

6350 Pull Side Double Egress (RH Shown)

Tools required:

- Allen wrench set (inch)
- Small blade screwdriver
- Screwdriver (Phillips size 2 and size 3)
- Tape ruler
- Power drill
- Center punch
- Wire stripper
- #7 drill 1/4-20 tap (metal frame / door install)
- 3/16" drill (for self-drilling/self-tapping)
- #16 drill (for pull side track install)
- 10" or 12" adjustable wrench

Item No.	Description
1	Pull Body Sub-Assembly (6310LAP)
2	Power Supply/Board Sub-Assy (6300CM)
3	Cover (6300 COV)
4	Back Plate Board (6300BPB)
5 & 6	End Cap Kit (6300END)
7	Standard Pull Arm Package (6310-1)
8	Double Egress Pull Arm Pkg (6350-1L (LH);6350-1R (RH))

Use screw pack and hardware provided to mount operator.

WARNING: To reduce the risk of injury to person, use this operator only with Pedestrian Swing doors.
For Indoor Use Only.

ETL certified; conforms to ANSI/UL standard 325 for automatic closing doors and UL10C Positive Pressure Fire Test for Door Assemblies. Certified to ANSI/BHMA A156.19 for Low Energy Door Operators.

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IMPORTANT SAFETY INSTRUCTIONS - WARNING: To reduce the risk of severe injury or death

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> 1) READ AND FOLLOW ALL INSTRUCTIONS. 2) Never let children operate or play with door controls. Keep the remote control (where provided) away from children. 3) Personnel should keep away from a moving door in motion. 4) Test the door's safety features at least once a month. After adjusting either the force or the limit of travel, retest the door operator's safety features. | <p>Failure to adjust the operator properly may cause severe injury or death.</p> <ol style="list-style-type: none"> 5) KEEP DOOR PROPERLY OPERATING. See Door Manufacturer's Owner's Manual. An improperly operating door could cause severe injury or death. Have a trained door systems technician make repairs. 6) SAVE THESE INSTRUCTIONS. |
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For assistance, contact Norton Technical Product Support
at 800-438-1951 Ext 6030.

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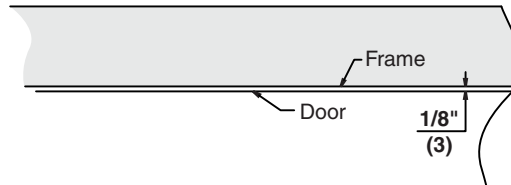
3000 Highway 74 East • Monroe, NC 28112
Tel: (800)-438-1951 ext. 6030
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Door Prep

Hollow Metal Door Frame Reinforcing		
Frame Material	Reinforcing	
	Recommended	Min. Required
12 Ga. .1046 (2.66)	12 Ga. .1046 (2.66)	18 Ga. .0478 (1.21)
14 Ga. .0747 (1.90)	10 Ga. .1343 (3.41)	12 Ga. .1046 (2.66)
16 Ga. .0598 (1.52)	10 Ga. .1343 (3.41)	12 Ga. .1046 (2.66)
18 Ga. .0478 (1.21)	8 Ga. .1644 (4.18)	10 Ga. .1343 (3.41)

Fasteners for Frame:

- 1/4-20 Machine screws for hollow metal and aluminum.
- No. 14 x 2-3/4 " (70mm) long sheet metal screws for wood.



Templating is based on 1/8" gap between door and frame.

Notes:

- All dimensions are given in inches.
- Thickness recommended for reinforcements in hollow metal doors and frames is charted at the left of this page.
- Do not scale drawing.
- This template information based upon use of 5" maximum width butt hinges.
- Maximum frame reveal is 1/8" for 6310 units and 1/8" up to 6-3/4" maximum for 6330 units.
- Before beginning the installation, verify that the door frame is properly reinforced and is well anchored in the wall.
- Concealed electrical conduit and concealed switch or sensor wires should be pulled to the frame before proceeding.

Technical Data

Input power:	120VAC, 60Hz
Power supply:	24 V DC, max. 6.5 Amp. ; 1.3A Available Acc
Door width:	36 - 48" (91-122 cm)
Door weight:	90-200 lb. (41-91 kg)
Push min angle:	110° with reveal of 6-3/4" max
Push max angle:	130° with reveal of 1/8" min
Pull max angle:	180°
Hold open time:	5-30 seconds (A.D.A. 5 seconds min.) Indefinite for Hold Open Input or cap switch

Notes: Permanent wiring is to be employed as required by local codes.
Activation devices: push plates, access control, mats, touchless wall switches, etc.

Maximum wire size is:
12AWG at terminals LINE and NEUTRAL (120VAC; 60Hz) on Power Input Terminal.
14AWG at all other terminals.

Standards

ETL Certified; conforms to ANSI/UL standard 325 for automatic closing doors and UL10C Positive Pressure Fire Test for Door Assemblies .

ANSI A156.19:

These products are designed to conform to this specification "for power assist and low energy power operated doors."
These products are designed to exceed all the requirements for the "Low Energy Power Operated Door."

Americans with Disabilities Act (A.D.A.)

These door operators can be installed and adjusted to conform with A.D.A. regulations.

ANSI A117.1:

These door controls permit door assemblies to conform to the requirements of this specification "for buildings and facilities - providing accessibility and usability for physically handicap people."

IMPORTANT INSTALLATION INSTRUCTIONS

- 1) READ AND FOLLOW ALL INSTALLATION INSTRUCTIONS.
- 2) Install only on a properly operating and balanced door. A door that is operating improperly could cause severe injury. Have qualified service personnel make repairs to any hardware before installing the operator.
- 3) Remove, or make inoperative, all locks (unless mechanically and/or electrically interlocked to the power unit) that are connected to the door before installing the operator.
- 4) Do not connect the door operator to the source power until instructed to do so.

