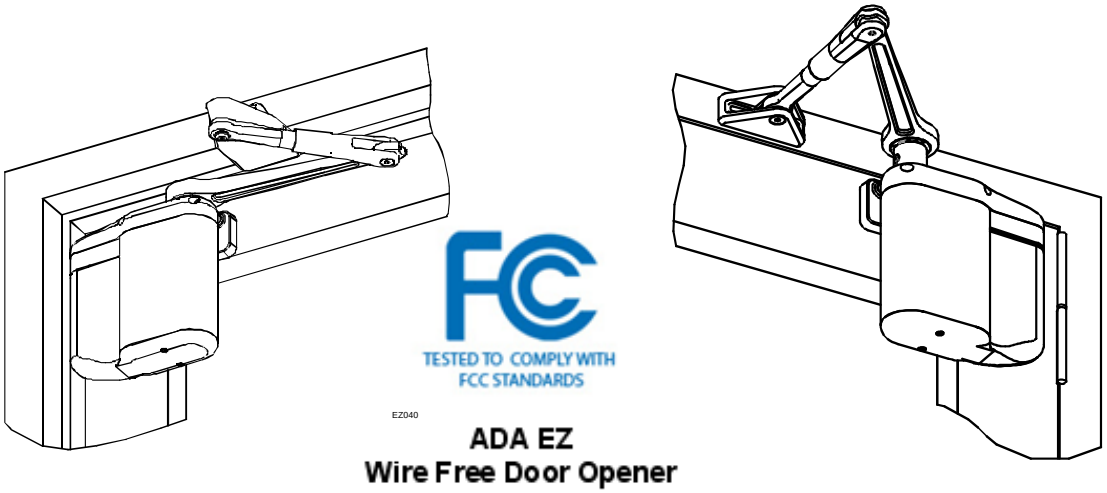
Installation and
Operating Instructions

ADA EZ Pro
Installation and Operating Instructions
700002 Rev. F



Note

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this device. This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

To obtain the latest manual and template revisions or to view installation and programming videos go to www.ADAEZ.com.
For technical support call (877) 232-3987.

Installation and Operating Instructions

TABLE OF CONTENTS

1. PURPOSE

1.1 Discussion

This manual provides system description, installation instructions, operating instructions, troubleshooting recommendations, and a replacement parts listing for the ADA EZ swing door operator.

The ADA EZ is an automatic door opening and closing device that permits automatic operation of single or double right hand or left hand doors measuring 36″ to 48″ (91 cm to 122 cm) wide and weighing up to 250 lbs (113 kg). The door operator device mounts on a parallel-arm push-side configuration or on a standard mount pull-side configuration.

The ADA EZ operator allows the door to open manually or by a remote transmitter device. As the door closes the ADA EZ operator generates an electrical charge that restores power to the operator battery. If the door is operated via remote transmitter more often than described in the 80/25 rule below, the door-closing cycle will not supply enough power to charge the battery and permit remote operation. In this case an optional AC 110-volt transformer is available.

The ADA EZ is an extreme-duty, low-energy door opener designed for institutional, high-traffic manual opening applications that occasionally requires powered operation. A regenerative drive system charges an onboard battery pack, eliminating the need for electrical power. The ADA EZ should be applied to doors using our 80/25 guideline:

- Apply ADA EZ to a door that will be cycled manually a minimum of 80 times per day and cycled automatically approximately 25% or less per day.

When applied using this 80/25 guideline the ADA EZ will self-generate all the power it needs to keep its field-replaceable onboard battery pack charged for up to 12 years and in some cases longer.

A fully charged battery can open a door up to 2000 times in a row with little impact on the product's overall usability even if there are periodic fluctuations from the 80/25 guideline. For example 30% automatic use for one day is not a problem, so long as that level of automatic use is not sustained.

The ADA EZ can be used in a hardwired application outside of the 80/25 parameters. Simply plug the unit into a common 110-VAC electrical outlet using our hardwire option. The hardwire option is a low-voltage plug-in transformer and can be added to existing installed field units.

1.2 Applicability

This manual is applicable to the ADA EZ PRO series door openers Left Hand, Right Hand, Push Side Mounted, and Pull Side Mounted. The manual also includes instructions for installing the hardwire option (1015P kit) and the electric lock interface (1025 kit).

2. PREREQUISITES

2.1 If the door is an aluminum storefront door, make sure that you do not drill into the tie rod or the top rail web. Also, do not drill into the junction of the style and rail.

2.2 When using the optional plug-in transformer, a 110-VAC grounded power outlet is available in the vicinity of the door

2.3 Protective barrier (caution/warning tape) has been set up to prevent unauthorized access to work area.

2.4 If applicable, the existing door closer has been removed.

2.5 The operator must only be installed on doors and frames in good working order, without sticking or binding during normal operation.

2.6 The door has been secured to prevent unexpected opening or closing during installation.

2.7 Attachment 1 has been reviewed for the following:

- Definitions of the terms used in this procedure
- A listing of the tools, equipment, materials, and consumables used in this procedure.

3. PRECAUTIONS

3.1 Improper installation or adjustment may result in personal injury or property damage. The operator must be completely installed and programmed or the door must be disabled prior to leaving the site. An incomplete installation or unprogrammed operator can cause a safety hazard.. Follow all instructions carefully. For questions call ADA EZ Technical Support at the number listed on the front of this document.

3.2 For light duty or hollow core doors with insufficient top rail blocking, the included through bolts or sex nut and bolts must be used to securely attach the operator mounting bracket.

3.3 This product is intended for interior use only.

3.4 The operator battery should be switched “OFF” until the operator and door arm installation are complete.

3.5 An operating door creates pinch hazards. Be careful making operating adjustments while the door is moving.

3.6 The installation must comply with all local, state, and national electrical codes. Also, transformer wiring must be secured to prevent it from becoming entrapped in the moving parts of the operator or door.

4. SYSTEM DESCRIPTION

4.1 General

The ADA EZ operator is shipped in the following pieces (see Figure 1):

- Operator assembled with black cover installed
- Optional silver and brown covers (when specified)
- Door arm assembly
- Operator mounting bracket
- Shaft extension (pull-side applications only)
- Door arm mounting shoe (pull-side applications only)
- Operator mounting bracket cover
- Operator mounting posts
- Door arm pivot assembly (push-side applications only)
- Battery assembly installed but disconnected from the operator
- Two wireless pushbuttons
- Operator mounting templates (right hand and left hand)
- Hardware pack including fasteners for aluminum and hollow metal, wood, and all installations
- Door decals including the following:
    - Two yellow and blue “CAUTION AUTOMATIC DOOR, ACTIVATE SWITCH TO OPERATE” decals, “PUSH TO OPERATE” and “PULL TO OPERATE” decals for use with the optional Push and Go feature.
    - One yellow “DAILY SAFETY CHECK” decal

Figure 1. ADA EZ Shipped Components

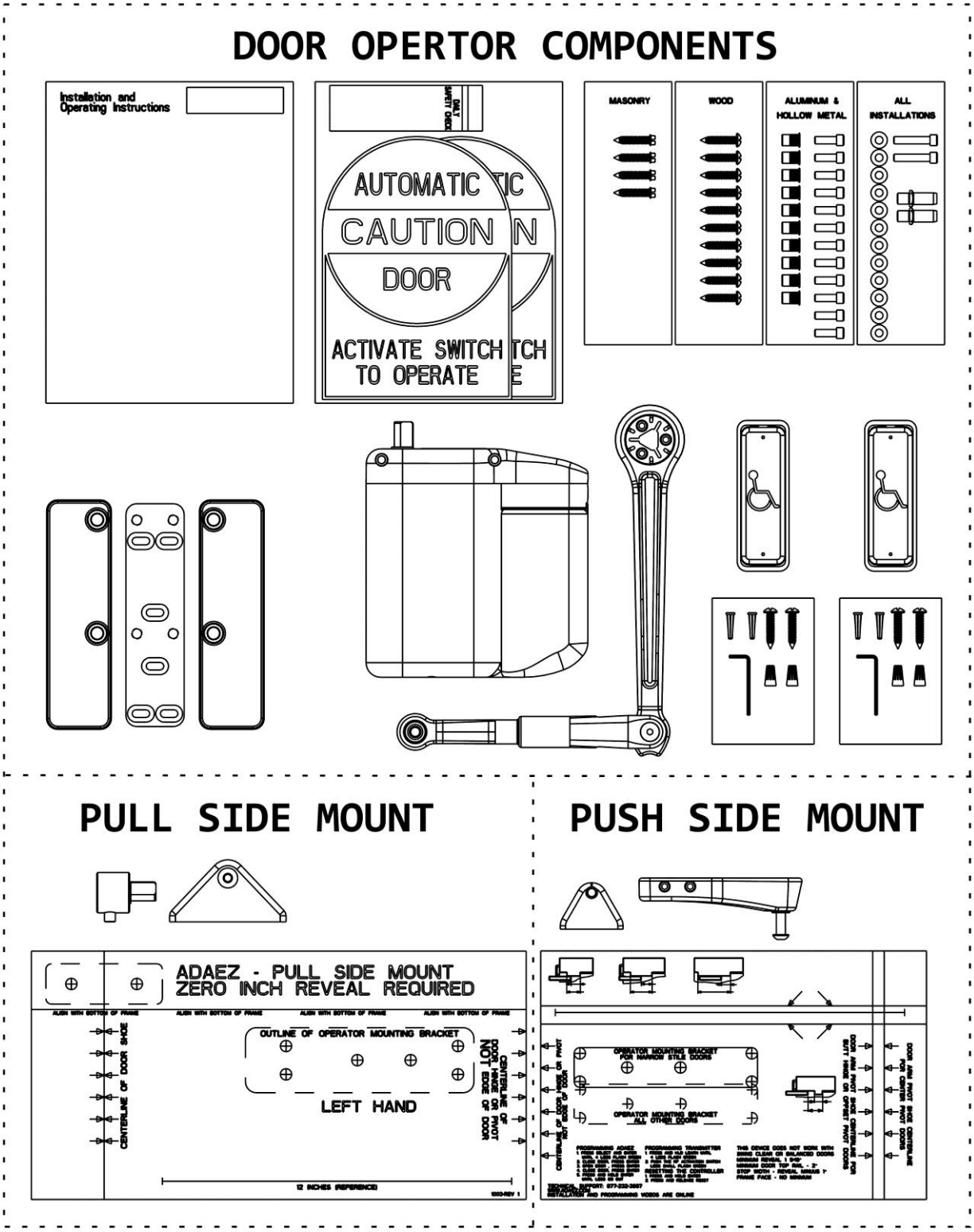
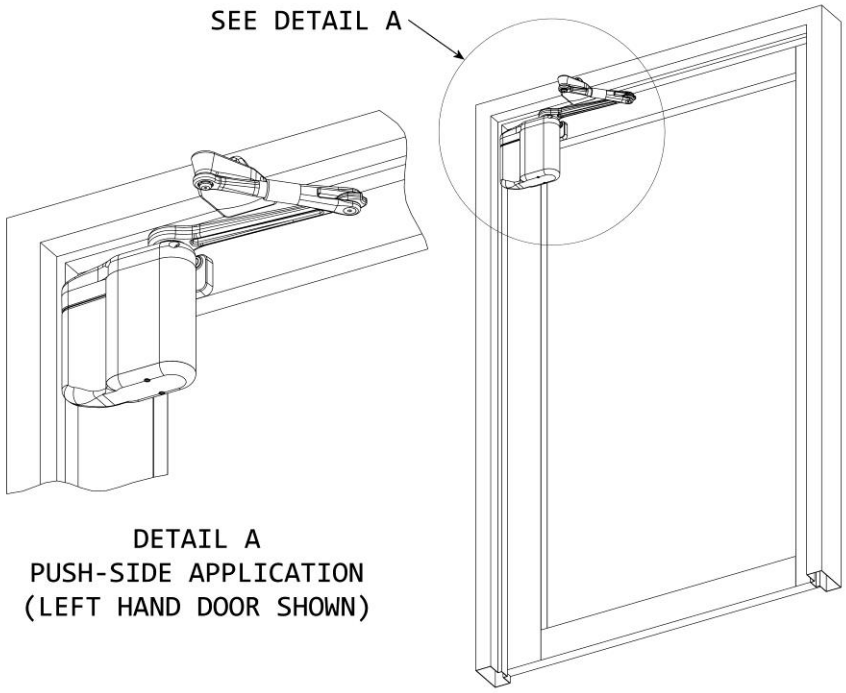
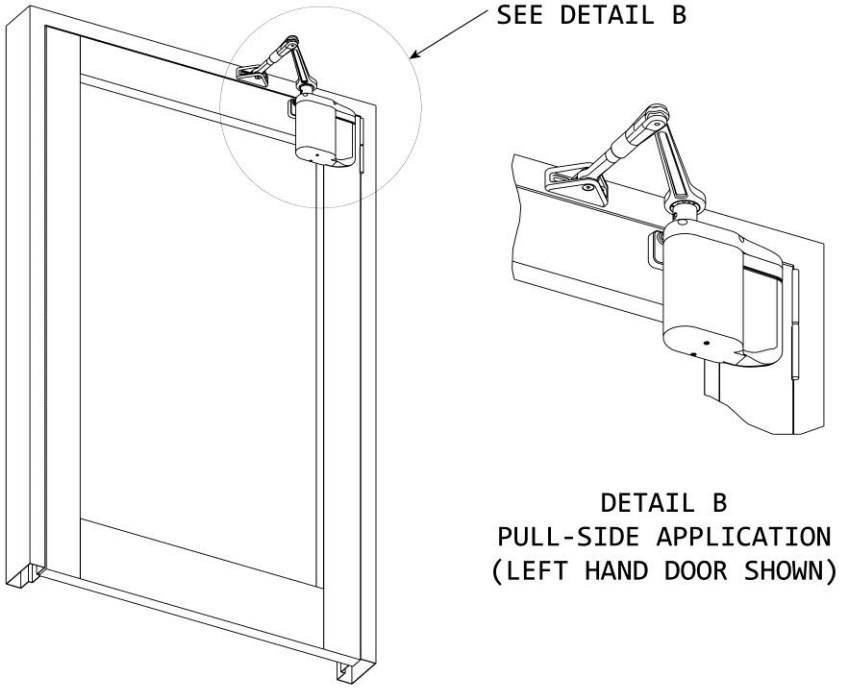


Figure 2 illustrates an assembled ADA EZ operator installed on a left hand door. The paragraphs that follow describe its components:

Figure 2. ADA EZ Assembly (Typical)



DETAIL A
PUSH-SIDE APPLICATION
(LEFT HAND DOOR SHOWN)

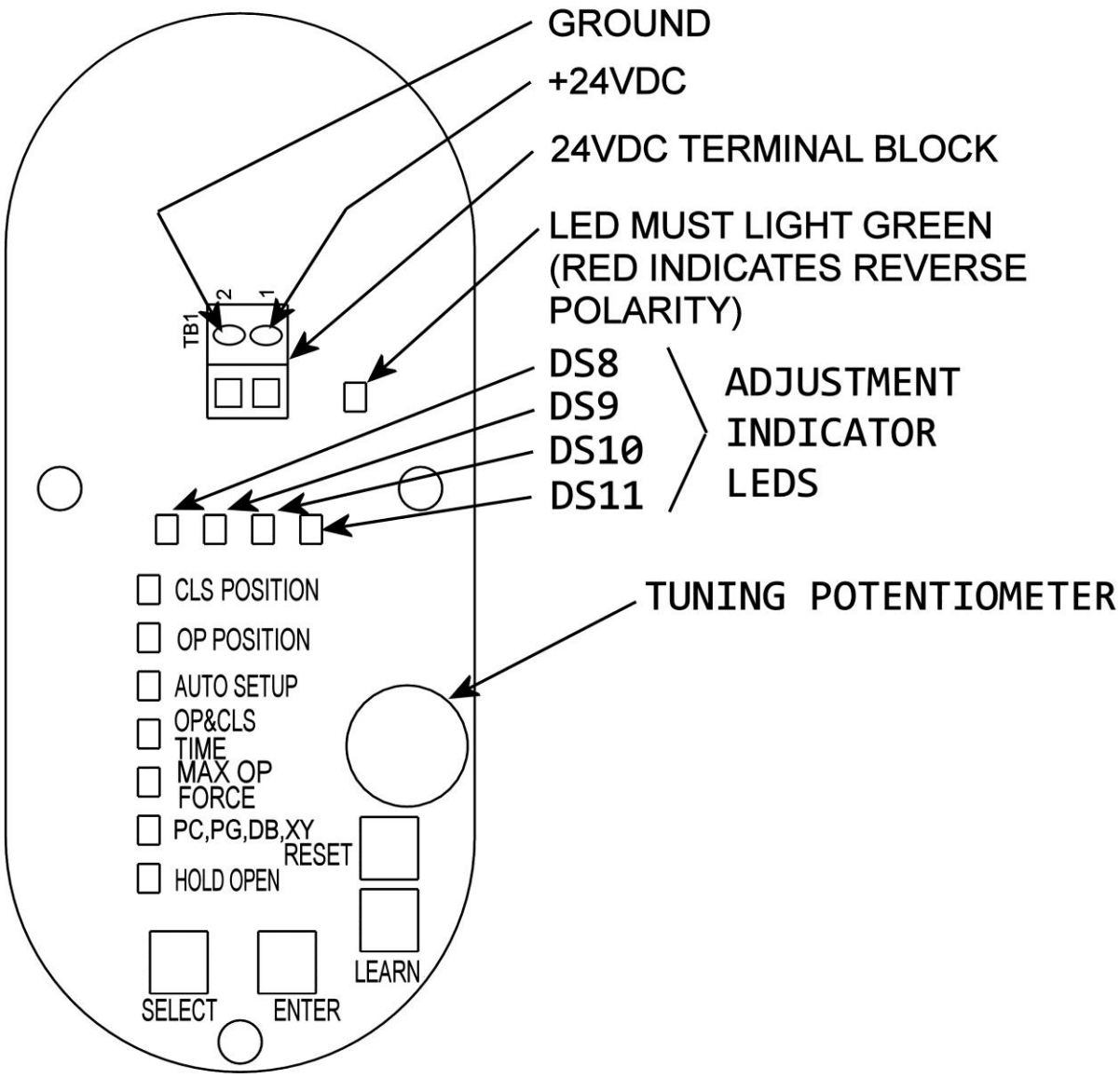


DETAIL B
PULL-SIDE APPLICATION
(LEFT HAND DOOR SHOWN)

4.1.1 Door Operator Assembly: Includes the following major assemblies:

- Door Operator: Contains the mechanical components required to move the door. The operator assembly mounts on the hinge or pivot edge of the door and top rail and includes the motor/gearbox, door arm, mounting brackets, regenerative power source, battery pack, and cover.
- Door Controller: Contains the hardware and software necessary to control the motion of the door. Figure 3 illustrates the door controller circuit board controls and indicators.

Figure 3. Door Controller Circuit Board Controls and Indicators



4.1.2 Transmitter: An external device that emits an rf signal or an electrical signal to operate the door. When pushed once, the door opens. The transmitter has a range of 85′ (26 m)

from either side of the door. One 3-volt 280mAH lithium battery (Part No.CR2032) provides transmitter power. The battery provides approximately 250,000 activations.

4.1.3 Transformer: The Optional transformer kit converts the incoming 110 VAC power to the voltage required by the controller. Plugs into a standard 110-VAC grounded power outlet. Transformer rating as follows: Input 120VAC 50/60Hz. Output 24 VDC 750mA.

4.2 Features and Functions

4.2.1 Opening Time: Following an activation signal, the door moves from fully closed to open check or 80 degrees, whichever occurs first. The opening time shall be in accordance with Table 1.

Table 1. Door Sizes and Opening/Closing Times

Door Weight (Pounds)	Door Width (Inches)					
	36	**38**	**40**	**42**	**44**	**48**
50	3.0	3.0	3.0	3.0	3.0	3.0
75	3.0	3.0	3.0	3.0	3.0	3.1
100	3.0	3.0	3.0	3.2	3.3	3.6
150	3.3	3.5	3.7	3.9	4.1	4.4
200	3.8	4.0	4.3	4.5	4.7	5.1
250	4.3	4.5	4.8	5.0	5.2	5.7

4.2.2 Hold-Open Time: Hold open time shall be adjusted to no less than 5 seconds

4.2.3 Closing Time: Following hold-open time, the door moves from fully open to close check or 10°, whichever occurs first, according to Table 1.

4.2.4 Close Check: Close check shall occur in the last 10 degrees of closing and shall not be less than 1.5 seconds

4.2.5 Closing Force: The door shall not close with a force greater than 15 lbs (6.8 kg) when measured at the latch side of the closing stile. For ADA EZ series, the closing force is adjustable to 8 lbs (3.6 kg).

4.2.6 Opening Force: The door shall not open with a force greater than 15 lbs (6.8 kg) when measured at the latch side of the opening stile.

4.2.7 Transmitter Range: The transmitter has a range of 85′ (26 m) from either side of the door.

4.2.8 Operation Upon Loss of Power: Standard installations require no external power and operation will not be affected during a power loss. Typically a maximum of 2,500 cycles can be obtained from a fully charged battery pack. Installations with the optional power transformer will continue to function normally.

4.2.9 Operation Upon Obstruction: If the door meets an obstruction while opening, the door will remain under power for one second and then close under spring force. If the door meets an obstruction while closing, the door will maintain a closing force of 8 lbs (3.6 kg) or less.

4.2.10 Transmitter Learn Mode: The transmitter learn mode programs the transmitter to the operator. The system can learn up to eight separate transmitters. The system also has the ability to remove all transmitters programmed into memory.

