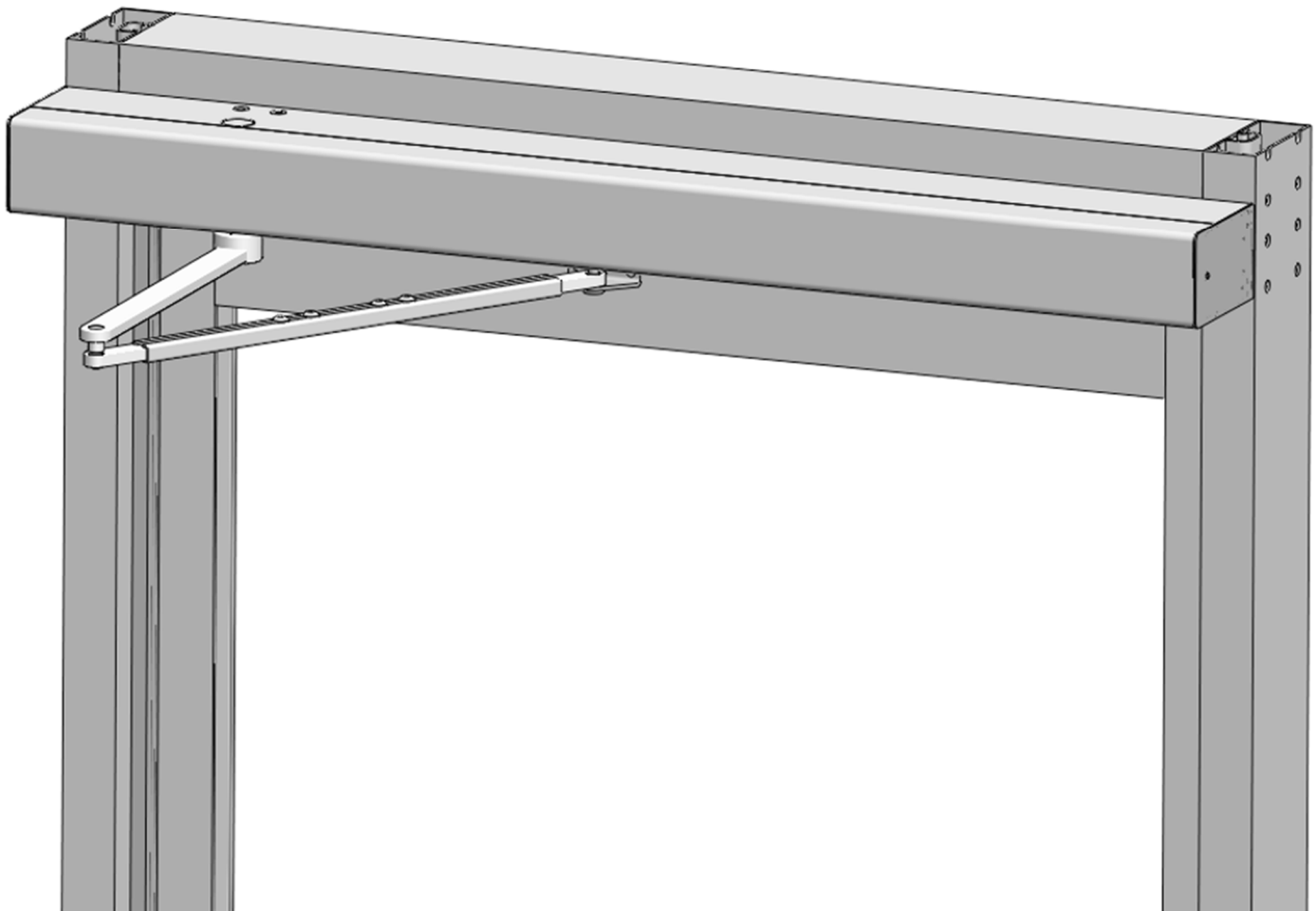




## **NABCO SWING INSTALLATION & PROGRAMMING MANUAL**

P/N C-00411 Rev 8-9-23

Nabco Entrances Inc. 582 W18717 Gemini Drive Muskego, Wisconsin 53150

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## 1. GENERAL SAFETY RECOMMENDATIONS



Do not install, operate, or service this product unless you have read and understand the General Safety Recommendations and Warning Labels contained in this manual. Failure to do so may result in bodily injury or property damage.



Read, study, and understand the installation and operating instructions contained in or referenced in this manual before operating. If you do not understand the instruction, ask a qualified person. Failure to do so may result in bodily injury or property damage and will nullify all warranties.



For indoor use only.



It is inadmissible to bypass, shunt or disable the safety devices. Any defective safety devices may not be disconnected to continue the operation of the installation.



Disconnect all power to the junction box prior to making any electrical connections. Failure to do so may result in serious personal or fatal injury. When uncertain whether power supply is disconnected, always verify using a voltmeter.



Do not place finger or uninsulated tools inside the electrical controller. Touching wires or other parts inside the enclosure may cause electrical shock, serious injury or death.



The Ground wire from the Opus Control 120 VAC Harness, and the Incoming 120 VAC Ground wire must be connected to the Ground screw located within the Swing door Header.



If the door appears broken or does not seem to work correctly, it should be immediately removed from service until repairs can be carried out or a qualified service technician is contacted for corrective action.



Wiring must meet all local, state, federal or other governing agency codes and all electrical troubleshooting or service must be performed by qualified electrical technicians and must comply with all applicable governing agency codes.

## 2. SHUT OFF CIRCUIT BREAKER



Shut the installation site Circuit Breaker OFF. Failure to do so may result in serious personal or fatal injury. When uncertain whether power supply is disconnected, always verify using a voltmeter.



All high voltage electrical connections must be made by licensed electricians according to National and Local electrical codes/regulations and permanent wiring shall be installed as required by local codes.



Electrical circuit to Nabco operator must not be shared with other equipment such as lighting, cash registers, or any device that might cause electrical interference on the circuit.



Ensure that incoming electrical ground is properly secured to the grounding screw or grounding wire, whichever is provided.



Keep all incoming 120 VAC wiring separate from low voltage wiring within Header. Do not route 120 VAC wires near the OPUS Control and/or Motor/Operator.

**IMPORTANT**

Insert all Incoming 120 VAC Power wires into the pre-drilled Electric Service Access Hole located at the left or right side of Header End Cap. It is recommended to house all wires into an Electrical Conduit.

### 3. SCOPE

#### 3.1 To the Installer

The purpose of this manual is to familiarize the installer and purchaser with the proper installation and operation of this system. It is essential that this equipment be properly installed and operational before the door is used by the public. It is the installer's responsibility to inspect the operation of the entrance system to be sure it complies with any applicable standards. In the United States, ANSI Standard 156.19 (used to cover Low Energy doors); and ANSI Standard 156.10 (used to cover Full Automatic doors). Other local standards or codes may apply. Use them in addition to the ANSI standard. Swing door Units are listed with the Underwriters Laboratory and are identified as such on the label. If after troubleshooting a problem, a satisfactory solution cannot be achieved, please call NABCO Entrances at 1-877-622-2694 Option #3 between 8 am - 4:30 pm Central time or email [techsupport@nabcoentrances.com](mailto:techsupport@nabcoentrances.com) reference NABCO Swing.

#### 3.2 Objective

The NABCO Swing is designed to be installed onto the face of the Door Frame. The door function is controlled by the Opus Control. The OPUS Control offers many features to accommodate most installation options. This manual offers step by step instructions.

#### 3.3 Specifications

| Specification            | Description                               |                             |
|--------------------------|-------------------------------------------|-----------------------------|
| Weight Operator Assembly | 23 pounds (10,5 kg)                       |                             |
| Motor Type               | DC Brush Motor (with Encoder installed)   |                             |
| Motor Voltage & Power    | 169.5V / 100 W                            |                             |
| Power consumption        | Max. 580 W                                |                             |
| Maximum Door Weight      | Full Auto                                 | 200 pounds (90 kg)          |
|                          | Low Energy                                | 330 pounds (150 kg)         |
| Maximum Door Width       | Full Auto                                 | 32" - 36" (812mm - 915mm)   |
|                          | Low Energy                                | 32" - 48" (812mm - 1,219mm) |
| Standard Reveal          | Outswing 0-12" or Inswing 0-6"            |                             |
| Header Dimensions        | Width                                     | 36" Door, 39.5" Header      |
|                          | Depth                                     | 4-3/4" (76mm)               |
|                          | Height                                    | 3" (120mm)                  |
| Operating Temperature    | 5 to 122 °F (-15 to +50 °C)               |                             |
| Protection Type          | IP 40 Weather Resistant to Water and Dust |                             |
| Door Opening Angle       | 105°                                      |                             |
| Maximum Opening Speed    | 40° (opening degree per second)           |                             |
| Maximum Closing Speed    | 40° (opening degree per second)           |                             |
| Hold Open Time           | 0 - 30 seconds                            |                             |

## 4. INSTALL THE HEADER

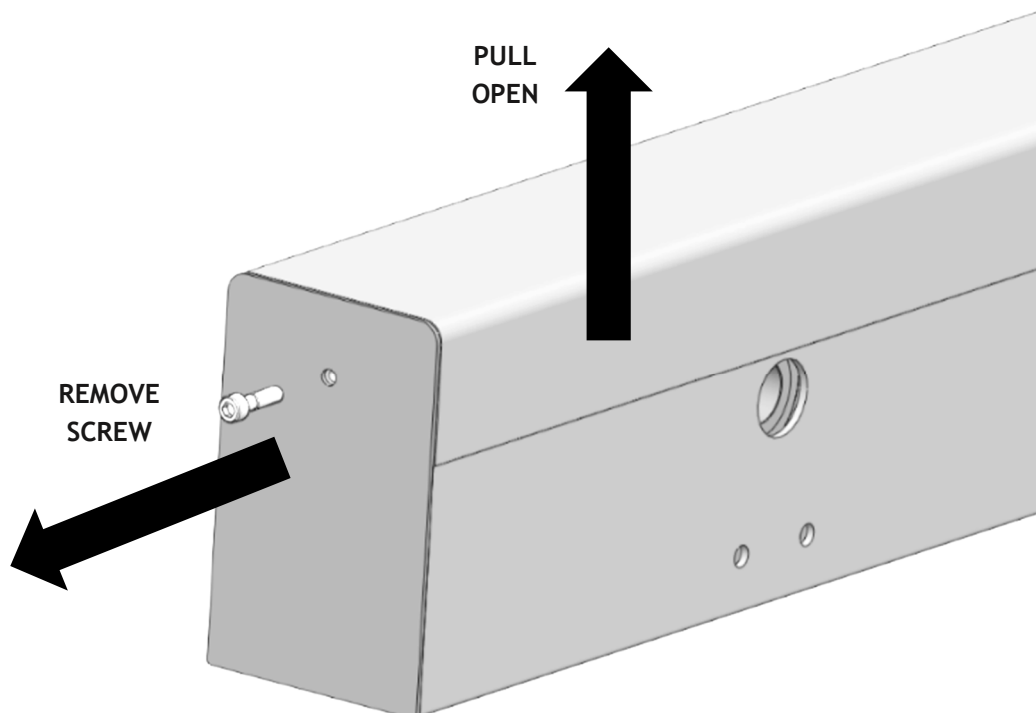


- Turn OFF all power to the Automatic Door if a Safety System is not working.
- Instruct the Owner to keep all power turned OFF until corrective action can be achieved by a NABCO trained technician. Failure to follow these practices may result in serious consequences.
- NEVER leave a Door operating without all Safety detection systems operational.

### 4.1 Remove the Header Cover

**ATTENTION:** To avoid permanent damage, do not use sharp tools.

1. Obtain a Tool that is 3/16" (4.7mm) or less in diameter.
2. Locate the protruding screw on side of header, remove screw or push in spring clip.
3. Pry open and pull the top cover from the bottom main extrusion.

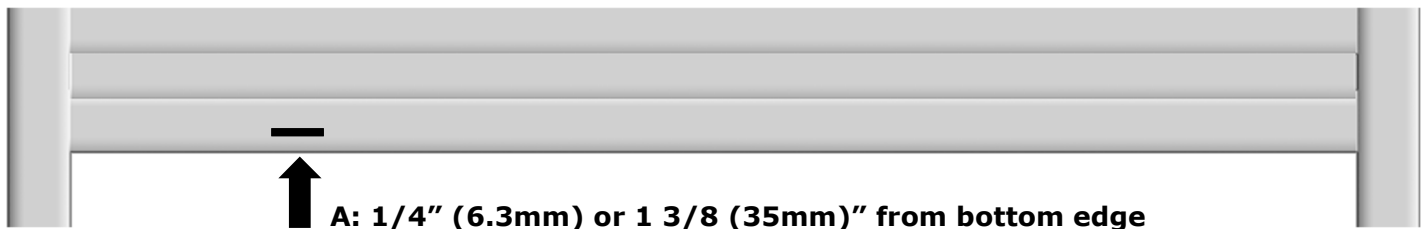


## 4.2 Prepare the Door Frame

1. On the face of the Door Frame where the operator will be installed, measure “up” from the Bottom edge of the header jamb towards the Top, make at least two marks.

### Measurement A

1. Outswing Door: Measure 1/4” (6.3mm) from bottom edge of header mounting surface, this mark is the bottom of the header.
2. Inswing Door: Measure 1 3/8” (35mm) from top of door, this mark is the bottom of the header.



