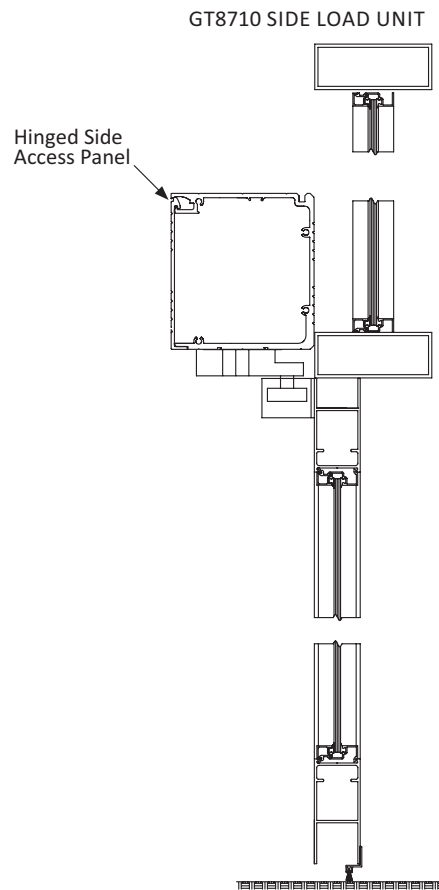
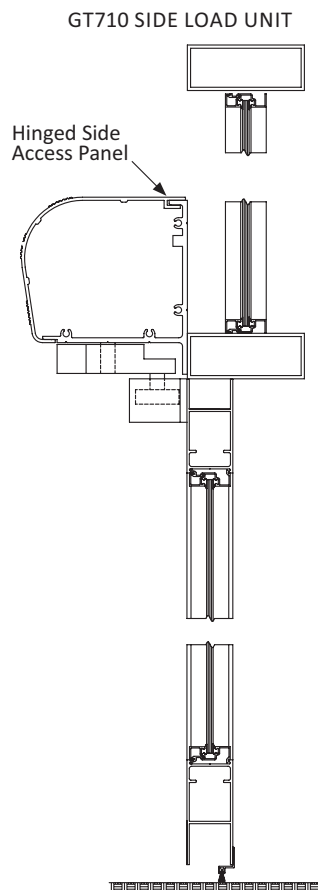




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Low Energy Hardware Installation Manual With Opus Control

Side Load Units: GT 710 and 8710



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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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.

GENERAL SAFETY RECOMMENDATIONS

WARNING

Read this “General Safety Recommendations” section before installing, operating or servicing the automatic door. Failure to follow these practices may result in serious consequences.

Notice:

Read, study and understand the operating instructions contained in, or referenced in this manual before operating. If you do not understand the instruction, ask the installing qualified technician to teach you how to use the door.

WARNING

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

Notice:

This manual and the owner’s manual must be given to and retained by the purchasing facility or end user.

- ▶ 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.
- ▶ Disconnect power at the fused disconnect during all electrical or mechanical service. When uncertain whether power supply is disconnected, always verify using a voltmeter.
- ▶ All electrical troubleshooting or service must be performed by qualified electrical technicians and must comply with all applicable governing agency codes.
- ▶ It is the responsibility of the installing door technician to install all warning and instructional labels in accordance with ANSI 156.19.
- ▶ It is the responsibility of the purchasing facility or end user to keep warning and instructional labels and literature legible, intact and with the door.
- ▶ Replacement labels and literature may be obtained from local NABCO Entrances, Inc. distributors. If the name of the local distributor is unknown, contact NABCO Entrances, Inc. at 1-877-622-2694 for assistance.

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.

CHAPTER 1: SCOPE

Section 1a: 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 117.1 and the Low Energy Operator section of ADA Standard covers the GT 710/8710 Swing Door Low Energy System. 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 1b: Objective

GT 710/8710 Swing Door Low Energy Units are designed to be installed onto the top surface of the Door Frame. The Operator is controlled by the Opus Control that offers many features to accommodate most installation options. This manual offers step by step instructions.

CHAPTER 2: GETTING STARTED

Section 2a: Electrical Standards

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

Note: All wiring must conform to standard wiring practices and be in accordance with national and local electrical codes.

Electricity	Description	Current Consumption
Power Input	110VAC - 130 VAC, AC 50-60 Hz	3A (NABCO recommends min. 5A service)
Available Current for accessories	12 VDC	750mA
F1 Fuse	120VAC Power Circuit of Control	-
Available wire size for incoming power	14 AWG	-

Section 2b: Installation Specifications

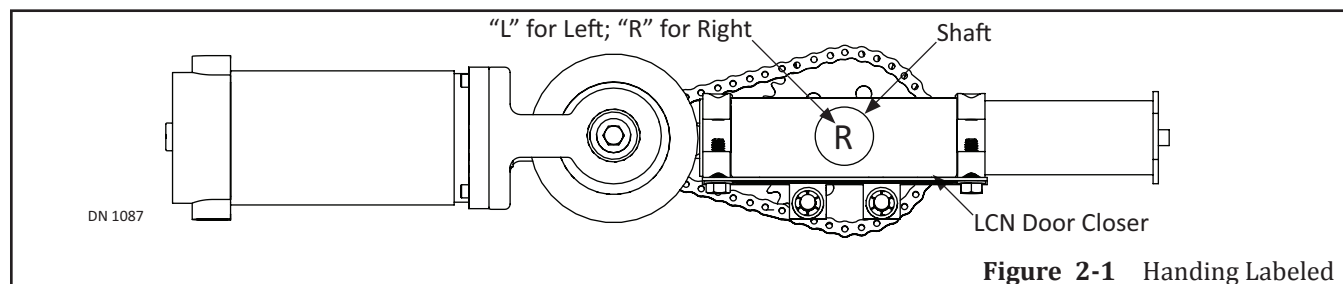
Specification	Measurement
Minimum Frame Face for Mounting	1-3/4 inches (44mm)
Minimum Clearance from Top of Door to Ceiling	7" (178 mm)
Door Hinge Requirements	3/4 inch Butt, Offset Pivot, or Center Pivot
Minimum Door Thickness	1-3/4 inches (44 mm)
Door Width	Specified when ordered

Section 2c: Base Unit Type

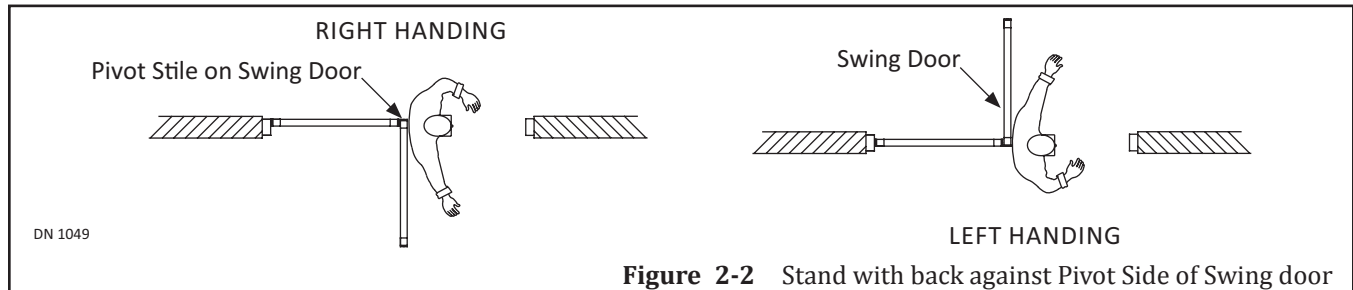
- ▶ Side Load Header only.
- ▶ Low Energy Swing doors utilize a Knowing Act to open a Swing door.
 - A conscious effort that is carried out in many different ways, including (but not limited to): manually opening/closing a Swing door; pressing various types of Push Plates; turning a Key switch; flipping a Rocker Switch; utilizing a keypad or card reader, etc.
- ▶ Must be compliant with the ANSI Standard Code 156.19 to reduce chance of injury to pedestrians and wheeled traffic.

Section 2d: Handing

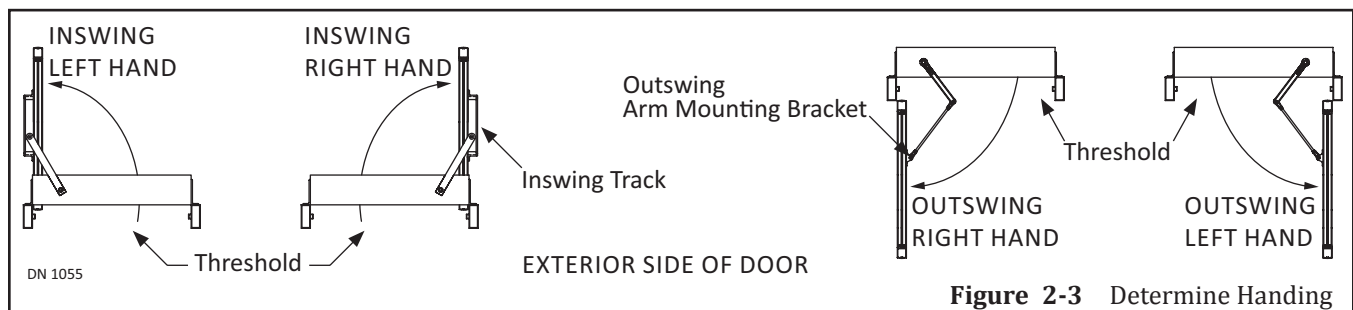
- ▶ To Determine Handing from the Operator: go to the top of the LCN Door Closer. The letter "R" or "L" will be marked on the Shaft by the NABCO Factory. Please see Figure 2-1.



