Elevation Innovation Inc

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Inteli-Lift

GEN II

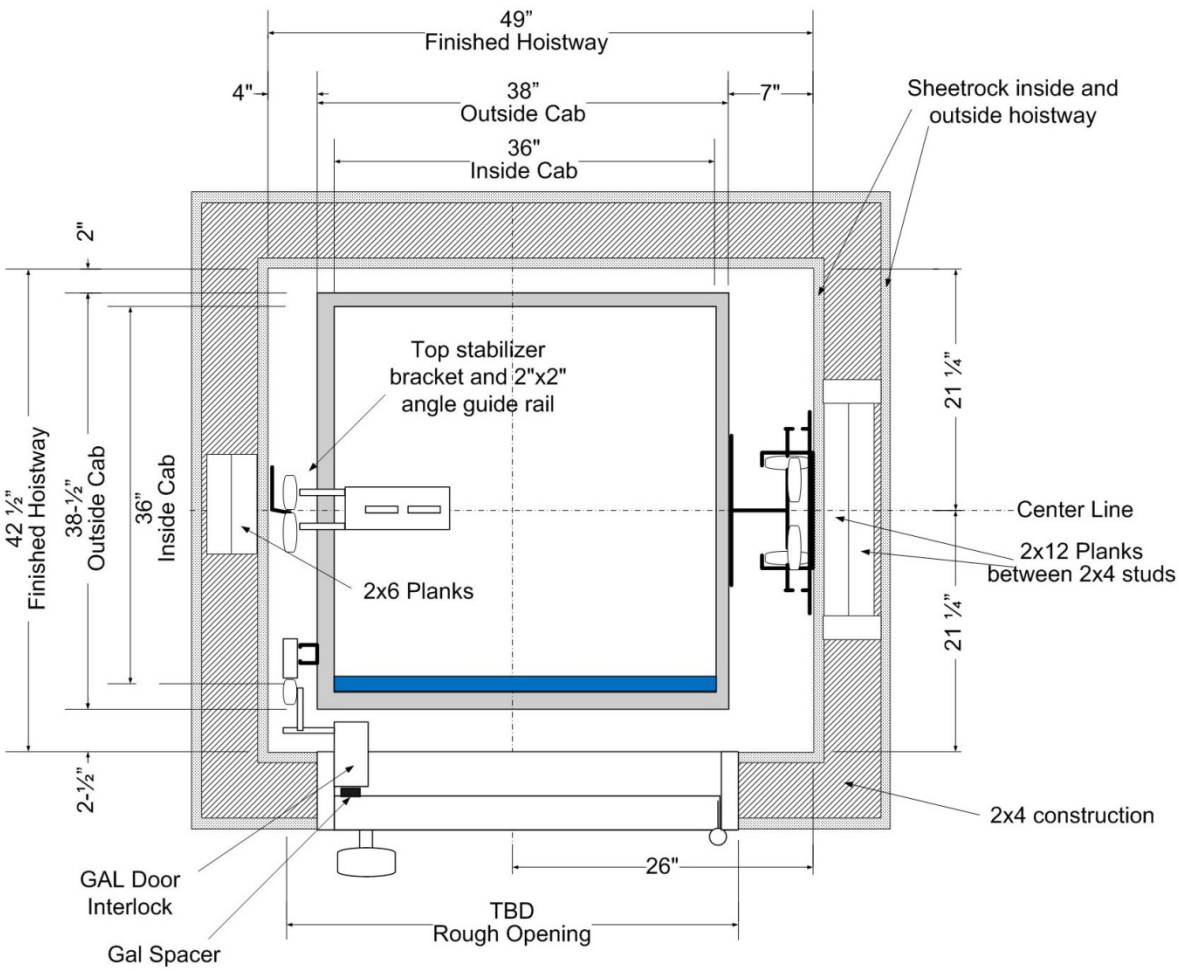
300 / 500 Lb. DUMBWAITER

Installation Manual

Installation Manual

This manual will cover the installation procedure step-by-step. The installation of this dumbwaiter is easiest if the hoistway is properly prepared. Pay close attention to hoistway drawings and the following notes.

1. Build hoistway to exact dimensions as instructed in the provided drawings. The dimensions indicated in drawings are FINISHED DIMENSIONS, after sheetrock has been installed
2. Insure that hoistway walls are built plumb and square.
3. The reinforced rail wall must be built with 2 sets of 2x12 planks as shown in the drawings (the 2x12 joints should be off set and glued or can be a concrete or filled block wall, the rail, cab, and load are all supported by this reinforced wall.
4. The entire inside of the hoistway must have sheetrock installed prior to starting the installation
5. It is recommended to leave sheetrock off the outside of hoistway wall until installation is complete – this makes running of wire harnesses much easier.
6. Installation of the rail, motor and cab assembly is much easier if one wall on bottom level is left unfinished – once the rail and motor assembly and cab are mounted, this wall can be finished.
7. A machine access door should be installed on the proper level for access to the motor assembly. THIS DOOR MUST HAVE A LOCK AND REMAIN LOCKED AT ALL TIMES. This door will be monitored with a safety switch.
8. For safety during installation, the installer should install a temporary floor across the hoistway at each of the upper levels. This will prevent people from falling down the dumbwaiter shaft during installation.



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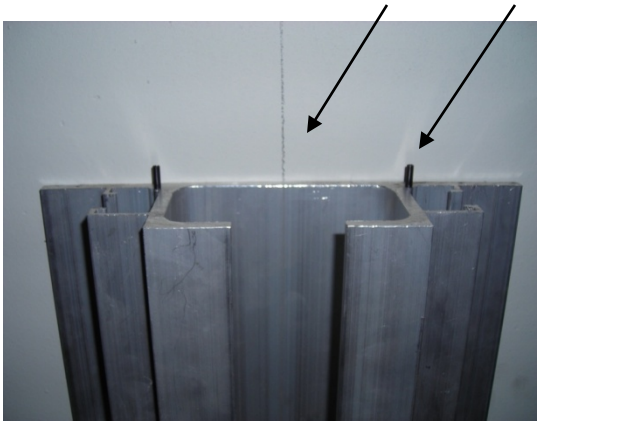
Installing the Guide Rail

FOR YOUR SAFETY: INSTALL A TEMPORARY FLOOR ACROSS THE HOISTWAY AT EACH OF THE UPPER LEVELS. This will make installation of the rail easier, and prevent anyone from falling down the dumbwaiter shaft. Leave 7" of space from the reinforced wall for the rail to slide past the temporary floor.

Mark a center line down the load bearing wall. This is can be done with a chalk line, or a straight edge.

For a car opening at 36" off the floor -
Draw a mark 24" from the floor along the center line – 12" below the landing level. This will designate the bottom edge of the rail.

For floor loading with a 12" pit, start the rail 4" above the pit floor.



