

5200 Series Full Feature Low Energy Operator

Model 5241 (Pull Side)

Installation Instructions

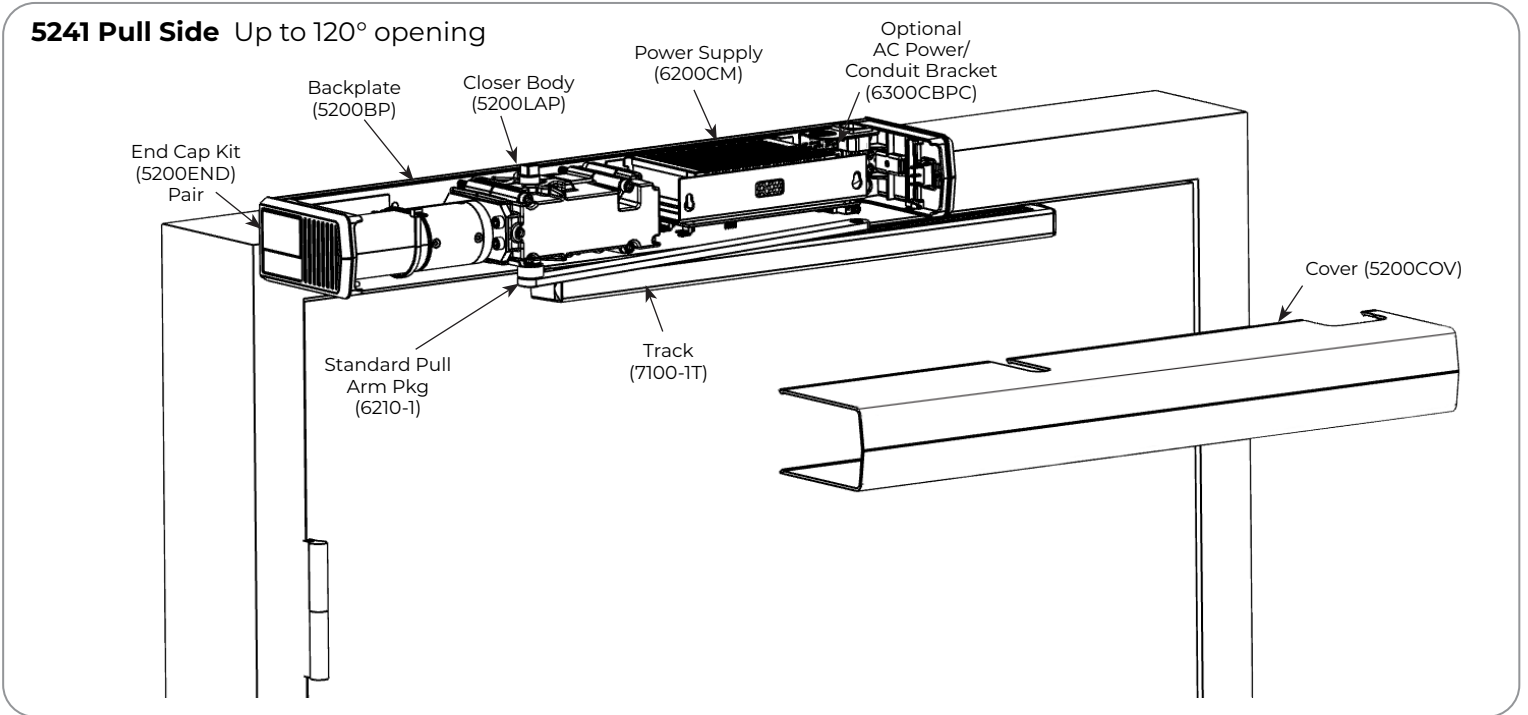
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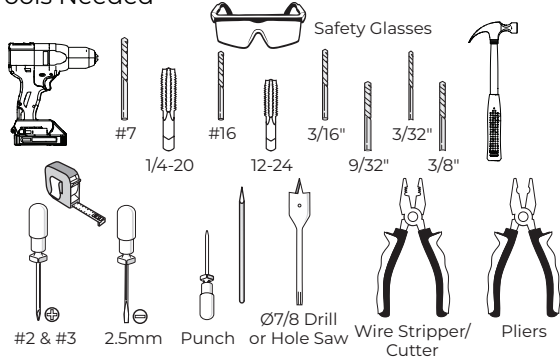
⚠ WARNING

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.