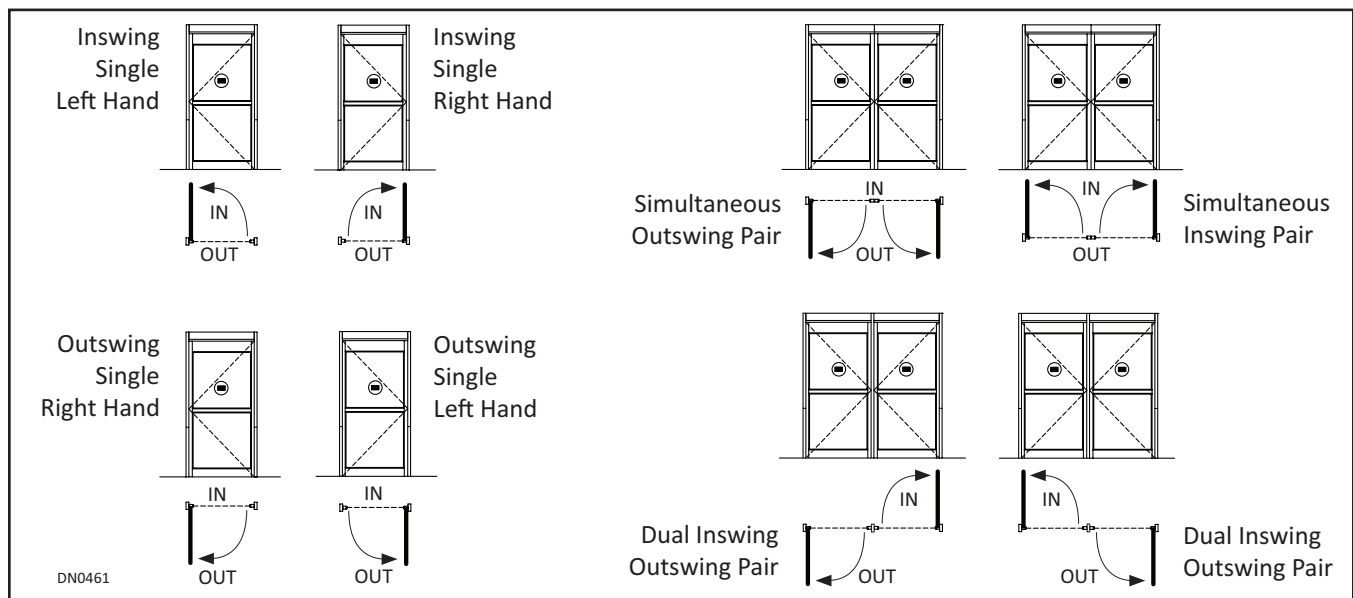
- To determine Handing from standing underneath the Header: Open the Swing door. Butt your back against the Pivot side of Swing door. Swing out the (right or left) arm in the direction the Swing door opened. Please see Figure 2-2.



- To determine Handing from the direction the Swing Arm opens. Please see Figure 2-3.
 - If the Swing Arm swings underneath the Threshold to open, it is an Outswing Unit.
 - If the Swing Arm does not swing underneath the Threshold to open, it is an Inswing Unit.



Section 2e: Swing Door Types



Section 2f: Simultaneous Pair Installations

Simultaneous pair doors require two operators, two motors, two control boards, and a simultaneous pair harness. All drilling and mounting dimensions for simultaneous pair doors should use both the left and right hand patterns for the specific swing direction and hinge configuration. The installer first has to configure each control independently of the other control. Once controls are tuned individually, connect the simultaneous pair harness to both controls and fine tune simultaneous pair operation.

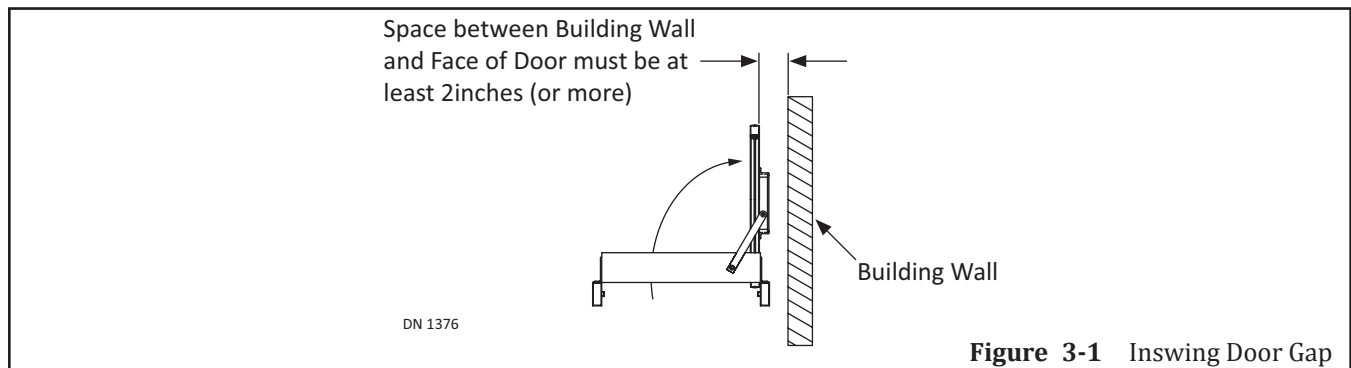
Section 2g: Associated Manuals Part Numbers

- ▶ Model GT710/8710 Low Energy Swing Doors Quick Setup Parts Guide; P/N C-00178
- ▶ Opus Control Wiring and Programming Manual; P/N 15-14973
- ▶ Model GT500/GT710 Low Energy Owner's Manual; P/N C-00125 (for Decal Installation)
- ▶ NABCO Price Book P/N 16-9244-30 (for Sensors, Switches, and Accessories)

CHAPTER 3: INSTALL THE HEADER

Section 3a: Before Installing the Header

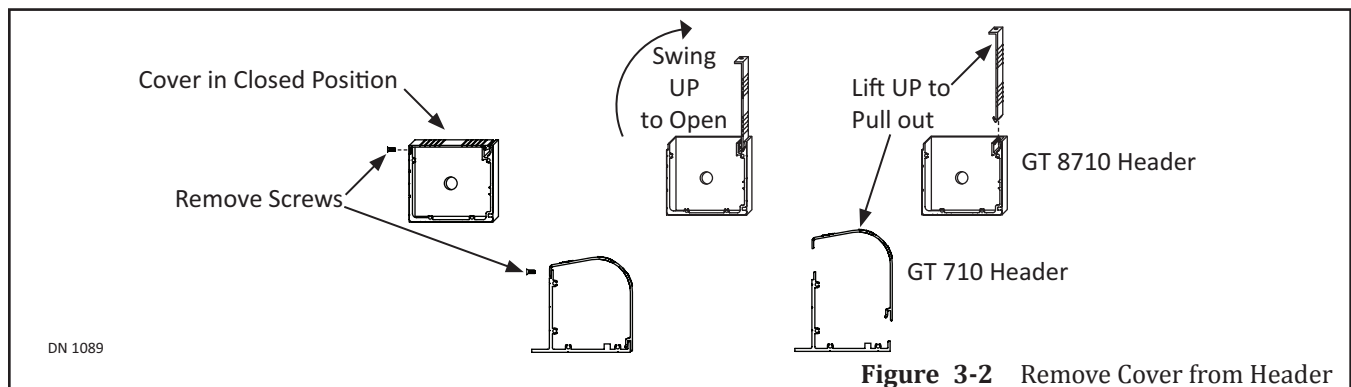
1. Open the Inswing door 90 degrees.
 - a. Outswing doors do not need to be measured.
2. Measure between the wall and the outside face of the Swing Door.
 - a. There must be a 2 inch minimum gap.
 - b. If there is less than a 2 inch gap, please call Customer Service at (877) 622-2694.



Section 3b: Prepare the Header

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

1. Remove the Header Cover. Please see Figure 3-2.
2. Remove boxes and/or parts bags from inside Header.



3.b.a. 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, a 7/8 inch hole can be drilled in 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. Please see Figure 3-3.
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.

