



GT 710/8710 OPUS Low Energy Swing Doors
Installation Manual
P/N C-00178 Rev 8-9-21

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NABCO hours of Operation: Monday to Friday 8:00 a.m.- 4:30 p.m. (Central Time)

*Associated Manuals Part Numbers: Opus Control Wiring and Programming Manual (P/N C-00139)
Low Energy Swing Door Owner's Manual (P/N C-00125) for Decal Installation
NABCO Price Book (P/N 16-9244-30) for Sensors, Switches, and Accessories*

WARNING

- 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.

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CHAPTER 1: WARNING LABELS

Warning labels are universal and used to alert an individual of potential harm to one's self or to others. The following warning labels are listed in a hierarchy order that defines the most potential danger first, and the least potential danger last. Please refer to this page in the event that a warning label is displayed within this manual and further definition needs to be explained.

DANGER

Indicates potentially dangerous situations. Danger is used when there is a hazardous situation where there is a *high* probability of severe injury or death. It should not be considered for property damage unless personal injury risk is present.

WARNING

Indicates a hazardous situation which has *some* probability of severe injury. It should not be considered for property damage unless personal injury risk is present.

CAUTION

Indicates a hazardous situation which *may result in a minor injury*. Caution should not be used when there is a possibility of serious injury. Caution should not be considered for property damage accidents unless a personal injury risk is present.

Attention: A situation where material could be damaged or the function impaired.

Notice: Indicates a statement of company policy as the message relates to the personal safety or protection of property. Notice should not be used when there is a hazardous situation or personal risk.

Note: Indicates important information that provides further instruction.

CHAPTER 2: GENERAL SAFETY RECOMMENDATIONS

WARNING

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.

WARNING

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 technician. Failure to do so may result in bodily injury or property damage and will nullify all warranties.

DANGER

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.

DANGER

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.

CAUTION

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.

CAUTION

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.

Notice: This manual, the owner's manual and all other associated manuals must be given to and retained by the purchasing facility or end user.

Notice: Wiring must meet all local, state, federal or other governing agency codes.

Notice: All electrical troubleshooting or service must be performed by qualified electrical technicians and must comply with all applicable governing agency codes.

CHAPTER 3: SCOPE

SECTION 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; ANSI Standard 156.10, and the Low Energy Operator section of ADA Standard covers the GT 710/8710 Swing Door Low Energy System. Also in the United States, all installed glass must meet ANSI Standard Z97.1. Other local standards or codes may apply. Use them in addition to the ANSI standard. Low Energy Swing door Units are listed with the Underwriters Laboratory and is identified as such on the label.

The owner should determine the door is operating properly and should immediately call for service if there is any malfunction. All installation changes and adjustments must be made by qualified, NABCO trained technicians.

If after troubleshooting a problem, a satisfactory solution cannot be achieved, please call NABCO Entrances at 1-877-622-2694 between 8 am – 4:30 pm Central time for additional assistance.

WARNING

- 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.

SECTION 3.2: Objective

The (8) 710 Swing Door system is designed to be surface mounted onto the Door Frame. The door function is controlled by the Opus Control. This control offers many features to accommodate most installation options. This manual offers step by step instructions.

CAUTION

A pedestrian Door that does not have its glass sections installed at the Factory shall specify that the glazing material employed is to comply with the requirement in UL 325 par.30.5.1:

“The glazing material in both fixed and sliding panels of all sliding doors and in all unframed swinging doors shall comply with the requirements in the Performance Specifications and Methods of Test for Safety Glazing Material Used in Buildings, ANSI Z97.1. Glazing material for other pedestrian doors shall also comply with ANSI Z97.1, except that single strength or heavier glass may be used for those portions of doors involving a glazed area of less than 1ft² (0.9 m²) and having no dimension greater than 18 in (457 mm)”.

SECTION 3.3: Request a User Name/Password to gain access into the “myNABCO” portal

To gain access into the “myNABCO” portal, the User must first have an assigned User Name and Password. To request a User Name and Password, the following must be done:

1. Open the NABCO Website: www.nabcoentrances.com
2. Enter the “myNABCO” portal → Request Access → Fill out the Request Access Form → Click onto Register
 - a. A User Name and Password will be emailed back to the requestor.

SECTION 3.4: Associated Video QR Code Link

How to locate Service Parts Pages on the NABCO website		Android Phone Instruction to Scan QR Code
		<p><i>Note: Scanning QR Links using an Android Phone may vary.</i></p> <ol style="list-style-type: none"> 1. Google to download QR Scanner. Install. 2. Place phone in front of QR Code. Scan.
		I-Phone Instruction to Scan QR Code <ol style="list-style-type: none"> 1. Click on Camera icon. 2. Place phone in front of QR Code. Scan.

CHAPTER 4: SHUT OFF CIRCUIT BREAKER

DANGER

Shut the installation site, branch 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.

WARNING

All high voltage electrical connections must be made by licensed electricians according to National and Local electrical codes/regulations.

CAUTION

Permanent wiring shall be employed as required by local codes.

CAUTION

Keep all Incoming 120 VAC wiring separate from low voltage wiring within Header. 120 VAC Power wires must be routed (separate from other wiring) located near the top of inside Header.

CAUTION

Ensure that the Grounding of the Electric Power Supply is installed/connected in a proper way (especially the PE Cable from the Building Side).

Attention: 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.

Attention: 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.

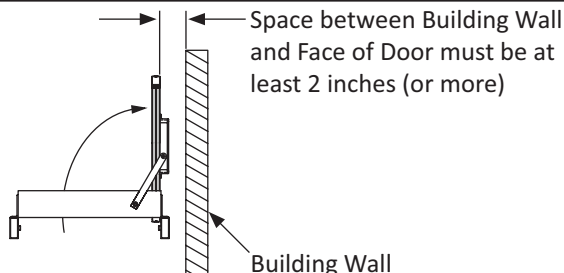
Attention: Any non-factory low voltage wiring added inside the Header must be Type CL2 wire or the equivalent in accordance with Article 725 of the NEC.

Note: It is recommended for the Installer to house all Incoming 120 VAC wires within an Electrical Conduit.

CHAPTER 5: INSTALL THE HEADER

1. Open the Inswing door 90 degrees. Outswing doors do not need to be measured.
2. Measure between the wall and the outside face of the Swing Door. There must be a 2 inch minimum gap.
 - a. If there is less than a 2 inch gap, please call Customer Service at (877) 622-2694.

NOTE:
Measure space for
Inswing Door only

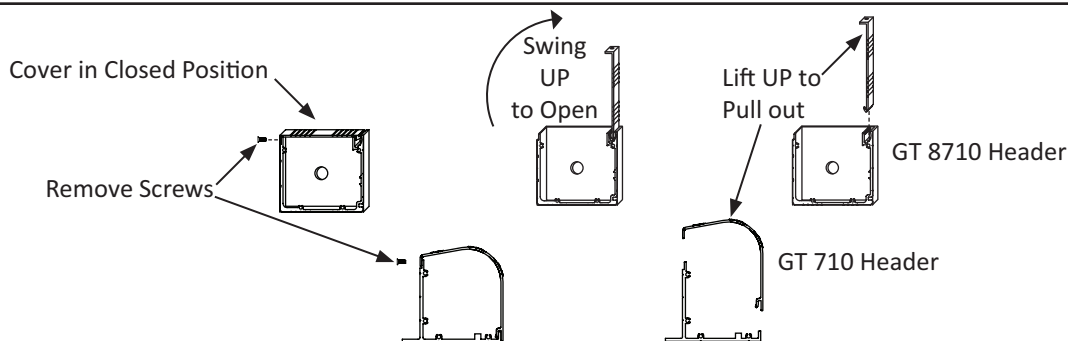


DN 1376

Figure 1 Inswing Door Gap

Note: It may be necessary to remove the Motor/Operator from the Header to reduce weight, while positioning the Header onto the Door Frame.

3. Remove the Header Cover. Remove boxes and/or parts bags from inside Header. Set aside.



DN 1089

Figure 2 Remove Cover from Header

SECTION 5.1: Drill Holes in Header (GT8710)

Note: Protect Header Components from metal chips when drilling.

1. Go to the Strike side of Header. Drill one 7/8 inch hole through the Header to allow all wiring to be drawn inside.
 - a. The GT-8710 Header can be ordered with a Knockout hole located at either end of the Header. For details, please call Customer Service at 1-888-679-3319.
 - b. For Simultaneous Pair Swing Doors, it is acceptable to drill a 7/8 inch hole in the back of the header.
2. Go to the back wall inside Header on the Pivot side.
3. Measure 1 inch from the End Cap of Header towards the center. Mark a Vertical Line.
4. Measure at least 1/2 inch from the bottom of Header towards the top. Mark a Horizontal Line across the Vertical line. This is the center of the first screw hole. Drill 1/4 inch screw hole.
5. Mark (1) more Horizontal line across the Vertical line directly above the first screw hole. This is the center of the second screw hole. Drill 1/4 inch screw hole. Go to the Strike side of Header. Repeat steps 3 thru 5.

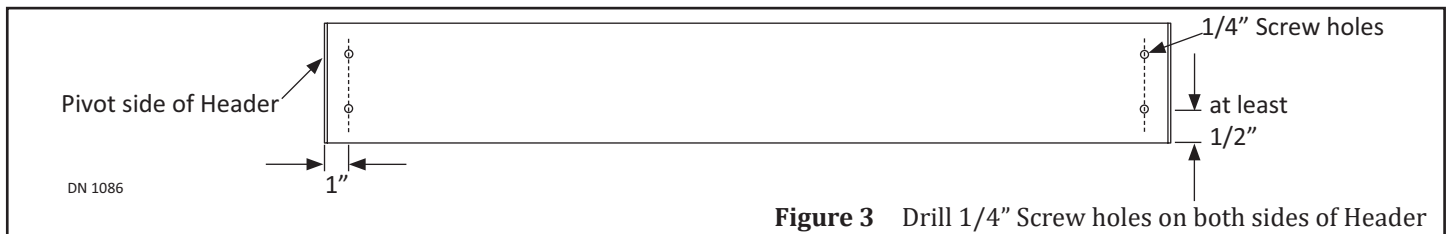


Figure 3 Drill 1/4" Screw holes on both sides of Header

SECTION 5.2: Prepare the Door Frame

Note: The following instructions are for typical Metal Doors and Frame Profile. It is recommended to use lag bolts.

Note: If the Door Frame is not properly reinforced nor anchored to the building surface, and/or is hollow, reinforce the Door Frame with 1/4-20 blind rivnuts (not provided by NABCO).

Note: If the Door Frame is not Metal, ensure the Door Frame being used is of equal strength.

Note: Spindle location is very important when measuring from the Door Jamb.

1. Go to the Pivot Side of Swing door.
2. Measure up from the top of door to the face of Top door frame:
 - ▶ GT 710: 1/8 inch
 - ▶ GT 8710: 1-1/8 inch
3. Mark a Horizontal Line on the face of Top door frame, at both ends.

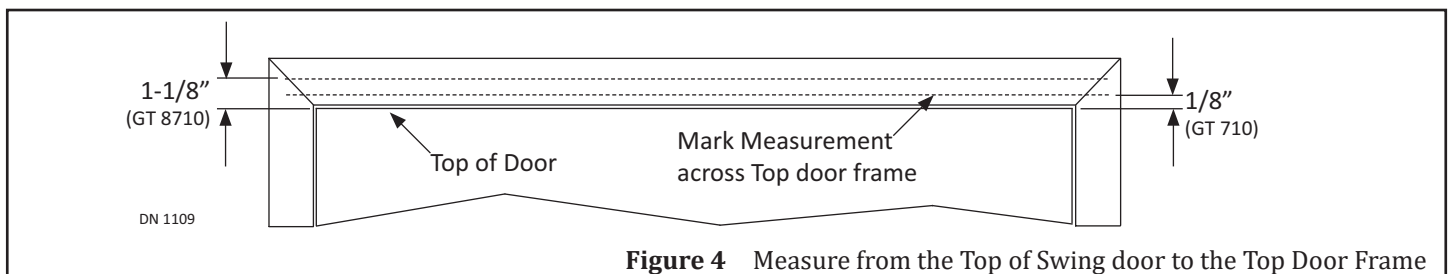
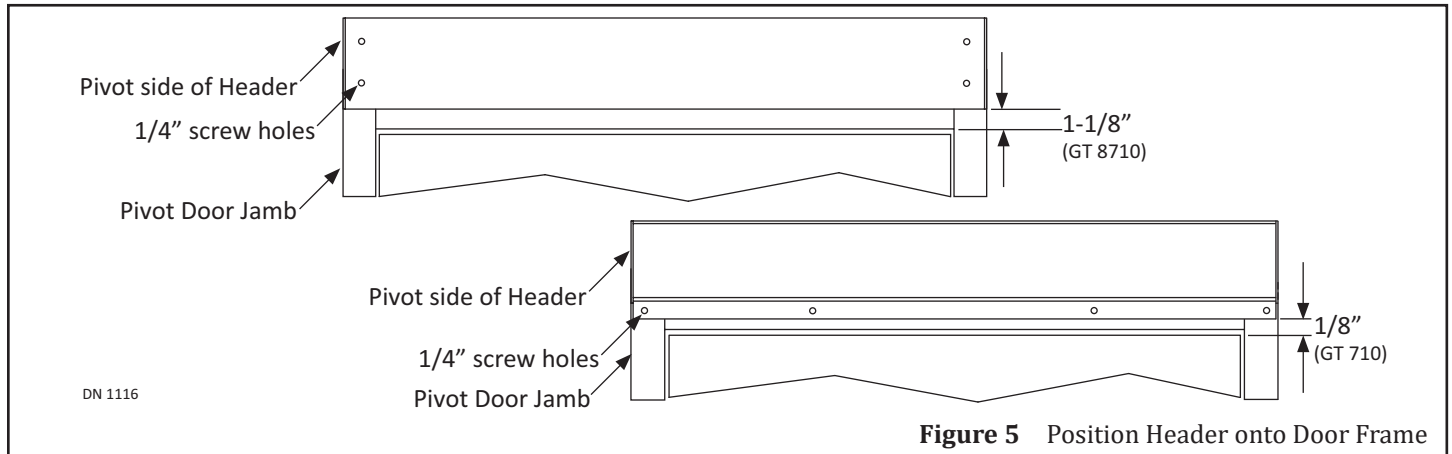


