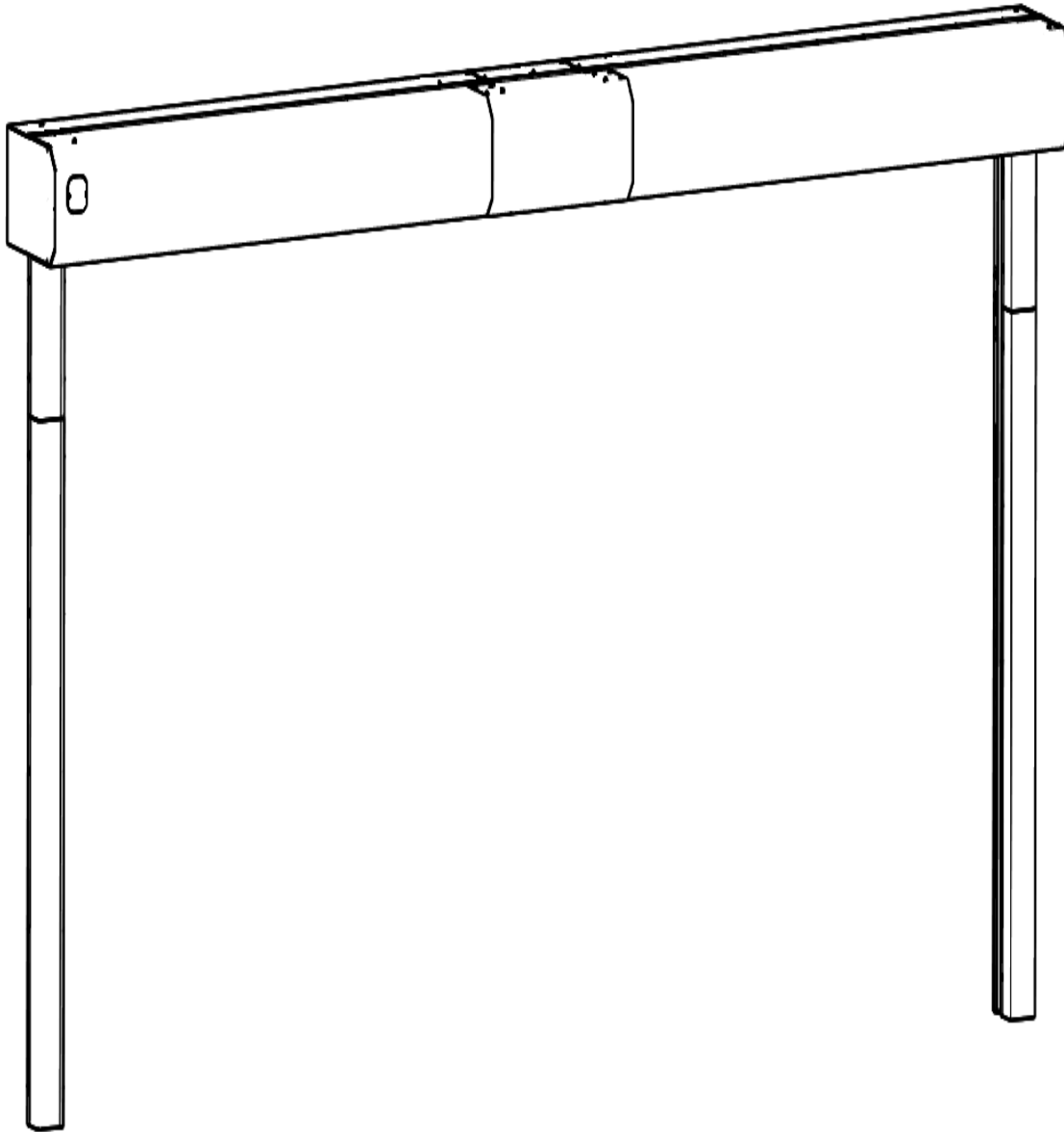




## DynamicRoll® B-Drive XL

(Counterweight Balancing System)

### Installation



#### JAMISON DOOR COMPANY

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# 1. INSTALLATION OVERVIEW

- **NOTES:**
  - Please use this booklet as a step-by-step installation guide.
  - This book contains instructions for many different door configurations. Some sections may not be needed.
- **CONTENTS OF CRATES AND CARTONS**
  - Unit is shipped in one crate
  - Control panel key and attaching hardware are in the control panel
  - There is one box of miscellaneous hardware which will include hardware and electrical options
- **INSPECT FOR DAMAGES AND/OR SHORTAGES IMMEDIATELY**
  - Open all shipping containers and inspect for concealed damage and/or shortages. Carefully repack to prevent further damage or pilferage.
  - Note on all copies of the delivery receipt any damages and/or shortages.
  - If shipping damage occurred, report it in writing to the transportation company. Refer to Jamison's Terms & Conditions Form 166.
- **HANDLE ALL PARTS CAREFULLY**
  - Certain parts such as gaskets, wiring, etc. are vulnerable to damage.
- **READ ALL INSTRUCTIONS BEFORE PROCEEDING WITH THE INSTALLATION**
  - Instructions include basic drawings and schematics. These instructions and any other documents are included with this shipment.
  - Refer to job drawings for special features.
- **PLAN AHEAD**
  - Choose installers who are Millwrights or have equal qualifications.
  - Have all tools and materials necessary for installation readily available.



- **Before any service, personnel must be professionally trained and be qualified to work on the equipment.**
- **Working on the electrical equipment requires special training and no one should work on the electrical equipment without proper certification.**
- **Before doing any electrical work be sure the power to the door is turned off, locked, and tagged out.**
- **Be sure installing personnel fully read and understand the manual prior to installation.**
- **Block off the area from traffic and place signs indicating the door is out of operation and personnel are in the area working**
- **Unauthorized people must not repair or maintain the door and should not be in the area during maintenance.**
- **Do not use any heat sources that could start fires near the door and do not solder during maintenance.**
- **Do not use compressed air or any solvents on the door.**

## 2. EQUIPMENT NEEDED

1	Tape Measure	10	Level
2	Suitable equipment to lift and access the parts of the door (ladder, forklift, man lift, etc.)	11	(SAE and metric) Wrenches, Sockets, ratchets, and extensions
3	Screwdrivers – small precision screwdrivers and Phillips #2	12	Voltmeter
4	Cordless Drill	13	Hammer
5	Tools to install the wall fasteners. Each install is unique so be sure you have what you need for your wall.	14	Grinder
6	Drill bits	15	Caulk Gun
7	Scissors	16	Pliers
8	Wire Stripper	17	Allen Keys & Hex Key Sockets (3mm, 5mm, 8mm)
9	Clamps	18	3/8 Concrete Drill Bit + Hammer Drill



Man Lift



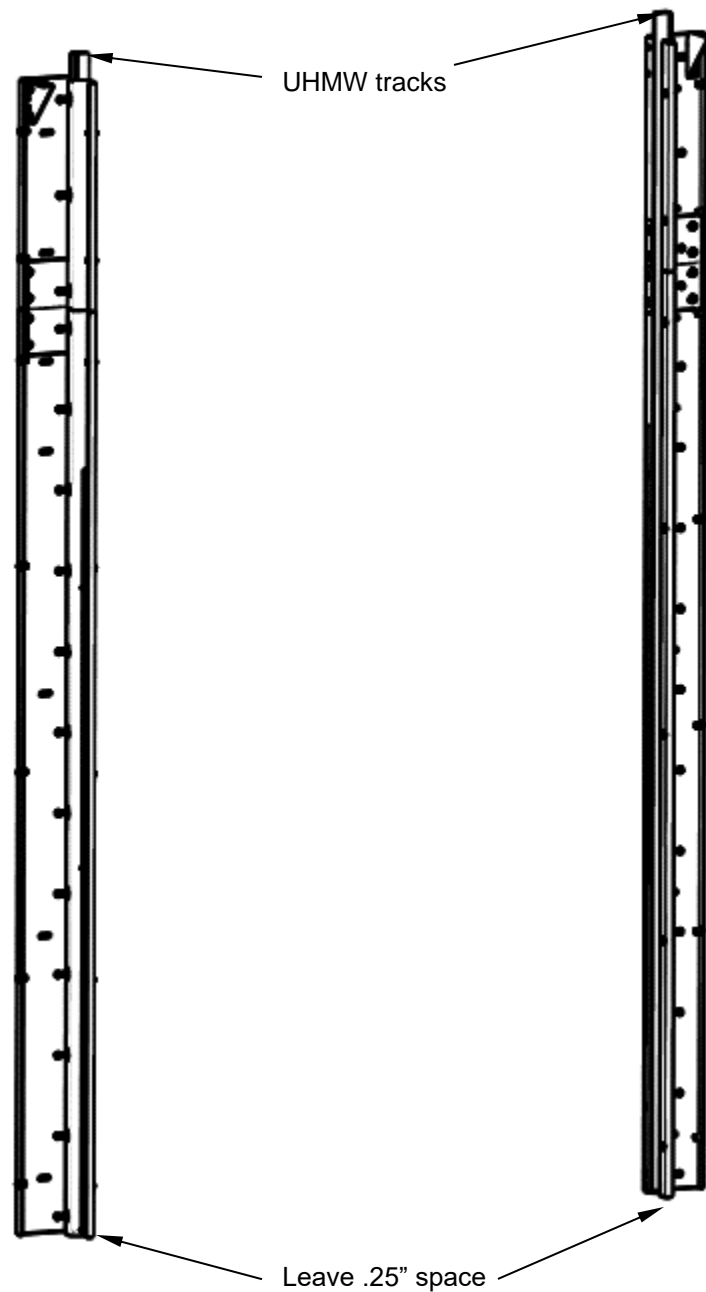
Fork Lift(s)