4.2.11 Auto-Tune Mode: The auto-tune mode allows the door to “learn” its fully open and fully closed positions and adjusts the open time, close time, open force, and hold open times to ensure the settings meet the ANSI 156.19 Low Energy Door Operator Code.

4.2.12 Option Features: Power Close, Push and Go, Dynamic Breaking.

NOTE

Power Close and Push and Go must only be enabled when the unit is powered using the optional plug in transformer.

- Power Close: The door operator will apply a small amount of power if the door did not close in the expected close time to assist in closing the door. Once the door is fully closed power close will turn off.
- Push and Go: The operator will power open the door when a manual open cycle is initiated.
- Dynamic Braking: The operator will brake the door if excessive door speed occurs resulting, for example, from a wind load or an abusive open condition.

4.2.13 Hold Open: The operator provides an adjustable hold open time. Controls on the circuit board allow adjustment of the door-closing time delay from 1 second to 30 seconds.

5. DETERMINING THE CORRECT OPERATOR APPLICATION

5.1 **Determine the Operator and Door Arm Mounting Installation Type**

CAUTION

The operator must *only* be installed on doors and frames that are in good working order. The door must not stick or bind during normal operation.

If applicable, the existing door closer must be removed before installing the ADA EZ operator.

The operator must be completely installed and programmed or the door must be disabled prior to leaving the site. An incomplete installation or unprogrammed operator can cause a safety hazard.

NOTE

A *push-mount operator* always mounts on the inside (push side) of the door at the hinge or pivot edge of the top rail. A *pull-mount operator* always mounts on the outside (pull-to-open) of the door.

The ADA EZ will not work on balanced doors or doors with swing clear hinges.

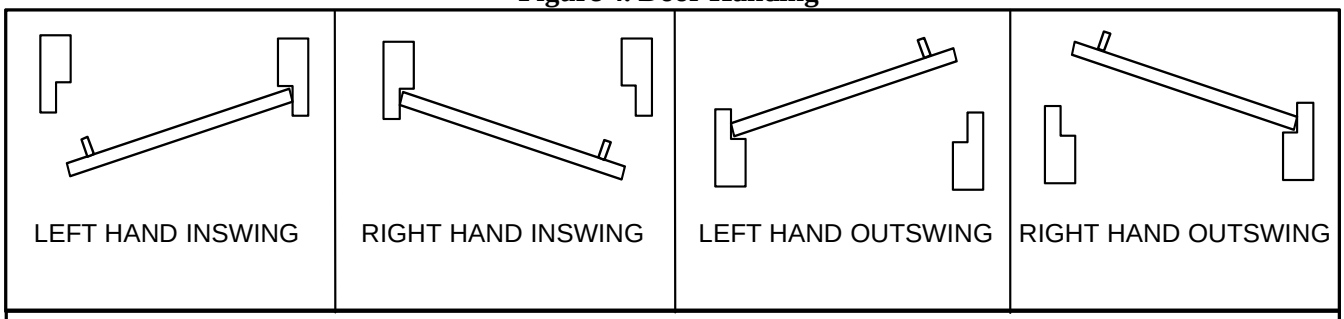
.

5.1.1 Refer to Figure 4, and DETERMINE desired door handing.

5.1.2 Refer to Figure 5, and DETERMINE if the door is a push-side application or a pull-side application.

- If the door is a push-side application, GO TO Section 5.2.
- If the door is a pull-side application, GO TO Section 6.

Figure 4. Door Handing



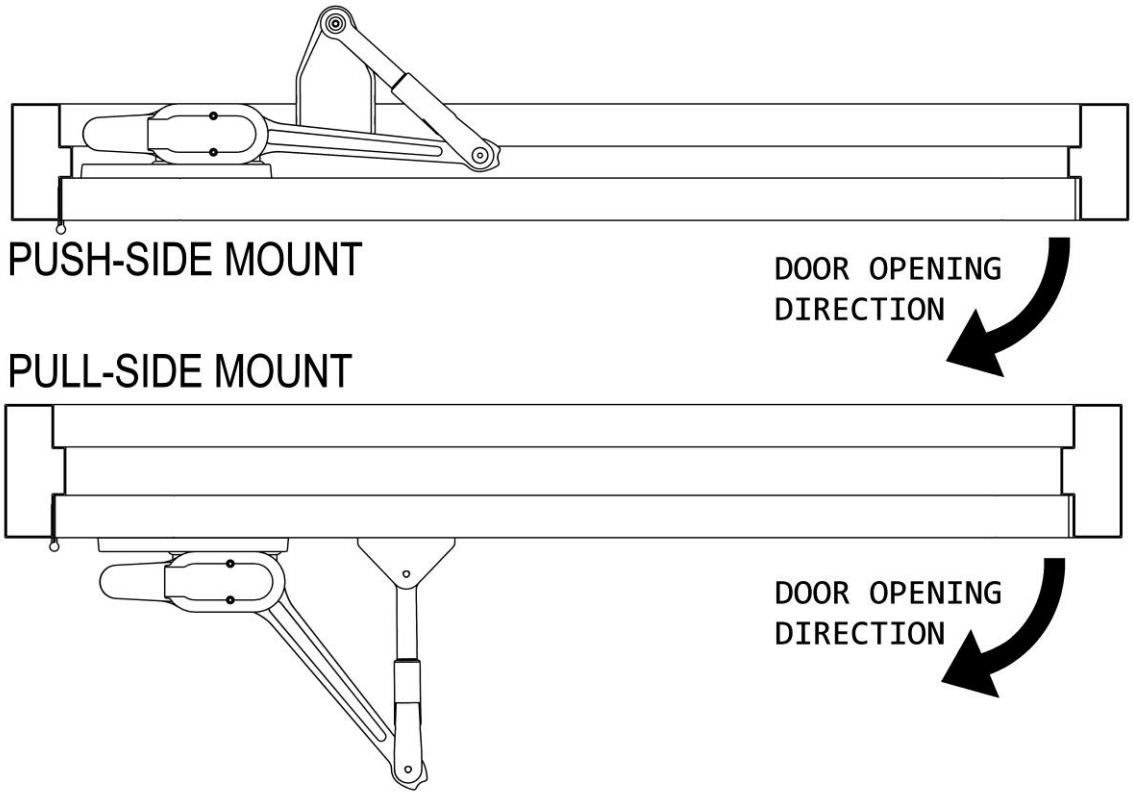
NOTES

1. When the door opens toward you and the knob is on the left hand side, it is a LEFT HAND DOOR. When the door opens toward you and the knob is on the right hand side, it is a RIGHT HAND DOOR.

2. For the ADA EZ operator, a LH door uses a left hand operator and a RH door uses a right hand operator.

EZ041A

Figure 5. Determining if the Door is a Push-Side or Pull-Side Application



5.2 OPERATOR AND DOOR ARM INSTALLATION INSTRUCTIONS—PUSH-SIDE APPLICATIONS

NOTE

The operator always mounts on the *inside* of the door at the hinge or pivot edge of the top rail.

The template provides for Right Hand door mounting on one side and Left Hand door mounting on the opposite side..

The template has a solid-line outline and a dotted-line outline. The solid-line outline is for the narrow rail door. The dotted line outline is for the medium or wide rail doors.

Each template provides two additional hole slots. These can be used when the solid-line outline or dotted-line outline mounting holes will interfere with a top rail web, rail-to-stile tie rod(s), or the rail-to-stile junction.

5.2.1 SELECT the right hand or left hand operator mounting template as applicable.

5.2.2 EXAMINE the inside door top rail and DETERMINE the top rail width (narrow, medium, or wide).

5.2.3 DETERMINE the type of mounting hinge (butt or continuous, center pivot, or offset.

CAUTION

On an aluminum storefront door, the operator mounting holes must *not* be drilled into the top rail web, rail-to-stile tie rod(s), or the rail-to-stile junction.

5.2.4 If the door is an aluminum storefront door, EXAMINE the top rail, and, when drilling the mounting holes, ENSURE the following:

- *Do not* drill into the top rail web
- *Do not* drill into the rail-to-stile tie rod(s)
- *Do not* drill into the rail-to-stile junction

5.2.5 Refer to Figures 6 and 9, and DETERMINE which operator mounting template fold line to use as follows:

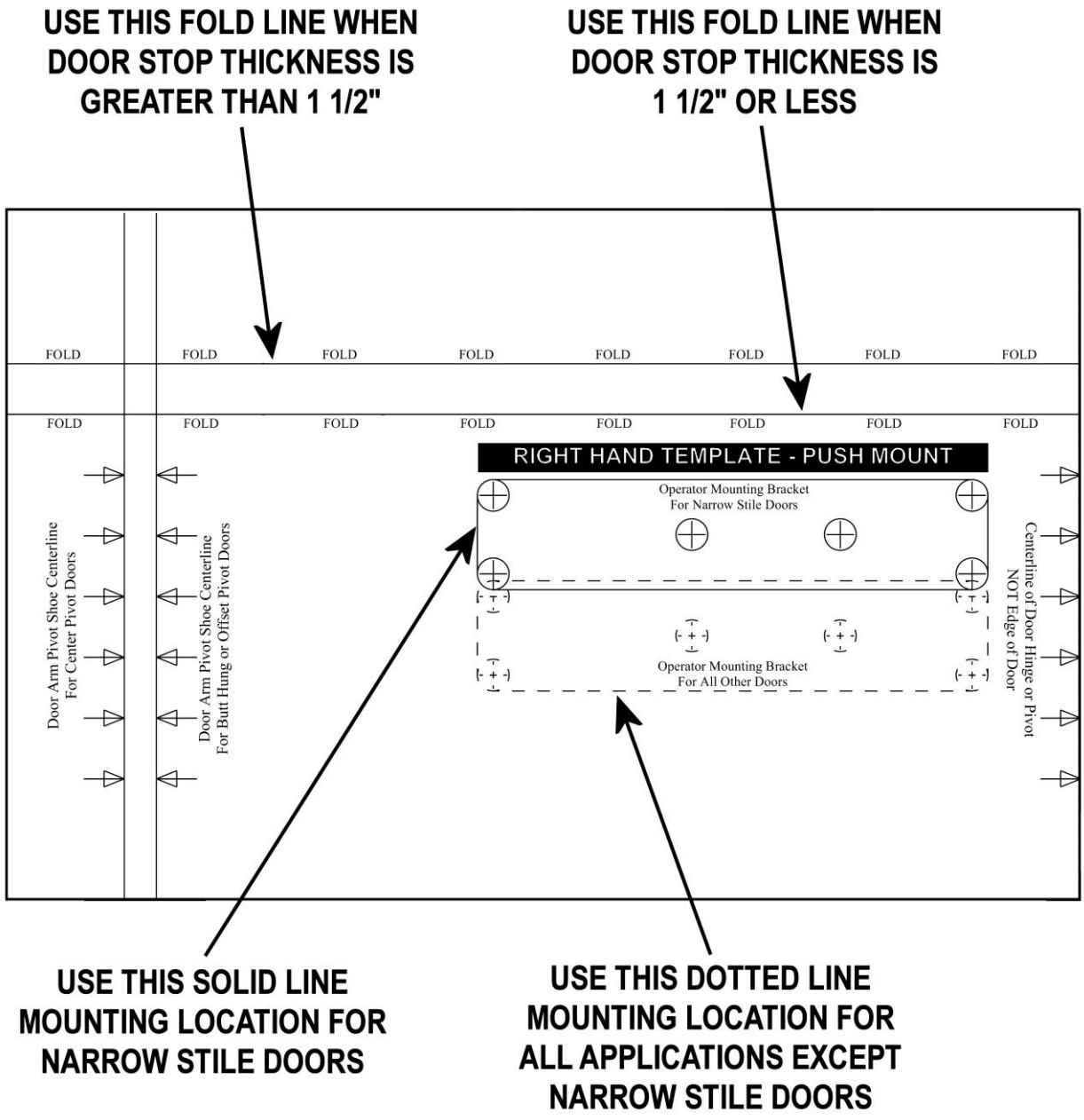
a. MEASURE the stop thickness.

- If the stop is *greater than* $1^1/_2$″ (38.1 mm), USE the upper template fold line.
- If the stop is $1^1/_2$″ (38.1 mm), or less, USE the lower template fold line.

b. If the door is a narrow-stile door, USE the solid line mounting location.

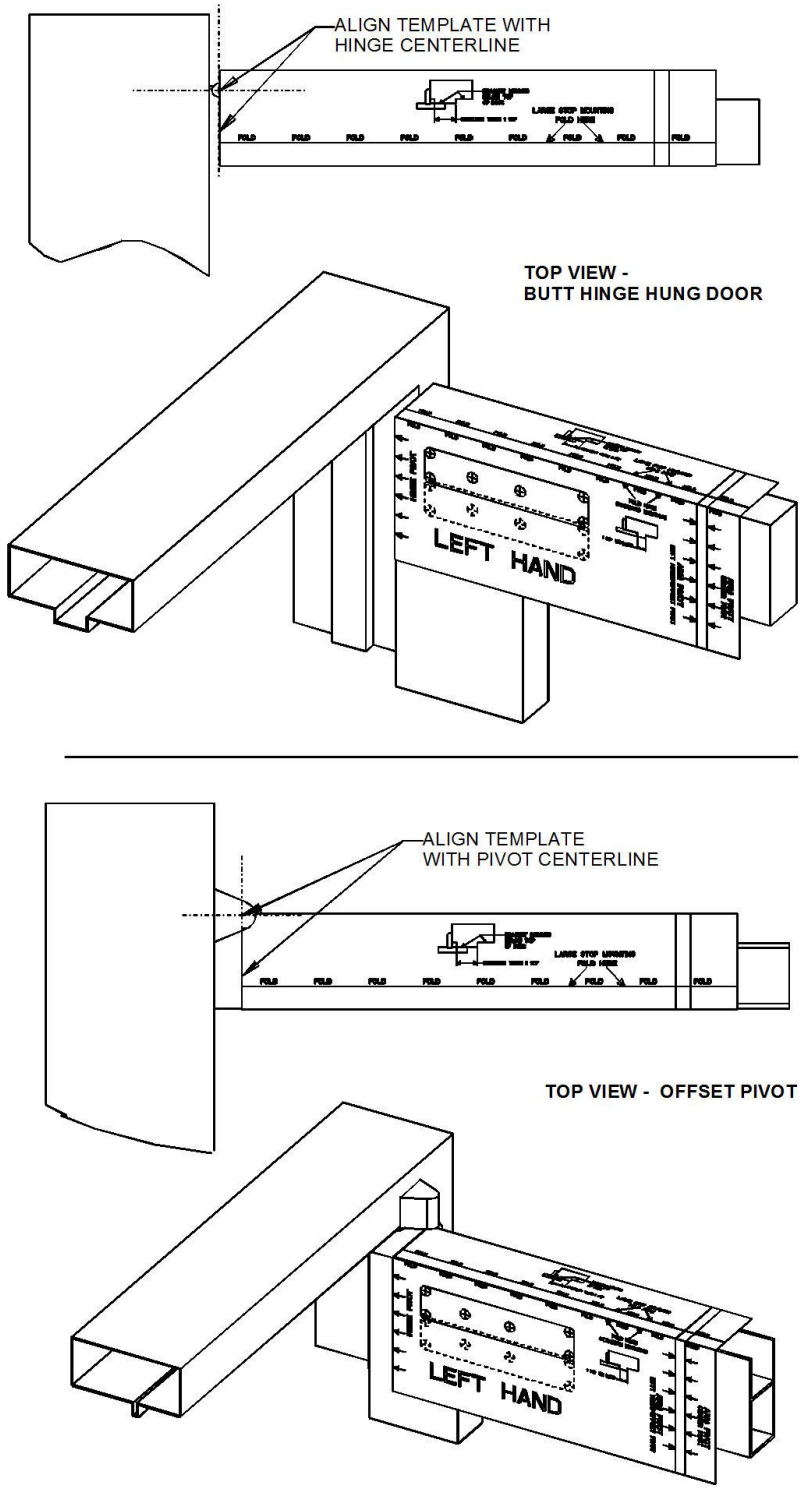
c. If the door is an application other than a narrow-stile door, USE the dotted line mounting location.

Figure 6. Determining Which Mounting Template Fold Line to Use



5.2.6 Refer to Figure 7, and ALIGN the operator mounting template to the centerline of the butt hinge, center pivot, or offset pivot as applicable.

Figure 7. Installing the Operator Mounting Template



CAUTION

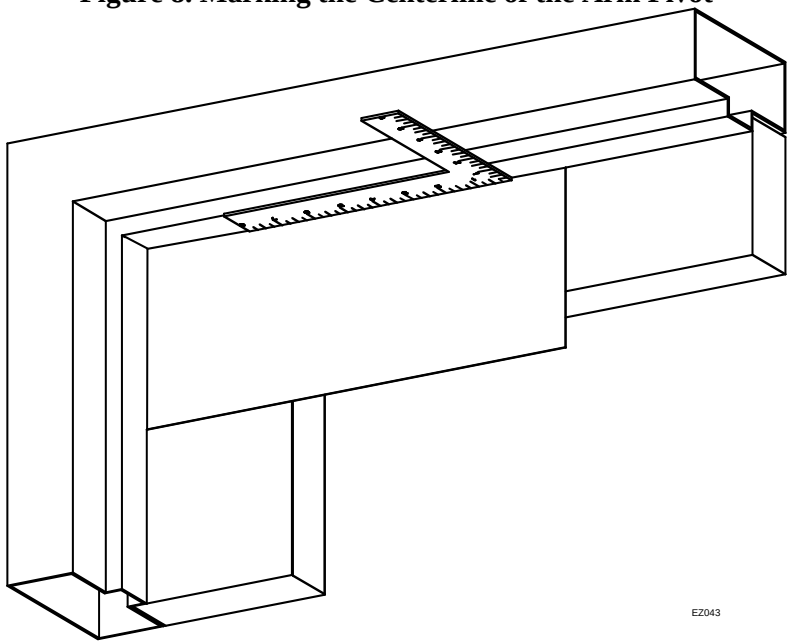
To ensure proper installation, the operator must be fastened with *at least* four fasteners. For heavier doors more fasteners are recommended.

For light duty or hollow-core doors with insufficient top rail blocking, the included through bolts or sex nut and bolts must be used to securely attached the operator mounting bracket.

5.2.7 Using a center punch, MARK the mounting hole locations.

5.2.8 Refer to Figure 8, and, using a square, MARK the centerline of the arm pivot onto the underside and face of the frame header and door stop. (This line is shown on the template.)

Figure 8. Marking the Centerline of the Arm Pivot



5.3 Mounting the Door Arm Pivot Bracket

NOTE

The face of the vertical support must be flush against the face of the frame header. On some door installations, the door stop prevents the bracket from setting flush. If this is the case, the arm pivot bracket can be adjusted by removing the bracket vertical support and reversing it.

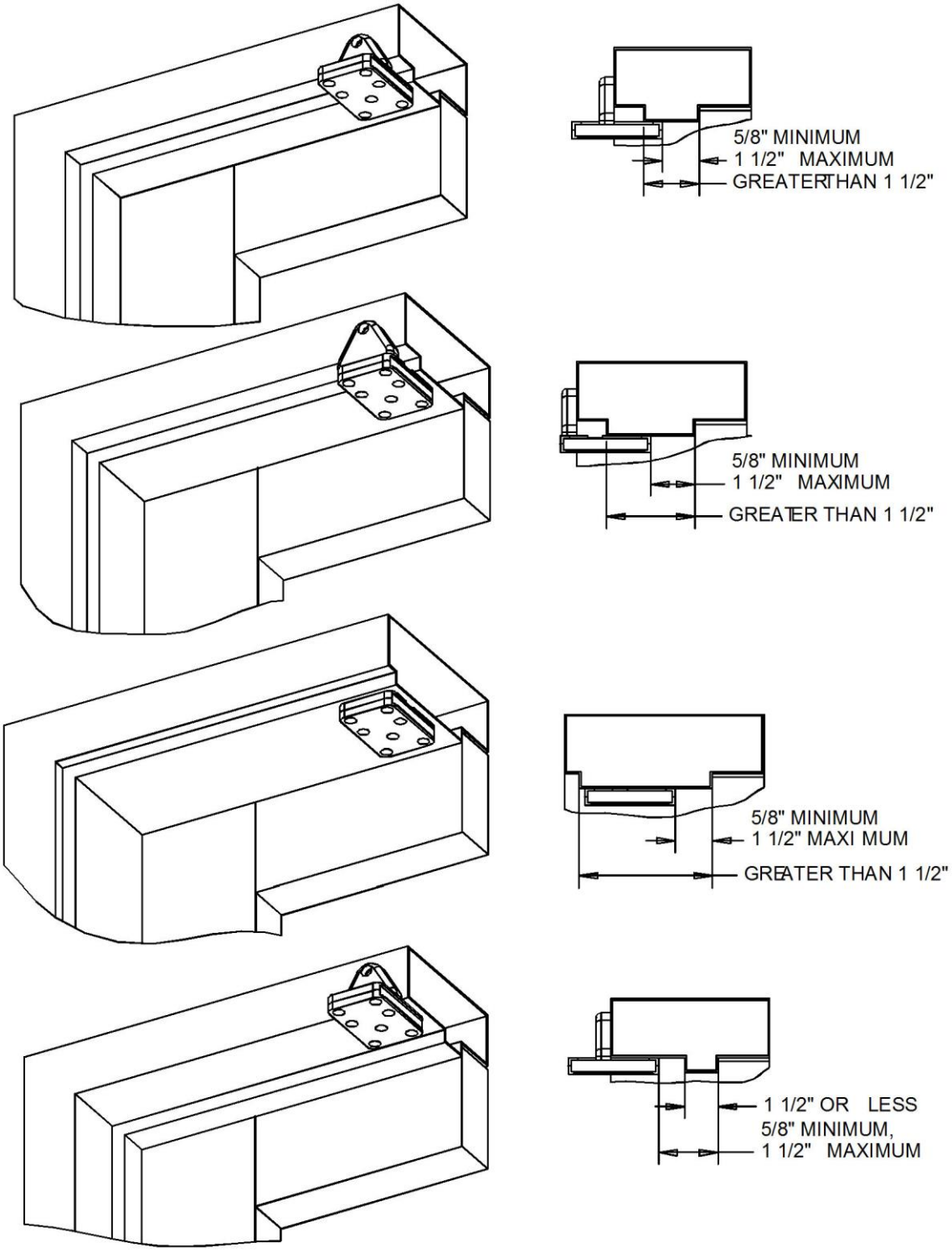
In a flush mount installation, the ceiling covers the frame face. In this case, the vertical support of the bracket must be removed. The bracket should then be mounted to the underside of the frame header.