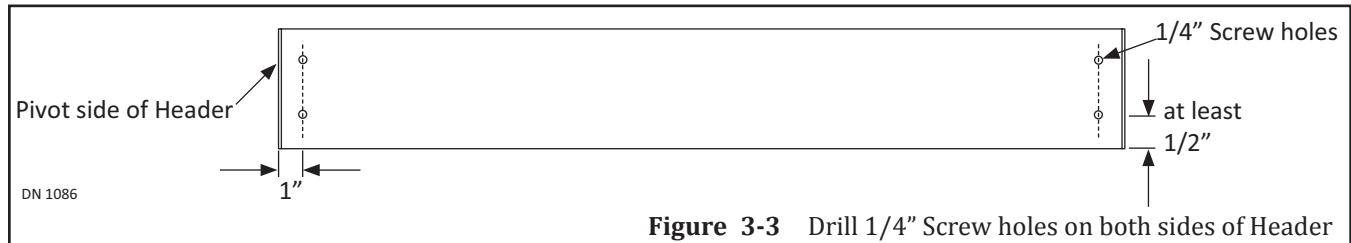


Figure 3-3 Drill 1/4" Screw holes on both sides of Header

Section 3c: 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. Please see Figure 3-4.

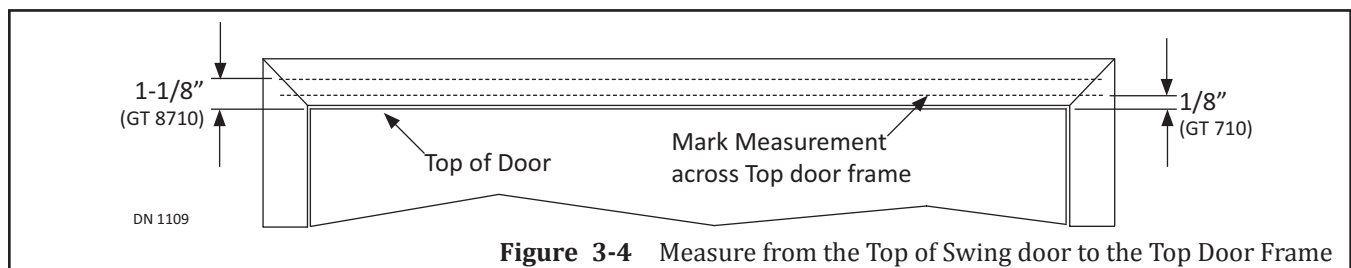
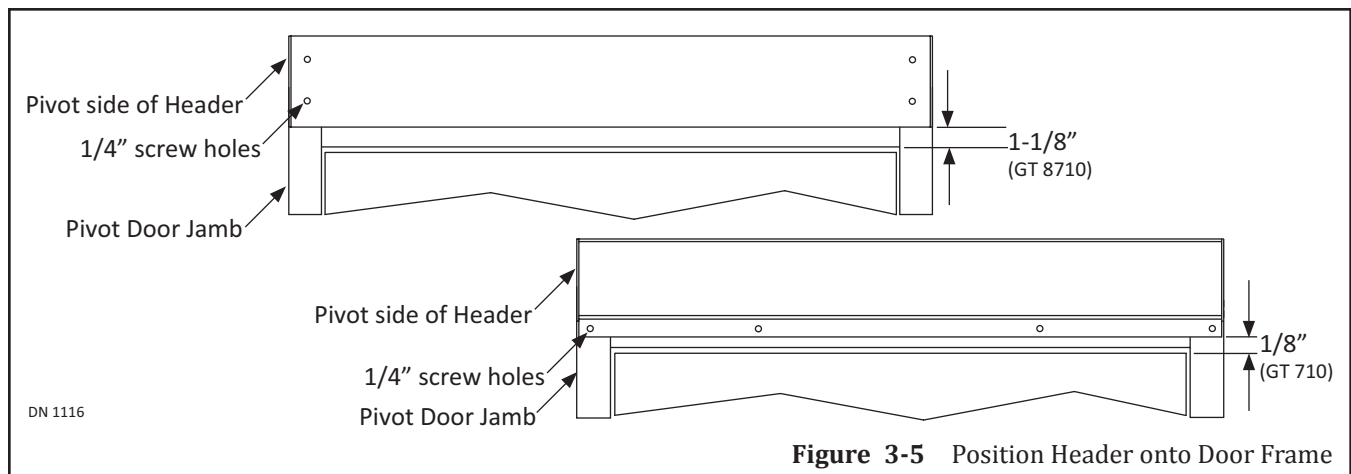


Figure 3-4 Measure from the Top of Swing door to the Top Door Frame

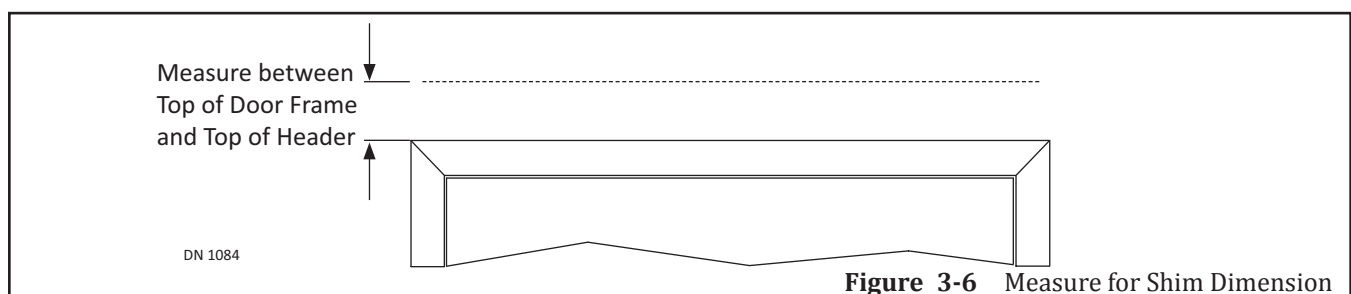
4. Lift the Header up against the Top door frame until the bottom edge of Header is butted up against the Horizontal Line, at both ends. Please see Figure 3-5.
5. To ensure proper operation of the Swing Arm:
 - ▶ For a Door Jamb that is 1-3/4 inches wide, position the Pivot side of Header so it is flush to the outside edge of the Pivot Door Jamb.
 - ▶ For a Door Jamb 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.



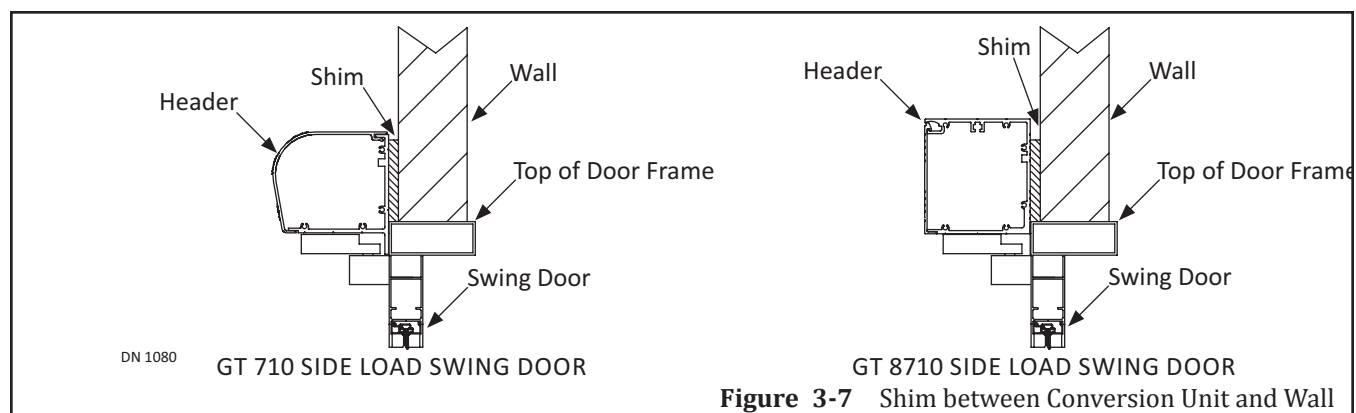
6. Ensure the Header is square and level. Use the Header as a template to mark screw holes onto the face of the door frame.
7. Remove the Header. Drill screw holes at each mark.

Section 3d: 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. Please see Figure 3-6.
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.

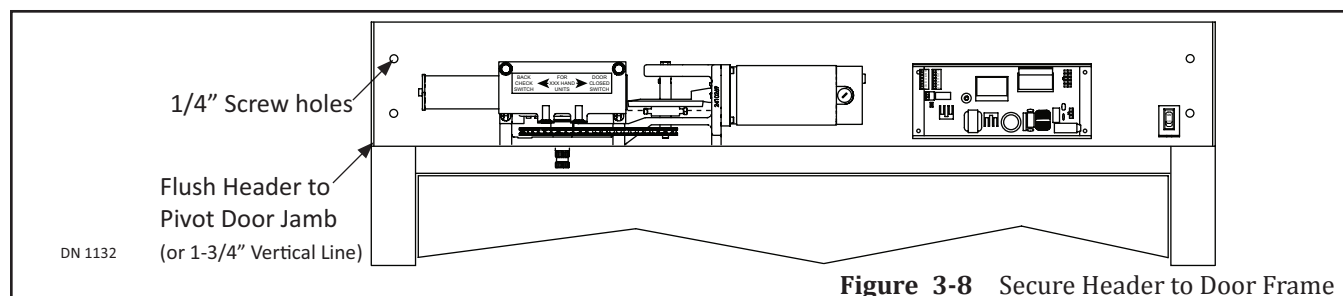


5. Obtain (1) Shim to be the same depth as measurement #1; no higher than measurement #2; and about the same width as the Header.
6. Secure the Shim to stud(s). Please see Figure 3-7.
 - a. It is recommended to use Lag Bolts.