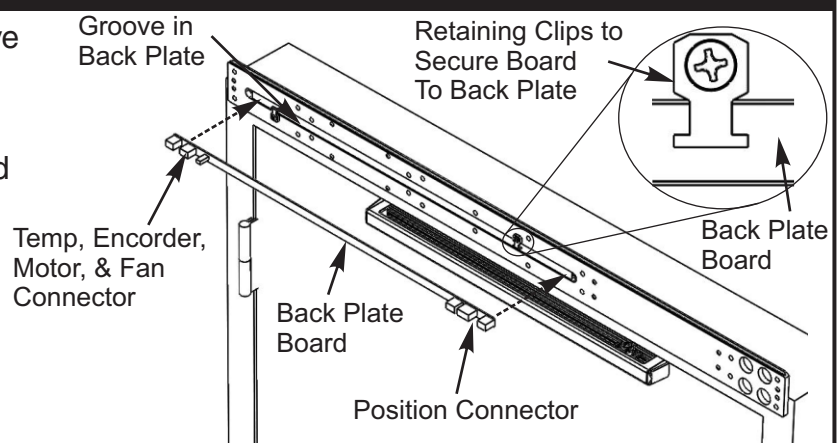
1 Pull Side Back Plate Mounting Sequence

IMPORTANT BEFORE STARTING: RH DOOR SHOWN WITH HINGE ON LEFT AND PULLS TOWARD YOU. FOR LH DOOR WITH HINGE ON RIGHT, ROTATE BACK PLATE 180°. NOTE: THE 4-7/8" CONDUIT HOLES ARE ALWAYS LOCATED ON THE LATCH END OF THE DOOR. FOR DOORS THAT MOUNT ON THE OPPOSITE SIDE OF THE FRAME (DOOR PUSHES AWAY FROM YOU), SEE PUSH SIDE TEMPLATE. USE TEMPLATE FOR THE FOLLOWING INSTRUCTIONS.

- Step A: Measure and mark frame for first mounting hole (see template). Drill using #7 drill and tap hole using 1/4-20 UNC-2A tap if using 1/4-20 machine screws. If self-drilling self-tapping screws are used, drill first mounting hole using a 3/16" drill and supplied screw. **Note:** Holes used for mounting the Back Plate are marked with a center mark on pull side template at the back of this instruction.
- Step B: Attach Back Plate to frame with screw from Step 1A without completely tightening screw.
- Step C: Using the Back Plate as a guide, mark second hole (shown on template) using a center punch if necessary and repeat step 1A drilling / tapping procedure.
- Step D: With the Back Plate in the correct position and level with the frame, tighten screws from steps 1B and 1C.
- Step E: Using the Back Plate as a guide, drill and tap remaining 8 holes in the frame using drilling / tapping procedure from step 1A. Tighten screws.
- Step F: Measure and mark track mounting holes. Drill using #16 drill bit . Attach track using supplied wood / sheet metal screws. **Note:** the white plastic slide and black end caps must be in the track before screws can attach the track to the door. Slider must slide freely in track.

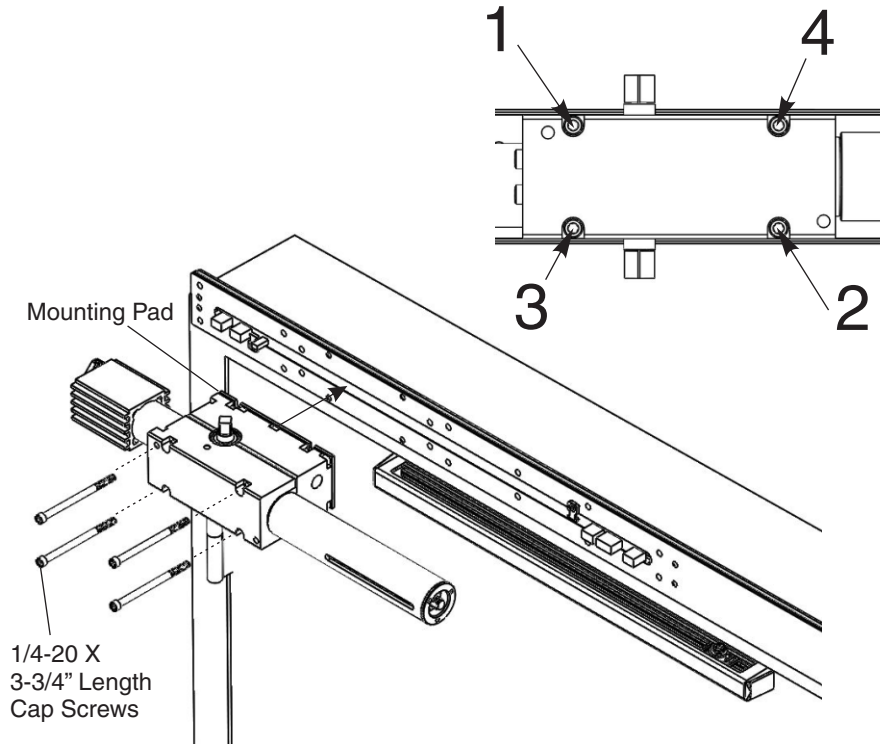
2 Install Back Plate Board

- A. Center Back Plate Board into groove of back plate. **NOTE:** The Temp, Encoder, and Motor connectors on the Back Plate Board are positioned toward the hinge edge of the plate.
- B. Rotate retaining clips (shown at right) to hold board in groove and tighten Phillips screw to secure in place.
- C. Repeat for second retaining clip.