Figure 4 Measure from the Top of Swing door to the Top Door Frame

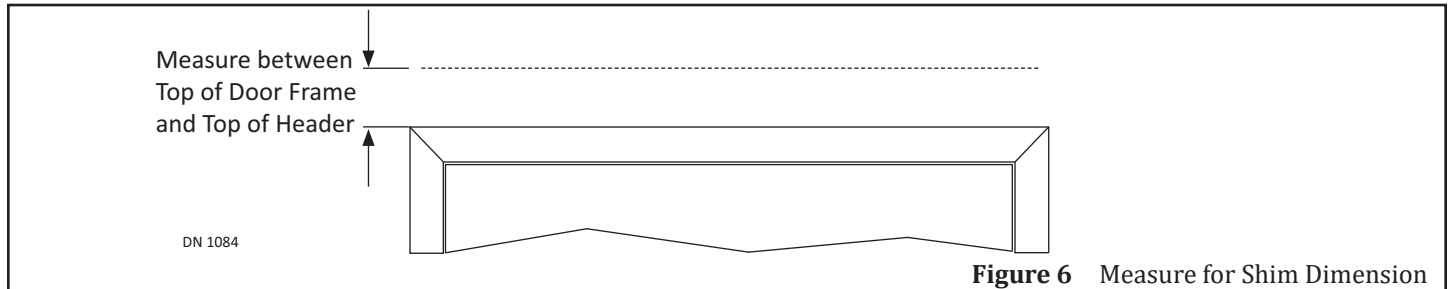
4. Lift the Header up against the Top door frame until the bottom edge of Header is butted up against the Horizontal Line, at both ends.
5. To ensure proper operation of the Swing Arm:
 - ▶ For a Jamb Tube that is 1-3/4 inches wide, position the Pivot side of Header so it is flush to the outside edge of the Pivot Door Jamb.
 - ▶ For a Jamb Tube that is wider than 1-3/4 inches, measure from the inner edge of the Pivot Door Jamb to the center. Mark a vertical line at the 1-3/4 inch measurement. The Pivot side of Header must butt against the 1-3/4 inch mark.



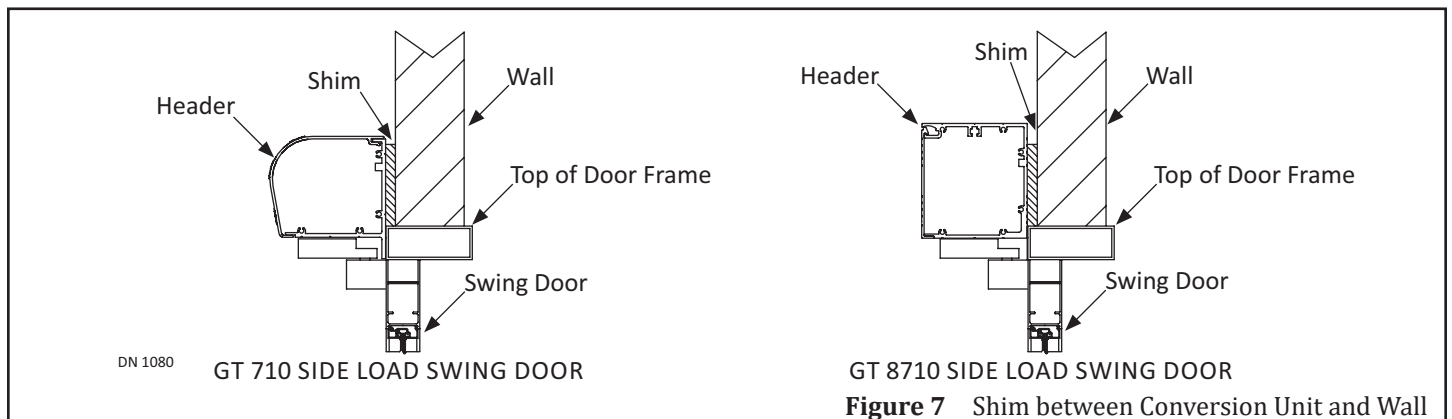
6. Ensure the Header is square and level. Use the Header as a template to mark screw holes onto the face of the door frame.
7. Remove the Header. Drill screw holes at each mark.

SECTION 5.3: Install the Shim (Metal Door Frames)

1. Butt the Header up against the Horizontal line. Line up the screw holes and then ensure the Header is square and level.
2. Go to the top of Header. Mark a horizontal line along the top edge of Header onto the wall.
3. Measure the depth between the back side of the Header and the wall.
 - a. Write that measurement down and label it #1.
4. Measure the distance between the top of door frame and the horizontal line that was just drawn at the top of Header.
 - a. Write that measurement down and label it #2.

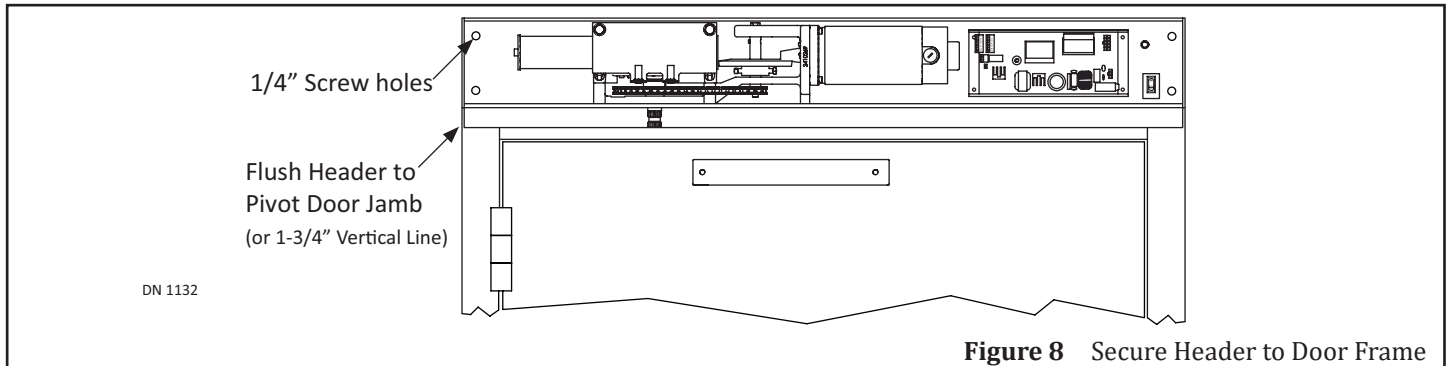


5. Obtain (1) Shim to be the same depth as measurement #1; no higher than measurement #2; and about the same width as the Header.
6. Secure the Shim to stud(s). It is recommended to use Lag Bolts.



SECTION 5.4: Secure the Header to the Door Frame

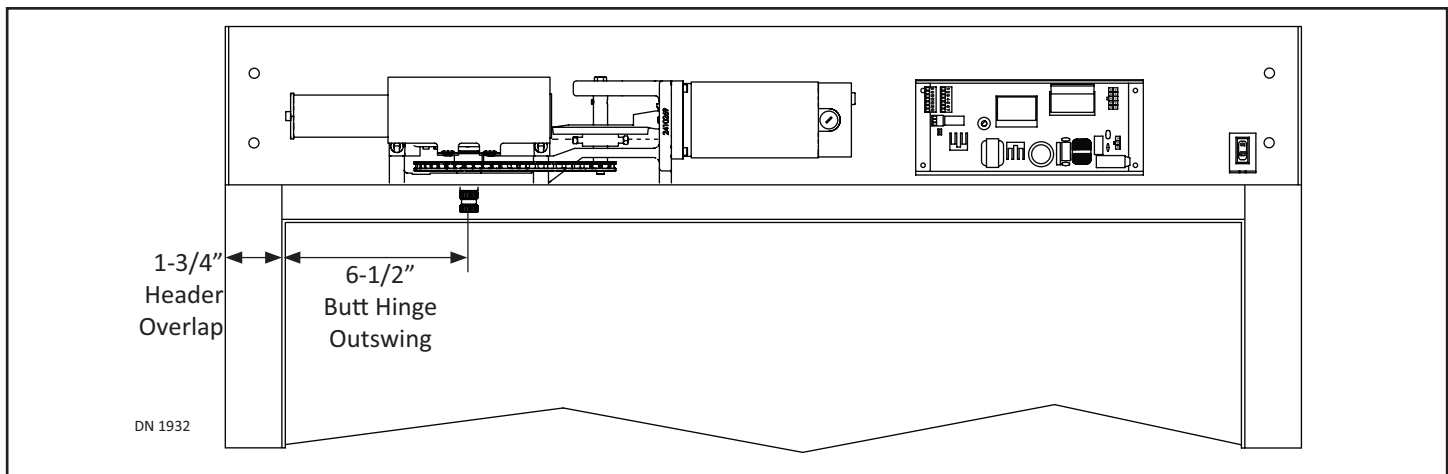
1. Lift up the Header. Insert Power Wiring through the 7/8 inch hole located at the left or right side of Header End Cap.
2. Flush Header to the Pivot Door Jamb and then line up the screw holes.
3. Secure the Header to the Door Frame. It is recommended to use 1/4-20" Hex Head Bolts, or Lag Bolts or Wood Screws.



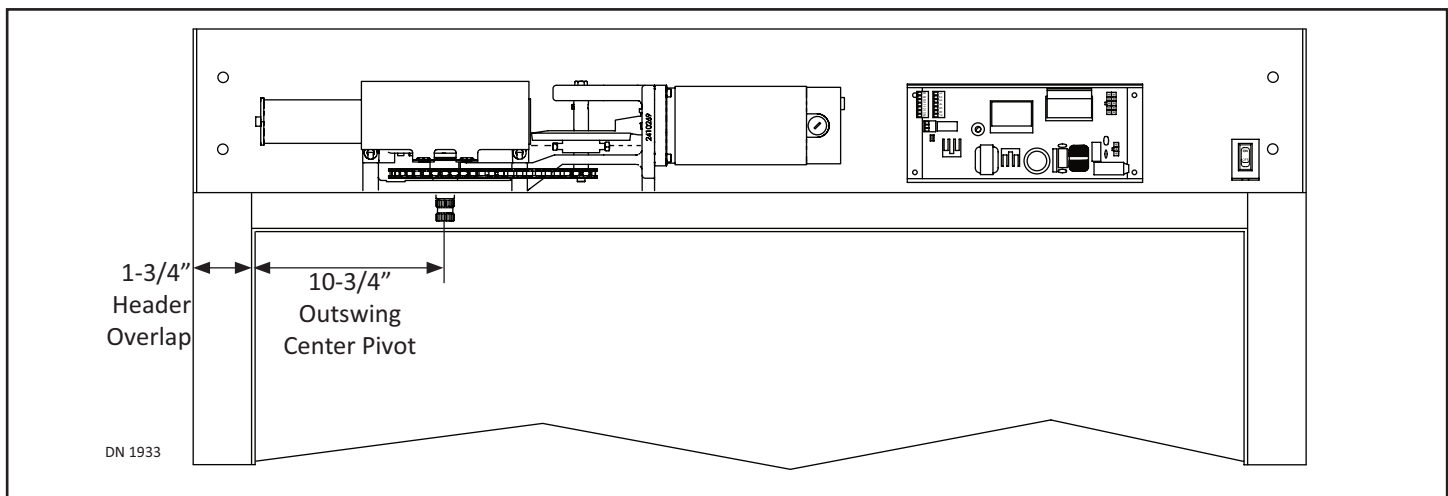
SECTION 5.5: Ensure Proper Spindle Location

Attention: Adjustments to the location of Motor/Operator must be made if the distance between the "center of spindle" and "edge of Jamb Tube" is different from the measurement shown within this section.

