

Auto *EntryControl*[™]

Low Energy Swing Door Automatic Operator

INSTALLATION GUIDE

For Surface Mounted Applications
(Purchased after 08/01/2018)



**Visit: sdcsec.com/autoentry
For Installation video**

IMPORTANT

READ THIS SECTION BEFORE PROCEEDING WITH INSTALLATION

Security Door Controls (hereafter referred to as “SDC”) recommends that its automated pedestrian door products be installed by a trained automatic door technician and that the resulting performance of the product be in full compliance with the most current version of the American National Standards Institute (ANSI) document A156.19 as well as any applicable building codes and/or fire codes. SDC further recommends that a full inspection of the operating system be performed in accordance with the guidelines of the American Association of Automatic Door Manufacturers (AAADM). SDC recommends this documented inspection be performed upon completion of the installation, as well as following the completion of every service call thereafter. If service is not performed within one year of the previous service action, a routine AAADM inspection should be performed and documented. SDC does NOT recommend service on any of their automated pedestrian door products, by any individual who is not certified as an AAADM inspector.

Following the installation or service of any SDC automated pedestrian door product, if it is deemed unsafe, or is operating in an unsatisfactory manner according to national performance standards or recommended performance guidelines as defined by SDC, repairs should be made immediately. If an immediate repair cannot be made, the product should be disabled, and appropriate measures should be taken to secure the door in a safe position or to enable the door to safely be used manually. During this situation, every effort should be made to notify the owner (or person responsible) of the condition and to advise on corrective actions that must be taken to return the product to safe operation.

LOW ENERGY APPLICATION NOTE

When using the *Auto EntryControl*™ Series, SDC recommends the use of a door-mounted presence sensor, like the *SDC Auto-IR*™, on the approach side of the door to be used as a secondary activation device. This type of sensor can be installed at time of installation or can also be retrofitted. This device serves to re-activate the door to the open position should a person enter into the closing path at the approach side of the door, as it is closing. Once the door is fully closed, a "knowing act" device must then be used for initial activation. SDC considers this device to be essential in reducing the possibility of doors "timing out" and closing before all pedestrians have passed through the doorway.

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PRODUCT DESCRIPTION & SPECIFICATIONS

The SDC *Auto EntryControl*™ Low Energy Swing Door Operator provides safe and reliable point of entry door control featuring a state-of-the-art microprocessor-based controller with electro-mechanical drives. The unit is self-tuning and self-learning while offering non-handed operation, full mechanical stops, and a variety of interface options for sensors, push-plates, fire alarms, and electrified locks. A versatile, slim-line design makes it suitable for surface mounted (push/pull) applications.

Power Supply	115 VAC (+6%, -10%) 60Hz								
Power Consumption	100W								
Current Consumption	1A								
Motor	24 VDC Permanent Magnet With Belt Driven Encoder								
Header Dimensions	4-1/2" x 4-7/8" (l x w x d); length: 39"/45"/51" for 36"/42"/48" opening, respectively								
Fused Protection	3.5A Fuse ("F1" located on I/O Board)								
Motor Assembly Weight	22 lbs. Per Operator Drive Assembly								
Ambient Operating Temperature	-4° to 131° F								
Ingress Protection	IP23 (protection from spray water up to 60° from vertical)								
Maximum Door Weight	<table> <tr> <th>PUSH ARM</th><th>PULL ARM</th></tr> <tr> <td>36" Door: 438 lbs.</td><td>342 lbs.</td></tr> <tr> <td>42" Door: 328 lbs.</td><td>256 lbs.</td></tr> <tr> <td>48" Door: 254 lbs.</td><td>198 lbs.</td></tr> </table>	PUSH ARM	PULL ARM	36" Door: 438 lbs.	342 lbs.	42" Door: 328 lbs.	256 lbs.	48" Door: 254 lbs.	198 lbs.
PUSH ARM	PULL ARM								
36" Door: 438 lbs.	342 lbs.								
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24 VDC Accessories/Lock Power Supply	24 VDC / 1A max.								
Adjustable Speeds & Timers Potentiometers	Auto Opening Speed Auto Closing Speed Hold Open Time Closing Speed w/ Power Off								
External Selector Switch Functions	Automatic Hold Open Manual (Off/Night)								
Standard Control Outputs	24 VDC Power Supply Lock Relay Door Status (Fully Open and Fully Closed) Malfunction Alarm Signal								
Standard Control Inputs	Interior Activation Exterior Activation Emergency Shutdown Fire Alarm Input Secondary Activation (Push side door mounted presence sensor) Stop Safety Device Input (Pull side presence sensor)								

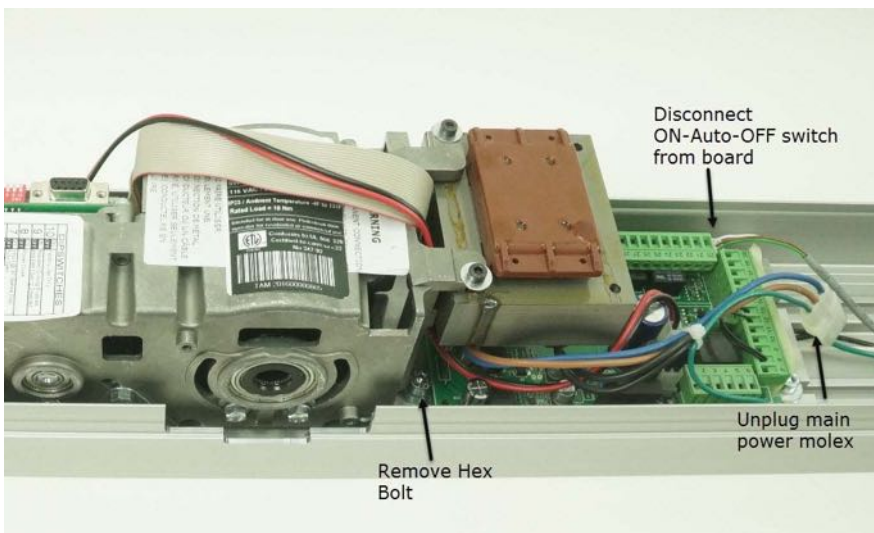
STEP 1: HEADER BACKPLATE INSTALLATION



Remove the header front cover by removing the 4 hex screws on the top & bottom of the operator.

The motor assembly is factory mounted to the slotted back plate using FIVE hex bolts. The bolts attach to nuts that slide in the two slotted tracks of the back plate.

The motor assembly should be removed before installing the housing backplate. **NOTE:** When you order a PULL or PUSH operator, the motor assembly will be shipped from the factory in the appropriate PULL or PUSH orientation. Take note of the orientation before removing the motor assembly (i.e. Is the motor towards the center of the housing, or the edge of the housing)



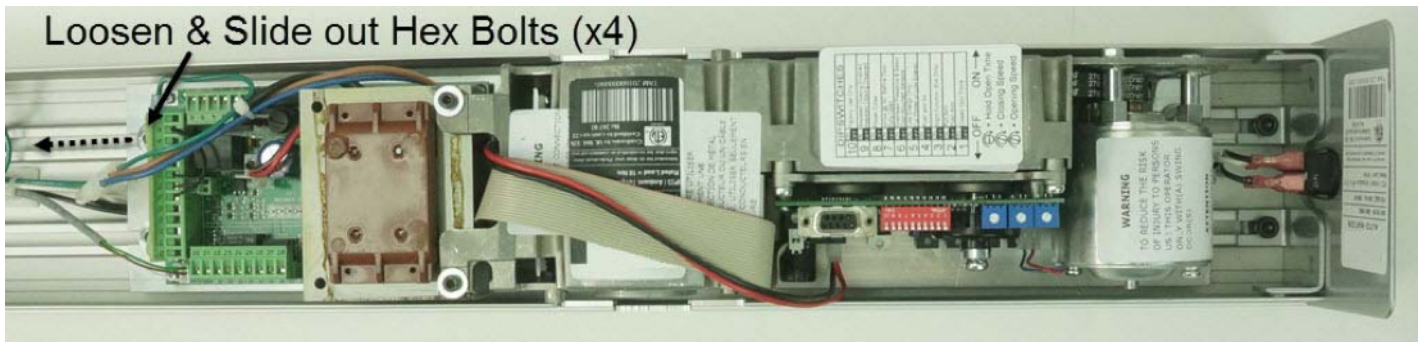
To remove the motor assembly:

First, remove the single hex bolt and washers located behind the transformer (a ball end hex wrench is recommended).

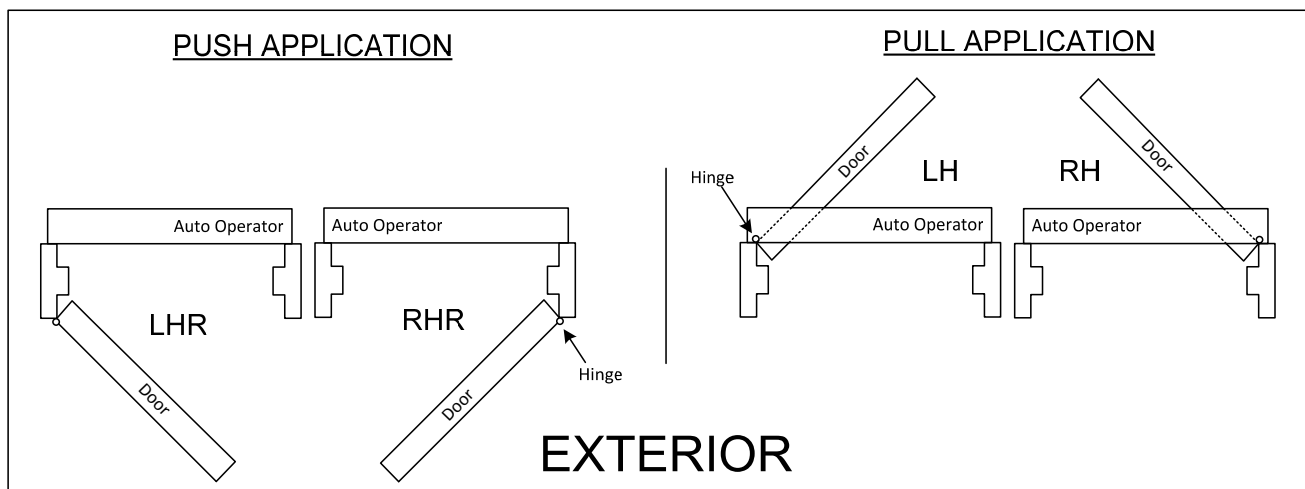
Disconnect the ON-Auto-OFF connector from the board and unplug the molex main power connector.

Next, locate & loosen the 4 side hex bolts (see below). **NOTE:** One of the four hex bolts is fastened to the green ground wire of the power connector. This bolt will need to be removed temporarily to disconnect the green wire.

Slide the bolts away from the motor assembly allowing the assembly to be removed.



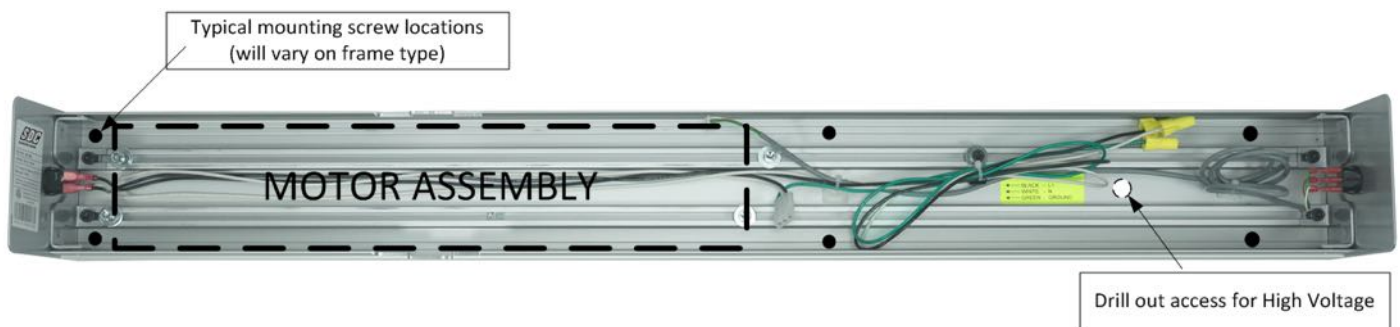
Determine the handing of the door.