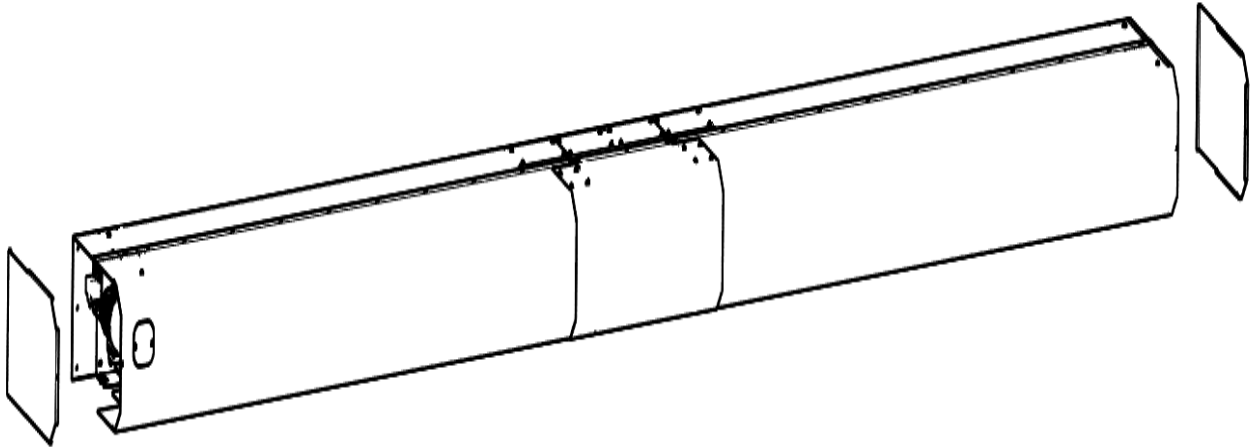
**The manufacturer may change this manual at any time without notice. The pictures in this manual may not fully represent the actual product and are meant for illustrative purposes to assist installation.**

### 3. MECHANICAL ASSEMBLY

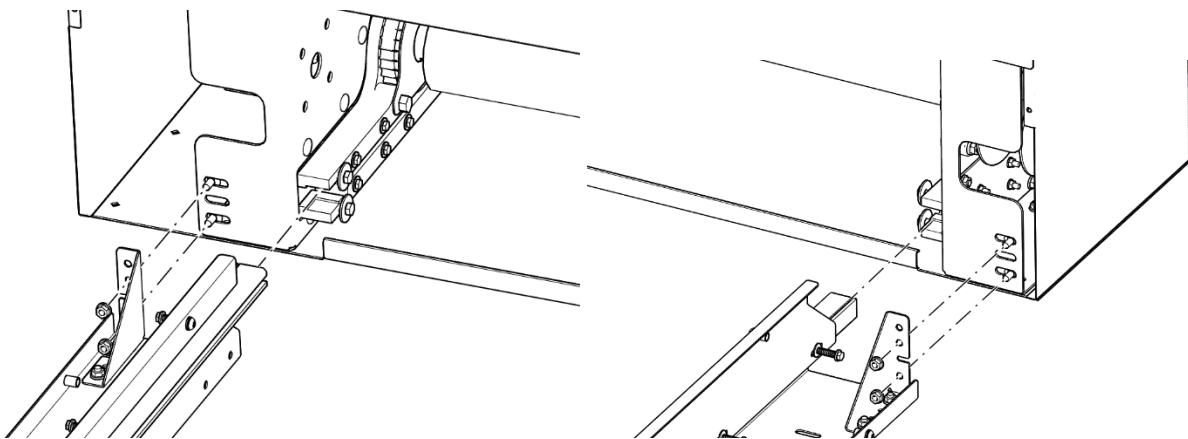
- Remove the head and side frames from the crate. Remove the cover from the side frames by removing the round head bolts (hex key 3mm) from the inboard and outboard sides of the side frame.
- Clamp (do not drill or permanently position) the side frames (at this time) to the wall so they are generally lined up with the edge of the opening with the UHMW track (with the protruding UHMW track at the top). The black UHMW tracks must be facing toward the opening. Final positioning of the side frames will be done later.
- Leave a space of about .250" under the side frames, shims can be used to hold this spacing.



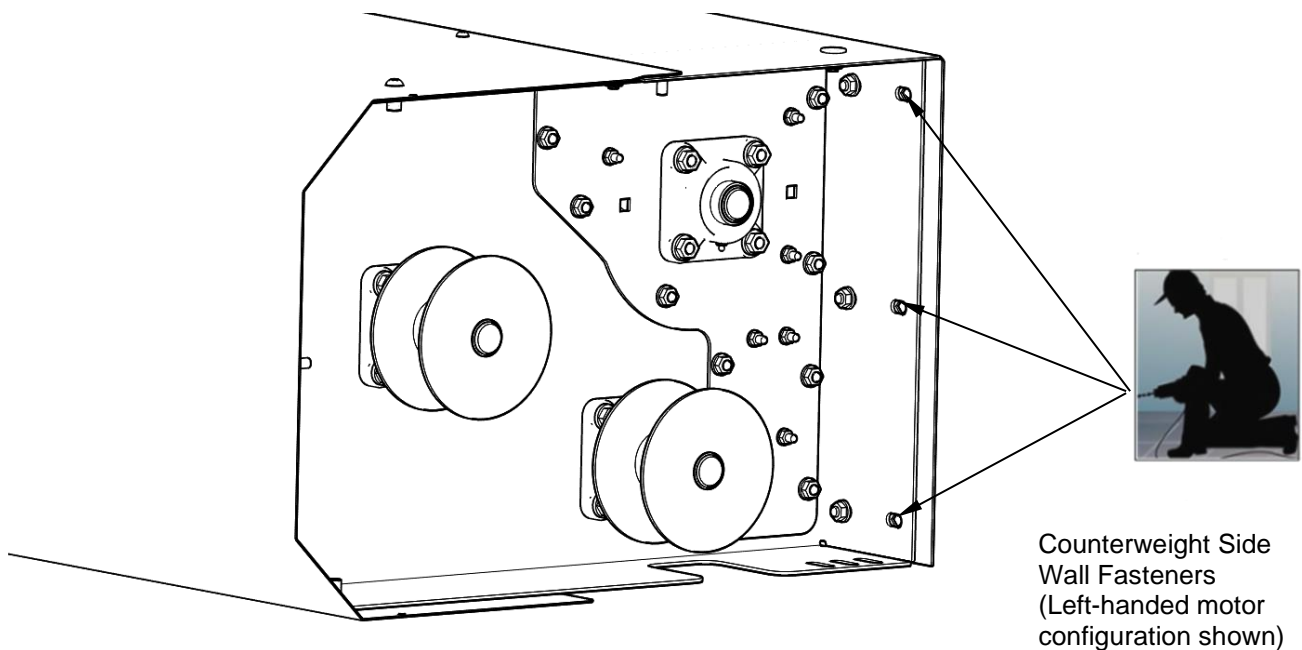
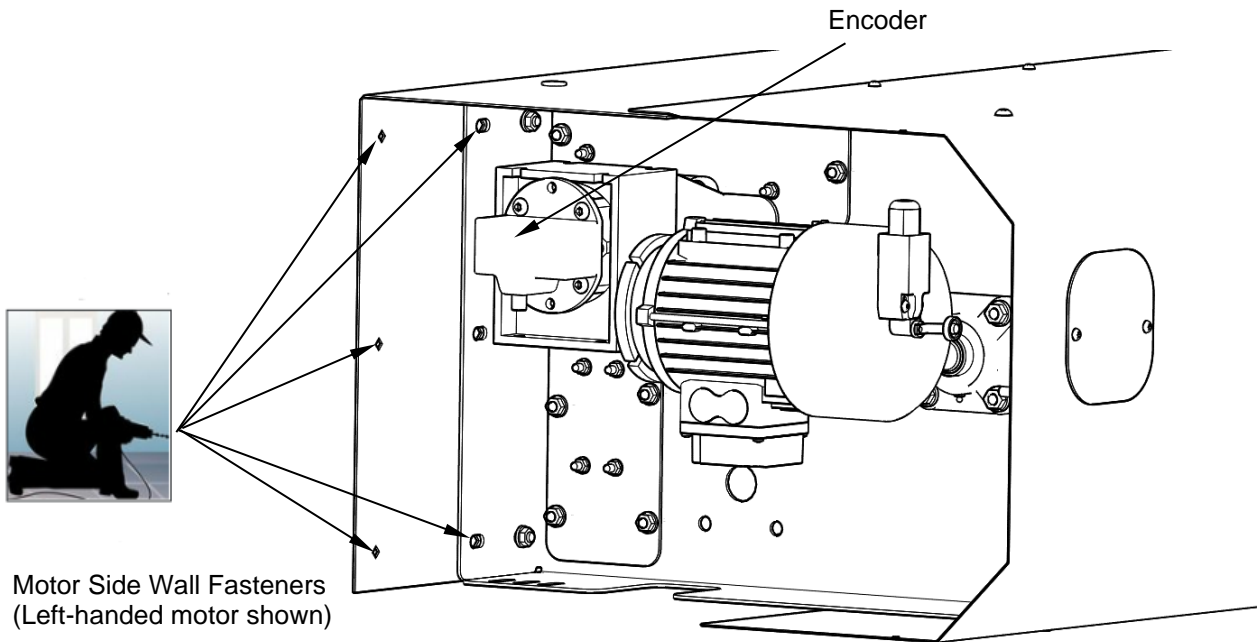
- Remove the side covers from both sides of the head/hood assembly and put it in a safe location to prevent damage, it will be reinstalled later.
- Place a long pallet (or a lifting support) under the hood to protect it (without blocking the track guides and the side frame mounting areas) and lift the head assembly into position on top of the side frames with the fork truck(s).
- **Note:** The control panel is attached to the head assembly via the motor wires. Be careful of the control panel when moving the head assembly.



- Insert the protruding UHMW tracks from the side frames into the track guide at each end of the head assembly. The UHMW tracks must be retained between the bearing plate, and the large washers on the open end of the track guides.
- Attach the side frames (brackets) to the head assembly using the bolts and nuts provided but only hand tighten.

