NORTON RIXSON 6200 Series Full Feature Low Energy Operator Installation Guide

Contents

NORTON RIXSON 6200 Series Full Feature Low Energy Operator

Product Information

The 6200 Series Full Feature Low Energy Operator Model 6231 (Push Side) is a power operator that is designed for indoor use only. It has an input power of 120VAC, 60Hz 3.0A and a power supply of 24 V DC, max. 4.5 Amp. with .4A available for Acc. The door weight it can handle ranges from 90-200 lb. (41-91 kg) and the push max angle is up to 36-48 (91-122 cm).

This product comes with a set of tools needed for installation, including safety glasses and supplied fasteners like #7 1/4-20 3/8, 9/32, 3/16, and 3/32. It also includes a backplate, push arm package, closer body, end cap kit, cover, and power supply.

It is important to note that this product can expose you to lead which is known to the state of California to cause cancer and birth defects or other reproductive harm. For more information, go to **www.P65warnings.ca.gov**.

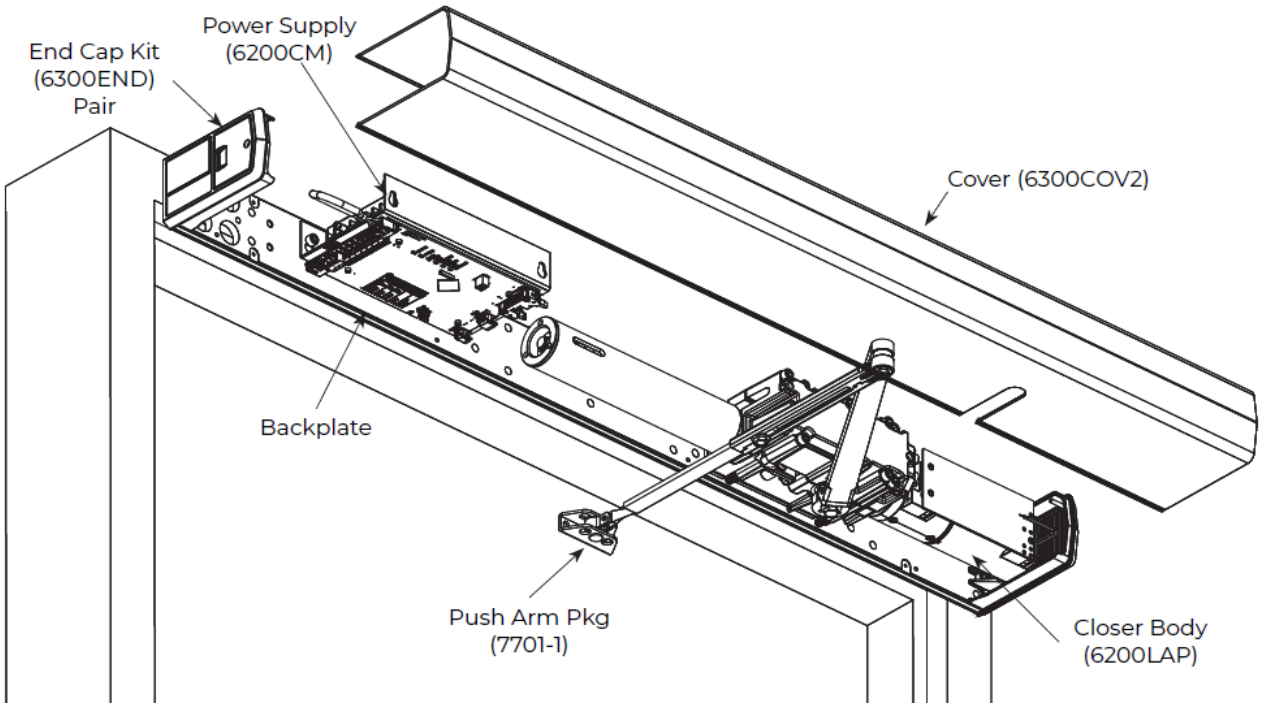
Product Usage Instructions

1. Read and follow all instructions in the user manual provided with the product.
2. Install the operator 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.
5. Never let children operate or play with door controls. Keep remote control (when provided) away from children.
6. Personnel should keep away from a moving door in motion.
7. Test the door's safety features at least once a month. After adjusting either force or limit of travel, retest the door operator's safety features. Failure to adjust the operator properly may cause severe injury or death.
8. Keep the 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.
9. Save these instructions for future reference.

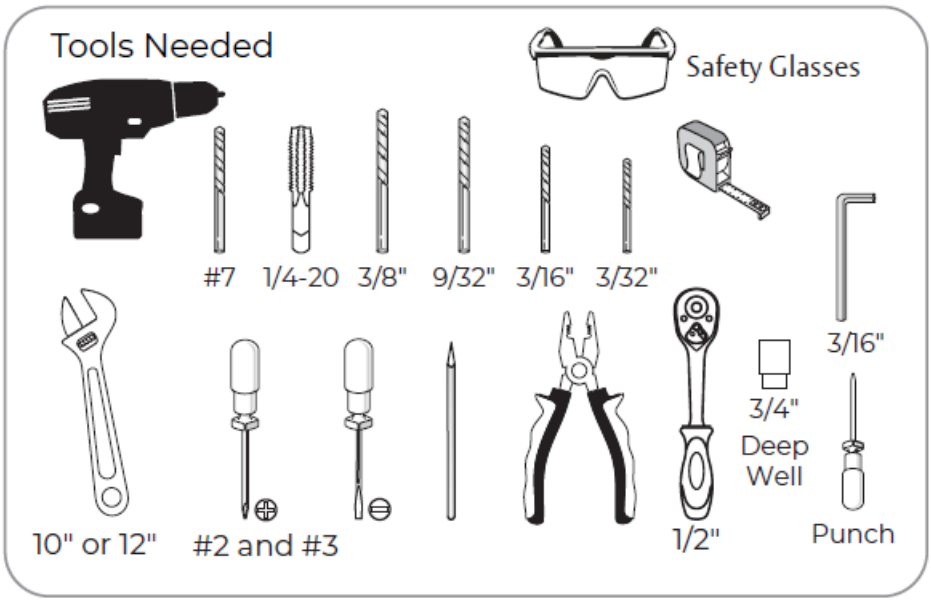
WARNING
This product can expose you to lead which is known to the state of California to cause cancer and birth defects or other reproductive harm. For more information go to
www.P65warnings.ca.gov.