5.3.1 Refer to Figure 9, and DETERMINE the orientation of the door arm pivot bracket as necessary to ensure the following (as applicable):

- If the door is a typical installation, the vertical support will set flush against the face of the frame header.
- If the door is a large reveal installation, the bracket will mount to the underside of the frame header.

- The edge of the bracket will be between $^{5}/_{8}$″ (15.87 mm) and 1 $^{1}/_{2}$″ (38.1 mm) from the face of door.

Figure 9. Determining the Door Arm Pivot Bracket Orientation



CAUTION

To ensure proper installation, the door arm pivot bracket must be fastened to the underside of the header frame and to the face of the header frame with *at least* three fasteners.

NOTE

When attempting to install the rivnuts to the underside of the door frame it may be necessary to remove the door stop.

5.3.2 Refer to Figure 10 and, using a center punch, MARK the door arm pivot bracket hole locations.

5.3.3 If the door frame is aluminum and rivnuts must be installed, PERFORM the following:

a. Using a $^{25}/_{64}$″ drill, DRILL the door arm pivot bracket holes.

b. Using a rivnut tool, INSTALL the ¼-20 steel rivnuts.

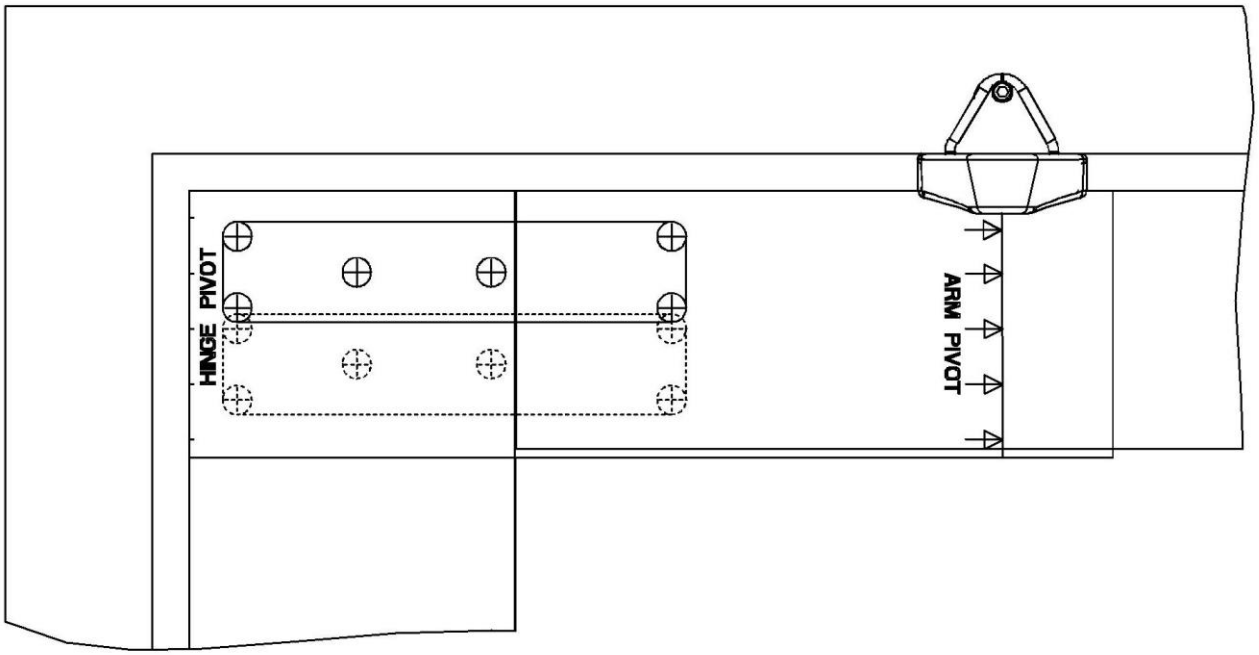
c. INSTALL and TIGHTEN the three (minimum) ¾″ (19.05 mm) socket head capscrews securing the door arm pivot bracket to the underside and face of the frame header.

5.3.4 If the door frame is wood, PERFORM the following:

a. Using a $^{5}/_{32}$″ (3.97 mm) drill, DRILL the door arm pivot bracket pilot holes.

b. INSTALL and TIGHTEN the three #14 x 1 ¼″ wood screws (minimum) securing the door arm pivot bracket to the underside and face of the frame header.

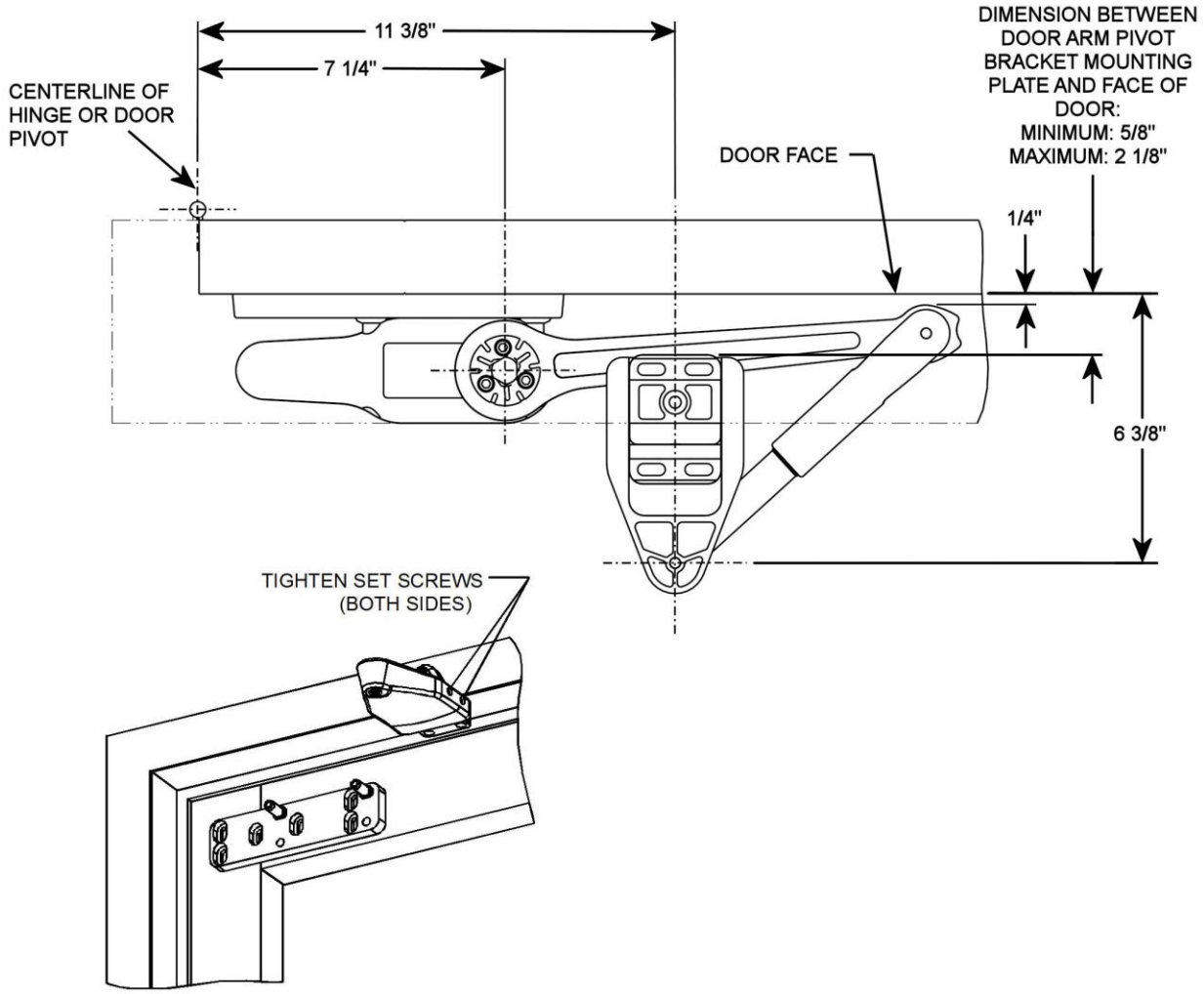
Figure 10. Mounting the Door Arm Pivot Bracket



5.1 **Installing the Door Arm Pivot**

5.1.1 Refer to Figure 11, and SLIDE the door arm pivot over the door arm pivot bracket.

Figure 11. Installing the Door Arm Pivot



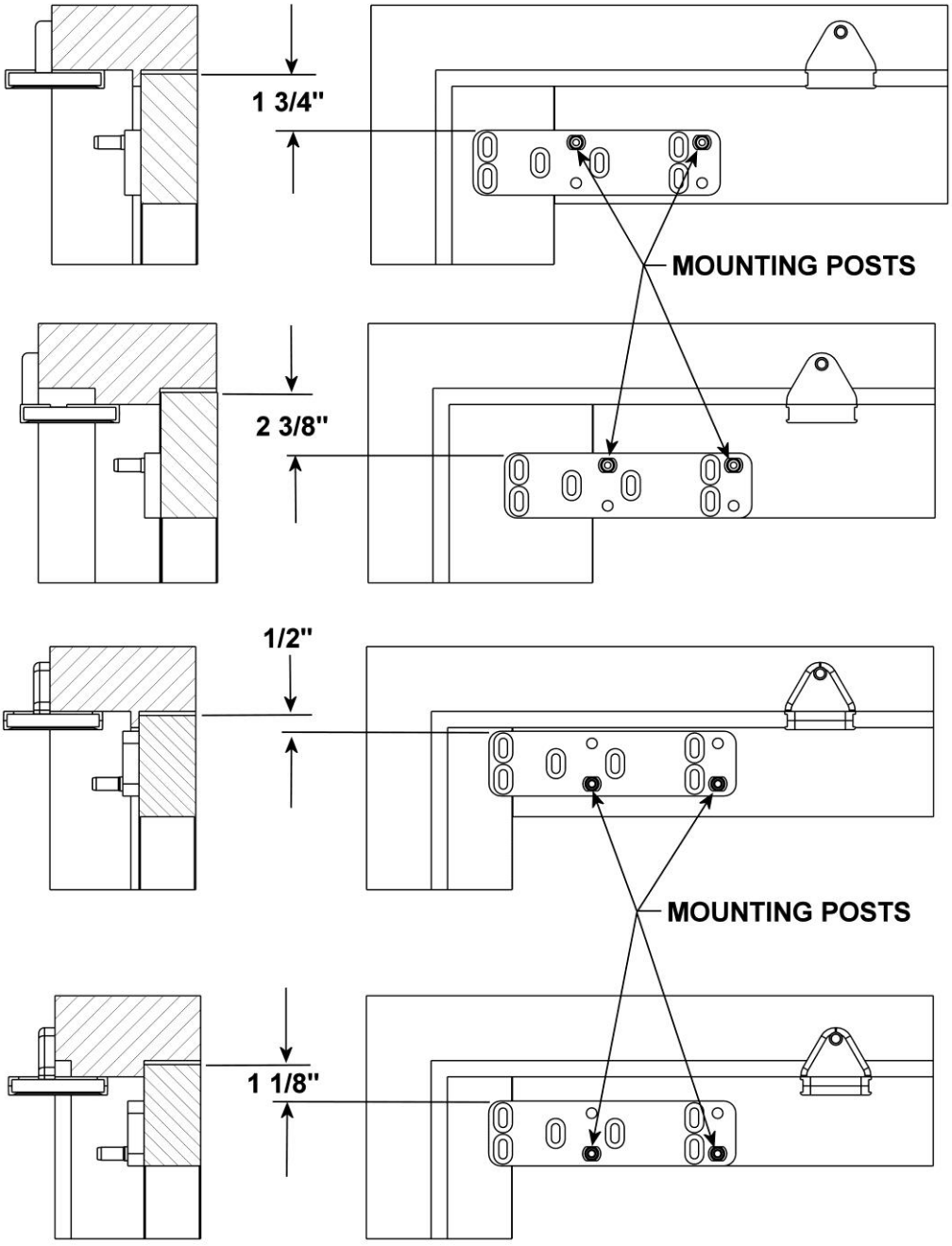
5.1.2 ENSURE that the dimension from the face of the door to the centerline of the door arm mounting hole is 6 $^{3}/_{8}$″ (161.92 mm).

5.1.3 TIGHTEN the four set screws securing the door arm pivot to the door arm pivot bracket.

5.2 **Installing the Operator Mounting Bracket**

5.2.1 Refer to Figure 12, and DETERMINE the proper operator mounting bracket location.

Figure 12. Determining the Operator Mounting Bracket Location



5.2.2 If the door is aluminum rivnuts must be installed, PERFORM the following:

- Using a $^{25}/_{64}$″ (9.92 mm) drill, DRILL the operator mounting bracket holes.

5.2.3 Using a rivnut tool, INSTALL the ¼-20 steel rivnuts.

NOTE

For light duty or hollow-core doors with insufficient top rail blocking, through bolts or sex nut and bolts are required to securely attached the operator mounting bracket.

5.2.4 If the door is wood or hollow metal, PERFORM the following:

- Using a $_{3/8}$″ (9.52 mm) drill, DRILL the operator mounting bracket holes.

5.2.5 INSTALL and TIGHTEN the supplied through-bolts, the four ¼-20 (6.35 mm) socket head capscews (with supplied washers) securing the operator mounting bracketINSTALL a washer onto each of the four (minimum) ¾″ (19.05 mm) socket head operator mounting bracket capscrews.

5.2.6 INSTALL, but do not TIGHTEN the socket head capscrews securing the operator mounting bracket to the door.

5.2.7 ADJUST the operator mounting bracket as follows:

- If the upper fold on the operator mounting template was used (large stop mounting), ADJUST the bracket so that there is 2 3/8″ (60.32 mm) space between the top of the bracket and the top of the door.
- If the lower fold on the operator mounting template was used (standard mounting), ADJUST the bracket so that there is 1¾″ (44.45mm) space between the top of the bracket and the top of the door.
- If the narrow stile door mounting location was used (solid line on operator mounting template), ADJUST the bracket so that there is $^{1}/_{2}$″ (12.7 mm) space between the top of the bracket and the top of the door.

5.2.8 TIGHTEN the socket head capscrews securing the operator mounting bracket to the door.

NOTE

The operator mounting bracket includes four threaded holes that accept the operator mounting pins. The lower set of two threaded holes is used when the operator is installed on a narrow-rail door. The upper set of two threaded holes is used when the operator is installed on a medium- or wide-rail door.

5.2.9 Refer to Figure 12 and PERFORM one of the following as applicable:

- If the operator is being mounted to a narrow rail door, TIGHTEN the operator mounting pins into the *lower* threaded holes in the mounting bracket using a $^{7}/_{16}$″ (11.112 mm) box wrench or large adjustable wrench.
- If the operator is being mounted to a wide or medium rail door, TIGHTEN the operator mounting pins into the *upper* threaded holes in the mounting bracket using a $^{7}/_{16}$″ (11.112 mm) box wrench or large adjustable wrench.

5.3 Installing the Door Operator

5.3.1 Refer to Figure 13, and INSTALL the operator mounting bracket cover over the operator mounting bracket.

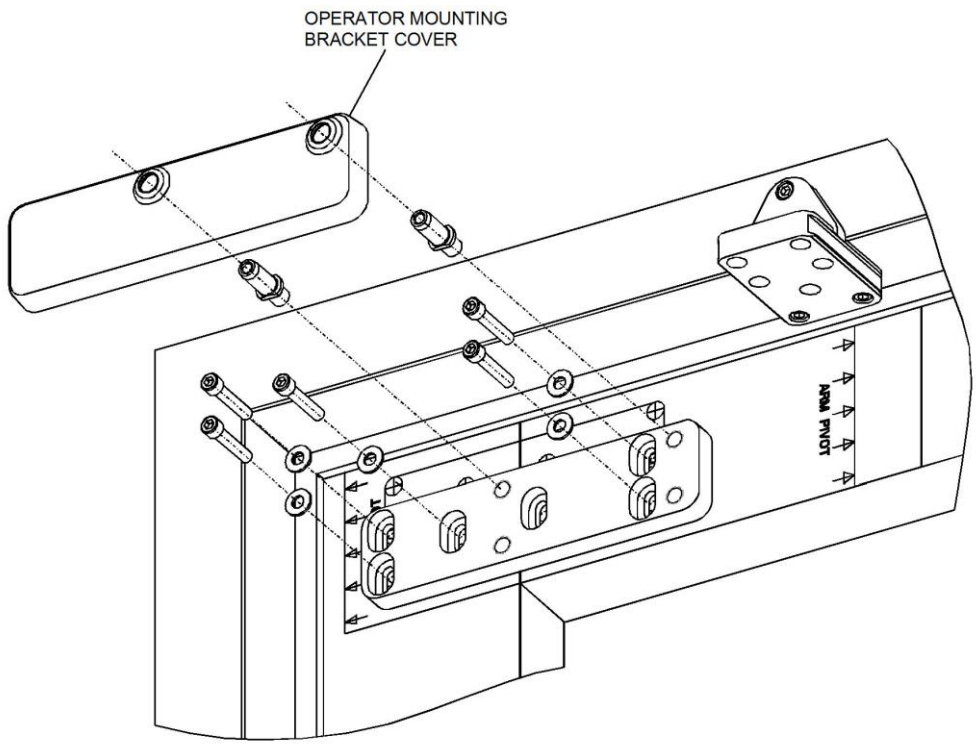
5.3.2 REMOVE the two capscrews securing the operator bottom cover to the operator.

5.3.3 REMOVE the bottom cover from the operator.

5.3.4 SLIDE the battery pack from the operator and REMOVE the battery pack.

5.3.5 REMOVE the dress cover from the operator.

Figure 13. Installing Operator Mounting Bracket Cover



WARNING

To avoid inadvertent activation of the operator during connection of the door arm, the battery pack should not be installed until *after* the door arm is connected.

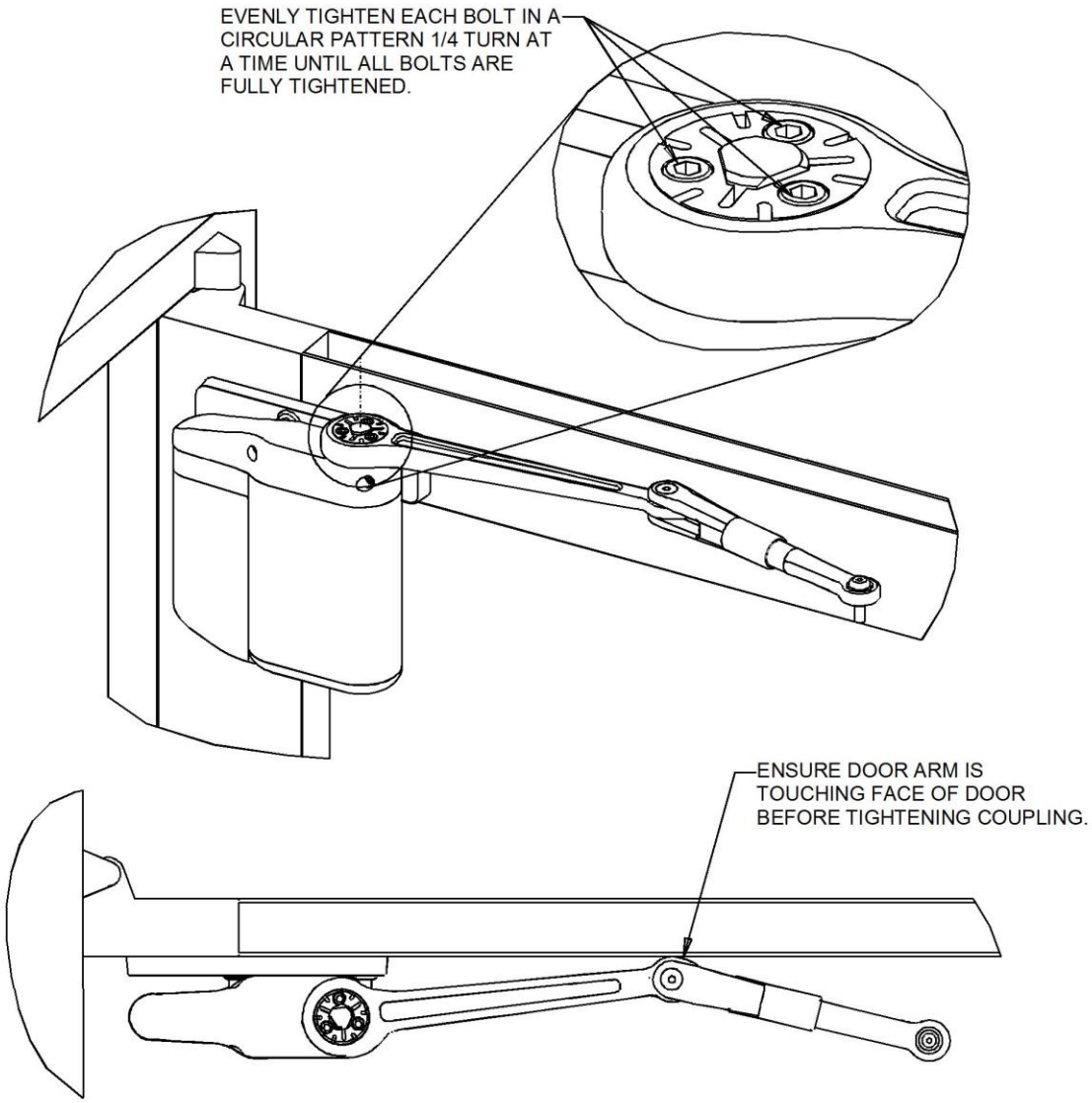
5.3.6 With the battery pack facing the jamb, POSITION the operator onto the operator mounting pins. ENSURE the operator does not slide off the mounting pins.