2. Verify the spindle location.

### Measurement B

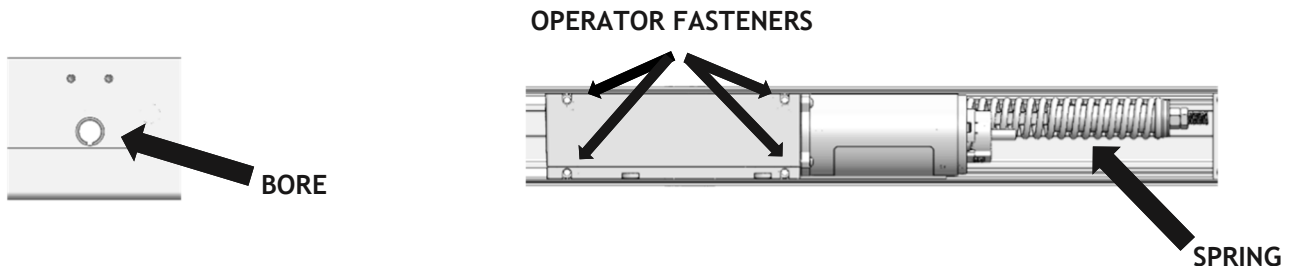
1. Measure 5” (127mm) from the center of the pivot to the center of the spindle.



### 4.3 Header Orientation & Handing

**ATTENTION: This product can be set-up as Left Hand or Right Hand and Outswing or Inswing. You will receive it configured as a Left-Hand Outswing.**

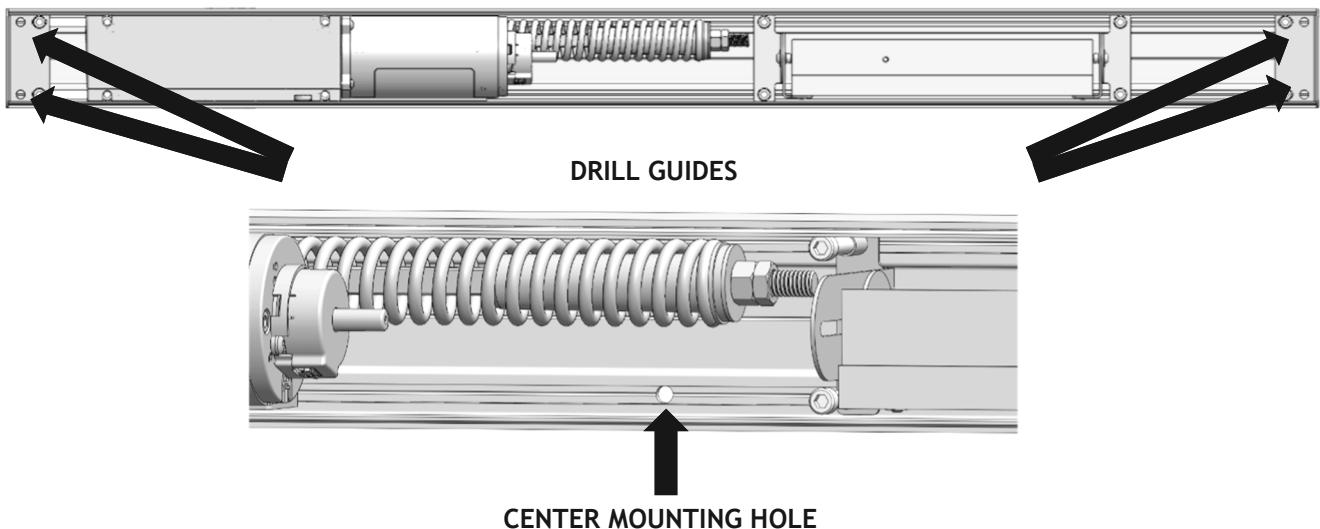
1. To change handing place the Spindle Bore closest to the pivot side of the door.
2. To change from Outswing to Inswing loosen the 4 fasteners with a 3/16 Allen wrench and place the spring side of operator closest to you.



### 4.4 Drill Mounting Hole into Header

1. Butt the Header up against the marked lines from 4.2 (Measurement A), while ensuring that it is square and level.
2. Looking at the back wall of the Header. Between the (2) drill guide holes located on each side of Header, find a Stud somewhere in the center.
3. Measure, mark, and drill (4) 1/4" (6mm) screw hole so the Header can be secured to a Stud.
  - a. If deemed necessary, the Opus Control and/or the Motor/Operator can be temporarily removed using 3/16 Allen wrench on the 4 hex bolts on the control or operator.

**ATTENTION: Header must be level and securely fastened to the Door Frame and/or solid wood Blocking (Shim) above Door Frame to prevent flexing or movement of Header during operation.**



**ATTENTION: If no studs exist behind drill guides, install fasteners in nut chase similar to center hole, DO NOT USE back wall of header because header will flex, and injury may result.**

1. Looking at the back wall of the Header. Insert Power Wiring through the 7/8" (22mm) hole.
2. Line up screw holes. Secure the Header to the Door Frame.
  - a. It is recommended to use at total of 5 or more 1/4-20 (M6) Hex Head Bolts, Lag Bolts, Wood Screws, 1/4" (6mm) Screws, or Rivnuts.
  - b. The header must be level to frame and securely fastened to the Door Frame and/or solid wood Blocking (Shim) above Door Frame to prevent flexing or movement of Header during operation.

## 5. INSTALL SPINDLE and HARD-STOP

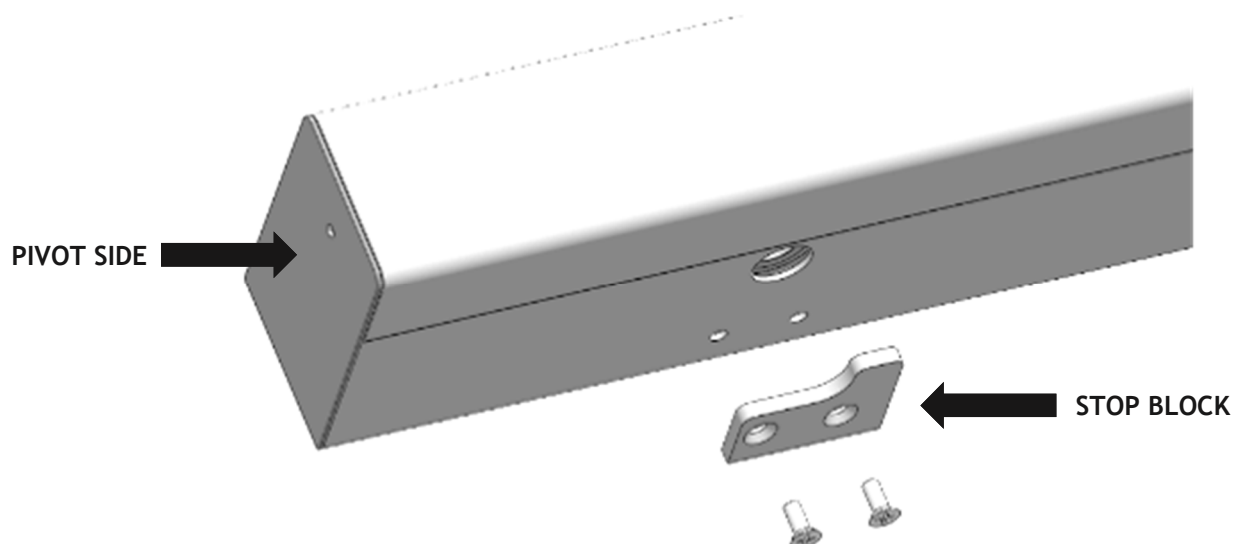
### 5.1 Spindle

| Spindle Extension |        |               |             |
|-------------------|--------|---------------|-------------|
| Length            | Arm    | Standard Use  | Part Number |
| 4 5/16"           | Short  | Inswing       | A-01485     |
| 5 5/16"           | Medium | Outswing      | A-01485-1   |
| 6 5/16"           | Long   | Extreme cases | A-01485-2   |

If needed, a longer spindle can be used to lower the arm. For instance when the header needs to be mounted higher.

### 5.2 Stop Block

1. Place the Stop Block on the underside of the header with the longer side against the wall. The protrusion farthest from the screw holes should be on the opposite side of the pivot.
2. Use the provided 1/4-20 counter sunk screws to mount the block with a Phillips screwdriver.

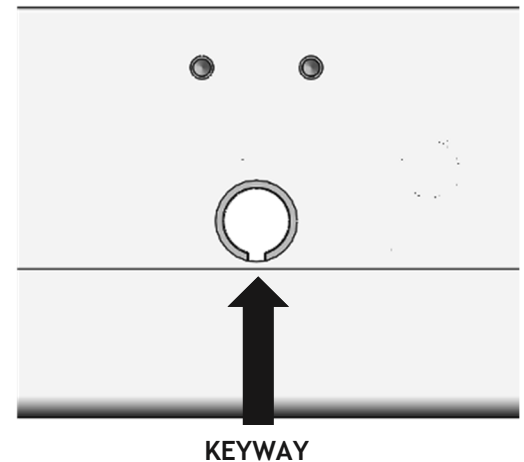
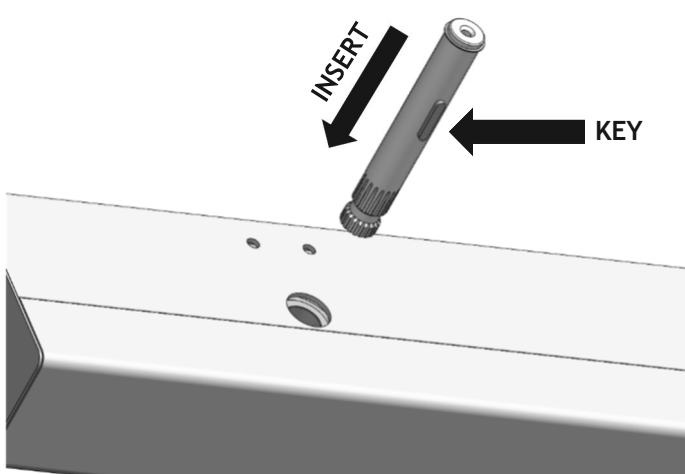




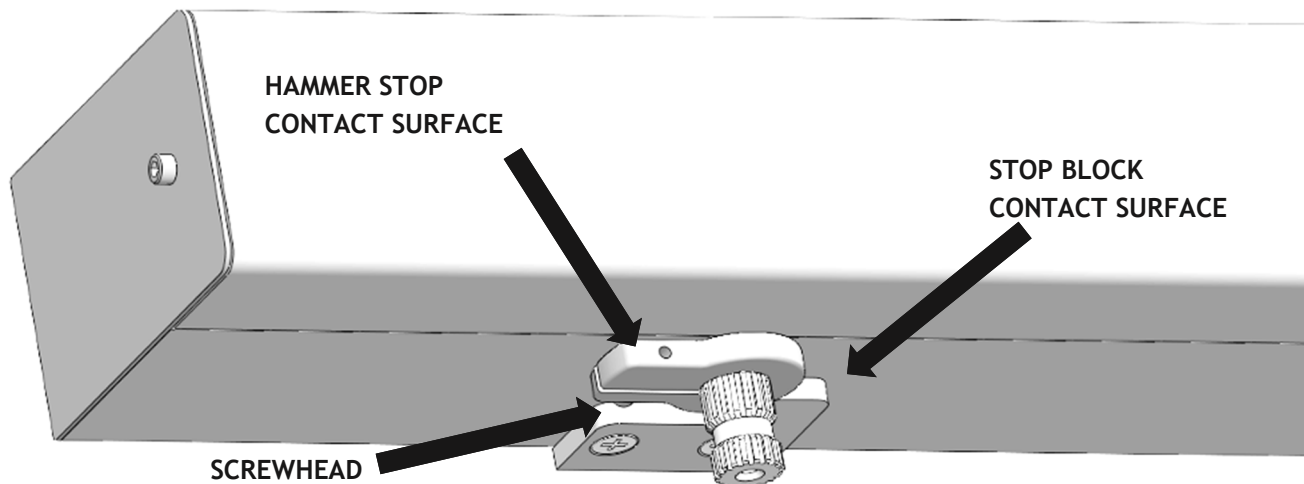
### 5.3 Spindle and Hammer Stop

**ATTENTION:** The Hammer Stop must point in the same direction the Gear rotates to open the Door Panel. The Hammer Stop can be adjusted.

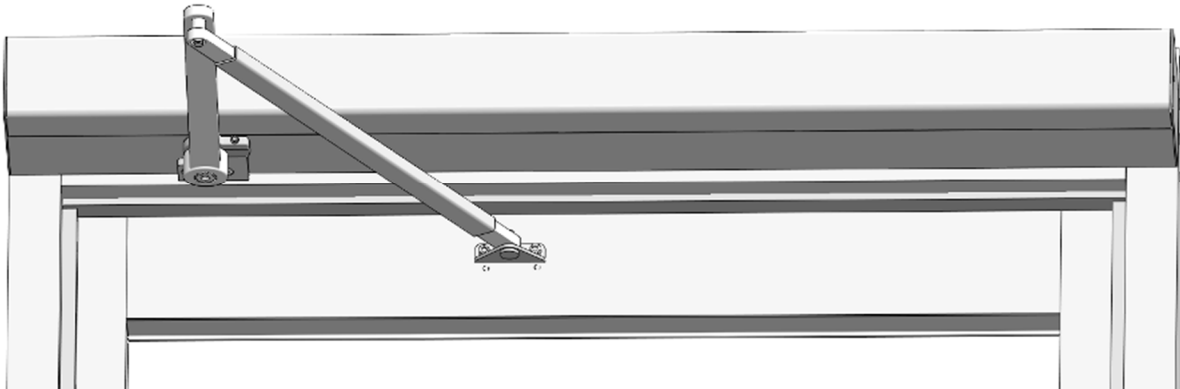
1. Locate machined holes on top of Header. Locate the Keyway (notch) inside the Bore.
2. Obtain the Spindle. Locate the Spindle Keyway (small protrusion).
3. Align the Spindle so the Spindle Key can slide into the Keyway. Slide the Spindle into the Shaft.