Attach the supplied roll pins to join the pieces of rail prior to installing on the wall.

Hold the 1st rail against the wall with the bottom edge at the designated mark. The center line on the wall should be visible down the center line of each piece of rail.

Mark the location of the bottom and top holes in the rail and drill pilot holes using a ¼" drill bit for anchoring to 2x12 wood studs with ½" lag bolts, or 3/8" concrete anchors for a concrete wall.

Insert roll pins in the slots at the top of each rail to be joined together. Leave ¼" of roll pins protruding from the top of the rail to join the next section.

Mount the rail on the wall using lag bolts provided (1/2" x 3 ½") or 3/8" concrete anchors.

CAUTION: Do not tighten the sections of rail until all sections are attached and the sheave assembly is installed at the top of the rail.

Drill pilot holes and install lag bolts in remaining holes in the rail.

Stabilizer rail – install the 2" x 1" x 1/8" aluminum angle opposite the guide rail on the centerline, the entire length of the hoist-way. **(see the hoist-way drawing) This angle is supplied by Elevation Innovation Inc.**

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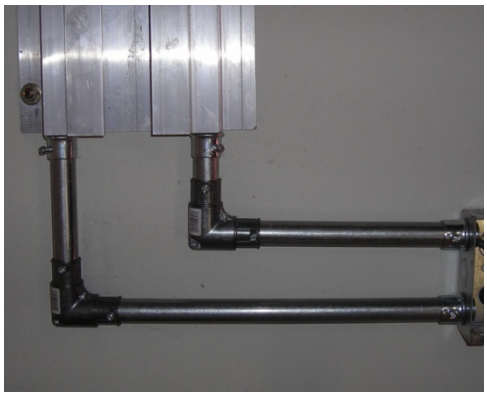
Install the rail sheave assembly at the top of the rail prior to tightening all the rail bolts down. It will drop into the rail and mount with two lag bolts or concrete anchors.

Overhead motors do not require a sheave. Mount the overhead motor on the centerline provided on the motor drum, match with the centerline on the wall and keep the winding drum exactly 6" from the load bearing wall. Use the 3" long x ½" grade 5 nuts bolts and washers supplied (6).

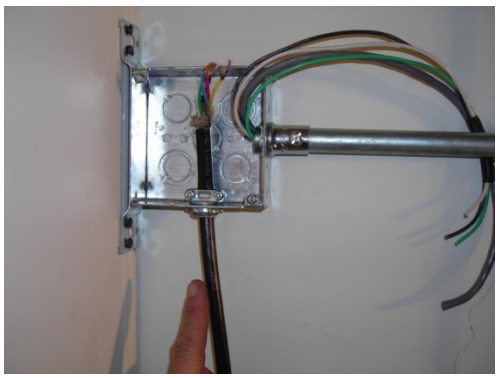
Mounting the motor and buffer pad. The motor frame and buffer pad both have ½" mounting holes for concrete anchors or lag bolts. Keep the drum 3" from the wall. **See page 6 for motor and drum mounting location.**

Mechanical emergency stop, this is a 2"x 2"x1/4" piece of angle iron to be attached to the center of the rail near the top to stop the dumbwaiter before damage could occur to the gate and tower.

Main junction box.
After mounting the motor and buffer it is time to run the conduit to the top or bottom of the rail from the main junction box mounted on the rail wall. This will be the cat 5 / travel cable lead chase way. The motor wires should come out of the bottom of the junction box and routed thru flexible conduit to the motor.



Traveling cable: →
For two stop units the junction box will mount against the wall on the left side of the rail. The travel cable will be strain relieved inside the junction box. *See page 9 for mounting location.*
For 3&4 stop units the travel cable will also come with a cable strain relief system to support the cable.



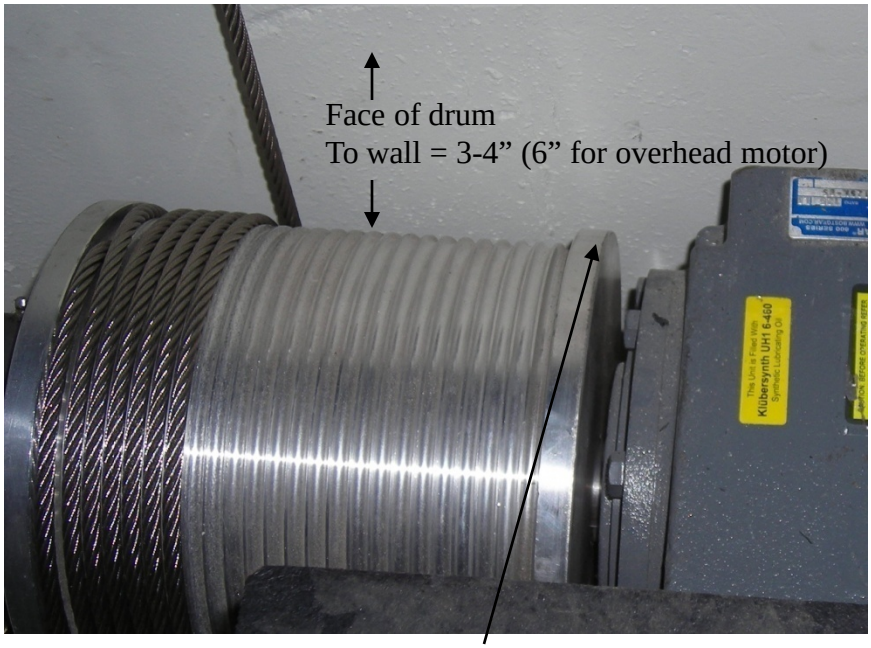
The travel cable will be pre-installed on the top of the cab and pre-wired to the lights, gate switch and slack cable switch.

The traveling cable conduit will come directly out of the side of the guide rail. ½" rigid conduit connectors will screw into the side of the rail and create there own threads.

Mounting the motor:
Minimum of 1.5 wraps of cable on the drum when at the lowest level for motor below and 3 wraps of cable on the drum for motor above.

Motor below: align the right side of the drum with the left side of the guide rail
The drum should be 3-4” from the wall.

