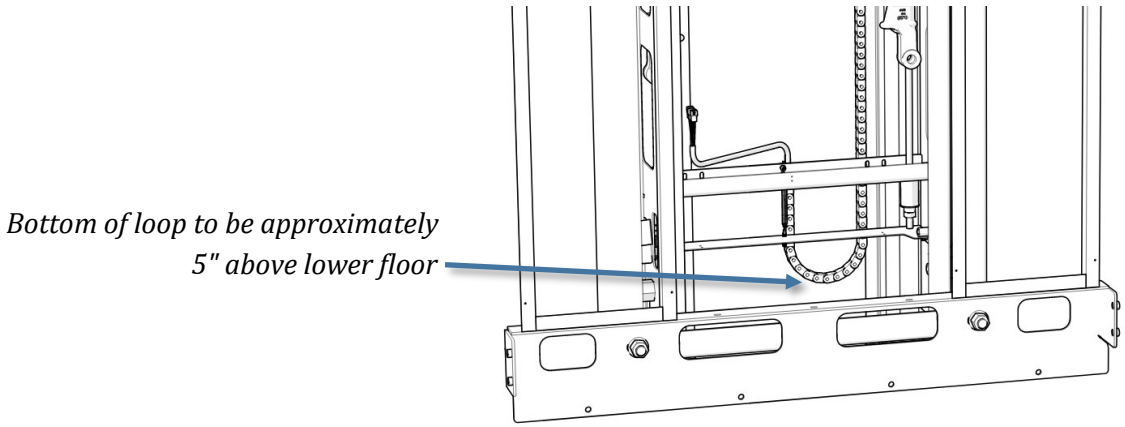


Travel Cable

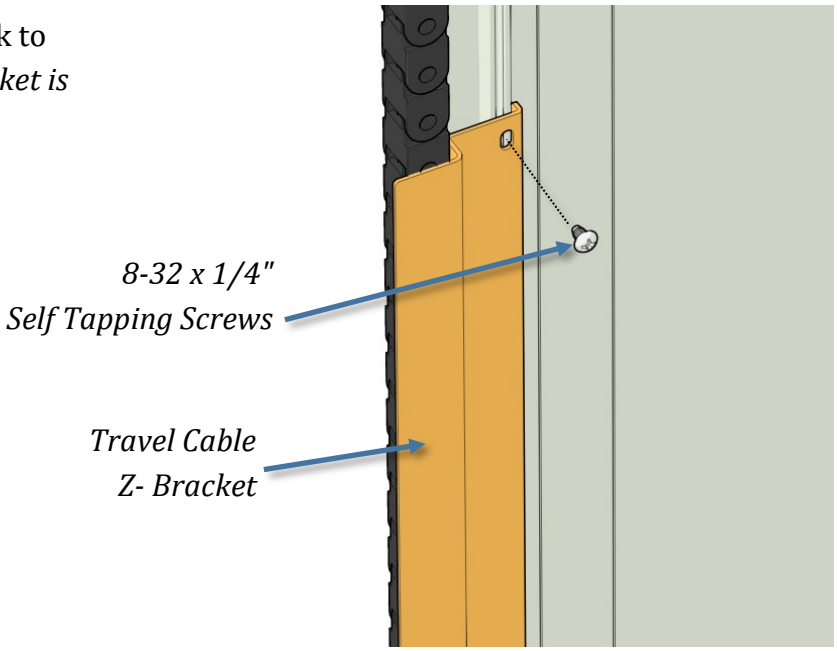
The travel cable spans between the controller on the carriage to the header on top of the tracks. It carries the circuits for the battery charger *(and door interlocks if installed inside a hoistway).*