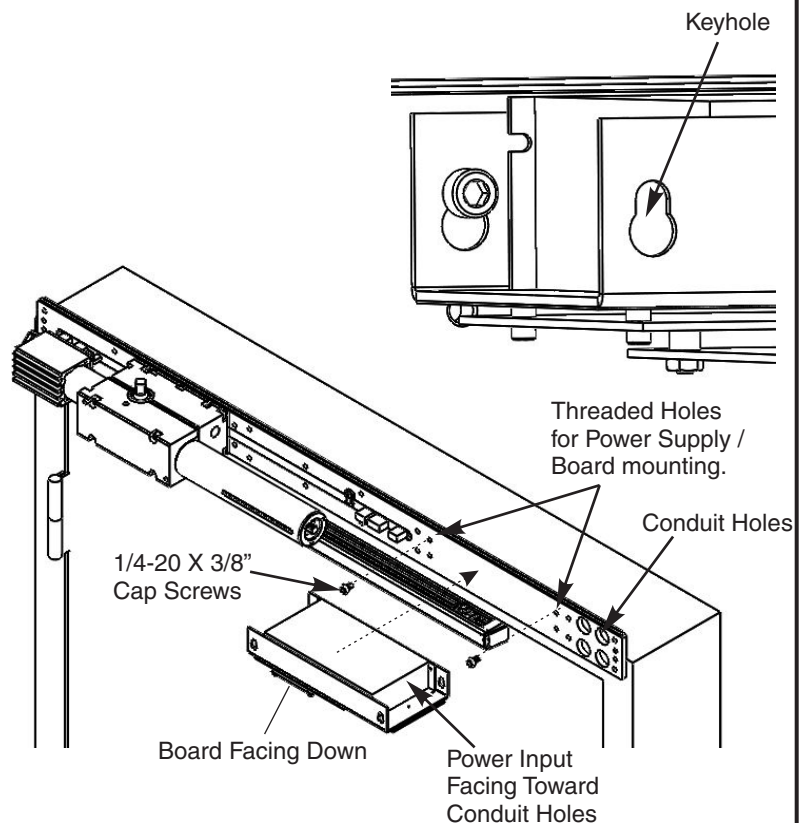
3 Pull Side Body Assembly Installation

- A. Install the Pull Side Body Assembly to the Back Plate using the four 1/4-20 x 3-3/4" length cap screws. Screws must be tightened in a cross pattern as shown at right until all four screws are tight. **NOTE:** The mounting pad must go between the Body Assembly and the Back Plate.
- B. Plug in the four wiring connectors into the Back Plate Board. These are the temp, encoder, motor and position connectors.
- C. Since mounting pad can compress as screws are tightened, make sure to double check screws for tightness.



4 Power Supply / Board Assembly Installation

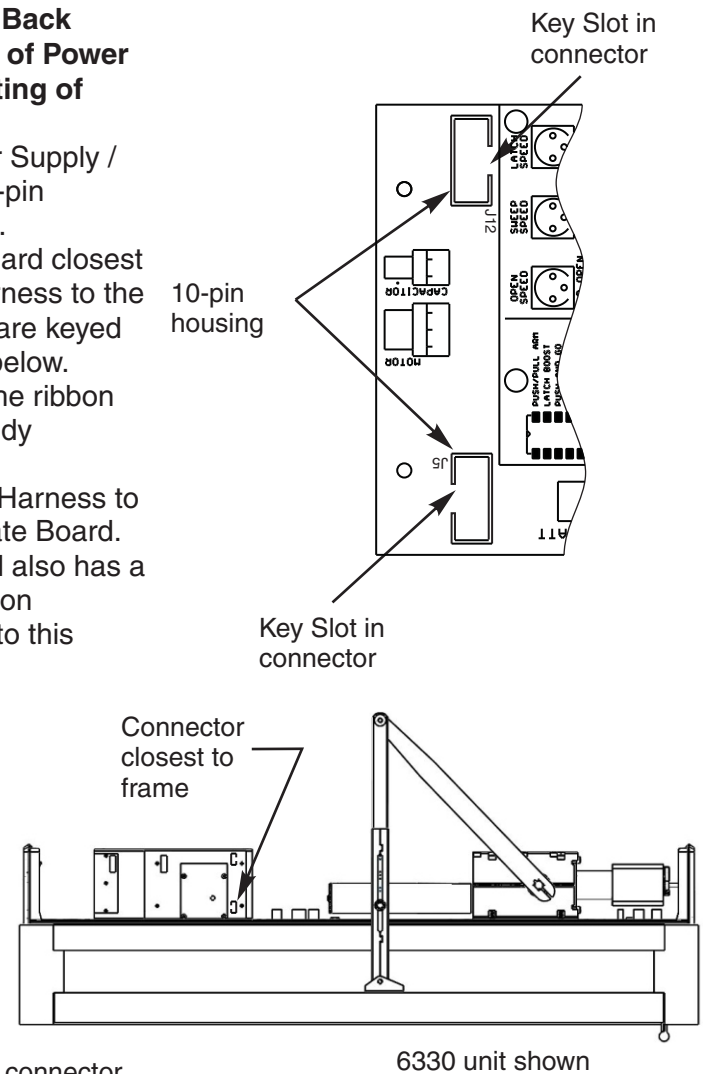
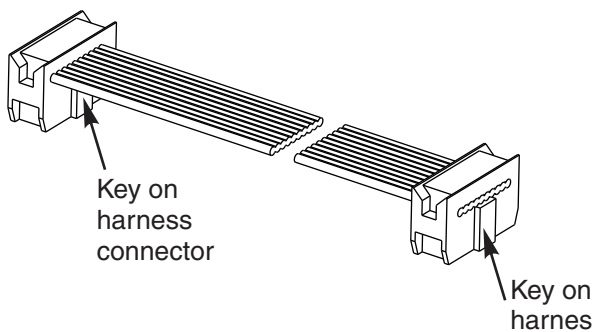
- A. Install (2) 1/4-20 x 3/8" length cap screws in the top two tapped holes on the Back Plate leaving about 3/16" gap between head of screw and back plate.
- B. Use the keyholes in the Power Supply / Board Bracket to slip over the screw heads installed in Step 4A and allow the slot to drop the bracket behind the screw heads. The boards should always be facing down and the power input for the power supply should always be positioned toward the conduit holes.
- C. Tighten screws from Step 4A.
- D. Plug the two harnesses into the Back Plate Board connectors. **Note:** See Step 5 on page 6 for orienting the Back Plate Ribbon Harness for the proper handing of the door.