Section 3e: 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. Please see Figure 3-8.
3. Secure the Header to the Door Frame. It is recommended to use Lag Bolts.



CHAPTER 4: 120 VAC GENERAL WIRING

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

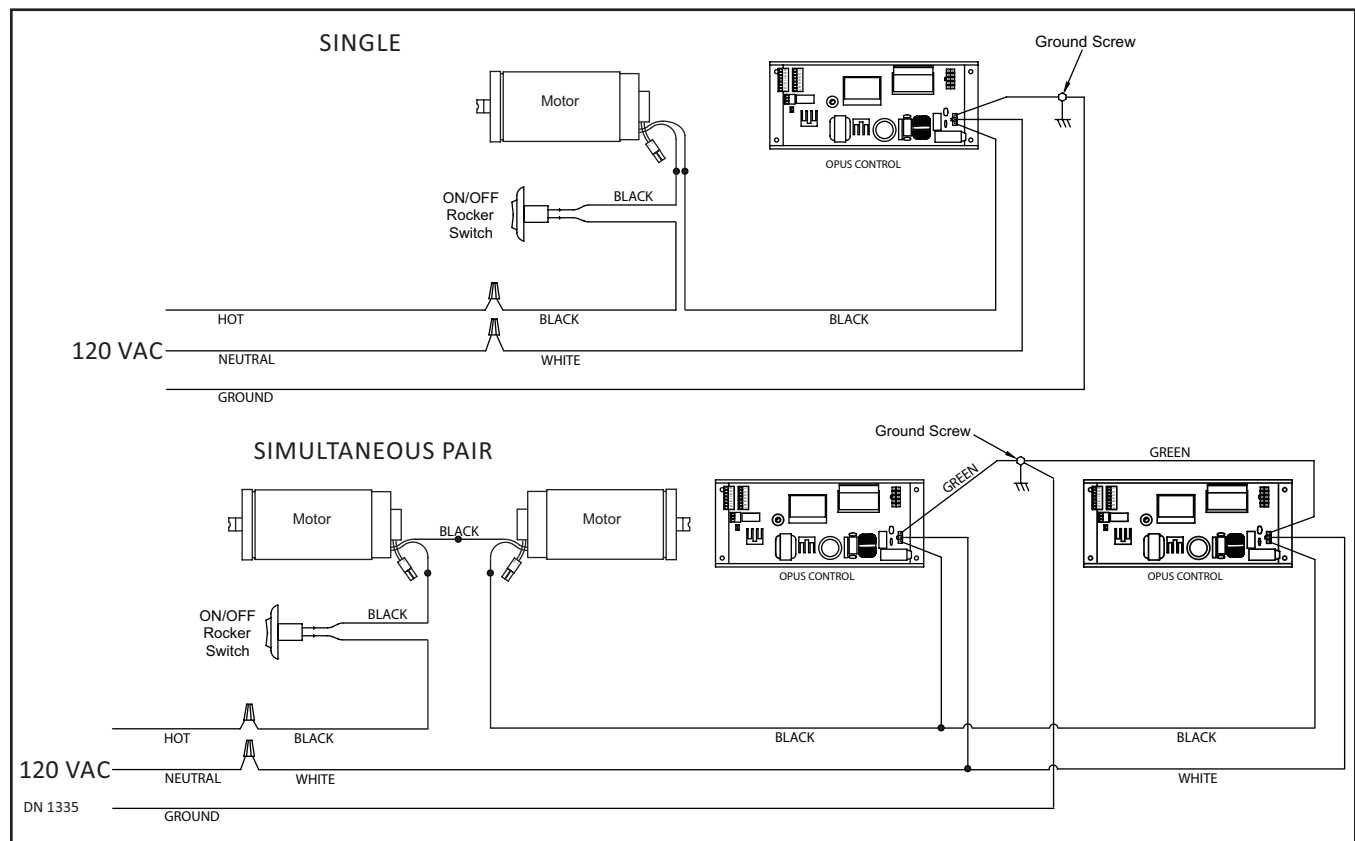
Keep all Incoming 120 VAC wiring separate from low voltage wiring within Header. 120 VAC Power wires must be routed (separate from other wiring) located near the top of inside Header.

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).

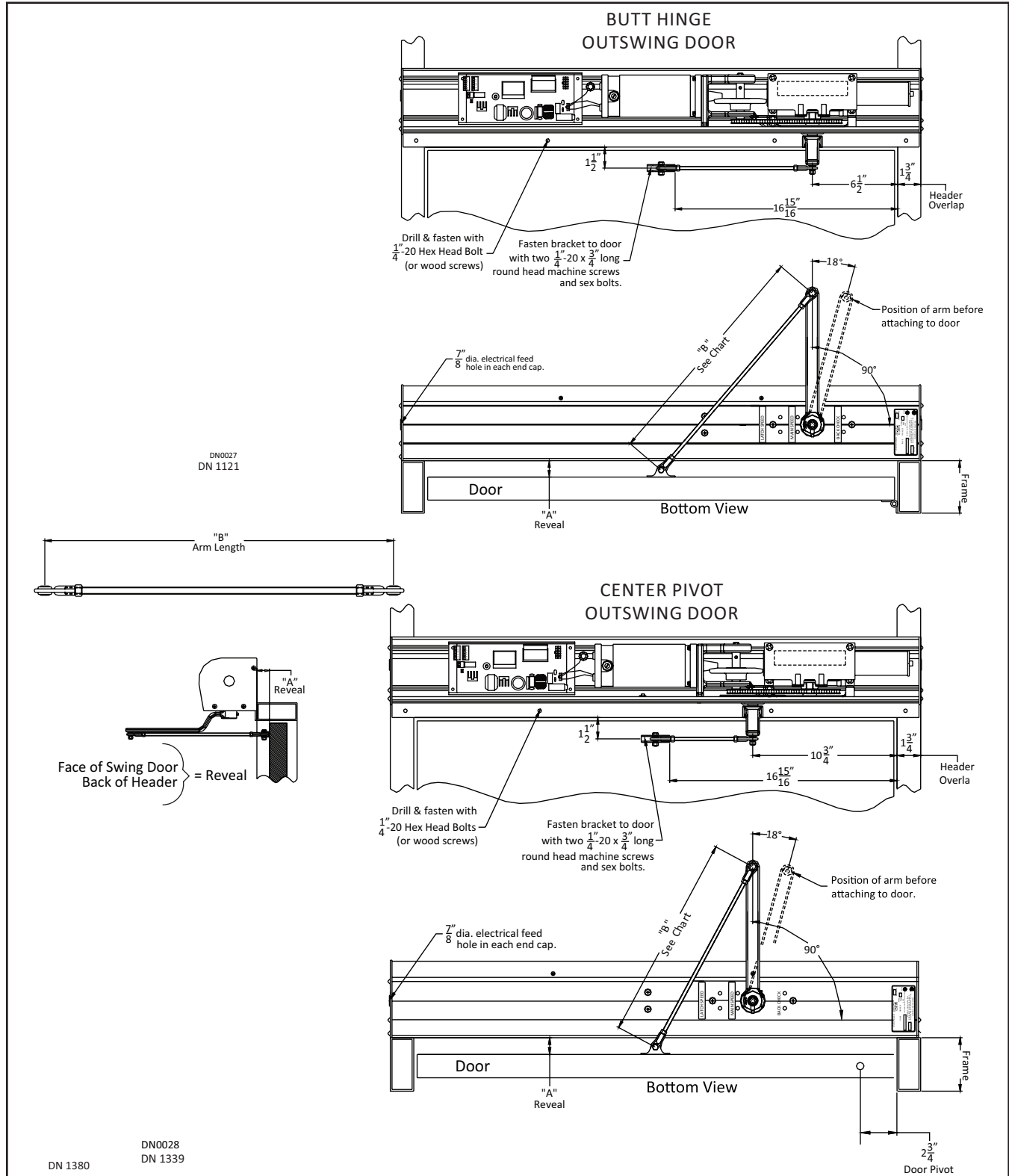
Attention: Insert all Incoming 120 VAC Power wires into the pre drilled Electric Service Access Hole located at the left or right side of Header End Cap.