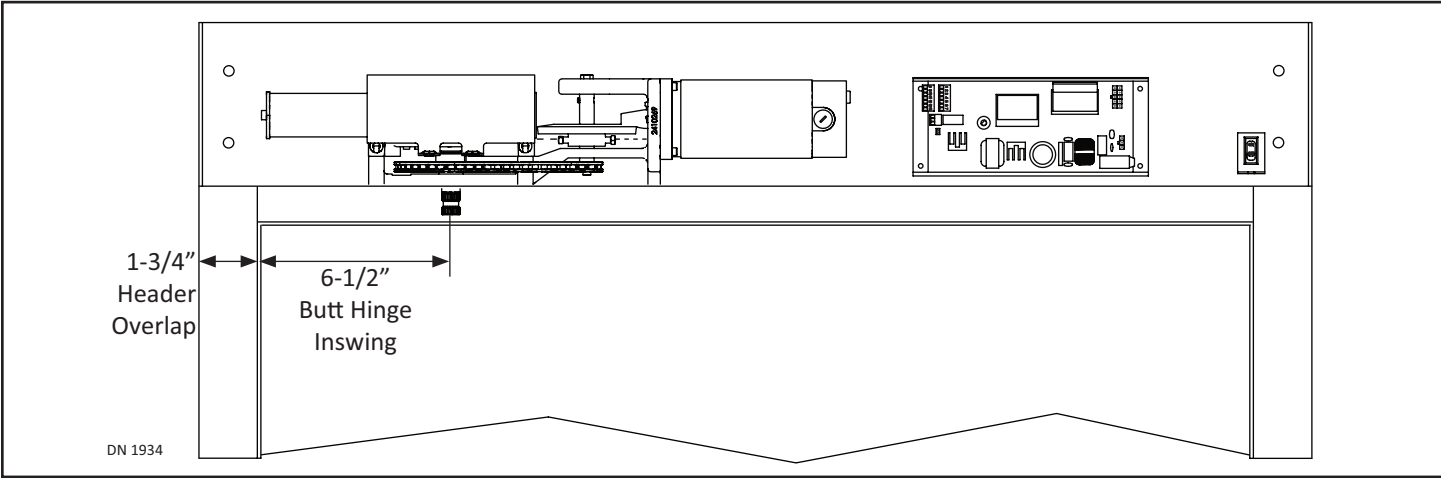
5.5.1 Outswing Butt Hinge



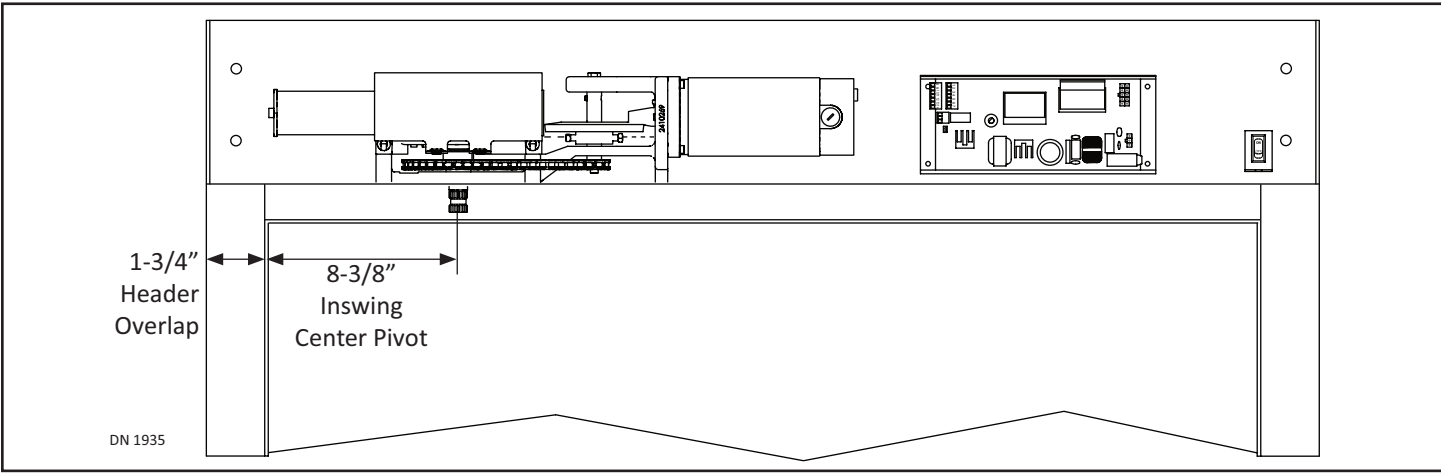
5.5.2 Outswing Center Pivot



5.5.3 Inswing Butt Hinge



5.5.4 Inswing Center Pivot



CHAPTER 6: INSTALL THE OUTSWING ARM

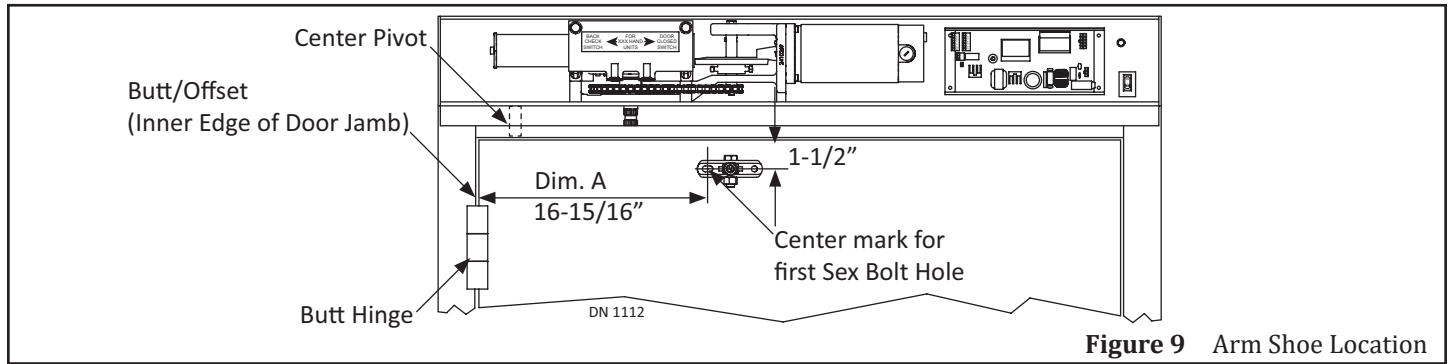
SECTION 6.1: Mark Location of Arm Shoe on Swing Door

- 1. Go to Table 1 to determine the proper distance between the inside edge of the Pivot Door Jamb to the center of the first Sex Bolt hole (used to attach the Arm Shoe).

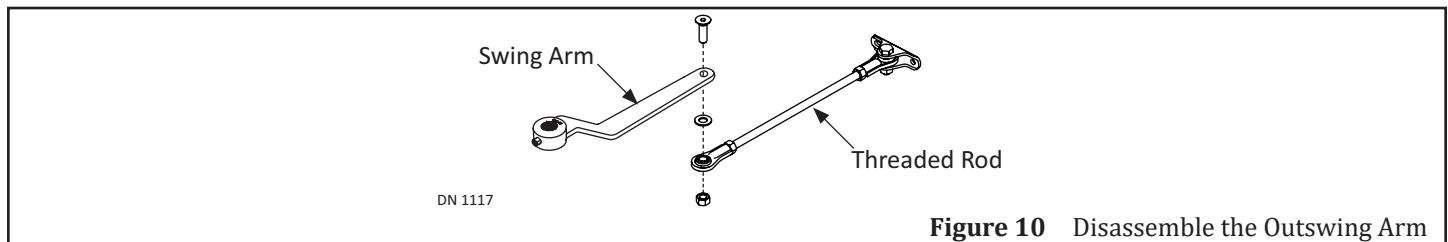
Table 1 Dimension "A" Arm Shoe Mounting Locations

Model	Pivot Type	Outswing	
		With Fingerguard	No Fingerguard
GT 710 & 8710	Butt/Offset	N/A	16-15/16"
	Center Pivot	N/A	16-15/16"

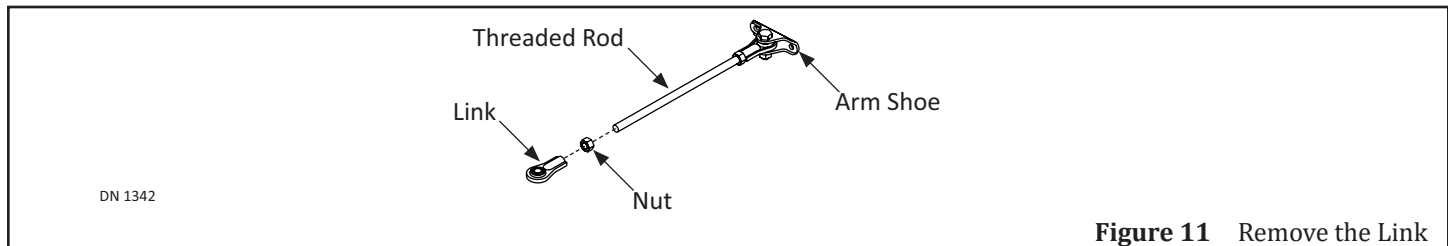
- 2. Measure and mark a Vertical line on the face of the Swing door.
- 3. At the Vertical line, measure 1-1/2 inches from the top edge of the Swing door down to the center of the Swing Door.
- 4. Mark a Horizontal line to cross the Vertical line. This is the center of the first Sex Bolt hole.
- 5. Use the Arm Shoe as a template to mark the center of second Sex Bolt hole. Ensure Arm Shoe is level and square.
- 6. Drill (2) holes for 1/4-20 Sex Bolts.

**Figure 9** Arm Shoe Location

SECTION 6.2: Cut the Threaded Rod

**Figure 10** Disassemble the Outswing Arm

1. Remove the Swing Arm from the Link.
2. Remove the Link and Nut from the Threaded Rod (used to secure the Swing Arm).

**Figure 11** Remove the Link

3. Find the appropriate Arm Length measurement (according to Reveal) from Table 2 or Table 3.

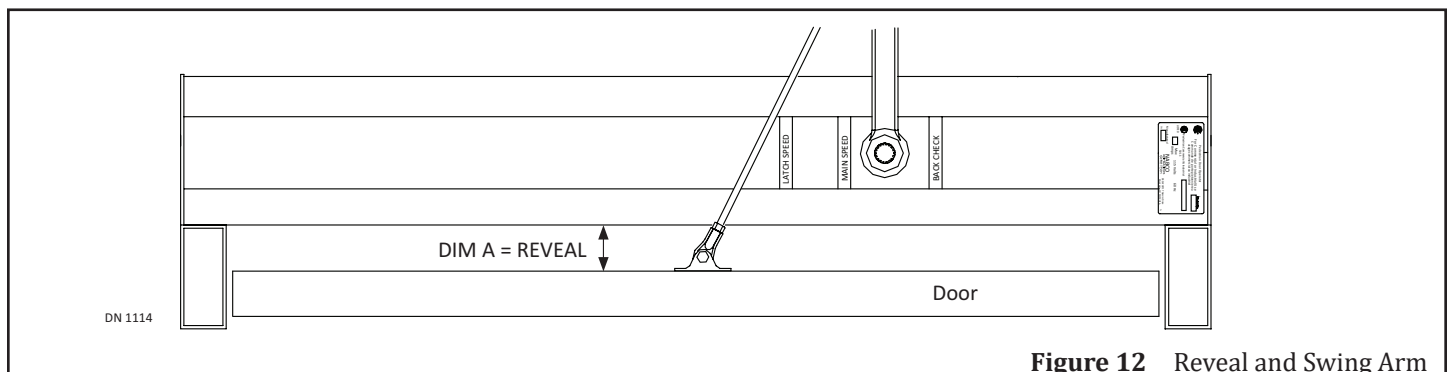
**Figure 12** Reveal and Swing Arm

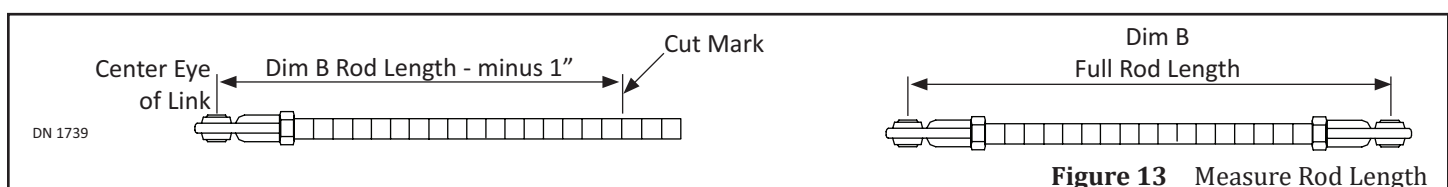
Table 2 Butt Hinge Reveal

Dim A Reveal	Dim B Length	Dim A Reveal	Dim B Length	Dim A Reveal	Dim B Length	Dim A Reveal	Dim B Length	Dim A Reveal	Dim B Length
0"	16-5/8"	3-1/4"	19-1/8"	6-1/2"	21-3/4"	9-3/4"	24-5/8"	13	27-1/2"
1/4"	16-13/16"	3-1/2"	19-5/16"	6-3/4"	22"	10	24-13/16"	13-1/4"	27-3/4"
1/2"	17"	3-3/4"	19-1/2"	7"	22-3/16"	10-1/4"	25"	13-1/2"	28"
3/4"	17-3/16"	4"	19-11/16"	7-1/4"	22-7/16"	10-1/2"	25-1/4"	13-3/4"	28-3/16"
1"	17-3/8"	4-1/4"	19-7/8"	7-1/2"	22-5/8"	10-3/4"	25-1/2"	14	28-7/16"
1-1/4"	17-9/16"	4-1/2"	20-1/8"	7-3/4"	22-7/8"	11	25-3/4"	14-1/4"	28-5/8"
1-1/2"	17-3/4"	4-3/4"	20-5/16"	8"	23"	11-1/4"	25-15/16"	14-1/2"	28-7/8"
1-3/4"	17-15/16"	5"	20-1/2"	8-1/4"	23-1/4"	11-1/2"	26-3/16"	14-3/4"	29-1/8"
2"	18-1/8"	5-1/4"	20-3/4"	8-1/2"	23-1/2"	11-3/4"	26-3/8"	15	29-3/8"
2-1/4"	18-5/16"	5-1/2"	20-15/16"	8-3/4"	23-3/4"	12	26-5/8"	15-1/4"	29-9/16"
2-1/2"	18-1/2"	5-3/4"	21-1/8"	9"	24"	12-1/4"	26-13/16"	15-1/2"	29-13/16"
2-3/4"	18-11/16"	6"	21-3/8"	9-1/4"	24-3/16"	12-1/2"	27-1/16"	15-3/4"	30"
3"	18-7/8"	6-1/4"	21-9/16"	9-1/2"	24-3/8"	12-3/4"	27-5/16"	16	30-1/4"