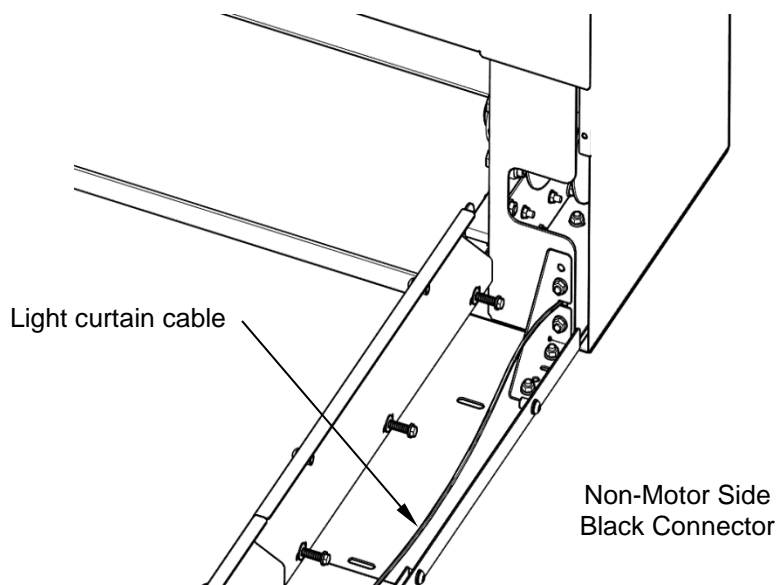
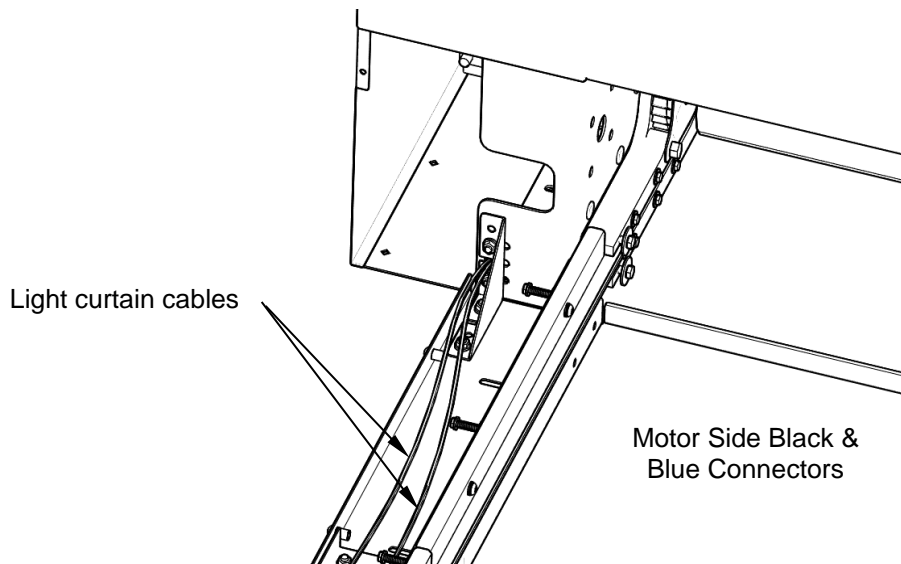


- Be sure the head is sitting flat on the side frames and is against the wall.
- Level the head using an accurate level by adjusting the shims under the side frames.
- Drill through the wall (.375 dia) using the holes in the brackets of the bearing plates as reference.
- The hole behind the reducer may not be accessible for drilling.
- Recheck that the head is level and tighten the head attachment bolts.
- Drill and fasten mounting hardware for the bracket(s) above the head assembly.



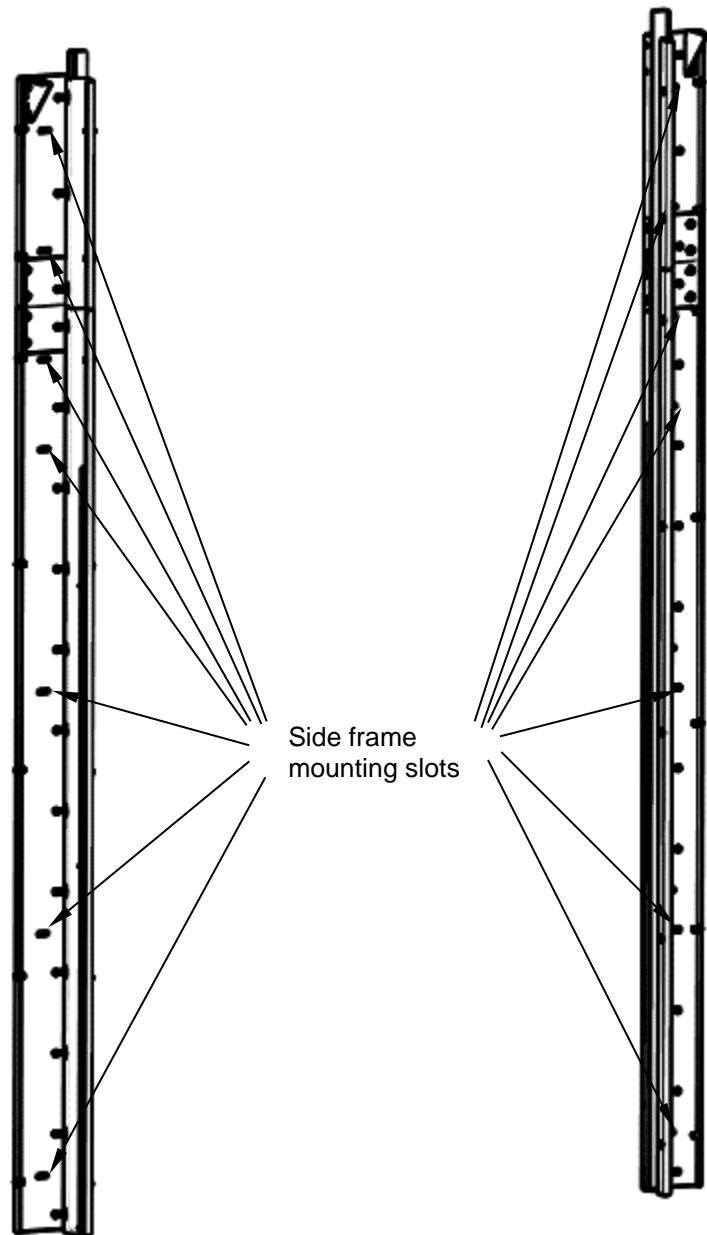
## 4. CONNECTING THE CABLES

- Connect the light curtain (black connector) on the non-motor side frame to the light curtain (black connector) on the motor side frame with the provided connection cord(s) with the black connectors. Align the arrows on the connectors (pins to sockets) and push together.
- The connection cord(s) can be secure or tuck into the channel behind the bush assembly within the head assembly.
- Connect the light curtain (blue connector) on the motor side frame to the control panel blue connector. An extension cord (with blue connectors) maybe included (depends on overall door height).
- Secure the cables in the side frames using cable ties or other appropriate fastening devices, **do not wrap the wire(s) around the springs as this will cause damage to the wire over time.**
- Connect the encoder cable from control panel to the encoder in head assembly by the reducer (and motor). (The connectors are keyed for one-way connection.)
- **Note that one light curtain is installed in front of the UHMW track and one is installed in the back of the UHMW track .**
- Note If there are other light curtains or photocells near the door they may interfere with the operation of this door's light curtain



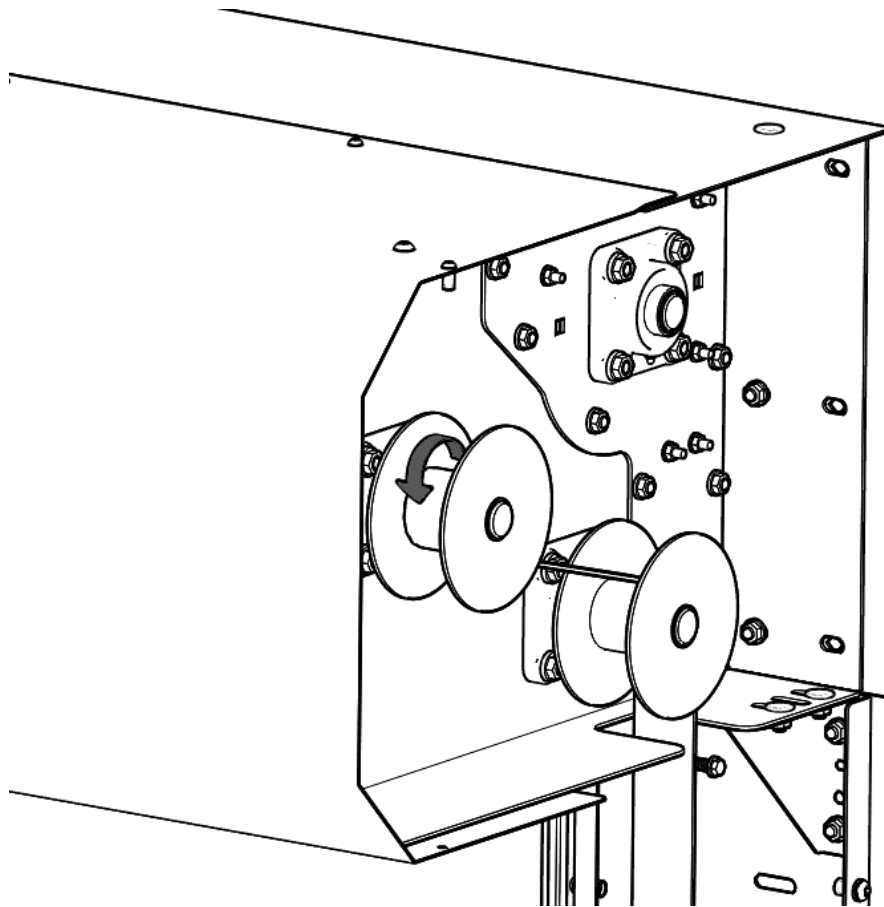


- Verify the side frames are plumb and against the wall.
- Mark the center of every other mounting slots within the side frames.
- Drill the attaching holes in the center of the slots.
- Install the hardware to attach the side frames to the wall but do not fully tighten the fasteners.
- Remove clamps.