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



CHAPTER 5: INSTALL THE OUTSWING ARM SHOE ASSEMBLY

Section 5 a: Prep the Door



Section 5 b: Prep and Secure the Outswing Arm Shoe Assembly

Table 5-1 Dimension "B" Full Length of Outswing Arm for **BUTT HINGE**

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 5-2 Dimension "B" Full Length of Outswing Arm for **CENTER PIVOT**

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"

1. Remove the Swing Arm from the Threaded Rod.

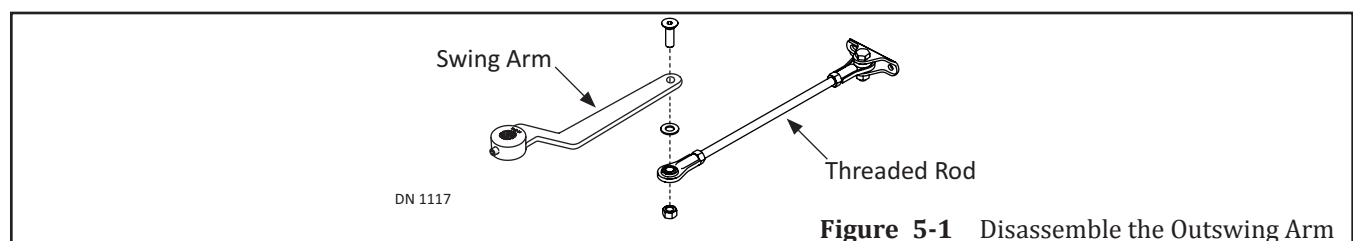
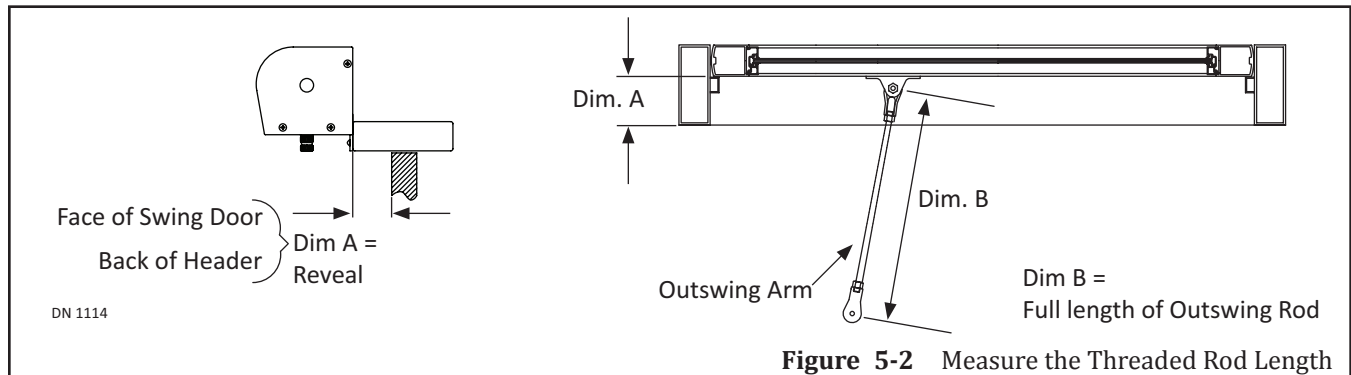
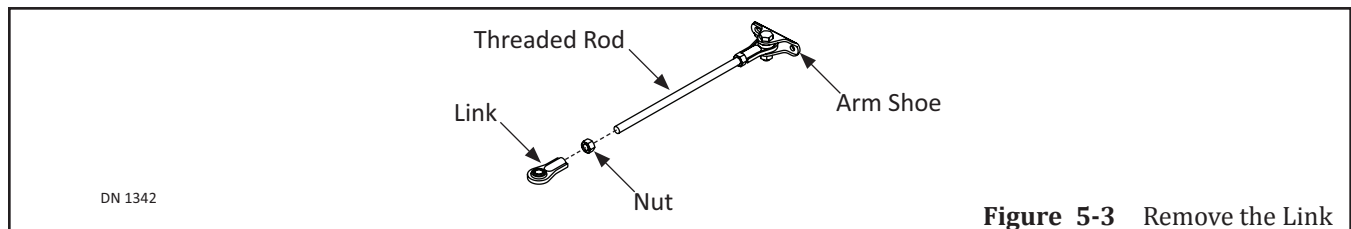


Figure 5-1 Disassemble the Outswing Arm

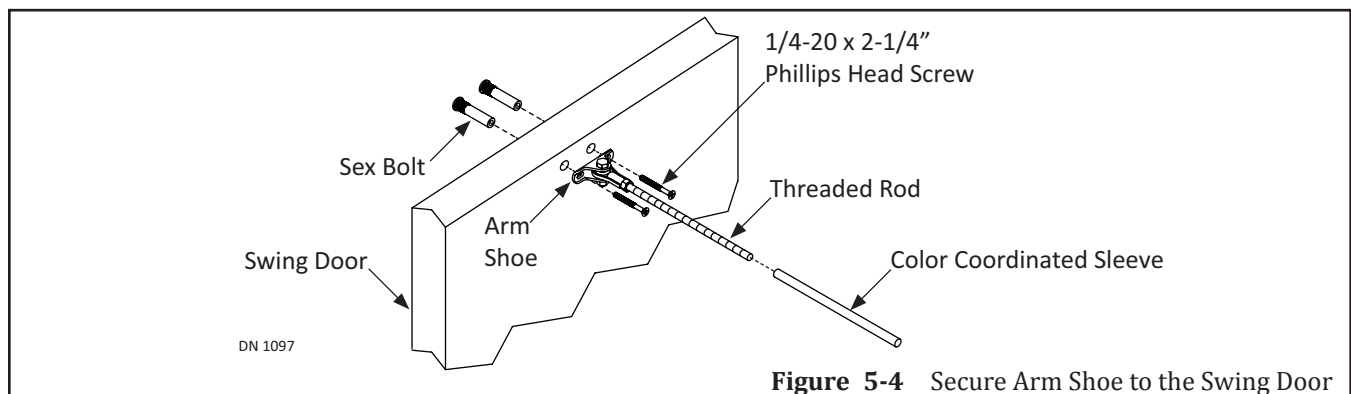
2. Measure between the center of each Eye located at each end of the Outswing Rod.
3. Write that measurement down.



4. Remove the Link from the Rod (that is not used to attach the Arm Shoe).



5. Please refer to Table 5-1 or Table 5-2 to obtain the appropriate full length measurement of the Outswing Arm.
6. Cut the Threaded Rod according to the Rod length measurement that was determined from Table 5-1 or Table 5-2.
 - a. The Threaded Rod will be approximately 1 inch shorter than the full length measurement.
7. Obtain (1) color coordinated Plastic Tube from the Outswing Rod assembly.
8. Cut the Plastic Tube to the same length as the exposed Rod (between the Links and Nuts).
9. Slide the Plastic Tube over the Threaded Rod.
10. Replace the Rod Link back onto the Threaded Rod. Tighten Nut against the Link to prevent the Rod from screwing In or Out.
11. Go to the back of the Swing door. Insert each Sex Bolt into the drilled holes.
12. Go to the front of the Swing door. Secure the Arm Shoe to the Swing door with (2) 1/4-20 x 2-1/4" Screws.



CHAPTER 6: INSTALL THE INSWING ARM TRACK

Section 6 a: Prep the Door for Inswing Arms with Reveal

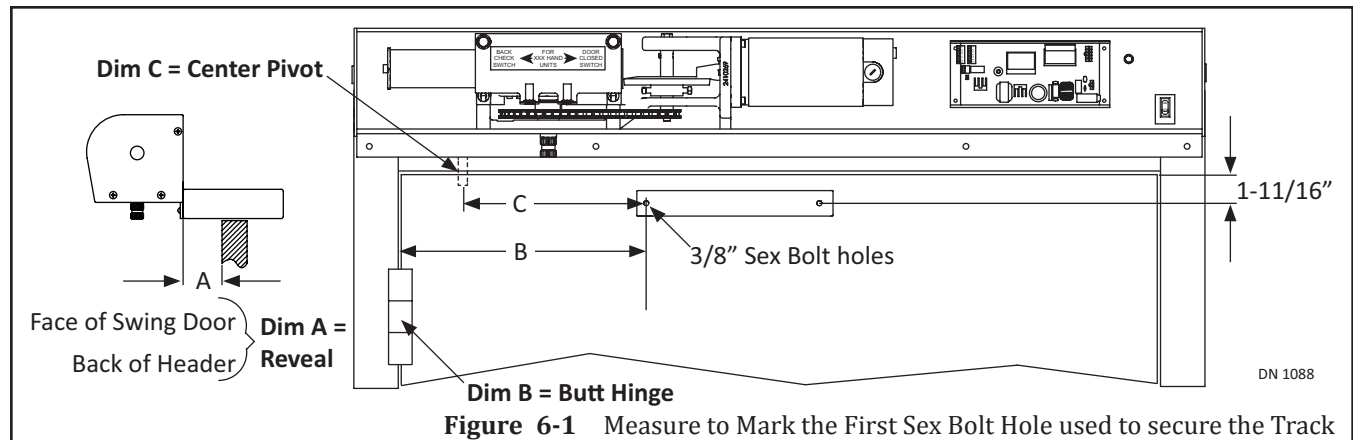


Table 6-1 Small Track Mounting Locations (12-1/4 inches)