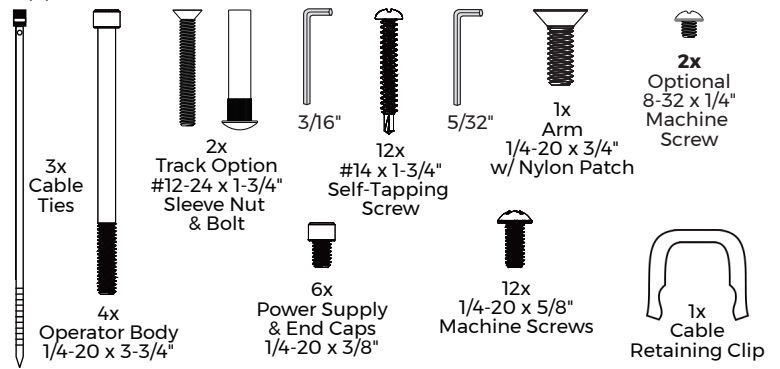
Pour la version française voir NortonRixson.com.
READ AND FOLLOW ALL INSTRUCTIONS.
SAVE THESE INSTRUCTIONS.



Tools Needed



Supplied Fasteners and Tools



The table below provides a list of documents associated with this product. These documents are available for download from www.nortonrixson.com. If additional information or assistance is needed, contact Technical Product Support.

Document Title	Document Number
5200 Series Programming Instructions	80-9352-0022-020
5211 Pull Side Template	80-7352-0001-020

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Certifications and Standards

- ETL Certified: Operator conforms to ANSI/UL standard 325 for automatic closing doors.
- 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 “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 disabled 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

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

Product Safety Warnings

WARNING: To reduce risk of injury to 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 or latches that could prevent the operator from opening the door. The operator is capable of powering a retracting latch or other exit devices to enhance the security of the opening.
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 door's safety features at least once a month. After adjusting either force or limit of travel, retest door operator's safety features. Failure to adjust operator properly may cause severe injury or death.
8. 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.
9. SAVE THESE INSTRUCTIONS.

5241 Series (PULL Side) Power Operator

Before You Begin

- Thickness recommended for reinforcements in hollow metal doors and frames is charted.
- This template information based upon use of 5" (127mm) maximum width butt hinges.
- Maximum frame reveal is 1/8" for 5241 units.
- Before beginning the installation, verify that the door frame is properly reinforced and is well anchored in the wall.



For concealed wiring:

- Use template (available for download from www.nortonrixson.com) to drill conduit holes in the door frame, prior to running concealed electrical conduit and switch/sensor wires.
- Wires should be pulled through the frame prior to operator installation.

Fasteners for Frame:

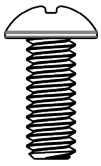
- 1/4-20 Machine screws for hollow metal and aluminum.
- #14 x 1-3/4" (44mm) self-drilling, self-tapping screws for wood.

Hollow Metal Door Frame Reinforcing		
Frame Material	Reinforcing	
	Recommended	Min. Required
12 Ga. .105 (2.66)	12 Ga. .105 (2.66)	18 Ga. .048 (1.21)
14 Ga. .075 (1.90)	10 Ga. .134 (3.41)	12 Ga. .105 (2.66)
16 Ga. .060 (1.52)	10 Ga. .134 (3.41)	12 Ga. .105 (2.66)
18 Ga. .048 (1.21)	8 Ga. .165 (4.18)	10 Ga. .134 (3.41)

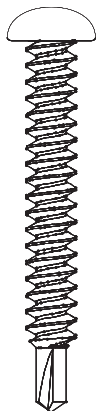
Installation

A. Mount the backplate.

1. Determine right hand or left hand installation. (Figure 1)
2. Measure, mark, and drill the first mounting hole according to the template (available for download from www.nortonrixson.com). (Figure 2)