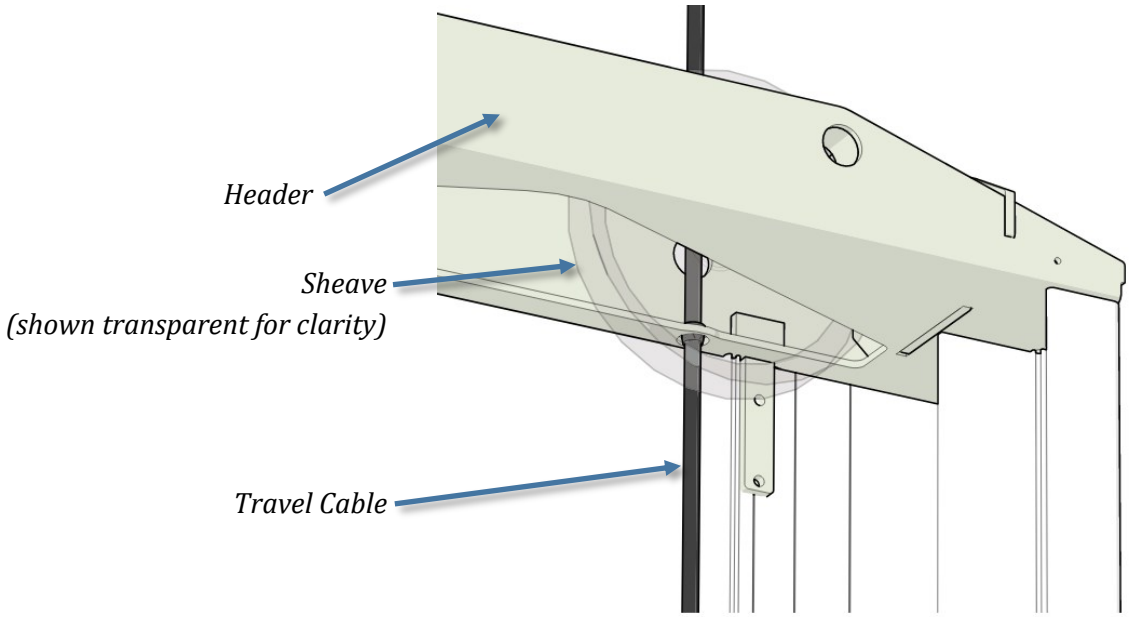


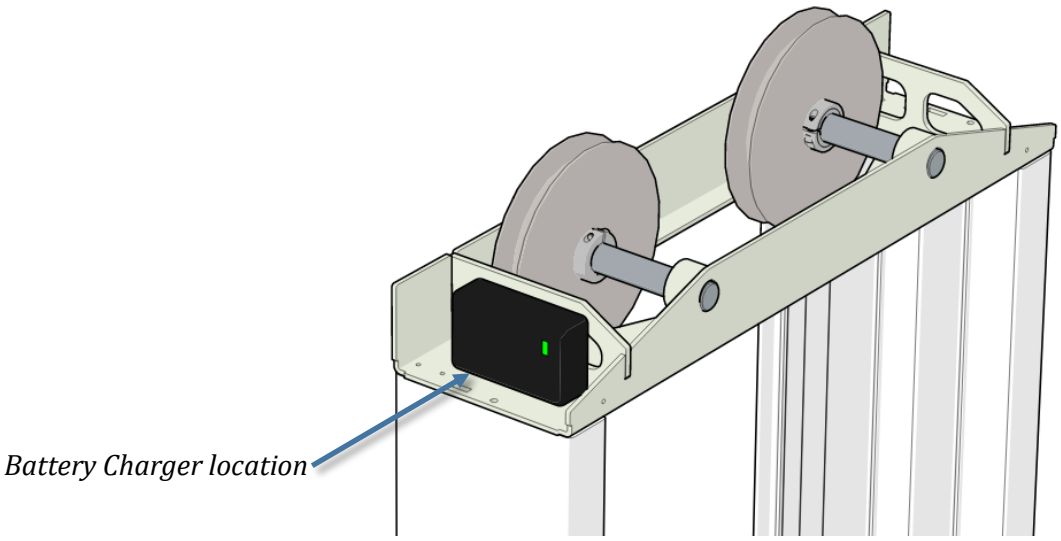




Fasten the travel cable Z-bracket to the track to assist travel cable's movement. *Each Z-bracket is 48" long.*



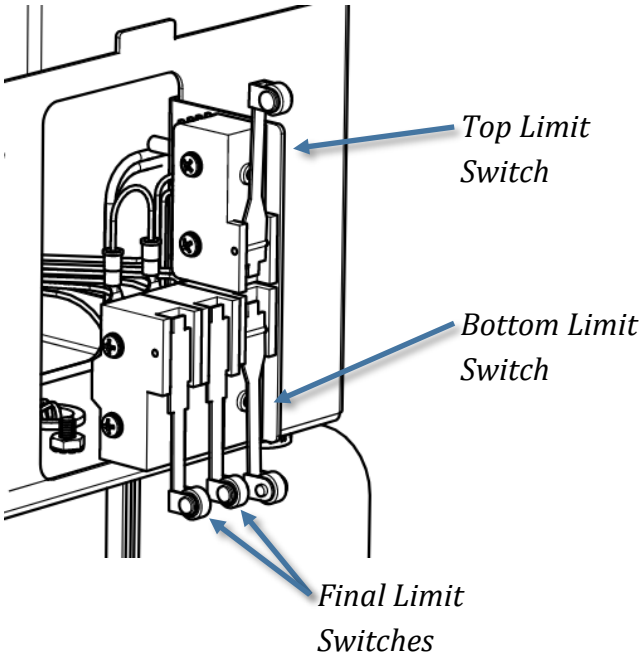




Limit Cams

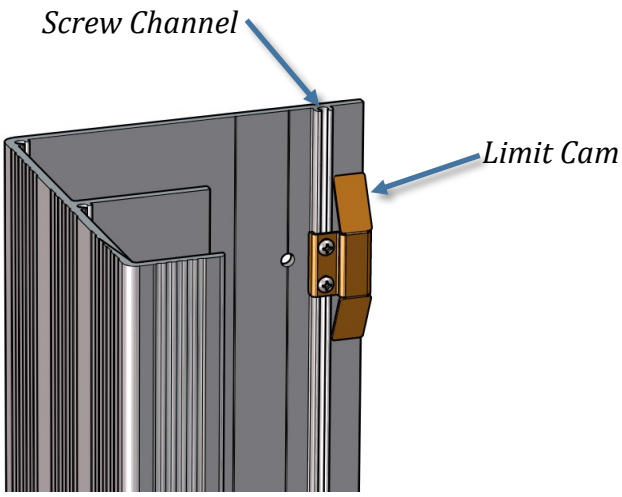
The limit switches are located on the backside of the controller. Cams need to be fastened to the left side track.

Switches on Back Side of Controller

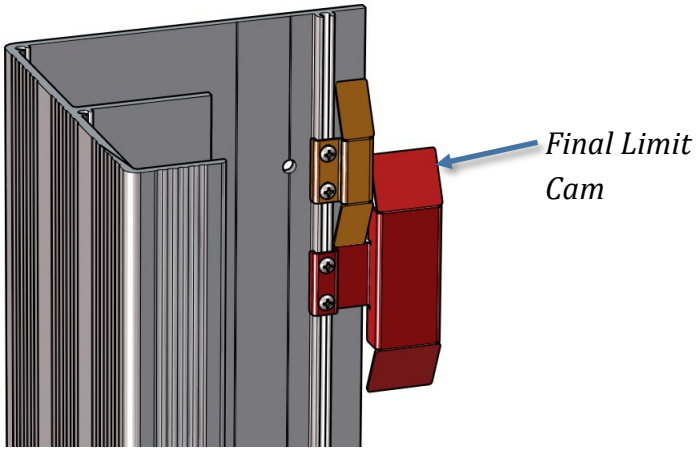


The top and bottom limit cams are identical. Attach the cams to the track with 8-32 x 1/4" self threading screws.