Dim A	Dim B	Dim C	Dim A	Dim B	Dim C	Dim A	Dim B	Dim C
Reveal	Butt Hinge	Center Pivot	Reveal	Butt Hinge	Center Pivot	Reveal	Butt Hinge	Center Pivot
0	7-5/8"	7-3/16"	2-3/4"	8-11/16"	9-3/8"	5-1/2"	14-1/2"	13-13/16"
1/4"	7-3/4"	7-3/8"	3"	13-1/8"	9-9/16"	5-3/4"		
1/2"	7-15/16"	7-9/16"	3-1/4"	13-3/8"	13-1/16"	6"		
3/4"	8-1/8"	7-3/4"	3-1/2"	13-9/16"	13-1/4"	6-1/4"		
1"	8-5/16"	7-15/16"	3-3/4"	13-3/4"	13-1/2"	6-1/2"	18-1/2"	
1-1/4"	8-1/2"	8-1/8"	4"	14"	13-11/16"	6-3/4"	18-9/16"	17-7/8"
1-1/2"	8-11/16"	8-5/16"	4-1/4"	14-3/16"	13-3/4"	7"		
1-3/4"	8-7/8"	8-1/2"	4-1/2"	14-7/16"		7-1/4"	18-5/8"	17-15/16"
2"	8-1/16"	8-3/4"	4-3/4"	14-1/2"		7-1/2"		N/A
2-1/4"	8-1/4"	8-15/16"	5"					
2-1/2"	8-1/2"	9-1/8"	5-1/4"		13-13/16"			

Table 6-2 Large Track Mounting Locations (21 inches)

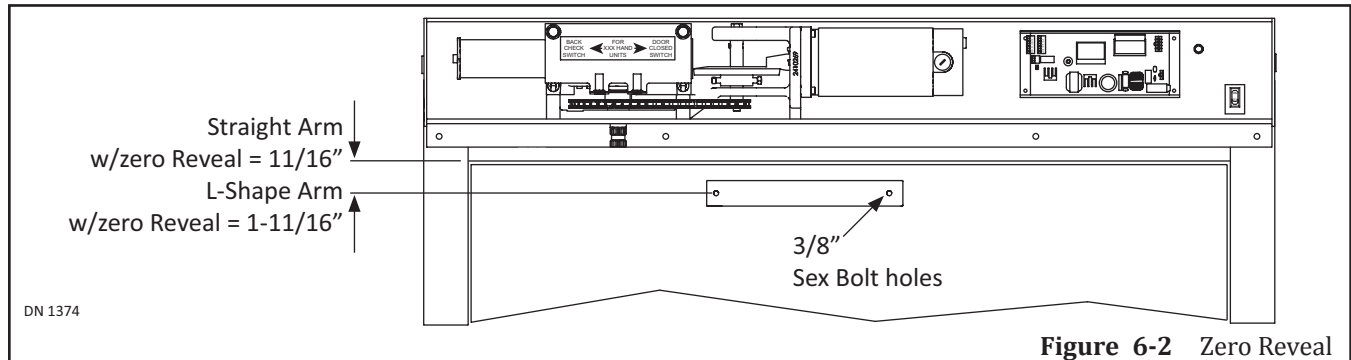
Dim A Reveal	Dim B Butt Hinge	Dim C Center Pivot no Finger Guard
7-1/2"	N/A	13-1/2"
7-3/4"	14-1/4"	13-9/16"
8"		13-5/8"
8-1/4"		
8-1/2"		
8-3/4"		
9"		
9-1/4"		

Dim A Reveal	Dim B Butt Hinge	Dim C Center Pivot no Finger Guard
9-1/2"	14-1/4"	13-5/8"
9-3/4"		13-9/16"
10"		
10-1/4"	14-3/16"	13-9/16"
10-1/2"	19-1/4"	18-5/8"
10-3/4"		18-11/16"
11"		
11-1/4"	19-5/16"	

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

1. Measure and mark a Horizontal Line from the (Center Hinge or Butt Hinge) to the center of the Face of Door according to Table 6-1 or Table 6-2 (Track Mounting Locations). Please see Figure 6-1.
2. Measure 1 - 11/16 inches from the Bottom of Door Frame to the Horizontal Line. Mark a vertical line across the Horizontal Line. This is the center of the first Sex Bolt hole. For Zero Reveal, please refer to Subsubsection Section 6 b "Zero Reveal".
3. Butt the Track against the Swing door by aligning the first Sex Bolt hole with the measured Mark.
4. Ensure the Track is square and level. Use the Track as a Template to mark the second Sex Bolt hole.

Section 6 b: Prep the Door for Inswing Arms with Zero Reveal

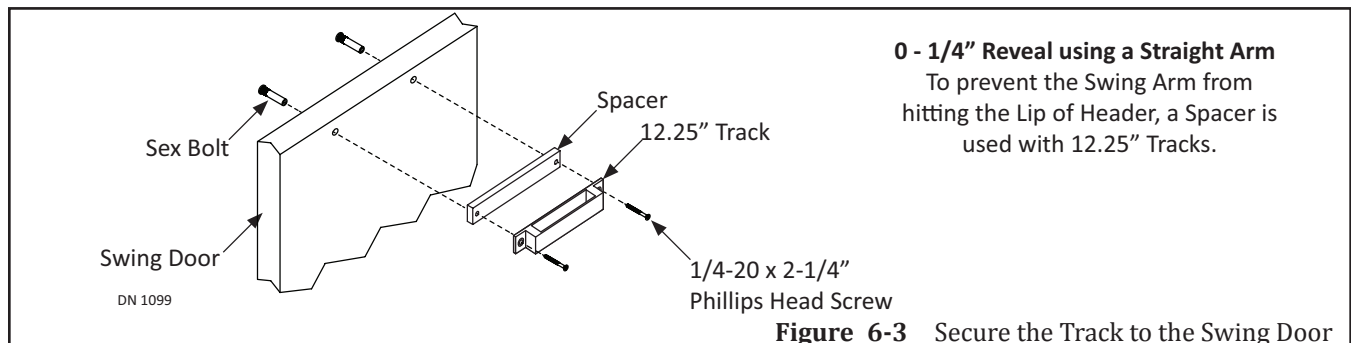


Note: For zero Reveal applications the Straight Arm can be used to eliminate the Arm protruding into the room.

- ▶ Straight Arm: Measure 11/16 inch from the Bottom of Door Frame down to the Horizontal Line. Mark a vertical line across the Horizontal Line. This is the center of the first Sex Bolt hole.
- ▶ L-Shape Arm: Measure 1-11/16 inch from the Bottom of Door Frame down to the Horizontal Line. Mark a vertical line across the Horizontal Line. This is the center of the first Sex Bolt hole.

Section 6 c: Secure the Track to the Swing Door

1. Drill (2) 3/8 inch bolt holes all the way through the Swing door. Please see Figure 6-3.
2. 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 a (zero or small reveal), and, if the wall/frame is not straight, vertical, plum etc., install (1) Spacer (21-0902) behind the Track only if Reveal has a variance of zero to 1/4 inch and a Straight Arm is being installed.
 - 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.
3. Butt the Track against the front face of Swing door by aligning the Sex Bolt holes.
 - a. Install (1) Spacer behind the Track for Swing doors with "0" Reveal (If required).
4. Secure the Track to the Swing Door with (2) 1/4-20 x 2-1/4" Screws.



0 - 1/4" Reveal using a Straight Arm
To prevent the Swing Arm from hitting the Lip of Header, a Spacer is used with 12.25" Tracks.

Figure 6-3 Secure the Track to the Swing Door

CHAPTER 7: INSTALL THE SWING ARM

Section 7 a: Set Pre-Load

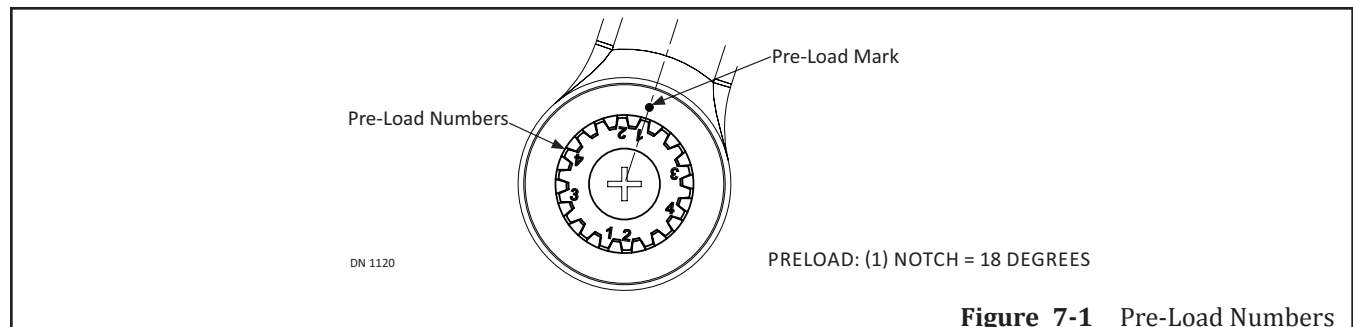
WARNING

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.