5

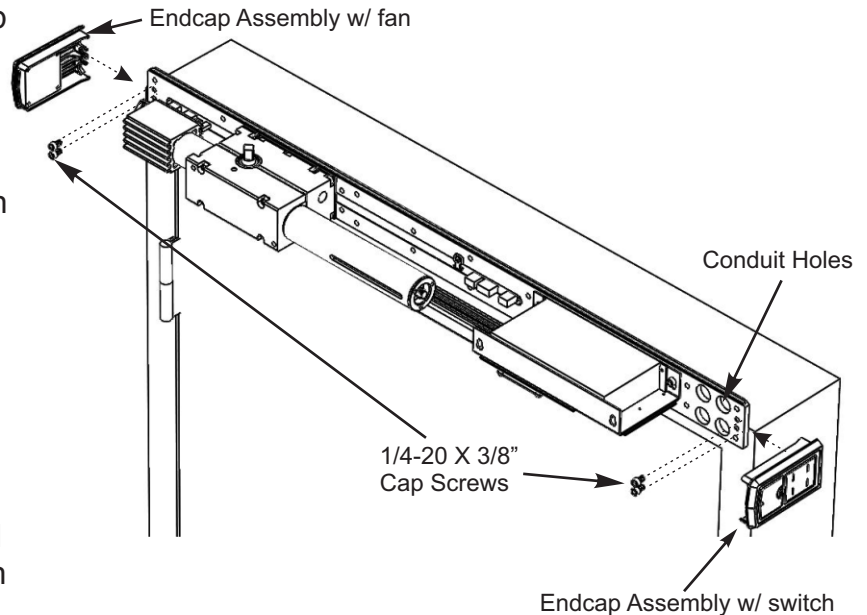
Power Supply / Board Assembly shipped with Back Plate Ribbon Harness attached. Orientation of Power Supply / Board Harness may require relocating of Back Plate Ribbon Harness.

- A. After completing Step 4 to assemble the Power Supply / Board Assembly, note the orientation of the 10-pin housing on the board assembly, shown at right.
- B. Using the 10-pin housing / connector on the board closest to the frame, attach the Back Plate Ribbon Harness to the board. **NOTE:** The connectors on the harness are keyed to allow for proper installation, see illustration below. When the connector is installed to the board, the ribbon portion of the harness should be toward the body assembly and not across the board assembly.
- C. Attach the other end of the Back Plate Ribbon Harness to the 10-pin housing / connector on the Back Plate Board. **NOTE:** The connector on the Back Plate Board also has a key slot. The connector on the Back Plate Ribbon Harness must be oriented correctly to insert into this housing / connector.



6 Pull Side End Cap Installation

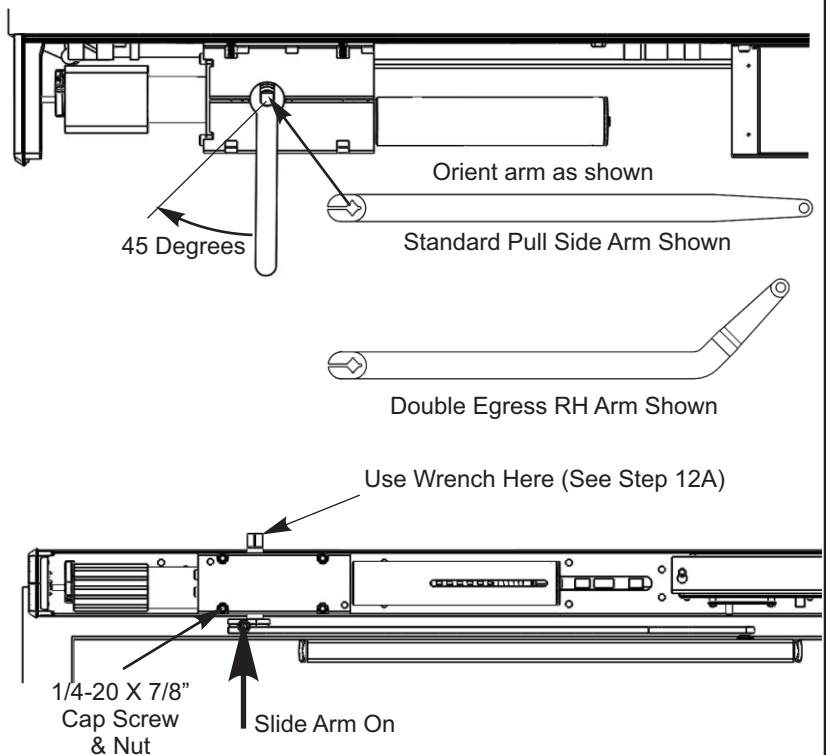
- A. Install (2) 1/4-20 x 3/8" length cap screws in center tapped holes on each end of the Back Plate leaving about 3/16" gap between head of screw and back plate.
- B. Slide appropriate end cap (shown at right) behind the screw heads from Step 5A and tighten screws.
NOTE: The end cap with the 3-position switch is always located on the conduit side of the Back Plate.
- C. Plug the 3-position switch connector from the end cap into the main board 123 HOLD OPEN connector and fan connector from fan to backplate board.