Overview

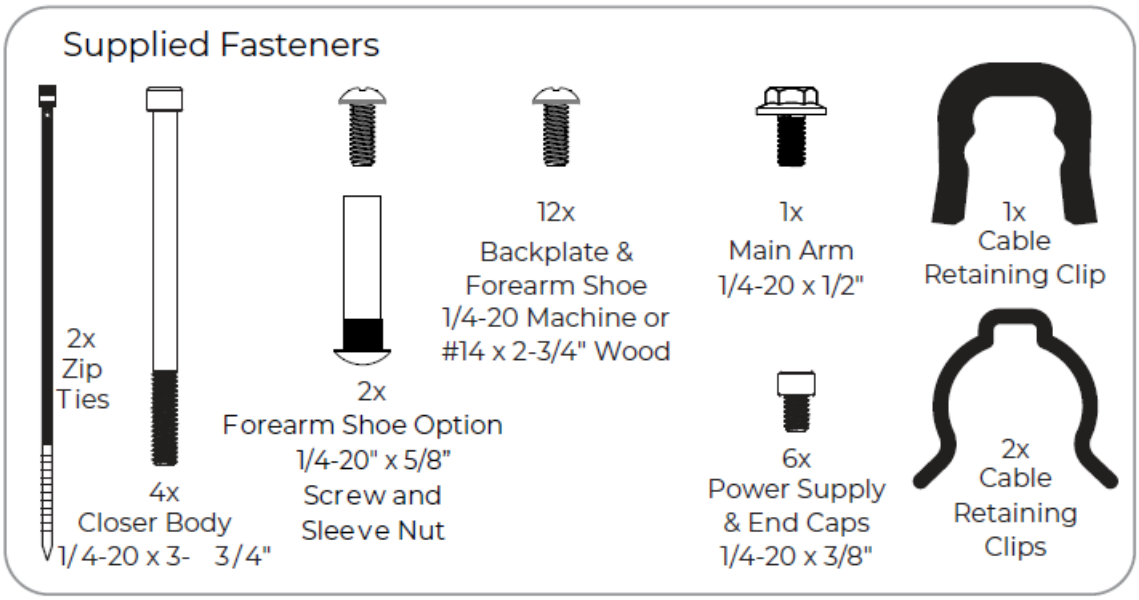
6231 Push Side up to 130° opening



Tools Needed



Supplied Fasteners



Certifications and Standards

- **ETL Certified:** Operator 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 a “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”.

Technical Data

Input power:	120VAC, 60Hz 3.0A
Power supply:	24 V DC, max. 4.5 Amp. ; .4A Available for Acc.
Door width:	36 – 48″ (91-122 cm)
Door weight:	90-200 lb. (41-91 kg)
Push max angle:	130° with reveal of 1/8″ to 3-1/4″ (3 to 82.5 mm)
Pull max angle:	120°
Hold open time:	5-30 seconds (A.D.A. 5 seconds min.) Indefinite for Hold Open Input or End Cap 3 Position Switch

NOTE:

- Permanent wiring is to be employed as required by local codes.

- **Activation devices:** push plates, 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

Product Safety Warnings

WARNING:
To reduce the risk of injury to a person, use this operator only with Pedestrian Swing doors. FOR INDOOR USE ONLY.

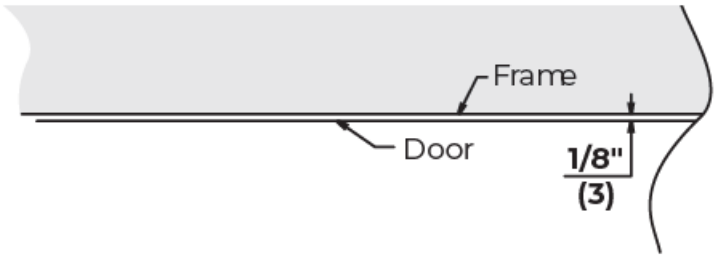
1. READ AND FOLLOW ALL INSTRUCTIONS.
2. Install only on a properly operating and balanced door. A door that is operating improperly could cause severe injury. Have qualified service personnel make repairs to any hardware before installing the operator.
3. Remove, or make inoperative, all locks (unless 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.
5. Never let children operate or play with door controls. Keep remote control (when provided) away from children.
6. Personnel should keep away from a moving door in motion.
7. Test the door's safety features at least once a month. After adjusting either force or limit of travel, retest the door operator's safety features. Failure to adjust the operator properly may cause severe injury or death.
8. KEEP THE 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.
9. SAVE THESE INSTRUCTIONS.