OR



- For Metal Frames:**
Use #7 drill and 1/4-20 tap for 1/4-20 machine screws.
- For Wood Frames:**
Use 3/16" drill and #14 x 1-3/4" self-drilling, self-tapping screws.
3. Place backplate against the frame so that the first hole in the backplate is aligned with the first mounting hole in the frame. Attach backplate with provided screw. **Do not fully tighten screw at this time.**
 4. Ensure backplate is aligned with door frame. Using the backplate as guide, mark and drill second mounting hole. (Figure 3)
 5. Insert second screw and tighten both screws.
 6. Using the backplate as a guide, drill and tap remaining five (5) holes in frame. (Figure 3)
 7. Secure with additional five (5) screws and tighten all screws.
 8. **For concealed wiring:** Using the backplate as a guide, mark and pre-drill two (2) conduit holes with the 3/16" drill. Then use the Ø7/8" hole saw or equivalent to drill two (2) conduit holes.

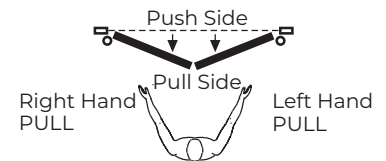


Figure 1

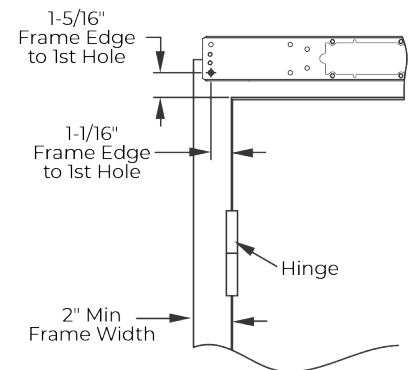


Figure 2 Right Hand Shown

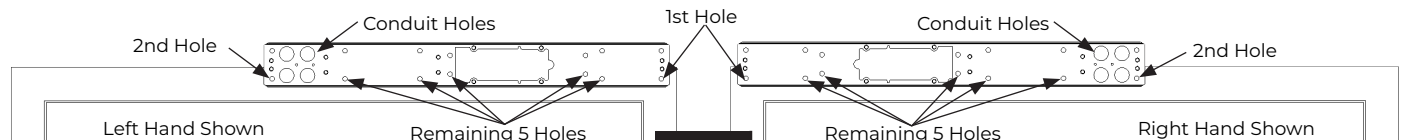


Figure 3

B. Mount the track.

1. Using the template (available for download from www.nortonrixson.com), measure and mark the first track mounting hole. (Figure 4)

2. Drill the first mounting hole.

– **For metal reinforced doors:**
Drill and tap the holes with #16 drill and #12-24 tap to use the #12-24 x 1-3/4" screw.

OR
Reference Figure 5 and use a #12-24 x 1-3/4" screw with sleeve nuts.

– **For wood doors:**
Reference Figure 5 and use a #12-24 x 1-3/4" screw with sleeve nuts.



OR



3. Prepare the track for mounting:

- Remove the caps from the end of the track.
- Slide off the track cover and slider piece.
- Replace the slider piece back into the track.

4. Orient the track so the recessed screw holes face away from the door and the slider is facing the top of door. The first mounting hole is located nearest the door hinge. (Figure 6)

5. Replace the cap on the end of the track closest to the first mounting hole.

6. Insert the #12-24 x 1-3/4" screw through both the track and cap and attach the track to the first mounting hole. **Do not fully tighten.**

NOTE: The head of the screw should sit flush with the front of the track.

7. Level the track with the top of the door. Using the track as a guide, mark and drill the second track mounting hole. (Refer to Step 2 above)

8. Repeat steps 5 and 6 for second mounting hole and tighten both screws. **Do not over tighten. Slider must move freely in the track.**