7 Pull Side Arm Installation

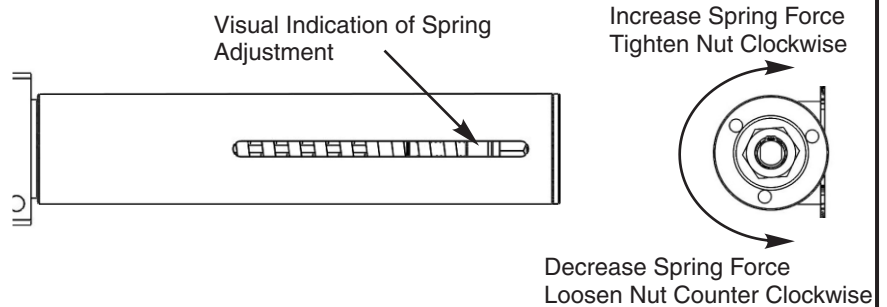
Illustration at right shows the operator looking from the top down.

- A. Use an adjustable wrench on the top pinion square to rotate the pinion 45 degrees toward the door hinge, as shown. You will feel resistance from the spring.
- B. While holding the pinion as stated in Step 6A, slide the arm on the bottom pinion square oriented as shown.
- C. Use the 1/4-20 x 7/8" cap screw and nut to secure the arm onto the pinion square.
- D. Open the door approximately 30° and mate the slider in the track to the tapped hole on the end of the arm. Use the 3/16" hex wrench to rotate the slider bolt counter clockwise until the slide is tight in the arm.



8 Closing Force Adjustment

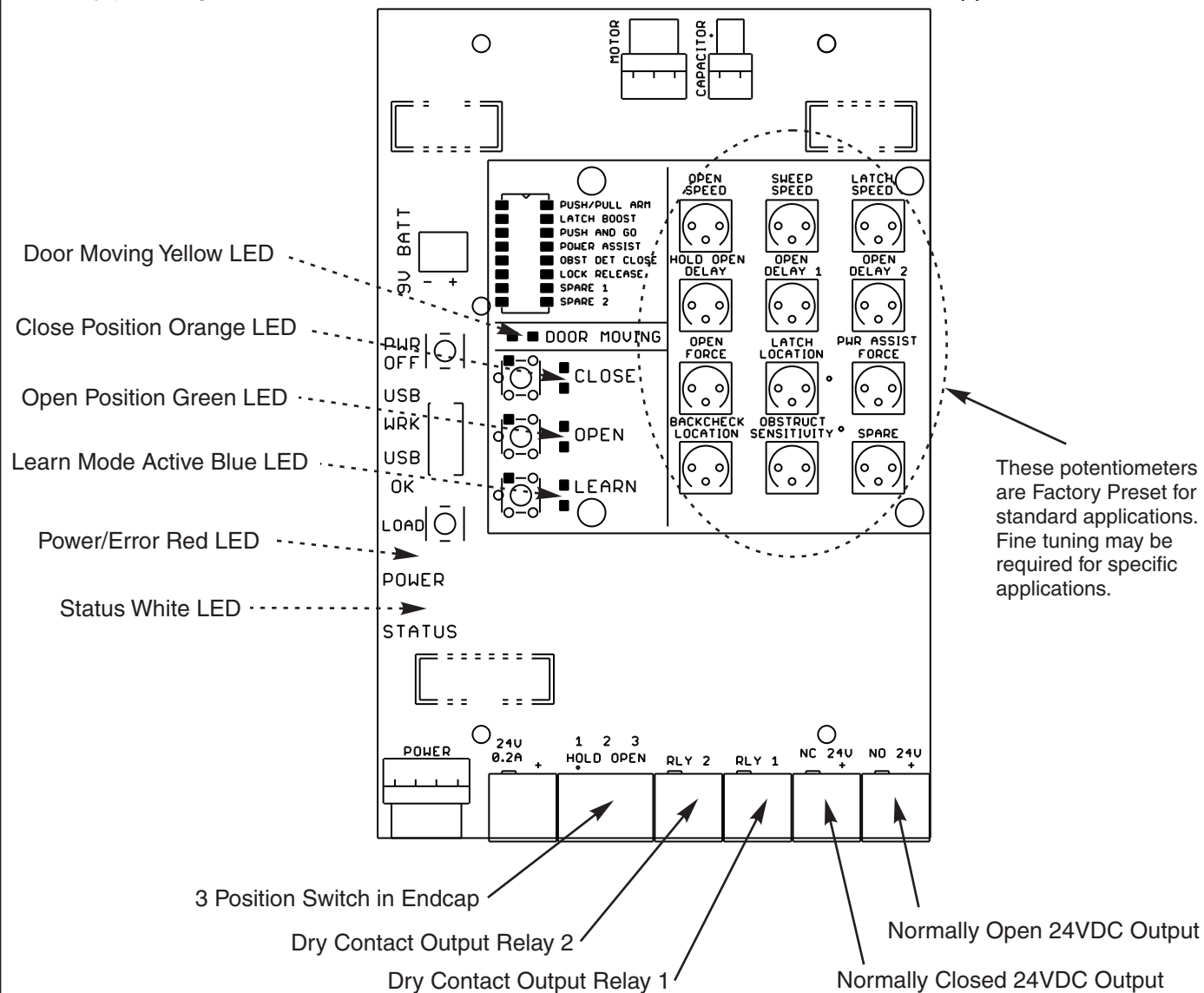
- A. The force the user feels from the door opening and closing during manual use is controlled by this function.
- B. If required, adjust the closing force nut in the end of the tube to the desired setting using a 3/4" deep well socket.
- C. If additional closing force is only required in the latching region, see Latch Boost and Lock Release features on Page 12 Step 13.