Before You Begin

- The thickness recommended for reinforcements in hollow metal doors and frames is charted.
- This template information is based upon the use of 5″ (127mm) maximum width butt hinges.
- Maximum frame reveal is 1/8″ up to 3-1/4″ (3 to 82.5mm) maximum for 6231 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.

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.



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)

Installation

Mount backplate.

1. Determine right-hand or left-hand installation. (Figure 1)

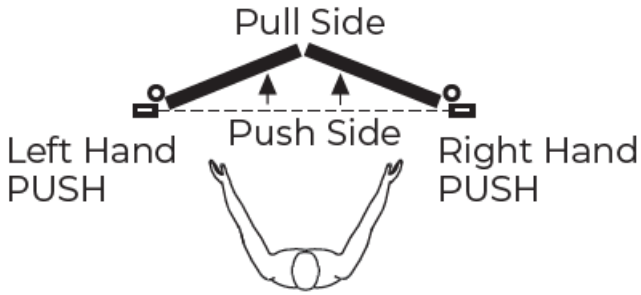


Figure 1

2. Measure and mark the first mounting hole according to the template. (Figure 2)

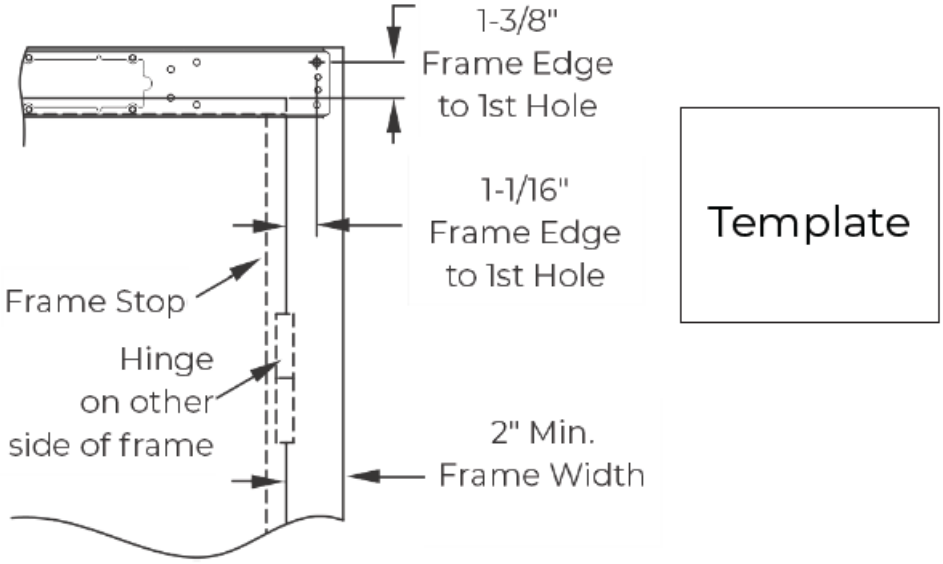


Figure 2 Right Hand Shown

3. Attach the backplate to the frame with a screw. Do not fully tighten the screw at this time.

   For Metal Frames:

   Use #7 drill and 1/4-20 tap for 1/4-20 machine screws.

   For Wood Frames:

   Use a 3/16″ drill and supplied screws for self-drilling, self-tapping screws.

4. Ensure the backplate is level and aligned with the door frame. (Figure 3)
5. Using the backplate as a guide, mark and drill the second hole. (Figure 3)
6. Insert the second screw and tighten both screws.
7. Using the backplate as a guide, drill and tap the remaining eight (8) holes in frame. (Figure 3)
8. Secure with eight (8) screws and tighten.

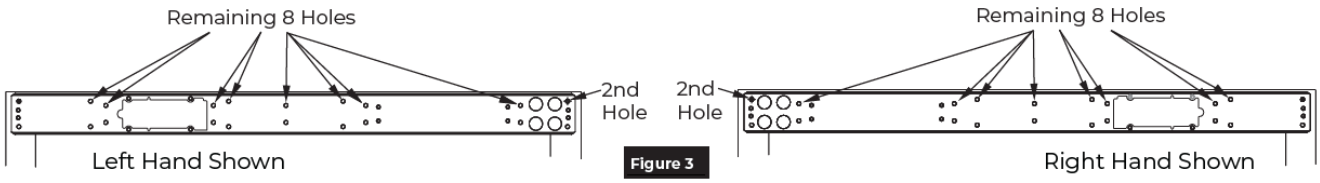


Figure 3

Mount the forearm with the shoe.