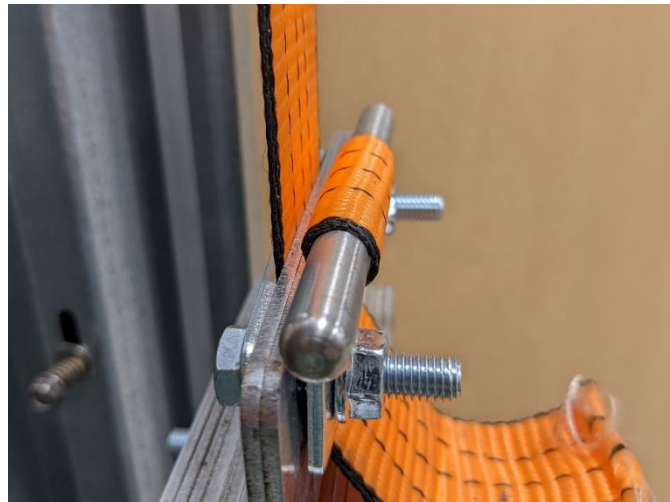
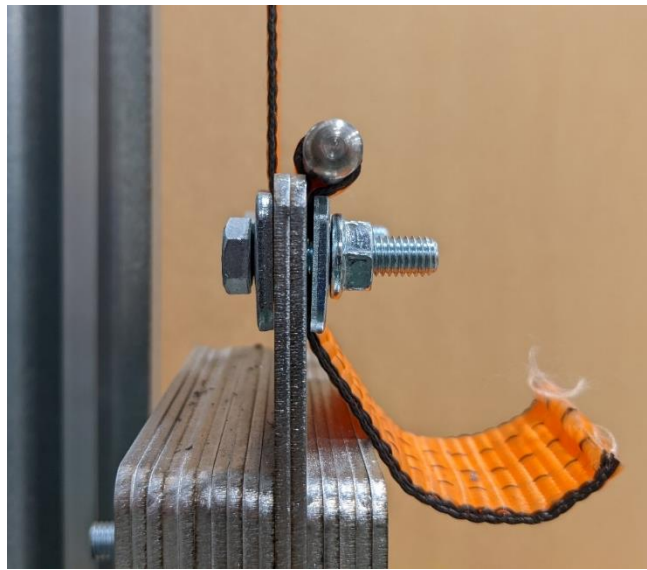


## 5. COUNTERWEIGHT ATTACHMENT

- Manually lower the curtain to the H.I.C. (Height In Clear) of the doorway by using an 8mm hex key (or a ratchet with an 8mm hex key socket) at the back end of the motor.
- The curtain should unroll from the curtain guides smoothly into the curtain tracks within the side frames.
- Set and support the counterweight assembly to 760 mm (30") above the floor within the counterweight side column (column opposite of the motor side).
- Unwind the lifting belt from the pulley (not the entire belt). Route the belt from the bottom of the pulley to the top of the Idler Pulley then down to the counterweight assembly.
- Study the path of the lifting belt sample that is pre-assembled on the counterweight assembly. Route the lifting belt exactly the same way as the sample belt on the unit.
- Remove the sample lifting belt. Tighten the two bolts and nuts of the clamping plates.



Left-handed motor unit shown  
(Right-handed motor unit opposite)

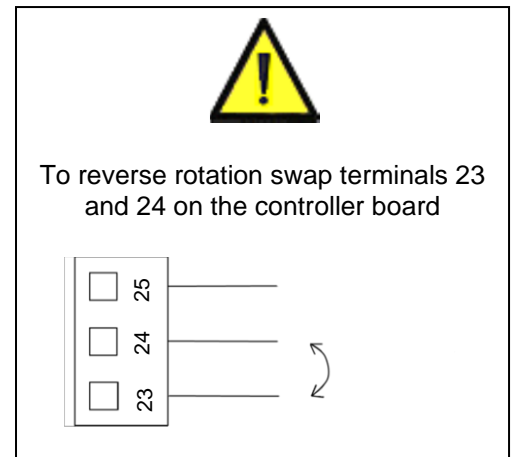
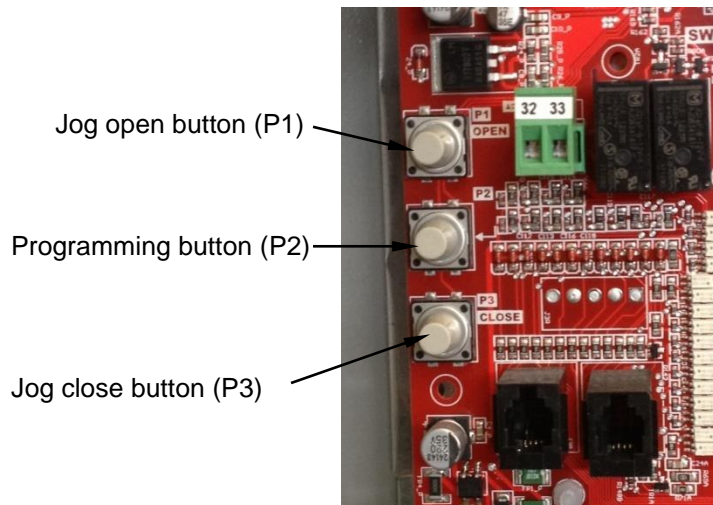


## 6. LOWERING THE CURTAIN

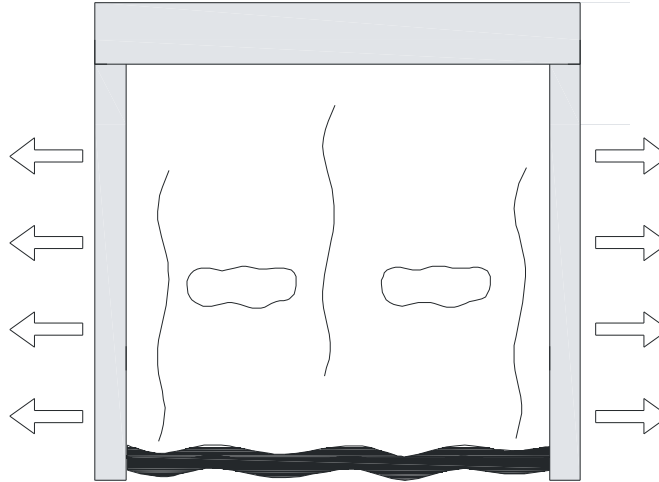
- It is easiest if power is connected to the door before inserting the curtain. See wiring diagram for the location for landing power and ground. The following assumes that power is available, if not the door can be operated manually with a ratchet, 9" extension (optional), and 8mm hex key socket.
- Before connecting power to the control panel check the control transformer setting to be sure it is set for the line voltage you will be using, if it is wrong, correct it by moving the wire to the appropriate voltage. If this is incorrect also check the motor wiring to be sure it is correct, see Page 23.
- Jog the door closed using P3, if the door rotates in the wrong direction correct the motor rotation by reversing the wires on terminals 23 and 24 at the center-right of the control board (**TURN OFF POWER TO CONTROL PANEL BEFORE CHANGING WIRE POSITIONS**).
- Lower the curtain slowly.
- The curtain should unroll smoothly within the tracks.
- Verify both sides of the curtain are in the track use P3 (if powered) to jog the door to the fully closed position. The jog buttons only move the door a few feet even if they are held so you will likely have to push and hold them more than once to get the door fully closed.



**Any electrical work must be done by qualified and knowledgeable personnel, serious injury or death could result if work is done by unqualified personnel.**

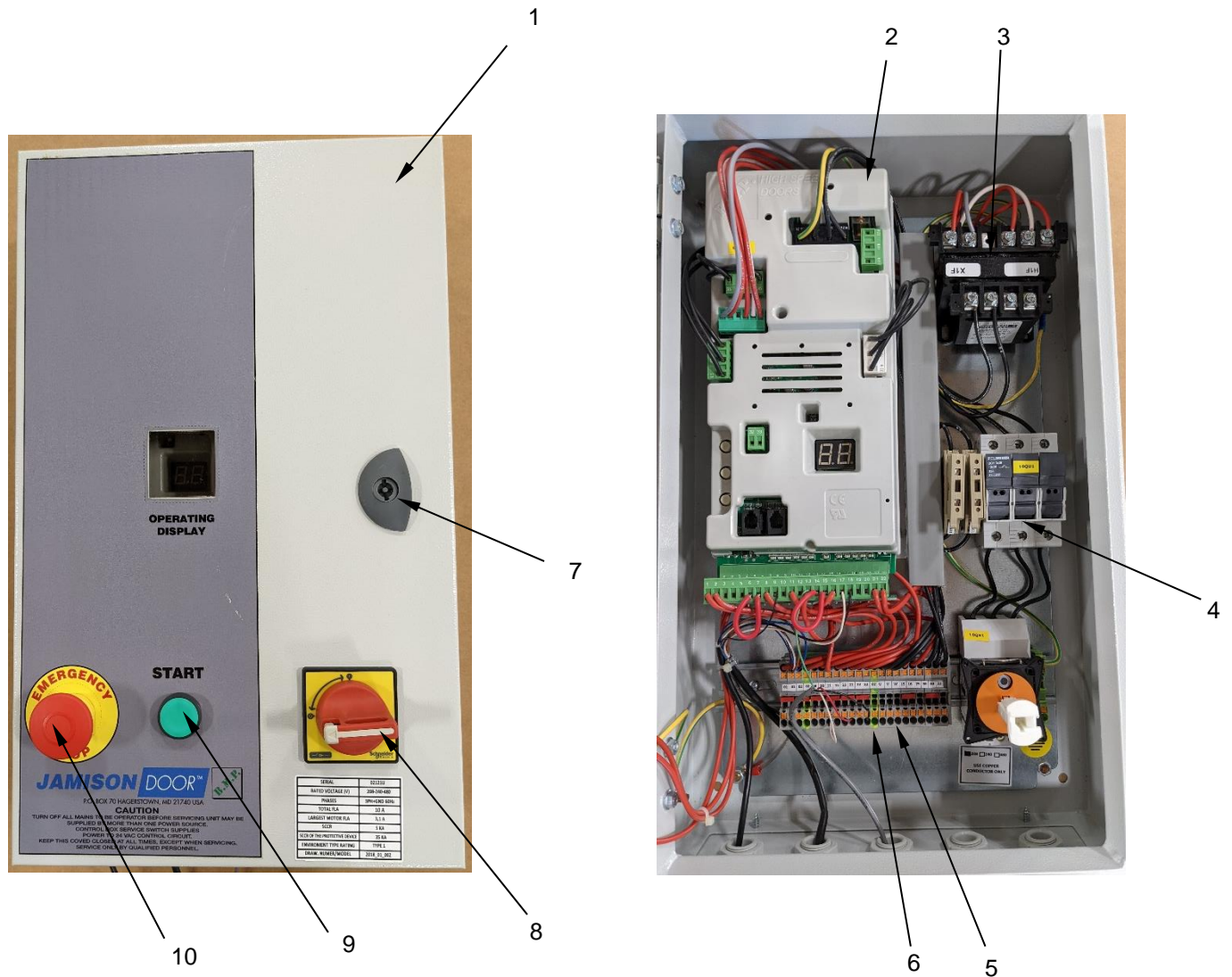


- Adjust the side frames by sliding them away from the opening to stretch the curtain. The springs holding the track should compress .125 - .250"