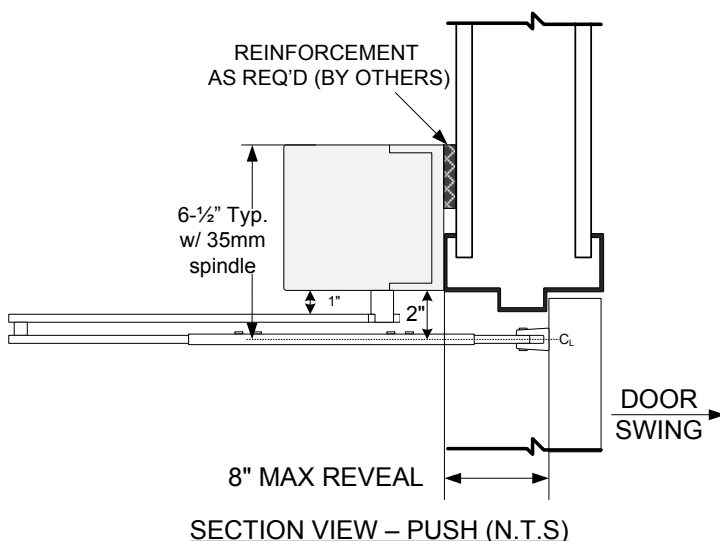
The backplate will mount with the edge nearest the spindle cutout towards to the hinge.



Mount the backplate to the top door frame using 5 or 6 of the screws provided, or use appropriate fasteners for the type of frame. Install reinforcement as required.



- Push side mounting: Bottom of the backplate is flush with bottom of the door frame. For hollow metal applications, drop 1/8" below the frame.
- Pull side mounting: Bottom of the backplate is mounted 1.5" up from bottom door frame.
- For a 36" opening, backplate should overlap each hinge jamb tube by 1.5".
- **Refer to the APPENDIX for fire rated door applications.**

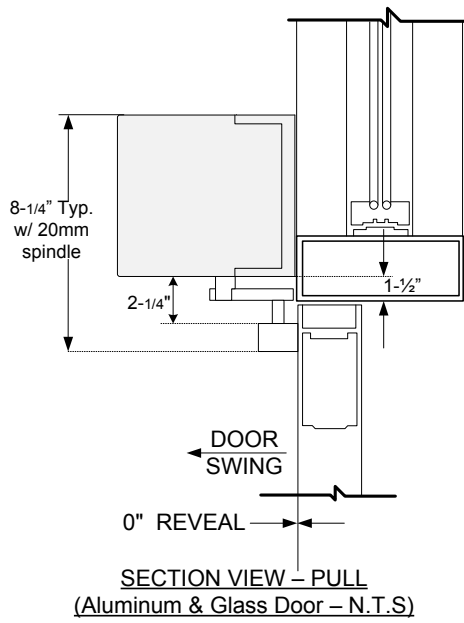


PUSH-ARM APPLICATIONS:

Bottom of operator header is flush with bottom of top frame.

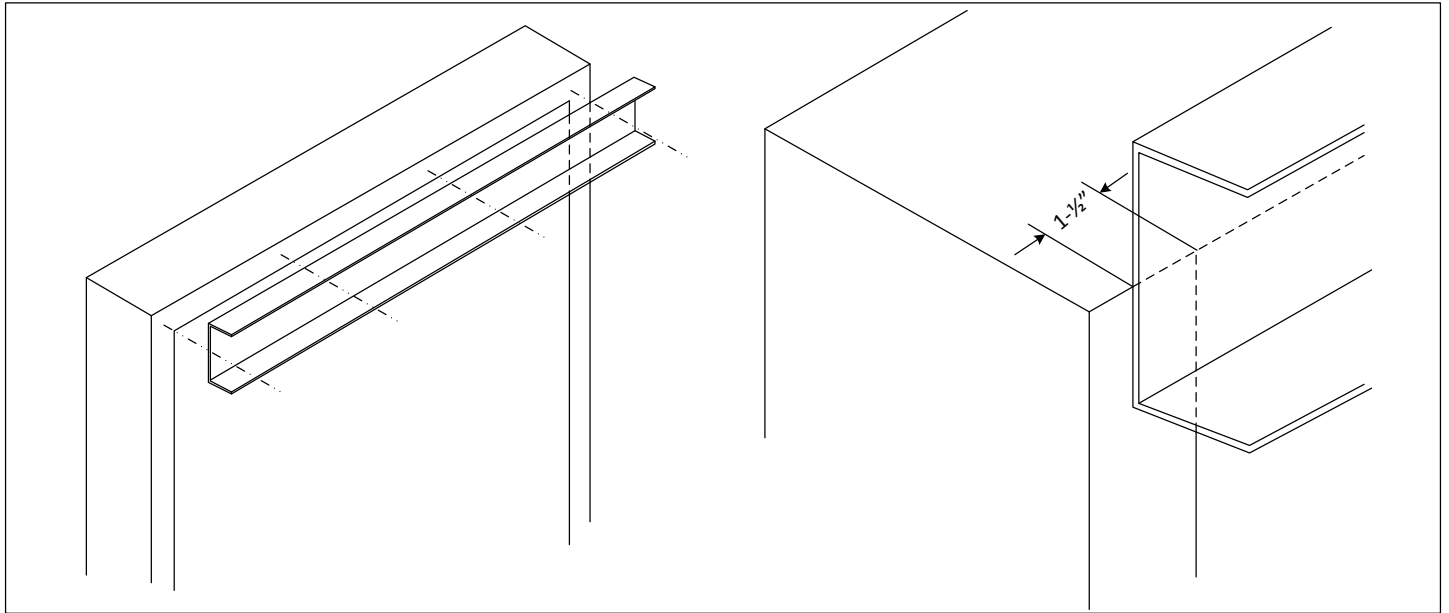
NOTE:

A 35 mm spindle adaptor is included with all standard push arm applications. This requires that the header assembly be mounted as shown at left, flush with bottom of frame face.



PULL ARM APPLICATIONS: Bottom of operator is mounted 1.5" up from the bottom side of top door frame

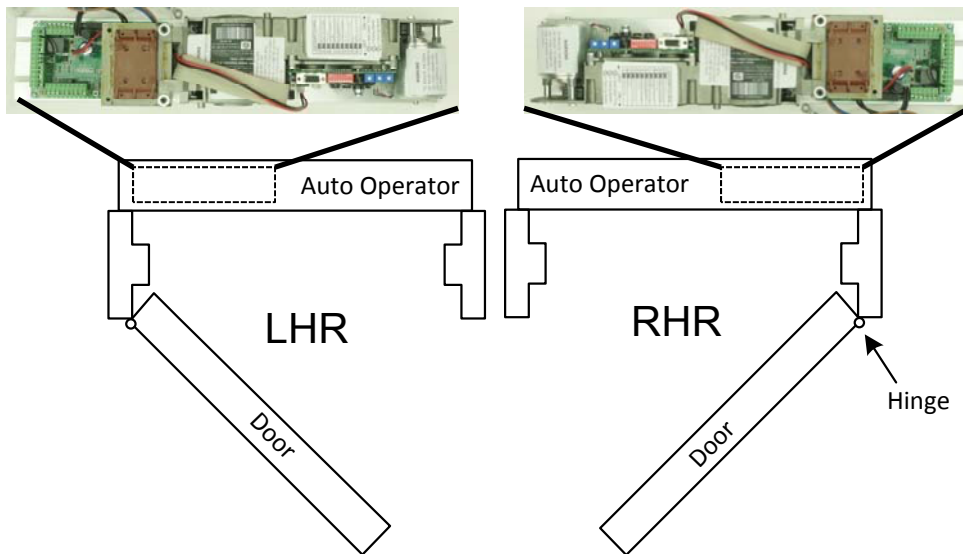
Backplate should overlap hinge jamb tube by 1.5" (See figure below).



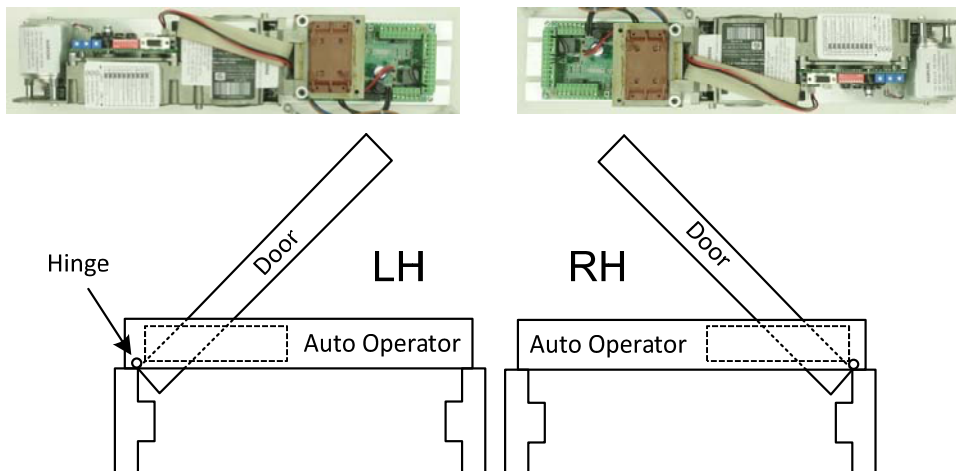
STEP 2: RE-MOUNT THE MOTOR ASSEMBLY

The orientation of the motor assembly will depend on the door handing & application (see below).

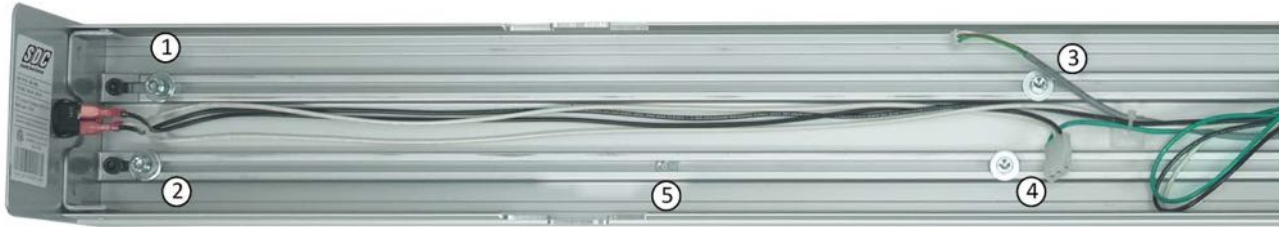
PUSH APPLICATION (I/O board towards the hinge)



PULL APPLICATION (Motor towards the hinge)



Before reinstalling the motor, take notice of the location of the 4 mounting hex bolts, and the nut for the 5th mounting bolt



Place and Hold the motor assembly up to the header, allowing it rest on the slotted tracks.

Slide in the 4 outer hex bolts and tighten loosely. Slide the entire assembly left or right to line up the 5th hex bolt nut with the mounting hole from the bolt removed on page 5 (near the transformer). Reinsert the hex bolt and washers removed on page 5.

Temporarily remove one of the mounting hex bolts and washers from the I/O board side of the assembly to allow the ground wire ring connector to be reconnected.