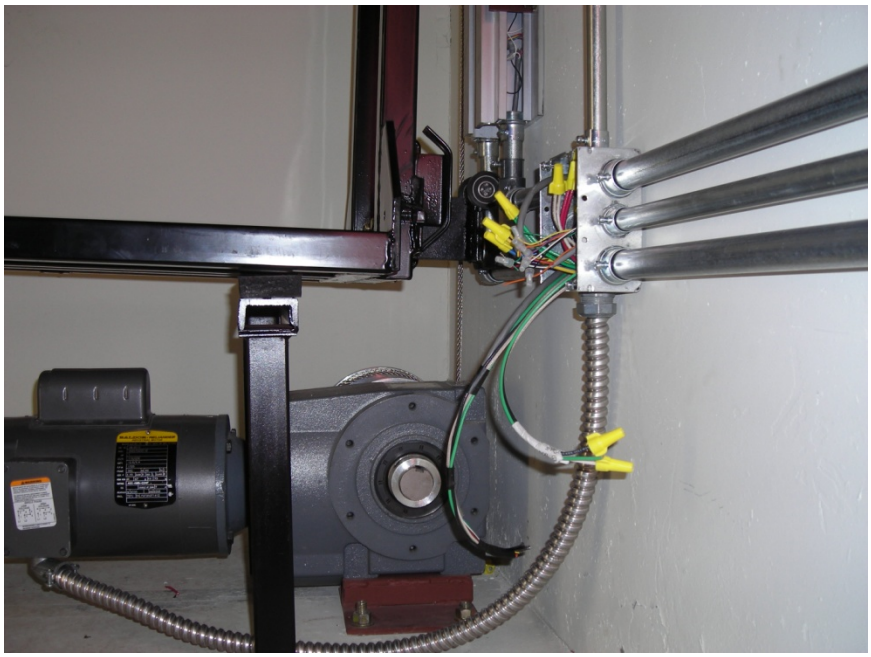
Motor above: Determine your total travel. Each wrap on the drum is 2’. If your travel is 12’, that is 6 wraps on the drum. Including the 3 wraps to get started you have 9 wraps on the drum. THIS IS YOUR CENTER LINE for mounting the motor. When the car is at the top level the cable should be perpendicular to the center line on the guide rail (straight up and down). The face of the drum should be 6” from the rail wall.



Right side of drum aligned
With the left side of the guide rail

Installing the Sling
After the motor and buffer are secured and wired up you can place the sling on the buffer and attach the top wheel set by sliding it up the rail. Then attach the lower wheel set.

Now route the lifting cable over the sheave and back to the cable drum and attach the cable with the allen head set screws on the side of the drum.



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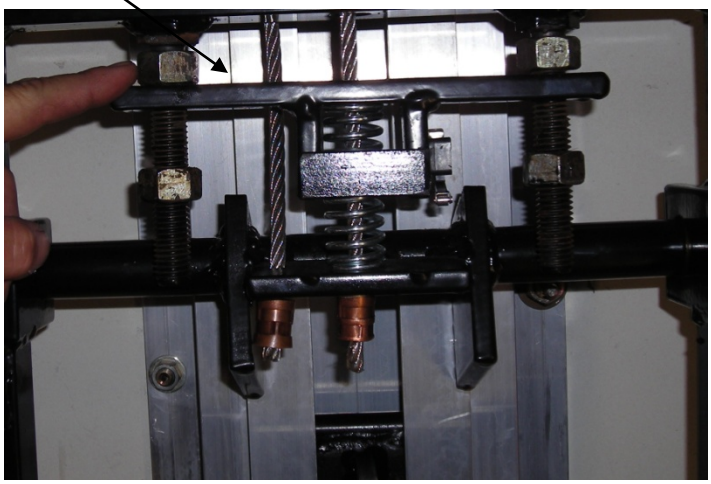
Slide the top wheel set up the rail to attach to the sling.

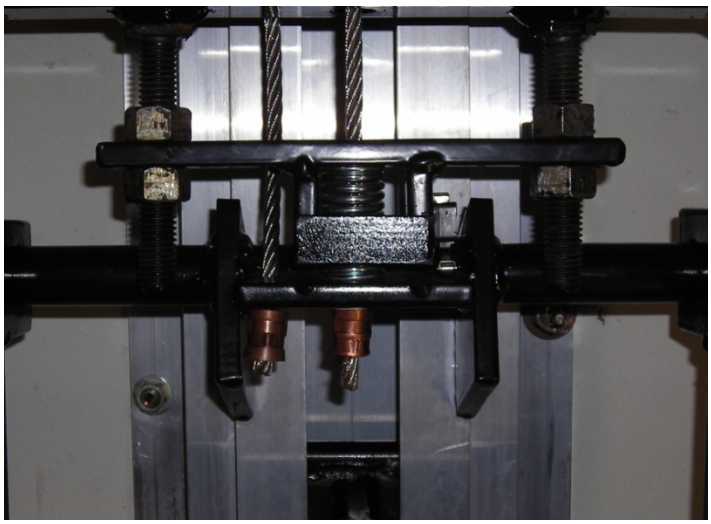
Either release the spring pressure on the brake system by loosening the nuts or use a open end wrench to compress the spring and get the sling into position.

When you tighten the cable make sure the brake system is under a load. When the cable tightens the brakes will release.

The lifting cable should not need to be cut, you should be able to wrap any extra cable onto the drum. 1.5 wraps on the drum minimum for motor below and 3 wraps minimum for motor above. The drum takes up 2' of cable on each rotation. Use a cable cutter should the cable need to be cut.



Brake system unloaded



Brake system under a load.

Sling Leveling
After the sling is installed check it with a level as you may need to use the supplied shim to achieve proper floor leveling at the top or bottom wheel set.

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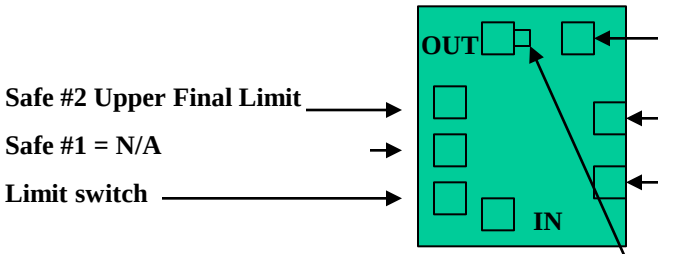
Quick Start Guide – Default Safety Connections 500LB

Mount the station board junction box 6-8” below door sill touching the guide rail (see next page)

Floor loading – mount the bottom station board above the limit switches.