- Check that all the springs have similar compression.
- Drill the attaching holes in the center of the slots within the side frames.
- Install the hardware to attach the side frames to the wall and tighten.
- Tighten the fasteners of the side frame brackets at the top of the side frames to the head assembly.
- Use the jog buttons to run the door up and down to be sure it operates smoothly.
- If the door does not travel to the bottom on its own it may be necessary to loosen the side frames and operate the door a few times full open and closed and then resecure the side frames.
- If door functions are acceptable, reinstall all side frame covers, and head assembly end covers.

## 7. CONTROL PANEL OVERVIEW

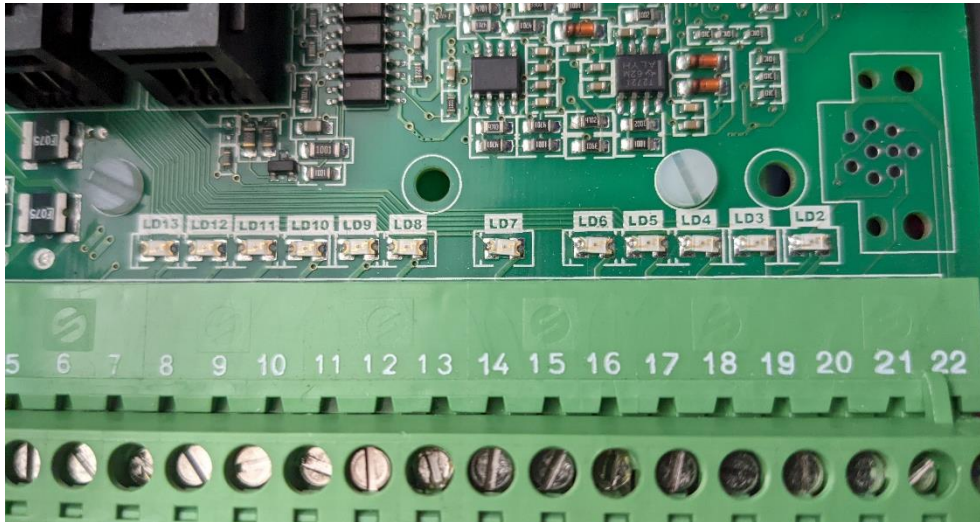


1	Cover	6	Grounding terminal
2	Control card	7	Enclosure cover lock
3	Transformer	8	Power switch
4	Fuses 15A	9	Start button
5	Motor terminals	10	Emergency stop button

## 8. CONTROL CARD TERMINAL FUNCTIONS

Terminal	Function
1	12VDC+ 500mA max
2	DC neutral
3	LED Countdown timer
4	Door closed signal output, closed when door is closed, open when door is not closed
5	
6	Same as 1
7	Safety sensor NC contact with delay (unroll sensor)
8	Open only input, NO
9	Safety sensor instantaneous NC contact (reversing edge)
10	Not used
11	Open/Close input, NO (push button, pull cord, etc.)
12	Pedestrian open input NO
13	Same as 1
14	Photocell input, NC
15	Same as 1
16	Stop button input, NC
17	Encoder signal
18	
19	Open over travel switch NO
20	Close only input NO (Future option)
21	24VAC 700mA source for accessories
22	24VAC neutral
23	Three phase power to motor, change rotation by changing wires on this connector.
24	
25	
R	Three phase power to control card
S	
T	
PE	Three phase PE ground
29	Flashing light output, 230VDC/460VDC
30	DC neutral for 29 and 31
31	Motor brake power, 105VDC
32	Door open signal output, closed when door is open, open when door is not open
33	

## 9. LED FUNCTION

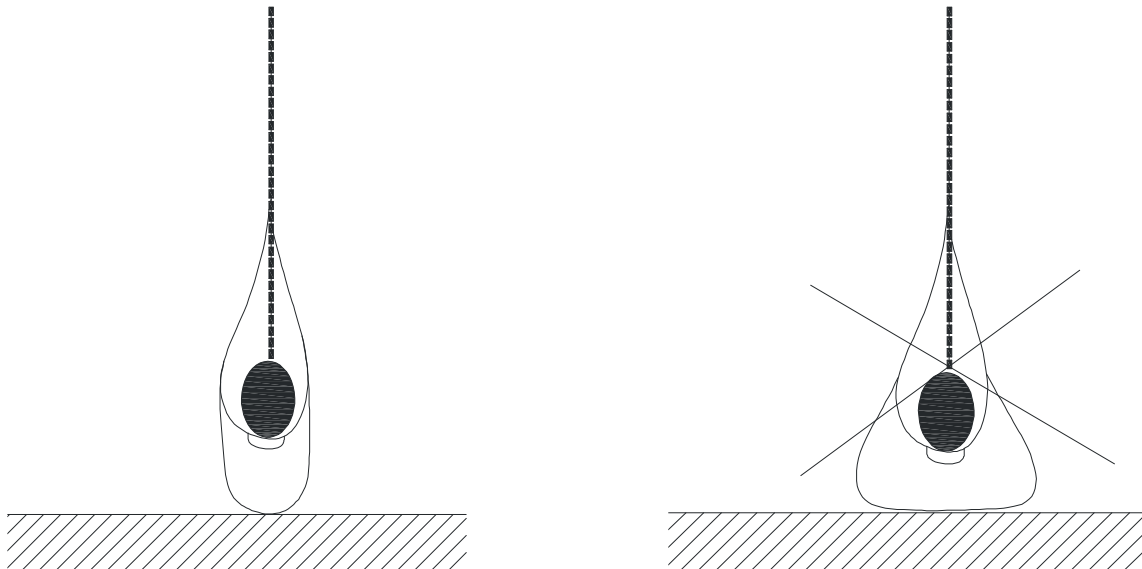


LD1	Card status LED, in operation blinks about every 4 sec, programming mode flashes about 500ms
LD2	Close only contact, lit when activated, T20 (Future option)
LD3	Open overtravel sensor, lit when blocked, T19
LD4	Encoder status, flickers while door is in motion but may appear to be on, off at other times, T18
LD5	Encoder status, flickers while door is in motion but may appear to be on, off at other times, T17
LD6	Stop button, must be on for door to operate, T16
LD7	Photo eye, off when the photo eye is blocked, on when it is not blocked, T14
LD8	Pedestrian push button, on when the button is pushed, T12
LD9	Open/Close input, on when open/close device is activated, T11
LD10	NA always off
LD11	Safety sensor wired into T9, must be on for the door to operate. If no accessory is wired in, must have a jumper
LD12	Open only input, on when open only device is activated, T8
LD13	Safety sensor wired into T7, must be on for the door to operate. If no accessory is wired in, must have a jumper



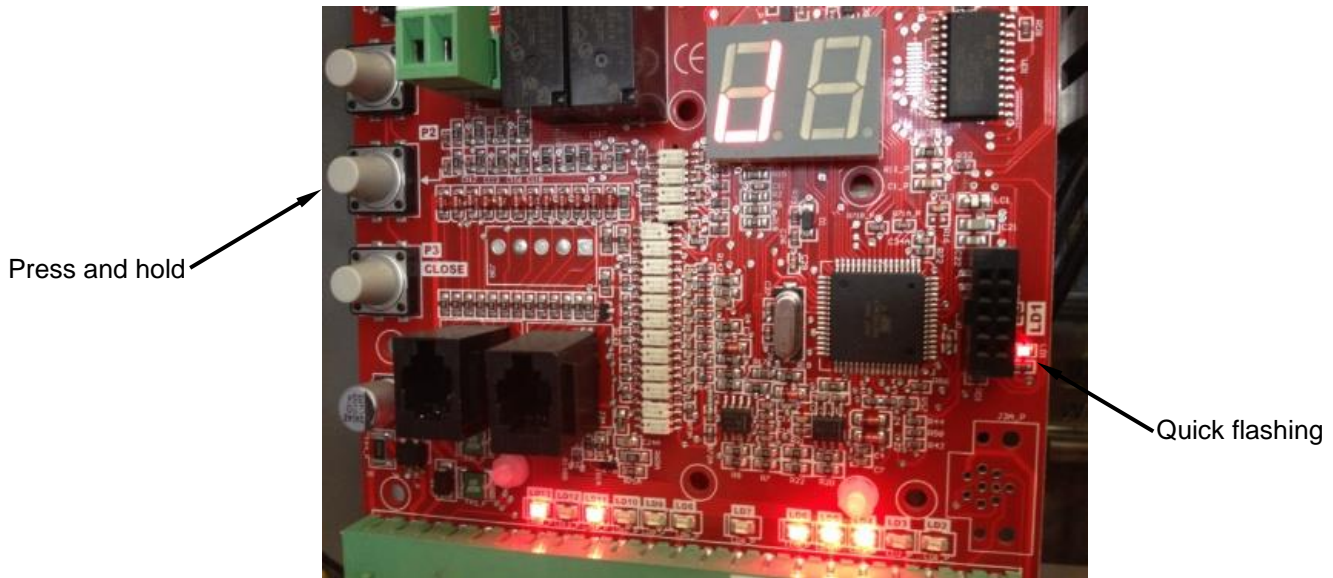
## 10. DOOR LIMITS

- Use the Jog Close button P3 to jog the door to the closed position if it is not already there. The two pictures below show the correct sill compression (left) and the incorrect overcompressed sill (right)
- To get the sill perfectly set it may be necessary to manually operate the door. Instructions for this are given toward the end of the manual