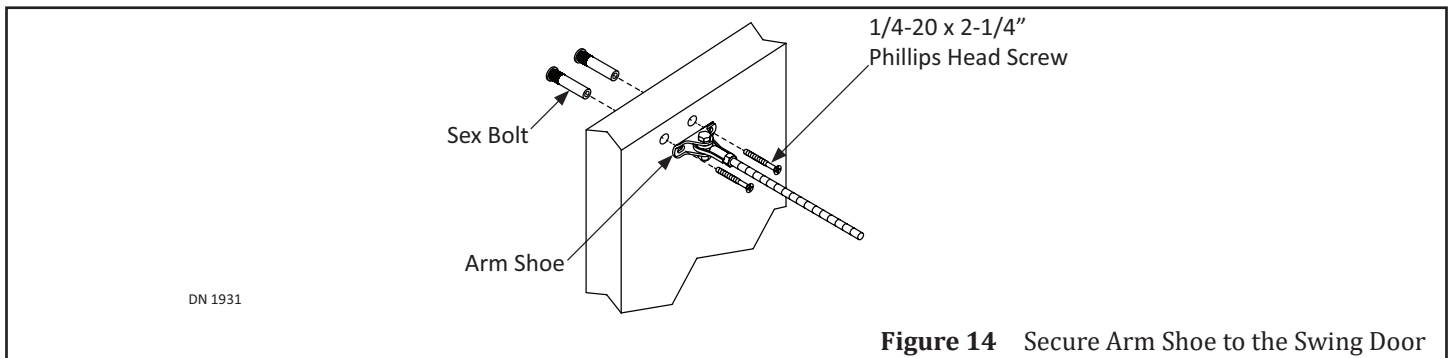
Table 3 Center Pivot Reveal

Dim A Reveal	Dim B Length	Dim A Reveal	Dim B Length	Dim A Reveal	Dim B Length	Dim A Reveal	Dim B Length	Dim A Reveal	Dim B Length
0"	14"	3-1/4"	16-7/8"	6-1/2"	19-7/8"	9-3/4"	22-15/16"	13	26"
1/4"	14-1/4"	3-1/2"	17-1/8"	6-3/4"	20-1/8"	10	23-1/8"	13-1/4"	26-1/4"
1/2"	14-7/16"	3-3/4"	17-3/8"	7"	20-3/8"	10-1/4"	23-3/8"	13-1/2"	26-1/2"
3/4"	14-11/16"	4"	17-9/16"	7-1/4"	20-9/16"	10-1/2"	23-5/8"	13-3/4"	26-3/4"
1"	14-7/8"	4-1/4"	17-13/16"	7-1/2"	20-7/8"	10-3/4"	23-7/8"	14	27"
1-1/4"	15-1/8"	4-1/2"	18"	7-3/4"	21"	11	24-1/8"	14-1/4"	27-1/4"
1-1/2"	15-5/16"	4-3/4"	18-1/4"	8"	21-1/4"	11-1/4"	24-3/8"	14-1/2"	27-1/2"
1-3/4"	15-9/16"	5"	18-1/2"	8-1/4"	21-1/2"	11-1/2"	25-5/8"	14-3/4"	27-3/4"
2"	15-3/4"	5-1/4"	18-3/4"	8-1/2"	21-3/4"	11-3/4"	25-13/16"	15	28"
2-1/4"	16"	5-1/2"	18-15/16"	8-3/4"	22"	12	25-1/16"	15-1/4"	28-3/16"
2-1/2"	16-1/4"	5-3/4"	19-3/16"	9"	22-1/4"	12-1/4"	25-5/16"	15-1/2"	28-7/16"
2-3/4"	16-7/16"	6"	19-3/8"	9-1/4"	22-7/16"	12-1/2"	25-9/16"	15-3/4"	28-11/16"
3"	16-11/16"	6-1/4"	19-5/8"	9-1/2"	22-11/16"	12-3/4"	25-13/16"	16	28-15/16"

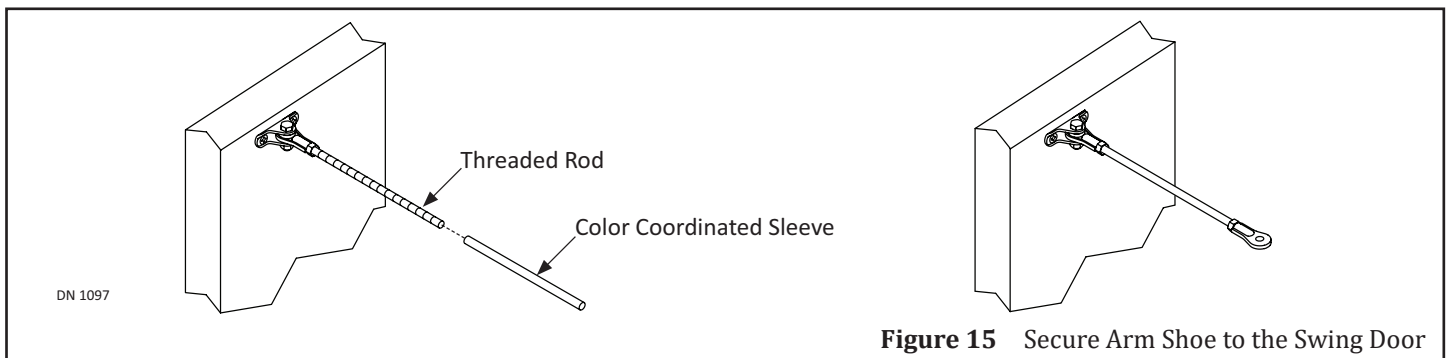
4. Go to the Link that is connected to the Arm Shoe.
5. Measure from the Center Eye of the Link, down to the end of Rod. Minus (1) inch from the appropriate Rod length that was found within Table 2 or Table 3. Mark that spot and cut the Rod.
 - a. For example: 14 inches minus (1) inch = 13 inches = adjusted measurement.



SECTION 6.3: Secure the Arm Shoe to the Door



1. Go to the back of Swing door. Insert (1) Sex Bolt into each drilled hole.
2. Go to the front of Swing door. Secure the Arm Shoe to the Swing Door with (2) 1/4-20 x 2-1/4" Screws.



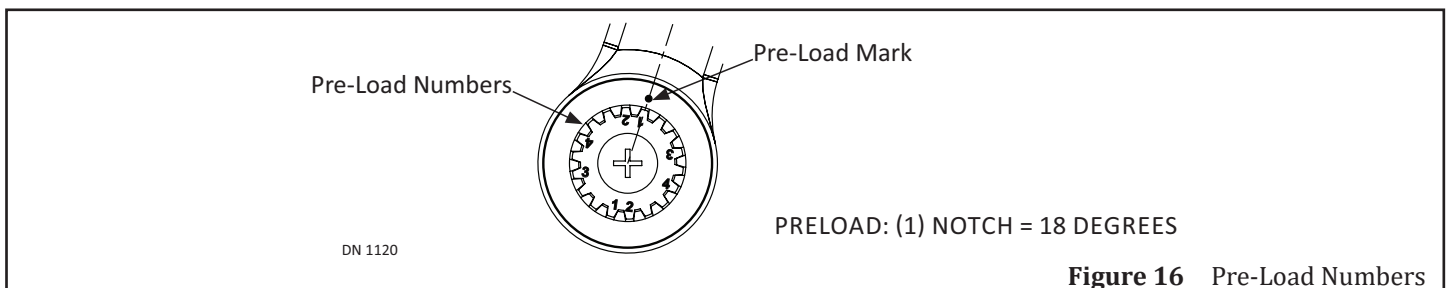
3. Thread the Nut and Link back onto the Rod. Loosely tighten the Nut.
4. Measure the distance between the Nut and the Arm Shoe. Mark that measurement down. Remove the Link and Nut.
5. Obtain (1) color coordinated Plastic Tube from the Outswing Rod assembly.
6. Cut the Plastic Tube to the same measured length as the Rod. Slide the Plastic Tube over the Threaded Rod.
7. Thread the Nut and Link back onto the Rod. Tighten the Nut.

SECTION 6.4: Secure the Outswing Arm to the Threaded Rod

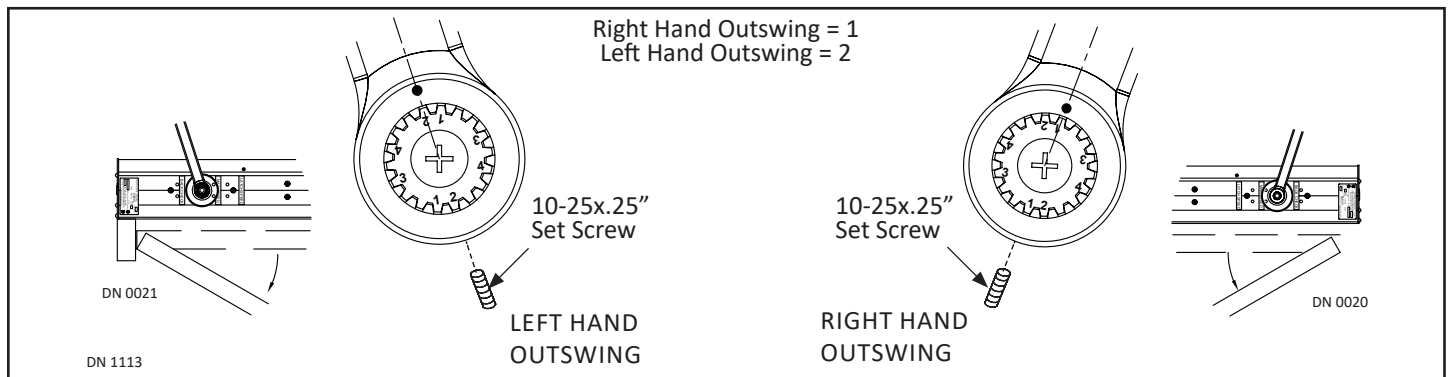
WARNING Proper Preload is critical for the Control/Operator to open/close the Swing Door correctly.

CAUTION Power must be turned OFF during the Swing Arm installation.

1. Turn OFF Circuit Breaker.
2. Locate pre-load numbers 1-4 on the Bottom of the Operator Spindle. Pre-load numbers 1-4 mark the correct installation position for pre-load.



3. Slide the Swing Arm onto the Operator Spindle by aligning the appropriate pre-load number to the pre-load mark on the underside of Swing Arm: RH = 1, LH = 2



4. Secure the Swing Arm to the Operator Spindle with (1) Set Screw. Tighten but do not overtighten.
 - a. Ensure the Set Screw is seated correctly within the groove on the Operator Spindle.
5. Pull the Outswing Arm towards the Rod.
6. Secure the Outswing Arm to the Rod with (1) 3/8"-24 x 1-1/4" Socket Screw, (1) .405 Washer, and (1) 3/8"-24 Lock Nut.

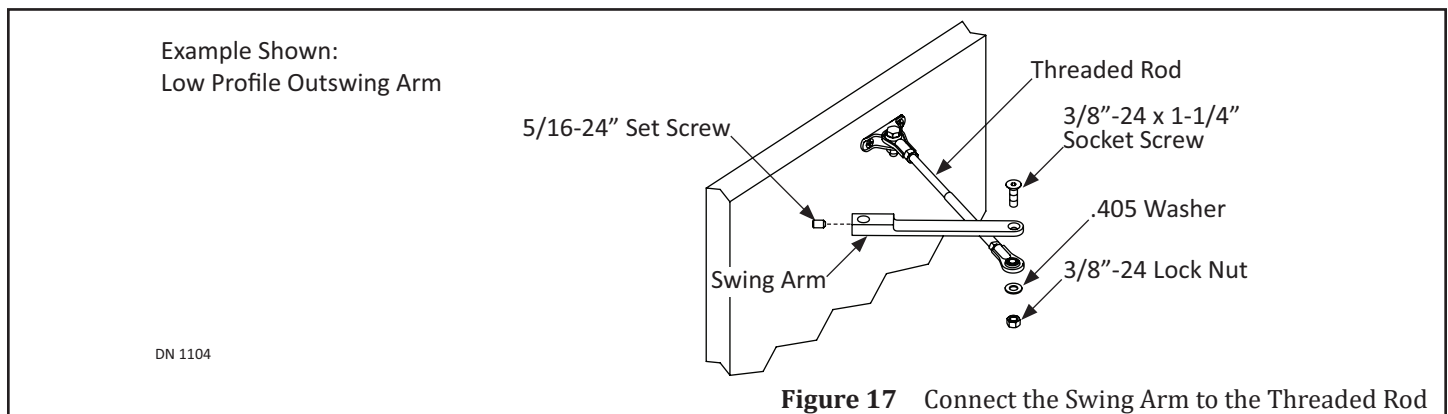


Figure 17 Connect the Swing Arm to the Threaded Rod

CHAPTER 7: INSTALL INSWING ARM

SECTION 7.1: Determine Track Location according to Reveal

1. Find the appropriate measurements of Track location according to Reveal within Table 4 or Table 5.

Table 4 Small Track Mounting Locations (12-1/4 inches)

Dim A Reveal	Dim B Butt Hinge	Dim C Center Pivot
0	7-5/8"	7-3/16"
1/4"	7-3/4"	7-3/8"
1/2"	7-15/16"	7-9/16"
3/4"	8-1/8"	7-3/4"
1"	8-5/16"	7-15/16"
1-1/4"	8-1/2"	8-1/8"
1-1/2"	8-11/16"	8-5/16"
1-3/4"	8-7/8"	8-1/2"
2"	8-1/16"	8-3/4"
2-1/4"	8-1/4"	8-15/16"
2-1/2"	8-1/2"	9-1/8"

Dim A	Dim B	Dim C
Reveal	Butt Hinge	Center Pivot
2-3/4"	8-11/16"	9-3/8"
3"	13-1/8"	9-9/16"
3-1/4"	13-3/8"	13-1/16"
3-1/2"	13-9/16"	13-1/4"
3-3/4"	13-3/4"	13-1/2"
4"	14"	13-11/16"
4-1/4"	14-3/16"	13-3/4"
4-1/2"	14-7/16"	
4-3/4"	14-1/2"	
5"		
5-1/4"		13-13/16"

Dim A Reveal	Dim B Butt Hinge	Dim C Center Pivot
5-1/2"	14-1/2"	13-13/16"
5-3/4"		
6"		
6-1/4"		
6-1/2"	18-1/2"	17-7/8"
6-3/4"	18-9/16"	
7"	18-9/16"	17-7/8"
7-1/4"	18-5/8"	17-15/16"
7-1/2"		Long Track only

Table 5 Large Track Mounting Locations (21 inches)