- The bottom cam is located approximately 47-1/2" above the bottom floor.
- The top cam is located approximately 49" above the top floor



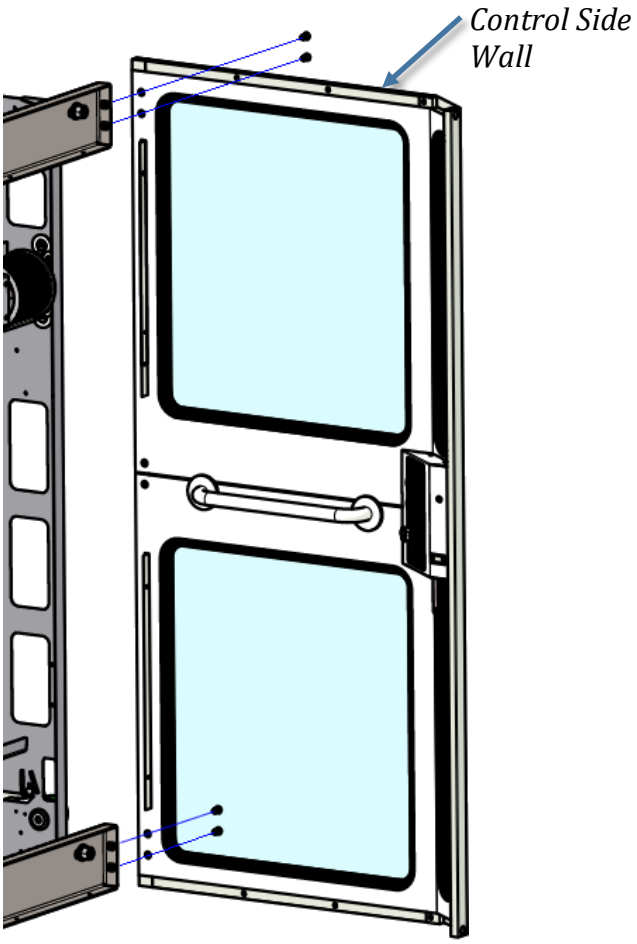
The top and bottom final limit cams are identical. Attach the cams to the track with 8-32 x 1/4" self threading screws directly beneath the limit cams.



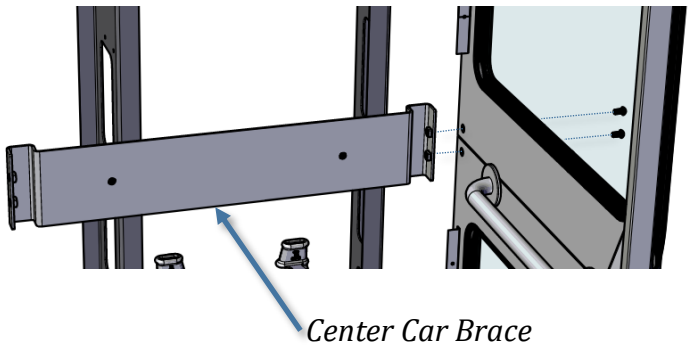
Assembling the Car

Loosely attach the Control Side Wall to the Carriage with (4) 3/8-16 X 3/4" socket head cap screws. Use drift pin if necessary.

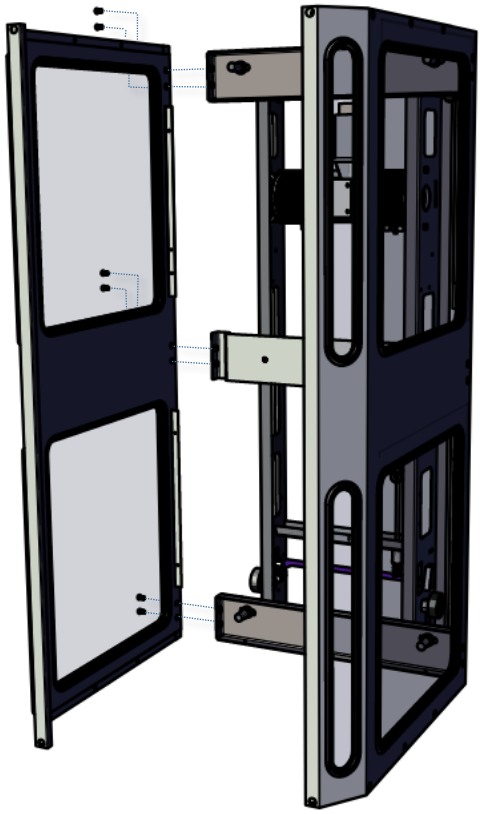
Leaving the fasteners loose assists in fitting all the car parts together.



Attach Center Car Brace to the Control Wall Panel with (2) 3/8-16 X 3/4".