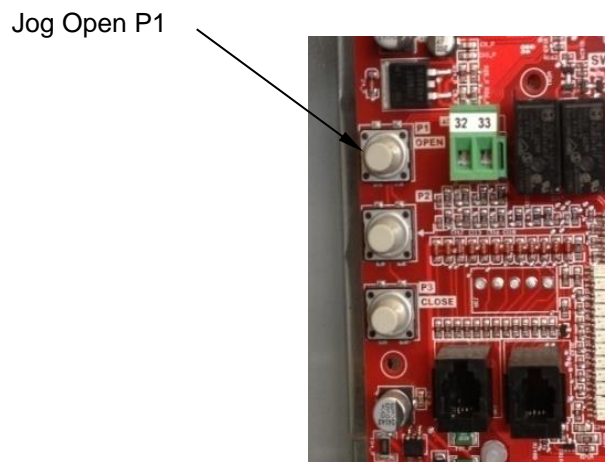


## 11. SETTING THE OPEN AND CLOSE POSITION

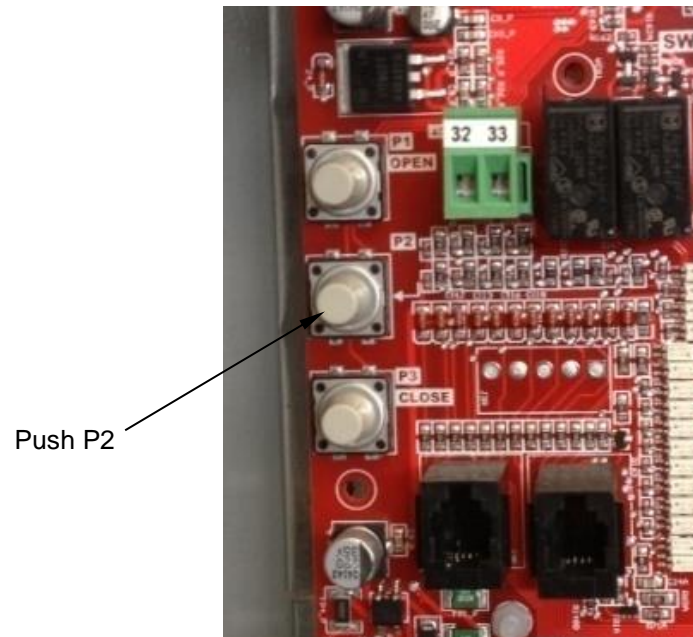
- The door should already be closed. Press and hold the Programming button P2 until “TA” is displayed on the Control Card message window and the Card Status LED (LD1) begins to flash quickly.



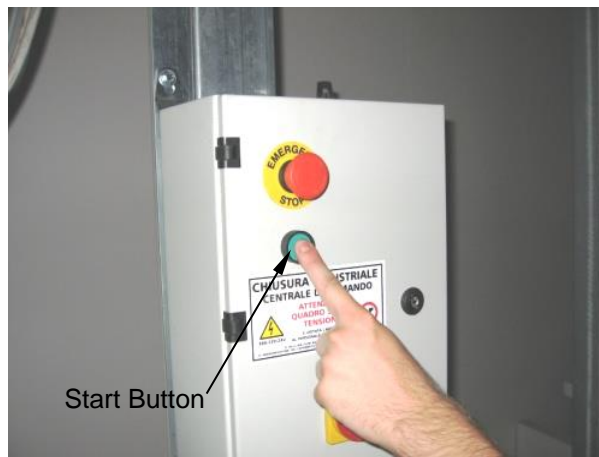
- Within 5 seconds, press the Jog Open button P1 to open the door to the open position (top of the H.I.C., Height In Clear).



- With the door in the open position push P2 to set the position and then push P2 again to set the amount of time delay for closing. The time between the first push of P2 and the second push will be the amount of time delay.
- The door will move to the closed door position.

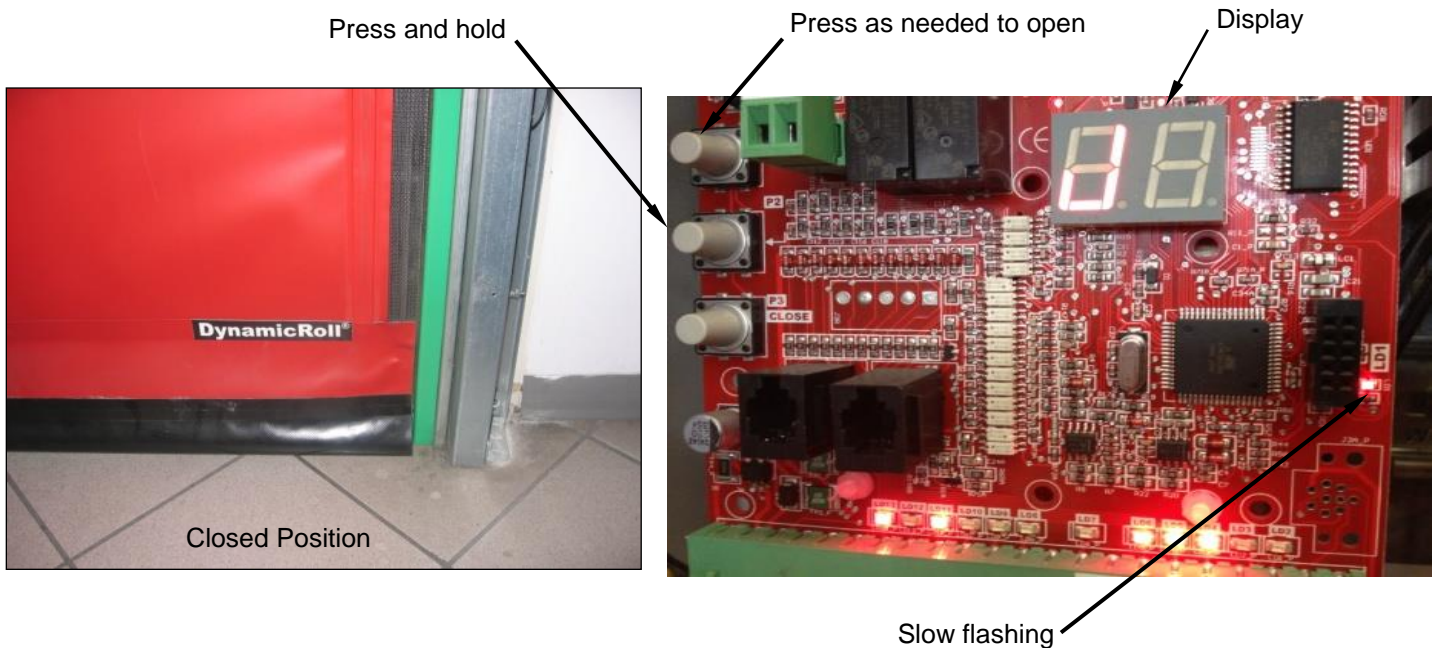


- Push the start button on the front of the panel and the door should move to the open position.
- Push the start button again (or allow the time delay to close the door) and the door will fully close and is ready to use.