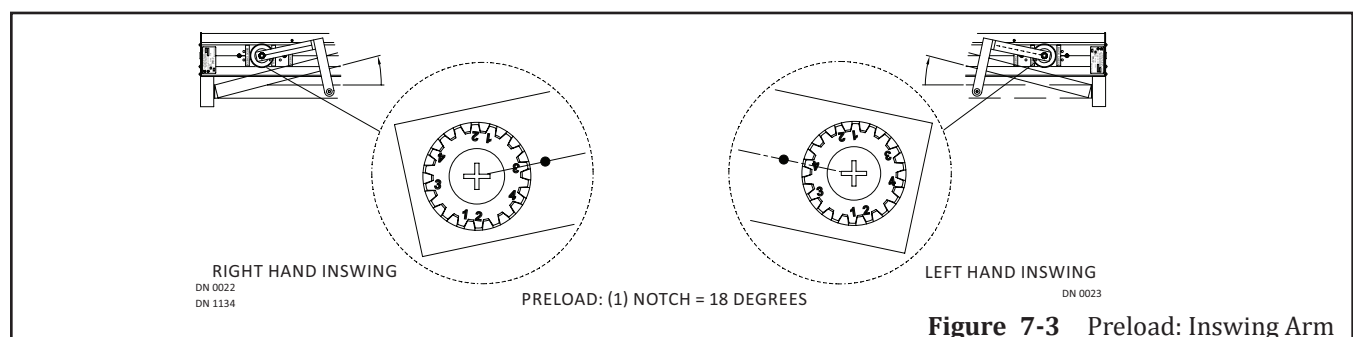
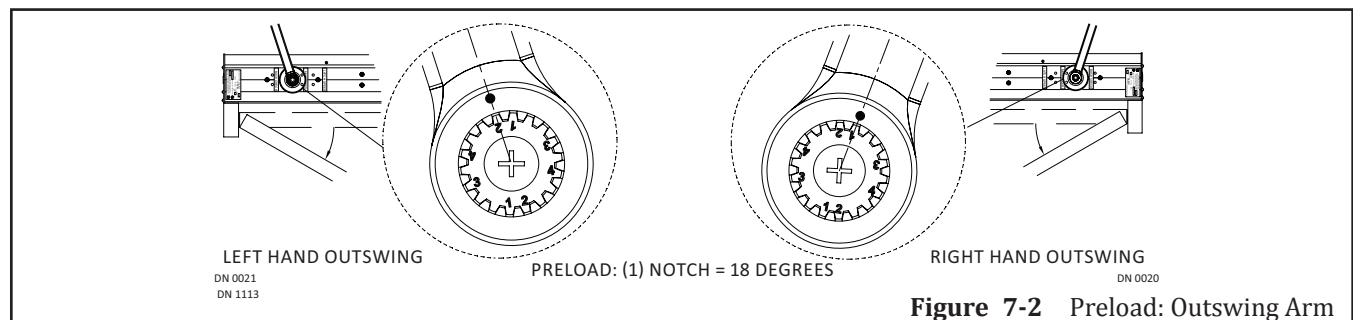
1. Locate pre-load numbers 1-4 on the Bottom of the Operator Spindle. Pre-load numbers 1-4 mark the correct installation position for pre-load. Please see Figure 7-1.

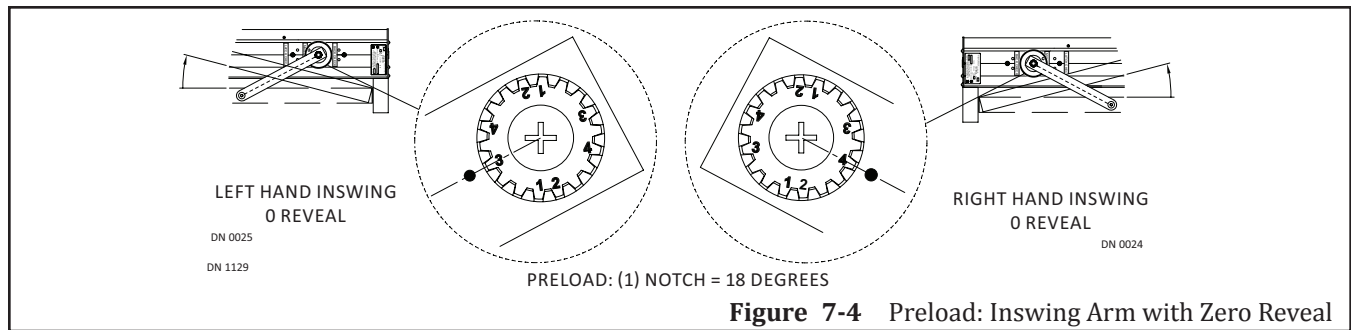


2. Slide the Swing Arm onto the Operator Spindle by aligning the appropriate pre-load number to the pre-load mark on the underside of Swing Arm:

RH Outswing 1	LH Outswing 2	RH Inswing 3	LH Inswing 4	RH Inswing-0 Reveal 4	LH Inswing-0 Reveal 3
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3. Please see Figure 7-2, or Figure 7-3, or Figure 7-4.



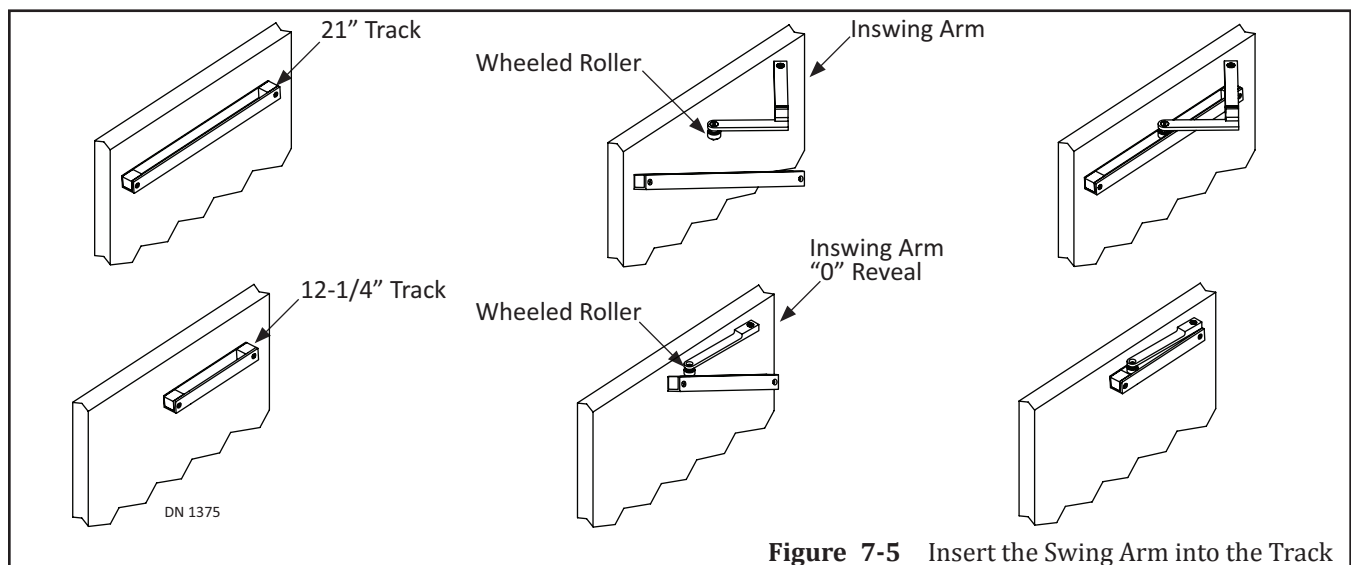


4. Secure the Swing Arm to the Operator Spindle with (1) Set Screw. Tighten but do not overtighten.
 - a. Ensure the Set Screw is seated correctly within the groove on the Operator Spindle.