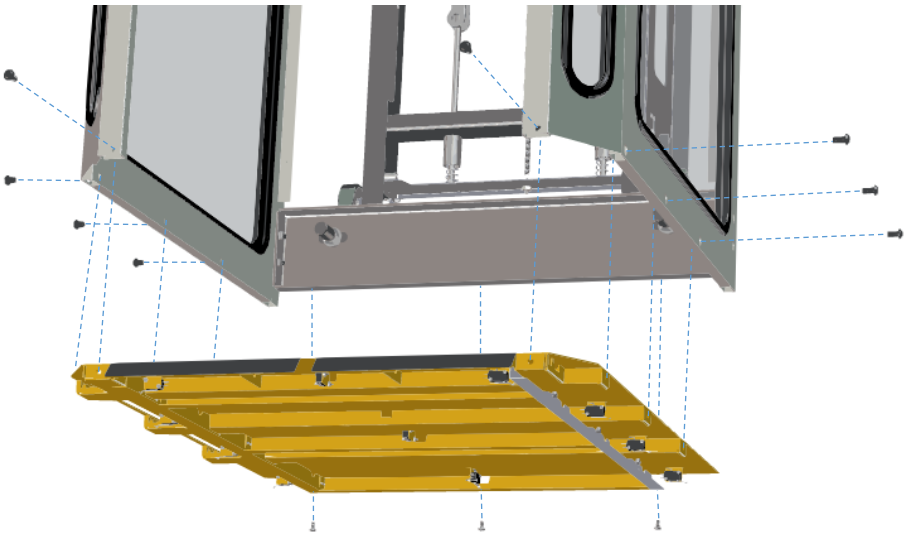


Attach the opposite Side Wall with (6) 3/8-16 X 3/4" socket head cap screws



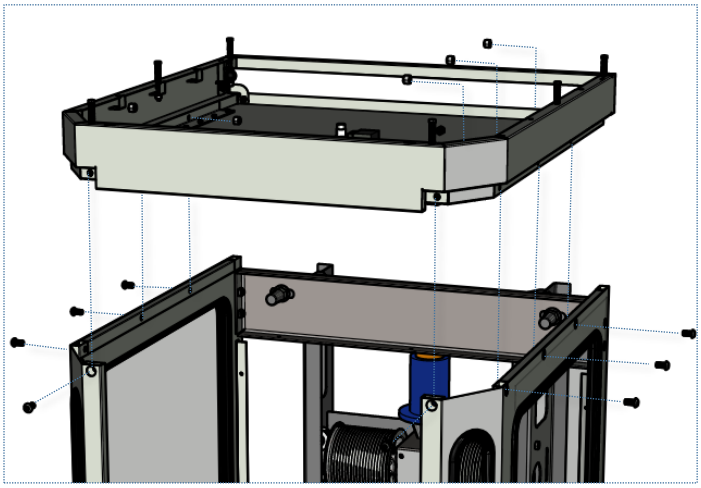
Attach the Car Floor to the bottom of the Car with (3) 1/4-20 X 1/2" pan head phillips screws, (5) 3/8-16 X 3/4" and (3) 3/8-16 X 1/2" socket head cap screws.

Connect the Safety Pan Wire Harness to the mating harness near the bottom of the carriage.



Set the Car Top onto the Car and fasten with (8) 3/8-16 X 3/4" socket head cap screws with lock nuts.

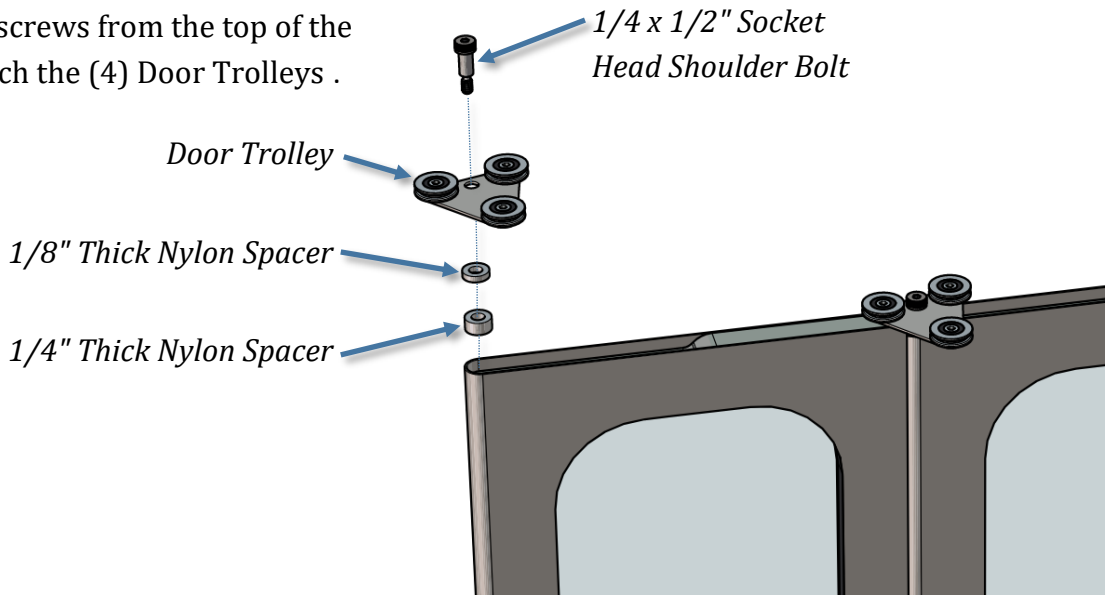
Connect the Car Top Wire Harness to the mating harness near the top of the carriage.



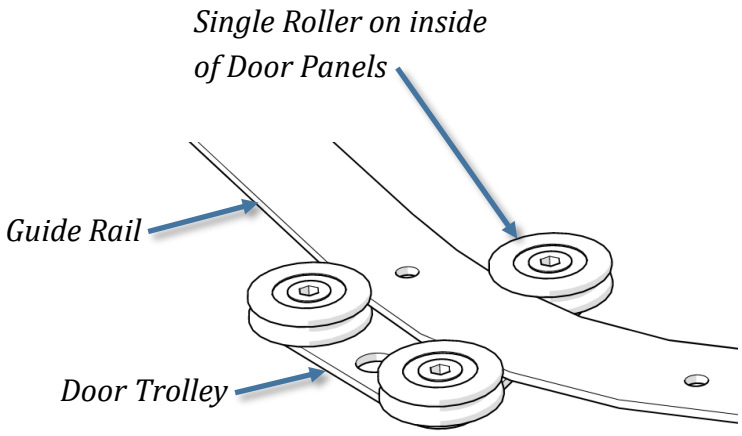
⚠ Tighten all fasteners that connect the car together.

Car Door

Remove the socket cap screws from the top of the Door assembly and attach the (4) Door Trolleys .