## 10. PEDESTRIAN OPEN POSITION SETUP

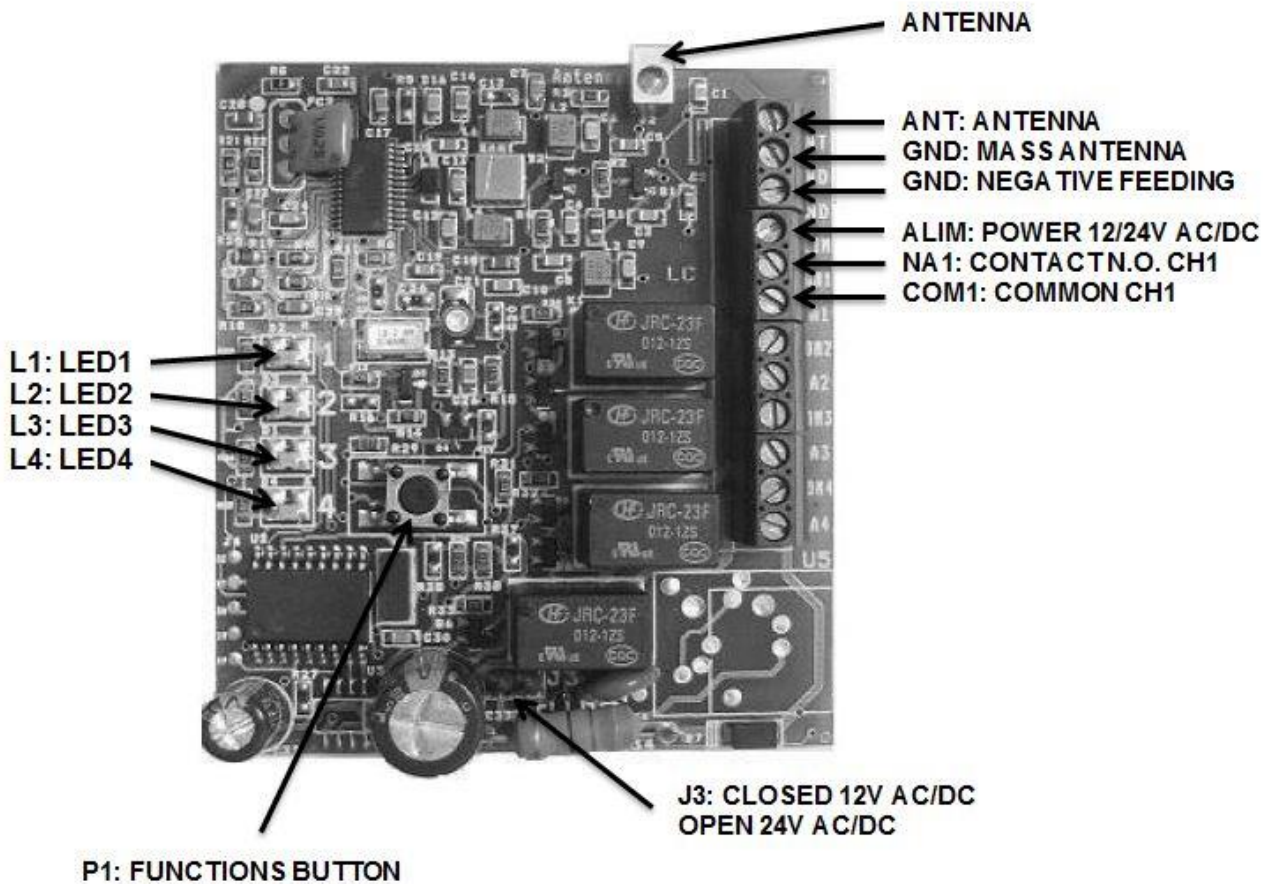
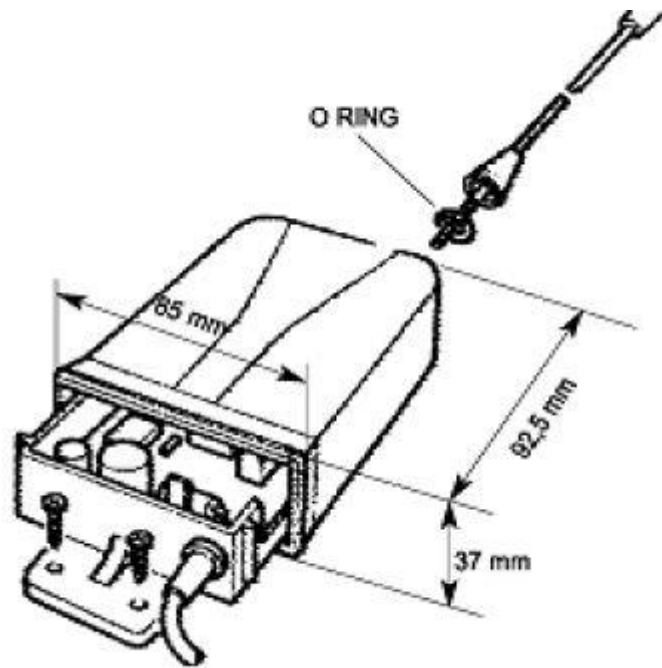
- The door should already be closed. Press the Jog Open button P1 to move the door to the desired position for pedestrian open.
- Press and hold the Programming button P2, the Card Status LED (LD1) will flash quickly, and “tE” or “tA” will show on display.



- Within 5 seconds push the pedestrian open button to set the pedestrian open position “tP” will display, then push it again to set the time delay, “PE” will display.
- The time between the first push of the start button and the second push will be the amount of time delay.
- Push button a third time to complete the procedure or wait a few seconds for unit to self complete.
- Cycle the door several times, pedestrian open cycles and full open cycles.

NOTE: Full open time delay and pedestrian open time delay share the same time delay setting.

# 11. RADIO CONTROL RECEIVER AFTER 10/23/18



## 12. PROGRAMMING RADIO CONTROL RECEIVER

Unscrew antenna and remove cover from receiver as shown on previous page.

Reinstall antenna onto receiver without the cover.

Push button in receiver until LED #1 comes on.

Push and hold button on remote control until LED #2 and #3 blinks on the receiver.

Release button. (For the next 13 seconds you can program additional remote controls, by pushing the desired button and watching LED #2 and #3 blink.)

After your last remote, push the button on the receiver and LED#1 will go out.

### **Deprogramming a remote**

Push the button on the receiver for approximately 3 seconds until the LED's #1,2 and 3 begins to blink.

Press and hold the button on the remote until the LED's stay on solid.

Push the button on the receiver, LED's go out.

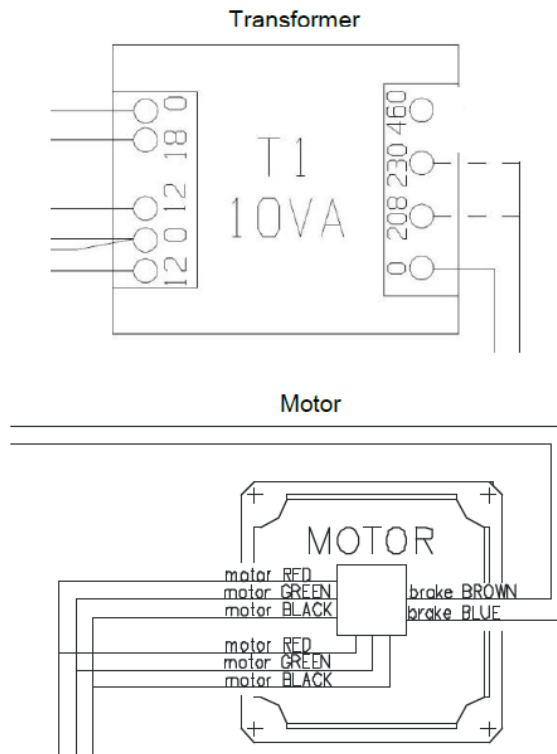
For completely clearing the receiver, push the button in the receiver for about 6 seconds until LED's #1,2 and 3 come on solid.

Release the button.

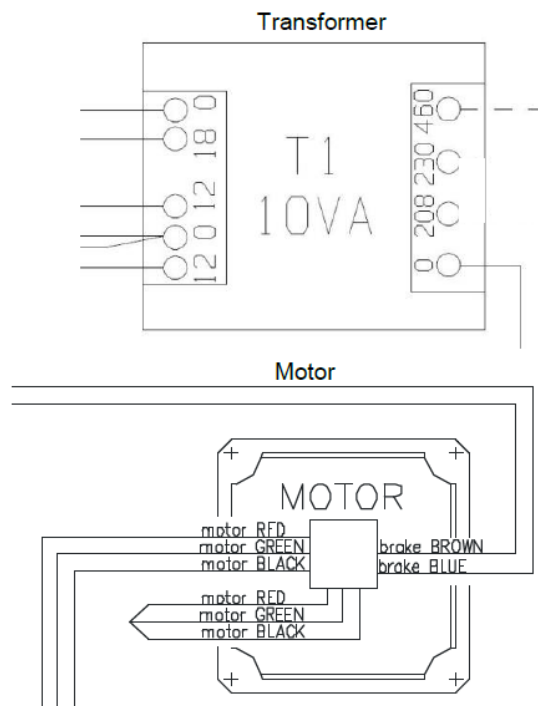
If the memory is full during the storage phase the four LEDs will switch off and on in sequence and then switch off. Completely clear the receiver and start over.

### 13. PRE-WIRING CONNECTIONS

Pre-wiring connections for 208/240VAC



Pre-wiring connections for 460VAC



## 14. DIP SWITCH SETTINGS



Time delay closing: to activate this function turn dip switch 1 to ON, to disable set dip switch 1 to OFF. If dip switch 1 is off then the door will not close automatically.



Motor dynamic braking: This is used only with doors that have a counterweight to open them in case of a power failure. To turn on dynamic braking set dip switch 2 to ON, to disable turn dip switch 2 OFF.

### Door adjustment after programming

After the initial programming of the door, run the door full speed open. If the limits aren't perfect, use the following set of instructions to adjust parameters.

#### Motor Type Adjustment (Software 1160501 and newer)

Close the door and push in the stop button and then hold the P2 programming button. Instead of going into regular teach mode (display TE) it will go into limit programming and display alternating "No" and a number. This chooses the motor type. **(THIS SHOULD NOT BE DONE UNLESS INSTRUCTED TO DO SO BY JAMISON TECHNICAL SERVICE)**

#### Open Speed Adjustment

Press P2 again and it will read an alternating "So" and a number. This will adjust the opening speed of the door. The number on the screen represents the frequency of the motor.

#### Closing Speed Adjustment

Press P2 again and it will read an alternating "Sc" and a number. This will adjust the closing speed of the door. The number on the screen represents the frequency of the motor.

#### Close Position

Press P2 again and it will read an alternating "CL" and a number. The number is the distance (more or less) in encoder steps from the closed position to the home position (photo eye). To make the door close less make the number smaller by pushing P3 (each push will change the value by 1) to make it close more make the number larger by pushing P1. Be careful adjusting this number. Start with one or two steps and do more if necessary.

#### Open Position

Once the close limit is set press P2 and the display will change to alternating "OP" and a number. The number is the distance from the open position to the home position with the first digit removed (289 just shows 89). This is changed the same way the closed limit is changed. Be careful adjusting this number. Start with one or two steps and do more if necessary.

When complete release the stop button and the door is back in service. Operate the door to check the limits.

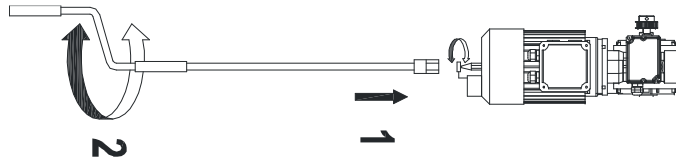
#### Time delay adjustment

Open the door and push in the stop button and then hold the P2 programming button. The display will alternate TO (time open) and an number which is the amount of time delay. Change the number by using P1 to make it larger or P3 to make it smaller. When complete release the stop button and cycle the door twice, it takes two cycles of the door to recognize the new time delay.



## 15. MANUAL OPERATION

- Turn the power off to the door. Serious injury could occur if the door operates while the hex key (or hex key socket with ratchet) is in the motor.
- Insert the hex key into the bottom of the motor and turn the hex key. The door will open and close based on the direction of rotation.