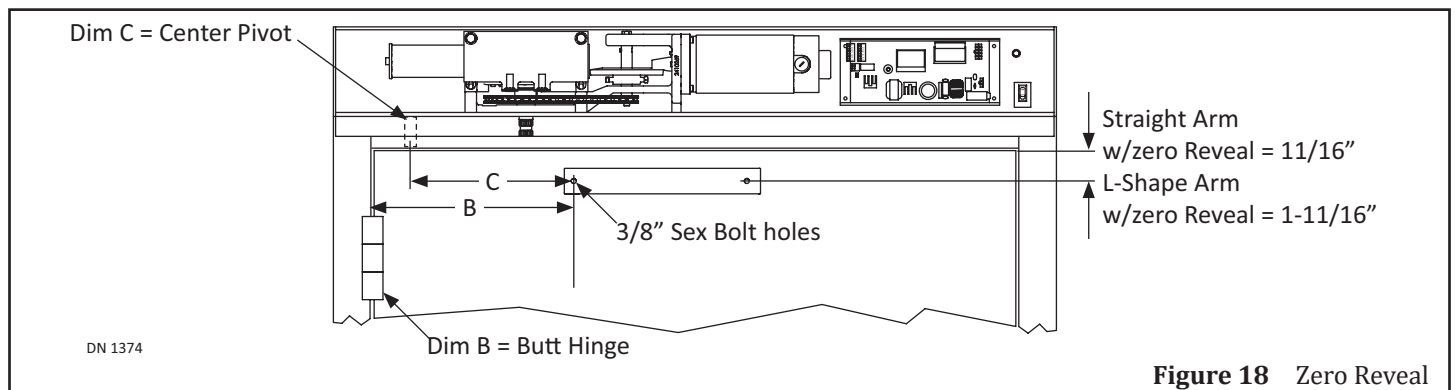
Dim A Reveal	Dim B Butt Hinge	Dim C Center Pivot no Finger Guard
7-1/2"	Short Track only	13-1/2"
7-3/4"	14-1/4"	13-9/16"
8"		
8-1/4"		13-5/8"
8-1/2"		
8-3/4"		
9"		
9-1/4"		
9-1/2"		
9-3/4"		
10"		13-9/16"
10-1/4"	14-3/16"	

Dim A Reveal	Dim B Butt Hinge	Dim C Center Pivot no Finger Guard
10-1/2"	19-1/4"	13-9/16"
10-3/4"		18-5/8"
11"		18-11/16"
11-1/4"	19-5/16"	
11-1/2"		
11-3/4"		
12"		
12-1/4"		
12-1/2"		
12-3/4"		
13"		

SECTION 7.2: Secure Track to Swing Door for Zero Reveal Swing Arm

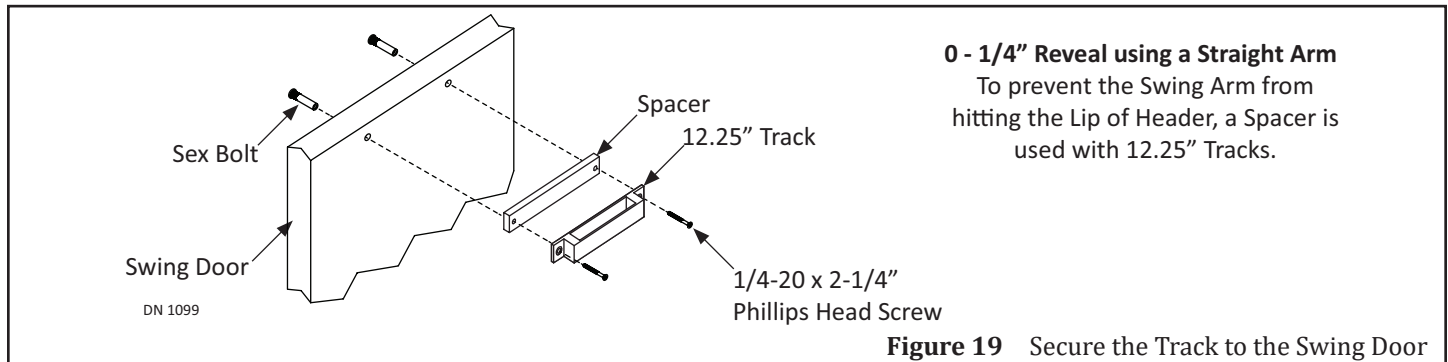
Note: For Zero Reveal applications, the Straight Arm can be used to eliminate the L-Shape Arm from protruding into the room.

1. Measure from the (Center Hinge or Butt Hinge) to the center Face of Door according to Table 4. Mark a Vertical Line at that location.
2. Go to the bottom of the Door Frame.
3. Measure:
 - ▶ Straight Arm: 11/16 inches down to the face of Door. Mark a Horizontal line across the Vertical Line. This is the center of the first Sex Bolt hole.
 - ▶ Low Profile, L-Shape Arm: Go to the bottom of the Door Frame. Measure 1-11/16 inches down to the face of Door. Mark a Horizontal line across the Vertical Line. This is the center of the first Sex Bolt hole.

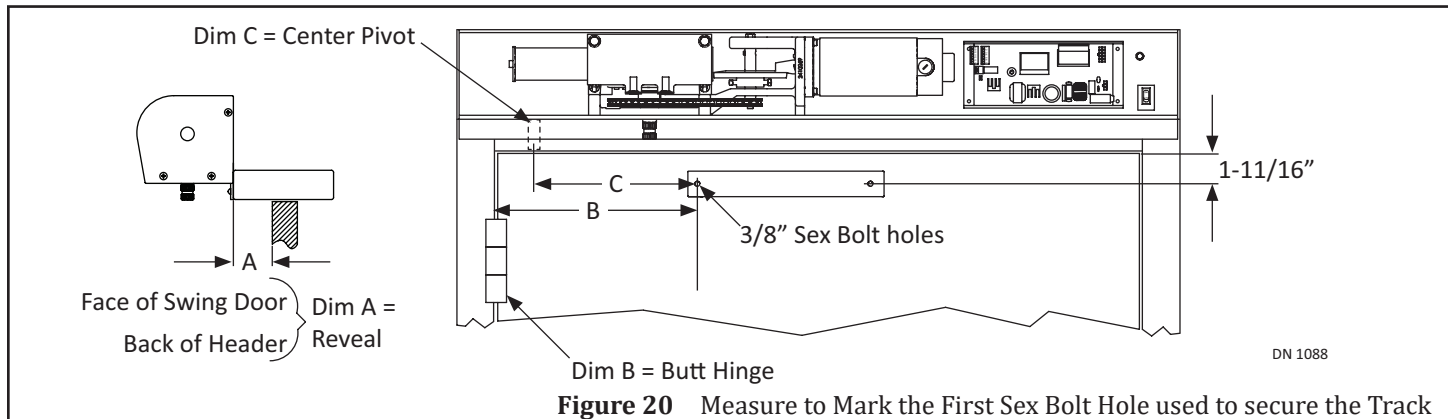
**Figure 18** Zero Reveal

4. Drill (2) holes for 1/4-20 Sex Bolts, all the way through the Swing door.
5. Go to the back of the Swing door. Insert each Sex Bolt into the drilled holes.
 - a. If a Straight Arm is being used with 0 - 1/4 inch Reveal, and if the wall/frame is not straight, vertical, plum etc., install (1) Spacer behind the Track.
 - b. A Spacer is used to prevent the Swing Arm from hitting the lip of the GT-710 Header only (the GT-8710 Header does not have a lip).
 - c. If a Spacer can not be obtained, a couple of washers can be used.
6. Go to the front of the Swing door.

7. Butt the Track against the Swing door by aligning the Sex Bolt holes.
 - a. Install (1) Spacer behind the Track for Swing doors with 0 - 1/4 inch Reveal and the wall/frame is not straight, vertical, plum etc..
8. Secure the Track to the Swing Door with (2) 1/4-20 x 2-1/4" Screws.



SECTION 7.3: Secure Track to Swing Door for Reveal Inswing Arm



1. Measure from the (Center Pivot or Butt Hinge) towards the center Face of Door according to Table 4 or Table 5. Mark a Vertical Line at that location.
2. Go to the top of Door Frame. Measure 1-11/16 inches down to the face of Door.
3. Mark a Horizontal line across the Vertical Line.
 - a. This is the center of the first Sex Bolt hole.
4. Butt the Track against the Swing door by aligning the first Sex Bolt hole with the measured Mark.
5. Use the Track as a Template to mark the second Sex Bolt hole.
6. Drill (2) holes for 1/4-20 Sex Bolts, all the way through the Swing door.
7. Go to the back of the Swing door. Insert each Sex Bolt into the drilled holes.
 - a. If a Straight Arm is being used with 0 - 1/4 inch Reveal, and if the wall/frame is not straight, vertical, plum etc., install (1) Spacer behind the Track.
 - b. A Spacer is used to prevent the Swing Arm from hitting the lip of the GT-710 Header only (the GT-8710 Header does not have a lip).
 - c. If a Spacer can not be obtained, a couple of washers can be used.
8. Go to the front of the Swing door.
9. Butt the Track against the Swing door by aligning the Sex Bolt holes.
 - a. Install (1) Spacer behind the Track for Swing doors with 0 - 1/4 inch Reveal and the wall/frame is not straight, vertical, plum etc..
10. Secure the Track to the Swing Door with (2) 1/4-20 x 2-1/4" Screws.
 - a. Do Not tighten Screws until Inswing Arm is installed.

SECTION 7.4: Secure the Inswing Arm to the Operator Spindle

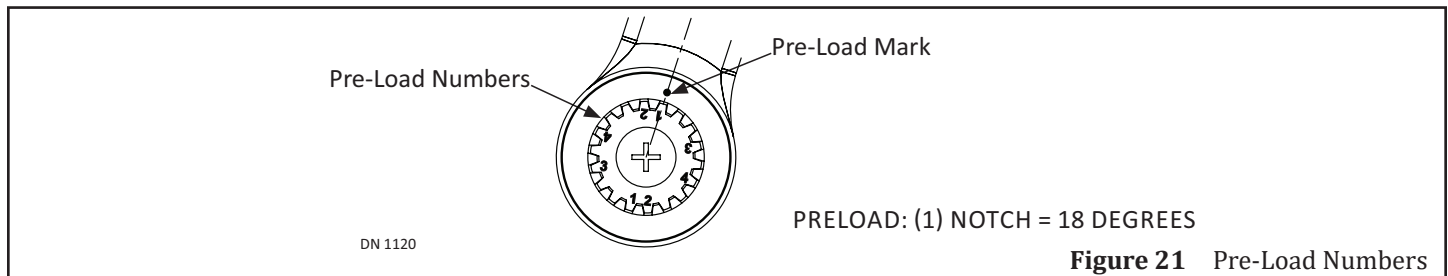
WARNING

Proper Preload is critical for the Control/Operator to open/close the Swing Door correctly.

CAUTION

Power must be turned OFF during the Swing Arm installation.

1. Turn OFF Circuit Breaker.
2. Locate pre-load numbers 1-4 on the Bottom of the Operator Spindle. Pre-load numbers 1-4 mark the correct installation position for pre-load.



3. Slide the Swing Arm onto the Operator Spindle by aligning the appropriate pre-load number to the pre-load mark on the underside of Swing Arm:

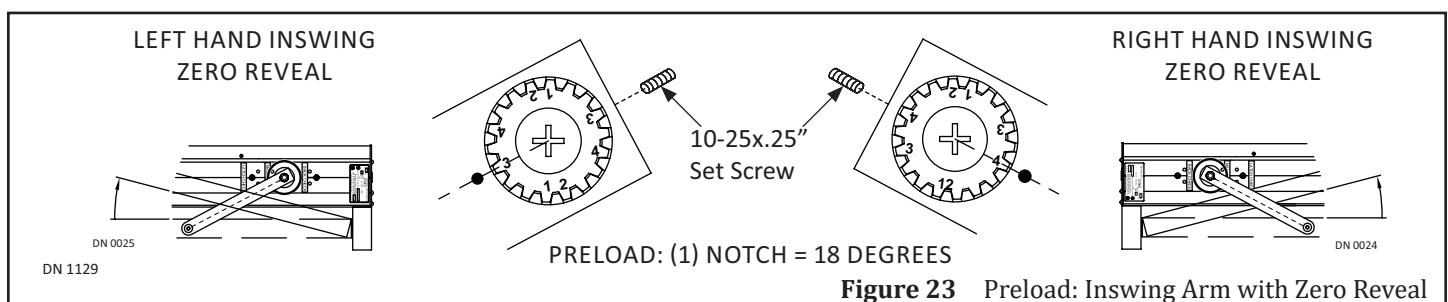
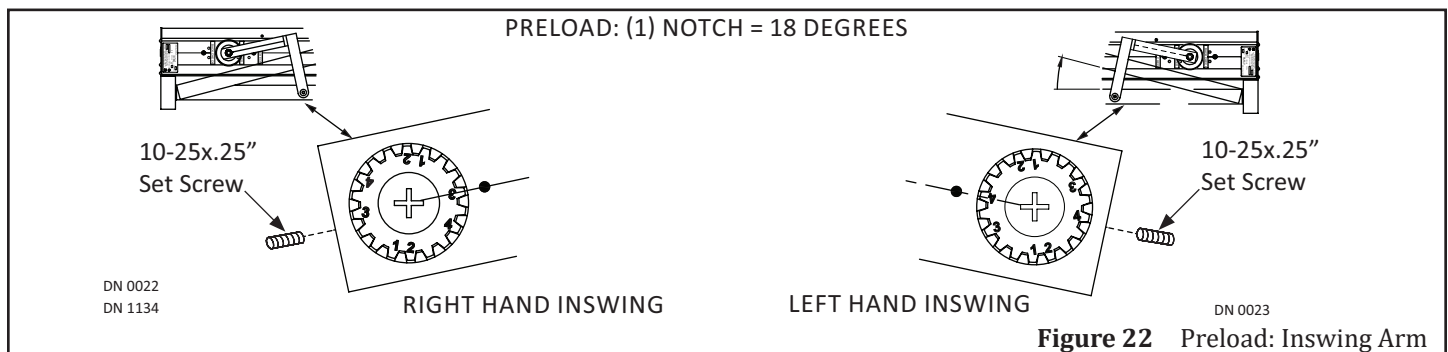
RH Inswing
3

LH Inswing
4

RH Inswing-0 Reveal
4

LH Inswing-0 Reveal
3

4. Please see Figure 21 or Figure 22.



5. Secure the Swing Arm to the Operator Spindle with (1) Set Screw. Tighten but do not overtighten.
 - a. Ensure the Set Screw is seated correctly within the groove on the Operator Spindle.
6. Go to the Track. Remove (1) screw that is closest to the Pivot Door Jamb. Allow that side of Track to hang down.
7. Close the Swing door to allow the Wheeled Roller (located at the end of the Swing Arm) to butt against the Swing door.
8. Insert the Swing Arm into the Track.
9. Secure the Track to Swing door with (1) 1/4-20 x 2-1/4" Screw. Tighten both Screws.