1. Measure and mark the door for the first forearm shoe mounting hole using a template. (Figure 4)

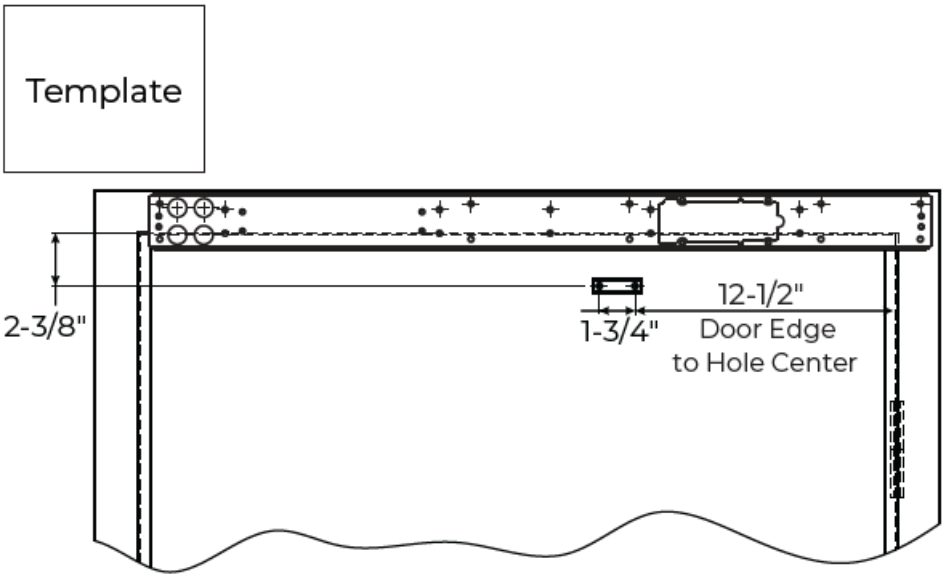
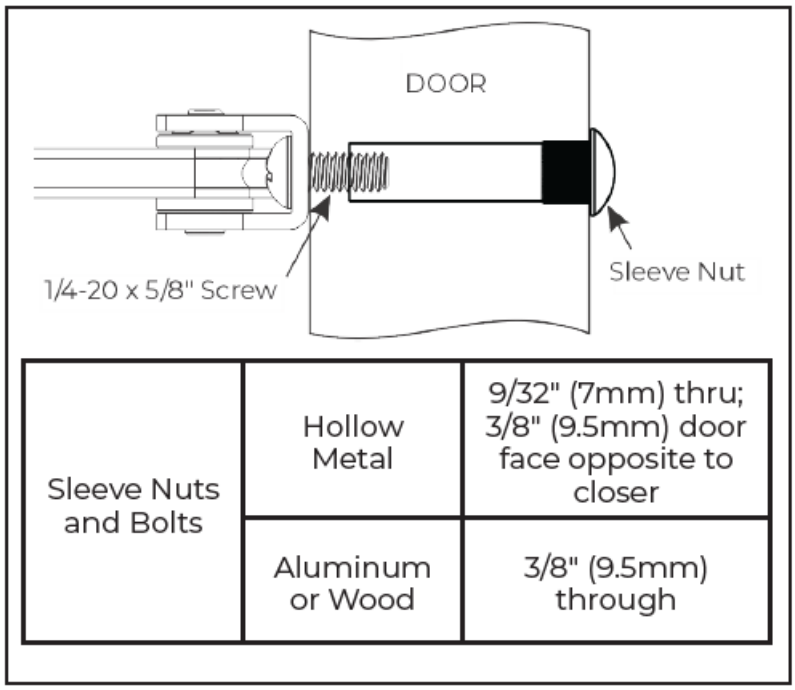


Figure 4

2. Drill hole.
    - For reinforced doors, drill and tap holes with #7 drill and 1/4-20 tap.

- For wood doors or self-drilling screws, use a 3/32” drill.
- For sleeve nuts and bolts, see illustration. (Figure 5)



Sleeve Nuts and Bolts	Hollow Metal	9/32" (7mm) thru; 3/8" (9.5mm) door face opposite to closer
	Aluminum or Wood	3/8" (9.5mm) through

Figure 5

3. Mark and drill the second hole using a forearm shoe as a template.
4. Secure forearm to door. (Figure 6)

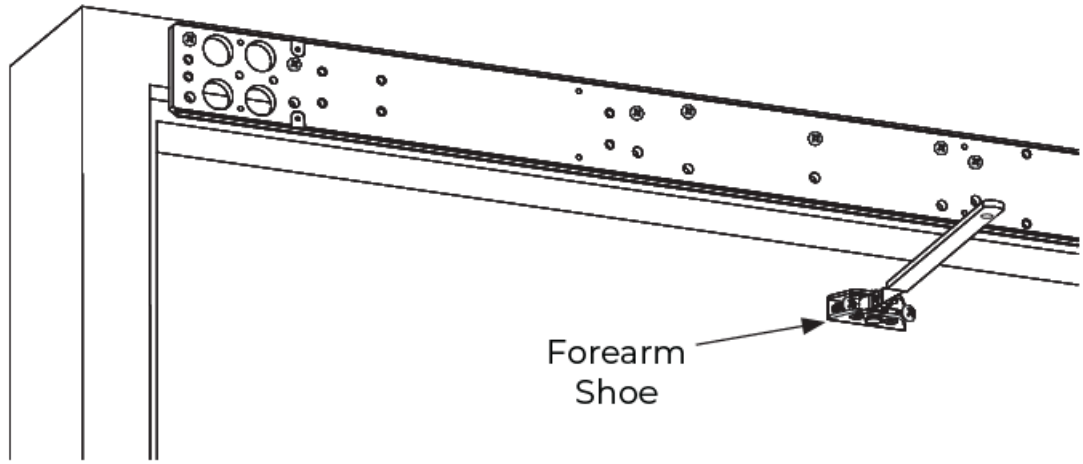
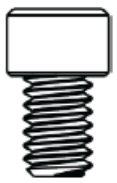


Figure 6

Install end caps.



1. Install two (2) screws on each end of the backplate leaving about a 3/16″ gap between the head of the screw and the backplate. (Figure 7)Slide end caps behind screw heads and tighten screws. (Figure 7)

NOTE:

- **NOTE:** End cap with 3-position switch is always located on conduit side of backplate.
- **NOTE:** To retrofit closer assembly to an existing operator, screws, and fan inside of the end cap must be removed.