9. Snap the cover onto the track, making sure the open side with tabs is facing up. (Figure 6)

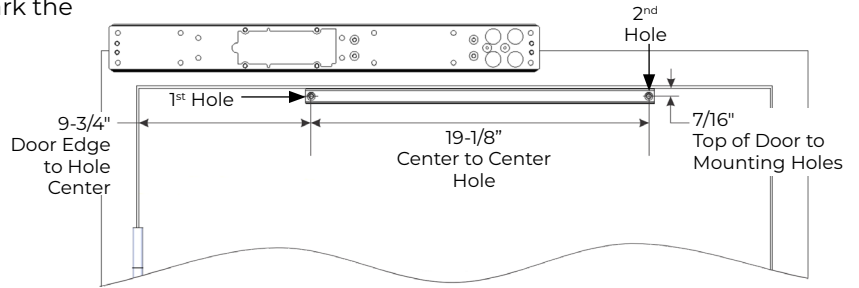
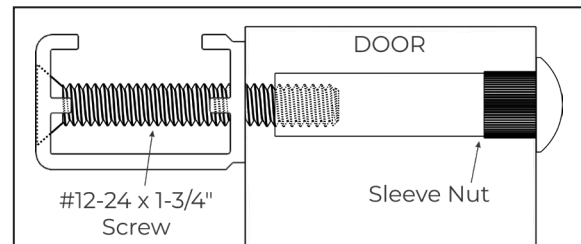


Figure 4



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

NOTE: Sleeve nut used for doors 1-3/4" or greater. For doors less than 1-3/4", sleeve nut body will need to be shortened.

Figure 5

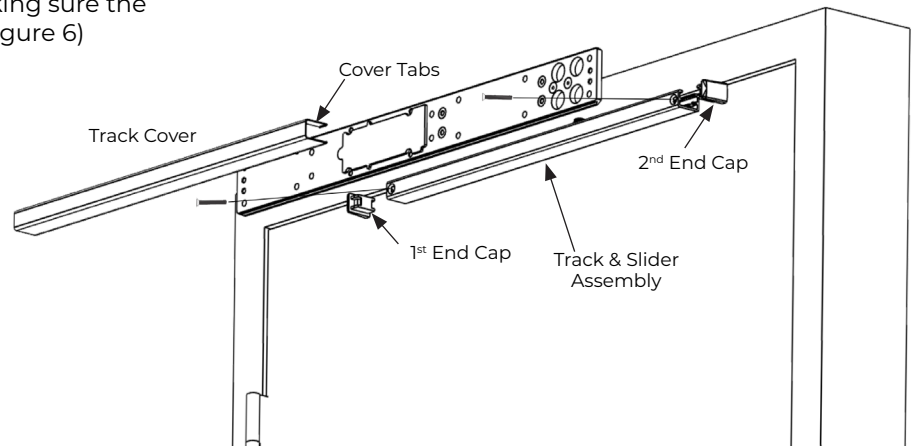
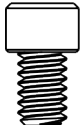


Figure 6

C. Install the end caps.



1. Install two (2) screws on each end of backplate, leaving an approximate 3/16" gap between head of the screw and the backplate. (Figure 7)
2. Slide the end caps behind the screw heads and tighten both screws. (Figure 7)

NOTE: The end cap with 3-position switch is always located on the conduit hole side of backplate.