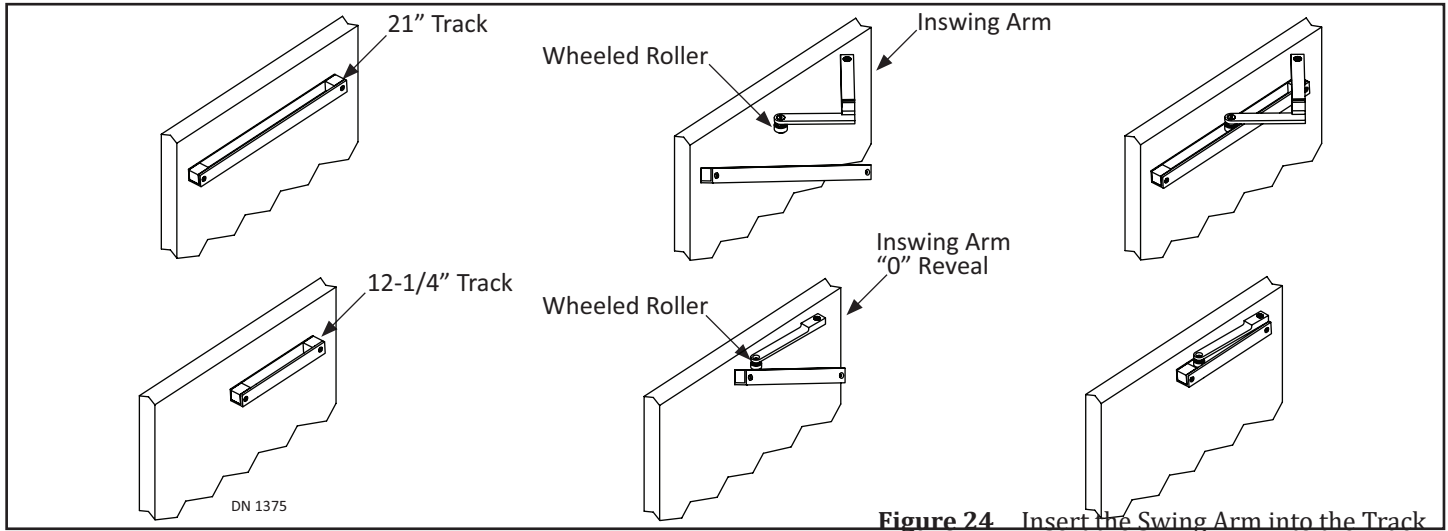


Figure 24 Insert the Swing Arm into the Track

CHAPTER 8: INSTALL THE ARM STOP

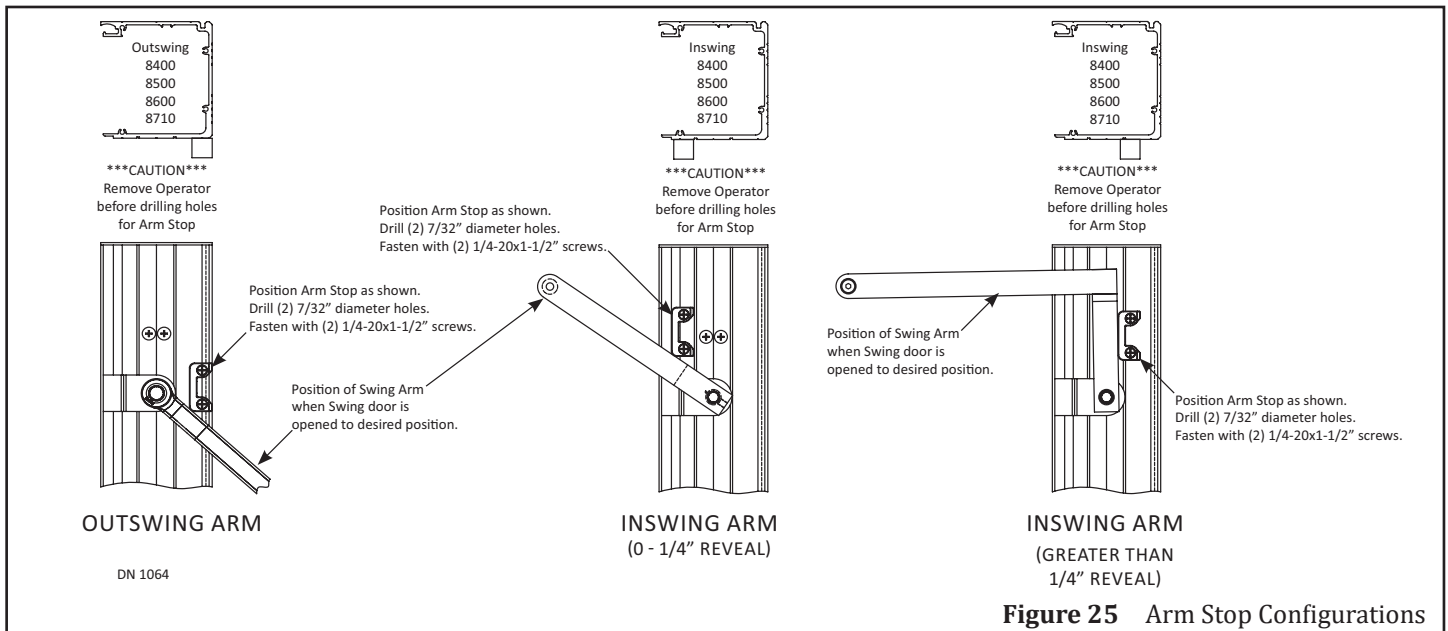


Figure 25 Arm Stop Configurations

CAUTION

Power must be turned OFF while installing the Arm Stop.

CAUTION

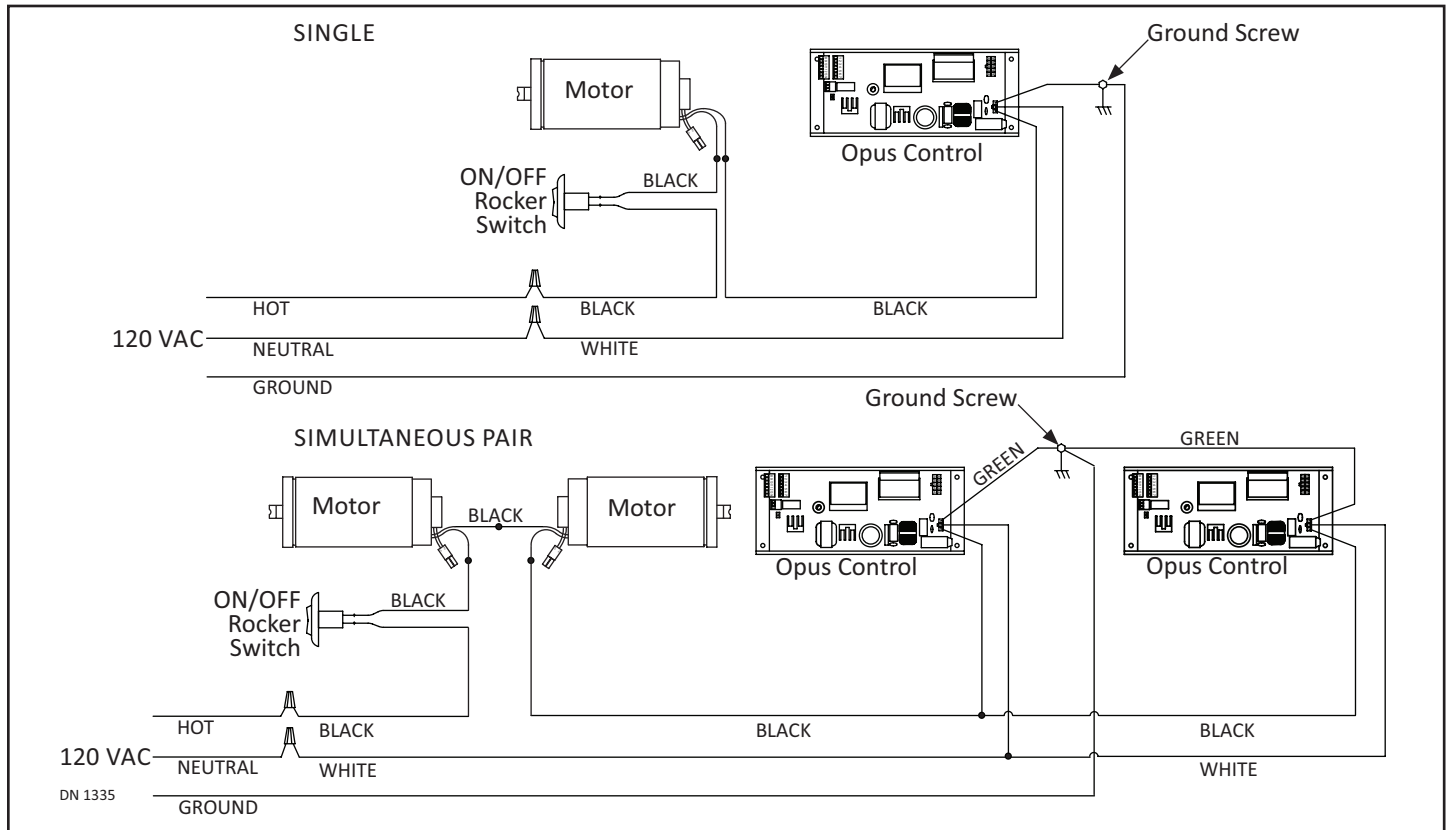
Do Not drill screw holes for the Arm Stop into the Motor/Operator!!!

1. Turn OFF Circuit Breaker.
2. Manually open the Swing Door 90 degrees or Full Open position.
3. Position the Arm Stop at the bottom of Header according to type of Swing Arm and Reveal.
4. Use the Arm Stop as a template to mark and drill (2) 7/32 inch diameter screw holes.
5. Secure the Arm Stop with (2) 1/4-20 x 1 inch Self Tapping screws.

CHAPTER 9: 120 VAC GENERAL WIRING

WARNING

Shut the installation site branch 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.



CHAPTER 10: ADJUSTMENTS

SECTION 10.1: Adjust Opening/Closing Force on Closer Tension Spring

WARNING

Improperly installed/adjusted Tension Springs may cause property damage or personal injury. Please follow instructions carefully.

CAUTION

Opening Force must be properly adjusted on the Closer Tension Spring - BEFORE - the Magnum 4A Control can be adjusted.

The Closer Tension Spring is used to adjust Opening/Closing Force when the Swing door is used Manually. The Factory preset force is ideal in most cases. Adjustment should only need to be done in special cases.

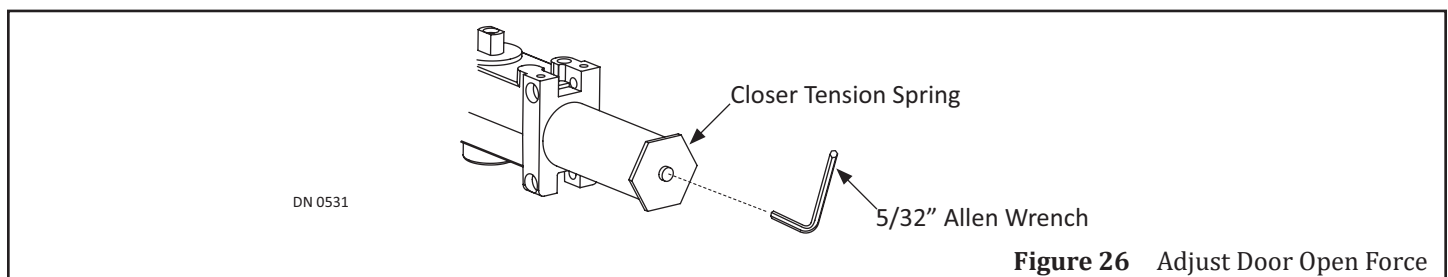
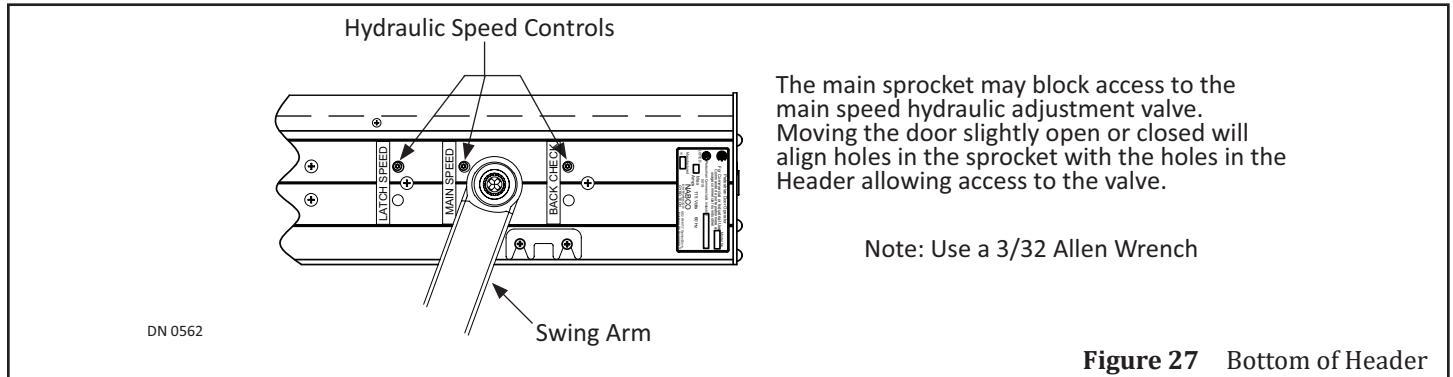


Figure 26 Adjust Door Open Force

1. Turn Power OFF.

2. Insert 5/32 Allen Wrench in the Screw located at the end of the Closer Tension Spring.
 - a. The Spring should be adjusted so that the Swing door can be easily pushed open, but still have enough force to fully close the Swing door.
3. To Increase Closing Force, turn the 5/32 Allen wrench clockwise not more than (9) full turns.
4. To Decrease Closing Force, turn the 5/32 Allen wrench counterclockwise not more than (4) full turns.