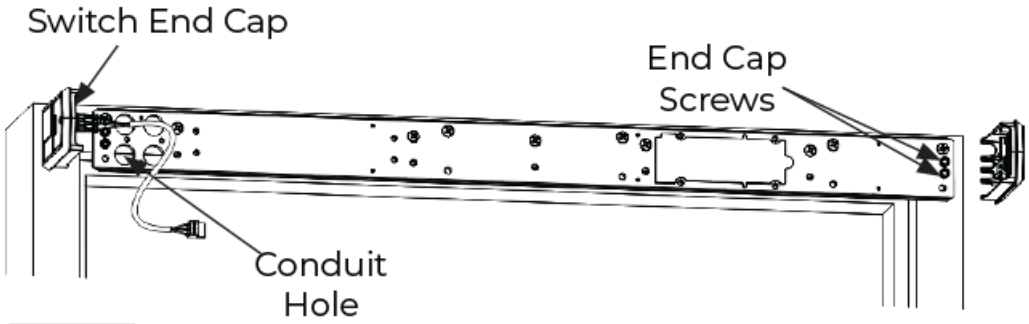
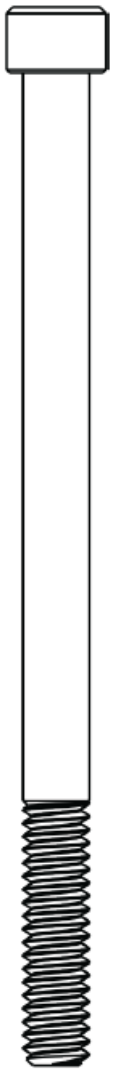


Figure 7

Install closer body assembly.



1. Using four (4) screws, install a closer body to the backplate. (Figure 8)

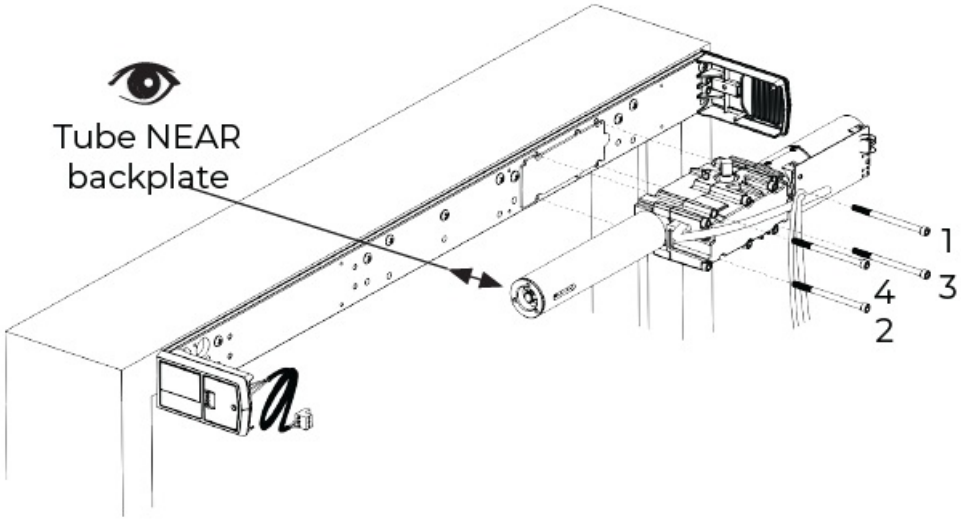


Figure 8

NOTE:

- Screws must be tightened in a cross pattern until all four (4) screws are tight. (Figure 8)
- The closer body is in the proper orientation for PUSH SIDE application when the tube is NEAR the backplate. (Figure 8)

2. Using three (3) supplied cable management clips, secure cables along the closer body. (Figure 9)

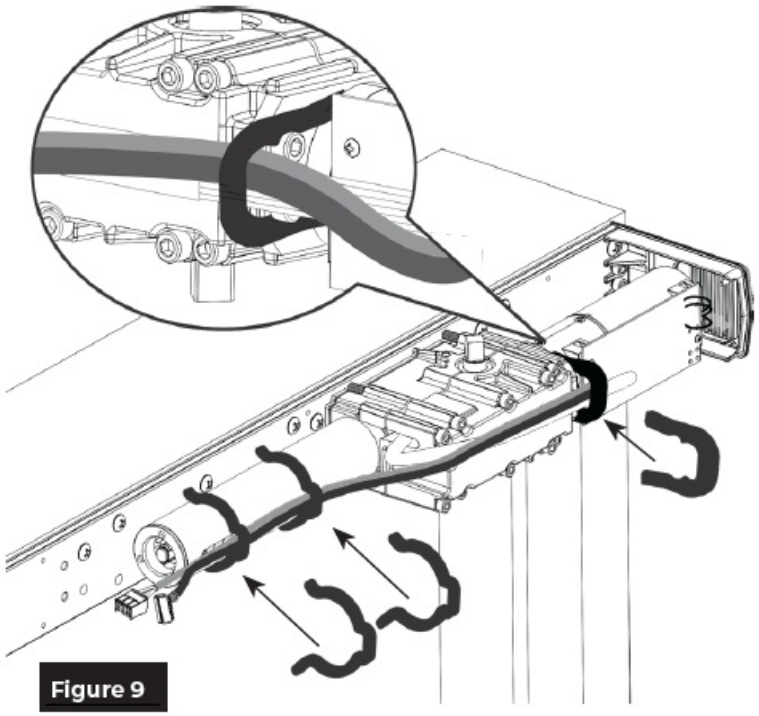
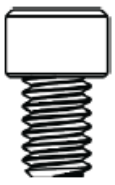


Figure 9

Install power supply assembly.