4. From the bottom of Header. Slide the Hammer Stop onto the Shaft so it is pointed in the same direction the Gear rotates to open the Swing Door Panel.
5. Slightly tighten Allen Screw with 9/64 Allen Wrench. Do not fully tighten set screw until after Swing Arm has been installed and the full-open position has been established.

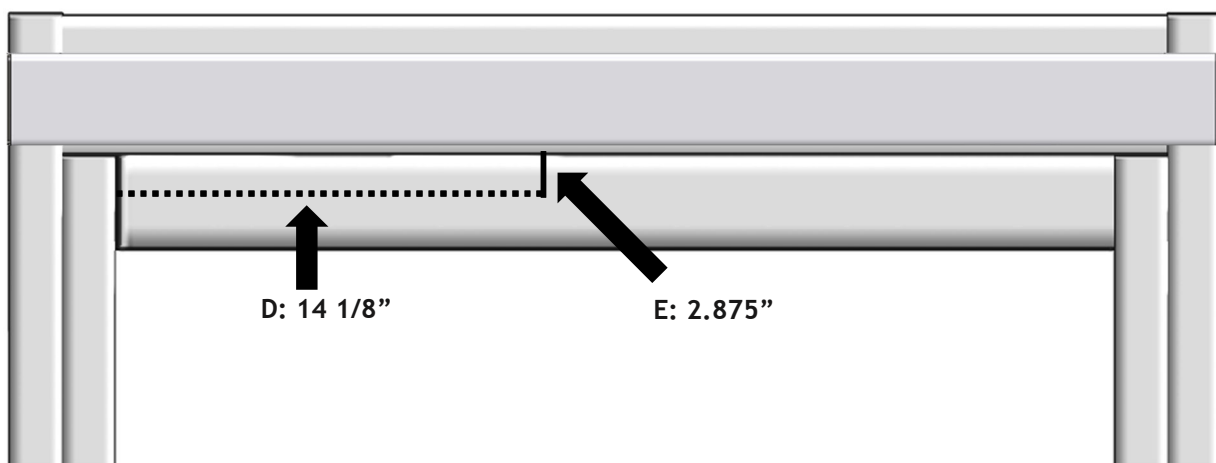


## 6. INSTALL OUTSWING-ARM ASSEMBLY

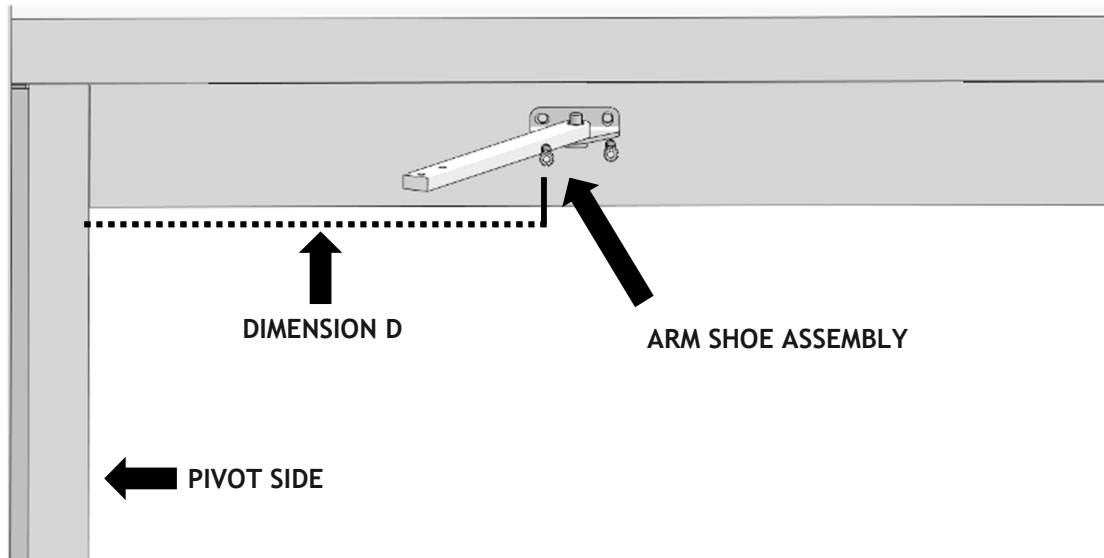


### 6.1 Install the Outswing Arm Shoe Assembly

1. With the door fully closed, measure 14 1/8" (359mm) (**Measurement D**) from the Center Line of Pivot towards center of Door Panel.
2. Mark a vertical line 2.875" (73mm) (**Measurement E**) down bottom of header.
3. Loosen both pairs of screws on aluminum extrusion and slide steel bars out.
4. Position the Arm Shoe Assembly up against the Door Panel. Center the first screw hole (Pivot side of Door Panel) to the Vertical Line. Ensure the Arm Shoe Assembly is level.

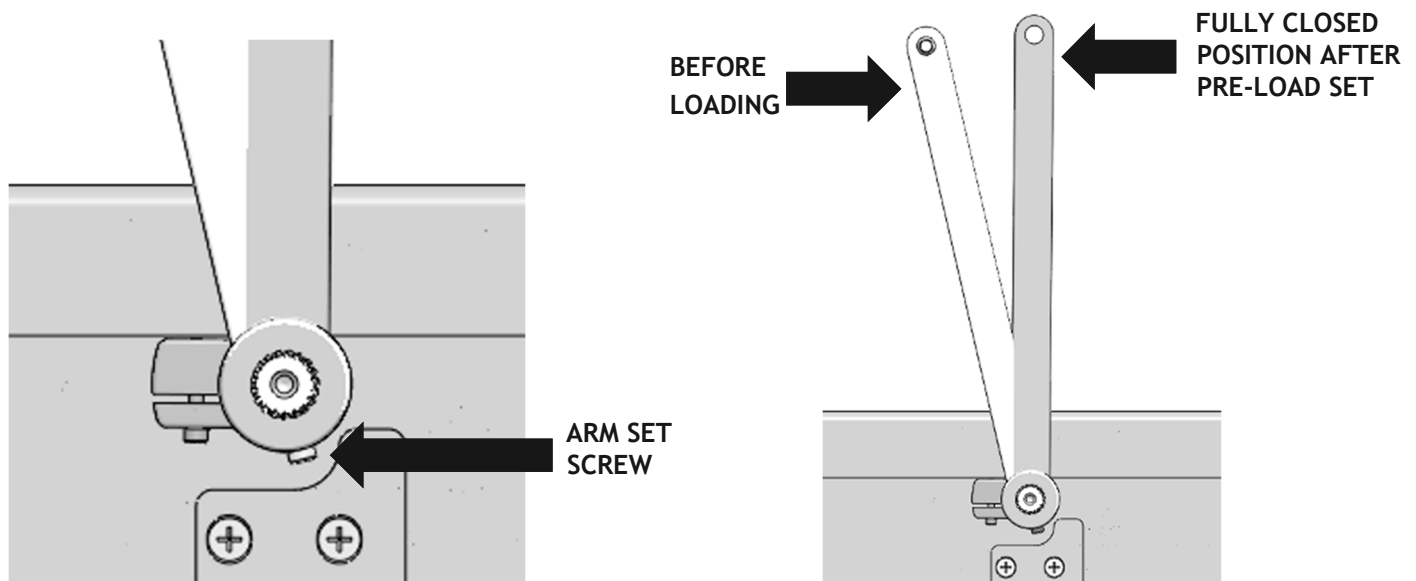


5. Use the Arm Shoe Assembly as a template to mark (2) 1/4" (6mm) screw holes.
  1. If installing (2) Sex Bolts:
    1. Drill (2) 3/8" (9.5mm) screw holes all the way through the Door Panel.
    2. Insert (1) Sex Bolt into each hole from back side of the door until they are flush to the door.
  2. If not installing Sex Bolts: Prepare and use appropriate 1/4" hardware for door material.
  3. Secure the Arm Shoe Assembly to the Door Panel with (2) 1/4-20 x 7/8" screws.



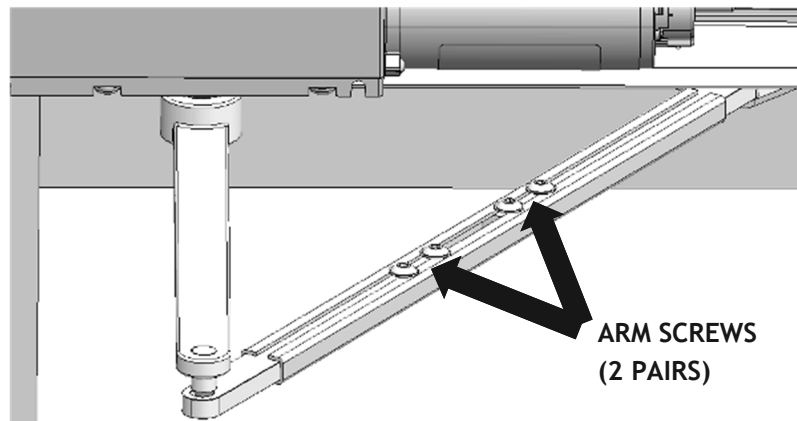
## 6.2 Install the Outswing Arm

1. Place the splined part of the arm under the spindle at 90° pointed directly away from door.
2. Watching the splines on the spindle turn the arm towards the pivot side of door one notch.
3. Push up on arm to fit it onto the splines.



4. Tighten the set screw on the arm to make sure it is secured.
5. Place steel bars back into aluminum extrusion.
6. Take arm attached to operator and bring to 90°, while holding the door.

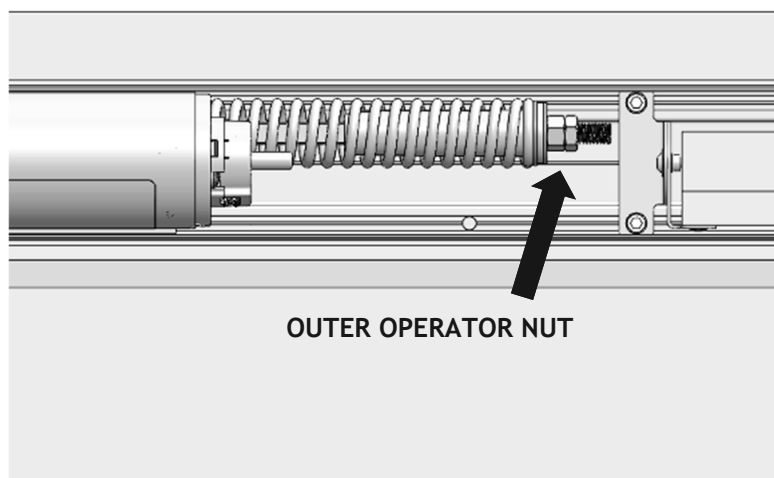
7. Apply provided Threadlocker on both pairs of screws and tighten to 10 ft-lbs of torque.



8. Open the door up to the desired angle, move the stop hammer to touch the stop block and tighten Allen head screw.

### 6.3 Increasing Spring Tension

1. Open the door fully and let go, checking if the door closes properly.
2. If stack pressure, seals, latches, or anything prevents the door from fully closing, more tension may be needed.
3. Remove the outermost nut at the end of the operator spring.
4. Use 9/16 wrench to tighten the inner nut to set a higher preload, after a few turns check if door will close fully.
5. Continue adjusting until the door fully close every time.
6. Re-install the outer screw on spring and hand tighten.

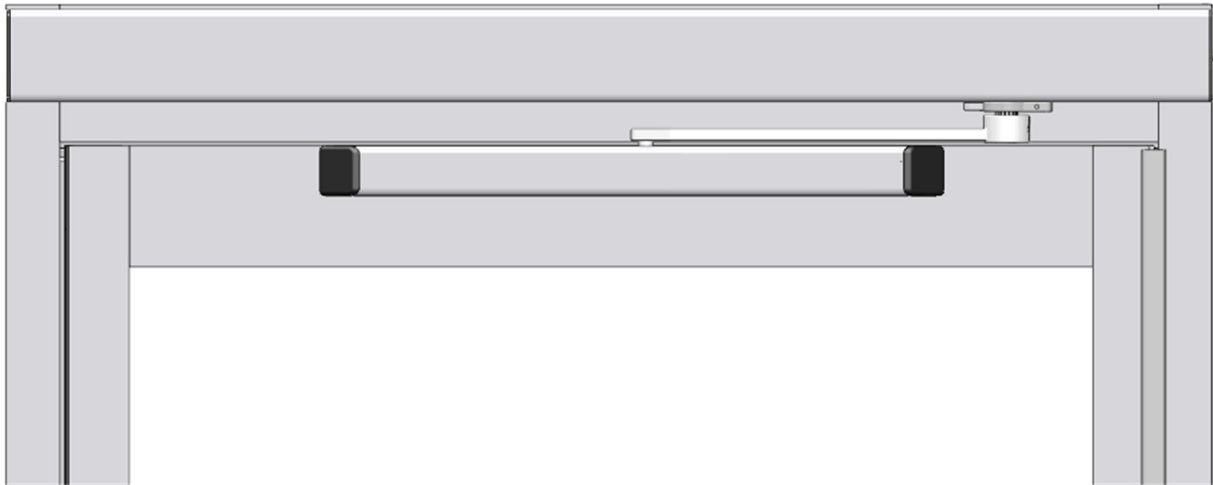


## 6.4 FINISH INSTALLATION

1. Using dial on OPUS controller, Navigate to Optional Settings and change Flip screen so it is readable (if needed).
2. Under “Base settings”, be sure “Operator Type” is set to “Nabco Swing”
3. Perform a stroke-learn.
4. Make other programming / adjustments as needed. See the Opus Swing Wiring and Programming Manual for details of the above steps.
5. Look at spring clips on each end of header cover and move if needed to be flush with each end of cover. One spring clip will have a screw installed, move it to the NABCO Connect side of header.
6. Place cover onto header base and push to snap in place.
7. Replace (2) 10-24 screws on each end of header and hand tighten.