Section 7 b: Secure the Swing Arm to the Swing Door

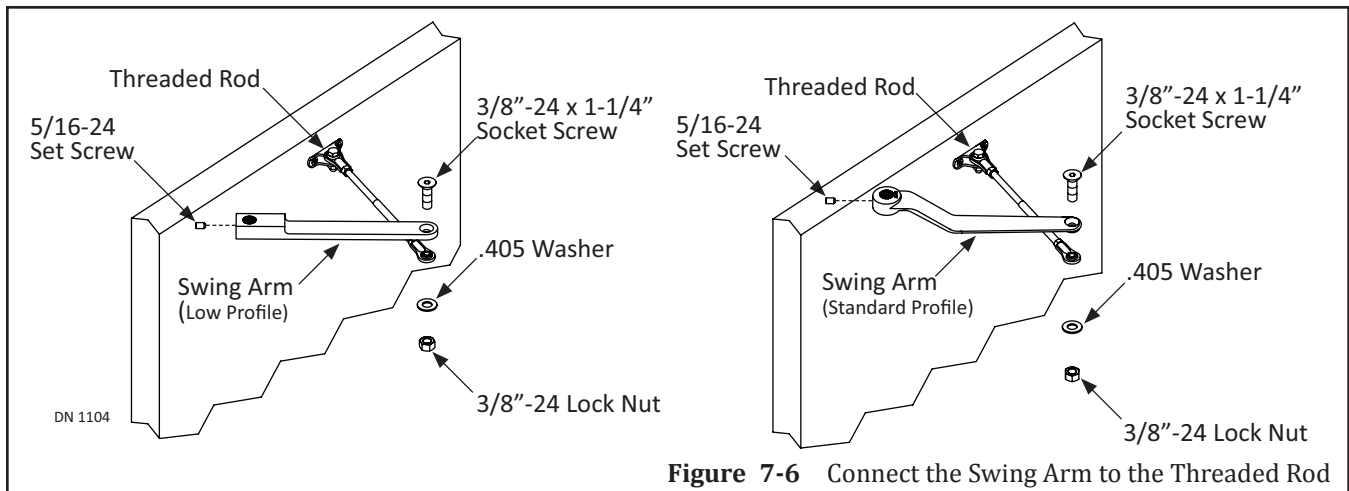
7.b.a Inswing Arm

1. Remove the first 1/4-20 x 2-1/4" Screw (closest to the Pivot Door Jamb) that is used to secure the Track to the Swing door.
 - a. That side of the Track will hang down.
2. Close the Swing door to allow the Wheeled Roller (located at the end of the Swing Arm) to butt against the Swing door.
3. Pull the Swing Arm to the Swing door, then raise the Track.
4. Resecure the Track to the Swing door with (1) 1/4-20 x 2-1/4" Screw.



7.b.b Outswing Arm

1. Align the screw hole at the end of Swing Arm to the Rod End screw hole. Please see Figure 7-6.
2. Pull the Swing Arm towards the Rod to connect.
3. Secure the Swing Arm to the Threaded Rod with (1) 3/8"-24 x 1-1/4" Socket Screw, (1) .405 Washer, and (1) 3/8"-24 Lock Nut.



Section 7 c: Install the Arm Stop

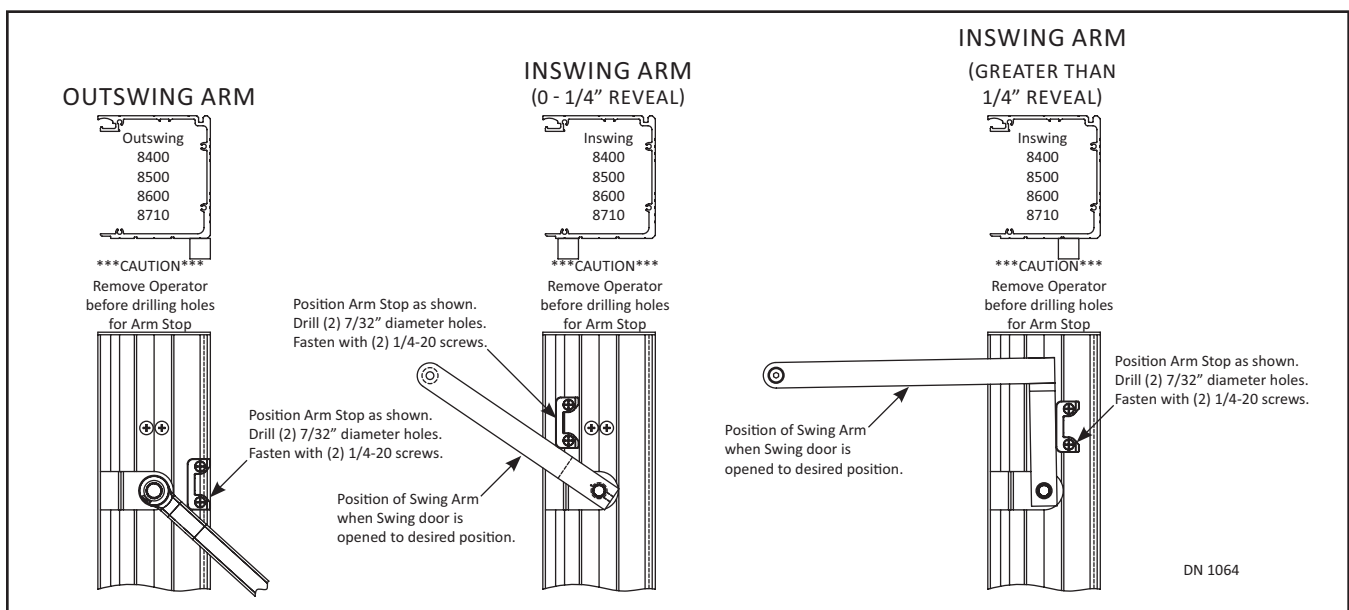
CAUTION

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 Power OFF.
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 8: ADJUSTMENTS

Section 8a: Adjust Opening/Closing Force on LCN Tension Spring

WARNING

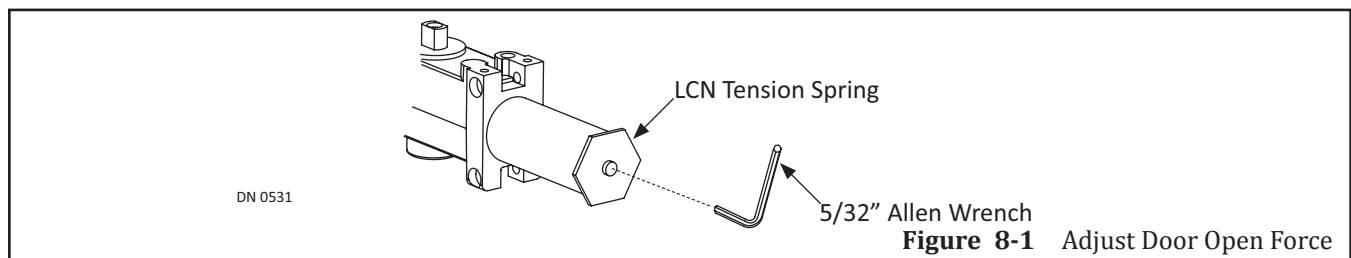
Improperly installed/adjusted Tension Springs may cause property damage or personal injury. Please follow instructions carefully.

CAUTION

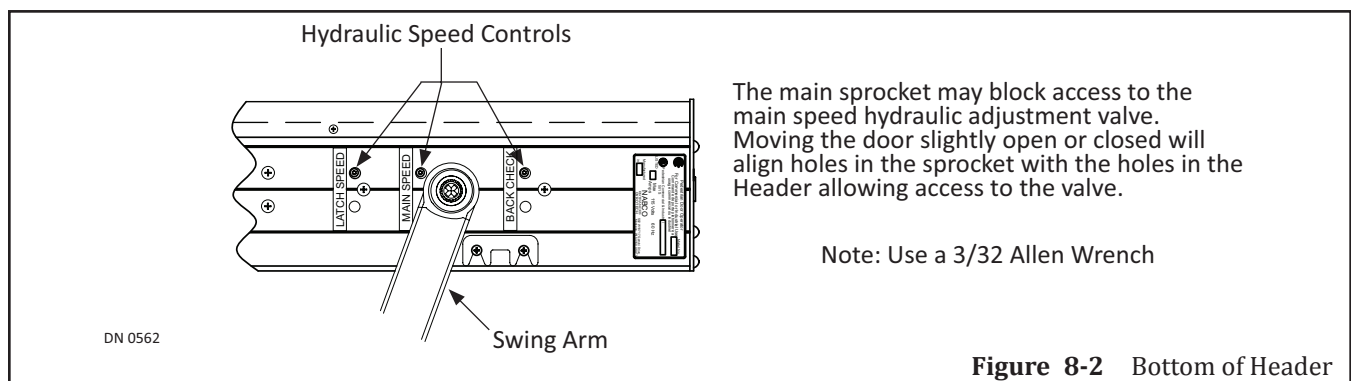
Opening Force must be properly adjusted on the LCN Tension Spring - **BEFORE** - the Magnum 4A Control can be adjusted.

The LCN 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.

1. Turn Power OFF.
2. Insert 5/32 Allen Wrench in the Screw located at the end of the LCN 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.



8.a.a: Hydraulic Speed Control



8.a.b: 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.

Section 8b: 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.
 - a. Re-adjust if necessary.

Section 8c: 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 Latch 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 not easily slam open.
 - a. Re-adjust if necessary.

CHAPTER 9: 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.	► 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: ► Over current at motor ► Abnormal voltage at Motor Circuit ► Abnormal value from Motor Current detection.	► 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	► This is the Sensor monitoring functionality. ► Hand-shake for Safety Sensor not working properly.	► Check Opus: • 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.