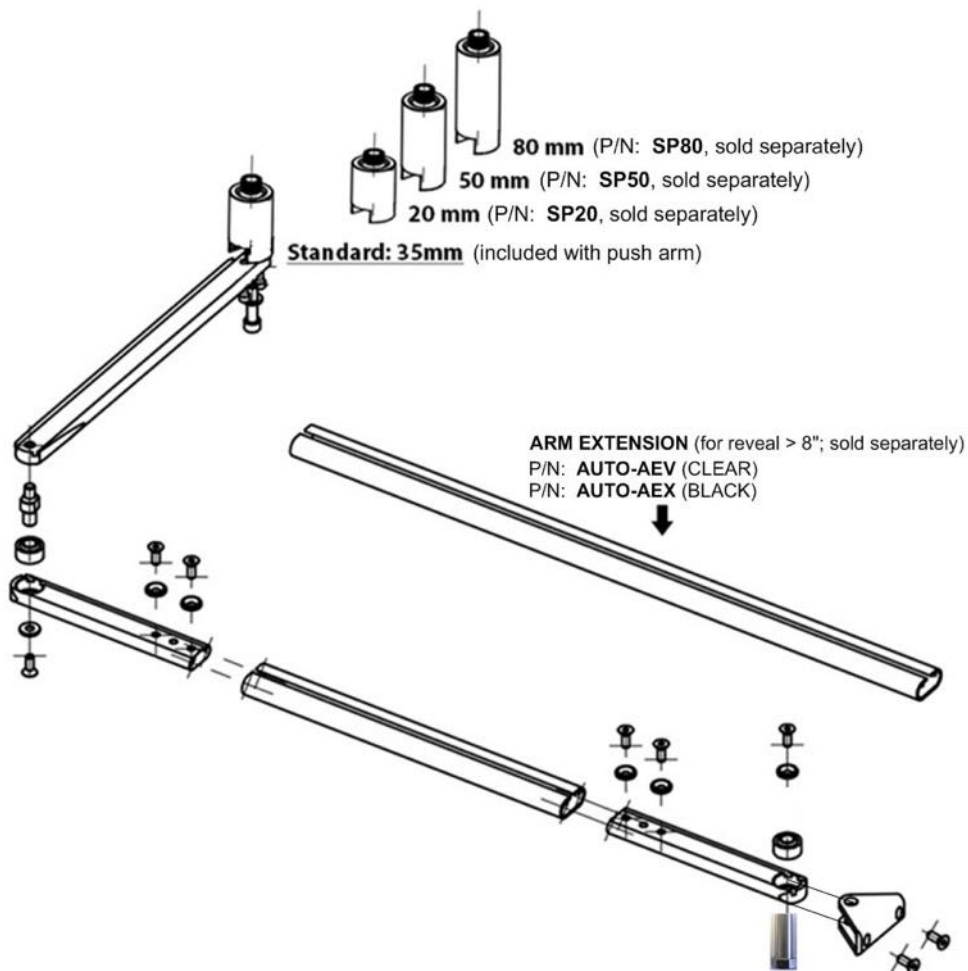
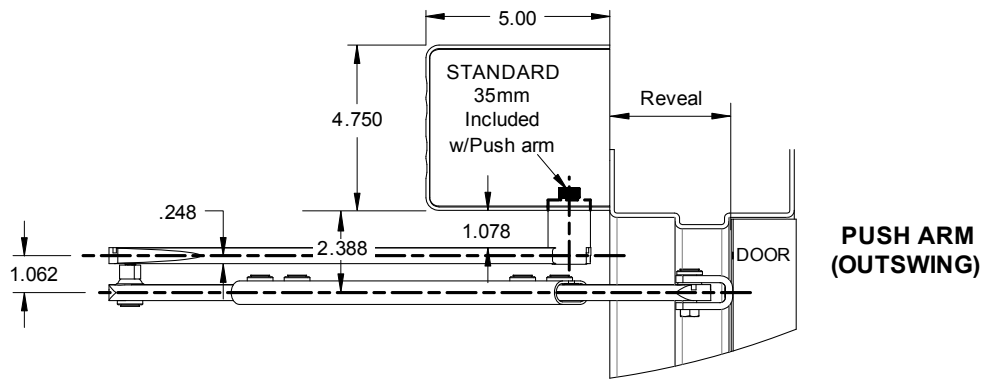
After all 5 hex bolts have been inserted, reposition the whole assembly so that the spindle attachment point is centered with the spindle cutout, as shown on the bottom of page 5. Secure the motor assembly by tightening all 5 hex bolts.

Reconnect the ON-Auto-OFF connector to the I/O board and the molex main power connector.

STEP 3: INSTALL THE ARM ASSEMBLY - STANDARD APPLICATION

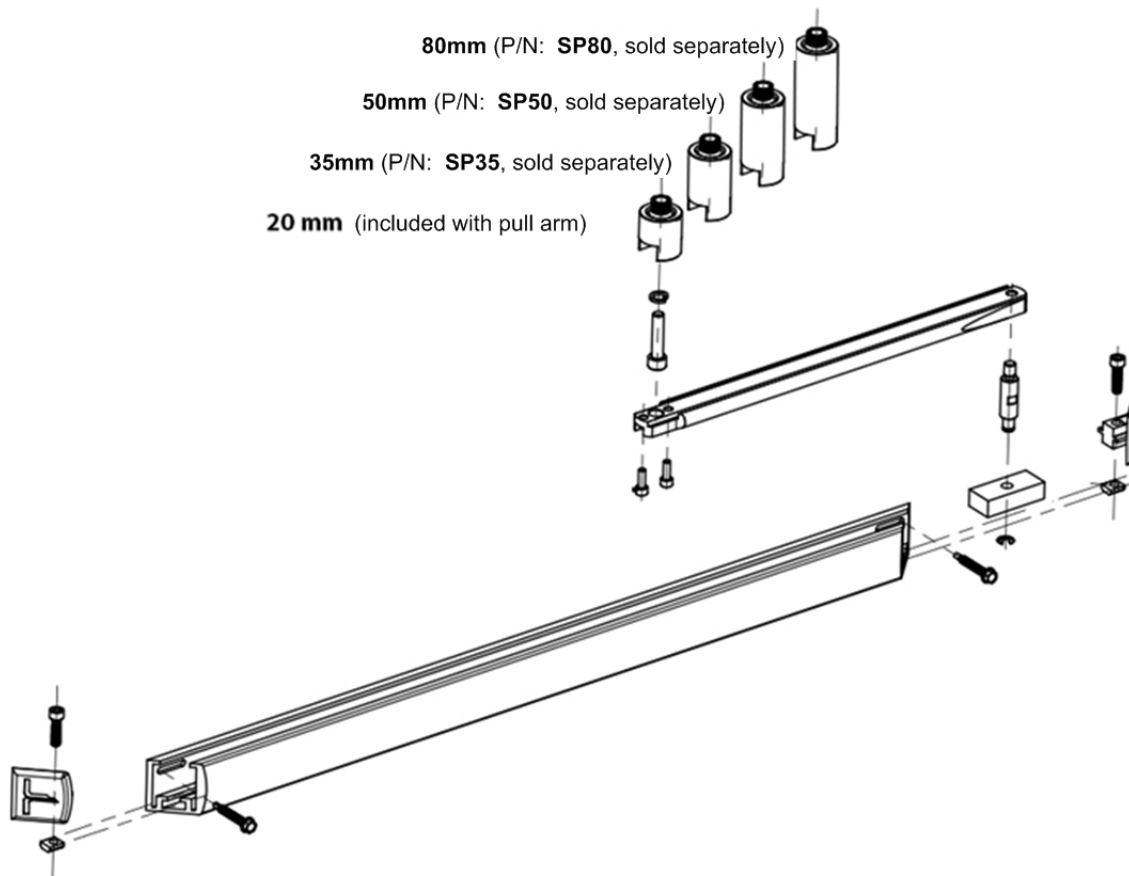
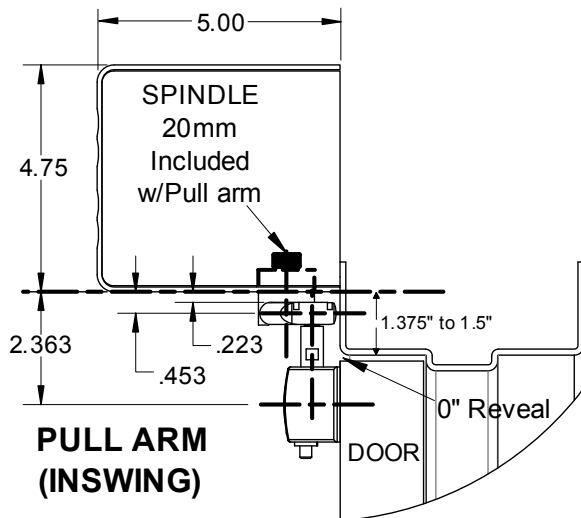
NOTE: All operator arms include a standard spindle as shown below. Arm assembly options are detailed on the next three pages. Proceed to Page 14 for arm installation instructions.

PUSH ARM FOR STANDARD PUSH APPLICATION FOR REVEALS UP TO 8"



PULL ARM FOR STANDARD PULL APPLICATION WITH 0" REVEAL

NOTE: FOR REVEALS > 0" BUT LESS THAN ½", A SPACER (PROVIDED BY INSTALLER) MAY BE INSTALLED BEHIND THE SLIDE TRACK TO ACHIEVE A 0" REVEAL. FOR A PULL APPLICATION WITH A REVEAL GREATER THAN ½", USE A DOUBLE EGRESS ARM WITH A 20mm SPINDLE.



DOUBLE EGRESS ARM FOR STANDARD DOUBLE EGRESS PAIR OF DOORS. OR FOR A PULL APPLICATION WITH A REVEAL GREATER THAN ZERO INCHES

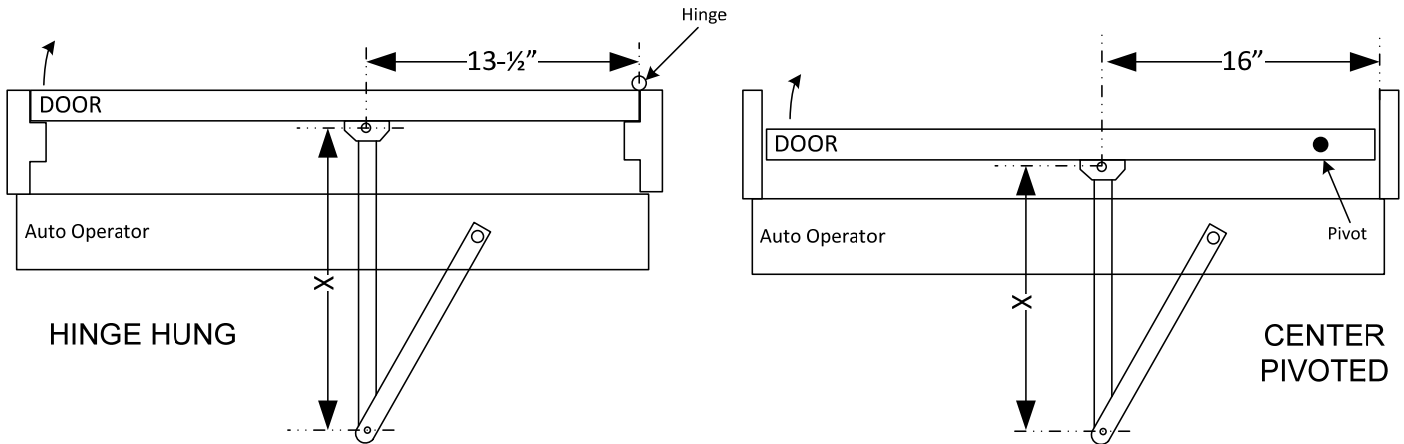
NOTE: AN 80mm SPINDLE IS INCLUDED WITH THE DOUBLE EGRESS ARM. THE 80mm SPINDLE SHOULD BE USED FOR DOUBLE EGRESS PAIR OF DOORS.

FOR PULL APPLICATIONS WITH REVEALS > 0", USE A DOUBLE EGRESS ARM WITH A 20mm SPINDLE (SOLD SEPARATELY).

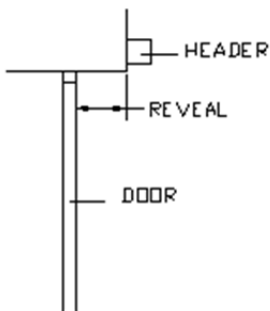
Follow the instructions listed below for a standard arm application using a "push" or a "pull" application.

PUSH ARM INSTALLATION

- Ensure the main power supply is removed or shut off at the control.