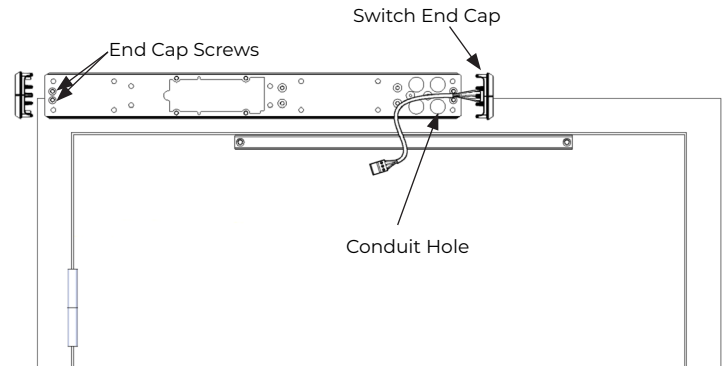


Figure 7

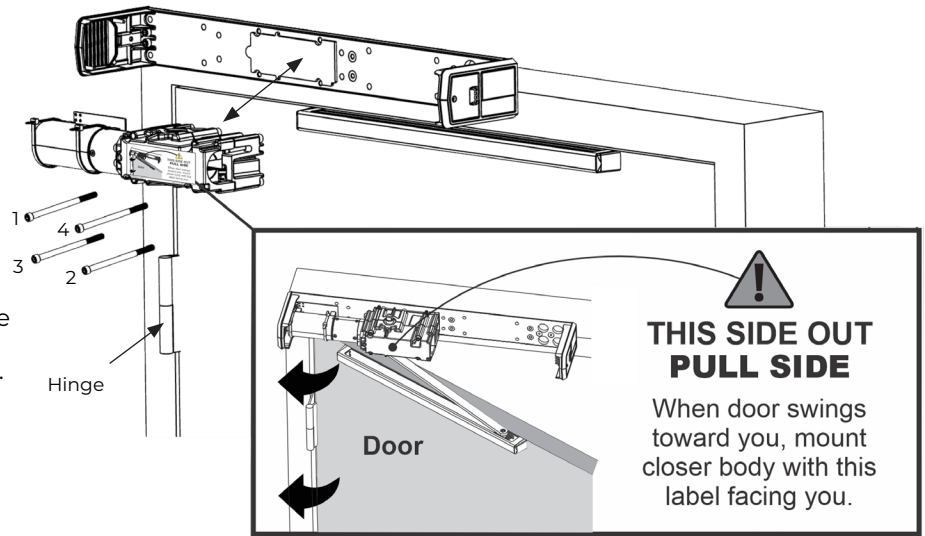
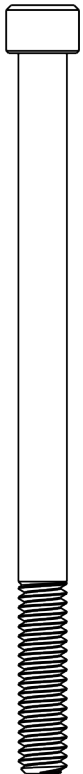
D. Install closer body assembly.

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

NOTES:

- Tighten screws in a cross pattern until all four (4) screws are tight. (Figure 8)
- The operator body is properly oriented for PULL SIDE application when:
 - The motor is toward the hinge
 - The connector board is located toward the backplate.
 - “This side out PULL SIDE” label is facing away from the backplate. (Figure 8)

2. Using the supplied cable management clip, secure the cables along operator body. (Figure 9)



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Figure 8 Right Hand Shown

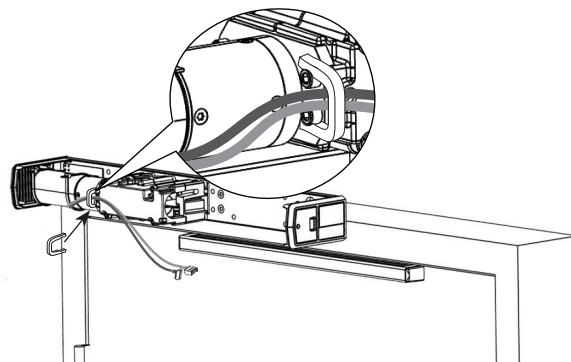
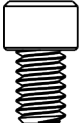


Figure 9

E. Install the power supply assembly.

1. Insert two (2) 1/4-20 x 3/8" screws as shown, leaving an approximate 3/16" gap between head of the screws and backplate. (Figure 10)



2. Slide the power supply key holes over screws allowing narrow slots of key holes to rest on screws. (Figure 10)

NOTE: To properly orientate the power supply:

- The narrow slots of the key holes are at the top.
- The control board is always facing down.
- The power supply harness faces the switch end cap.

3. Tighten both screws.

4. **Optional:** AC conduit bracket assembly installation.

- Place the AC Plug conduit bracket against the backplate with the AC plug and conduit hole facing up toward the frame header. The mounting side of the bracket will face the backplate. (Figure 11)

- Secure the bracket to the backplate using two (2) #8-32 x 1/4" machine screws.

- Plug the bracket's wiring harness into the pre-wired AC harness of the power supply. (Figure 12)

5. Connect the motor cable and ribbon cable from the operator body to the control board. (Figure 13)

- To connect the ribbon cable, spread the tabs on the control board connector before inserting.