SECTION 10.2: Hydraulic Speed Control



10.2.1 Adjust Main Speed

1. Turn Power OFF.
2. Insert 3/32 Allen Wrench into the Main Speed adjustment hole.
 - a. If the adjustment hole is blocked by the sprocket, slightly close the Swing door until the adjustment Valve can be accessed.
3. Turn the Allen Wrench clockwise to slow down closing speed.

10.2.2 Adjust Latch Speed

1. Turn Power OFF.
2. Insert 3/32 Allen Wrench into the Latch Speed adjustment hole.
3. Turn the Allen Wrench clockwise to slow down Latch Check speed.
4. To test Latch Check speed. Manually push the Swing door open, then let it close. Re-adjust if necessary.

10.2.3 Adjust Back Check Speed

This adjustment should not be confused with the Back Check (BCHK) setting located on the Opus Control. BCHK determines the amount of power applied to the motor to push the door open through Back Check.

1. Turn Power OFF.
2. Insert Allen Wrench into the Back Check Speed adjustment hole.
3. Turn Allen Wrench clockwise to increase hydraulic tension at back check.
4. To test Back Check speed. Manually push the Swing door open. The Door should slow down and not slam open.
 - a. Re-adjust if necessary.

CHAPTER 11: TROUBLESHOOTING

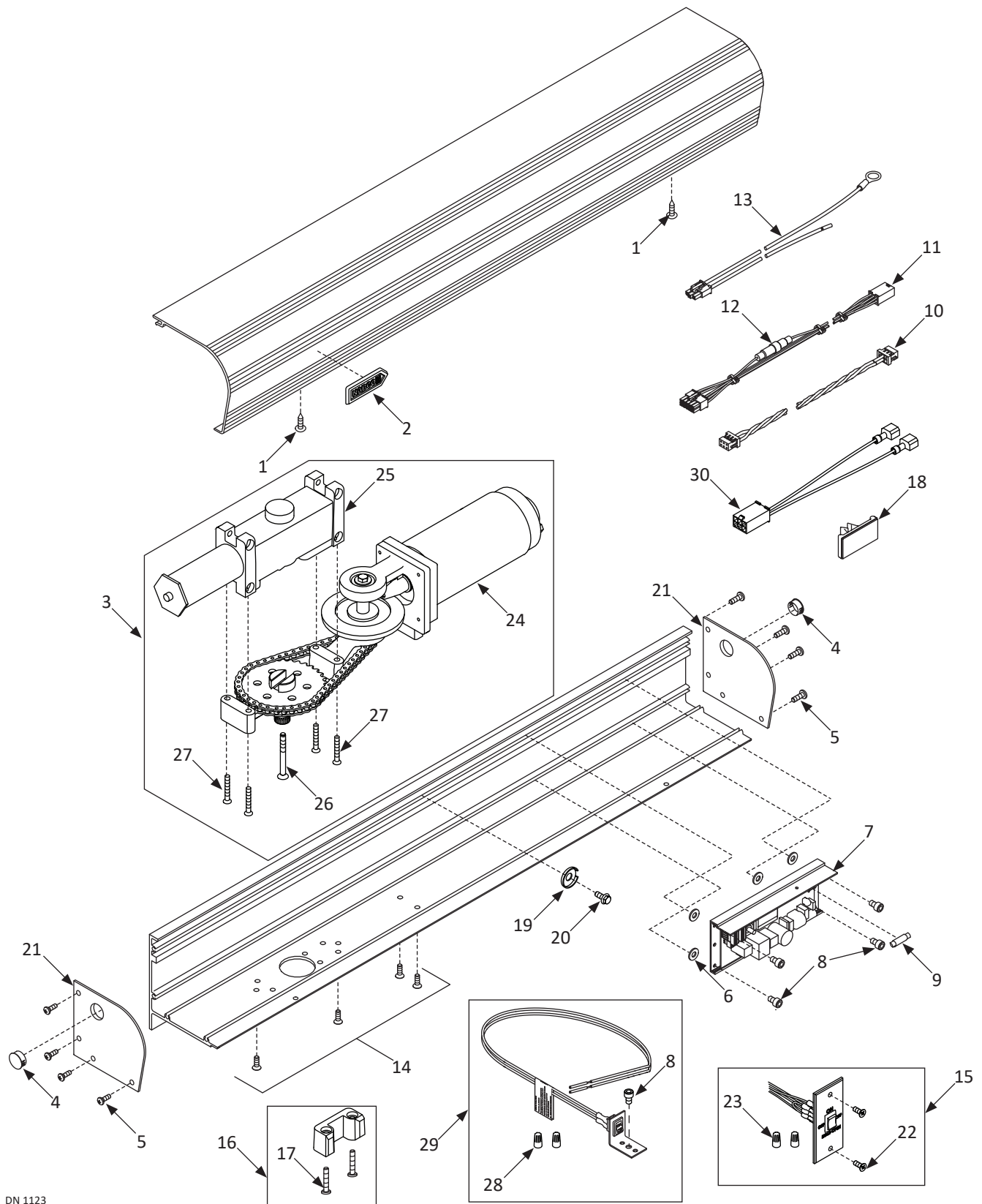
If the Opus detects an error, the LCD backlight will start flashing and display an Error message within the Error Screen or before the Level Two Screen.

Table 1: Error Message

Error Msg	Description	Resolution
Recycle Warning	Recycle was detected more than (5) times while opening or closing cycle continuously.	<ul style="list-style-type: none"> ▶ Check Door Way and Door resistance. • If both are normal, adjust the opening and closing recycle sensitivity.
MPU Error	Microprocessor detects errors within the Internal or External Circuit.	Please replace the Opus Control if the MPU Error occurs repeatedly.
Drive Circuit Error	If the Drive Circuit detects an unusual state, the Opus will stop door movement. Possible causes are: <ul style="list-style-type: none"> ▶ Over current at motor ▶ Abnormal voltage at Motor Circuit ▶ Abnormal value from Motor Current detection. 	<ul style="list-style-type: none"> ▶ Check the Motor connection. • Opus Control may not be connected to the motor. • Motor wire may be shorted. ▶ If Motor connection is normal; the cause could be electrical noise. ▶ Possible for this Error to occur occasionally without having a problem with the Door.
Communication Error	CAN-bus Communication Error	Please check SimPair Harness.
62 Sensor Error & 6B Sensor Error & SWL Sensor Error	<ul style="list-style-type: none"> ▶ This is the Sensor monitoring functionality. ▶ Hand-shake for Safety Sensor not working properly. 	<ul style="list-style-type: none"> ▶ Check Opus: <ul style="list-style-type: none"> • Input/Output Settings • Harnesses • Sensor Status. ▶ Sensor could be detecting an Internal Error.

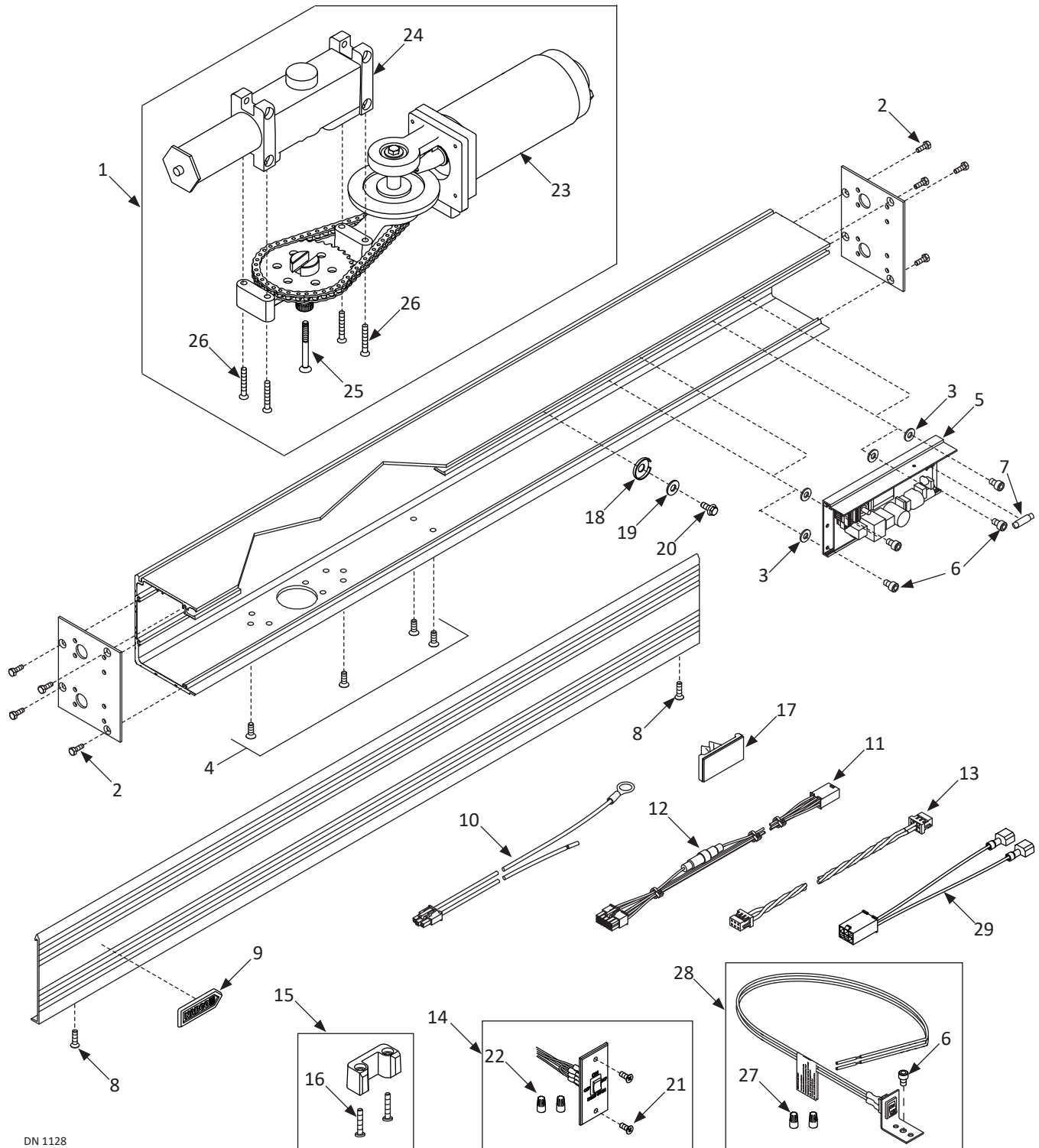
Notice: If after troubleshooting a problem, and a satisfactory solution cannot be achieved, please call Nabco Entrances at 1-877-622-2694 between 8 am – 4:30pm Central time for additional assistance.

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 effected. **NEVER** leave a door operating without all safety detection systems operational.