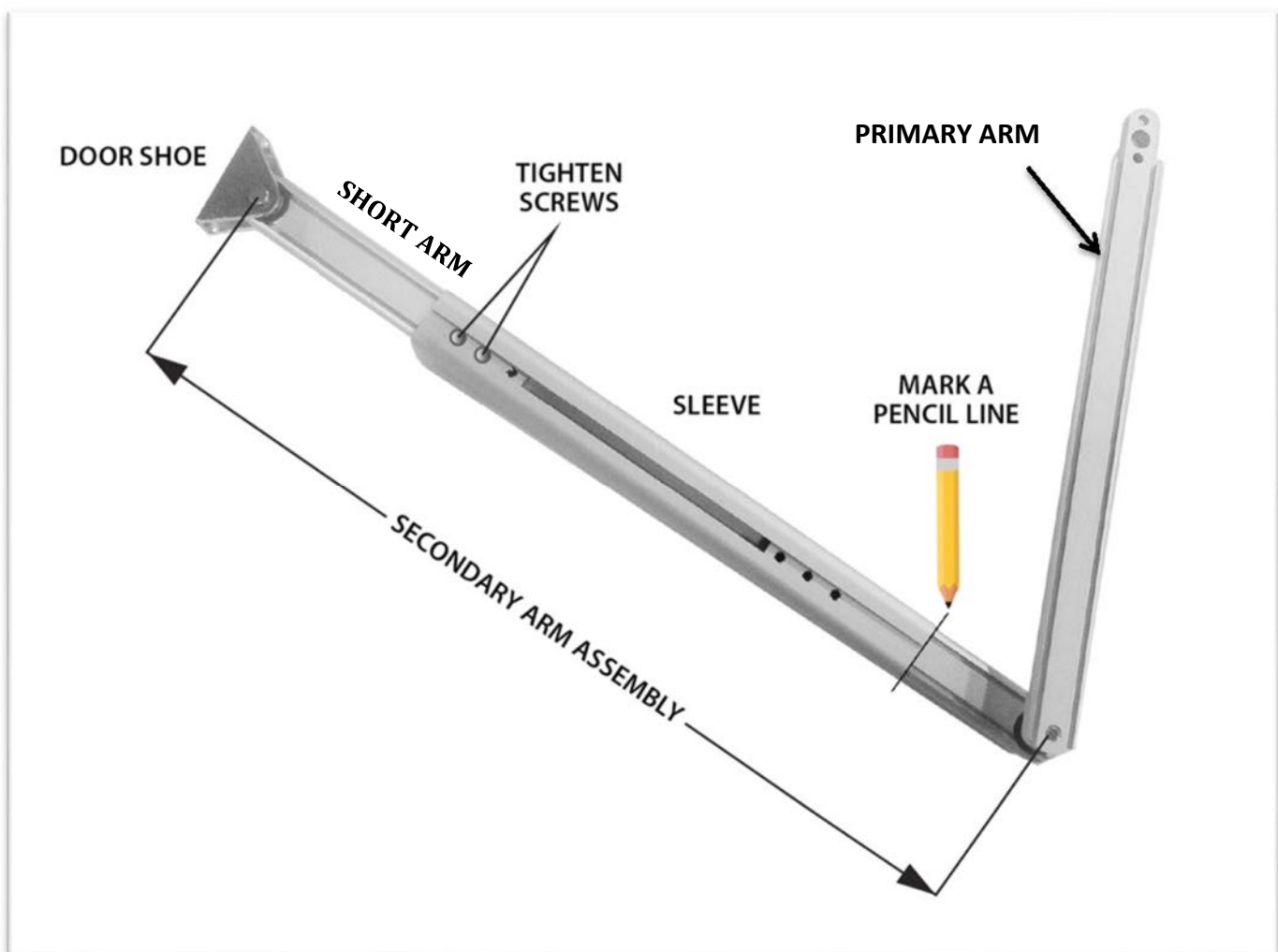
- Prior to beginning the push arm installation, gather the following information about the application:
 - Door configuration (Hinge Hung or Center Pivoted)
 - Reveal distance (inches)
- Attach the door shoe to the short arm. See figure on next page.
- Use the chart below to determine the prescribed length of the secondary arm assembly and note the dimensions.



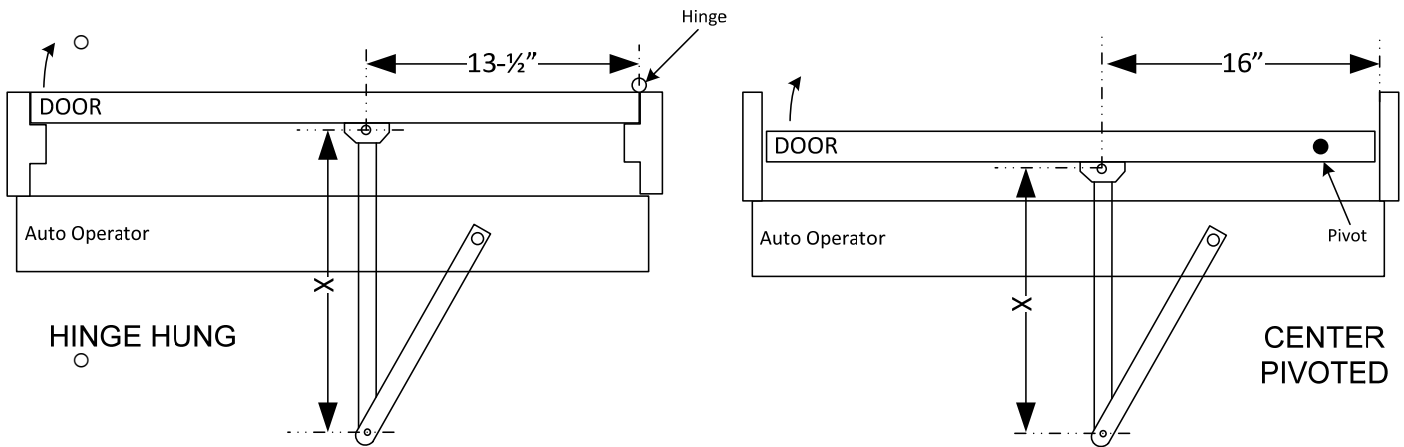
Reveal	Hinge Hung X Dim.	Center Pivot X Dim.
0"	13"	16"
1"	14"	17"
2"	15"	18"
3"	16"	19"
4"	17"	20"
5"	18"	21"
6"	19"	
7"	20"	
8"	21"	
FOR DEEPER REVEAL DISTANCES UP TO 15", USE ARM EXT.		

- Before installing any portion of the door arm assembly, it is easiest to lay the arm out on a flat surface and insert the secondary and primary arm into the sleeve as it will be when installed on the door:
 - Slide the short arms within the sleeve to obtain the prescribed "X" dimension. If the reveal falls between two of the values on the chart, use (Reveal + 13") for hinge hung doors, or (Reveal + 16") for Center Pivot doors
 - Tighten the screws on the short arm that is connected to the door shoe.
 - Double-check the "X" dimension of the arm - this is the distance between the center of the hole at the door shoe and the center of the hole at the pivot point of the primary arm (as shown).
 - Mark a pencil line at the edge of the sleeve where it overlaps the short arm that is connected to the primary arm. This will make it easier when positioning the primary arm for final installation.
 - After marking the line, remove the primary arm assembly only from the sleeve.

PUSH ARM

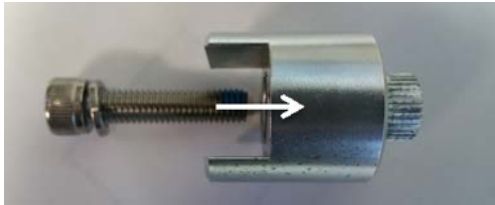


- Install the door shoe per the door hinge / pivot configuration:

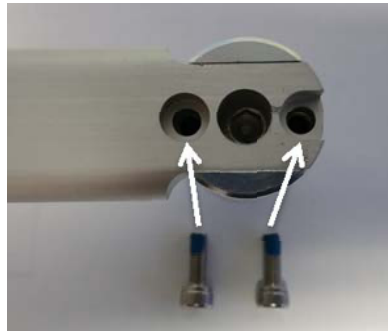
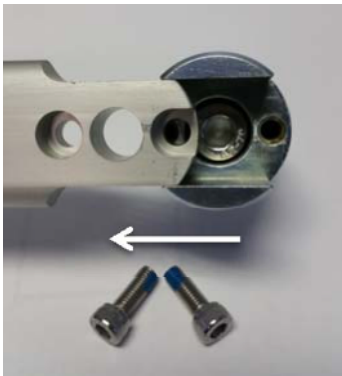


- Hinge Hung Doors: Centerline of door shoe at 13.5" in from inside of hinge jamb
- Center Pivot Doors: Centerline of door shoe at 16" in from inside of pivot jamb
- The horizontal centerline of the door shoe will be approximately 2-3/8" below the bottom of the backplate
- Do NOT install the primary arm until instructed to do so

- Attach the spindle to the primary arm:

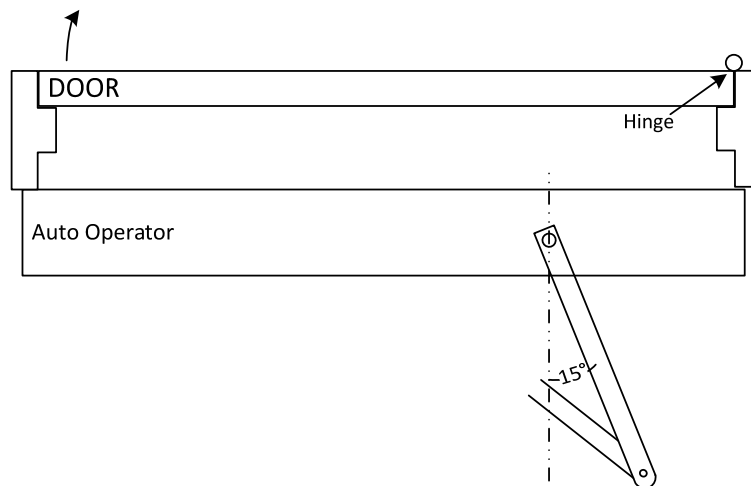


Insert the large hex bolt and washer into the spindle adaptor



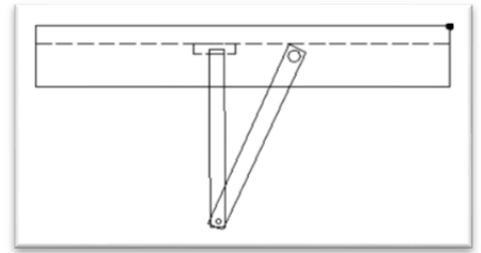
Then, horizontally slide the adaptor onto the primary arm until the two mounting holes of spindle line up with the corresponding holes on the primary arm. The spindle is intended to fit tightly. Secure the spindle using the two small hex bolts, **BUT DO NOT OVERTIGHTEN.**

- Insert the primary door arm and spindle adaptor into the operator at a position where the primary arm is approximately 10-15 degrees from perpendicular, in the direction of the hinge.



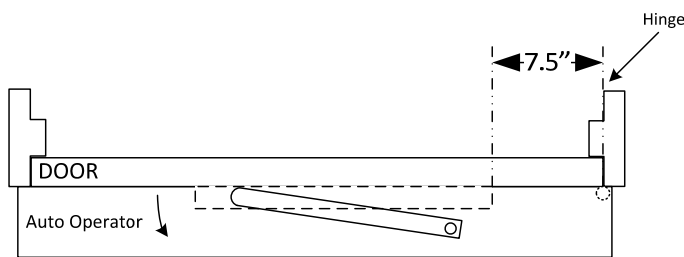
- Tighten the spindle adaptor to the operator
- Turn & Slide the primary short arm into the sleeve to the pencil marked position. Tighten the hex screws within the sleeve once complete

- With the door closed, the secondary arm should be at approximately 90 degrees to the face of the door as shown - it is not imperative that the arm be at this "exact" position
- Upon final installation of door arm assembly, press SW1 to launch a new setup - this is required for the control to learn the new door stroke. Refer to Steps 8 & 9, Power On & Tune In Sections for more information.
- Upon successful completion of setup, proceed with remainder of installation .

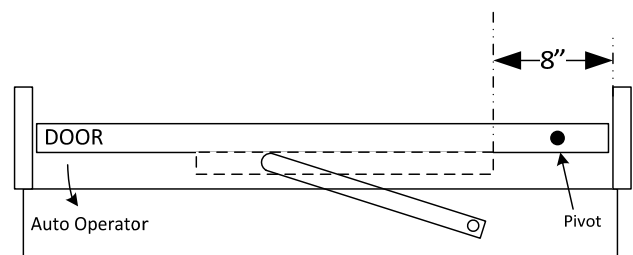


PULL ARM INSTALLATION:

- Ensure the main power supply is removed or shut off at the control.
- Install the slide track assembly to the door at the specified location.



HINGE HUNG

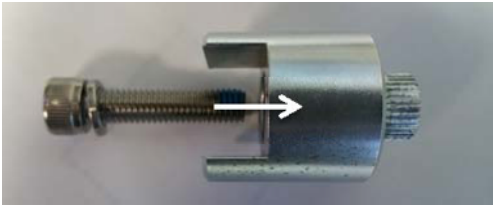


CENTER PIVOTED

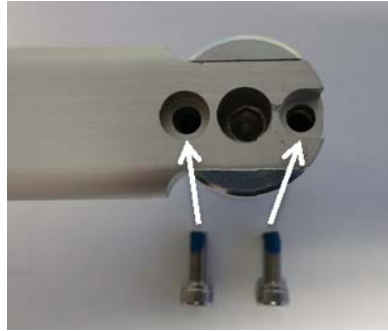
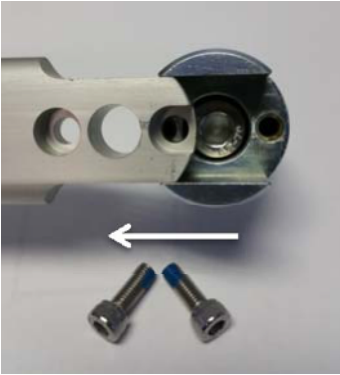
HINGE HUNG DOORS		CENTER PIVOTED DOORS	
PULL APPLICATION	Inside face of jamb to back edge of slide track	Inside face of pivot jamb to spindle	Inside face of pivot jamb to back edge of slide track
	7.5"	10.5"	8"

- When using the standard 20mm spindle, the center of the track should be approximately 2-1/4" below the operator header. Attach the track with the screws provided.
- The pull arm assembly is a fixed dimension and is not adjustable in length. The slide block and pull arm come pre-assembled from the factory.