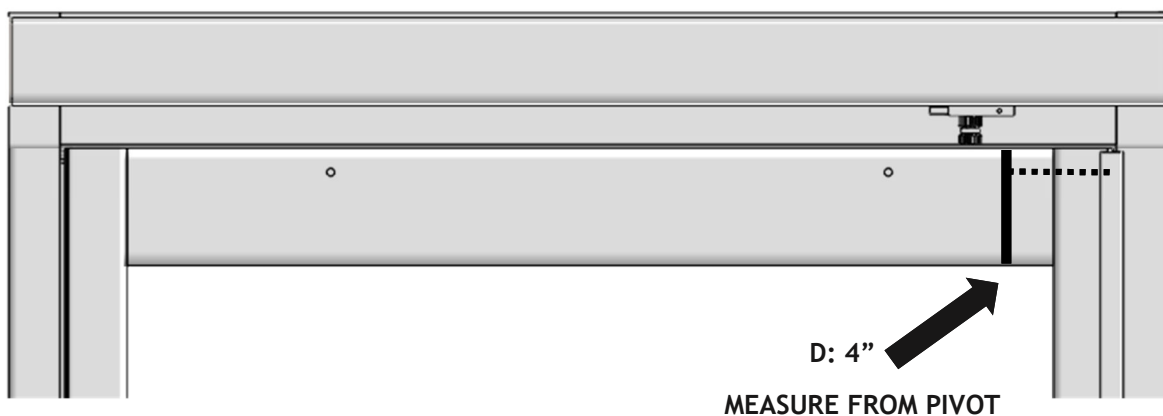
**Attention: If one or more screws cannot be installed on end caps, drill 0.152” (#24) sized hole on top or bottom of cover and secure cover with provided Panhead Phillips TEKS Sheet metal screws.**

## 7. INSTALL INSWING-ARM ASSEMBLY, 0" REVEAL

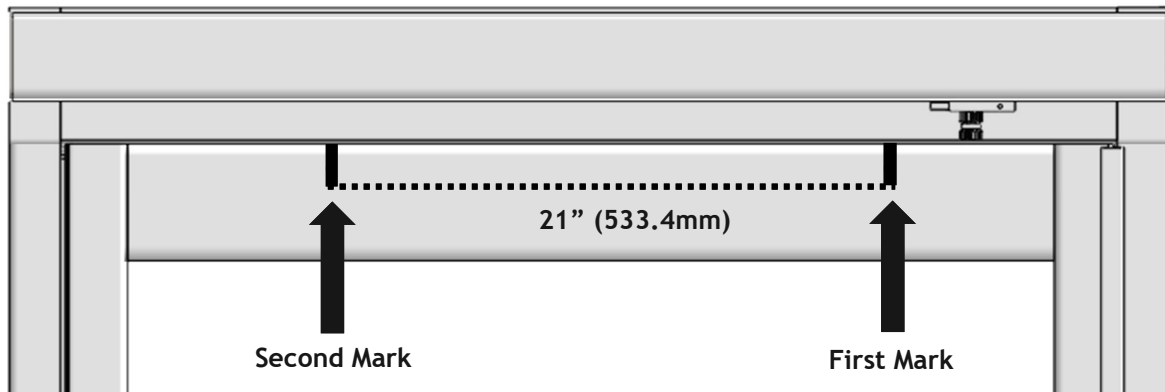


### 7.1 Prepare for the Inswing Track

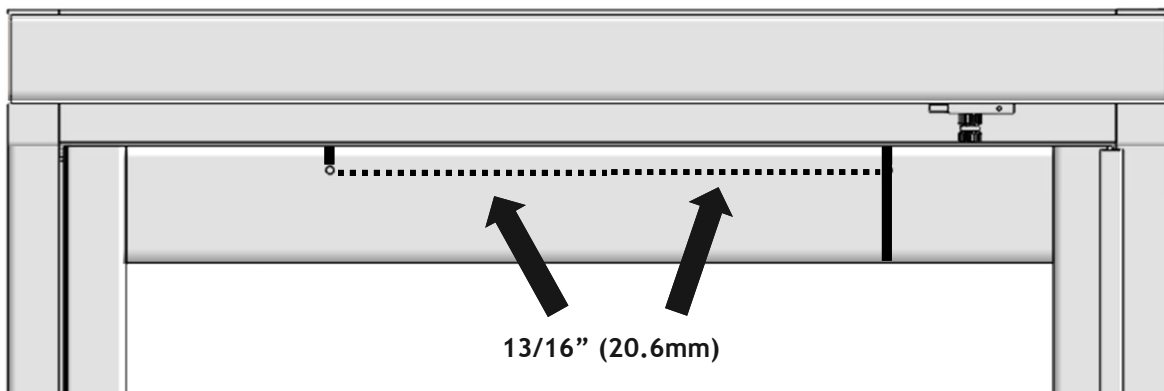
1. With the door fully closed, measure 4" from the pivot towards the center of the door make a mark. This is location of the first hole for the track.



2. Measure 21" (533.4mm) from the first mark to the left and make a mark.



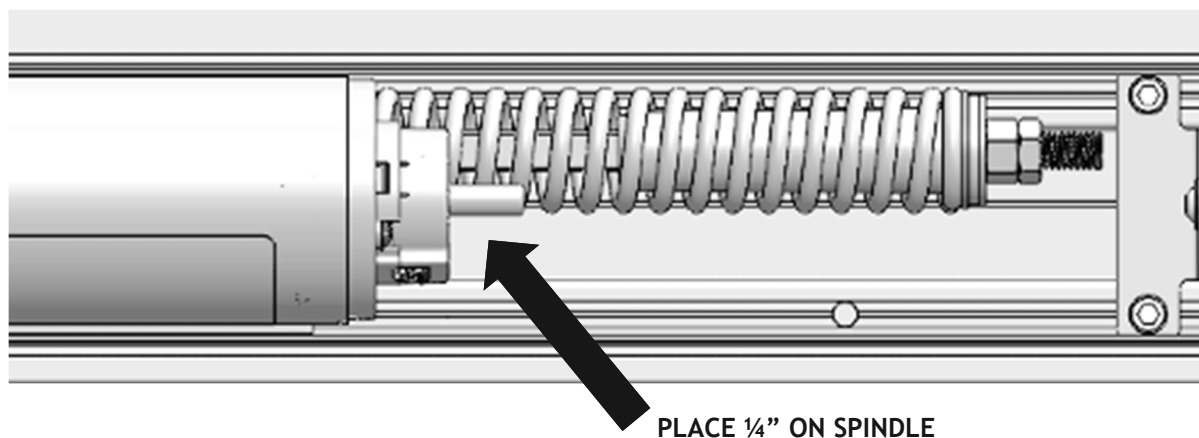
3. Then measure 13/16" (20.6mm) down from top of rail, where the two marks cross will be the screw locations for the track.



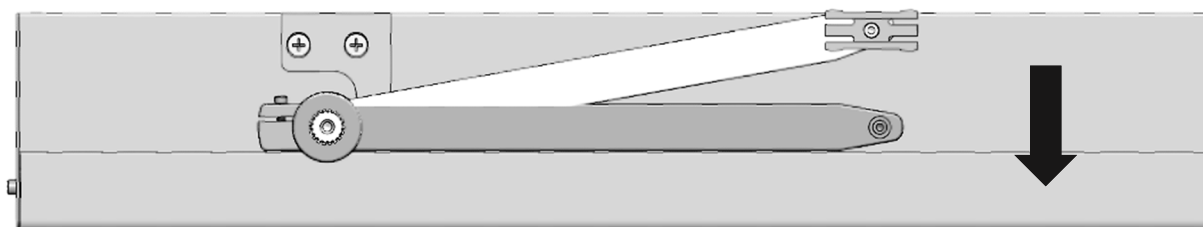
4. Position the Inswing Track up against the Door Panel, top of Track should be flush with top of door panel and holes in the track should line up with the marks on the panel.
5. If installing (2) Sex Bolts:
  1. Drill (2) 3/8" (9.5mm) screw holes all the way through the Door Panel.
  2. Insert (1) Sex Bolt into each hole from the back side of the door until they are flush to the door.
6. If not installing Sex Bolts: Prepare and use appropriate 1/4" hardware for door material.

## 7.2 Install the Inswing Arm

1. Place the splined part of the arm under the spindle with glide block as close to panel as possible.
2. Turn splined end of arm slowly away until splines line up.
3. Push up on arm to fit it onto the spindles.
4. Pull arm away from door frame.
5. On the protruding motor shaft there is a notch, place a 1/4" wrench on the notch and slowing release arm until wrench contacts the header extrusion.



6. Carefully pull arm down off spindle, rotate the arm one notch, and push back on.

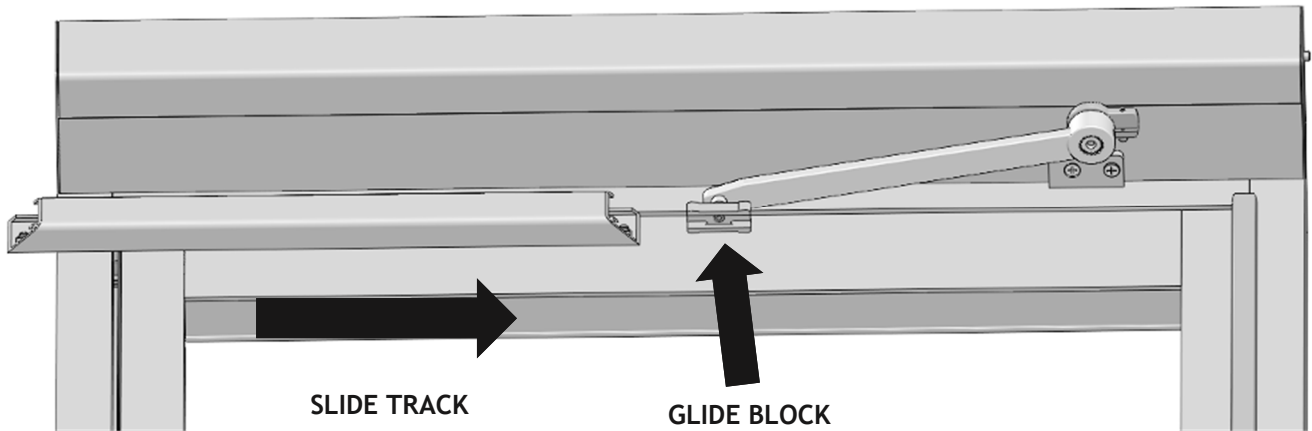


7. Tighten the set screw on the arm to make sure it is secured.

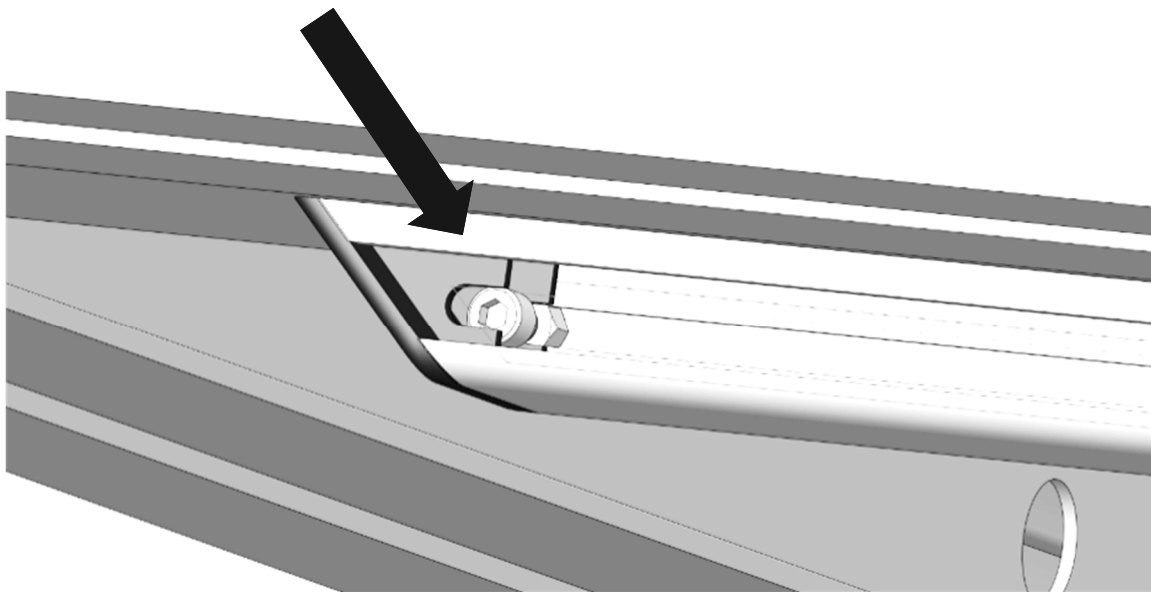


### 7.3 Install the Inswing Track

1. Slide Track onto the Glide Block and line up mounting holes
2. Secure the Track to the Door Panel with (2) 1/4-20 x 7/8" screws.
3. Open the door up to the fully open position, move the stop hammer to touch the stop block and tighten Allen head screw.