5.3.7 INSTALL and TIGHTEN the two ¼-20 X 1½″ socket head capscrews securing the operator to the operator mounting pins.

5.4 **Installing the Door Arm**

5.4.1 Refer to Figure 14, and, with the door arm coupling screws facing up and the door arm against the door rail, POSITION the larger end of the door arm onto the operator output shaft.

Figure 14. Installing the Door Arm



CAUTION

The door arm coupling is a two-piece tapered coupling. In order to draw the coupling halves together evenly the three door arm coupling screws must be tightened evenly (one quarter turn at a time) until fully tight.

5.4.2 With the door arm touching the face of the door, TIGHTEN the door arm coupling screws evenly (one quarter turn at a time) until fully tight.

5.4.3 HOLD the elbow of the door arm against the face of the door, and THREAD the adjustable door arm end link into the door arm as necessary to align the end link mounting hole with the door arm pivot mounting hole.

5.4.4 If the door arm end link does not align with the door arm pivot mounting hole and there is no available travel on the threaded end link, PERFORM the following:

- LOOSEN the socket head capscrews securing the door arm pivot to the door arm pivot bracket.
- SLIDE the door arm pivot as necessary to align the door arm end link with the door arm pivot mounting hole.
- TIGHTEN the socket head capscrews securing the door arm pivot to the door arm pivot bracket.

CAUTION

In order to apply a preload to the door, the door arm must be threaded into the door arm three revolutions. Excessive pre-load will reduce the closing force of the operator and may cause the door to stick in the open position or the door arm to reverse. Continued use in this condition may cause damage to the door operator.

5.4.5 THREAD the adjustable door arm end link into the door arm three revolutions.

5.4.6 INSTALL the washer provided onto the top of the door arm end link, and TIGHTEN the $^{5}/_{16}$ -18 X $^{7}/_{8}$″ button-head capscrew securing the door arm end link to the door arm pivot bracket.

5.4.7 CYCLE the door several times, and ENSURE that the door opens and closes smoothly.

5.4.8 SLIDE the dress cover onto the operator.

5.4.9 CONNECT the battery pack connector plug to the operator.

5.4.10 SLIDE the battery pack onto the operator, and ENSURE that the battery pack wires will not interfere with the operator cover.

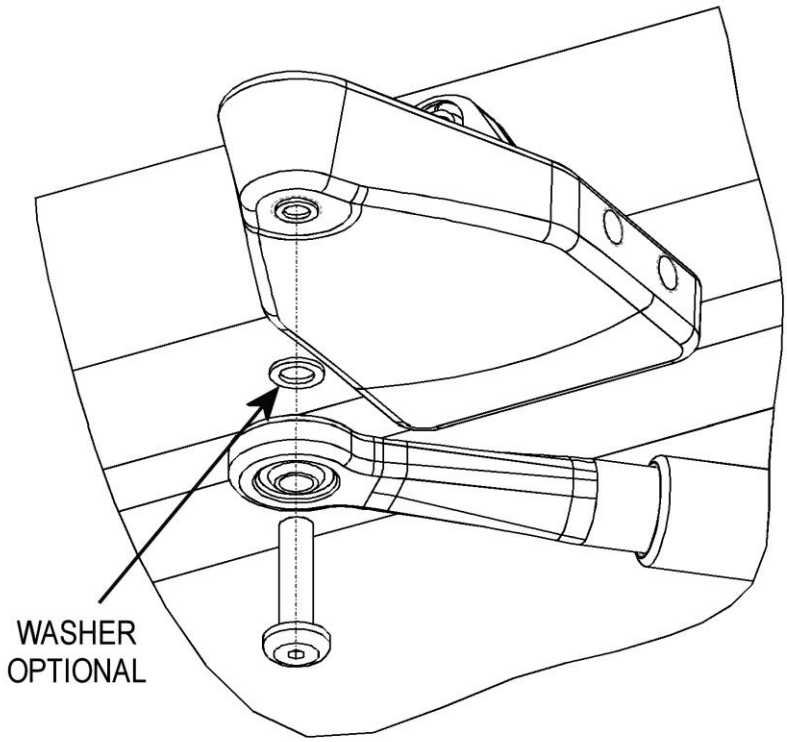
5.4.11 SWITCH the battery pack to the “ON” position.

NOTE

An extra washer is supplied if needed to prevent rubbing between the top of the door arm and end link.

5.4.12 Refer to Figure 15 and, if needed, INSTALL the supplied washer onto the top of the door arm end link.

Figure 15. Installing the Door Arm End Link Washer



6. OPERATOR AND DOOR ARM INSTALLATION INSTRUCTIONS—PULL-SIDE APPLICATIONS

NOTE

A *pull-mount operator* always mounts on the outside (pull-to-open) of the door at the hinge or pivot edge of the top rail.

The template provides for Right Hand door mounting on one side and Left Hand door mounting on the opposite side.The template provides two additional hole slots. These can be used when the solid-line outline or dotted-line outline mounting holes will interfere with a top rail web, rail-to-stile tie rod(s), or the rail-to-stile junction.

6.1.1 SELECT the right hand or left hand side of the operator mounting template as applicable.

6.1.2 DETERMINE the type of mounting hinge (butt, continuous, or offset).

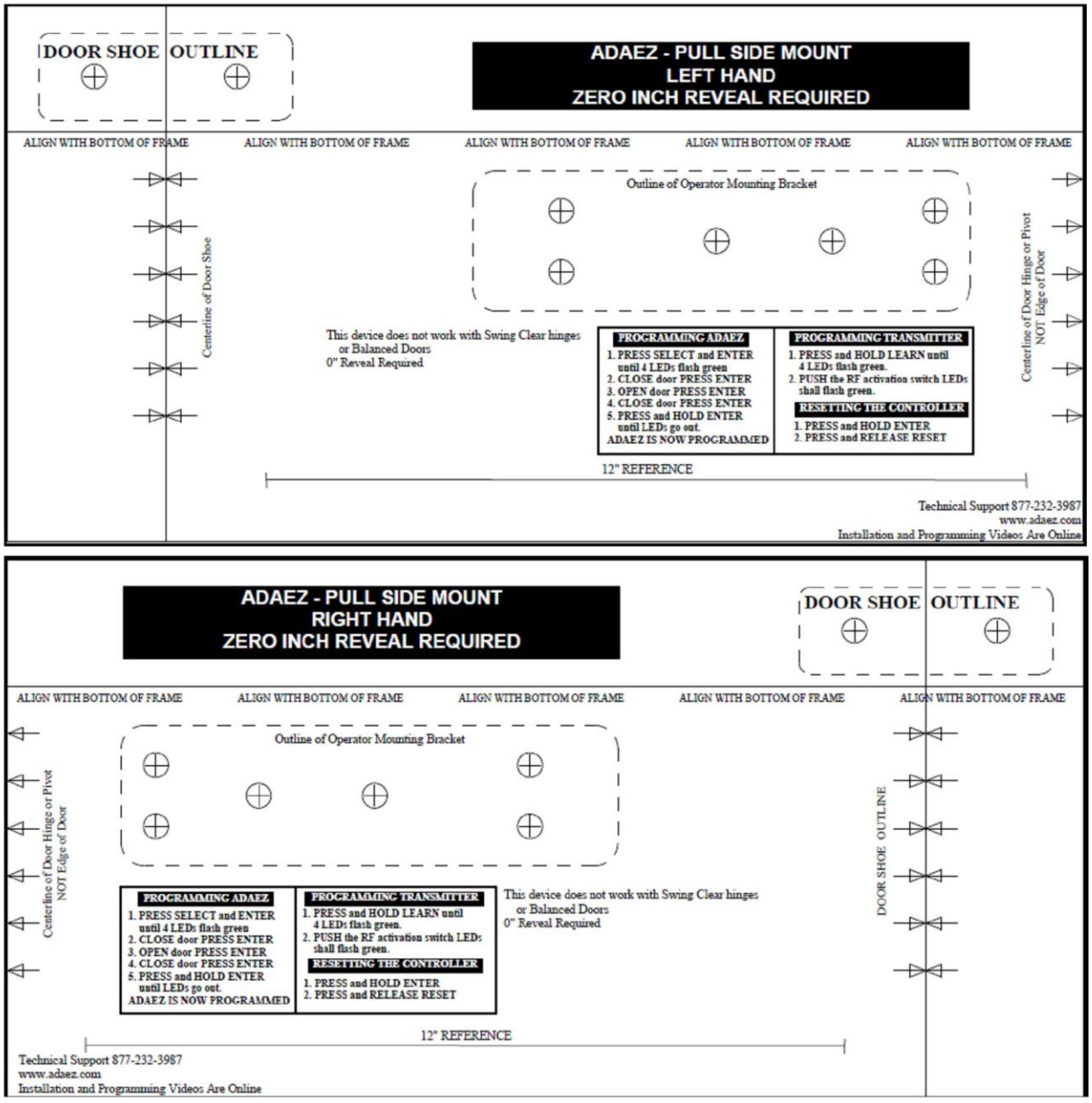
CAUTION

On an aluminum storefront door, the operator mounting holes must *not* be drilled into the top rail web, rail-to-stile tie rod(s), or the rail-to-stile junction.

6.1.3 If the door is an aluminum storefront door, EXAMINE the top rail and, when drilling the mounting holes, ENSURE the following:

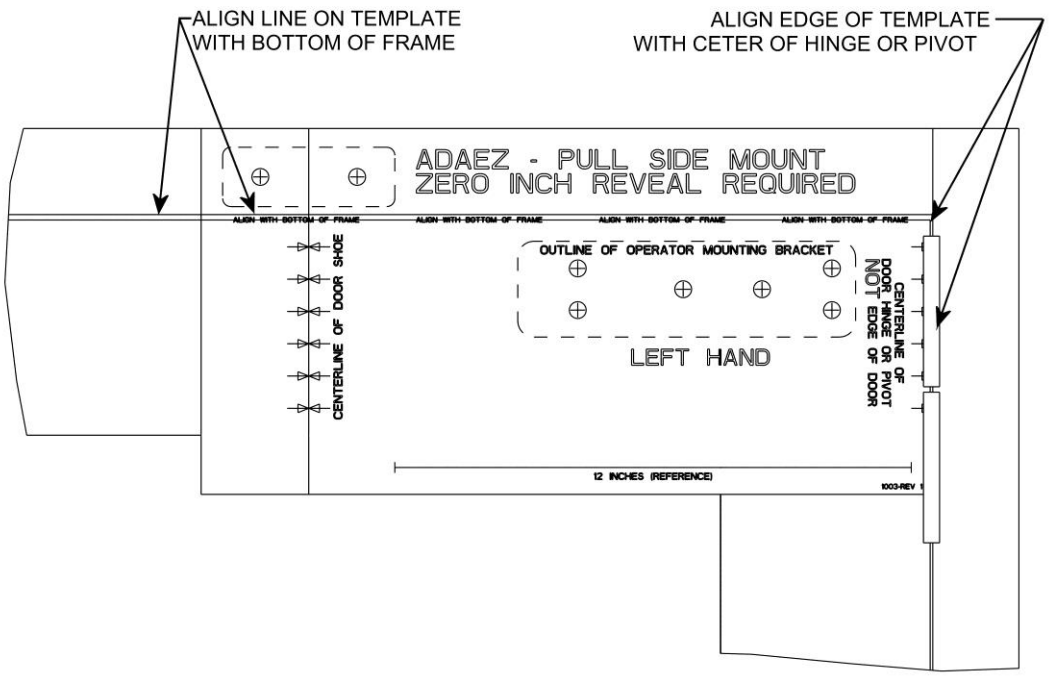
- *Do not* drill into the top rail web
- *Do not* drill into the rail-to-stile tie rod(s)
- *Do not* drill into the rail-to-stile junction

Figure 16. Pull Side Mounting Template



6.1.4 Refer to Figure 17, and ALIGN the operator mounting template to the centerline of the butt hinge, center pivot, or offset pivot as applicable.

Figure 17. Installing the Operator Mounting Template



CAUTION

To ensure proper installation, the operator must be fastened with *at least* four fasteners. For heavier doors more fasteners are recommended.

For light duty or hollow-core doors with insufficient top rail blocking, through bolts or sex nut and bolts are required to securely attached the operator mounting bracket.

6.1.5 Using a center punch, MARK the operator mounting bracket hole locations.

6.1.6 Using a center punch, MARK the door shoe mounting hole locations.

6.2 **Mounting the Door Shoe**

6.2.1 If the door frame is steel or aluminum and rivnuts must be installed, refer to Figure 18 and PERFORM the following:

a. Using a $^{25}/_{64}$″ drill, DRILL the door arm pivot bracket holes.

b. Using a rivnut tool, INSTALL the ¼-20 steel rivnuts.

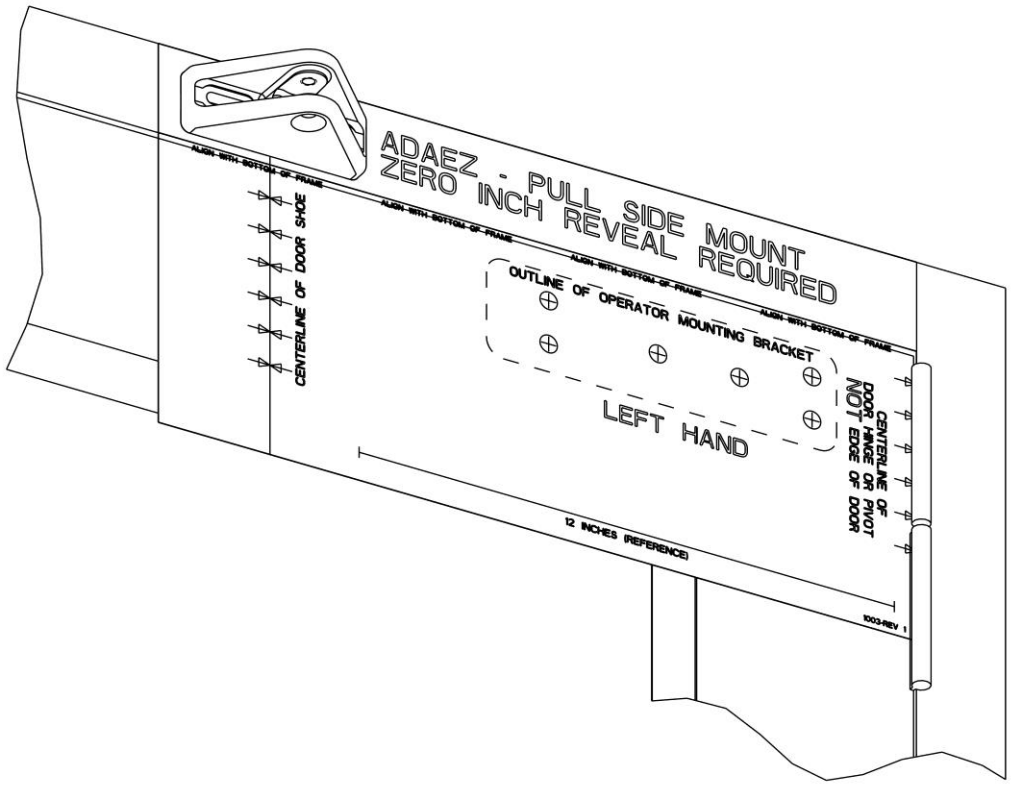
c. INSTALL and TIGHTEN the two (minimum) ¾″ (19.05 mm) socket head capscrews (with black oxide washers) securing the door arm pivot bracket to the underside and face of the frame header.

6.2.2 If the door frame is wood, refer to Figure 18 and PERFORM the following:

a. Using a $^{5}/_{32}$″ (3.97 mm) drill, DRILL the door arm pivot bracket pilot holes.

b. INSTALL and TIGHTEN the three #14 x 1 ¼″ wood screws (minimum) securing the door arm pivot bracket to the underside and face of the frame header.

Figure 18. Mounting the Door Shoe



6.3 Installing the Operator Mounting Bracket and Cover

CAUTION

For light duty or hollow-core doors with insufficient top rail blocking, the provided through-bolts or sex nuts and bolts must be used to securely attach the operator mounting bracket.

6.3.1 If the door is aluminum and rivnuts must be installed, refer to Figure 19 and PERFORM the following:

a. Using a $^{25}/_{64}$″ drill, DRILL the mounting bracket holes.

b. Using a rivnut tool, INSTALL the ¼-20 steel rivnuts.

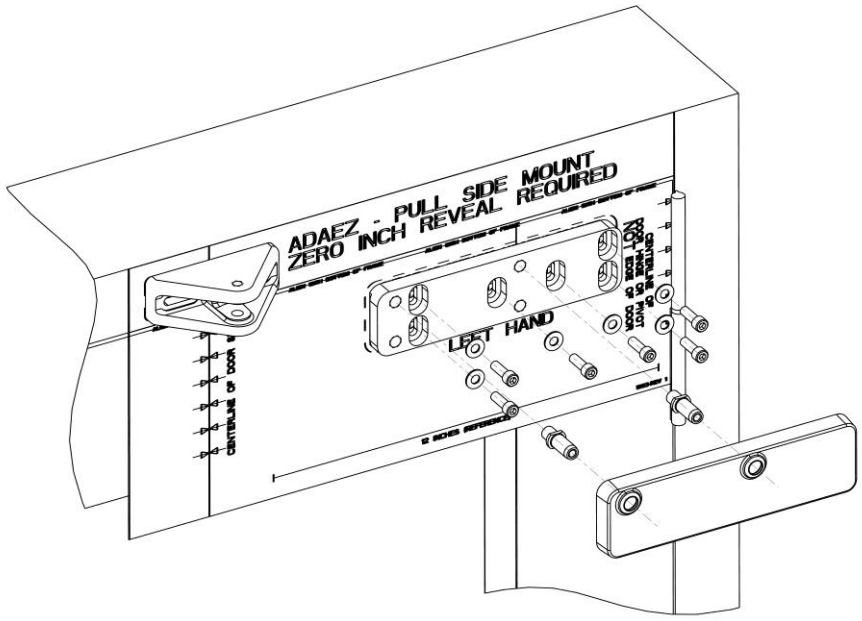
c. INSTALL and TIGHTEN the four(minimum) ¼-20 (6.35 mm) socket head capscrews (with suppliedwashers) securing the operator mounting bracket.

6.3.2 If the door is wood, refer to Figure 19 and PERFORM the following:

a. Using a $^{3/8}$″ (9.52 mm) drill, DRILL the mounting bracket pilot holes.

b. INSTALL and TIGHTEN the supplied through-bolts, the four ¼-20 (6.35 mm) socket head capscrews (with supplied washers) securing the operator mounting bracket.

Figure 19. Installing the Operator Mounting Bracket and Cover



6.3.3 ADJUST the bracket so that there is a $^{5}/_{8}$″ (16mm) space between the top of the bracket and the top of the door.

6.3.4 TIGHTEN the socket head capscrews securing the mounting bracket to the door.

6.3.5 Using a $^{7}/_{16}$″ (11.112mm) box wrench or large adjustable wrench, TIGHTEN the operator mounting pins into the upper threaded holes in the mounting bracket.