9 Initial Setup

- With building power turned off, connect 120VAC power to power supply: HOT to "L", NEUTRAL to "N", GROUND to Ground.
- Turn on building power. Power will automatically be On for operator. Power can be turned On or Off by pressing the Power button shown below.

On the control board there should be one solid *red* LED for POWER, one *white* LED that flashes every 1.5 - 2 seconds for STATUS, and one *orange* LED flashing continuously for Close Position. **NOTE:** If the *red* LED is flashing, check error section or contact Technical Product Support.



- Use the supplied green connectors to wire in any devices needing outputs, such as electric strikes, mag locks, exit devices, door open position output, etc. See output definitions below.

Definitions:

Relay 2 Output: Normally open relay that closes when the door is in the open position.

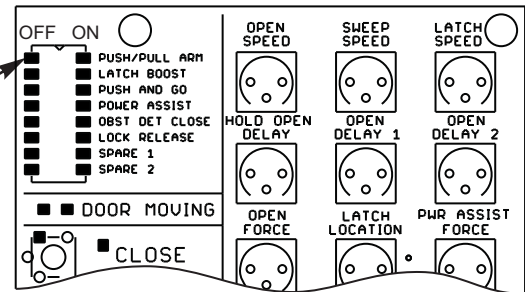
Relay 1 Output: Normally open relay that closes for 3 seconds after an activation to power open.

Normally Closed 24VDC Output: 24VDC output up to 1.3 Amp draw that opens for 5 seconds after an activation to open.

Normally Open 24VDC Output: 24VDC output up to 1.3 Amp draw that closes after an activation to open.

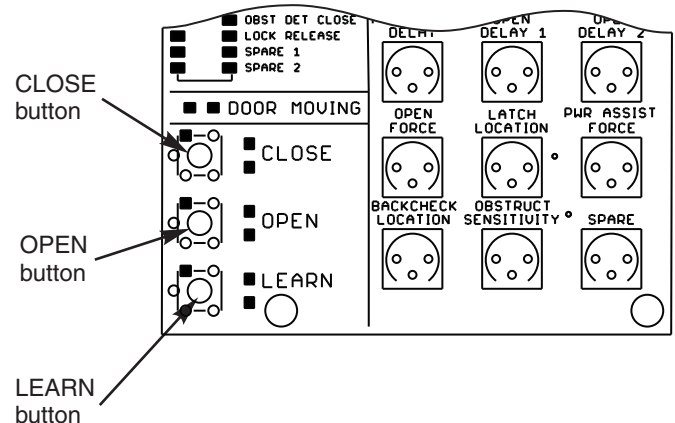
10 Set Application

- Determine if unit is Push or Pull. If Push application, the door opens away from you. If Pull application, the door opens toward you.
- Flip the PUSH/PULL ARM dip switch to OFF for a Push application or ON for a Pull application. See Illustration at right.



11 Set Door Open and Closed Position

- To set the closed position, fully close the door. Press and release the CLOSE button on the board (see Illustration at right). The flashing ORANGE LED should turn solid. **NOTE:** Any time the door is in the closed position, the orange LED should be solid.
- The GREEN OPEN LED should now be flashing. To set the fully open position, manually open the door to the open position and hold the door there. **NOTE:** If there is a wall or door stop at the open position, do not hold the door against the wall or stop. Press and release the OPEN button on the board (see illustration at right). The flashing GREEN OPEN LED should turn solid. **NOTE:** Any time the door is in the open position, the green LED should be solid. **If the open position is not set within 30 seconds of setting the closed position in Step 11A, then Step 11 must be repeated.**
- Once door has fully closed after Step 11B, make sure there are no obstructions that could prevent the door from opening. Latching hardware must not prevent the door from opening during the following step.
- The operator must now learn its internal settings. Press and release the LEARN button on the board (see illustration at right). The BLUE LEARN LED will start flashing and the door will open in small increments. Allow the door to open and close without interference. **NOTE:** If the spring is adjusted or accessories are attached to the door that would make the door heavier, **Step 11D MUST be repeated.**



12 Opening and Closing Adjustments

A. Turn potentiometers (shown below) to make any adjustments. The table below shows the times required per ANSI/BHMA A156.19 (American National Standard for Power Assist and Low Energy Power Operated Doors) for opening and closing based on the door width and weight.