1. Insert two (2) screws. Leave a 3/16″ gap between the head of the screw and the backplate. (Figure 10)
2. Slide power supply keyholes over screws allowing narrow slots of keyholes to rest on screws. (Figure 10)
   NOTE: Narrow slots of keyholes are always at the top and the control board is always at the bottom for proper

installation. (Figure 10)

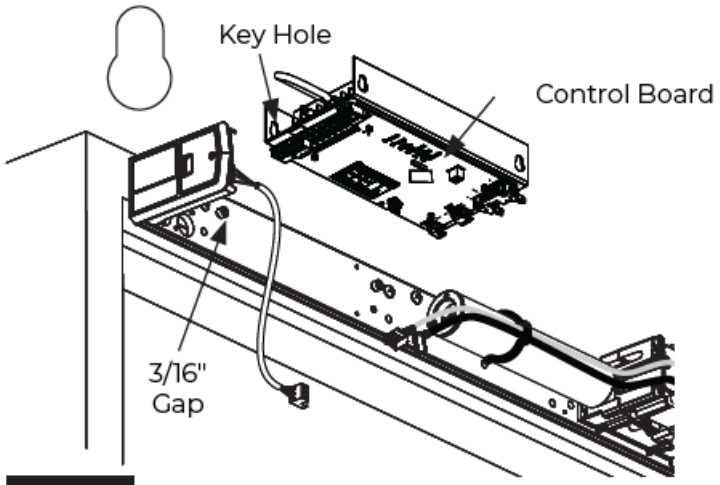


Figure 10

3. Tighten screws.
4. Plug the motor and ribbon cables from the closer body into the power supply. (Figure 11)

   NOTE: Use provided zip ties to manage any excess cable between the closer and the power supply so that cover can be attached without damaging cables. (Figure 11)
5. Connect 3 Position switch on the end cap to the power supply. (Figure 11)

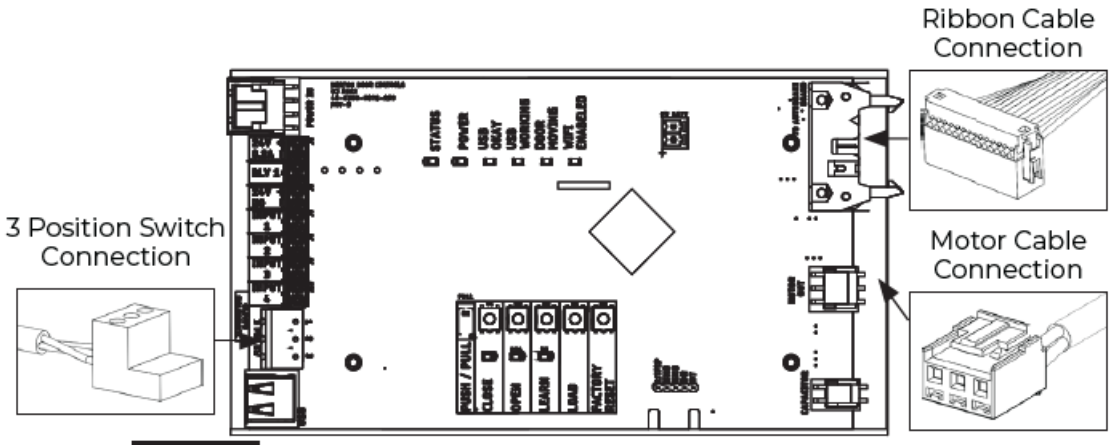
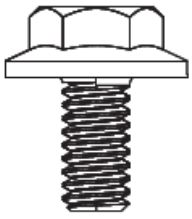


Figure 11

Install the main arm.



1. Using a hex wrench, secure the main arm to the bottom pinion with a 1/4- 20x 1/2″ screw. (Figure 12)

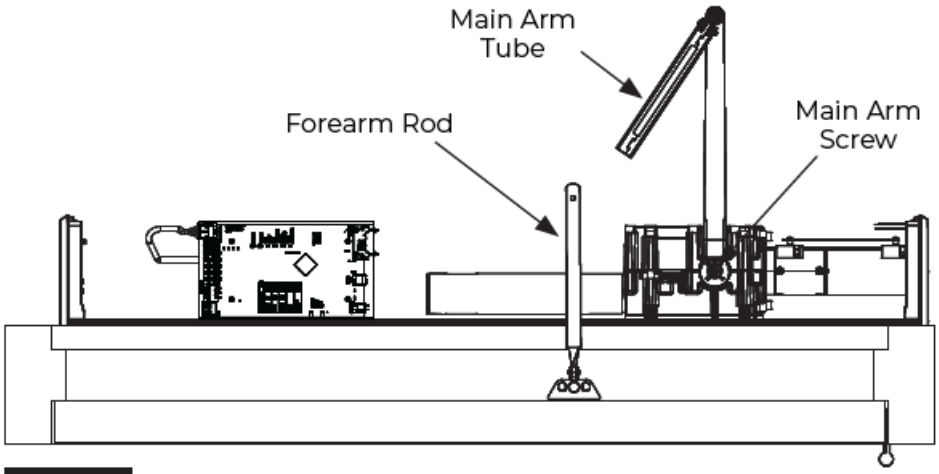


Figure 12 View: Looking up from floor

2. Slide the main arm tube onto the forearm rod. (Figure 12)

   NOTE: If necessary, open the door for the tube to slide onto the forearm.
3. With the door fully closed, rotate the main arm toward the latch edge of the door until the arm tube is at a 90° angle (perpendicular) to the door. (Figure 13)
4. Use the arm screw provided with the main arm to secure the tube to the forearm rod. (Figure 13)