6.3.6 INSTALL the operator mounting bracket cover over the operator mounting bracket.

6.4 Installing the Door Operator

6.4.1 REMOVE the two capscrews securing the operator bottom cover to the operator.

6.4.2 REMOVE the bottom cover from the operator.

6.4.3 SLIDE the battery pack from the operator and REMOVE the battery pack.

6.4.4 REMOVE the dress cover from the operator.

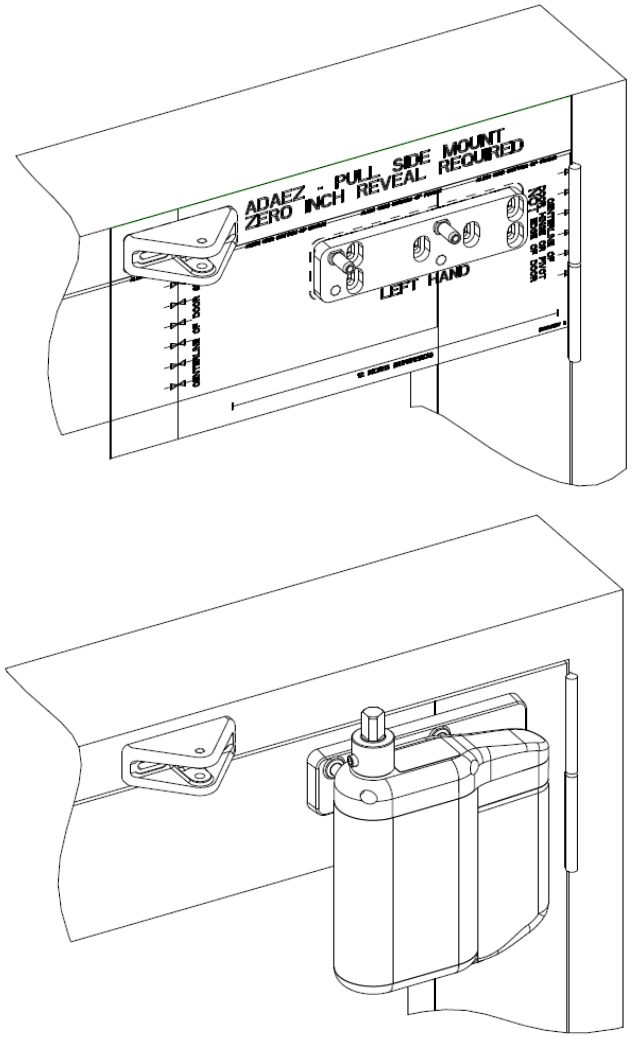
WARNING

To avoid inadvertent activation of the operator during connection of the door arm, the battery pack should not be installed until *after* the door arm is connected.

6.4.5 Refer to Figure 20, and, with the battery pack facing the jamb, POSITION the operator onto the operator mounting pins. ENSURE operator does not slide off the mounting pins.

6.4.6 INSTALL and TIGHTEN the two ¼-20 X 1½″ socket head capscrews securing the operator to the operator mounting pins.

Figure 20. Installing the Operator



6.5 **Installing the Door Arm**

6.5.1 Refer to Figure 21, and INSTALL shaft extension onto operator shaft.

6.5.2 TIGHTEN set screw securing shaft extension to operator shaft.

Figure 21. Installing the Shaft Extension

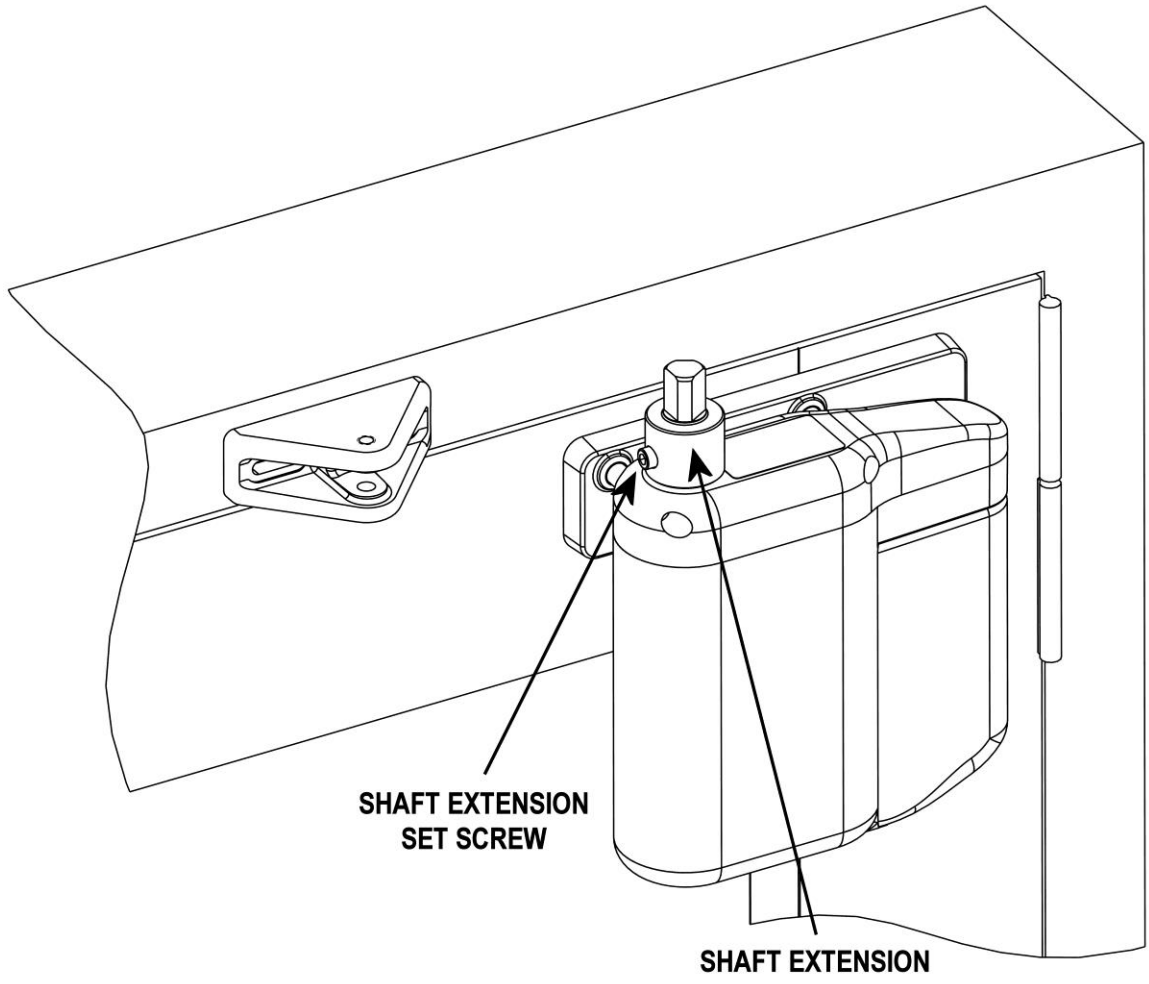
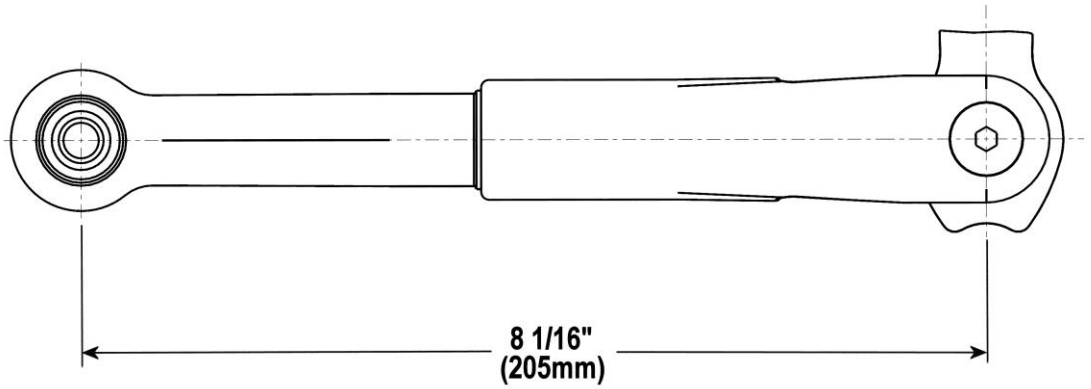


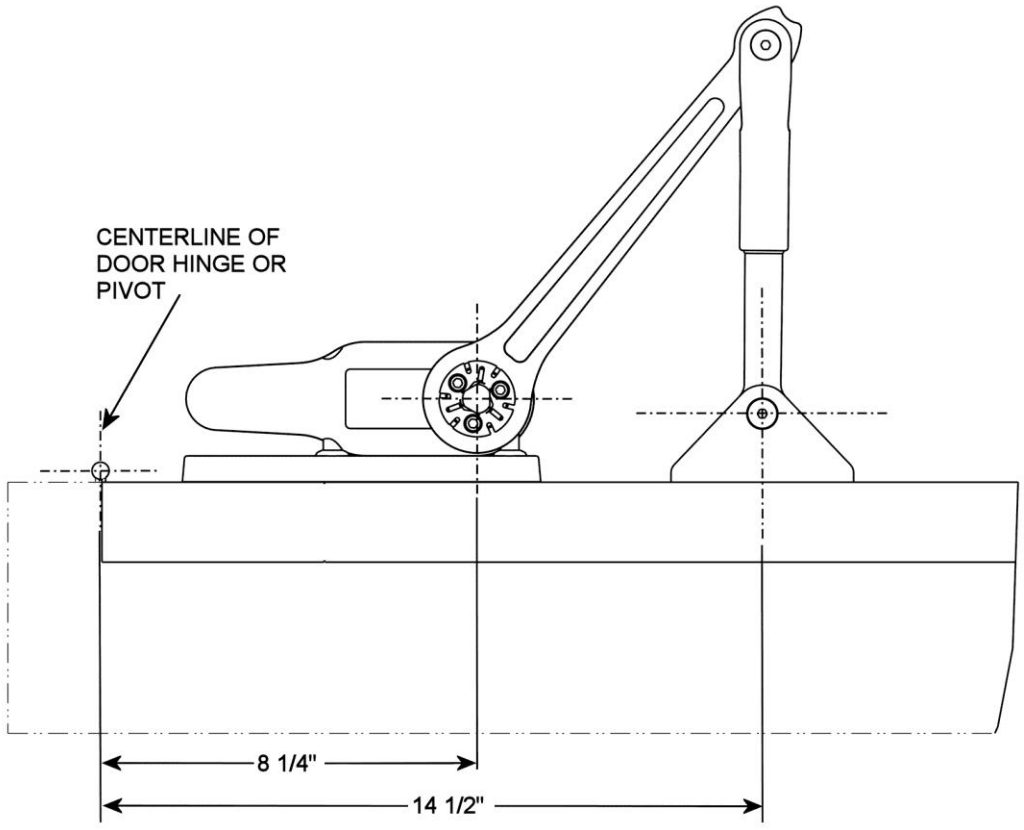
Figure 22. Adjusting the Door Arm Length



6.5.3 Refer to Figure 22, and ADJUST door arm length to 8 $^{1}/_{16}$″ (204.77 mm).

6.5.4 Refer to Figure 23, and, with the door arm coupling screws facing up, POSITION the larger end of the door arm onto the operator output shaft.

Figure 23. Installing the Door Arm



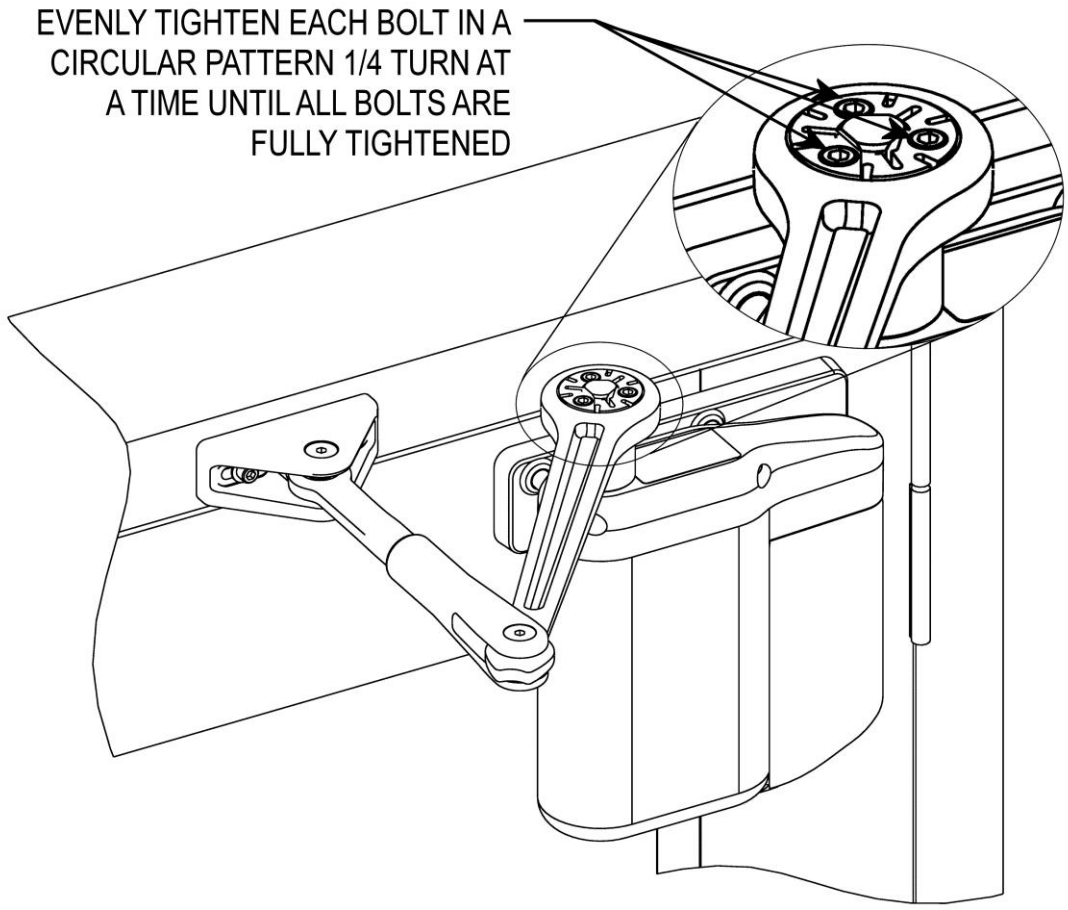
CAUTION

The door arm coupling is a two-piece tapered coupling. In order to draw the coupling halves together evenly the three door arm coupling screws must be tightened evenly (one quarter turn at a time) until fully tight.

6.5.5 Refer to Figure 24, and,while maintaining the door arm position, TIGHTEN the door arm coupling screws evenly (one quarter turn at a time) until fully tight.

6.5.6 INSTALL the $^{5}/_{16} - 18$ flat head screw into the door shoe mounting bracket to secure the door arm.

Figure 24. Installing the Door Arm



6.5.7 CYCLE the door several times, and ENSURE that the door opens and closes smoothly.

6.5.8 SLIDE the dress cover onto the operator.

6.5.9 CONNECT the battery pack connector plug to the operator.

6.5.10 SLIDE the battery pack onto the operator, and ENSURE that the battery pack wires will not interfere with the operator cover.

7. MISCELLANEOUS COMMON INSTRUCTIONS

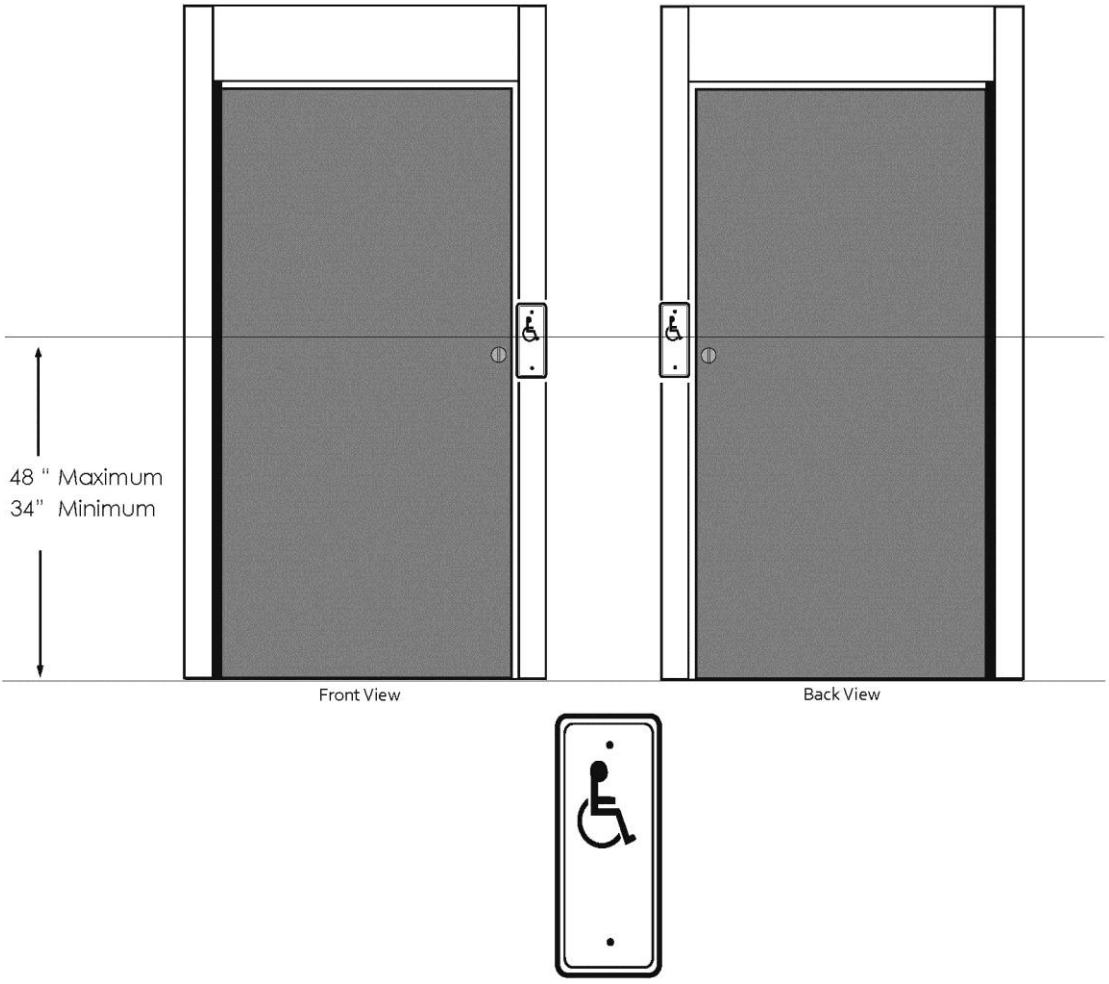
NOTE

The instructions for installing the pushbutton switches, installing the optional plug-in transformer, adjusting door spring tension, and replacing the battery pack fuse are common regardless of whether the door is a push or pull application.

7.1 **Installing the Pushbutton Switches**

7.1.1 Refer to Figure 25, and INSTALL the pushbutton switches. ENSURE the following:

Figure 25. Installing the Pushbutton Switches



- Switches are located 1′ to 5′ (30.48 cm to 152.4 cm) from the door, but not more than 12′ (365.76 cm).
- Switches remain accessible from the swing side when the door is opened.
- Switches are not located in a position where the user would be in the path of the moving door.

- Switches are mounted so that the user is in full sight of the door when activating the switch.
- Switches are mounted at a minimum height of 34″ (86.36 cm) and a maximum height of 48″ (121.9 cm).

7.1.2 Unless otherwise approved by the Authority Having Jurisdiction (AHJ), CONSULT ANSI A117.1, "Standard on Accessible and Usable Buildings and Facilities," and other applicable building codes for additional information regarding accessibility requirements for the door and the area around the door.

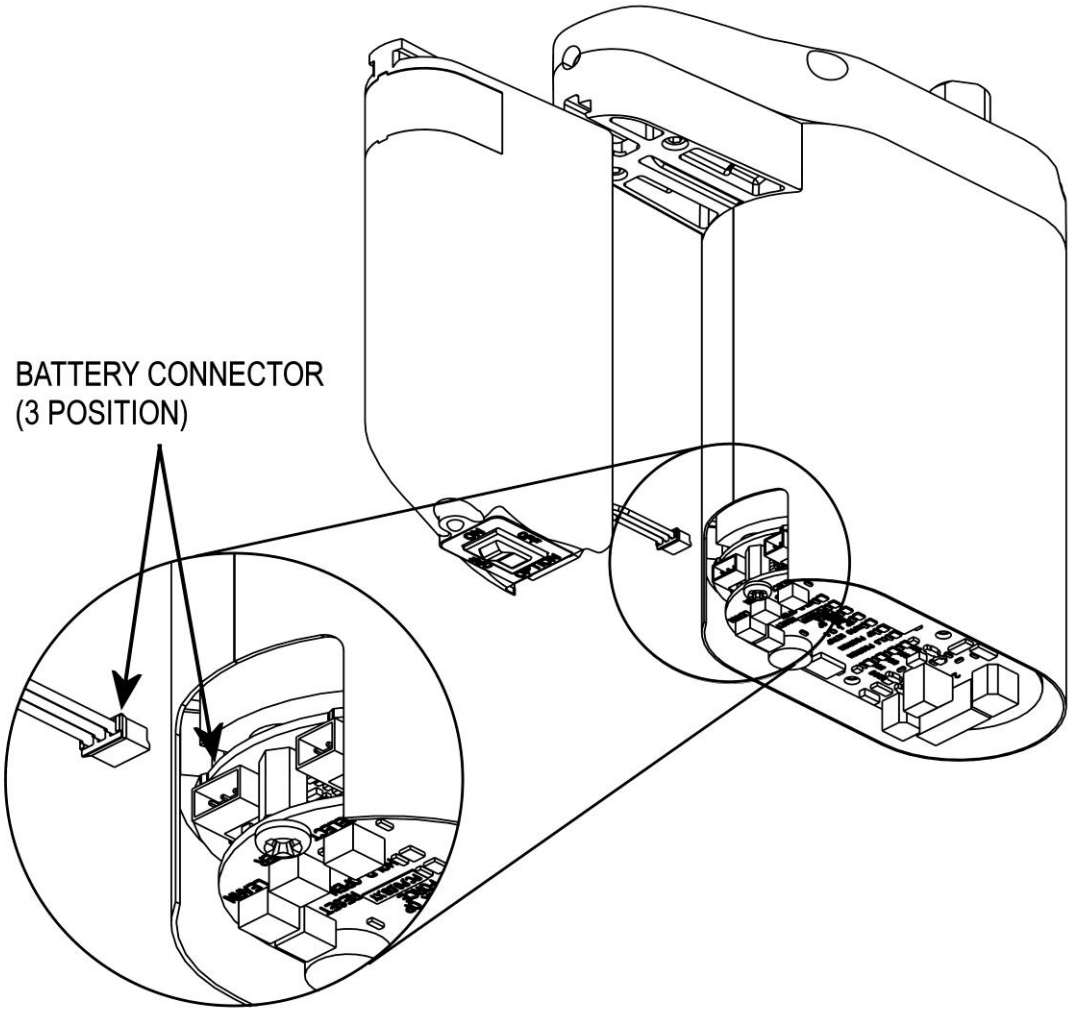
7.2 Connecting the Battery Pack

NOTE

There are two keyed connectors on the operator. One three-position connector accepts the battery pack connector plug.