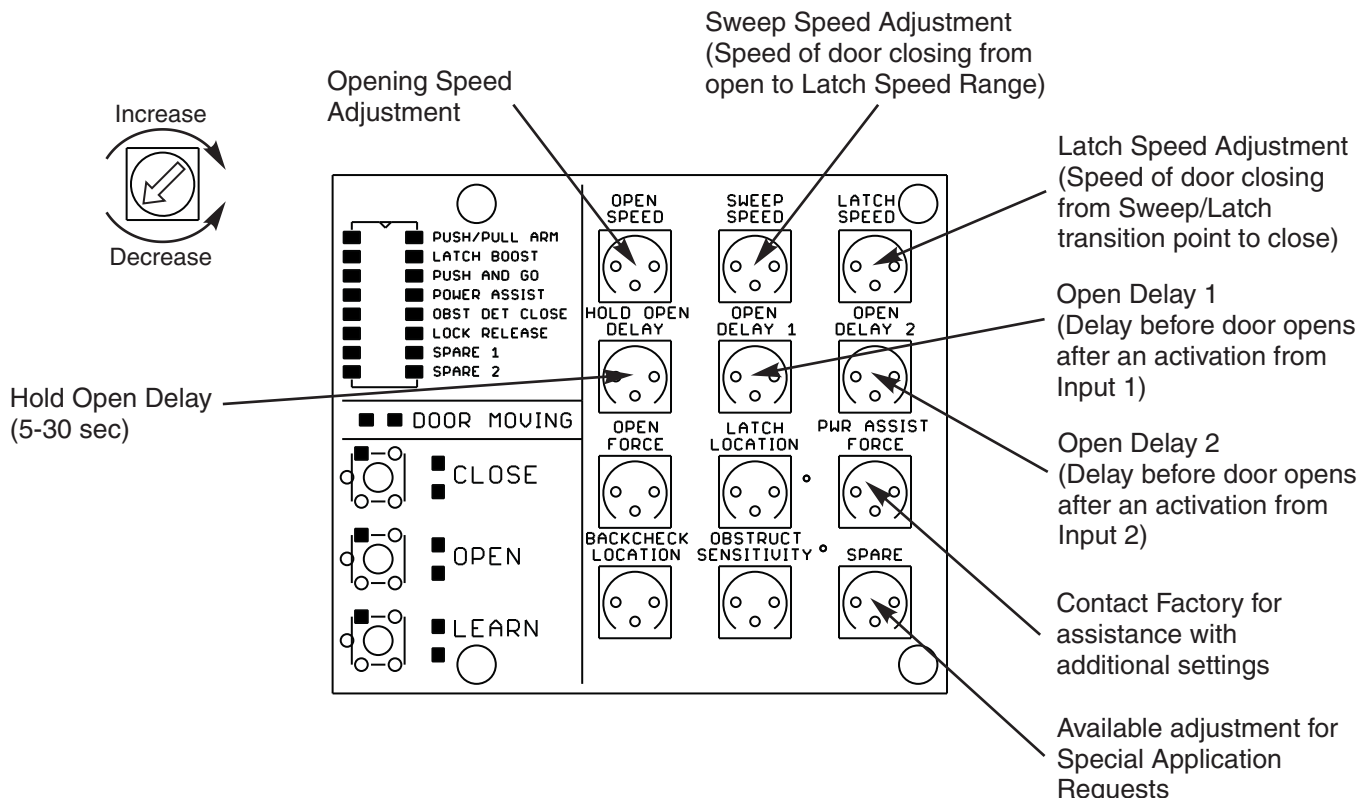


Table I					
Minimum Opening Time to Back Check or 80 degrees (whichever occurs first) and Minimum Closing Time from 90 degrees to Latch Check or 10 degrees (whichever occurs first)					
"D" Door Leaf Width - Inches (mm)	"W" Door Weight in Pounds (kg)				
	100 (45.4)	125 (56.7)	150 (68.0)	175 (79.4)	200 (90.7)
*30 (762)	3.0	3.0	3.0	3.0	3.5
36 (914)	3.0	3.5	3.5	4.0	4.0
42 (1067)	3.5	4.0	4.0	4.5	4.5
48 (1219)	4.0	4.5	4.5	5.0	5.5

Table II		
Total Opening Time to 90 Degrees		
Backcheck at 60 degrees	Backcheck at 70 degrees	Backcheck at 80 degrees
Table I plus 2 seconds	Table I plus 1.5 seconds	Table I plus 1 second
If the door opens more than 90 degrees, it shall continue at the same rate as backcheck speed		

Matrix values are in seconds

Note: To determine minimum times from close to full open, the operator shall be adjusted as shown in the chart. Back check occurring at a point between positions in Table II shall use the lowest setting. For example, if the backcheck occurs at 75 degrees, the full open shall be the time shown in Table I plus 1.5 seconds.

13 Setting Accessory Dip Switches

A. For the following features, if dip switch is toward the text the feature is turned on.

Latch Boost: Operator motor adds additional closing force in the latch region to help overcome weatherstripping, stack pressure, etc.

Push and Go: Operator automatically opens after the door has been manually pushed out of latch.

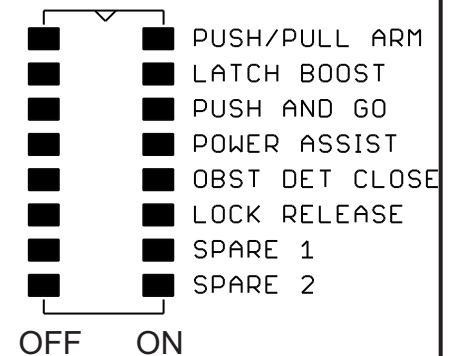
Power Assist: Operator motor assists the user while opening the door manually by reducing the opening force the user feels.

Obstruction Detection Close: If the door hits an obstruction while closing, the operator will reverse and reopen.

Lock Release: If door is in the closed position, the door is pulled in slightly before an activation and after the door has closed to assist with latch release / engagement.