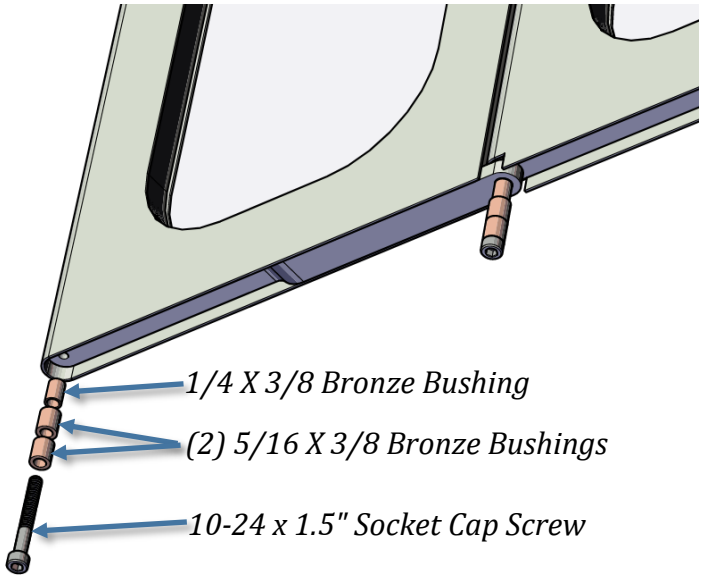
Guide the Door Trolleys onto the Door Track Rail that is attached to the ceiling of the Elevator. Start at the back of the Car, guide the first Door Trolley (on the latch end of the Door Assembly) onto the Door Track Rail. Continue until all Trolleys are on the Rail. *Two wheels of each trolley will be on the outside of the door and one wheel will be on the inside*



This view shown from top

Attach the lower Door Guides to the bottom of the Door Assembly from underneath the car floor.

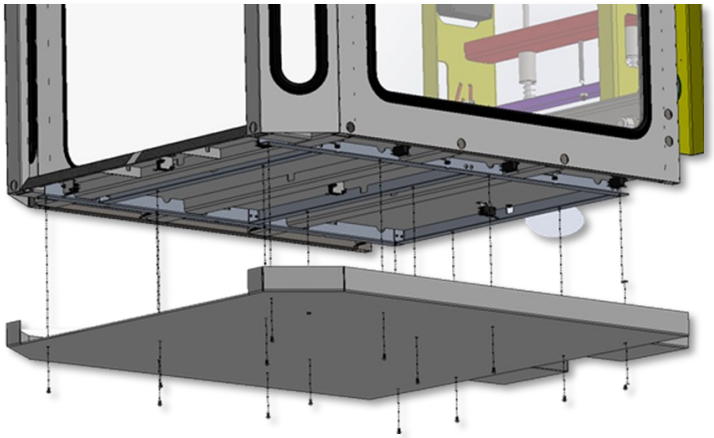
The Spacers and Screws can be inserted through the slot in the Car Floor underneath the Car.



Safety Pan

Attach the Safety Pan to the bottom of the Car Floor with (14) 8-32 X 1/4" pan head thread forming screws.

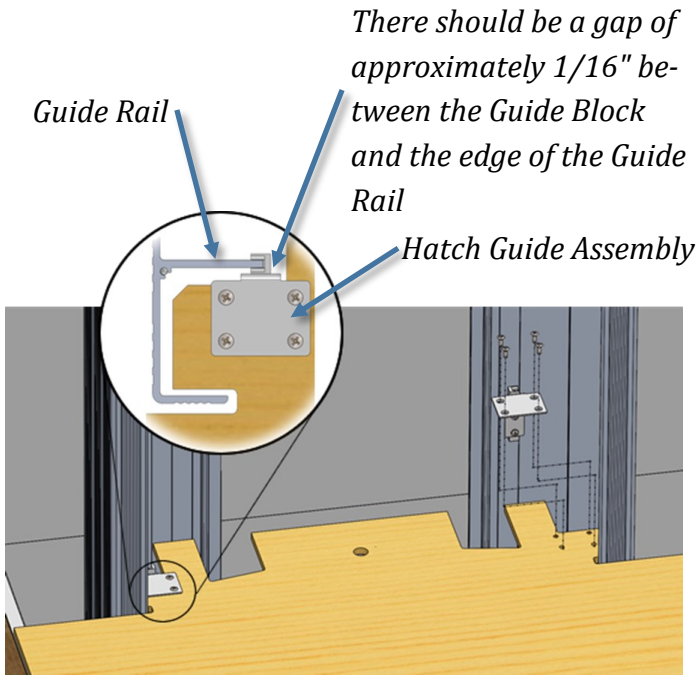
⚠ Use a manual screwdriver to insert these screws. These are tapping into aluminum. Do not over-tighten!



Hatch Floor

Set the Hatch Floor into place in the hole through the upper floor.

Attach the (2) Hatch Guides to the top of the Hatch Floor with (4) #10 x 1/2" oval head wood.



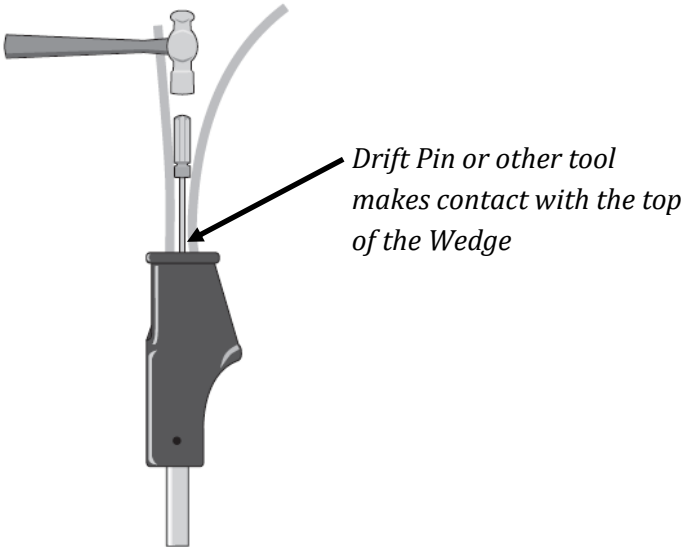
Drive Cable Tension

These steps must be done before installing the folding seat inside the car.