NEW INSTALLATION get a running platform – Power up / press S1,S2,S3,S2,S2,S2 use S3 down and S4 up

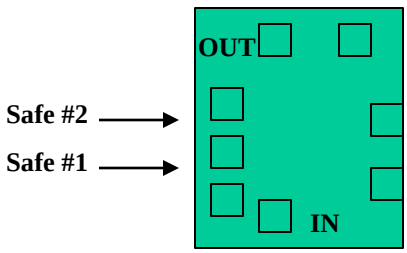


#2 - 6 station Board (Top Floor)

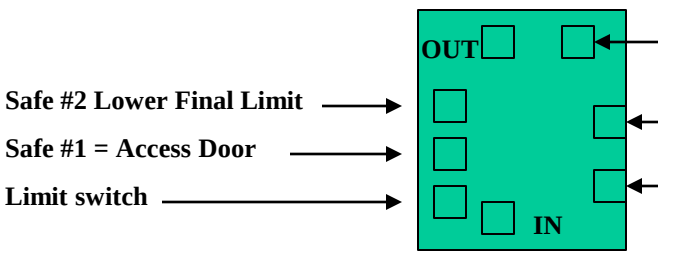
DO NOT CUT CAT 5’s
Power down to connect station boards

The final board away from the controller must have a jumper next to the empty OUT RJ connector (Factory)
Controller Below = Top Board
Controller above = Bottom Board

DO NOT CUT CAT 5’s
Power down to connect station boards



Middle Floors Safe#1 and #2 can be used for alternative safeties but are not programmed or needed

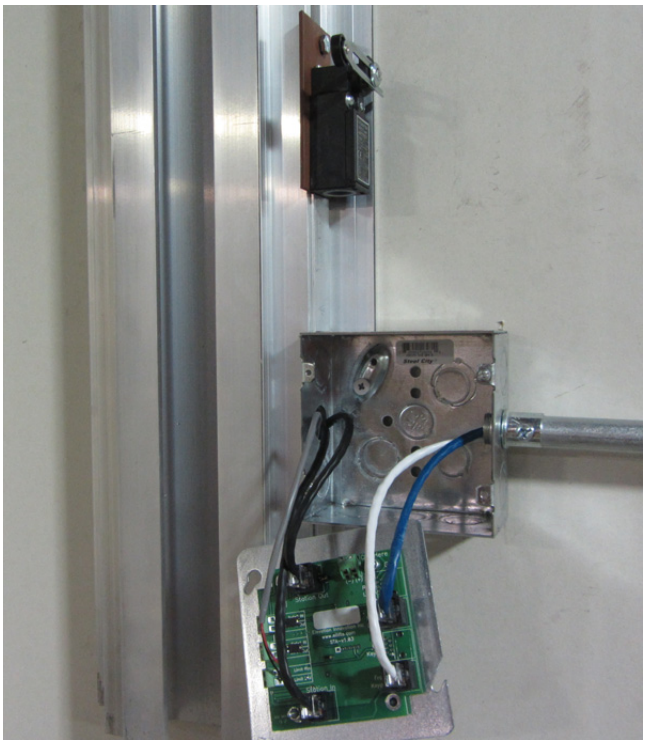


#1 station Board (Bottom Floor)

DO NOT CUT CAT 5’s
Power down to connect station boards

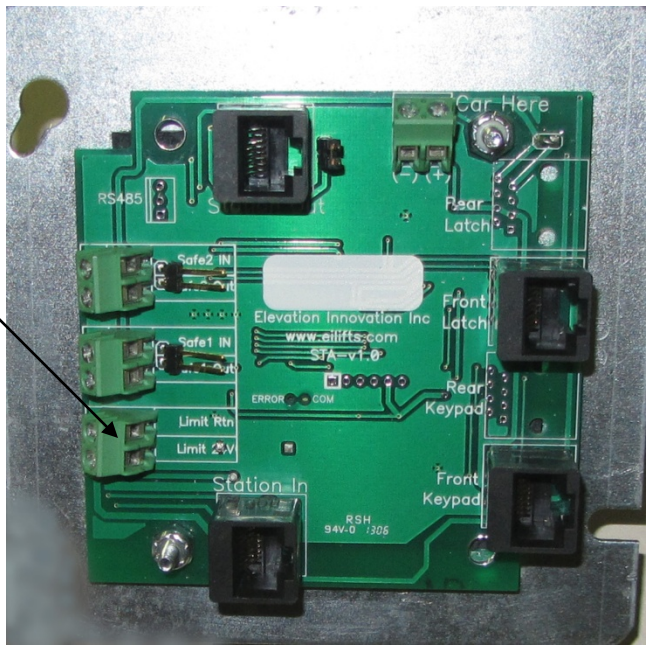
Travel Cable Connects to the MAIN Board inside the controller.
Car Light, Slack Cable and Gate Switch – Wired to main controller under “Traveling” CBLT+, CBLT and “Safety” Slack in/out, gate in/out
Note: 10 wire provided to get to the travel cable junction box.

Mounting the Limit Switches:
Install the limit switches in the approximate finished location. The top final limit the lower final limit and each level limit will be installed on the right side of the rail as seen in the picture and the zone limit switches will be installed on the left side of the rail, roller to be 3-3/4" from the (wall) pre set at the factory.



All limit switches will be attached to a mounting plate from the factory and these will mount to the pre-installed uni-strut nuts supplied with the hardware kit. These nuts are used on all-strut or uni-strut type products and can be found at your local hardware store if needed. We supply extra uni-strut nuts.

Each limit switch comes with 18" of two wire for connection to the station boards. You will pull your cat 5 conductor wire thru the conduit and up the wiring chase ways on the rail system, each limit switch will be connected to the station board.



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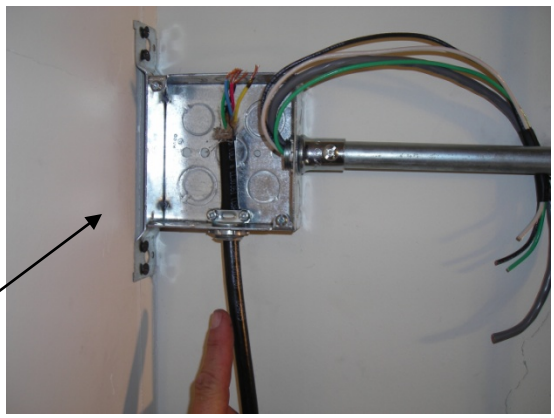
Mount the controller in a code compliant location such that the conduit connections can be attached and routed to the main junction box and from the lockable power disconnect.

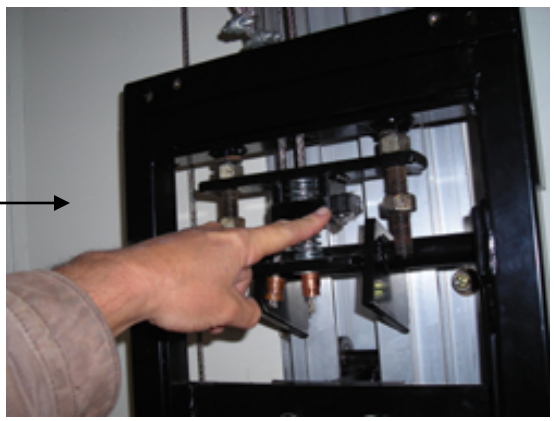
IMPORTANT: MACHINE ACCESS DOOR MUST HAVE A LOCK AND REMAIN LOCKED AT ALL TIMES. MOVING PARTS WITHIN THE MACHINE AREA ARE VERY DANGEROUS TO PEOPLE

Machine Room Door
Commercial jobs require a limit switch to be mounted inside the door opening to detect an open door and stop the unit from operating – see the provided limit switch or pre installed limit switch. This will connect to safe 2 on the bottom station board with motor below.