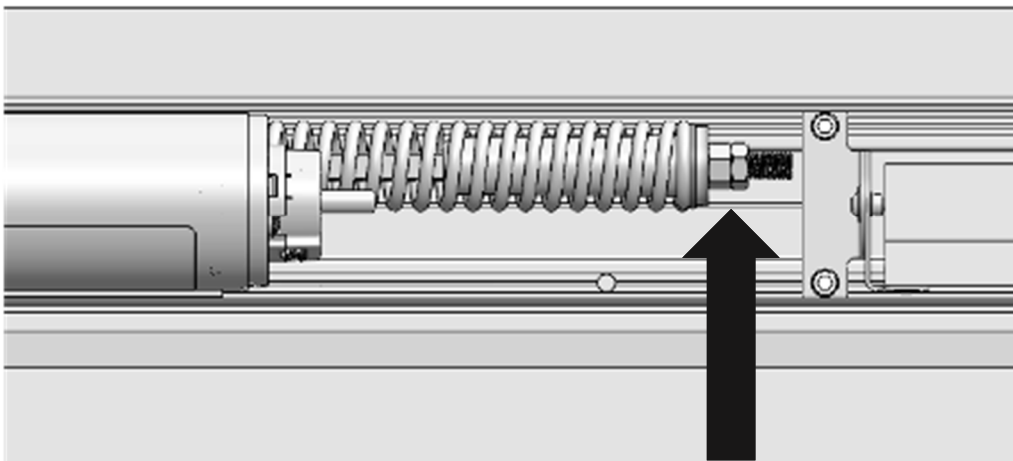


4. Place 1/4" nut and 1/4-20 screw on each side of Track.
5. Slide Track End Cap to each side and tighten screws with 3/16 Allen wrench.



## 7.4 Increasing Spring Tension

1. Open the door fully and let go, checking if the door closes properly.
2. If stack pressure, seals, latches, or anything prevents the door from fully closing, more tension may be needed.
3. Remove the outermost nut at the end of the operator spring.
4. Use 9/16 wrench to tighten inner nut to set a higher preload, after a few turns check if door will close fully.
5. Continue adjusting until door will fully close every time.
6. Re-install the outer screw on spring and hand tighten.



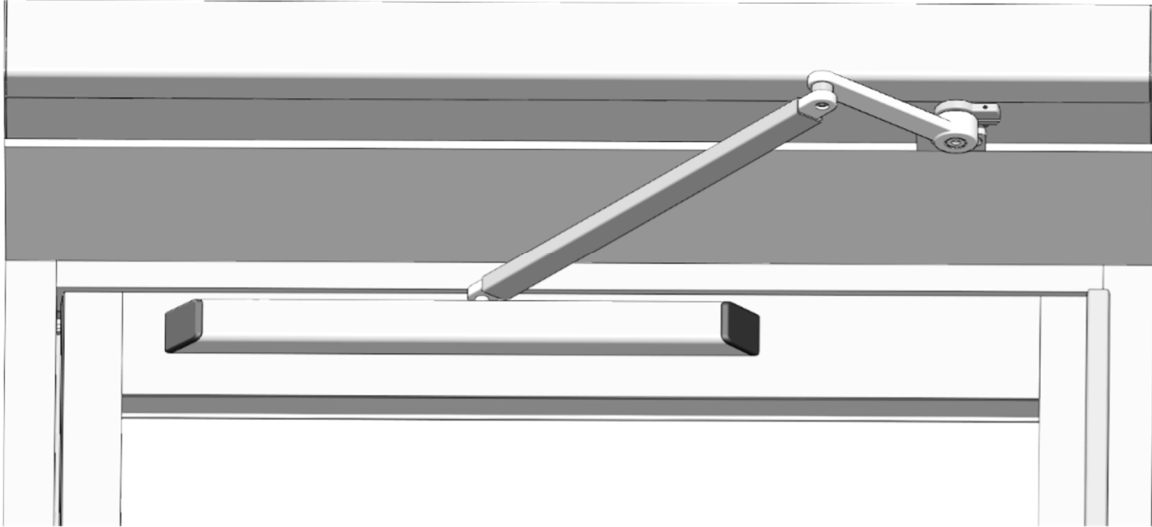
OUTER OPERATOR NUT

## 7.5 Finish Installation

1. Using dial on OPUS controller, Navigate to Optional Settings and change Flip screen so it is readable if needed.
2. Under “Base settings”, be sure “Operator Type” is set to “Nabco Swing”.
3. Perform a stroke-learn.
4. Make other programming / adjustments as needed. See the OPUS Swing Wiring and Programming Manual for details of the above steps.
5. Look at spring clips on each end of header cover and move if needed to be flush with each end of cover. One spring clip will have a screw installed, move it to the NABCO Connect side of header.
6. Place cover onto header base and push to snap in place.
7. Replace (2) 10-24 screws on each end of header and hand tighten.

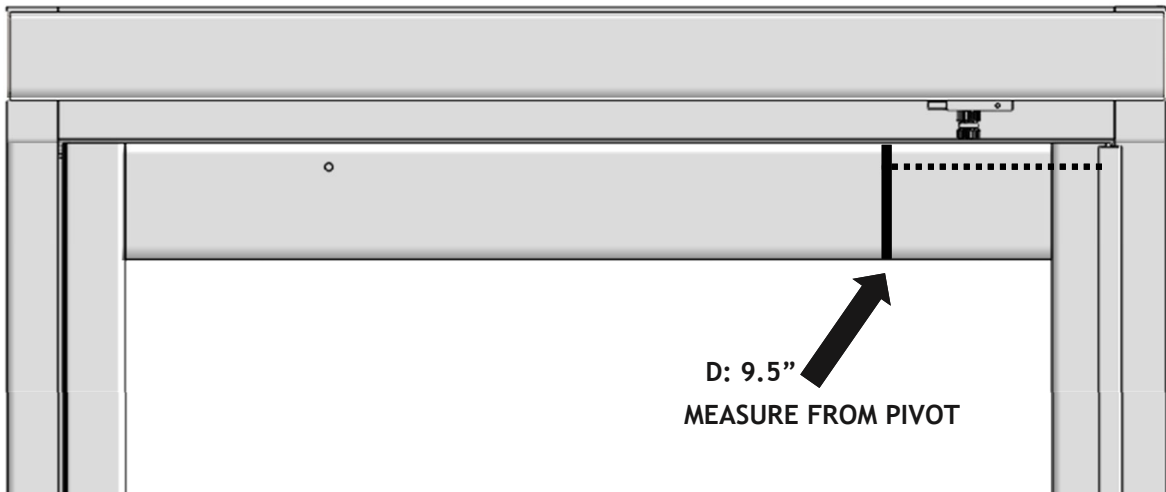
**ATTENTION:** If one or more screws cannot be installed on end caps, drill 0.152” (#24) sized hole on top or bottom of cover and secure cover with provided Panhead Phillips TEKS Sheet metal screws.

## 8. INSTALL INSWING-ARM ASSEMBLY, 0-6" REVEAL

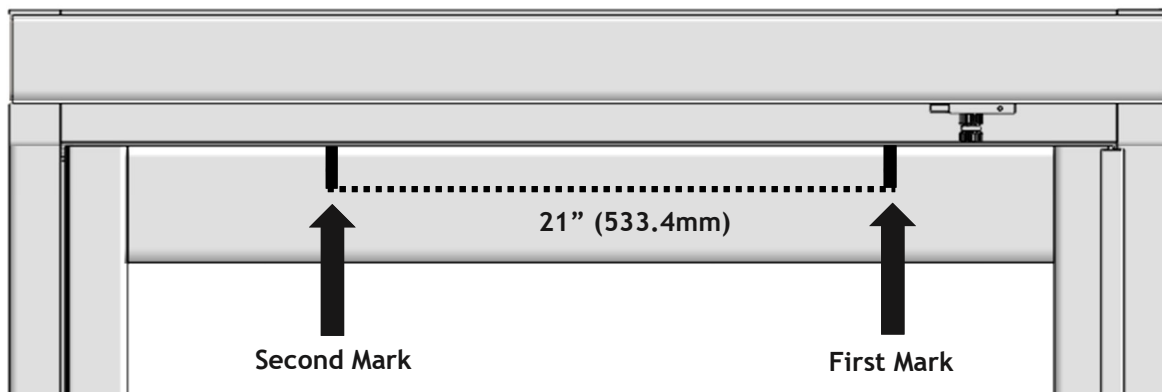


### 8.1 Prepare for the Inswing Track

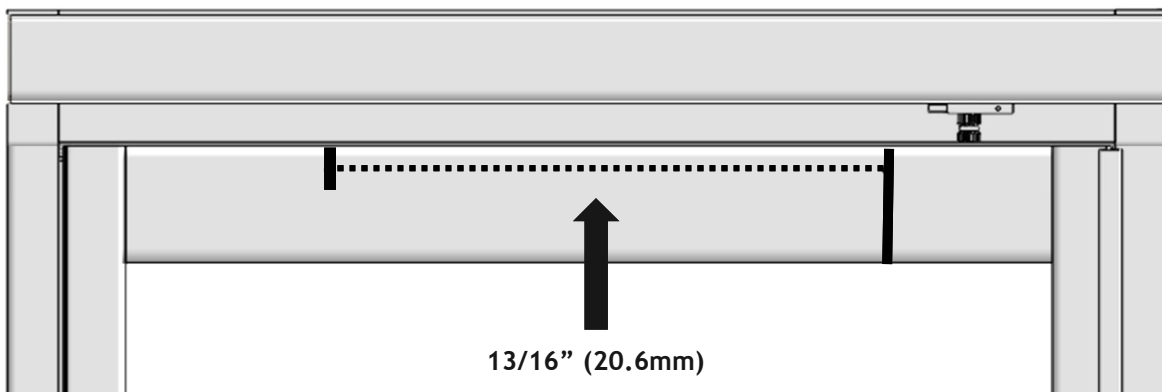
1. With the door fully closed, measure 9.5" from the pivot towards the center of the door and make a mark. This is location of the first hole for the track.



2. Measure 21" (533.4mm) from the first mark to the left and make a mark.



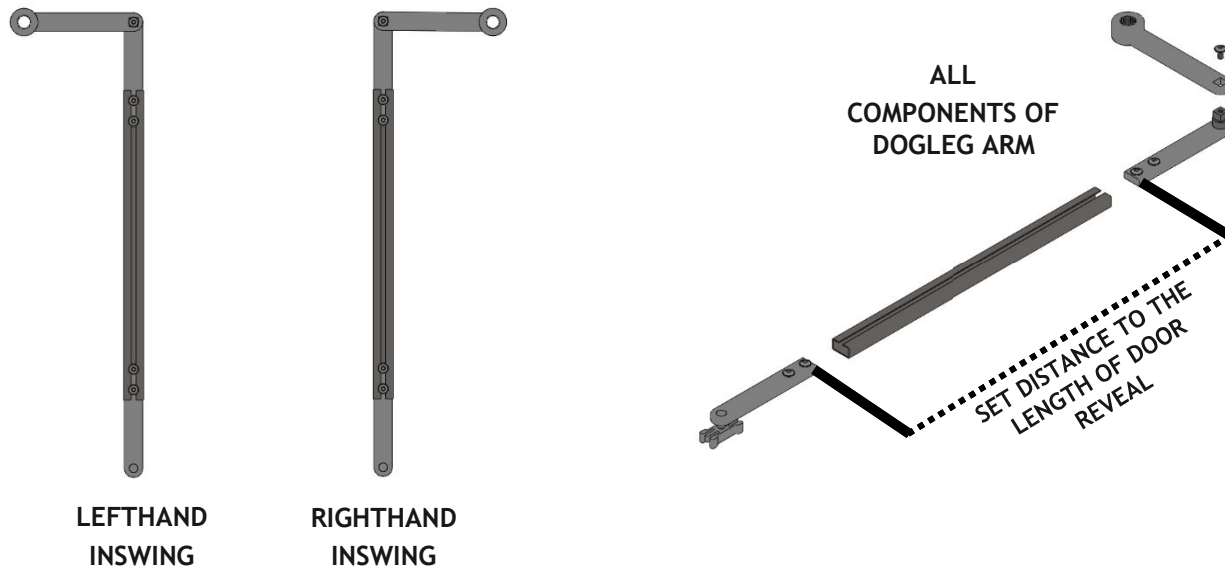
3. Then measure 13/16" (206.mm) down from top of rail, where the two marks cross will be the screw locations for the track.



4. Position the Inswing Track up against the Door Panel, top of Track should be flush with top of door panel.
5. If installing (2) Sex Bolts:
  - i. Drill (2) 3/8" (9.5mm) screw holes all the way through the Door Panel.
  - ii. Go to the Exterior side of Door Panel.
  - iii. Insert (1) Sex Bolt into each screw hole until they are flush to the Interior side of Door.
6. If not installing Sex Bolts: Prepare and use appropriate 1/4" hardware for door material.

## 8.2 Build the Dogleg Arm

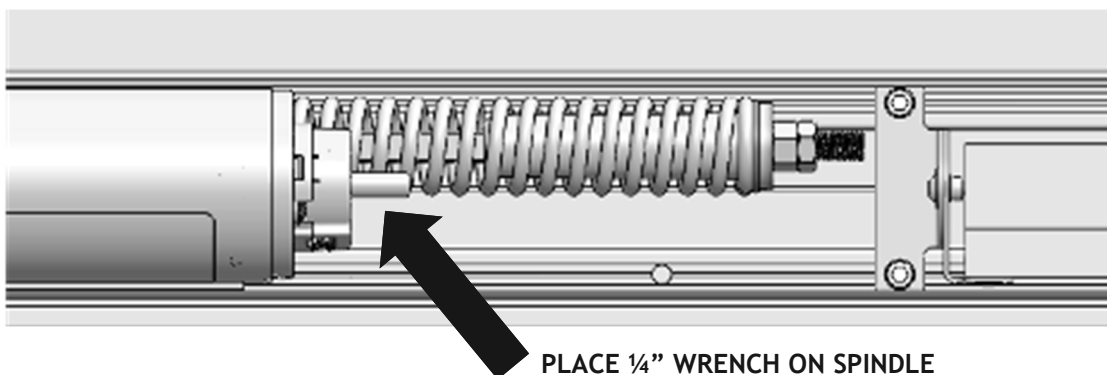
1. The Inswing 0-6" Reveal Dogleg arm needs to be built before it can be installed.
2. Reference images below on how to build it based on the door hand.