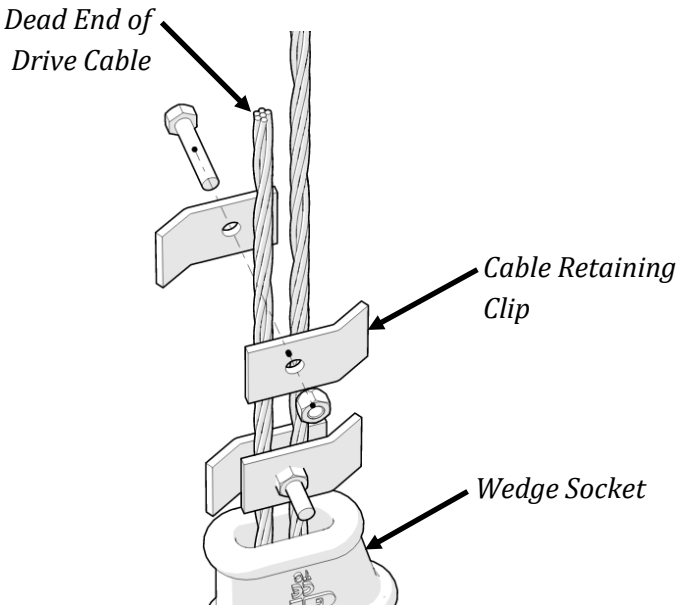
After assembling the car onto the carriage, inspect the tension of each drive cable.

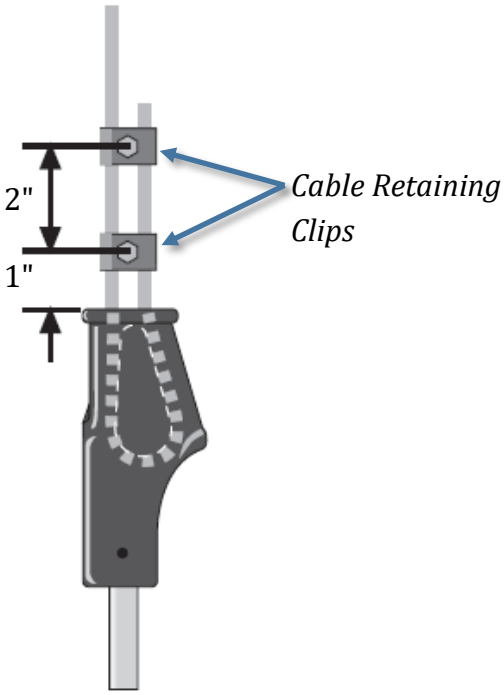
If the tensions are unequal, adjust them accordingly . Remove the zip-ties that were temporarily installed earlier.

For the cable with the most tension, use a hammer and drift pin to strike down on the wedge. This will allow a small amount of cable to slip through the socket. Continue this process until both cables have equal tension.



Install (2) cable retaining clips to hold the dead end of the cable in place on each cable.
10mm wrench and 10mm socket are needed.





Optional Interlock Wiring *(when installed inside a hoistway)*

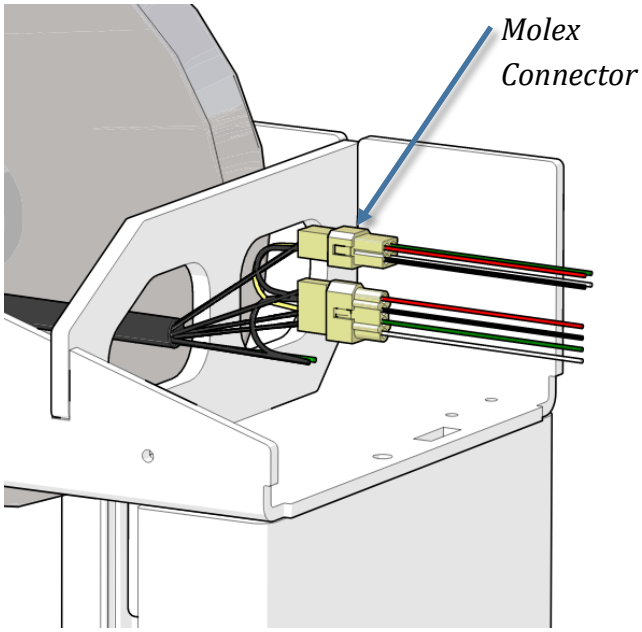
The interlock wiring connects to the top end of the travel cable at the header.

The 2X2 Molex connector goes to the bottom interlock.

The 1X4 Molex connector goes to the top interlock.

Wire connections:

Wire Color	Interlock Terminal
Red	A
Black	B
Green	C
White	D

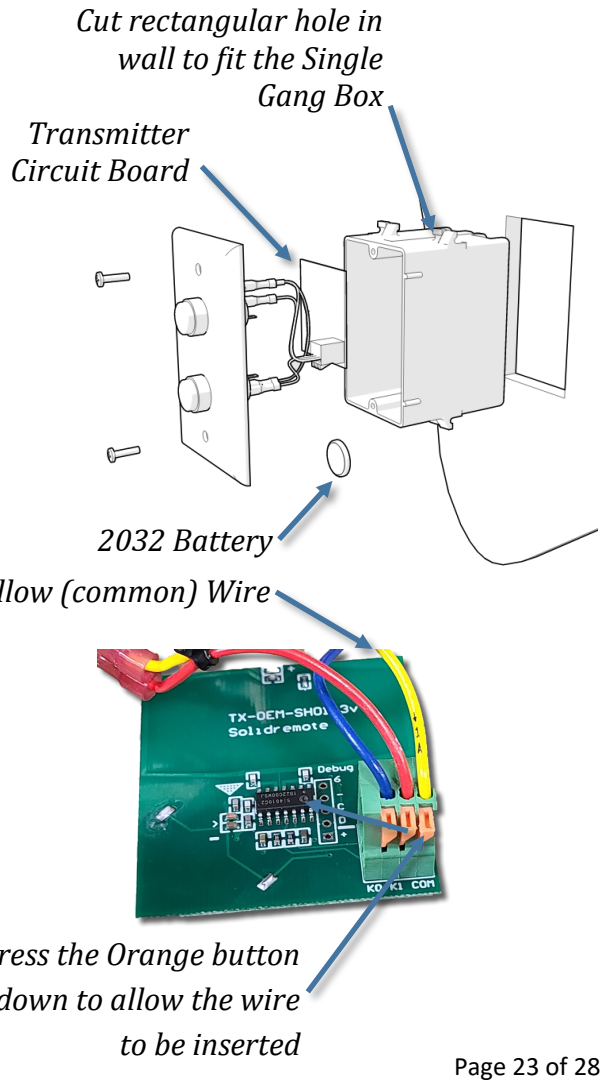


Hall Stations

The hall stations are wireless. The control buttons are connected to a RF wireless transmitter.