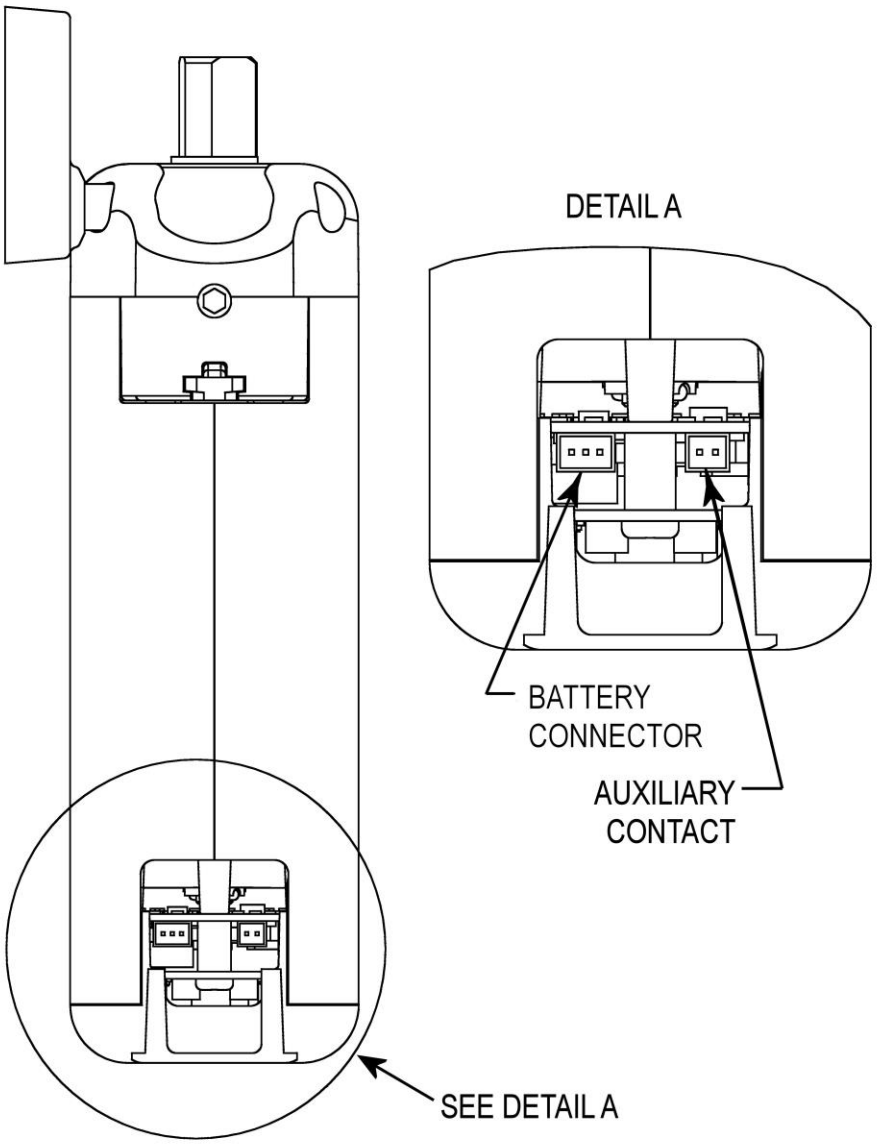
7.2.1 Refer to Figure 30 and switch the ON/OFF/OPTION switch to the OFF position.

Figure 26. Connecting the Battery Pack



7.2.2 Refer to Figures 26 and 27, and CONNECT the battery pack connector plug to the operator.

Figure 27. Connecting the Battery Pack



7.2.3 SLIDE the battery pack onto the operator, and ENSURE that the battery pack wires do *not* interfere with the operator cover.

7.2.4 Change the ON/OFF/OPTION switch to the "ON" position.

7.3 Installing the Optional Plug-In Transformer

NOTE

If possible, the transformer wiring should be routed against the door trim molding.

7.3.1 ROUTE transformer wiring to a 110-VAC outlet, but do *not* plug transformer into the outlet.

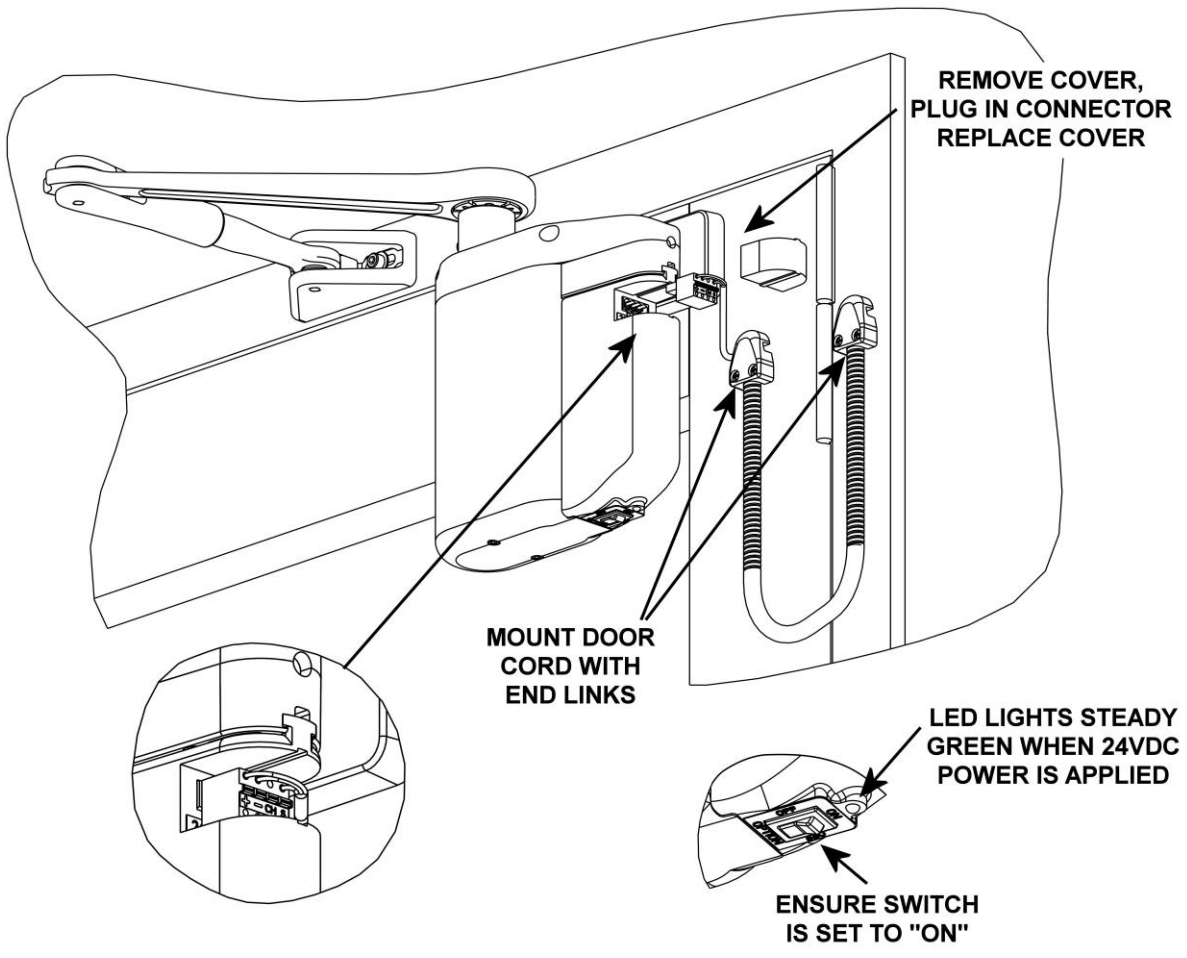
NOTE

An optional plug-in transformer is recommended in installations where the automatic door-opening feature will be used frequently. The optional plug-in transformer is REQUIRED for installations where Power Close and/or Push and Go features are enabled.

7.3.2 Refer to Figure 28, and ROUTE wires through armored cable end links. MOUNT the door cord end links as follows:

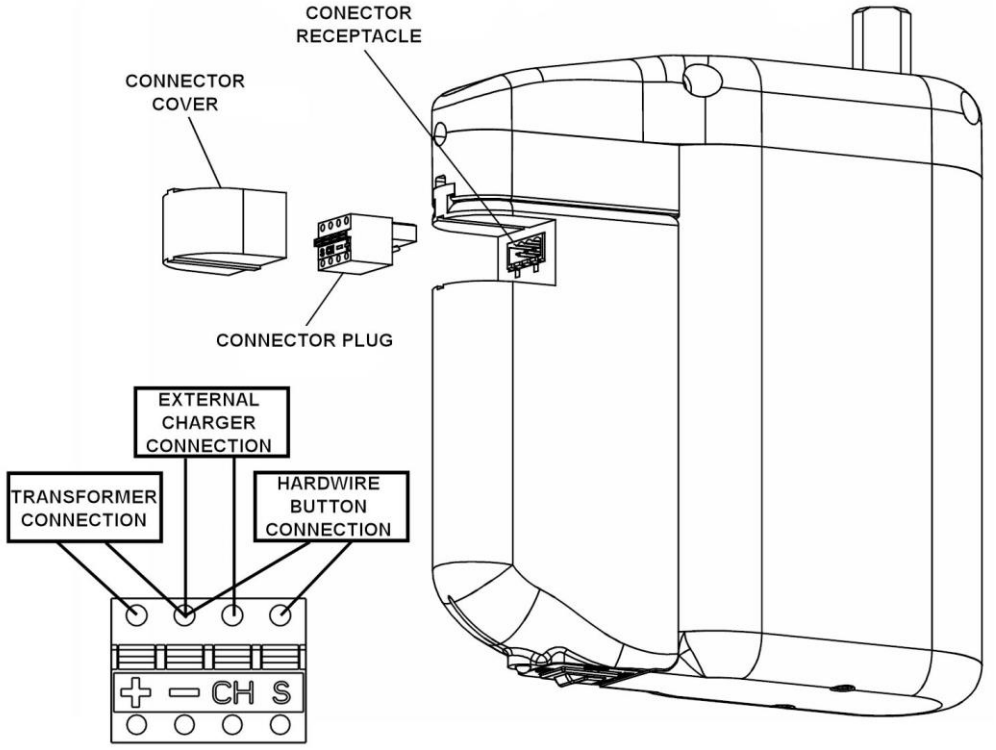
- MOUNT one end link in the area behind or next to the battery pack.
- MOUNT the other end link on or next to the door frame.

Figure 28. Routing Wires through Cable End Links



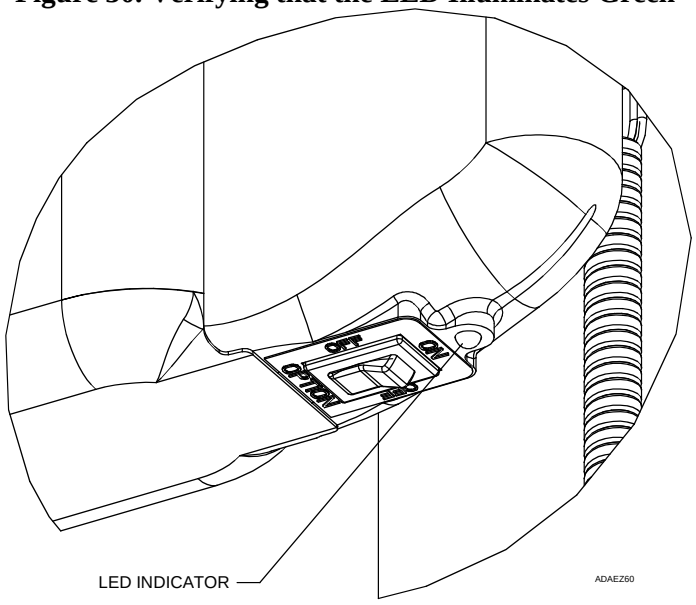
7.3.3 Refer To Figure 29, and PLUG connector into receptacle on battery pack.

2. Figure 29. Plugging the Connector into the Receptacle



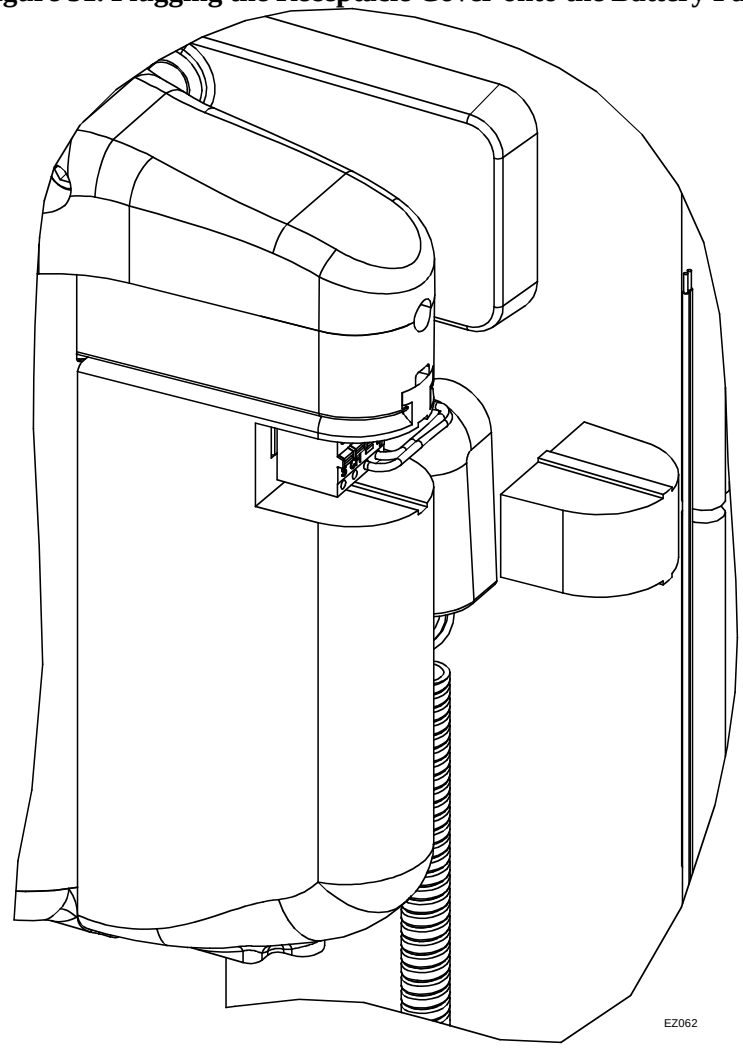
7.3.4 Refer to Figure 30, and VERIFY that the LED indicator lights GREEN.

Figure 30. Verifying that the LED Illuminates Green



7.3.5 Refer To Figure 31, and INSTALL receptacle cover onto battery pack.

Figure 31. Plugging the Receptacle Cover onto the Battery Pack



7.4 Checking Battery Voltage

7.4.1 Refer To Figure 3, and PRESS and HOLD the battery switch in the "OPTION" position. The following shall occur:

- The green LED shall illuminate to indicate that the battery pack is fully charged.
- The yellow LED shall illuminate to indicate that the battery is partially drained.
- The red LED shall illuminate to indicate that the battery pack is fully drained and the door operator will not function in the automatic mode.

7.5 Adjusting Door Spring Tension

NOTE

The doors are shipped with spring tension set to one half of the maximum spring tension.

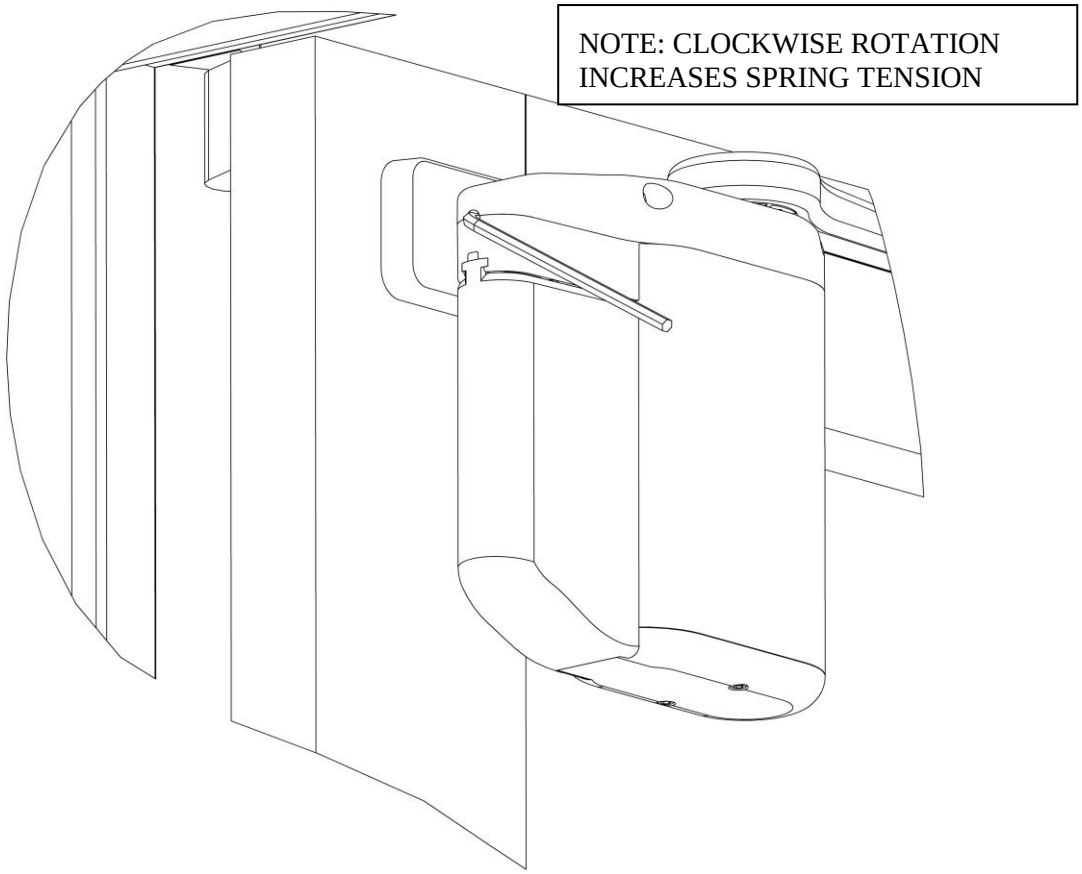
7.5.1 Manually OPEN AND CLOSE the door several times. ENSURE that the door opens and closes smoothly.

7.5.2 If thespring tension needs to be adjusted, refer to Figure 32, and ADJUST door-open spring tension as follows:

a. INSERT $^{3}/_{16}$″ (4.762 mm) hex wrench into spring tension setscrew.

- If the door feels too light, using the $^{3}/_{16}$″ (4.762 mm) hex wrench, TURN the setscrew in the end of the operator *clockwise* to *increase* spring tension.
- If the door feels too heavy, using $^{3}/_{16}$″ (4.762 mm) hex wrench, TURN the setscrew in the end of the operator *counterclockwise* to *decrease* spring tension.

Figure 30. Adjusting Door Spring Tension



8. PROGRAMMING INSTRUCTIONS

NOTE

The instructions for linking the RF pushbuttons and customizing the operator settings are common regardless of whether the door is a push or pull application.

8.1 Programming the Operator

8.1.1 Perform a RESET to ensure control memory is clear.

- PRESS and HOLD the "ENTER" button,

- PRESS and RELEASE the “RESET” button.
- LEDs DS8 through DS11 shall flash green briefly.

8.1.2 Refer to Figure 3 and, at the base of the controller, PRESS and HOLD the “SELECT” and “ENTER” pushbuttons for three seconds. The following shall occur:

- The operator shall enter program mode.
- LEDs DS8 through DS11 shall flash green briefly.
- The “CLS” (close) position LED shall illuminate red and remain lit.

NOTE

When performing the auto-tune process for the first time, LED indications for “CLS,” “OP,” and “AUTO SETUP” will be RED, indicating that no values have been previously stored for those parameters. When programming the operator a second time the LEDs will illuminate green.

8.1.3 With the door in the closed position, PRESS and RELEASE the “ENTER” pushbutton. The following shall occur:

- The “CLS” position LED shall flash green briefly.
- The “OP” (open) position LED shall illuminate next.

NOTE

Wait until the “OP” (open) position LED illuminates to move the door to the open position. Failure to wait to move the door may cause the door to auto-tune in the wrong direction.

8.1.4 With the door in the fully open position, PRESS and RELEASE the “ENTER” pushbutton. If the ENTER button is not accessible with the door in the fully open position, PRESS and RELEASE one of the RF pushbuttons. The following shall occur:

- The “OP” position LED shall flash green briefly.
- The “AUTO SETUP” LED shall illuminate red next.