SERVICE PARTS: GT710 LOW ENERGY HEADER

DN 1123

GT 710 Low Energy Header			
Item	Part	Finish/Sizes/Notes	Description
1	T-00337		PHSMS:#8x0.625L.:PHIL
2	C-00067		"NAMEPLATE, ADHESIVE BACKED"
3	A-00883	RH	"OPERATOR, GT710 - OPUS,RH"
	A-00884	LH	"OPERATOR, GT710 - OPUS,LH"
4	V-00109		DOME PLUG, 7/8" HOLE
5	T-00326	Zinc	RHMS,1/4-20x0.750L.,PHIL,ZINC SELF TAPNG
	T-00393	Dark Bronze	RHMS,1/4-20x0.750L.,PHIL,F-POINT,BK OX
6	T-00365		WASHER:5/32IDx3/4ODx.020THK:POLYETHYLE
7	M-01546		"CONTROLLER,OPUS"
8	T-00335		SHCS:10-24x0.313L.
9	V-00552	Used on Opus Control	FUSE;5A;GMA;5X20mm
10	M-01680	Simultaneous Pair only	"HARNESS,OPUS CONTROL,SIM PAIR"
11	A-01249		HARNESS,MOTOR,OPUS,710
12	V-00713	Used on A-01249	FUSE,2 AMP,5X20MM,250V,FAST ACTING
13	M-01072		HARNESS,POWER,MAGNUM BOARD
14	T-00015	Zinc	FHMS,1/4-20x0.750L.,PHIL,ZINC
	T-00017	Dark Bronze	FHMS,1/4-20x0.750L.,PHIL,BLK ZN
15	A-00805		SWITCH,ROCKER,SWINGER,ON/OFF/HOLD OPEN
16	A-00454		ARM STOP,SWINGER
17	T-00325		PHMS, 1/4-20X1.500L, PHIL, TYPE F
18	V-00100		CLAMP, CABLE
19	V-00104		WASHER, CUP.312 ID X .88 OD X .040 THICK
20	A-00468		HHCS,5/16-18X.500,WASH.HD. TYP. F, GREEN
21	M-61055		"END CAP,710,BLANK,204"
	M-71055		END CAP,710,BLANK,313
22	T-00031		FHMS,10-32x0.500L.,PHIL,UCUT,T-LOBE,BKZN
23	T-00197		NUT,WIRE,RANGE 22-14AWG,GREY
24	M-01687		OPERATOR;GT710;W- ENCODER;NO CLOSER
25	V-00105	RH	HYDRAULIC CLOSER, LCN, RH, GT710
	V-00101	LH	HYDRAULIC CLOSER, LCN, LH, GT710
	V-00194	Heavy Duty/RH	HYDRAULIC CLOSER,LCN,SIZE 6,RH
	V-00195	Heavy Duty/LH	HYDRAULIC CLOSER,LCN, SIZE 6, LH
26	T-00350		FHMS:1/4-20x2.500L.:SOKT:BK.ZC.GR5
27	T-00351		FHMS:12-24x1.500L.:PHIL
28	T-00047		NUT,WIRE,72B,2-18AWG-3-16AWG
29	A-00409		PARTS BAG,ON/OFF,SWINGER,SWITCH
30	A-00804		HARNESS,MAGNUM TO ENCODER MOTOR

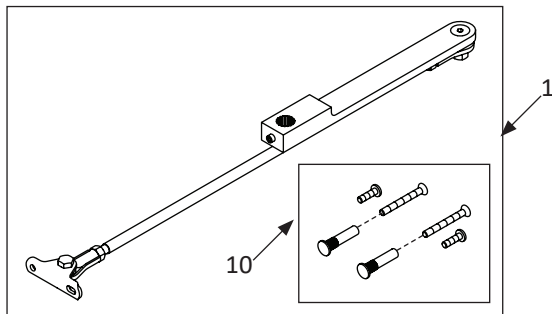
SERVICE PARTS: GT8710 LOW ENERGY HEADER

DN 1128

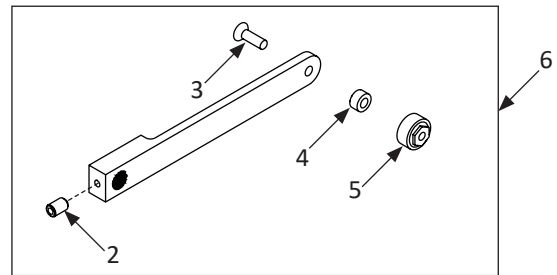
GT 8710 Low Energy Header			
Item	Part	Notes	Description
1	A-00883	RH	"OPERATOR, GT710 - OPUS,RH"
	A-00884	LH	"OPERATOR, GT710 - OPUS,LH"
2	T-00016	Zinc	FHMS,1/4-20x0.438L.,PHIL,UNDERCUT,ZINC
	T-00108	Dark Bronze	FHMS,1/4-20x0.438L.,PHIL,UNDERCUT,BLK ZN
3	T-00365		WASHER:5/32IDx3/4ODx.020THK:POLYETHYLE
4	T-00015		FHMS,1/4-20x0.750L.,PHIL,ZINC
5	M-01546		"CONTROLLER,OPUS"
6	T-00335		SHCS:10-24x0.313L.
7	V-00552	Used on Opus Control	FUSE;5A;GMA;5X20mm
8	T-00337		PHSMS:#8x0.625L.:PHIL
9	C-00067		"NAMEPLATE, ADHESIVE BACKED"
10	M-01072		HARNESS,POWER,MAGNUM BOARD
11	A-01249	For GT710/8710 only	HARNESS,MOTOR,OPUS,710
12	V-00713	Used on A-01249	FUSE,2 AMP,5X20MM,250V,FAST ACTING
13	M-01680	Simultaneous Pair only	"HARNESS,OPUS CONTROL,SIM PAIR"
14	A-00805		SWITCH,ROCKER,SWINGER,ON/OFF/HOLD OPEN
15	A-00454		ARM STOP,SWINGER
16	T-00325		PHMS, 1/4-20X1.500L, PHIL, TYPE F
17	V-00100		CLAMP, CABLE
18	V-00104		WASHER, CUP.312 ID X .88 OD X .040 THICK
19	T-00029		WASHER,.250 ID,.563 OD,.049 THK,ZINC
20	T-00347		HHCS:10-32x0.375L:GREEN:WASH HD:SLOT
21	T-00031		FHMS,10-32x0.500L.,PHIL,UCUT,T-LOBE,BKZN
22	T-00197		NUT,WIRE,RANGE 22-14AWG,GREY
23	M-01687		OPERATOR;GT710;W- ENCODER;NO CLOSER
24	V-00105	RH	HYDRAULIC CLOSER, LCN, RH, GT710
	V-00101	LH	HYDRAULIC CLOSER, LCN, LH, GT710
	V-00194	Heavy Duty/RH	HYDRAULIC CLOSER,LCN,SIZE 6,RH
	V-00195	Heavy Duty/LH	HYDRAULIC CLOSER,LCN, SIZE 6, LH
25	T-00350		FHMS:1/4-20x2.500L.:SOKT:BK.ZC.GR5
26	T-00351		FHMS:12-24x1.500L.:PHIL
27	T-00047		NUT,WIRE,72B,2-18AWG-3-16AWG
28	A-00409		PARTS BAG,ON/OFF,SWINGER,SWITCH
29	A-00804		HARNESS,MAGNUM TO ENCODER MOTOR

SERVICE PARTS: SWING ARM AND TRACK ASSEMBLIES

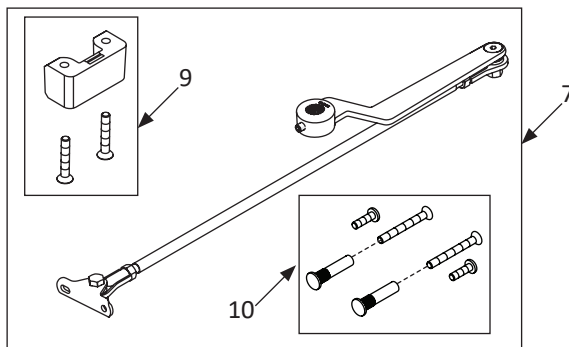
Low Profile Outswing Arm Assembly



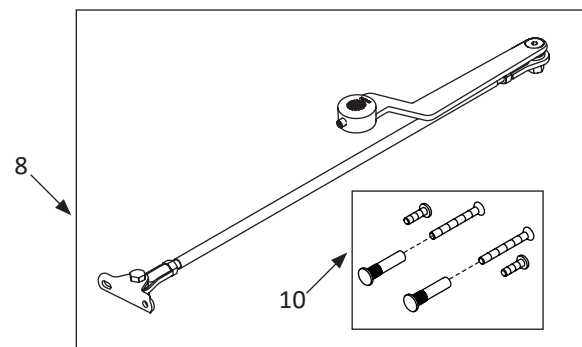
Inswing Arm
Reveal **Equal** to 0 degrees



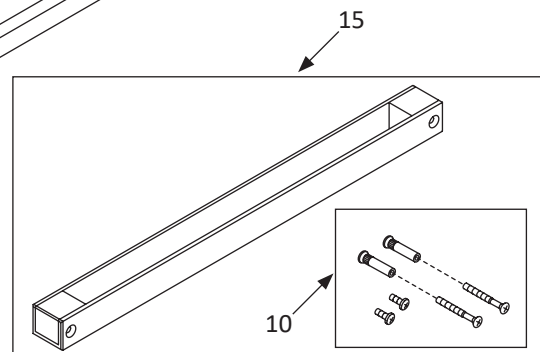
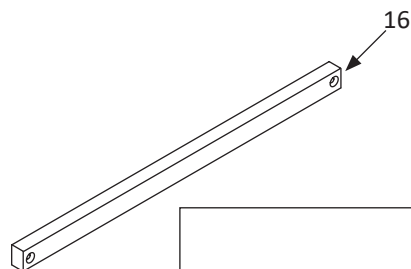
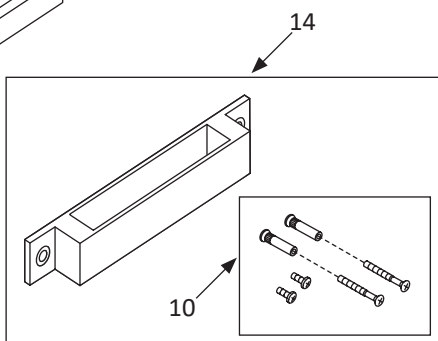
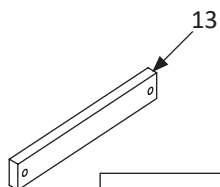
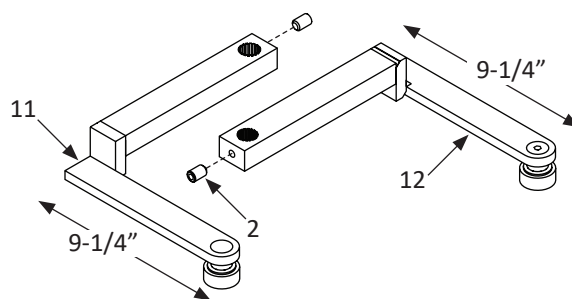
Outswing Arm Assembly



Outswing Arm Assembly



(CU) Inswing Arm Assembly
Reveal Greater than 0 inches



DN 2416

Swing Arm Assemblies			
Item	Part	Finish/Sizes/Notes	Description
1	A-60770	No Reveal/Low Profile/Clear	ARM,OUTSWING,CU,20in:204
	A-70770	No Reveal/Low Profile/Dark Bronze	ARM,OUTSWING,CU.20in:313
2	T-00261		SHSS,5/16-24x0.500L.,CUP PT.
3	T-00223		FHCS,3/8-24x1.250L.,ZINC
4	M-01045		WASHER,STEEL,.375IDx.75ODx.375THK.
5	A-00752		ROLLER,REPLACEMENT
6	A-60545	0 Reveal/Clear	ARM,INSWING,CU,NON PANIC,NH,204
	A-70545	0 Reveal/Dark Bronze	ARM,INSWING CU,NO PANIC,NH 313
7	A-60786	20"/Clear/w-Stop	ARM,OUTSWING,CU.,20in:204,W-STOP
	A-70786	20"/Dark Bronze/w-Stop	ARM,OUTSWING,CU.,20in:313,W-STOP
	A-60787	30"/Clear/w-Stop	ARM,OUTSWING,C.U.,30in:204,W-STOP
	A-70787	30"/Dark Bronze/w-Stop	ARM,OUTSWING,CU.,30in:313,W-STOP
8	A-60425	20"/Clear	ARM,OUTSWING,STD ASM,20in,204
	A-70425	20"/Dark Bronze	ARM:OUTSWING:STD ASM:20in:313
	A-60426	30"/Clear	ARM,OUTSWING,STD ASM,30in,204
	A-70426	30"/Dark Bronze	ARM:OUTSWING:STD ASM:30in:313
9	A-00454		ARM STOP,SWINGER
10	A-00389	Clear	PARTS BAG,TRACK AND ARM CU GUIDE,204
	A-00388	Dark Bronze	PARTS BAG,TRACK AND ARM CU GUIDE,313
11	A-60658	0 - 2" Reveal/RH/Clear	INSWING ARM,0 TO 2 REV,RH,204
	A-70658	0 - 2" Reveal/RH/Dark Bronze	INSWING ARM, 0 TO 2 REV,RH:313
	A-60671	2-5-1/2" Reveal/RH/Clear	INSWING ARM,2 TO 5-1/2 REV,RH,204
	A-70671	2-5-1/2" Reveal/RH/Dark Bronze	INSWING ARM,2 TO 5-1/2 REV:RH:313
	A-60672	5-1/2 - 9-3/4" Reveal/RH/Clear	INSWING ARM,5-1/2 TO 9-3/4 REV,RH,204
	A-70672	5-1/2 - 9-3/4" Reveal/RH/Dark Bronze	INSWING ARM,5-1/2 TO 9-3/4 REV:RH:313
	A-60673	9-3/4 - 13" Reveal/RH/Clear	INSWING ARM,9-3/4 TO 13 REV,RH,204
	A-70673	9-3/4 - 13" Reveal/RH/Dark Bronze	INSWING ARM,9-3/4 TO 13 REV:RH:313
12	A-60675	0 - 2" Reveal/LH/Clear	INSWING ARM,0 TO 2 REV,LH,204
	A-70675	0 - 2" Reveal/LH/Dark Bronze	INSWING ARM, 0 TO 2 REV,LH:313
	A-60676	2-5-1/2" Reveal/LH/Clear	INSWING ARM,2 TO 5-1/2 REV,LH,204
	A-70676	2-5-1/2" Reveal/LH/Dark Bronze	INSWING ARM,2 TO 5-1/2 REV:LH:313
	A-60677	5-1/2 - 9-3/4" Reveal/LH/Clear	INSWING ARM,5-1/2 TO 9-3/4,LH,204
	A-70677	5-1/2 - 9-3/4" Reveal/LH/Dark Bronze	INSWING ARM,5-1/2 TO 9-3/4 REV:LH:313
	A-60678	9-3/4 - 13" Reveal/LH/Clear	INSWING ARM,9-3/4 TO 13 REV,LH,204
	A-70678	9-3/4 - 13" Reveal/LH/Dark Bronze	INSWING ARM,9-3/4 TO 13:LH:313
13	A-00952	12.25" Long	SPACER,INSWING TRACK
14	A-60639	Clear/12.25" Long	ASM,TRACK,CU,SHORT,204
	A-70639	Dark Bronze/12.25" Long	ASM,TRACK,CU,SHORT,313
15	A-00481	Clear/21" Long	ASM,TRACK,CU,LONG,204
	A-70481	Dark Bronze/21" Long	ASM,TRACK,CU,LONG,313
16	M-02045	21" Long	SPACER,INSWING TRACK,LONG,710