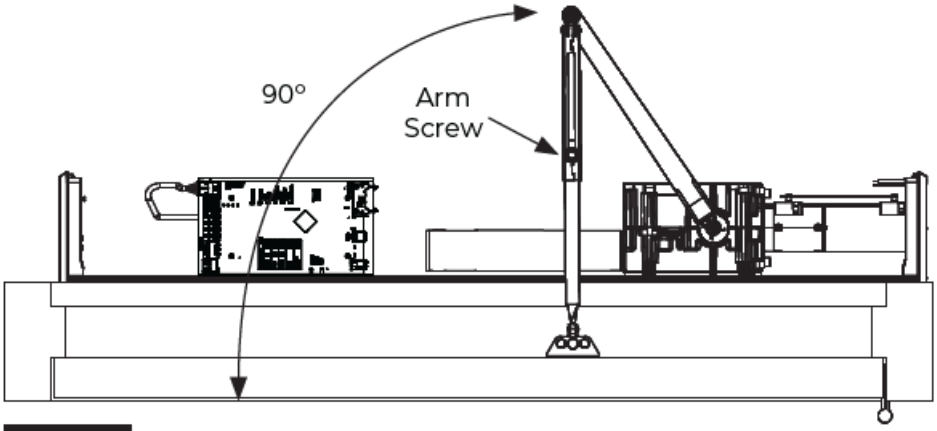


Figure 13 View: Looking up from floor

Adjust closing force.

NOTE:
The amount of effort to manually open or close a door is called closing force.

1. Using a 1/2″ socket wrench with a 3/4″ deep well socket, turn the nut at the end of the closer body tube to desired force. (Figure 14)

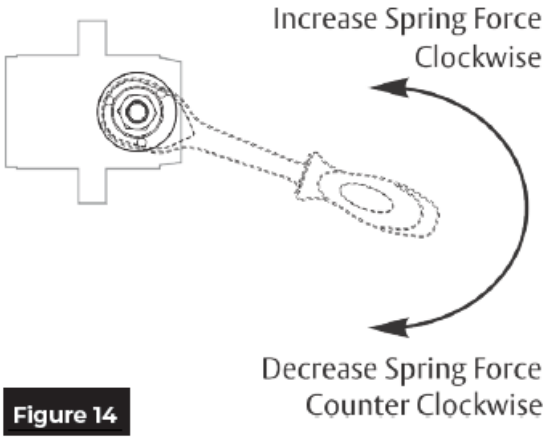


Figure 14

NOTE: The window in the closer tube shows spring. (Figure 15)

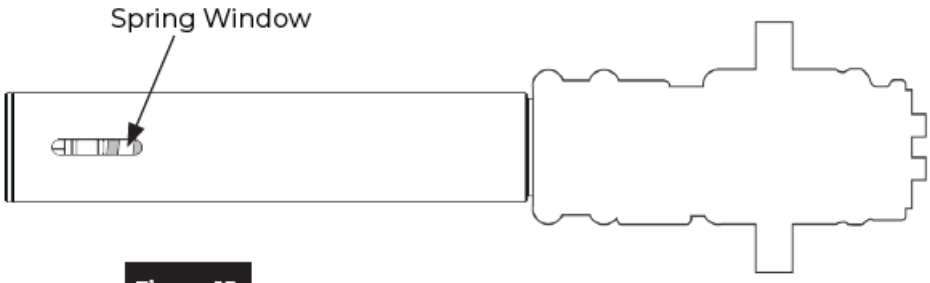


Figure 15

NOTE:
If additional closing force is only required in the latching region, see Latch Boost and Lock Release features in separate programming manual 80-9363- 0022-020.

Attach cover and end cap label plates.

NOTE:
Attach cover after initial programming has been done. See separate programming manual 80-9363-0022-020.

1. Align cut-outs in cover to pinion shafts. (Figure 16)
2. Slide cover onto unit using end caps as guides.
3. Snap cover securely to back plate.
4. Attach a label plate to each end cap by snapping into place by hand with gentle pressure. (Figure 16)