8.1.5 RETURN the door to the fully closed position, and PRESS and RELEASE the “ENTER” pushbutton. The following shall occur:

- The door shall open 30 to 45 degrees and then close.
- The “AUTO SETUP” led shall illuminate green.

8.1.6 To exit the programming mode, PRESS and HOLD the “ENTER” pushbutton for three seconds. The following shall occur:

- The “AUTO SETUP” led shall go out.
- The programming of the door is complete.

8.1.7 If further door adjustments are necessary, refer to Section 8.3, and PERFORM adjustments.

8.1.8 To reset the controller, PERFORM the following:

NOTE

Resetting the controller does not reset the RF transmitters.

- PRESS and HOLD the “ENTER” pushbutton and PRESS and RELEASE the “RESET” pushbutton.
- RELEASE the “ENTER” button.

- LEDs DS8 through DS11 shall flash green briefly.

8.2 Linking the RF Pushbuttons

NOTE

Only ADA EZ transmitters can be linked to the RF receiver of the operator.

Two RF pushbuttons are preprogrammed at the factory to work with their respective operator.

Only one ADA EZ transmitter can be programmed at a time. The procedure below can be repeated for up to eight ADA EZ transmitters.

This RF pushbutton linking method does not overwrite other RF controls previously programmed into memory.

8.2.1 To link an RF switch with a door controller, PERFORM the following:

a. PRESS and RELEASE the "LEARN" pushbutton on the controller until LEDs DS8 through DS11 flash green. The controller shall shall remain in the learn mode for 15 seconds or until the RF signal is received.

b. PUSH the RF pushbutton. LED DS7 shall flash green indicating that the operator accepted this RF pushbutton.

c. REPEAT step 8.2.1 as necessary for up to eight ADA EZ transmitters.

8.2.2 To remove all RF pushbuttons from memory, PERFORM the following:

- PRESS and HOLD the "LEARN" pushbutton on the controller, and PRESS and RELEASE the "RESET" pushbutton.
- RELEASE the "LEARN" pushbutton.

8.3 Customizing the Operator Settings (Optional)

NOTE

The parameters for OPEN and CLOSE TIME, OPEN FORCE, and HOLD-OPEN TIME are preset to comply with ANSI standards for low-energy operators but may be adjusted if approved by the Authority Having Jurisdiction (AHJ).

Before attempting any changes to these settings, be sure the Auto-Tune process has been successfully completed.

8.3.1 PRESS and HOLD the "SELECT" and "ENTER" pushbuttons for three seconds to enter programming mode. LEDs DS8 through DS11 shall flash green briefly.

8.3.2 WAIT for the "CLS" LED to illuminate.

8.3.3 PRESS and RELEASE the "SELECT" pushbutton to advance the "OP & CLS TIME" LED, "MAX OP FORCE" LED, or "HOLD OPEN" time LED.

8.3.4 When desired LED illuminates, ROTATE the thumbwheel to adjust the corresponding setting.

8.3.5 PRESS and RELEASE "ENTER" pushbutton to store that value.

8.3.6 PRESS and HOLD the "ENTER" pushbutton for three seconds. The operator shall exit programming mode.

NOTE

The LED bar will indicate minimum and maximum values as adjustments are made. Green indications are within ANSI standards. Red indications are outside ANSI standards.

OP & CLS TIME range is 3.5 to 13 seconds (open and close times are calculated during the autotune process).

HOLD OPEN time range is 1 to 30 seconds (default = 5 seconds).

8.3.1 TEST operator to confirm desired results. If necessary, REPEAT adjustment.

8.4 Setting Optional Functions – Power Close, Push & Go, and Dynamic Braking

NOTE

The ADA EZ must be plugged in to the transformer if the POWER CLOSE or PUSH AND GO features are enabled.

POWER CLOSE will apply a closing force on the door if the door did not fully close in the normal closing time. Power close will activate and turn off when the door is fully closed or if the door does not move after attempting to close for two seconds.

PUSH AND GO will cause the door operator to initiate an automatic open cycle when the door is pushed in the open direction.

DYNAMIC BRAKING will apply braking to the door when the door speed exceeds four times the programed automatic opening time under abusive opening conditions or wind.

8.4.1 ENABLE or DISABLE Power Close (factory default is OFF):

a. PRESS and HOLD "SELECT" and "ENTER" for 3 seconds to enter programming mode. LEDs DS8 through DS11 shall flash green briefly.

b. WAIT for the "CLS" LED to illuminate.

c. PRESS and RELEASE the "SELECT" pushbutton to advance until the "PC, PG, DB, XY" LED **AND** DS8 LED illuminate to set the Power Close function.

d. ROTATE the potentiometer to change the state of the LED. The green LED shall illuminate to indicate that Power Close function is ON. The red LED shall illuminate to indicate that the Power Close function is OFF.

e. PRESS and RELEASE the "ENTER" pushbutton to store the setting.

f. PRESS and HOLD the "ENTER" pushbutton for three seconds. The operator shall exit programming mode.

8.4.2 ENABLE or DISABLE Push & Go (factory default is OFF):

a. PRESS and HOLD "SELECT" and "ENTER" for 3 seconds to enter programming mode. LEDs DS8 through DS11 shall flash green briefly.

b. WAIT for the "CLS" LED to illuminate.

c. PRESS and RELEASE the "SELECT" pushbutton to advance until the "PC, PG, DB, XY" LED **AND** DS9 LED illuminate to set the Push & Go function.

d. ROTATE the potentiometer to change the state of the LED. The green LED shall illuminate to indicate that Push & Go function is ON. The red LED shall illuminate to indicate that the Push & Go function is OFF.

e. PRESS and RELEASE the "ENTER" pushbutton to store the setting.

f. PRESS and HOLD the “ENTER” pushbutton for three seconds. The operator shall exit programming mode.

8.4.3 ENABLE or DISABLE Dynamic Braking (factory default is ON):

a. PRESS and HOLD “SELECT” and “ENTER” for 3 seconds to enter programming mode. LEDs DS8 through DS11 shall flash green briefly.

b. WAIT for the “CLS” LED to illuminate.

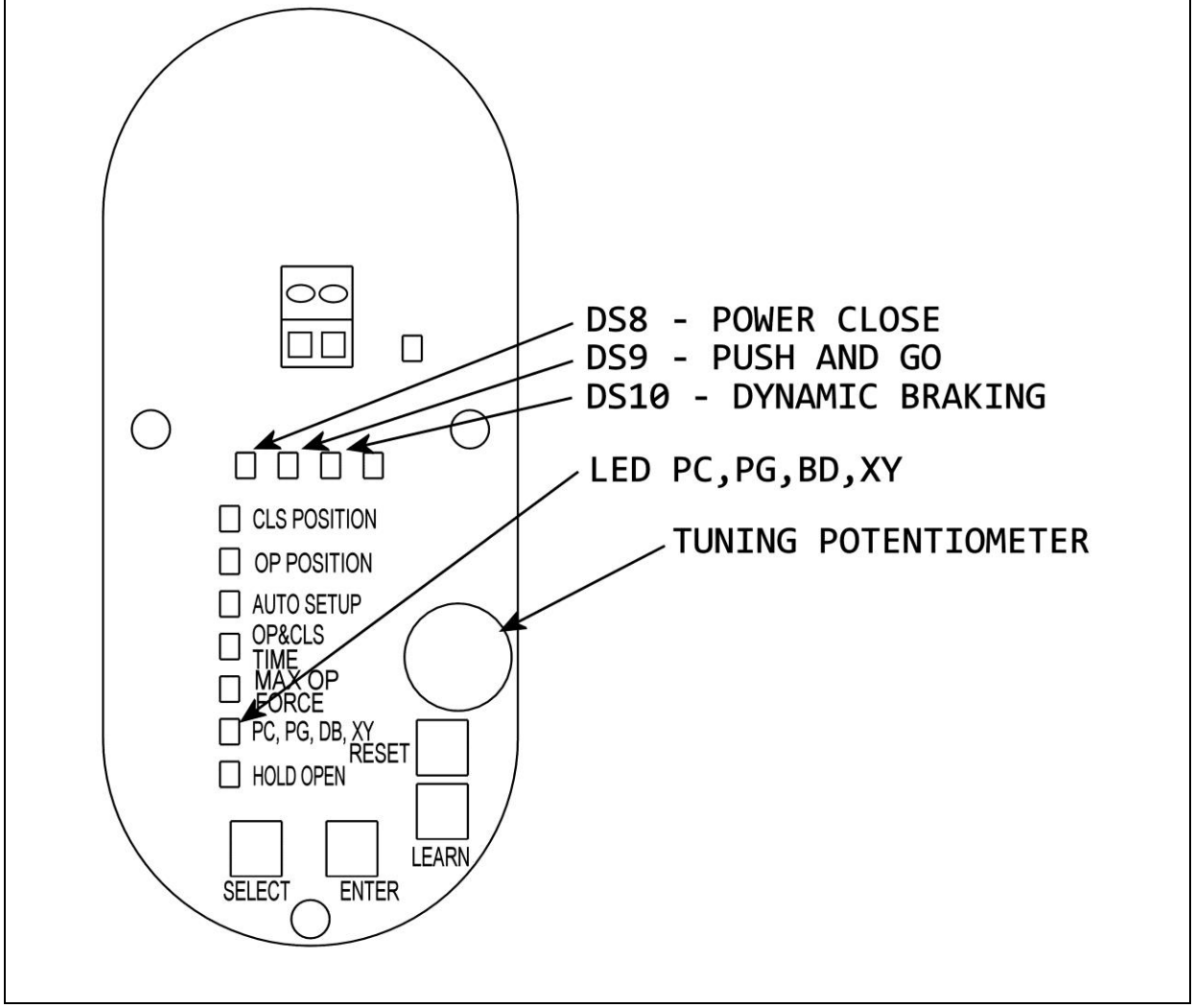
c. PRESS and RELEASE the “SELECT” pushbutton to advance until the “PC, PG, DB, XY” LED **AND** DS10 LED illuminate to set the Dynamic Braking function.

d. ROTATE the potentiometer to change the state of the LED. The green LED shall illuminate to indicate that Dynamic Braking function is ON. The red LED shall illuminate to indicate that the Dynamic Braking function is OFF.

e. PRESS and RELEASE the “ENTER” pushbutton to store the setting.

f. PRESS and HOLD the “ENTER” pushbutton for three seconds. The operator shall exit programming mode

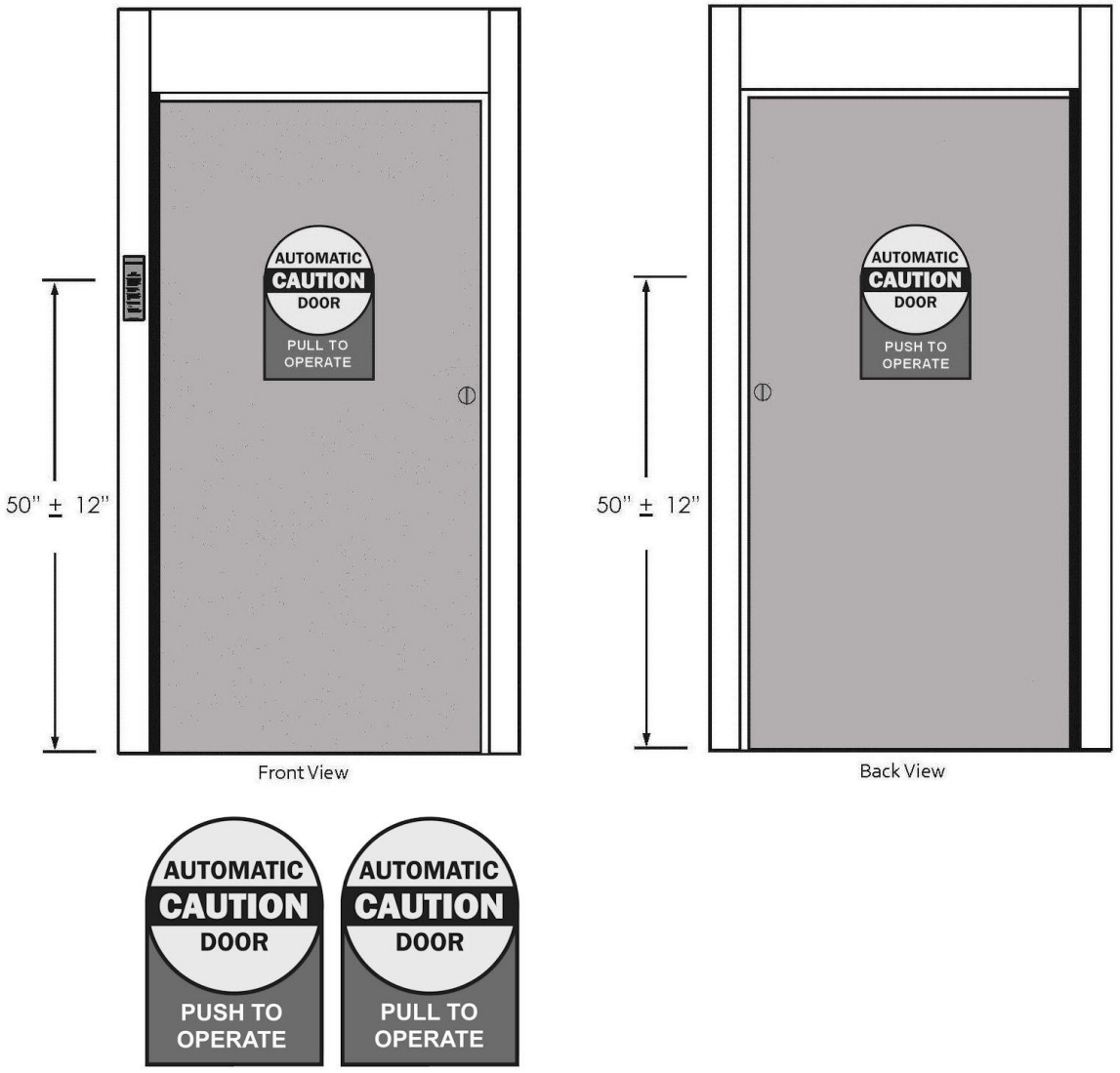
Figure 31. Setting Power Close, Push & Go, and Dynamic Braking



9. CLOSEOUT INSTRUCTIONS

9.1 **Closeout Procedure**

Figure 32. Installing the Door Decals



9.1.1 Refer to Figure 33, and INSTALL door decals.

9.1.2 IF PUSH AND GO is enabled, APPLY "PUSH TO OPERATE" and "PULL TO OPERATE" labels on the as shown in Figure 32.

9.1.3 ENSURE all connectors are secure.

9.1.4 ENSURE all wires are secured and hidden where possible.

9.1.5 ENSURE the operator dress cover is installed and secure.

9.1.6 ENSURE the controller cover is installed and secure.

9.1.7 ENSURE the door and door trim surfaces are clean.

9.1.8 ENSURE the door installation area is clean and free of debris.

9.1.9 ENSURE that the client/resident is instructed on how to operate the product correctly, and understands how to perform the daily safety check.

9.1.10 COMPLETE Work Order and REPORT your actions to Building Superintendent

TROUBLESHOOTING INSTRUCTIONS

9.2 **Troubleshooting Recommendations**

9.2.1 Refer to Table 2 for a listing of fault symptoms and recommended remedies.

Table 2. Troubleshooting Recommendations

Symptom	Recommended Remedy
Door Too Hard To Open Manually	Refer to section titled "Adjusting Door Spring Tension" and reduce the door-open spring tension.
Door Will Not Fully Close	Refer to section titled "Adjusting Door Spring Tension" and increase the door-open spring tension. The operator must only be installed on doors and frames in good working order, without sticking or binding during normal operation.
Door Arm Rubs On Door Arm Pivot Bracket	Refer to section titled "Installing the Operator Mounting Bracket" and lower the bracket mounting position. Ensure that the operator is mounted parallel to the face of the door. If the bottom of the operator is further away from the door than the top, shim the top of the operator mounting bracket to compensate.
Door Arm Rotates On Triangular Steel Output Shaft	Refer to section titled "Installing the Door Arm" and ensure that the door arm coupling screws are tightened evenly (one quarter turn at a time) until fully tight.
Door Does Not Open Automatically	• Ensure the On/Off/Option switch on the bottom of the battery pack is in the "ON" position. • Refer to figure titled "Connecting the Battery Pack" and ensure the battery is properly connected to the operator. • Refer to section titled "Initializing the Remote Control" and program the rf pushbutton switch. • Refer to section titled "Programming the Operator" and program the operator. • To verify a low voltage battery condition perform the following: o Put and hold the On/Off/Option switch in the OPTION position. o Observe the LED indicator on the bottom of the battery pack ▪ If the LED is GREEN the voltage is good (above 22.5VDC). ▪ If the LED is YELLOW the voltage is nominal (above 18.5VDC but below 22.5VDC) ▪ If the LED is RED the battery pack is exhausted (below 18.5VDC) and must be charged o Battery can be charged by using the optional battery charger, optional plug in transformer or by allowing manual traffic to restore battery power.
Door Stays Open Too Long	• Refer to section titled "Programming the Operator" and Auto-Setup the operator. • Refer to section titled "Adjusting the Door for Proper Operation" and adjust the door hold open time.

Symptom	Recommended Remedy
Door Does Not Stay Open Long Enough	• Refer to section titled "Programming the Operator" and Auto-Setup the operator. • Refer to section titled "Adjusting the Door for Proper Operation" and adjust the door hold open time.
Door Opens Too Fast	• Refer to section titled "Programming the Operator" and Auto-Setup the operator. • Refer to section titled "Adjusting the Door for Proper Operation" and adjust the door open time.
Door Opens Too Slow	• Refer to section titled "Programming the Operator" and Auto-Setup the operator. • Refer to section titled "Adjusting the Door for Proper Operation" and adjust the door open time.
Door Closes Too Fast	• Refer to section titled "Programming the Operator" and Auto-Setup the operator. • Refer to section titled "Adjusting the Door for Proper Operation" and adjust the door close time.
Door Closes Too Slow	• Refer to section titled "Programming the Operator" and Auto-Setup the operator. • Refer to section titled "Adjusting the Door for Proper Operation" and adjust the door close time.
Door Opening Force Too High	• Refer to section titled "Programming the Operator" and Auto-Setup the operator. • Refer to section titled "Adjusting the Door for Proper Operation" and adjust the door open force.
Can't Remove Battery From Housing	• Refer to Figure 30, and note the T-shaped channel at the top of battery housing. • Insert a small flat head screwdriver into the slot above the T-channel and gently pry the battery from the operator housing.
Can't Initialize Remote Control	• Ensure that the battery protective tab has been removed from between the battery and the battery holder. • Verify that the CR2032 battery installed in the rf transmitter is good by ensuring voltage is 3VDC or greater. • Refer to section titled "Initializing the Remote Control" and erase all activation codes. THEN: • Set and RF switch with a door controller following the instructions in the section titled "Initializing the Remote Control." • Loosen the nuts on the back of the switch plate assembly to ensure that the switch is not stuck in the closed position.
Door Stays Open at 90 Degrees	• Door arm has slipped on the output shaft. o Refer to section titled, "Installing the Door Arm." o Refer to Figure 14 (push-side application) or 24 (pull-side application). o Loosen the three door arm coupling screws. o Ensure the door arm is touching the face of the door. o Tighten the door arm coupling screws evenly (one quarter turn at a time) until fully tight. Be be sure screws are tightened securely. • Door arm end link washer has not been installed. o Refer to Figure 15. o Install supplied washer. (Two are supplied; only one is required.) • Door arm rubs on door arm pivot bracket. o Refer to Figures 13 and 14 (push-side application) or 19 and 24 (pull-side application). o Ensure that the operator is mounted parallel to the face of the door.

Symptom	Recommended Remedy
	○ If the bottom of the operator is further away from the door than the top, shim the top of the operator mounting bracket to compensate. • Spring force set too low ○ Refer to section titled, "Adjusting Door Spring Tension." ○ Refer to Figure 30. ○ Increase spring force – note operators are shipped from factory at one half of maximum spring tension. • Spring pre-load set too high ○ Refer to section titled, "Installing the Door Arm." ○ Remove door arm from the door arm pivot assembly. ○ Decrease pre-load by rotating the door arm end link counterclockwise. ○ Note making the door arm longer decreases preload. • Door arm pivot bracket too close to door face ○ Refer to section titled, "Installing to Door Arm Pivot Bracket." ○ Increase the 6 $^{3}/_{8}$″ (161.92 mm) dimension shown below to 6 $^{1}/_{2}$″ (165.1 mm).
Door Stays Open at 90 Degrees Only When Power Operated	• Refer to section titled, "Programming the Operator," and perform a retune.
When Used Manually the Door Arm Reverses and Does Not Allow the Door to Close	• Door arm has slipped on the output shaft. ○ Refer to section titled, "Installing the Door Arm." ○ Loosen the three door arm coupling screws. ○ Ensure the door arm is touching the face of door. ○ Tighten the door arm coupling screws evenly (one quarter turn at a time) until fully tight. Be be sure screws are tightened securely. • Refer to section titled, "Programming the Operator," and perform a retune

Attachment 1
Documents, Definitions, Tools, Equipment, and Consumables
(Sheet 1 of 1)

Documents

- ANSI A156.19-2007, "American National Standard for Power Assist and Low Energy Power Operated Doors"
- ANSI A117.1-2008, "Standard on Accessible and Usable Buildings and Facilities"

Definitions

- AHJ: Authority Having Jurisdiction
- LED: Light-emitting diode

Tools and Equipment (including, but not limited to)

- Adjustable Wrench
- Box Wrench $^{7}/_{16}$″ (11.112 mm)
- Combination square
- Drill bit sizes: 25/64″, 5/32″ (9.992, 3.969 mm)
- Electric drill, metal drill bit set, concrete drill bit set
- Hammer
- Hex wrench set
- Hex wrench sizes: $^{3}/_{16}$″, $^{9}/_{64}$″, $^{1}/_{16}$″ (4.762 3.572, 1.588 mm)
- Rivnut installer
- Safety glasses
- Screwdriver kit
- Scribe or center punch
- Staple gun*
- Tape
- Tape measure
- Wire cutters*
- Wire strippers*

*Needed if installing the optional transformer.