3. Push both Slide bars into each side of the aluminum sleeve.
4. Measure the door reveal and set the distance between the slide bars to match the door reveal.
5. Fit the square pocket of arm with splines on slide bar with square pin.
6. Insert screw into square pin and tighten to 10lb of torque.

## 8.3 Install the Dogleg Arm

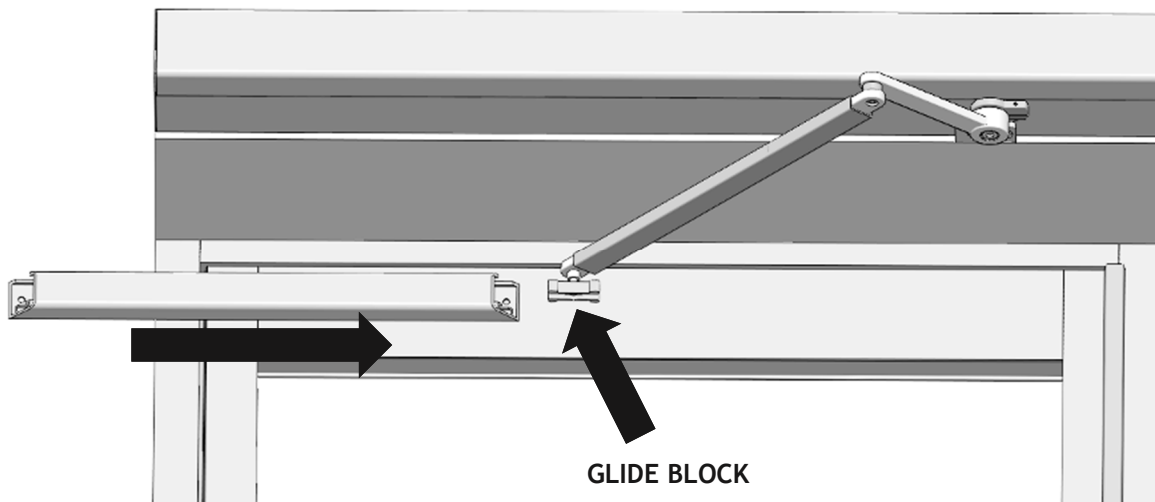
1. Place the splined part of the arm under the spindle with glide block as close to panel as possible.
2. Turn splined end of arm slowly away until splines line up.
3. Push up on arm to fit it onto the spindles.
4. Pull arm away from door frame.
5. On the protruding motor spindle there is a notch, place a 1/4" wrench on the notch and slowing release arm until wrench contacts the header extrusion.



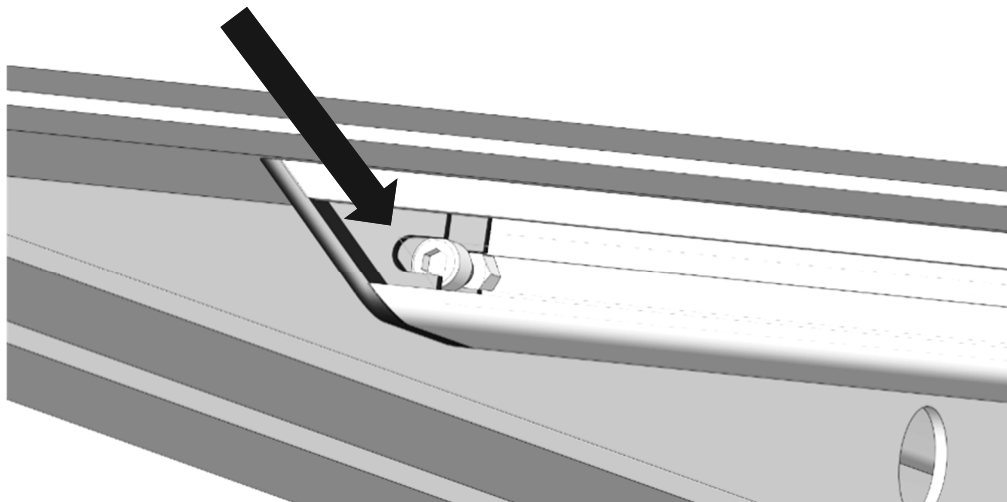
6. Carefully pull arm down off splines, rotate the splined end of arm one notch, and push up again onto splines.
7. Tighten the set screw on the arm to make sure it is secured.

## 8.4 Install the Inswing Track

1. Slide Track onto the Glide Block and line up mounting holes
2. Secure the Track to the Interior side of Door Panel with (2) 1/4-20 x 7/8" screws.
3. Open the door up to the desired angle, move the stop hammer to touch the stop block and tighten Allen head screw.

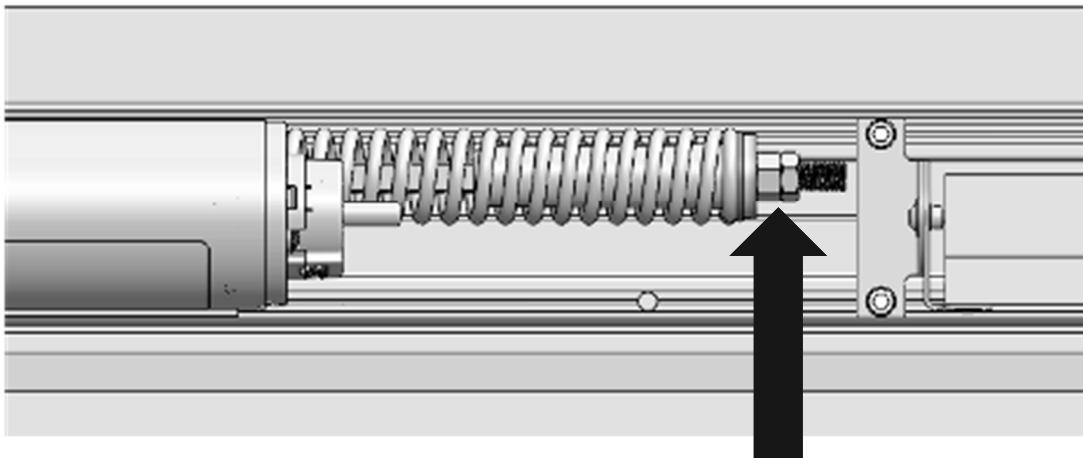


4. Place 1/4" nut and 1/4-20 screw on each side of Track.
5. Slide Track End Cap to each side and tighten screws with 3/16 Allen wrench.



## 8.5 Increasing Spring Tension

1. Open the door fully and let go, checking if the door closes properly.
2. If stack pressure, seals, latches, or anything prevents the door from fully closing, more tension may be needed.
3. Remove the outermost nut at the end of the operator spring.
4. Use 9/16 wrench to tighten inner nut to set a higher preload, after a few turns check if door will close fully.
5. Continue adjusting until door will fully close every time.
6. Re-install the outer screw on spring and hand tighten.



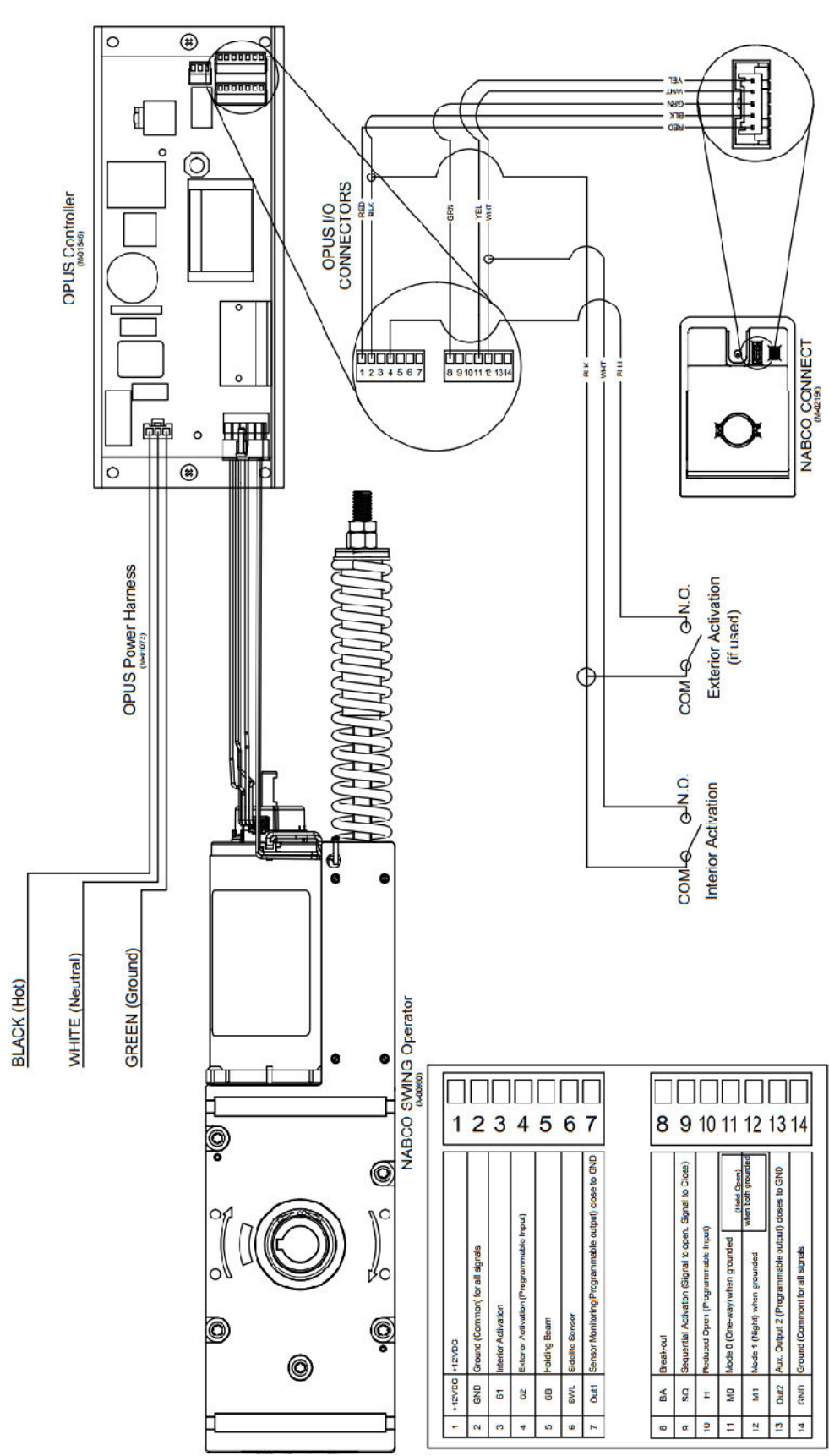
OUTER OPERATOR NUT

## 8.6 Finish Installation

8. Using dial on OPUS controller, Navigate to Optional Settings and change Flip screen so it is readable.
9. Under “Base settings”, be sure “Operator Type” is set to “Nabco Swing”.
10. Perform a stroke-learn.
11. Make other programming / adjustments as needed.
12. Look at spring clips on each end of header cover and move if needed to be flush with each end of cover. One spring clip will have a screw installed, move it to the NABCO Connect side of header.
13. Place cover onto header base and push to snap in place.
14. Replace (2) 10-24 screws on each end of header and hand tighten.

**ATTENTION:** If one or more screws cannot be installed on end caps, drill 0.152” (#24) sized hole on top or bottom of cover and secure cover with provided Panhead Phillips TEKS Sheet metal screws.

9. GENERAL WIRING





## 10. PROGRAMMING MENUS

### SECTION 10.1 Base Settings

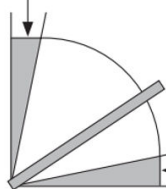
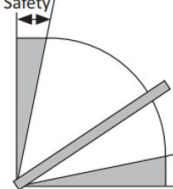
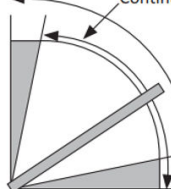
| Base Setting     |               |              |                        |
|------------------|---------------|--------------|------------------------|
| Setting Category | Menu Item     | Default      | Action                 |
| Operator Type    | ► NABCO Swing | GT-710 Swing | ► Select Operator Type |

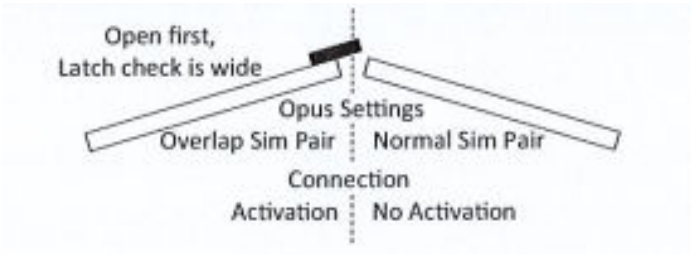
### 10.2 Movement Settings

| Movement Setting     |                          |         |                                                                                                                                                           |
|----------------------|--------------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parameter            | Range                    | Default | Description                                                                                                                                               |
| Open Speed           | 0 - 7                    | 3       | The higher the number the faster the Door opens                                                                                                           |
| Back Check Speed     | 0 - 7                    | 3       | Sets door speed during Back Check                                                                                                                         |
| Back Check Range     | 0 - 7                    | 3       | Swing Door: 2-1/2° to 35° of Fully Open                                                                                                                   |
| Close Speed          | 0 - 7                    | 3       | The higher the number the faster the Door closes                                                                                                          |
| Latch Check Speed    | 0 - 7                    | 3       | Sets door speed during latch check                                                                                                                        |
| Latch Check Range    | 0 - 7                    | 3       | Swing Door: 10° to 45° of Fully Closed                                                                                                                    |
| Open Timer           | 0-10, 12, 15, 20, 25, 30 | 5       | Hold Open time after Door reaches Full Open and activation signal is no longer present.                                                                   |
| Reaction Power       | 0 - 7                    | 3       | Determines how fast the door reacts to a reactivation when closing.                                                                                       |
| Open Recycle Sens    | 0 - 7                    | 3       | Recycle detection Sensitivity. Determines how much force is exerted during opening or closing cycle.<br>► "0" = most sensitive<br>► "7" = least sensitive |
| Close Recycle Sens   |                          |         |                                                                                                                                                           |
| After Open Recycle   | Slow Open                | Stop    | Determines what happens after a recycle during Opening cycle.<br>Slow Open = Door stops then slowly opens.<br>Stop = Door stops then slowly closes.       |
|                      | Stop                     |         |                                                                                                                                                           |
| Close Recycle Reopen | Yes                      | Yes     | Determines what happens after a recycle while closing cycle.<br>► Yes = Door re-opens<br>► No = Door stops then slowly closes                             |