- Attach the spindle to the pull arm:



Insert the large hex bolt and washer into the 20mm spindle adaptor

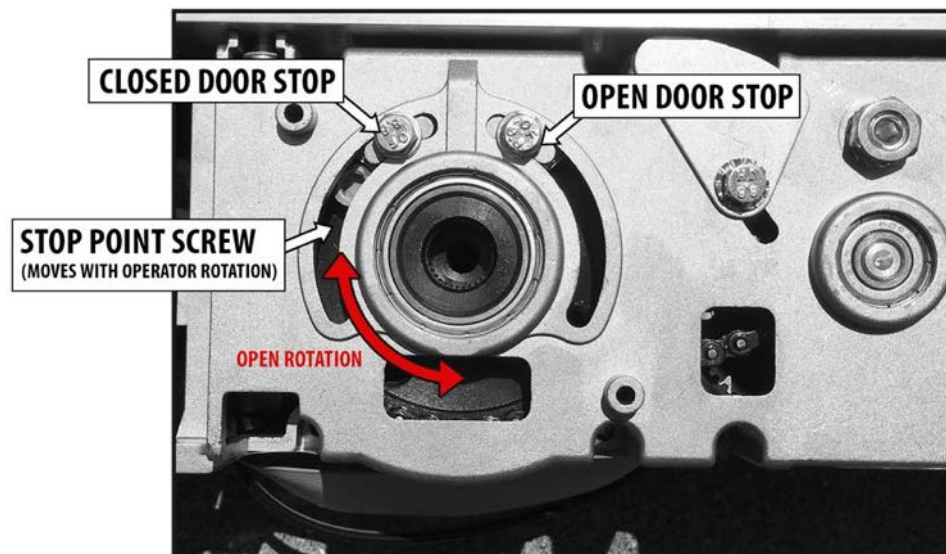


Then, horizontally slide the adaptor onto the primary arm until the two mounting holes of spindle line up with the corresponding holes on the primary arm. The spindle is intended to fit tightly. Secure the spindle using the two small hex bolts **BUT DO NOT OVERTIGHTEN**

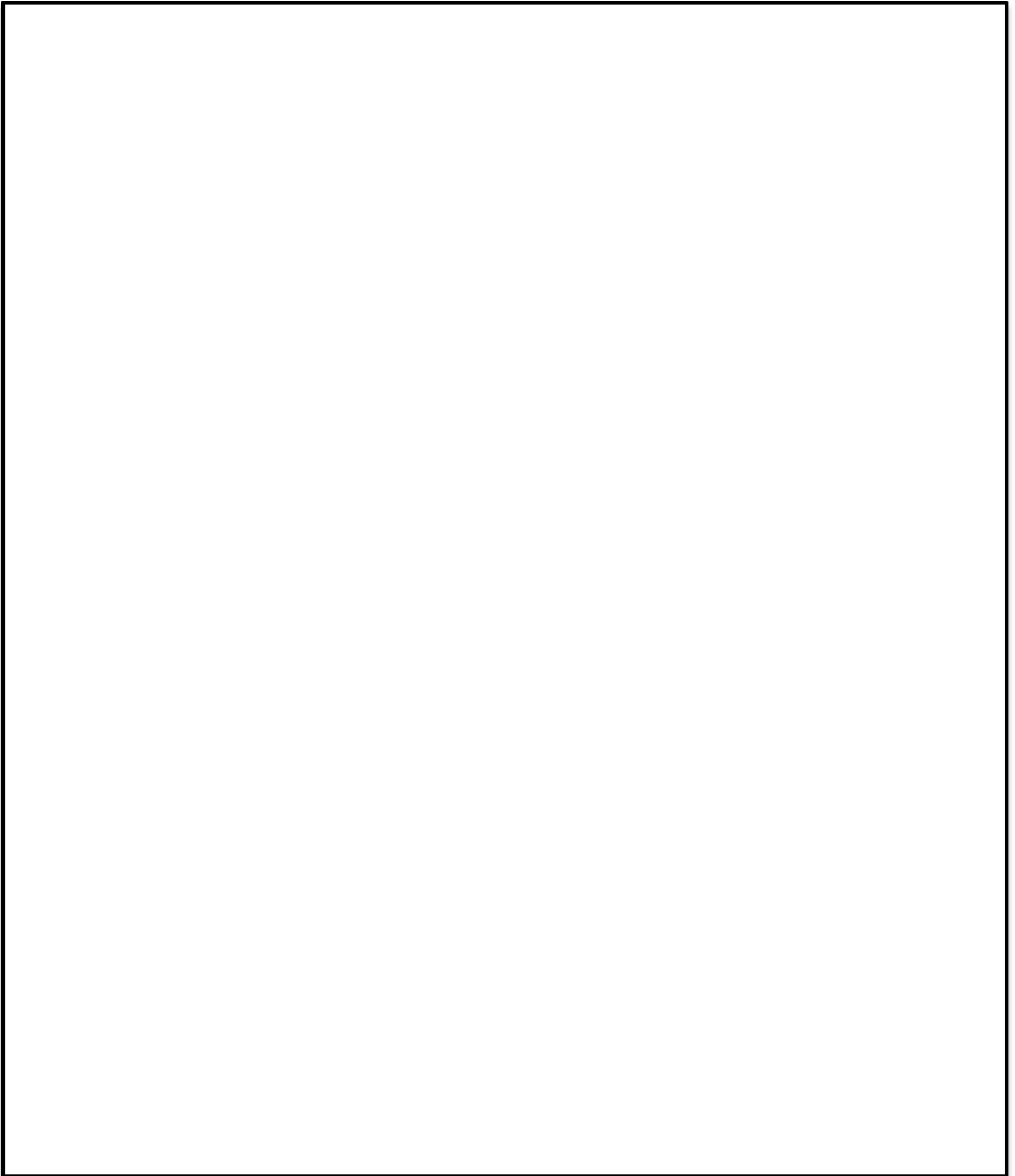
- To install the pull arm, the operator must be powered to the full open position, as it is not possible to install the arm in the closed position as to allow proper preload.
- Power the door to the open position through the use of the hold-open switch on the side of the header. It may be necessary to first execute a “setup” on the operator prior to doing this. Refer to the first step on Steps 5 & 6 for proper instruction.
- Once the operator is rotated to the full open position, manually move the door to the desired full open position and insert the slide track guide block into the track. Release the hold-open switch. When completed, the end caps to the track can be installed.
- Once the arm is installed and door is closed, press and hold button SW1 to launch a new setup (see Step 6)

STEP 4: ADJUSTING THE MECHANICAL STOPS

- CAUTION – DO NOT REMOVE THE STOPS
- IMPORTANT – Step 4 may be optional depending on your application. See note on the following page. If
- The mechanical stops are located on the top or bottom of the operator, depending on the handing of the door.



- The opening direction is always counter-clockwise rotation when viewed as shown above
- Loosen the bolts on the desired stop (do not remove bolts) and move to the desired position
- Re-tighten bolts securely and test the door travel stroke



STEP 5: 120 VOLT AC ELECTRICAL CONNECTION

WARNING:

Ensure all incoming electrical power is shut off before proceeding with any high voltage wiring. Failure to do so may result in damage to equipment or personal harm.

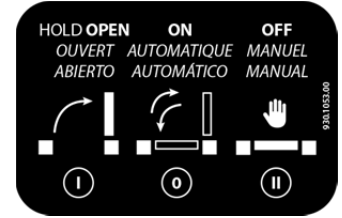
- Connect the main power to the Black / White / Green connector on the back-plate.
 - Main power supply: 120 VAC, 15A, Single Phase, 60 Hz. circuit
 - Attach the incoming 120 volt AC line wires to the wiring provided in the header – as shown below. NOTE: IF THE UNIT HAS TWO WHITE WIRES, BOTH WILL CONNECT TOGETHER TO INCOMING NEUTRAL.
- DO NOT TURN POWER ON until all remaining wiring has been completed.

BLACK: 115 VAC Power
WHITE: Neutral
GREEN: Ground



STEP 6: POWER ON & TUNE-IN

- Ensure the 120 VAC is connected and secure
- Ensure Off-On-Hold Switch is in the middle (0) position
- Apply power and observe the LED's on both boards:
 - On the I/O board, LED's for inputs 12, 13, & 14 must be ON upon power up.
 - For the Adjustment board LED's, see Page 26.
- The I/O board will not accept an activation until approx. 8 seconds after powering on AND until an initial setup is completed.
- Initial setup should be done with all dip switches in the OFF position for PUSH applications, and with DIP #2 ON for pull applications.



SETUP BUTTON

- As a general rule for I/O board LED observation:
 - For normally open inputs, the respective LED will illuminate upon triggering the input.
 - For normally closed inputs, the respective LED will extinguish upon triggering the input.

I/O Board LED Status

LED	LED ON	LED OFF	NOTES
LD1	Accessories power is present	No accessories power	
LD2	Active internal opening command	Internal opening command inactive	Indicates status of input 10
LD3	Active external opening command	External opening command inactive	Indicates status of input 11
LD4	Emergency command inactive	Emergency command active	Indicates status of input 12
LD5	Secondary Activation inactive	Secondary Activation command active	Indicates status of input 13
LD6	Stop command inactive	Stop command active	Indicates status of input 14
LD7	In active	Inactive	Inactive
LD8	Alarm command is active	Fire Alarm command inactive	Indicates status of input 16
LD9	Overhead Presence Command Active	Overhead Presence Command Inactive	Indicates status of input 17

STEP 6 Cont.: POWER ON & TUNE-IN

- **Perform an initial setup at the I/O board as follows:**
 - Ensure main power is on
 - At the I/O control board, depress the SW1 button for approximately 5 seconds. When the red LED (LD2) at the Adjustment Board begins flashing rapidly, release the button.
 - Door will slowly go open, recycle partially, close and then re-open.
 - Do not interrupt the process and do not move the door manually during this time.
 - If the door does not open and the red LED (LD2) is flashing slowly, check to make sure the motor is plugged in properly at the control board. Correct as necessary.
 - Once the setup process is complete, the door will close and the LED will go out.
 - Setup is complete.

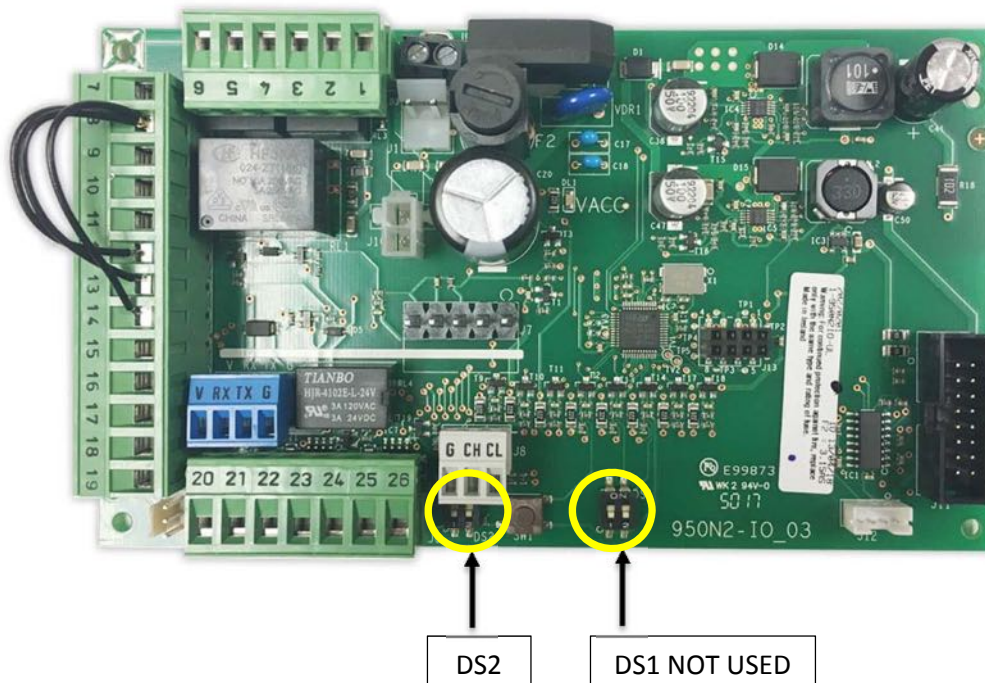
IMPORTANT NOTE: If the operator stroke is altered in any way, a re-learn must be accomplished.