## 16. MISCELLANEOUS OPERATING INSTRUCTIONS

### ***A. Battery Backup (Optional)***

- Expectations of operation
  - When the main incoming power is lost to the door, the door will lose power and reboot using the batteries.
  - In under a minute the door will open the full height and stay open until power is restored. THIS WILL NOT HAPPEN IF THE POWER IS TURNED OFF AT THE SWITCH ON THE CONTROL PANEL
  - Once the incoming power has been restored, the door will stay open for another minute or two and then come completely closed.
  - After the door is completely closed, the operation will be back to normal and the door can be activated using any of the normal activation devices.
- IMPORTANT NOTE: When the install is complete and the door is in normal operation, it is important to let the batteries fully charge before turning local power off to the control panel. This process takes 24-48 hours.

### ***B. Power Failure with no Battery Backup***

- If power is lost to the door and there is no battery backup option on the door.
  - Manual Operation
    - See Section 15.

### ***C. Using Automatic Rethreading Feature***

- When the door curtain is knocked out of the tracks below the clear opening, activate the door, and the zipper will rethread itself into the track(s).

## 17. PERIODIC CHECKS AND MAINTENANCE

### A. Ordinary cleaning and inspection

Ordinary maintenance operations keep the door safe, running well and give it a long life. These items can be done by your maintenance staff and will reduce your overall maintenance costs.

COMPONENT	DESCRIPTION	Frequency
Side Frames	Check that they are securely fastened to the wall and that they are in good condition. They can be cleaned with a soft cloth using soap and water, do not use any solvent. If there is ice on the side frames it should be removed immediately.	6 Months
Light curtain and motion detector	They can be cleaned with a soft cloth, do not use any solvent. If the operating area is dusty, it may be necessary to clean the photocells more frequently as dust could cause them to not function properly.	6 Months
Windows	They can be cleaned with a soft cloth using soap and water; do not use any solvent or ammonia-based cleaners as that could damage the window.	6 Months
Curtain	Check the condition of the curtain and its attachment and repair or replace, as necessary. Clean with soap and water only, do not use solvents.	6 Months

### B. Planned inspections and maintenance

Only people trained to inspect and maintain the Jamison/BMP roll up doors should do the following tasks. Maintenance is required to maintain the factory warranty.

Item	Task	Frequency
Structure	Check that they are securely fastened to the wall and that they are in good condition. Repair or replace any damaged components, as necessary.	6 Months
Electrical components	Check the electrical connections in the control panel, especially the plugged connections, to be sure they are tight and verify that there is no water in the panel. Check the electrical connections in the junction boxes and control that there is no water in them. Check the condition and operation of all the safety components (light curtains, photocells, safety edge and emergency button) to be sure they are operating properly. Serious injury or door damage could occur if they do not work. Replace malfunctioning components. Check the condition and operation of the opening devices (push buttons, pull cords, etc). Check that all the wiring is in good condition, replace damaged wires.	6 Months
Mechanical components	Check the overall condition of the motor and for any signs of overheating. Check the condition of the motor safety switch. Check the reducer for leaks; be sure it is securely attached to the motor and that the rest of the drive support structure is attached securely. Check all bolts to be sure they are tight and not coming loose. Check the alignment of the roll. Check the condition of the bearings and grease as required (NLGI 2 grease). Check the conditions of the curtain guides. Repair or replace any damaged components that are found.	6 Months
Curtain	Check for wear especially in areas where it contacts other components. Check for tears and repair. Check that the curtain is rolling without wrinkles and is straight. Check and adjust the curtain tension as needed and check the condition of the zipper along the side of the curtain. Repair or replace any damaged components that are found.	6 Months

## 18. TROUBLE SHOOTING

It is best to check the LED indicator first before addressing error codes on the display. First correct problems to get the LED indicators correct and then start working on the error codes.

The control board LED indicators do not light	Check the incoming power to be sure it is on and is the correct voltage for the door.
	Check the fuses and/or circuit breakers.
The door will not jog using P1 or P3	Be sure the Stop button on the front of the panel is not pushed in (LED 6 on).
	Check the motor wiring to be sure it is correct for the supply voltage. 230VAC is a Y connection, 460VAC is a Delta connection.
	Check the motor setting (KW) on the control board (can only be done if you have a programming device)
The door will not go through its initial programming of the limits.	Be sure the Stop button on the front of the panel is not pushed in (LED 6 on).
	Jog the door using P1 and P3 about 18 inches. This will help the door recognize the encoder.
	Check that LED 13 is on when the door is open. If not, then the light curtains may not be aligned. Verify light curtains have power (green LED). To check it you can put a jumper from 7-13 temporarily to help diagnose the problem. <b>DO NOT PUT THE DOOR INTO OPERATION WITH THIS JUMPER IN PLACE.</b>
	Switch the encoder signal wires on terminals 17 and 18 (yellow and green).
The door will not close, LD7 is off	Verify the light curtains have power (green LED).
	Check the wiring of the light curtains to be sure the brown wire is +12VDC and the blue wire is DC neutral. If they are wired backwards the sensor could be damaged.
LD1 remains on after power up	LD1 will stay on while downloading software
	Check the fuse/circuit breaker
	The control card has failed, replace the control card.
The door does not close automatically.	Check that DIP switch 1 is set to ON
	Check the safety inputs to be sure they are not active. LD7, LD13 and LD6 should be on
The door generally works fine but will randomly stop.	Make sure the wires for the light are not in the same conduit/cable as the light curtains.
	Check if the supply voltage is within limits, if not then correct the supply voltage.
	If you have a programming device <ul style="list-style-type: none"> <li>• Check the bus voltage to be sure it is not lower than 300V, call the factory.</li> <li>• Check that the motor current draw is not more than 9A. If it is lower, then decrease the opening speed.</li> </ul>
The light curtains do not reverse the door, but the door operates.	Be sure there are no other light curtains nor photo eyes in the area that may interfere with this door's operation
	Check that the light curtains wiring is not in the same conduit/bundle with any of the high voltage wiring (motor, brake, light)
The door drifts closed after stopping in the open position	Verify the counterweight assembly and lifting belt is connected and tighten.

## 19. ERROR CODES

Error Code	Description	Solution
00	Undetermined error	Check LEDs and correct to normal configuration. See LED function section.
1	Internal failure	Replace controller
2	Internal failure	Replace controller
4	Internal failure	Replace controller
5	Internal failure	Replace controller
11	Short circuit on the accessories (lamp or brake).	Disconnect both the lamp and brake and then reconnect one at a time to identify the problem. Once identified correct the short circuit.
12	Motor short circuit	This is a short circuit in the motor circuit on the controller, replace controller. Primary of transformer could be set incorrectly
30	Internal failure	Replace controller
31	System overload	Speed set is too high, lower opening speed
32	Same as 31	
50	Open brake circuit	Brake circuit is open, check wiring and the status of the manual disconnect switch
51	Brake short circuit	Check wiring to brake or possibly damaged brake
74	Photocell not responding, reversing edge activated, or unroll sensor activated. (Device wired into T7)	Check that the wiring is correct for the photocells and that they are not blocked. Be sure that one is installed on the front of the panel and one is on the back. If the reversing edge has been activated then the alarm will clear after the next successful closing. If the alarm does not disappear, rotate sensitivity adjustment on unroll sensor counterclockwise.
76	Low voltage	Voltage to the controller is too low to operate, check the incoming voltage
79	Input on terminal #9 missing. Wireless edge fault.	Check both double A batteries in transmitter first
7A	Low voltage in UPS system	UPS system low voltage. Check battery voltage in the UPS and line voltage supply to the system.
87	Overvoltage on close	Too much power is being absorbed by the controller, the system will automatically adjust frequency to solve. Check incoming line for high voltage.
88	Overcurrent on close (motor)	Too much current is being absorbed by the controller from the motor. Make sure the wiring is correct.
89	Overcurrent on close (brake)	Too much current is being absorbed by the controller from the brake side of the motor. Make sure the wiring is correct. Similar to 51 but 89 is more specific to the brake.
8A	Overcurrent on close (UPS)	Too much current is being absorbed by the controller when using battery backup. Make sure the motor wiring is correct.
8D	Overheated controller	Allow to cool and check for mechanical problems
8E	Error in VBUS measurement	Controller is reading the wrong VBUS. Replace controller.
8F	Same as 8E	
90	Bad CPU in controller	Replace controller
91	Same as 90	
100	Improper encoder response	Check the reducer ratio and if correct the encoder is not operating properly, replace the encoder.

102	Encoder wiring or noise	The encoder may be wired incorrectly or there may be noise on the encoder or photocell circuit. Check wiring and shielding. Also starting door setup at 0qc.
103	Teach mode started with photocell unblocked	Programming was begun with the door too high, photocell may see signal from adjacent door, photocell may be installed incorrectly on the same side of the door.
104	Teach mode started with top override sensor unblocked	Programming was begun with the door too high. Top override sensor may not be seeing the curtain or the set position is above the sensor.
105	Closed position too close to photocell	The closed position must be at least 4" below the photocell.
108	Photocell never disengaged during programming	During teach mode the photocell was not uncovered. Likely caused by the upper limit being set too low or the photocells being misaligned
109	Open position too close to photocell	The open position must be at least 8" above the photo cell
10D	Ped open set too low	The ped open was set below the photocell
10E	Encoder count missing	Encoder is not giving consistent output or the brake is locked on. Check the wiring connections to the encoder to be sure they are tight, check the brake, check the wiring connections to the motor, or replace the encoder.
10F	Photocell not working	Occurs during alignment after a restart if the photocell is not responding, check the photocell to be sure it is not blocked or misaligned. Watch for Id7 to flicker. Be sure photo eyes aren't being partially blocked or re-engaged by the bottom of the door.
110	Same as 10F	
115	Encoder count wrong	Encoder is only seeing one signal. Check wiring of the encoder.
116	Motor selection is incorrect	Use programmer to change motor parameters.
117	Same as 116	
118	Same as 116	

### A. LED Display Code Key

Display Code	Description
tA or te	Door is in teach mode.
St	Emergency Stop is engaged.
J	Door is in Jog mode.
C	Door is closed.
Cl	Door is closing.
Op	Door is opening.
EA	Learning mode. The door is looking for its limits.
Pe	Ped open cycle or ped open push button broken/stuck.