Consumables (including, but not limited to)

- Clean rags
- Glass cleaner

Notes

- Optional battery charger p/n 1023
- Optional plug-in transformer: Input:120 VAC 50-60 Hz; Output: 24 VDC, 450 mA minimum p/n 1015
- Transmitter battery: 3 volt, 280 mAH, Lithium, part number CR2032
- The ADA EZ utilizes a lithium-polymer main battery. Fully discharged lithium-polymer batteries are environmentally friendly and landfill safe. ADA EZ recycles all lithium polymer batteries. Please return all discharged batteries to ADA EZ.

Attachment 2
Quick Programming Guide

(Sheet 1 of 2)

Step	Operator Action	Response
Programming the door operator		
1.	Refer to Figure 3 and, at the base of the controller, PRESS and HOLD the "SELECT" and "ENTER" pushbuttons for three seconds.	• The operator shall enter program mode. • The four LEDs on the circuit board shall repeatedly flash green. • The "CLS" position LED shall illuminate red and remain lit.
NOTE The doors are shipped with a spring tension set to one half of maximum spring tension. Always reprogram the operator after adjusting the door spring tension.		
2.	With the door in the closed position, PRESS the "ENTER" pushbutton.	• The "CLS" position LED shall flash green. • The "OP" (open) position LED shall illuminate red indicating that the operator is ready for input. • The LED shall illuminate green once data has been stored for this parameter.
3.	OPEN the door to its fully open position	
4.	With the door in the fully open position, PRESS the "ENTER" pushbutton.	• The "OP" position LED shall flash green. • The "AUTO SETUP" position LED shall illuminate red indicating that the operator is ready for input. • The LED shall illuminate green once data has been stored for this parameter.
5.	With the door in the fully closed position, PRESS the "ENTER" pushbutton.	• The door shall open quickly and then close. • The "AUTO SETUP" led shall illuminate green.
6.	PRESS and HOLD the "ENTER" pushbutton for three seconds.	• The "AUTO SETUP" led shall go out. • The second LED (not labeled) shall flash green. • The door shall be tuned.
7.	If further door adjustments are necessary, refer to Section 5.10, and PERFORM adjustment	
Resetting the controller:		
1.	PRESS and HOLD the "ENTER" pushbutton.	
2.	PRESS and RELEASE the "RESET" pushbutton.	
3.	RELEASE the "ENTER" pushbutton.	• LED DS8-DS11 shall flash indicating memory is reset.

Attachment 2
Quick Programming Guide
(Sheet 2 of 2)

	Initializing the Remote Control	
1.	To set an RF switch with a door controller, PERFORM the following:	
a.	PUSH the "LEARN" switch on the controller.	The controller will enter the learn mode for 10 seconds while green and red LEDs are illuminated.
b.	PUSH the RF activation switch.	LED DS7 shall flash green indicating that the operator learned this rf switch.
2.	To erase all activation codes learned in the door controller, PERFORM the following:	
a.	Press and hold the "LEARN" switch on the operator	
b.	Press and release the "RESET" switch on the operator	LED DS8 through DS11 will flash green
c.	Release the "LEARN" switch	

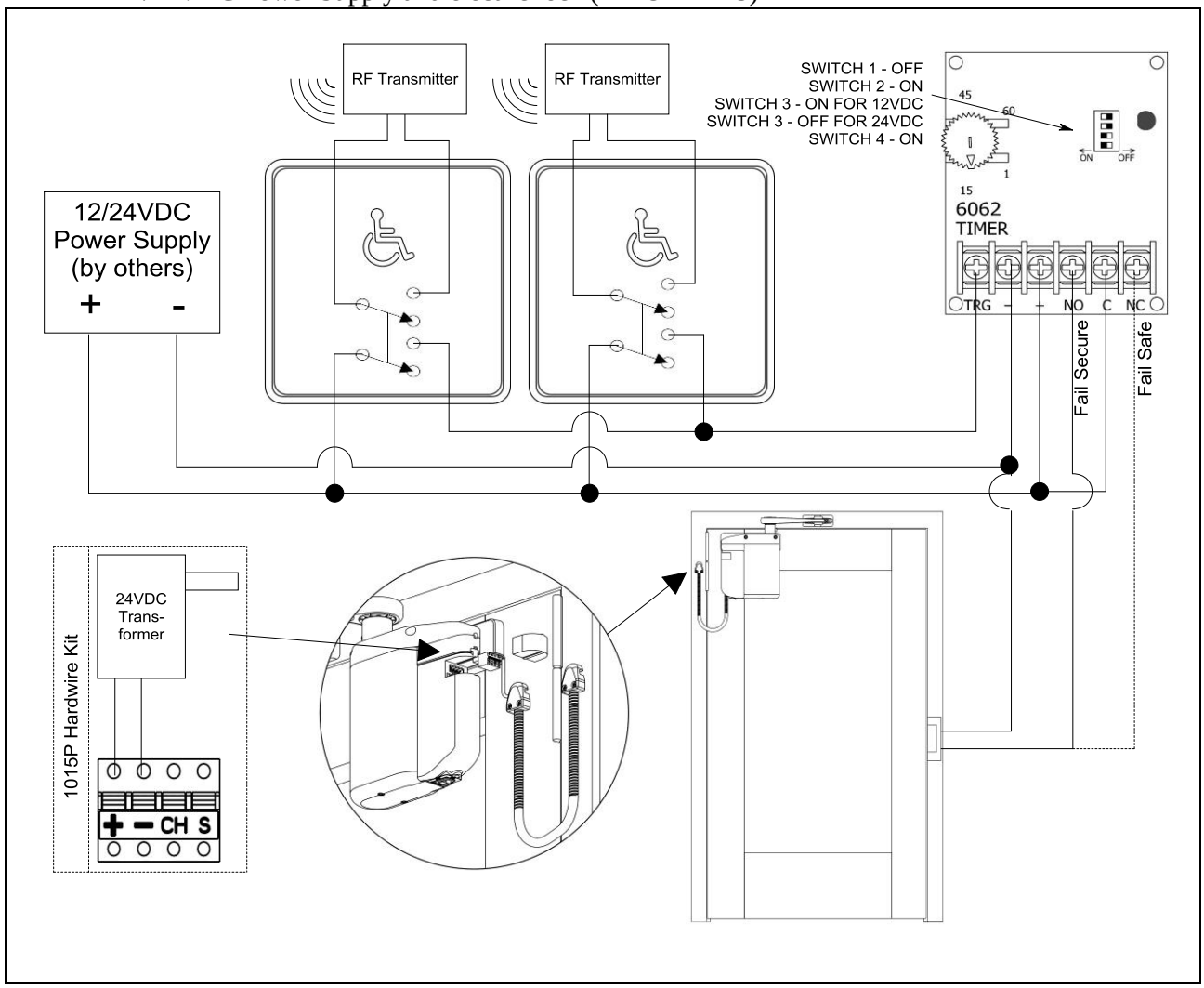
Attachment 3
ADAEZ PRO ELI with Electric Strike and RF Buttons
(Sheet 1 of 5)

System Description:

- ADAEZ Pro with 12 or 24VDC power supply (by other) with Wireless Buttons.
- Pressing either inside or outside push button activates electric lock then
- Door operator initiates and automatic open cycle after a 1/2 second delay.
- The Multi purpose timer keeps the electric lock unlocked for anmadjustable time period to prevent operator from engaging electric lock.

System Requirements:

- 1x 1019-4 – Square Pushbutton DPDT with RF transmitter
- 1025 Timer Kit
- 1015P Hardwire Kit
- 12/24VDC Power Supply and electric lock (BY OTHERS)



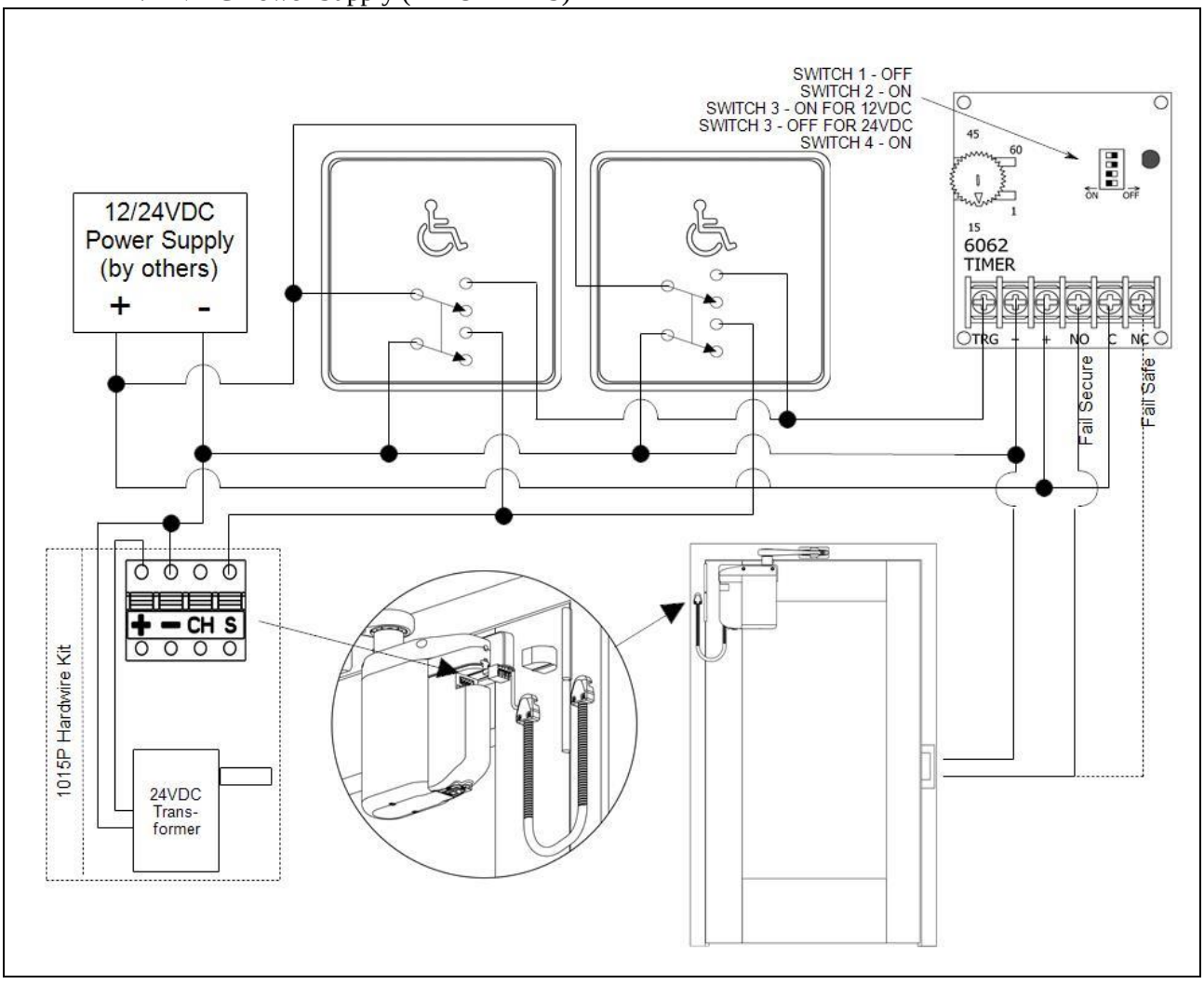
Attachment 3
ADAEZ PRO ELI with Electric Strike and Hardwired Buttons
(Sheet 2 of 5)

System Description:

- ADAEZ Pro with 12 or 24VDC power supply (by other) with Hardwired Buttons.
- Pressing either inside or outside push button activates electric lock then
- Door operator initiates and automatic open cycle after a 1/2 second delay.
- The Multi purpose timer keeps the electric lock unlocked for anmadjustable time period to prevent operator from engaging electric lock.

System Requirements:

- 2x 1019-3 – Square Pushbutton DPDT
- 1025 Timer Kit
- 1015P Hardwire Kit
- 12/24VDC Power Supply (BY OTHERS)



700002 Rev. F

Attachment 3

ADAEZ PRO PLUS with Electric Lock and Access Control Panel - No Outside Button

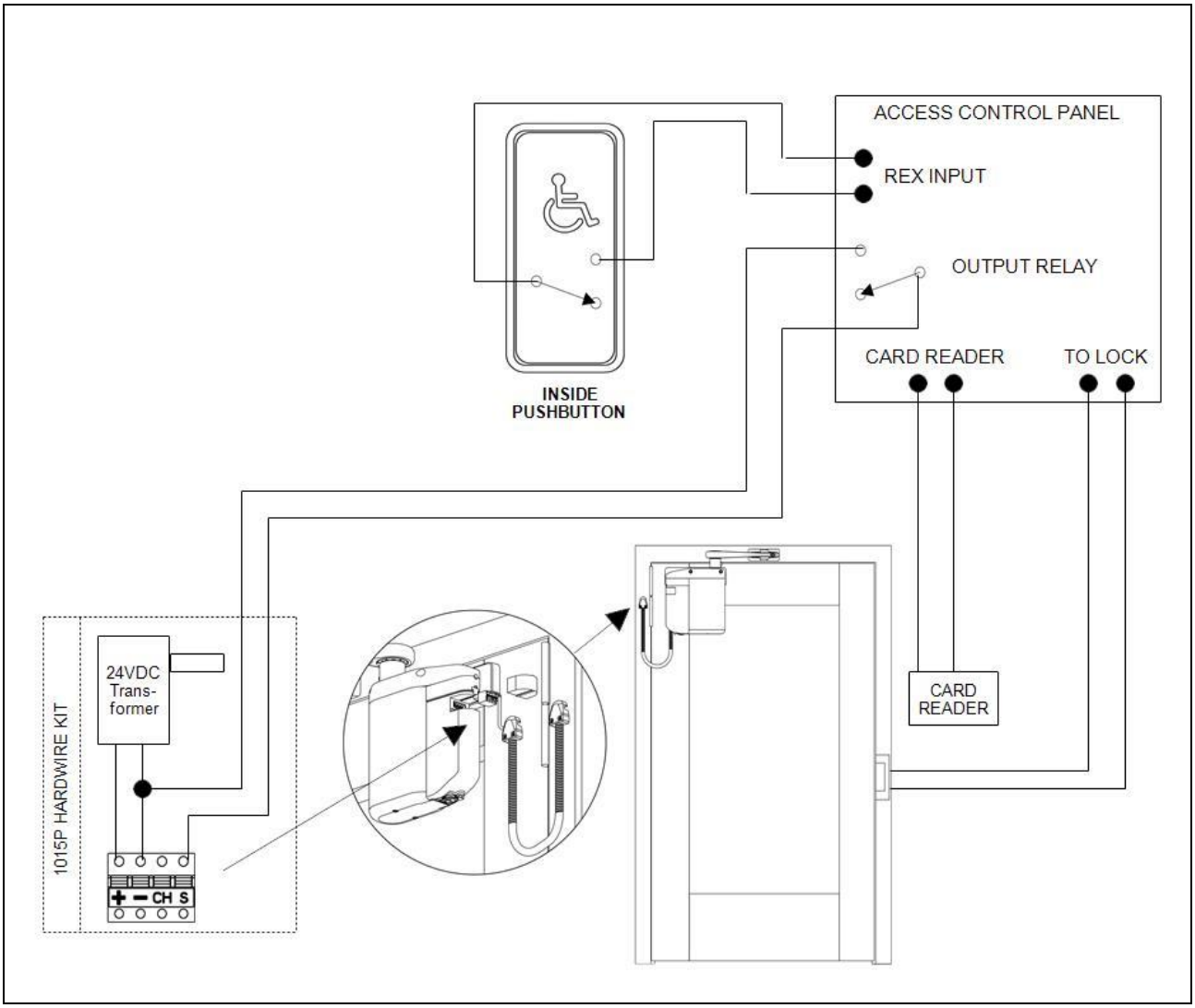
(Sheet 3 of 5)

System Description:

- A valid card presented to the reader will unlock the door and initiate an automatic open cycle.
- ADAEZ Hardwired kit (p/n 1015P) is REQUIRED.
- Inside pushbutton is always enabled.
- Aux Hardwired switch must be electrically isolated from the electric strike.

System Requirements:

- 1x 1012-2 – Rectangular Pushbutton with RF transmitter
- 1x 1015P ADAEZ Hardwire Kit
- Access Control BY OTHERS



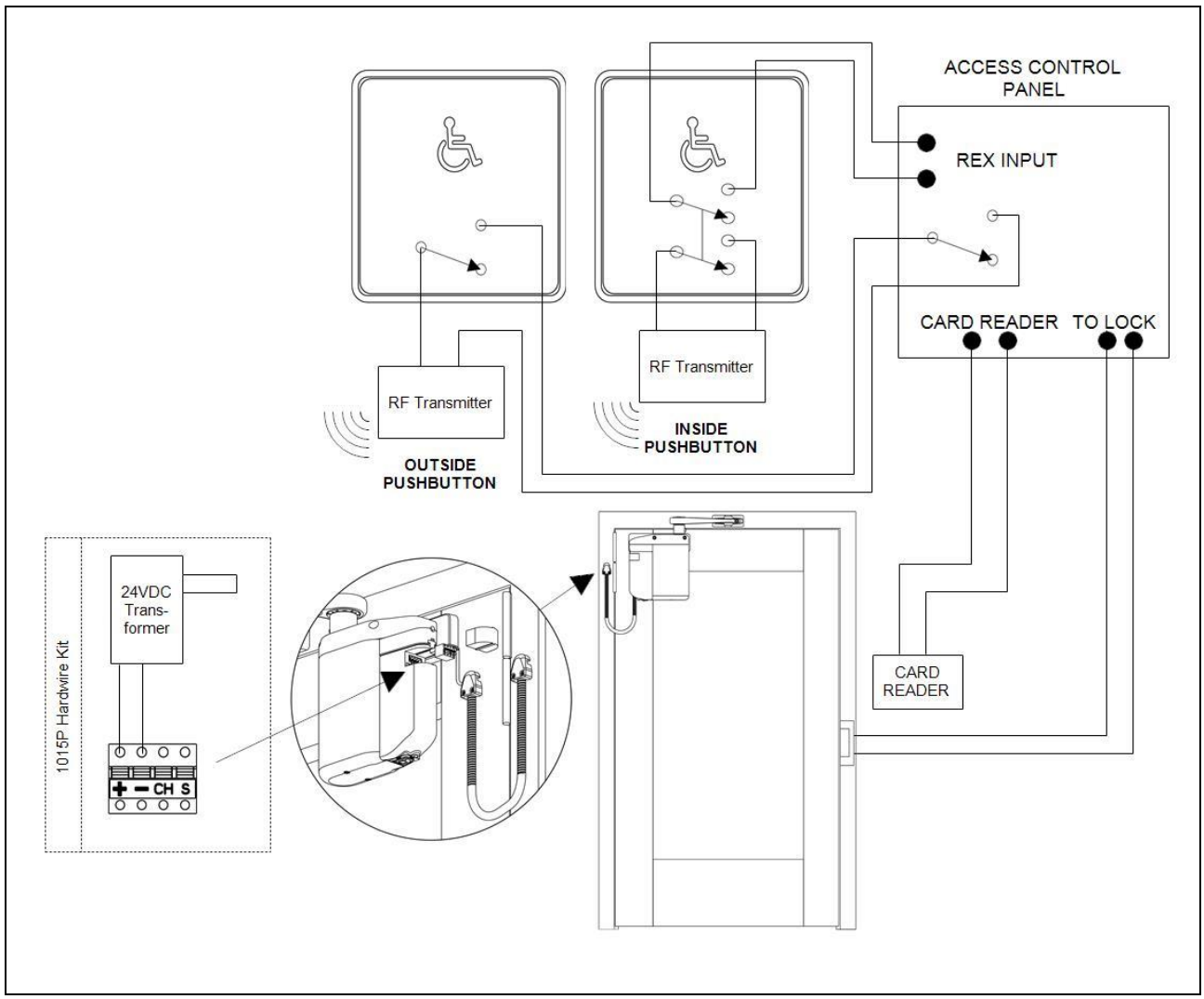
Attachment 3
ADAEZ PRO PLUS with Electric Lock and Access Control Panel
(Sheet 4 of 5)

System Description:

- Outside Pushbutton is enabled when a valid card is presented to the reader.
- Inside Pushbutton is always active.
- RF controls door opener and must be located within 50 feet of the opener and not enclosed in a metal enclosure

System Requirements:

- 1x 1019-2 – Square Pushbutton with RF transmitter
- 1x 1019-4 – Square Pushbutton DPDT switch with RF transmitter



Attachment 3

ADAEZ PRO PLUS with Electric Lock and RF Transmitter / Receiver By Others

(Sheet 5 of 5)

System Description:

- Handheld transmitter unlocks the door.
- ½ Second later the opener initiates and automatic open cycle.

System Requirements:

- Handheld Transmitter BY OTHERS
- Reciever with dual output relay BY OTHERS (signal wire for ADAEZ operator must be electrically isolated from lock and power supply)