- Upon completion of the Setup, momentarily jumper terminals 7 & 11 to activate the door to open and ensure all performance is acceptable.
- Go to Step 7. Adjust dip switches for your specific application.
- Go to Step 8. Connect activation and ancillary devices as required.
- Go to Step 9. Adjust opening and closing speeds, and door hold open time as necessary. If speeds are changed, a re-learn is not required.
- A re-learn is not required following a main power recovery.



STEP 7: SET THE DIP SWITCHES ON THE I/O BOARD

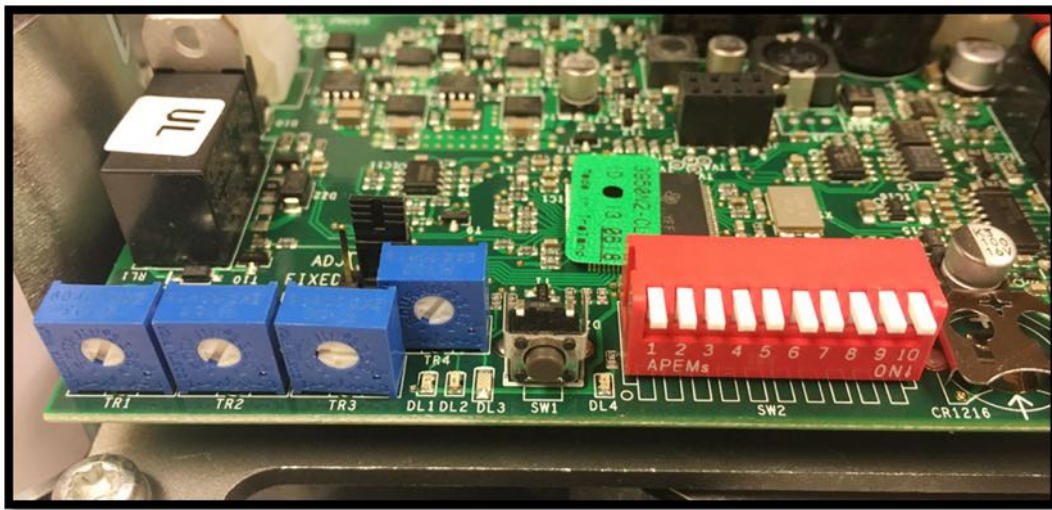
- Set the dip switches according to the application. The default settings are usually sufficient for most applications.
- Dip switches are used to apply specific functions to the control.
- There are 2 sets of dip switches. A 2-position on the I/O board (DS2), and a 10-position on the adjustment board (DS10).



		Description	ON	OFF
DS2	1	Push-N-Go Hold Time	The hold time is set by TR3 potentiometer at adjustment board	3 Seconds (Default)
	2	Electric Lock Delay	500 milliseconds	200 milliseconds (Default)

STEP 7 Cont. : SET THE DIP SWITCHES ON THE ADJUSTMENT BOARD

- Set the dip switches according to the application. See the table on the next page.
- ON is with the switch towards the number. Initial setup should be done with all dip switches in the OFF position for PUSH applications, and with DIP #2 ON for pull applications. All other dip switches may be set after the initial setup.



Adjustment Board Indicators

- DL1 : GREEN WHEN USB CONNECTION PRESENT
- DL2: FLASHING RED LED
- DL3: BLUE 5V POWER SUPPLY
- DL4: BOARD VALUES DIFFER FROM DIP SWITCHES
(PRESS SW1 MOMENTARILY TO EXTINGUISH YELLOW LED)

Upon applying power, observe the above LED's.

NORMAL OPERATION: DL3 will come on steady and then begin flashing after a few seconds.

FAULTY OPERATION; DL2 will be flashing red. This indicates...

- An error condition exists – correct as necessary
- Operator requires setup – launch a setup and proceed accordingly

NOTE: DL4 will illuminate yellow anytime a change has been made to the control, such as a speed or time adjustment. Momentarily press on SW1 to acknowledge the change and extinguish the yellow LED.

	Description	ON	OFF
1	Closed Door Force	Additional force applied while door is in closed position. Be sure to maintain ANSI compliance if using on low energy application. Cannot exceed 30 lbf to get door moving from jamb.	Disabled (Default)
2	Push / Pull Arm	Use for Slide Arm Applications. Operator stroke at 90° degrees or less. Visible change in performance may not always be noticeable.	Push Arm Application. Operator stroke 90° or greater. (Default)
3	Night Function (Exit Only)	Allows activation at input 10 when On-Off switch is in OFF (night function) position.	Disabled. The On/Off switch, when OFF, requires manual operation of the door. (Default)
4	Push and Go	Enabled	Disabled (Default)
5	Full Power / Low Energy	Low Energy performance enabled. 5 seconds to open, 7 seconds hold open, 5 seconds to close. Speed & time potentiometers are disabled. Settings are fixed.	Disabled. Control can be adjusted for full power or low energy operation via potentiometers. (Default)
6	Not used for Low Energy Applications		Set to OFF for Low Energy Applications. Required when using Stall Safety input (14)
7	Inhibit at 30 Degrees Before Door Fully Open. Only used if Input 14 is used.	Input 14 is disabled at 30 degrees prior to full open door position.	Stall function remains uninhibited for full door stroke. (Default)
8	Power Close	Additional closing force applied for final 10 degrees of closing.	Disabled (Default)
9	Assisted Manual Closing***	Enabled assisted closing following a manual opening	Disabled assisted closing following a manual opening
10	FACTORY USE ONLY		

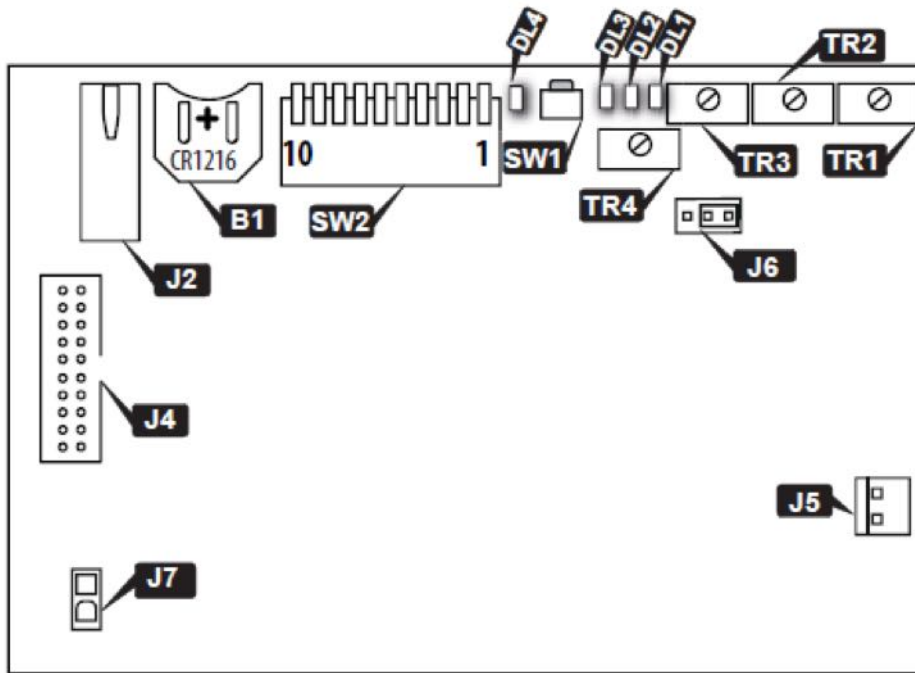
***** SDC recommends the use of a door-mounted secondary activation device when dip switch 9 is ON - Enabled.**

STEP 8: WIRING CONNECTIONS (Sample wiring diagrams are located in the Appendix)

I/O BOARD CONNECTIONS

	Position	Function	Description
TERMINAL STRIP J5	1	Electric Lock Relay	Common
	2	Electric Lock Relay	N.O. Dry contact – Contact closes upon activation. May be used for fail-secure locks by routing 1 leg of power through the relay. Relay is triggered by activation inputs 10, 11, or 16. Relay remains energized until door is fully closed again.
	3	Electric Lock Relay	N.C. Dry Contact - Contact opens upon activation. May be used for fail-safe locks by routing 1 leg of power through the relay. Relay is triggered by activation inputs 10, 11, or 16. Relay remains energized until door is fully closed again.
	4	Door Status - Closed	N.O. Contact is closed when door is closed. The contact opens as soon as the door opens.
	5	Door Status – Common	Common contact for door status
	6	Door Status - Open	N.C. – Contact is closed when door is open. The contact opens as soon as the door starts to close. This input can be used for motor connection at lockout relay when power is looped through, thus switching power on when door is open.
TERMINAL STRIP J4	7	GND	Common GND
	8	GND	Common GND
	9	+ 24 VDC	1A Max. Current
	10	Internal Activation	Requires N.O. Contact between input 10 & COM. Remains capable to activate when dip switch 3 is ON AND On-Off switch is OFF.
	11	External Activation	Requires N.O. Contact between input 11 & COM.
	12	Emergency Closing	Requires N.C. contact between 12 & COM. Upon open contact, door closes and overrides all other inputs. Remains jumpered if input is not used.
	13	Secondary Activation	Requires N.C. contact between 13 & COM. Disabled in full closed position. Used for AUTO-IR door-mounted presence sensor.
	14	Stall Safety	Requires N.C. contact between 14 & COM. Upon open contact, during opening, door stops, then resumes at reduced speed when input is released.
	15	Key Input	N.O. connection
	16	Alarm Input	N.O. contact, when closed causes door closing. All inputs inhibited during closed contact (not available on all software versions)
	17	Not Used	Requires N.O. contact
	18	GND	Common GND
	19	GND	Common GND
	20	Aux Relay	Auxiliary Relay COM. NOTE: Relay is triggered by input 16
	21	Aux Relay	Auxiliary Relay N.O.
	22	Aux Relay	Auxiliary Relay N.C.
	23	Alarm Output - Common	Common
	24	Alarm Output	N.O. output is closed upon closed contact from fire alarm. LED 2 also illuminates.
	25	+ 24 VDC	1A max. (Total for terminals 9 & 25)
	26	GND	Common GND
	Inputs 27 & 28 not used		

STEP 9: ADJUSTING TIMERS ON ADJUSTMENT BOARD



LEGEND:

B1 – Battery – use CR1216 battery – required to maintain timer settings and date programmed by the TAP

TR1 – Opening speed adjustment. Increase speed by turning clockwise = decrease open cycle time

TR2 – Closing speed adjustment. Increase speed by turning clockwise = decrease open cycle time

TR3 – Hold-open time adjustment

TR4 – Closing speed adjustment when power is OFF **TR4** will only be enabled when jumper **J6** is moved to the correct pins. (It is enabled by default).

J2 – USB port

J4 – Ribbon cable connector between boards

J5 – Motor Connector

J7 – Power supply connector between boards

SW1 – Adjustment board "reset"

SW2 – 10 Position "Functions" Dip Switch

For adjustments beyond those mentioned herein, consult the factory.