Route all wiring to the appropriate locations and make the connections. The limit switches and calls will be routed thru the right side of the guide rail and the traveling cable wiring will be on the left side of the rail.



Travel cable gang box should be mounted 1' above the half way travel distance. Example: if travel is 14' the travel cable junction box will be mounted at 8'. Mount the junction box to a stud on the left side of the rail in the corner of the hoist way. A strain relief will be provided. This travel cable wiring is all 24 volt – low voltage. Wiring.



Slack cable switch on the sling. This switch will hook up to a lead labeled "slack cable" coming out of the car top junction box, it will be pre-wired ready to connect. The metal plate that triggers the switch can be adjusted.

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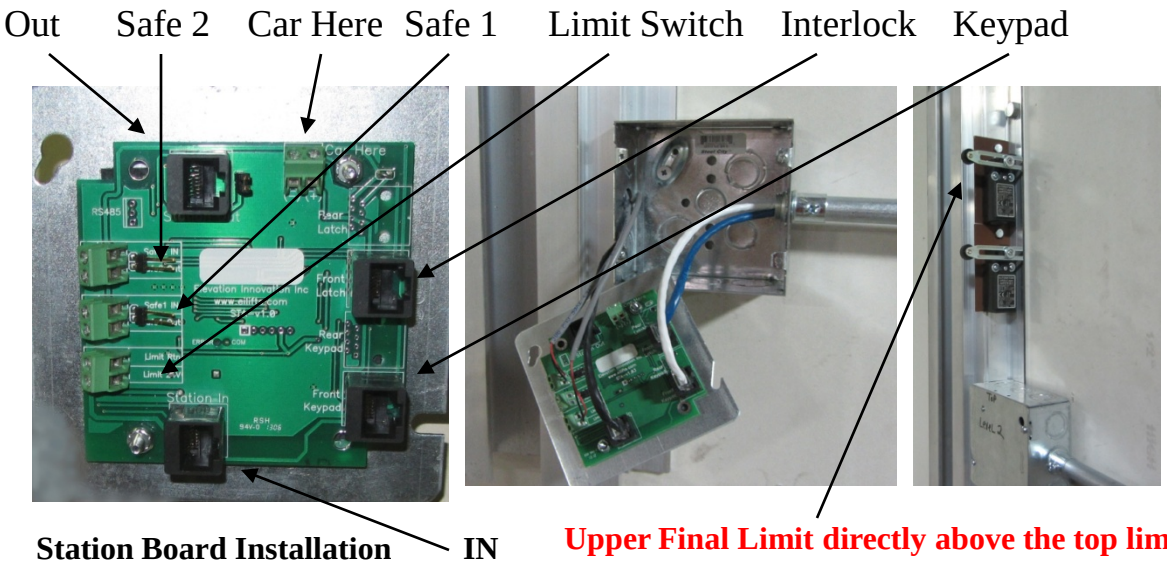

Station Board Installation

Upper Final Limit directly above the top limit switch.

Power down to connect station boards

Install each provided station board gang box aprox. 6-8" below the correct door level against the rail on the right side of the rail (IMPORTANT) They are marked for the correct floor level. Install as shown with the key hole on the cover plate in the upper right position. Secure to the guide rail with provided self tapping screw. Cables come through a knock out in the gang box that is next to the guide rail electrical chase-way.

Pull the first data line (BLACK) from the controller **leaving about 6" of cat 5 cable hanging out. Store the remaining cable in the main controller.** Pull the next data line to level 2. Pull all excess cable up and fold in half at the correct location and store excess cable back down the conduit only leaving about 6" of cat 5 cable hanging out as seen above.

Door lock and keypad cable Leave only about 6" of both cables for connection to the station board. **Store all excess cable in the door wall or door cavity**. Door lock cable – BLUE Keypad cable – WHITE. All cables are wired the same. (interchangeable).

Limit switches are used to sense the location of the dumbwaiter cab and stop it at the appropriate level. They come with 18" of two wire attached for adjustment. Connect the two wire to the terminal strip marked limit on the lower left. (does not matter how the wires are connected it is a simple open or closed circuit). The **ROLLER WHEEL should be 3-3/4"** from the wall to the tip of the wheel.

Level one safeties on the station board. Safe 2 is by default "Lower Final Limit" the switch is pre-wired with 18" of two wire. Safe 1 is by default "Access Door" route two wire to the machine room door access switch and connect. These safeties can be moved to other locations See the "Set up menu" section, but should not be needed.

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Main Controller - Programmable
Mount the controller in a location that will be convenient for viewing the text display and complies with all codes. Usually there is a (not supplied) lockable fused disconnect next to the controller that will supply the power. 230V single phase or 208 three phase controllers available. Must be specified..

The main controller will connect to each station board via a cat 5 cable supplied (Black).

Power In / Out
Connect the incoming power to the fuse kit and grounding lug. Connect the power out to the motor to the color coded and labeled terminal strip.

Programming
The main board has four programming buttons S1, S2, S3 and S4 seen below in the center of the board around the LCD screen. See the next page for the "Set up menus" programming and functionality.

Pre-Programmed
All systems are pre-programmed at the factory for your field conditions. However changes can be made if needed. All safeties not being used will be jumped out at the factory. All safeties to be used will be left open.

USE EXTREME CAUTION
"Safe Override"

Manual Mode Operation - CAUTION
If safeties like slack cable, car gate, access door, or final upper limit are not connected you must use the "Safe Ovrd" button (slide right and LED light flashes) in order to move the drive system up or down See the next page for the "Set up menus" programming and functionality – Menu #1. You can use the S4 button for UP and the S3 button for DOWN. You can also use the up / down buttons on any connected keypad from any floor.

Manual Mode TIME OUT
Once placed into manual mode you can operate in this mode for 10 minutes before the controller will reset back to automatic mode.

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Controller Set up Menus Page 1

Main Controller set up menu: Press S1, then S2 to enter the menu selection. The first screen allows you to reset a "Safe Hold" error (see page 14) or press S3 to scroll through the set up menu's to reach the desired menu.

Safety Error: View the "Safe Hold" error on the screen in the master controller and inspect the dumbwaiter to solve the problem (see the error description page 14). Use "Manual Mode" if the car must be moved to solve the issue.

Safe Hold Error Reset: Once the safety is resolved you should use manual mode to position the car on a limit switch (level 1 is preferred but not needed). Then you must reset the safety. Scroll thru the menu items until "Reset Safety" appears (this is the first screen when entering the set up menus) then use S2, S2 and finally S2 to "Confirm" then S1 to exit set up mode. If your safety issue was resolved the unit will go into "Ready Run – Now at 1". If it was not resolved the screen will still show the "Safe Hold Error".