6. Connect the 3-position switch to the power supply. (Figure 13)

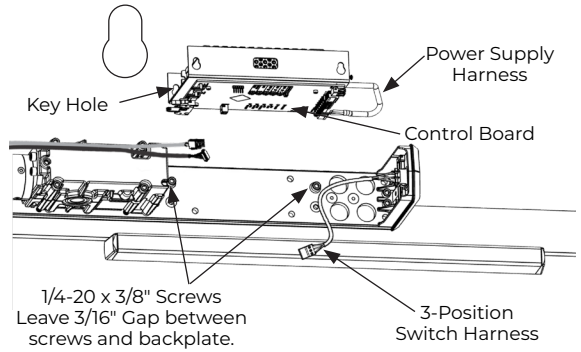


Figure 10

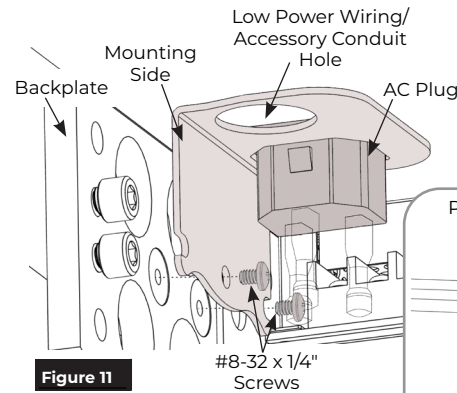


Figure 11

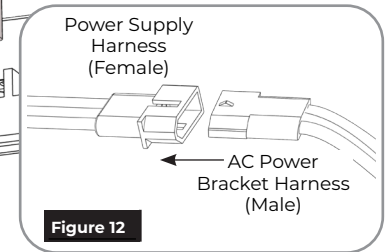


Figure 12

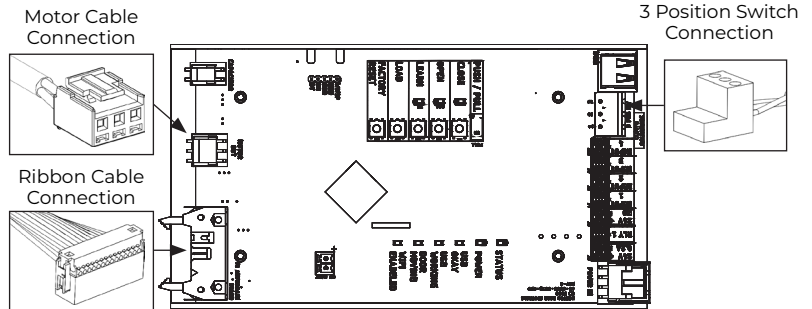


Figure 13

F. Set pinion to starting position.

1. Locate the dowel pin on the side of the operator housing (adjacent to the pinion square). (Figure 14)
2. Place the main pull arm on the pinion square and rotate it counterclockwise until the pinion comes to a hard stop.

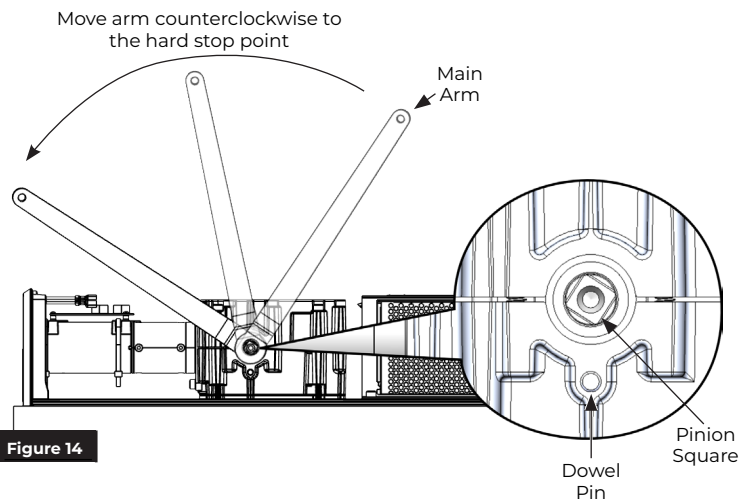
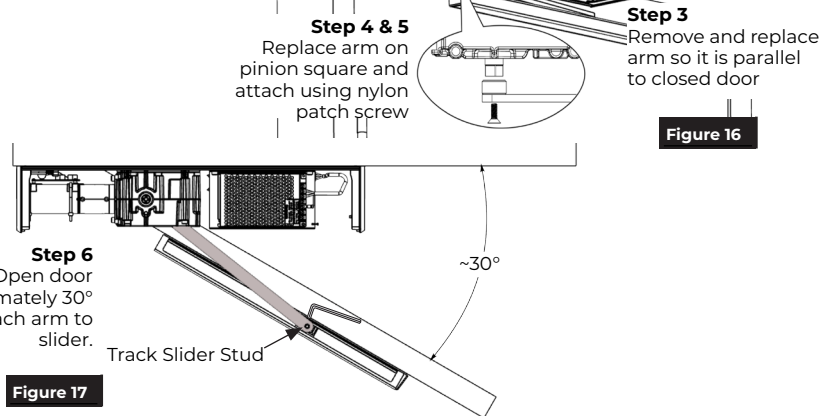
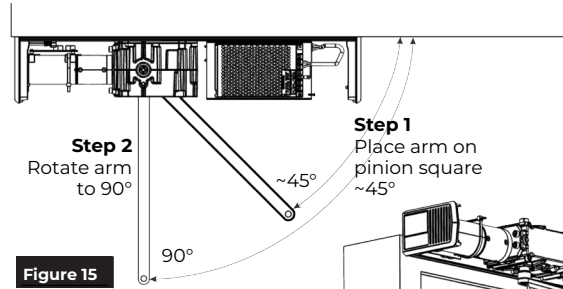