HELPFUL NOTES:

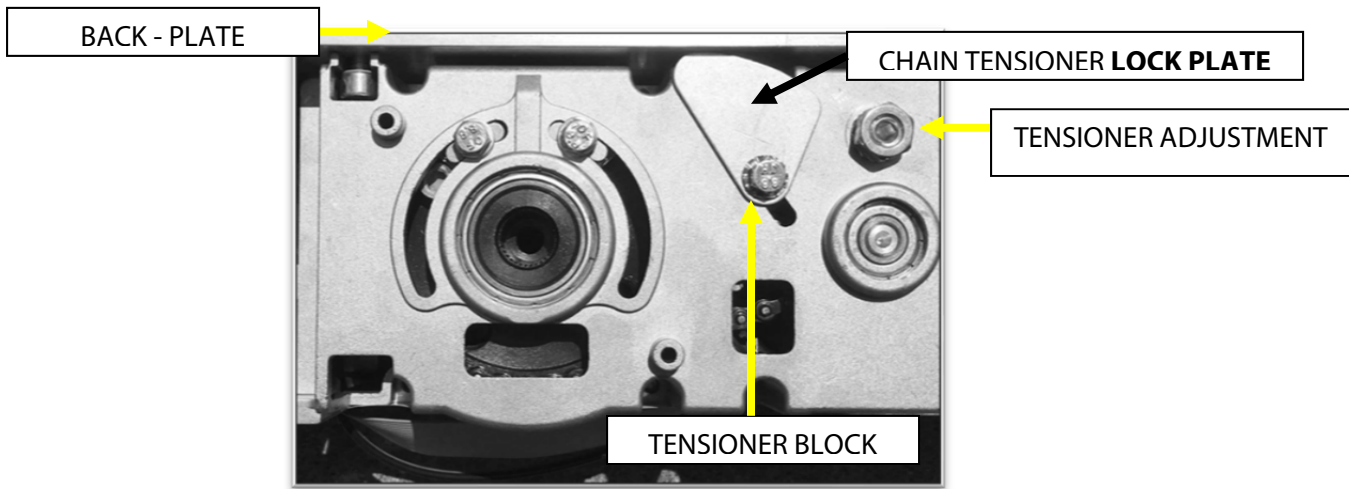
- Speed and time adjustment changes will not take effect until the door closes fully after the adjustment has been made.
- Hold Open time affects the delay following activation from input 10, 11, and 13.
- When Dip Switch 5 is ON, the blue speed and time potentiometers are disabled and will have no

effect.

TROUBLESHOOTING

Door will not open	• Check On-Off switch for proper position • Check LED status for LD 5, 6, and 7. If any of these LED's are OFF, the door will not open. They require a normally closed circuit. • Launch a new setup • Check status of emergency input 12 • Door has traveled close past the 0 degree position
Door will not close	• Check status of LEDs" LD2, 3, 4, 8 on the I/O board. • If any of the LED's are ON, check the associated input
Door will not reach its full open or closed position	• Check the mechanical stops on the operator for proper adjustment (see page 16)
Slow flashing red LED (LD2) at the Adjustment Control Board	• Indicates a possible fault in the control. ○ Check LED status for the other inputs. This will identify if any inputs are currently active. • Indicates a potential faulty setup. ○ Loose or incorrect motor connection ○ Possible loose chain tensioner - refer to Appendix for chain tensioner adjustment procedures. ○ Launch a new setup. If problem repeats and there are no other discrepancies noted, replace the operator/control sub-assembly.
Door closes too fast at last 5 to 10 degrees of closing	• Ensure dip switch 8 is OFF. • Ensure there is no binding of the door as it is closing through the last few degrees of closing. If binding exists (from a tight bottom sweep, for example), correct the condition and then re-launch a new setup.

APPENDIX – CHAIN TENSIONER ADJUSTMENT



SIGNS OF A LOOSE CHAIN TENSIONER

- Opening or Closing door movements may be erratic
- The door may reverse open on its own during the closing cycle
- When a setup is launched, the door may appear to open a few degrees at a time, especially as it is just beginning to open
- Door may not open to its full open position - it may stop short and then close, as it thinks there was an obstruction
- Operator may make a loud clicking noise - this is created by the chain jumping on the sprockets
- There may be a "lag" between operator movement and door movement - this is due to the chain "slack" being taken up before door movement
- Door may go through a setup correctly but then will show a flashing red error LED upon completion of setup, or upon the first attempt to open
- If chain is excessively loose, it is possible for the chain to become bound up on itself, thus preventing automatic door movement - this will usually happen on the closing stroke
- Abnormal noises may come from the operator as you use the door manually
- Wear marks may be evident on the body of the operator where the tensioner bolt has slipped

ADJUSTING THE CHAIN TENSIONER

1. At the tensioner pivot point, loosen the lock nut at the Tensioner Adjustment.
2. At tensioner block, loosen the Allen-head screw (do not remove it).
3. Insert 4mm Allen wrench into the tensioner adjustment and apply tension counter clockwise to increase tension on the chain.
4. Rotate chain tensioner lock plate clockwise so the plate is pressing against the back plate
5. Re-torque the tensioner block screw while maintaining chain tension - These bolts are generally torqued to around 3.7ft lbs.
6. Re-tighten the lock nut at the pivot point.
7. When complete, double check physical stops for 0 and 90 degree door position - adjust if necessary.
8. Launch a new setup at the control and ensure everything works ok. Any time the stroke of the operator has changed, a new setup will be required.

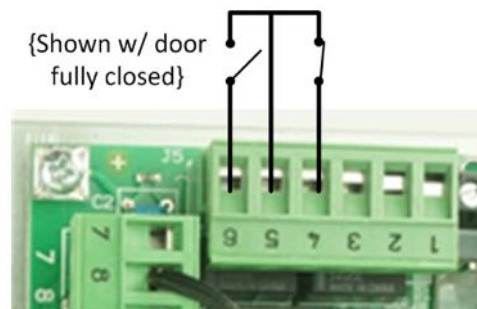
APPENDIX – WIRING DIAGRAMS

DOOR STATUS SWITCH OUTPUT

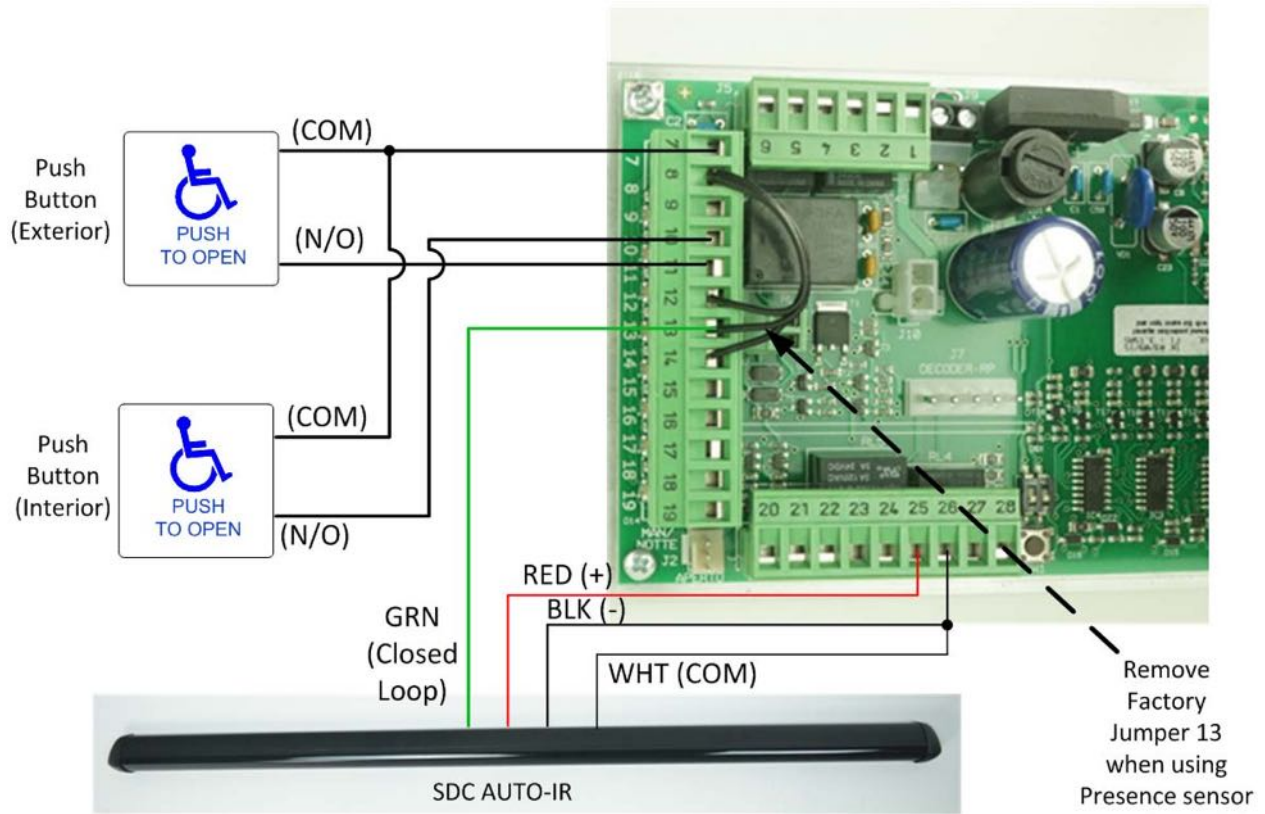
Terminal 4: Door “Closed” status switch: Contact closes upon full door closed position.

Terminal 5: Common for both Door Open & Closed status

Terminal 6: Door “Open” status switch: Contact is closed when door is full open.