Menu #1 Manual Mode Operation: Allows you to move the dumbwaiter up and down from the main board S3 DOWN, S4 UP - or from any active keypad "arrow up" / "arrow down". -- USE EXTREME CAUTION IN MANUAL MODE -- ***NEW INSTALLATION – Power up / press S1,S2,S3,S2,S2,S2***

Manual Mode Operation:"SAFETY OVERRIDE": To operate in manual mode with safeties open -- USE EXTREME CAUTION -- slide the "safe ovrd" switch to the right. (Next to the Cat 5 out plug) the light will flash. The controller needs to be put in "Manual Mode" to operate in this mode. Enter the set up mode: Press S1, then S2 then S3 to reach the correct menu screen. The "safe ovrd" switch must be in the left position to operate in automatic mode. No automatic mode with the safe ovrd button on. Manual operation can also run off a call / send board if a station board is plugged in to controller – use as a temporary run button.

Menu #2 Set Address: (Set at the factory) used to set floor levels. To set, press S2 and on each key pad select the proper level (up down arrows) and press the call / send button to set press S2 to save changes then S1 to exit set up mode.

Menu #3 Number of Stops: Factory set. Programmable - Programs master board for correct number of stops

Menu #4 Controller Location: Top Floor or Bottom Floor

Menu #5 Open door Lock: (EMI Interlock only): Press S2 then S3 or S4 to select the door level to open, then S2 to unlock. Door will remain open until this screen is exited then S1 to exit set up mode.. GAL and CJ Anderson locks require emergency release key.

Menu #6 Drive Deceleration Time: Factory set at 0.8 seconds. (Do not adjust)

Controller Set up Menus Page 2

Menu #7 Early Brake Set: Factory set at 300 ms. (Do not adjust) applies to stopping on the middle floors.

Menu #8 Dumbwaiter / Elevator: Factory set to "Dumbwaiter" (Do not adjust) selects between dumbwaiter controls and elevator controls.

Menu #9 Exercise Time: -- USE EXTREME CAUTION -- For automatically running the machine for an endurance test. Factory set to 30= 30 seconds (Adjustable) between trips when used with Menu #8 Exercise Cycles.

Menu #10 Exercise Cycles: -- USE EXTREME CAUTION -- Setting this to any number of trips other than 0 by selecting S2 and changing using S3 or S4 to make changes and saving changes with S2 and **(exiting with S1 will IMMEDIATELY start the machine into exercise mode traveling between level 1 and level 2 with 30 seconds between trips Unless time is changed).** The screen will count down the desired number of runs. -- USE EXTREME CAUTION -- This is good for fully loaded endurance test. Or just call / send the unit with the key pad manually. Use any controller button to stop the unit S1,S2,S3,S4

Menu #11 Maintenance Days: Set the number of days for service. Press S4 to view days remaining**.**

Menu #12 Shut Down Count: Count is in days if set the machine will shut down and require a password to be reset. May help collect final payment from your customer. "Call for password".

Menu #13 Access Location: Access door switch (Default Bottom station board "Safe #2") Programmable to bottom station board safe #1 or safe #2, (OVERHEAD MOTOR) top station board #1 or master board then S1 to exit set up mode.

Menu #14 Gate Location: Car gate switch (Default 250 lb, 125 lb units - bottom station board #1) 500 lb default location - master board, along with slack cable and car light also on master. (For the traveling cable).

Menu #15 Lower Final Limit Switch: (Default master) only used on 500 lb units. This is programmable to Bottom safe #1 or safe #2.

Menu #16 Upper final limit switch: (Default top station board #2) Programmable to top station board safe #1 or safe #2 or master, (shown as safe #1 on the "traveling" section on the master board).

Menu #17 Slack Cable: Slack cable switch (Manually Reset) (Default 250 lb, 125 lb units - top station board #1) 500 lb default location - master board as the slack cable is on the travel cable. Programmable to top station board safe #1 or safe #2, bottom station board safe #1 or safe #2 or master board.

Controller Set up Menus Page 3

Menu #18 Switch Selection: (Default “LIMIT”) Programmable for Limit switch, tape reader or encoder.

Menu #19 Homing Floor: Programmable - 1-6. (Default is “Disabled”) S2 change, S3 or S4 make change, S2 save S1 exit and initiate -- USE EXTREME CAUTION -- when exiting the set up menu the machine will automatically go into “Homing” and automatically proceed to the desired floor, in the desired time after all safeties are met like closing hoist-way door.

Menu #20 Automatic Cancel Timer: (Default 15 seconds) If a floor was selected and the call/send was not depressed it is cancelled in desired time. (Not recommended to change).

Menu #21 Non Interrupt Timer: (Default 10 seconds) When the car arrives at a floor it will remain there un-interrupted for the desired time, 10 - 30 seconds before acting on another call.

Menu #22 Key Light Timer: (Default “Always On”) Keypad LED light shut off timer. This is programmable from 0-120 seconds. S2 change, S3 or S4 make change, S2 save S1 exit and initiate

Menu #23 Solenoid Timer: Factory set and recommended to use default setting (Default is 10 seconds) EMI Interlock only! Solenoid remains energized for opening door when it arrives. This is programmable from 1- 360 seconds. (Not recommended to change) Machine will not act on another call until time is up. Push call / send button to open door.

Menu #24 Car Here Timer: – Time the keypad flashes.

Menu #25 Chime Timer: Default .5 seconds. If set to 0 there will be no chime on arrival.

Menu #26 Back Light Timer: LCD Screen back light.

125 lb and 250 lb units default safety connection locations:

“Bottom Station Board” safe #1= Car gate switch (travel cable) safe #2 Access door (machine room door)

“Top Station Board” safe #1= Slack cable switch - safe #2 Upper final limit switch

Access door, car gate, slack cable and final limits are programmable to top station board safe #1 or safe #2, bottom station board safe #1 or safe #2 or master board.

Safety Error Description

Ready Run – Unit is automatic mode and all safeties are met. (Run Counter is at the right – “63”)

Ready Run – Now at 0 (this is the first screen you will see) Means the unit is not on a switch - use manual mode to position the car on limit switch 1 and return to automatic mode.

Hoist-way door, Access Door and Car Gate Errors are reset when the open door or car gate is closed.

Safe Hold Errors: Upper and lower final limit, slack cable, VFD drive and missed limit switch errors must be reset manually by a technician. First you must locate and solve the error (Safe Override switch will need to be used if manual mode is required to move the car to resolve the safety).

Safe Hold Error Reset: Once the safety is resolved you should use manual mode to position the car on a limit switch (level 1 is preferred but not needed). Then you must reset the safety. Scroll thru the menu items until “Reset Safety” appears (this is the first screen when entering the set up menus) then use S2, S2 and finally S2 to “Confirm”. If your safety issue was resolved the unit will go into “Ready Run – Now at 1”. If it was not resolved the screen will still show the “Safe hole Error”.