The transmitters are factory programmed to the RF receiver that is mounted inside the elevator controller.

1. The common control wire is shipped disconnected from the transmitter board to prevent accidental button pressing during shipping. Before installing or using each Hall Station, connect the yellow wire to the 'COM' terminal block on the transmitter board.



⚠ WARNING!

Do not connect the yellow wire until it is time to test the operation of the elevator.

Once the connection is made in the hall stations, a push of a control button will cause the elevator to run.

Test the Elevator

Ensure the elevator does not operate from the control panel or hall stations if the car door is not fully closed.

Run the elevator to each landing and verify it stops automatically. Adjust the limit cams if necessary.

Confirm the car door is locked when the car is not at a landing.

Verify the car door opens at each landing.

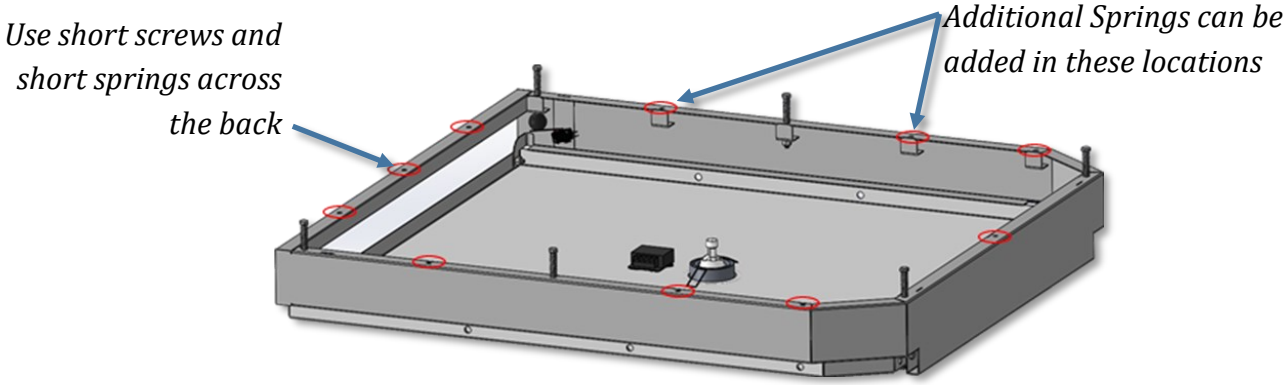
While running the elevator in the DOWN direction, ensure the safety pan (located on the bottom side of the elevator) stops the downward travel. The elevator should be able to run in the UP direction when the safety pan is engaged.

Hatch Obstruction: Position a 20-pound object on top of the hatch floor and run the elevator in the UP direction and verify it stops when it encounters the loaded hatch.

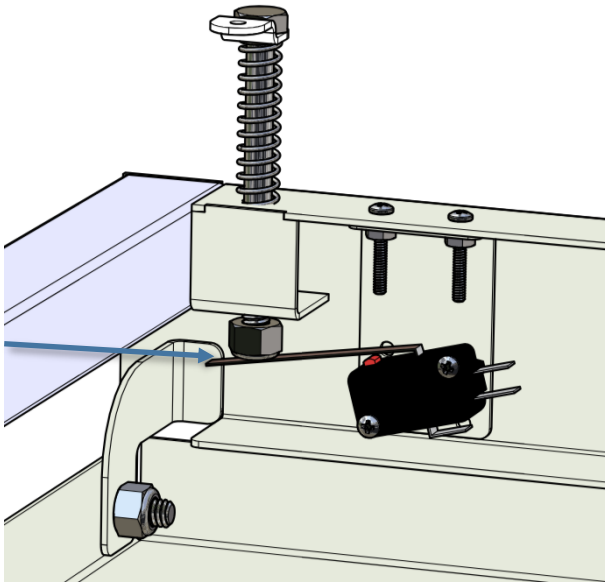
Run Elevator Down: Ensure the elevator runs in the DOWN direction when this safety mechanism is engaged. The Elevator should run in the DOWN direction when this safety is engaged.

Adjust Actuators: If necessary, adjust the actuators on the hatch safety switches.

If necessary, the actuators on the hatch safety switches can be adjusted and/or extra springs (in small parts kit) can be added to the car top. Also, heavy springs are provided to accommodate a tile floor.



Upward travel of the elevator must stop is there is greater than 20 pounds on top of the hatch floor (not counting the weight of a finished floor