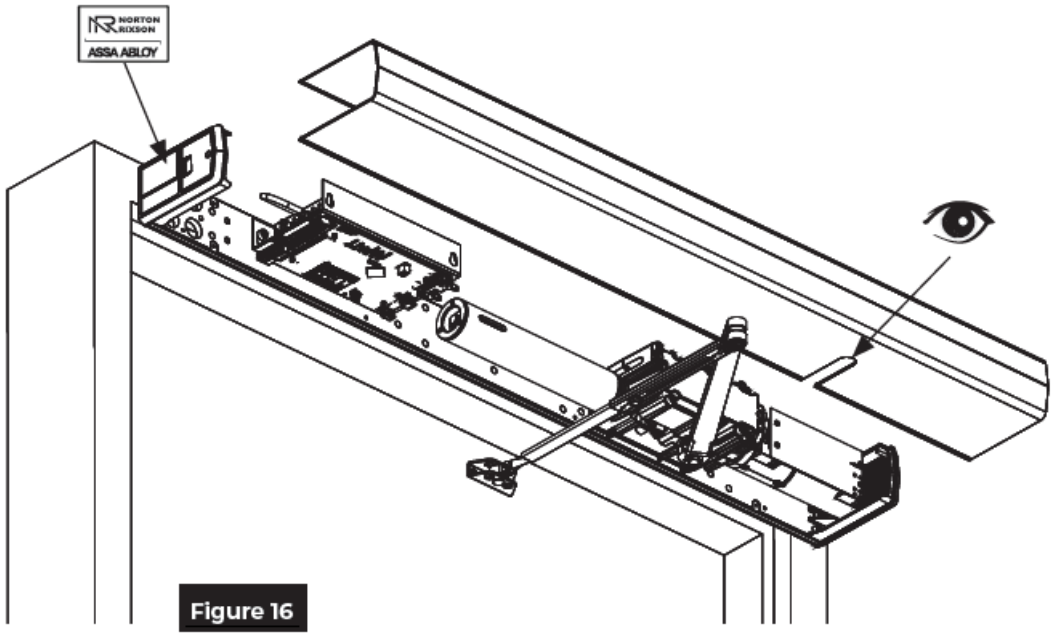
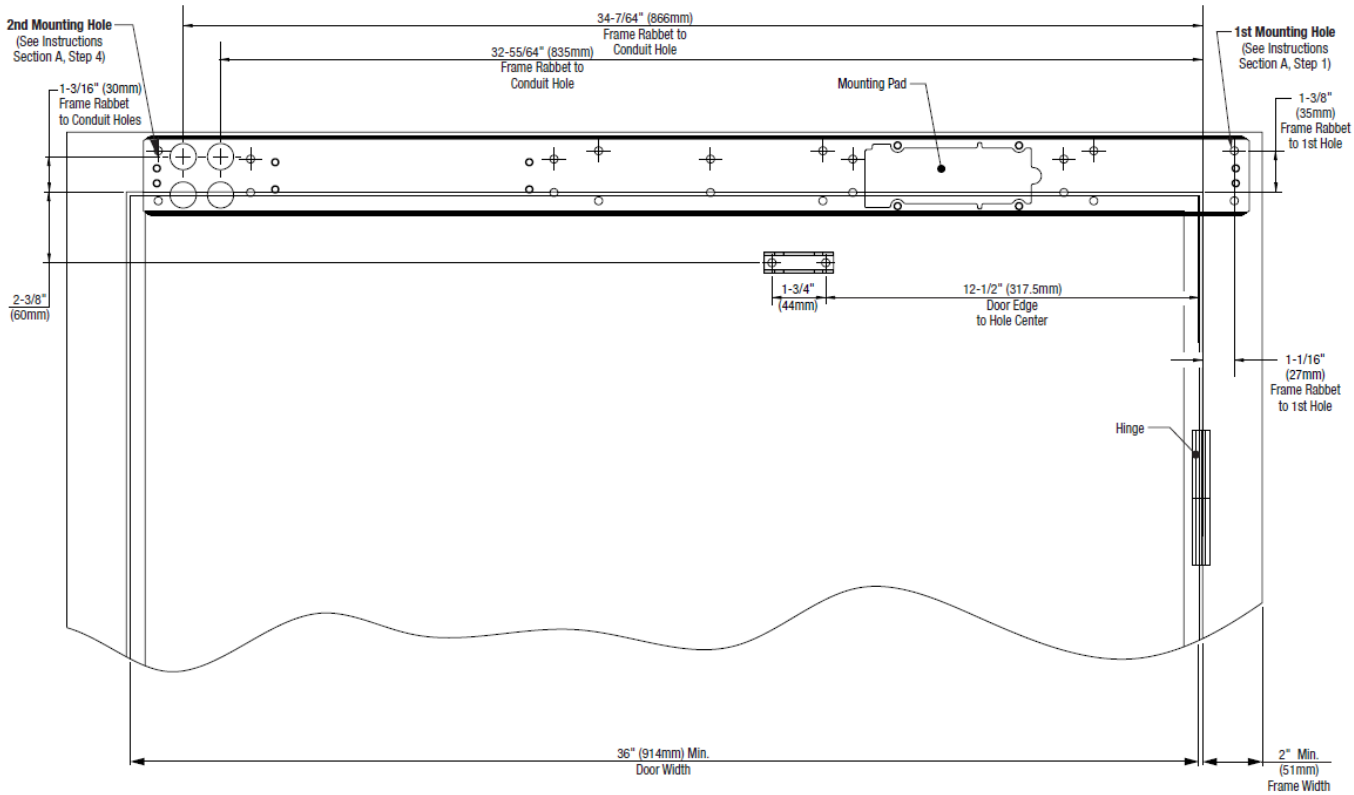


Figure 16

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

You've now installed the 6231 PUSH SIDE Low Energy Operator. Continue with a separate Programming Manual 80-9363-0022-020 to set up and adjust the operator.

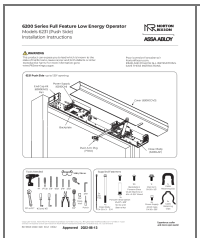
Dimension



NOTE:
Ten (10) mounting holes and two (2) conduit holes to be drilled are shown with center marks. Dimensions are given in inches (“) and millimeters (mm).

80-9363-0020-020

Documents / Resources

	NORTON RIXSON 6200 Series Full Feature Low Energy Operator [pdf] Installation Guide 6241, 6231, 6200 Series Full Feature Low Energy Operator, 6200 Series, 6200 Series Low Energy Operator, Full Feature Low Energy Operator, Low Energy Operator

References

- Home \| Norton Rixson Commercial Door Controls & Hardware \| Norton Rixson
- P65warnings.ca.gov