TECH SUPPORT – USA – 877-345-4387 Direct world wide – 530-295-4900

ALL SAFETY SWITCHES – Slack cable, final upper and machine room door are N/C normally closed.

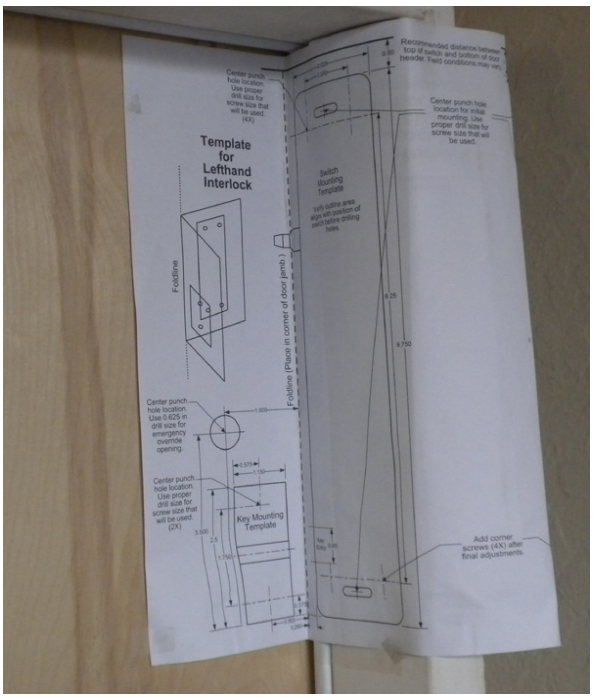
LIMIT SWITCHES FOR LANDINGS ARE – N/O Normally open

Installation Manual

Residential or Commercial EMI Interlocks

Install the doors at each level. DOORS MUST HAVE A LATCH TO KEEP THEM SHUT – INTERLOCKS ARE NOT A LATCH.

The interlocks are mounted in the upper corner of the door jam, on the side opposite the hinges. The interlock 'keeper' is mounted on the inside of the door such that it latches with the interlock when the door is closed.



To mount the interlocks, use the paper template provided to mark mounting holes. Fold the template along the dotted line. Position the template in the upper corner of the door, opposite the hinges and use a center punch to push through the paper, marking the hole positions.

Keeper →

Drill pilot holes for each of the mounting points. Use caution when drilling pilot holes for the keeper as you do not want to drill completely through the door. Fasten mounting screws hand tight using a screwdriver. Do not use a drill to fasten these screws as you will risk over tightening.

Mount the interlock such that the keeper locks in place when the door is shut.

Connecting the door interlocks

Use the supplied Cat 5 cable (blue) connect to the station board.

Call / Send Stations

Commercial
Most Commercial doors have pre-installed call / send stations.

Residential & Commercial floor loading 36” x 48” swing doors.
Plastic remodel gang box’s are supplied. (If changed you must use plastic gang box’s)

Customer needs to supply the standard cover plate as shown to match home décor. The keypad board is attached to the gang box and the cover plate is attached to the keypad board.

Keypad Connection
Use the supplied Cat 5 cable (white) to connect the keypad to the station board.

Ready for Automatic Operation

The dumbwaiter is now ready for Automatic Operation. Close the doors at every level.
View the controller display to determine if all safeties are in place. If the display shows “Ready Run Now at 1” then the safeties are set and you can start operating the dumbwaiter.
If there are any errors, then you must troubleshoot and resolve any open safety errors.

Normal Operation

- All keypads showing current location
- Controller display reads “Ready Run”
- Press the call button or up down arrows to select a floor then the call / send button to initiate
- Dumbwaiter cab moves to level ‘x’ and stops
- Keypad alternates between direction of travel and the last floor it has passed
- Keypad light for level ‘x’ blinks while interlock is unlocked
- Door interlock stayed unlocked for 10 seconds
- Once door is closed again, the cab can be called to another level
- If cab is already at level ‘x’, pressing the level ‘x’ call / send button unlocks the interlock (EMI only)
- Calls to other floors are recognized when dumbwaiter is moving and will travel to that floor after the door is locked. Calls to other floors are recognized when door is unlocked and will travel to that floor after door is locked

Troubleshooting Notes

The display on controller is blank…

- Check power source to controller.
- Check fuses inside controller (if one of the 110V fuse holders are lit, then replace fuse, 2 Amp)

Need to enter Manual Mode for troubleshooting or repair…

- **Menu #1 Manual Mode Operation:** Allows you to move the dumbwaiter up and down from the main board S3 DOWN, S4 UP - or from any active keypad "arrow up" / "arrow down". -- USE EXTREME CAUTION IN MANUAL MODE --

Manual Mode Operation "SAFETY OVERRIDE": To operate in manual mode with safeties open -- USE EXTREME CAUTION -- slide the "safe ovrd" switch to the right. (Next to the Cat 5 out plug) the light will flash. The controller needs to be put in "Manual Mode" to operate in this mode. Enter the set up mode: Press S1, then S2 then S3 to reach the correct menu screen. The "safe ovrd" switch must be in the left position to operate in automatic mode. No automatic mode with the safe ovrd button on.

Need to unlock a door for troubleshooting…

- **Menu #3 Open door Lock:** (EMI Interlock only): Press S2 then S3 or S4 to select the door level to open, then S2 to unlock. Door will remain open until this screen is exited then S1 to exit set up mode.. GAL and CJ Anderson locks require emergency release key.

Door Open indication…

- Controller text display will indicate the level that has the error
- Verify the cat 5 plug is plugged in to the station board and back of the keypad
- Verify that the keeper on the door is sliding into the interlock
- Verify door has a positive door latch (the interlock is not a door latch)
- Access Door Error – verify the door switch is functioning properly and wires are connected, if the access door safety is not used then it must be jumped out on the station and main board with a jumper.

Slack Cable indication…SLACK CABLE DEVICE IS MANUALLY RESET – TOP OF SLING

- Place the controller in **Menu #3 Open Door Lock:** and unlock the doors to allow hoist-way access
- Inspect the cab and cable to determine if the cab is stuck on an obstacle
- Remove any obstacles and insure cable is tight (use manual mode to release the trolley brake)
- **Use Menu #1 Manual Mode Operation**– To move after inspection
- Inspect Slack Cable limit Switch to confirm it is not triggered, adjust as needed (On the Sling)