Figure 14

G. Install the arm.

1. Place the arm onto the pinion square at approximately 45° from the door.
2. Rotate the pull arm toward the hinge until the arm is perpendicular (or 90°) to the door. (Figure 15)
3. Remove the arm from the pinion and reorient the arm to be parallel to the closed door.
4. Replace the arm on the pinion square.
5. Attach the arm to the pinion square using the 1/4-20 x 3/4" nylon patch screw. (Figure 16)
6. Open the door approximately 30° and attach the arm to the slider. Use the hex wrench to tighten slider stud counter clockwise until slide is tight in the arm. (Figure 17)
7. Close the door.



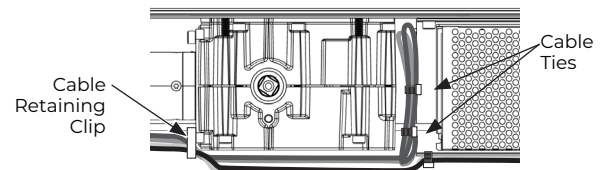
Installation of the **5241 PULL SIDE Low Energy Operator** is now complete.

Continue with the separate Programming Manual 80-9352-0022-020 to set up and adjust operator. Once programming and adjustments have been completed, attach cover and label plates, as shown below.

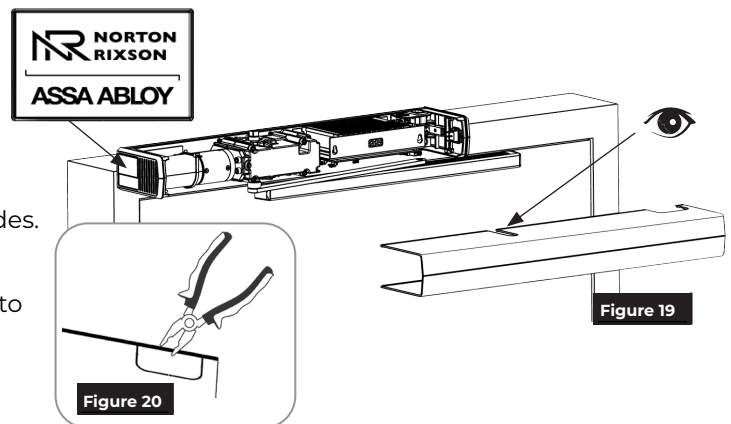
H. Attach the cover and end cap label plates.

NOTE: Attach the cover after initial programming has been completed.

1. To prevent wire crimping, use the cable ties provided to neatly store loose wiring as shown. The power cabling to the connector board should be cable tied along the operator body. Any loose wire should be stored between the operator body and power supply. (Figure 18)
2. Align the cut-outs in the cover to pinion shafts. (Figure 19)
3. **Optional:** If the AC Bracket is installed, use pliers to remove the appropriate knockout located at the top of the cover (Figure 20)
4. Slide the cover onto the unit using end caps as guides.
5. Snap the cover securely to back plate.
6. Attach a label plate to each end cap by snapping into place by hand with gentle pressure. (Figure 19)



Right Hand Door, Looking down from top



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

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