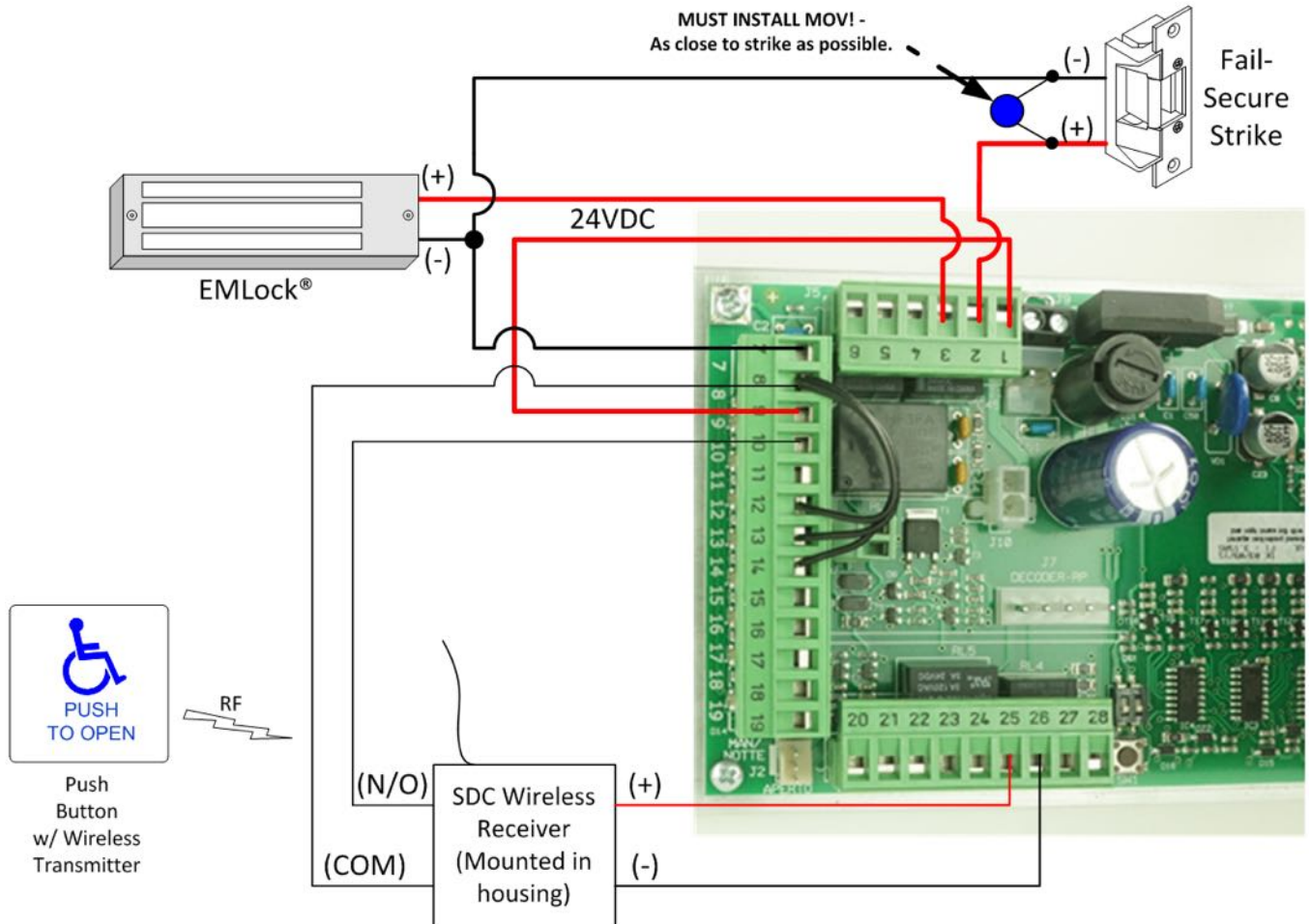


LOW ENERGY APPLICATION 1: PUSH PLATES WITH APPROACH SIDE DOOR-MOUNTED SENSOR



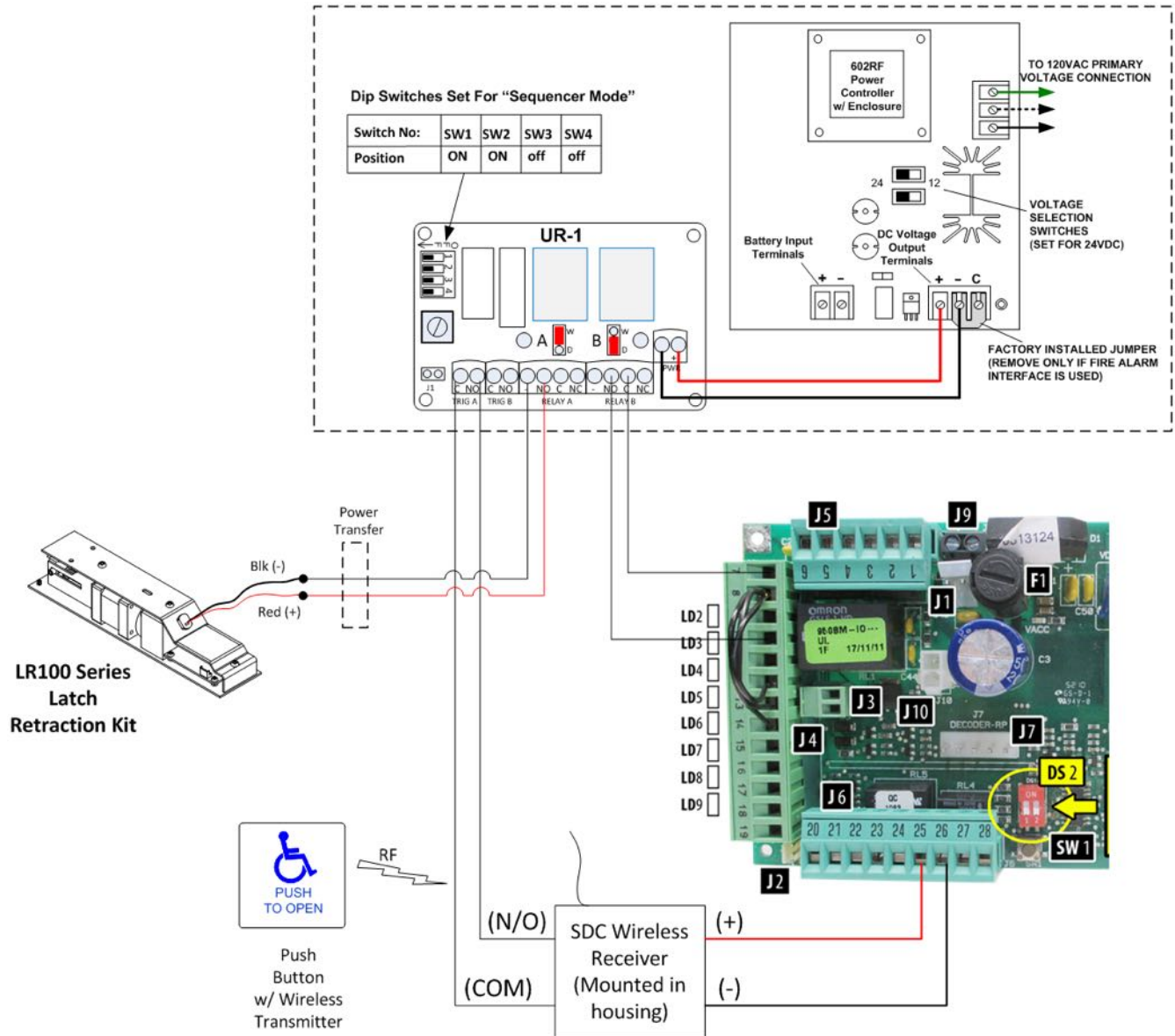
- Non-Swing Side (approach) door-mounted sensor is wired into the secondary activation input (13) at the I/O board. It is a normally closed circuit. Remove factory jumper on terminal 13.
- Door-mounted sensor will cause re-activation when in detection during the closing cycle.
- Secondary activation input is disabled at the full closed door position.
- Jumpers must be installed between terminal 8 and 12 & 14 if those inputs are not required for the application. If they are used for the application, they must be connected to a N.C. circuit.

LOW ENERGY APPLICATION 2: WIRELESS PUSH PLATE WITH 24VDC ELECTRIC STRIKE OR MAGLOCK

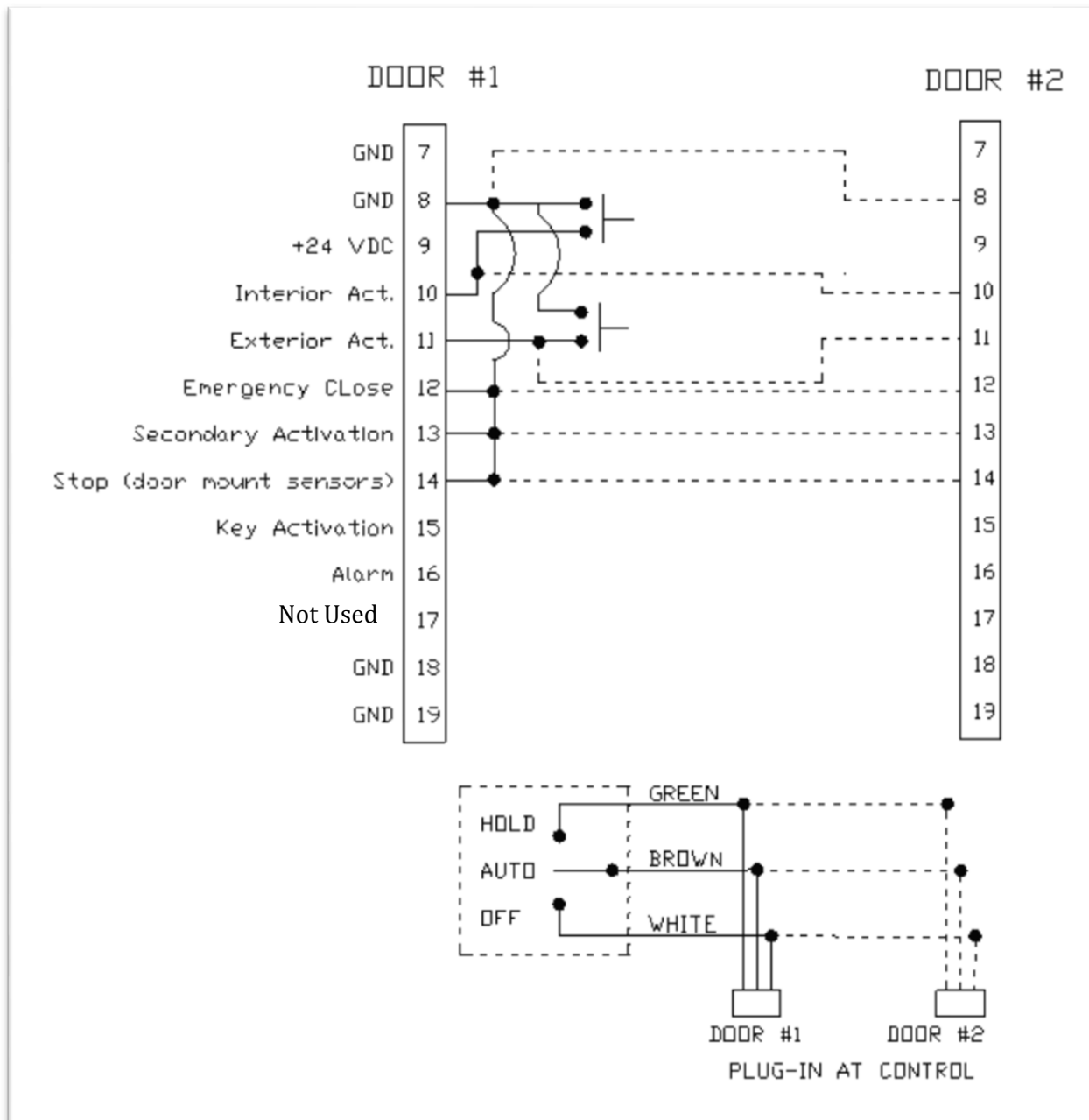


LOW ENERGY APPLICATION 3:

WIRELESS PUSH PLATE WITH SDC Electric Latch Retraction Kit & Separate SDC Power Supply



LOW ENERGY APPLICATION 4: SIMULTANEOUS PAIRS

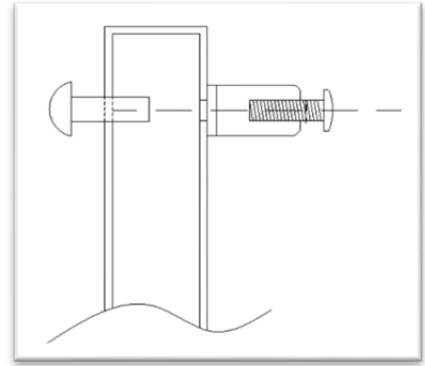


- When wiring controls for use as a simultaneous pair, all required inputs need to be synchronized (connected) between Door #1 and Door #2 (shown as dotted lines in above diagram).
- Example shown above: Push plates are connected to inputs 8, 10 and 11 at door #1 and are connected via sync line to Door #2.
- When using pairs of controls, N.C. inputs 12, 13 and 14 may be sync'd to each other, OR each control may have its own jumpers installed. If any of these inputs are required for the application, the jumper will be removed for the respective input – in place of the jumper, a N.C. switching circuit will be connected to Door #1, and a sync line will be connected to Door #2.
- For simultaneous pairs, each plug-in connector for the control is wired in parallel to the On-Off-Hold switch located in the header end-cap. One switch will control both doors.
- All control adjustments (speed & time delay) must be made independently at each control.
- All dip switches at each control must be set independently and must match between controls.

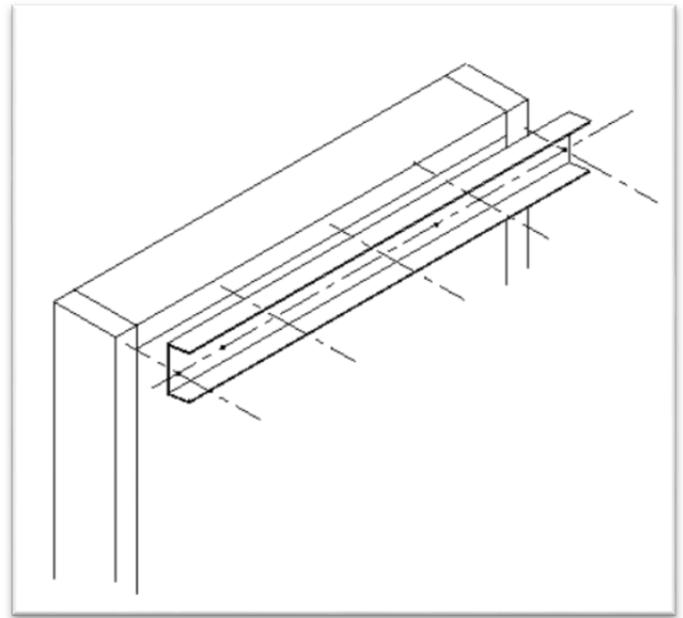
APPENDIX- FIRE RATED DOOR APPLICATION

- Perform the installation according to the instructions outlined in this manual.
Additionally, ensure the following conditions have been met:

- When attaching the door arm to the door, use steel binding posts (Sex Bolts) to attach. Do NOT use sheet metal screws into the face of the door. The door arm bracket must be through-bolted.



- When attaching the header to the hollow metal door frame, ensure there are 5 attaching screws spaced equally apart. They should be #12 sheet metal type screws.



- Fire rated power operated doors must close and latch during a fire alarm condition. Ensure proper procedures have been followed to allow a main power disconnect during a fire alarm condition. Always check to ensure compliance to local building codes.
 - Upon job completion, always perform a functional test to ensure that the door(s) close and latch following a power loss.
- Other hardware may be required to complete the installation. For example, for pairs of doors, if an Astragal is installed, a mechanical door coordinator may be required to ensure a proper coordinated closing during a power loss.
- Only fire rated hardware shall be used on a fire rated door & frame assembly.
- Ensure the Auto EntryControl™ operator that is being installed has the proper fire rated label applied to the header.