Upper Limit indication…

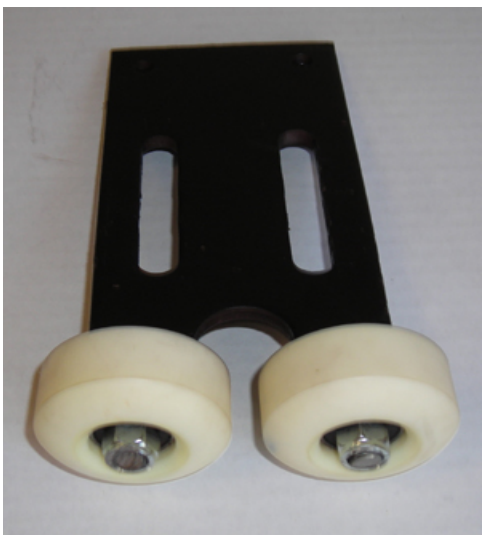
- To lower the cab off the upper final limit switch **Use Menu #1 Manual Mode Operation**
- Inspect the limit switches mounted on rail to determine how cab could have hit Upper Limit
  DO NOT MOVE DUMBWAITER WHEN INSPECTING THE INSIDE OF HOISTWAY
- Make adjustments to insure all limit switches will be triggered appropriately –
  wall to tip of roller = 3-3/4"

Installation Manual

Door lock zone switches (Rarely Used)
Door lock zone switches will mount on the left side of the rail and will need to have the wire run out of the side of the rail with a ½" rigid conduit connector, thru conduit around the hoist way to the door lock to attach to the door lock circuit (see the schematic) as the door close circuit will be wired in series to this door lock circuit so the unit can travel past a middle floor uninterrupted.

Installing the cab
The one piece cab is very simple to install, simply place the cab on the sling and attach the two 3/8" bolts on the top of the cab to the sling. Then you can use manual mode to raise the cab to attach the two 3/8" bolts in the bottom of the cab to the sling. If needed use a clamp to pull the cab into the sling for proper alignment.

Opposite guide Rail Stabilizer Roller Install the stabilizer roller on the bottom of the cab and adjust it to the proper location in the 2 x 1 x 1/8" angle (Aluminum supplied) installed opposite of the guide rail. (see the hoist-way drawing.) The cab should hang naturally so all wheels in the guide rail are making contact. Do not pull the cab left or right to adjust clearance, the guide rail must be plumb and square to the hoist way. The stabilizer roller should remain 1"+ away from the wall, so run the lift in manual mode to confirm clearance.



Rail on the Left 3 stops or more: requires that the cat 5's for door lock and keypad are run through conduit around the hoist-way and right through the opposite guide rail angle. Drill a ¾" hole for the ½" conduit (a step drill bit may be the best option) as close to wall as possible.

Bi –Parting or Slide Up

4- bolts, 2 at the top and 2 at the bottom of the cab.

Manual mode clearance check

Now put the controller into manual mode and get ready to run the cab up and down the shaft

CAUTION: YOU ARE NOW IN MANUAL MODE. DUMBWAITER WILL MOVE WHEN DOORS ARE OPEN. CHILDREN MUST NOT BE PRESENT WHEN RUNNING IN MANUAL MODE. CONFIRM PEOPLE AND OBJECTS ARE FREE FROM DUMBWAITER PATH.

IMPORTANT STEP: Use the up and down arrows on the controller or **ANY KEY PAD** to slowly move the dumbwaiter cab through the hoistway. MOVE THE CAB IN SMALL INCREMENTS, insuring with each increment that there are no clearance issues with hoistway walls, wire harnesses, or other obstructions. USE CAUTION as an obstruction in the up and down direction can cause damage and injury. Note: If the cab isn't square with the hoistway along the width of the hoistway, (provided) shims may be needed between the sling and wheel modules. If the cab moves out of square in different regions of the hoistway, then shims may be needed between the rail and the wall at the locations where the cab is not square.

If cab hits an obstruction in the down direction, and cable will have slack and the sling brake will be engaged. To disengage the brake on the sling, raise the cab upward in manual mode. Verify the cable is in the proper position on the winding drum and not overlapping itself.

When finished bring the cab to level one limit switch and put the controller into automatic mode.

Installation Manual

The dumbwaiter is now ready for Automatic Operation. Close the doors at every level.

View the controller display to determine if all safeties are in place. If the display shows “Ready Run” then the safeties are set and you can start operating the dumbwaiter.

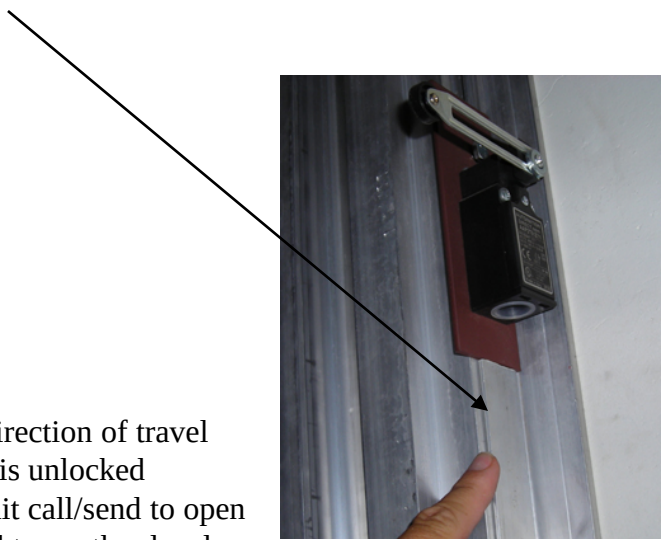
If there are any errors, then you must troubleshoot. Use the troubleshooting notes and the display matrix provided in the earlier section of this manual.

Level Adjustments

When running in automatic mode with the cab completely assembled, you may find the need to adjust the limit switch levels. Test the leveling of the cab at each level, calling from up direction and down direction. Do this several times to determine if a limit switch is too high or low. If the level must be adjusted, take a measurement to determine the distance that the limit switch must be moved.
Set the controller in Manual Mode and use the up down arrow keys to move the cab out of the doorway, leaving access to the limit switch to be moved. Draw a line under and over the limit switch to designate the original location. Loosen the limit switch and re-attach at the measured offset.

When the new location is confirmed, the limit switch must be permanently mounted by tightening the ¼” spring nut, make sure the limit mounting plate is square with the rail. When all limits are at the correct location and the unit is functioning properly it is time to cut and install the supplied snap in cap to create the conduit chase-way.
The limit switches are adjustable and will take some fine tuning for 3 and 4 stop units. The unit will stop within ¼” in the up and down direction on the middle floors. Middle floor limits should be 3-3/4” from the wall to the end of the roller on the limit switch.

Snap in Cap



Normal Operation

- All button lights indicate current floor
- Controller display reads “Ready Run”
- Press the call button for level ‘x’
- Dumbwaiter cab moves to level ‘x’ and stops
- Button lights scroll up or down depending on direction of travel
- Button light for level ‘x’ blinks while interlock is unlocked
- Door interlock stays unlocked for 10 seconds, hit call/send to open
- Once door is closed again, the cab can be called to another level
- Calls to other floors are recognized when dumbwaiter is moving and will travel to that floor after the door is locked. Calls to other floors are recognized when door is unlocked and will travel to that floor after door is locked