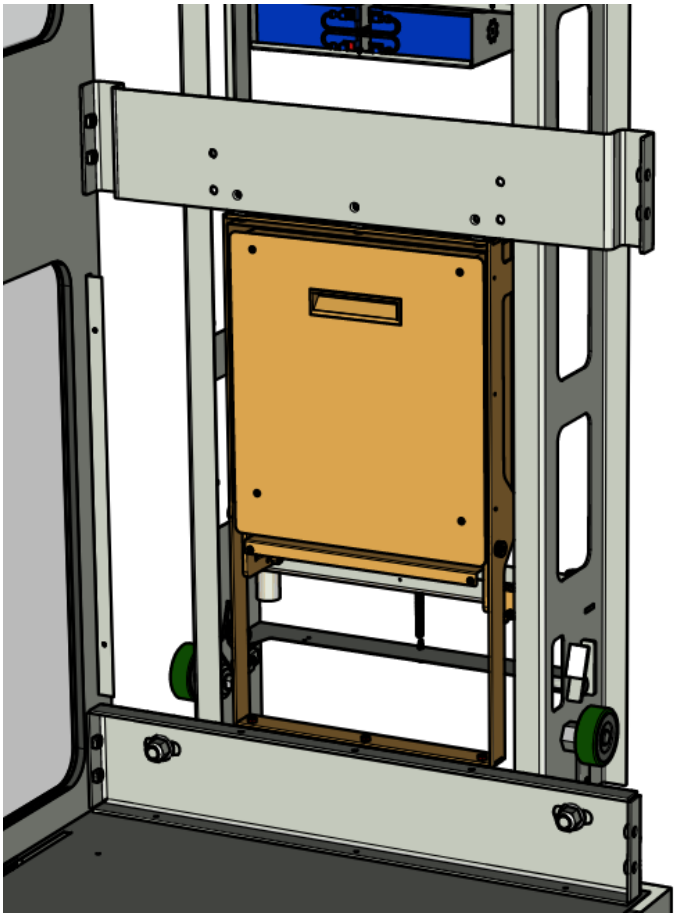


Folding Seat

Attach the folding seat assembly to the car frame, below the control operating panel with (6) hex head screws and lock nuts.

Note: The drive cable tension must be adjusted and cable retaining clips must be installed prior to installation of the folding seat. See *Drive Cable Tension* instructions for details.

Connect the telephone to the phone jack on the end of the travel cable.



Car Back Panels

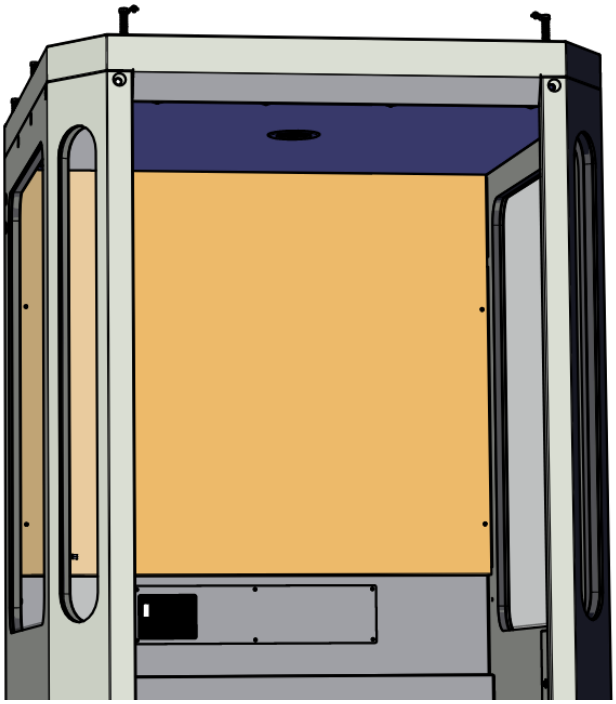
Note: The elevator should be completely tested before installing the back panels.

Attach the Lower Back Panel to the Car Frame with (4) #8 self drilling screws.

Remove the wires from the Circuit Breaker and snap the circuit breaker into the cut-out in the back panel. Reconnect the wires to the circuit breaker.



Attach the Upper Back Panel with (4) #8 self drilling screws.



Completion Checklist

The following features must by verified as operational before the elevator can be released for use:

Warning: To avoid personal injury, never stand directly in path of the car during testing.

- Safety Devices: Verify the following devices prevent the elevator from operating from all control stations:
  - Final Limit Switch
  - Slack Cable Switch
  - In Car Emergency Stop Switch
- Hall Stations: Verify each hall station calls the elevator to the appropriate floor.
- Car Operating Panel (C.O.P.): Verify proper operation.
  - Alarm sounds when the emergency stop button is pressed
  - Floor Buttons send elevator to the correct floor
- Hoistway Door Interlocks: Hold landing door open.
  - Verify the elevator is inoperable from all control stations. Repeat for each landing door.
  - Verify the elevator is inoperable from all control stations when the car door is open.
- Travel Cable:
  - Verify that the travel cable runs clear of all obstructions while car travels to all floor levels.
  - Verify the travel cable is not twisted in any way.
- Telephone: Verify the telephone is operational for both outbound and inbound calls.
- Elevator Stopping Levels: Verify proper car floor level at each floor landing.
- Slack Cable Switch: Verify any slack in either cable will trip the slack cable switch and render control stations inoperable.
- Hardware: Verify all mounting hardware is sufficiently tightened:
  - Track mounting fasteners
  - Limit cam fasteners
  - Car assembly fasteners
- Verify both drive cables have equal tension
- Ensure that no safety devices are bypassed
- Explain Operation of Elevator: Explain complete operation of elevator and manual lowering device to the owner

Owner's Manual: Write your company's name, address, and telephone number in the space provided as well as the serial number (found on front of Controller) and installation date in the Owner's Manual and give it to the customer.

Limited Warranty: Explain "Limited Warranty" provisions to the owner and instruct them to complete and return warranty card.

Warning!

Strict adherence to these installation instructions is required and will promote the safety of those installing this product, as well as those who will ultimately use it for the purpose intended.

Any deviation from these instructions will void the Limited Warranty that accompanies the product. Additionally, any party installing the product who deviates from the installation instructions shall be taken to agree to indemnify, save an hold harmless the manufacturer from any and all loss, liability or damage, including attorneys fees, that might arise out of or in connection with such deviation.

Diagnostic Indicator Codes

The diagnostic indicator is located on the car operating panel.

A solid GREEN LED indicates all systems are normal and ready to run.

When the elevator system is outside the norm, it flashes a series of colors and patterns to indicate the issue:

- 1 YELLOW - Batteries are not being charged
- 2 YELLOW - Car door is open
- 1 YELLOW 1 RED - Top floor hoistway door open
- 3 YELLOW 3 RED - 2nd Floor hoistway door open (3 Stop only)
- 4 YELLOW 4 RED - Bottom floor hoistway door open
- 2 RED - Conflicting switches
- 3 RED - Final limit
- 4 RED - Travel timeout
- 5 RED - Slack cable device

- Solid YELLOW - Overload (auto reset after 30 seconds)
- Solid RED - Key switch turned off while traveling
- LED Off - Key switch turned off or PCB not powered