### 10.3 Optional Settings

| Optional Setting     |             |           |                                                                                                                                                                                                                                                                                                            |
|----------------------|-------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parameter            | Range       | Default   | Description                                                                                                                                                                                                                                                                                                |
| Manual Open Function | Open Assist | No Action | <ul style="list-style-type: none"> <li>► Assisted Power from motor when door is pushed</li> <li>► Assisted Power depends on how strong door is pushed</li> <li>► Power is always within "Open recycle sensitivity" range</li> <li>► Door will stop during the event that the door is not pushed</li> </ul> |

| Optional Setting                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                          |             |                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------|-----------------------------------------------------------------------------------------------------------|
| Parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Range                    | Default     | Description                                                                                               |
| Manual Open Sensitivity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0 - 3                    | 1           | Angle to activate Push and Go (1-3 recommended Do Not use 0)                                              |
| Manual Open Timer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0-10, 12, 15, 20, 25, 30 | 3           | Hold Open time for Manual Opening                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Same as Open Timer       |             |                                                                                                           |
| BCHK Lockout Angle                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0 - 9<br>A               | 0           | ► Sensor lockout angle at Back Check                                                                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |             | ► Range is from 0° to 30° from Fully Open                                                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |             | ► Used for Swing or Fold Door Units only                                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |             | 0 Narrow                                                                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |             | A Wide                                                                                                    |
| LCHK Lockout Angle                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0 - 9<br>A               | 0           | ► Sensor lockout angle at Latch Check                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |             | ► Range is from 0° to 30° from Fully Close                                                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |             | ► Used for Swing or Fold Door Units only                                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |             | 0 Narrow                                                                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |             | A Wide                                                                                                    |
| <div><div><p>Back Check (BCHK) Lockout Angle</p><p>LOCKOUT PARAMETERS</p></div><div><p>Available Angle Safety with Lockout</p><p>SAFETY WITH LOCKOUT AREAS</p></div><div><p>Available Angle Continuous Safety</p><p>Available Angle for Low Energy Door Mount Approach Side Sensor</p></div></div> |                          |             |                                                                                                           |
| Stop Force Adjustment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0 - 7                    | 3           | Determines how the door reacts to a continuous safety signal: Slow Open, Stop, or Slow Close              |
| Anti-Slam Open?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Yes                      | No          | Choose Yes if door is being thrown open due to wind conditions.                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | No                       |             |                                                                                                           |
| Sim Pair Setting                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Single Door              | Single Door | Select type of Door                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Normal Sim Pair          |             | If selected; before returning to last screen, option to copy settings to other Control is given.          |
| Double Egress                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                          | Single Door | The Activation signal (only) is shared between doors. All other signals are independent.                  |
| Overlap Sim Pair                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                          |             | ► Overlap Sim Pair is for an Astragal Application.                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |             | ► Opus Control connected to door that must open first:                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |             | 1. Have activation signals connected to it                                                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |             | 2. Be set to “Overlap Sim Pair”                                                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |             | ► The delayed control will be set to “Normal Sim Pair” ► Latch Check range is wider than normal setting.  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |             | ► If selected; before returning to last screen, the option to copy settings to the other Control is given |

| Optional Setting                                                                              |          |         |                                                                                                   |             |
|-----------------------------------------------------------------------------------------------|----------|---------|---------------------------------------------------------------------------------------------------|-------------|
| Parameter                                                                                     | Terminal | Default | Range                                                                                             | Description |
| One Way Secure                                                                                | Yes      | No      | Ignore “Interior Activation” when “Exterior Activation” is ON during One Way mode and Full closed |             |
|                                                                                               | No       |         |                                                                                                   |             |
| <div></div> |          |         |                                                                                                   |             |
| Flip Screen                                                                                   | Yes      | No      | Choose Yes if Opus is installed upside down.                                                      |             |
|                                                                                               | No       |         | LCD will flip right side up when Control is upside down.                                          |             |

CONTINUED ON FOLLOWING PAGE.

## 10.4 Output Settings

| Output Setting       |                        |                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------|------------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parameter            | Terminal               | Default               | Range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Output 1             | Terminal 7             | Fully Opened Position | <ul style="list-style-type: none"> <li>► — —</li> <li>► Fully Closed Position</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>► No Output</li> <li>► Output closes when fully closed</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Output 2             | Terminal 13            | Fully Closed Position | <ul style="list-style-type: none"> <li>► Closing Status</li> <li>► Opening Status</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>► Output closes when door is closing</li> <li>► Output closes when door is opening</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Relay Output 3       | Relay Output Terminals | — —                   | <ul style="list-style-type: none"> <li>► Fully Opened Position</li> <li>► Error State Output</li> <li>► Recycle happened</li> <li>► Electric Strike Lock</li> <li>► Electric Magnetic Lock</li> <li>► Air lock</li> <li>► Breakout Pass through</li> <li>► TrmnL H Passthrough</li> <li>► Door Sequencing</li> <li>► Monitoring Norm. Open</li> <li>► Monitoring Norm. Close</li> <li>► Bodyguard Output</li> <li>► BAorNot-FC Norm.Open</li> <li>► BAorNot-FC Norm.Closed</li> </ul> | <ul style="list-style-type: none"> <li>► Output closes when door fully opened.</li> <li>► Output closes when error detected</li> <li>► Output closes when recycle occurs</li> <li>► Set for electric strike functionality (N.O.)</li> <li>► Set for Mag lock functionality (N.C.)</li> <li>► Set for Air lock functionality</li> <li>► Output closes when breakout occurs</li> <li>► Output changes state when input H changes state</li> <li>► Provision for door sequencing</li> <li>► Normally open Monitoring circuit (high logic)</li> <li>► Normally closed Monitoring circuit (low logic) <ul style="list-style-type: none"> <li>► Outputs data for bodyguard sensors and other sensors that utilize same data.</li> </ul> </li> <li>► For Elite (N) sensor made by Optex. (Output 1 only)</li> <li>► When Breakout or Not in Fully Closed Position (N.O.)</li> <li>► When Breakout or Not in Fully Closed Position (N.C.)</li> </ul> |
| Output Setting       |                        |                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Parameter            | Terminal               | Default               | Range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Open Delay Timer     | N/A                    | 0.5                   | 0.5, 1.0, 1.5 sec<br>After Unlock Feedback                                                                                                                                                                                                                                                                                                                                                                                                                                            | Delay time after activation to allow lock to unlock before the door starts moving.<br>Only functional if Electric Lock is selected.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Sequence Delay Timer | N/A                    | 0                     | 0-10, 12, 15, 20, 25<br>Same as Open Timer                                                                                                                                                                                                                                                                                                                                                                                                                                            | Delay Time before second Door opens when an output is being used for Door Sequencing.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Lock Condition       | N/A                    | Every Fully Closed    | Every Fully Closed One way/Night Only                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Determines when the electric lock engages.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## 10.5 Input Settings

| Parameter                           | Terminal    | Default          | Input Setting              |                                                               |
|-------------------------------------|-------------|------------------|----------------------------|---------------------------------------------------------------|
|                                     |             |                  | Range                      | Description                                                   |
| Input 62 Setting                    | Terminal 4  | Ext Activation   | ▶ — —                      | ▶ No input                                                    |
| Input SWL Setting                   | Terminal 6  | Safety w/Lockout | ▶ All Mode Activation      | ▶ Activates in all modes but OFF                              |
| Input H Setting                     | Terminal 10 | — —              | ▶ Interior Activation      | ▶ Interior Activation (works in one-way)                      |
| Input SQ Setting (Rev 28 and later) | Terminal 9  | Sequential Input | ▶ Exterior Activation      | ▶ Activation on exterior                                      |
|                                     |             |                  | ▶ Beam Sensor              | ▶ Threshold Sensor (slide door only)                          |
|                                     |             |                  | ▶ LE Approach Sensor       | ▶ Door-mounted Sensor on approach side.                       |
|                                     |             |                  | ▶ Unlock Input             | ▶ For Lock Feedback where applicable.                         |
|                                     |             |                  | ▶ Disable Power Close      | ▶ Turns off power close and hold close                        |
|                                     |             |                  | ▶ Sequential Input         | ▶ Takes one activation to open door and another to close door |
|                                     |             |                  | ▶ Open Slow                | ▶ Causes slow opening of the door                             |
|                                     |             |                  | ▶ Safety with Lockout      | ▶ Swing side Header mounted sensor input (swing door only)    |
|                                     |             |                  | ▶ Continuous Safety        | ▶ Door-mounted Sensor on pull side                            |
|                                     |             |                  | ▶ Reduced Opening          | ▶ Causes unit to change to reduced open                       |
|                                     |             |                  | ▶ Emergency Close and Lock | ▶ Forces the door to slowly close and lock (if equipped)      |
|                                     |             |                  | ▶ Hold Open Mode           | ▶ Holds door in open position                                 |
|                                     |             |                  | ▶ Reduced Int Act          | ▶ Reduced Activation on Interior                              |
|                                     |             |                  | ▶ Reduced Ext Act          | ▶ Reduced Activation on Exterior                              |

CONTINUED ON FOLLOWING PAGE.

| Input Setting       |          |                    |                                                    |                              |
|---------------------|----------|--------------------|----------------------------------------------------|------------------------------|
| Parameter           | Terminal | Default            | Range                                              | Description                  |
| Input 62 Open Timer | N/A      | Same as Open timer | Same as Open Timer<br>0 thru 10, 12,15, 20,25 sec  | Hold open time for Input 62  |
| Input H Open Timer  | N/A      | Same as Open Timer | Same as Open Timer,<br>0 thru 10, 12,15, 20,25 sec | Hold open time for Input H   |
| Input SWL Timer     | N/A      | Same as Open timer | Same as Open Timer<br>0 thru 10, 12,15, 20,25 sec  | Hold open time for Input SWL |
| Input SQ Timer      | N/A      | Same as Open Timer | Same as Open Timer,<br>0 thru 10, 12,15, 20,25 sec | Hold open time for Input SQ  |
| Input 61 Circuit    | N/A      | Normally Open      | ► N.O. or N.C.                                     | Circuit logic for Input 61   |
| Input 62 Circuit    | N/A      | Normally Open      | ► N.O. or N.C.                                     | Circuit logic for Input 62   |
| Input 6B Circuit    | N/A      | Normally Open      | ► N.O. or N.C.                                     | Circuit logic for Input 6B   |
| Input SWL Circuit   | N/A      | Normally Open      | ► N.O. or N.C.                                     | Circuit logic for Input SWL  |
| Input BA Circuit    | N/A      | Normally Close     | ► N.O. or N.C.                                     | Circuit logic for Input BA   |

## SECTION 10.6 Additional Input Settings

| Input Setting   |          |            |              |                                                                                          |
|-----------------|----------|------------|--------------|------------------------------------------------------------------------------------------|
| Parameter       | Terminal | Default    | Range        | Description                                                                              |
| 6B Stop Closing | N/A      | No         | ► Yes        | While closing and 6B is ON at latch check, cycle Determines door movement stop or close. |
|                 |          |            | ► No         |                                                                                          |
| After 6B Open?  | N/A      | Yes        | ► Yes        | Determines door movement open or close, after 6B.                                        |
|                 |          |            | ► No         |                                                                                          |
| 61 Monitoring   | N/A      | Not Active | ► Active     | Sensor monitoring function *                                                             |
|                 |          |            | ► Not Active |                                                                                          |
| 62 Monitoring   | N/A      | Not Active | ► Active     | Sensor monitoring function *                                                             |
|                 |          |            | ► Not Active |                                                                                          |
| 6B Monitoring   | N/A      | Not Active | ► Active     | Sensor monitoring function *                                                             |
|                 |          |            | ► Not Active |                                                                                          |
| SWL Monitoring  | N/A      | Not Active | ► Active     | Sensor monitoring function *                                                             |
|                 |          |            | ► Not Active |                                                                                          |

## 10.7 History Setting

| History Data            |                                                                                                                                                                                                                  |                                  |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| Parameter               | Description                                                                                                                                                                                                      |                                  |
| Operation Cnt           | ► Indicates number of Door open cycles.                                                                                                                                                                          | ► Updated every 100 door cycles. |
| Open Recycle Cnt        | Indicates number of times the Door reversed direction during Opening cycle after sensing:<br>► An object was struck.<br>► The amount of friction that surpassed the recycle sensitivity setting.                 |                                  |
| Close Recycle Cnt       | Indicates number of times the Door reversed direction during Closing cycle after sensing:<br>► An object was struck.<br>► The amount of friction that surpassed the Recycle Sensitivity Setting.                 |                                  |
| Latest Recycle Position | ► Indicates the last recycle position during opening and closing.<br>► For swing doors it displays the approximate angle from closed at recycle. For slide doors it displays the position in inches from closed. |                                  |

## SECTION 10.8: Test Open / Close Setting

| <= Test Open =>                                            |  |
|------------------------------------------------------------|--|
| Tests Open/Close door cycle while ignoring Safety Signals. |  |

## 11. TROUBLESHOOTING

**NOTICE:** If after troubleshooting a problem, and a satisfactory solution cannot be achieved, please call Nabco Entrances at 1-877-622-2694 Option #3 between 8 am - 4:30pm Central time or email [techsupport@nabcoentrances.com](mailto:techsupport@nabcoentrances.com) reference NABCO Swing.