Spare 1: Available Dip Switch for Special Application Requests.

Spare 2: Available Dip Switch for Special Application Requests.



14 Connecting Inputs

A. Use green 2-position connectors attached to board to add any necessary inputs to the locations shown at right. Definitions of inputs are below:

Input 1: Activation 1

Momentary contact closure of this input cycles the door through a normally open / close cycle. Tied to Open Delay 1.

Input 2: Activation 2

Momentary contact closure of this input cycles the door through a normal open / close cycle. Tied to Open Delay 2.

Input 3: Toggle / Executive Mode

Momentary contact closure of this input sends a closed door to the open position or an open door to the closed position.

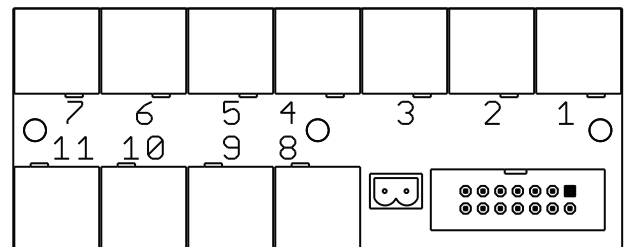
Input 4: Blow Closed

Continuous contact closure of this input puts the operator in a passive closer mode where the door functions as a typical door closer and accepts no activations. Once contact is removed, the unit goes back to operator mode.

Input 5: Blow Open

Continuous contact closure of this input triggers the operator to go to the open position and stay there until the contact is removed. If the door is pulled away from the open position, the operator will go back to open from any point.

(continue to next page)



14 Connector Inputs (cont.)

Input 6: Hold Open

Continuous contact closure of this input triggers the operator to go to the open position and stay there until the contact is removed. If the door is pulled away from the open position, the operator will close completely and reopen to the open position and stay in the open position until the contact is removed.

Input 7: Obstruction 1

Contact closure of this input while the door is open or closing triggers the operator to return to the open position. This is used in conjunction with presence sensors mounted to the closing side of a door to prevent the door from hitting an obstruction.

Input 8: Obstruction 2

Contact closure of this input while the door is closed or opening triggers the operator to stall. If the contact is not removed after 10 seconds of closure, the operator will return to the closed position. This is used in conjunction with presence sensors mounted to the opening side of a door to prevent the door from hitting an obstruction.

Input 9: Security Override

Continuous contact closure of this input triggers the operator to disable Input 2 / Activation 2. This is typically used for switching off an outside wall plate.

Input 10: Spare input for Special Application Requests.

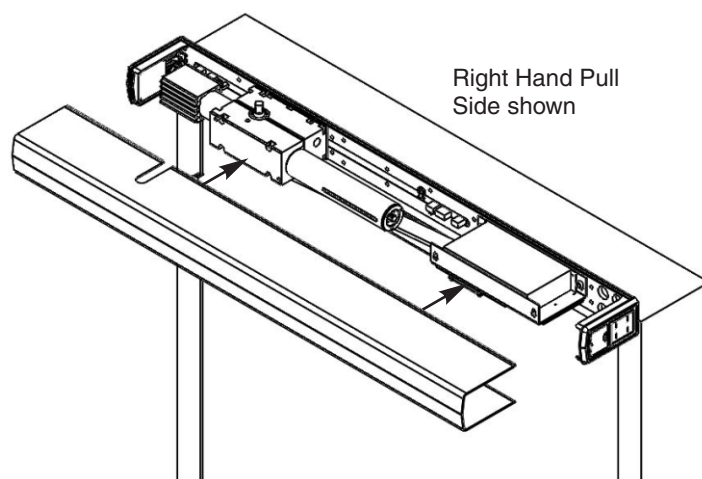
Input 11: Spare input for Special Application Requests.

15 Cover Installation

- A. Align the cut outs in the cover to the pinion squares.
- B. Use the end caps and body as a guide to slide the cover onto the unit.
- C. Push / snap cover so it locks securely to the back plate.

WARNING: Make sure no wiring is loose or can be caught by the cover when it is snapped into place.

- D. For pull side units, cover can be snapped onto track.



16 Troubleshooting

Error Codes for RED POWER LED flashes:

- 1 RED LED Flash:** Reset back to factory defaults by pressing and hold the POWER button until all LEDs light up then release. The unit will reset and then the CLOSED LED will be flashing. Repeat Step 18 to set Open and Closed Positions and Learn process.
- 2 RED LED Flashes:** 24VDC power error too high or too low. Check incoming voltage to power supply and from power supply to board.
- 3 RED LED Flashes:** An error occurred during the Learning process. If the door hit an obstruction, reset to factory defaults by pressing and holding the POWER button until all LEDs light up, then release. Repeat Step 18 to set Open and Closed Positions and Learn process. If the door did not hit an obstruction, inspect hinges or door / frame for excessive wear, misalignment, etc. Replace worn components and repeat Step 18 to set Open and Closed Positions and Learn process.
- 4 RED LED Flashes:** Ensure all harnesses are plugged in and secure - focus on motor wires.
- 5 RED LED Flashes:** Ensure all harnesses are plugged in and secure - focus on harnesses attached to the back plate board.
- 6 RED LED Flashes:** Ensure all harnesses are plugged in and secure - focus on main board harnesses.
- 7 RED LED Flashes:** Motor overheating.
- 8 RED LED Flashes:** Ensure all harnesses are plugged in and secure - focus on harnesses attached to the back plate board.
- 9 RED LED Flashes:** TEMP connector on backplate not plugged in.

Pull Side Application Only