**DO NOT** leave any problem unresolved. If the door cannot be repaired immediately, turn off the door and leave it inoperable until repairs can be made. Advise the owner **NOT** to operate the door in the automatic mode until repairs are affected. **NEVER** leave a door operating without all safety detection systems operational.

| Programming Issues                          |                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Problem                                     | Possible Solution                                                                                                                                                                                                                                                                                                                                                                                       |
| Control does not react to Activation signal | ► At the main screen, confirm that “IN” or “EXT” highlights when an activation signal is applied. If not, check the wiring or the activation device.                                                                                                                                                                                                                                                    |
|                                             | ► At the main screen, determine if “BA” is highlighted. If a 4-wire on/off/hold-open switch is being used, with a blue wire connected to terminal 8, then “Input BA Circuit” (found under “Input Settings”) must be set to “Normally Closed”. If a 3-wire switch is being used, or no switch is being used (nothing connected to terminal 8), then “Input BA Circuit” should be set to “Normally Open”. |
|                                             | ► At the main screen, if Status shows “Stopped” while the door is closed, and BA is not highlighted, turn off power for at least 4 seconds then turn on again. With the door still closed, status should now show “Fully Closed”.<br>► Must navigate back to the main screen (as shown at right) for an activation signal to work.                                                                      |
| Hard to manually open door                  | ► On outswing only: Check if shoe position and rod length are in accordance with dimensions shown within the manual.                                                                                                                                                                                                                                                                                    |

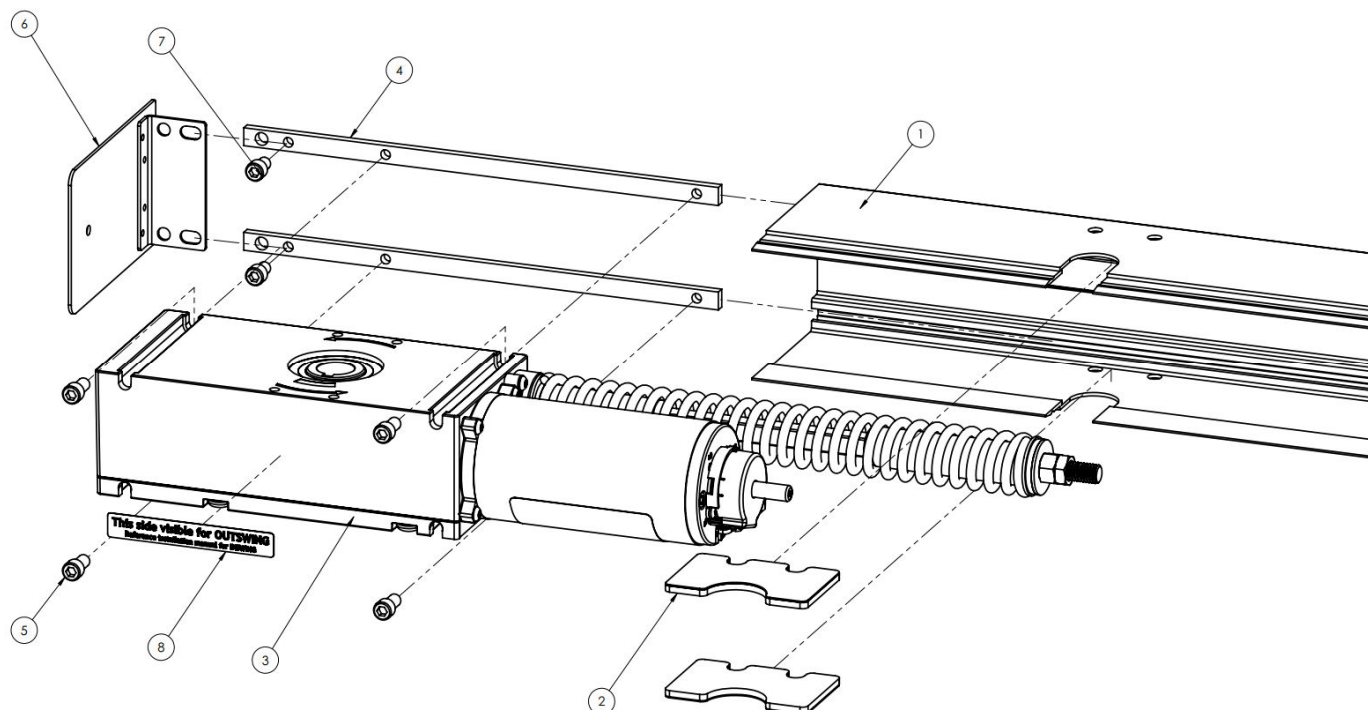
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| Error Messages  |                              |                                                                                                                                                                                                                                                                                                                                     |
|-----------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Opus Error Msg  | NET-HT Error Msg             | Resolution                                                                                                                                                                                                                                                                                                                          |
| Drive           | Drive-Motor error            | <ul style="list-style-type: none"> <li>▶ Check all connections between the Control and Motor.</li> <li>▶ Check Motor for open circuit, short circuit, or short to ground.</li> <li>▶ It is possible electrical noise may cause a false error. If the error does not occur repeatedly then it's most likely not an issue.</li> </ul> |
|                 | Drive-A/D error              |                                                                                                                                                                                                                                                                                                                                     |
| Encoder Error   | Encoder Error                | <ul style="list-style-type: none"> <li>▶ Check all connections between the Control and Motor.</li> <li>▶ It is possible electrical noise may cause a false error. If the error does not occur repeatedly then it's most likely not an issue.</li> </ul>                                                                             |
| MPU             | MPU-RAM error                | <ul style="list-style-type: none"> <li>▶ This could be a random error.</li> <li>• If the error occurs repeatedly, please replace the OPUS Control.</li> </ul>                                                                                                                                                                       |
|                 | MPU-ROM error                |                                                                                                                                                                                                                                                                                                                                     |
|                 | MPU-Clock error              |                                                                                                                                                                                                                                                                                                                                     |
|                 | MPU-Interrupt error          |                                                                                                                                                                                                                                                                                                                                     |
|                 | MPU-SW reset error           |                                                                                                                                                                                                                                                                                                                                     |
|                 | MPU-HW WDT error             |                                                                                                                                                                                                                                                                                                                                     |
|                 | MPU-EEPROM error             |                                                                                                                                                                                                                                                                                                                                     |
| No Motor        | Motor disconnection error    | <ul style="list-style-type: none"> <li>▶ Check all connections between the Control and Motor.</li> </ul>                                                                                                                                                                                                                            |
| ThrmL Warning   | Thermal-on warning           | <ul style="list-style-type: none"> <li>▶ Check all connections between the Control and Motor.</li> <li>▶ Cool down the motor and adjust the recycle sensitivity and Open/Close speed.</li> </ul>                                                                                                                                    |
| No Load         | No load error                | <ul style="list-style-type: none"> <li>▶ Check operator (gear cracked, belt skipped).</li> </ul>                                                                                                                                                                                                                                    |
| Electrical Lock | Electrical lock error        | <ul style="list-style-type: none"> <li>▶ Check lock settings and wiring.</li> <li>▶ Ensure lock delay is long enough, and not set to (After Lock Input). <ul style="list-style-type: none"> <li>▶ Ensure no programmable inputs are set to "Unlock Input" assuming there is no lock feedback.</li> </ul> </li> </ul>                |
| Communication   | NET communication error      | <ul style="list-style-type: none"> <li>▶ Check the CAN-bus Cable between the two OPUS Controls.</li> </ul>                                                                                                                                                                                                                          |
|                 | NET connection error         |                                                                                                                                                                                                                                                                                                                                     |
|                 | NET transmission delay error |                                                                                                                                                                                                                                                                                                                                     |
|                 | NET receiving buffer error   |                                                                                                                                                                                                                                                                                                                                     |
| 61 Sensor       | T3:61 sensor error           | <ul style="list-style-type: none"> <li>▶ Check Sensor wiring.</li> <li>▶ Check Settings on Sensor and/or Control related to Sensor Monitoring.</li> <li>▶ Try a new Sensor.</li> </ul>                                                                                                                                              |
| 62 Sensor       | T4:62 sensor error           |                                                                                                                                                                                                                                                                                                                                     |
| 6B Sensor       | T5:6B sensor error           |                                                                                                                                                                                                                                                                                                                                     |
| SWL Sensor      | T6:SWL sensor error          |                                                                                                                                                                                                                                                                                                                                     |

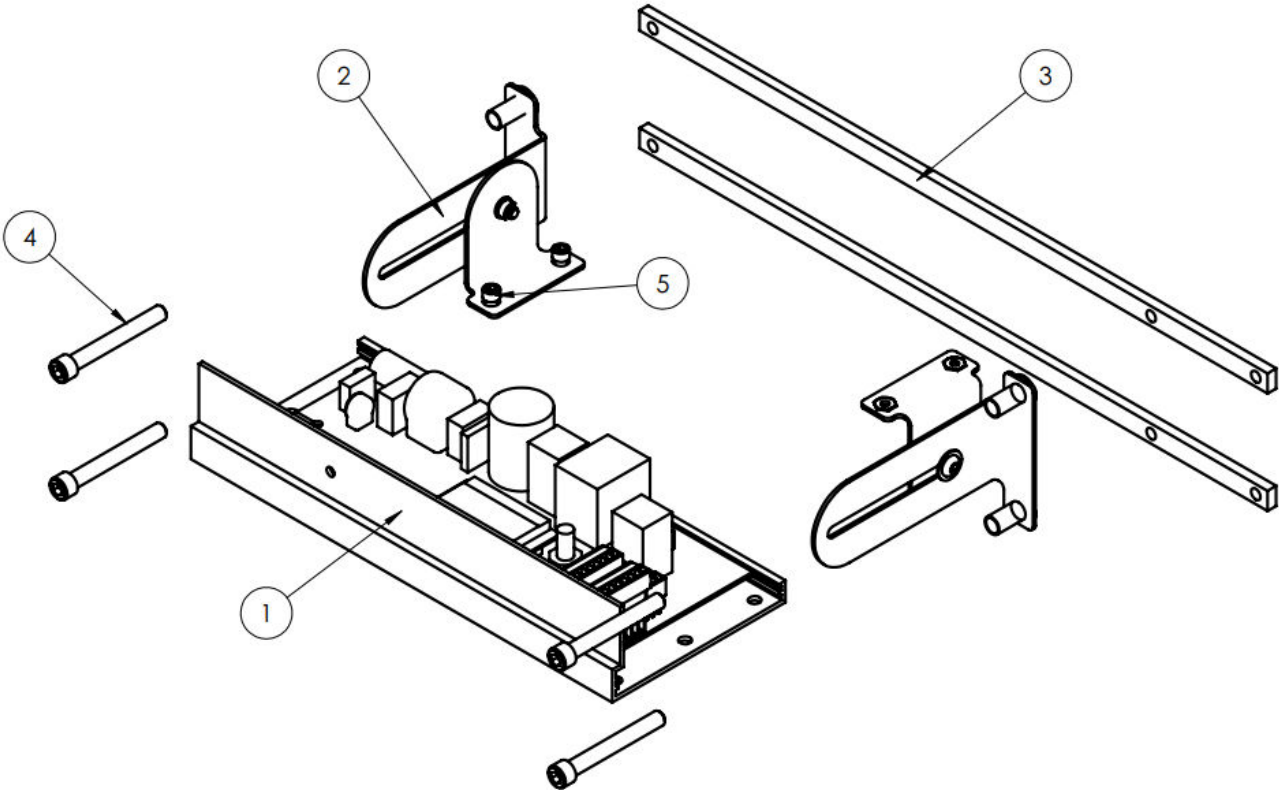
## 12. STANDARD PARTS AND COMPONENTS

### 12.1 Operator Assembly (A-01490)



| ITEM | QTY | PART NUMBER | PART NAME                                      |
|------|-----|-------------|------------------------------------------------|
| 1    | 1   | M-02205     | HEADER,MACHINED,SWINGER.NH                     |
| 2    | 2   | M-02330     | PLATE,SPACER,STOP BLOCK,SWING,NH               |
| 3    | 1   | V-00960     | OPERATOR,SWING,NH                              |
| 4    | 2   | M-02190     | BAR,NUT,SWINGER,NH,OPERATOR                    |
| 5    | 4   | T-00053     | SHCS,1/4-20x0.500L,ZINC                        |
| 6    | 1   | A-81486     | END CAP,HEADER,SWING,NH                        |
| 7    | 2   | T-00559     | SHCS,1/4-20x0.375L,ZINC                        |
| 8    | 1   | M-02199     | LABEL,SWING,NH,OUTSWING ORIENTATION            |
| 9    | 1   | M-02204     | COVER,MACHINED,SWINGER,NH ( <i>Not Shown</i> ) |

12.2 OPUS Assembly (A-01534)



| ITEM | QTY | PART NUMBER | PART NAME                       |
|------|-----|-------------|---------------------------------|
| 1    | 1   | M-01546     | CONTROLLER,OPUS                 |
| 2    | 2   | A-01484     | BRACKET,MTG,SLIDE,SWING,NH,OPUS |
| 3    | 2   | M-02191     | BAR,NUT,SWINGER,NH,OPUS         |
| 4    | 4   | T-00552     | SHCS,1/4-20x 2.00L,ZINC         |
| 5    | 4   | T-00560     | SHCS,8-32x 0.188L,ZINC          |