



Swing Arm Guide

P/N 15-14852 Rev 11-06-14

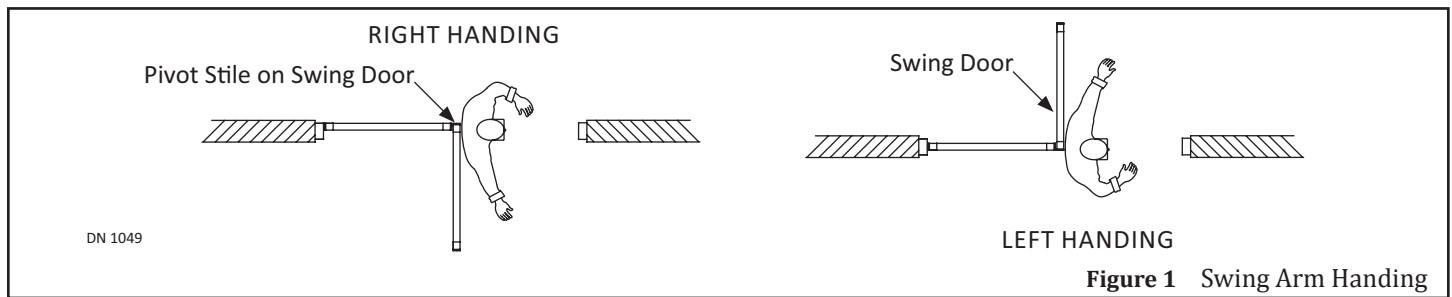
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Associated Manuals Part Numbers: *Conversion Unit Swing Door Systems 400-500-600-8400-8500-8600 P/N 15-10538*
 GT400-500-600-8400-8500-8600 CU Swing Doors QSPG P/N 15-12499-004
 Low Energy Operator Swing Door Systems Side Load Units P/N 15-10683
 GT 710-8710 Low Energy Swing Doors QSPG P/N 15-12499-003
 Overhead Concealed Swing Door Systems Bottom Load and Side Load Models P/N 15-10744
 GT 300-350 OHC Swing Doors QSPG P/N 15-12499-005

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SECTION 1: SWING DOOR UNIT TYPES



1.1 GT 300-350 Overhead Concealed Header

- ▶ OHC Header:
 - Secured within a Swing Door Frame.
 - Can be ordered as a complete NABCO Swing Door Unit, or can be retrofitted with an existing Swing door.
- ▶ Bottom Load OHC Header: GT 300-350
- ▶ Side Load OHC Header: GT 8300-8350
- ▶ All types of OHC Headers have Emergency Egress capabilities:
 - Inswing Arms need to use a Panic Latch for Emergency Egress capability.
- ▶ Splined Arm:
 - Installed onto the Motor/Operator Spindle and the OHC Track Assembly, located inside the Top Door Rail (Web).
 - Splined Arm has inswing/outswing capabilities.

1.2 GT 710-8710 Low Energy Header

- ▶ Low Energy Header:
 - Mounted to an existing door frame or wall.
 - Retrofitted with an existing Swing Door.
- ▶ Low Energy, Side Load GT 710 Header:
 - (5) inches tall.
 - Needs ample clearance between the top of Header and ceiling to remove the Header Cover.
 - Header Cover is rounded.
 - Bottom of Header has a Lip.
- ▶ Low Energy, Side Load GT 8710 Header:
 - (6) inches tall.
 - Does not need ample clearance to remove Header Cover.
 - Header Cover is square.
 - Allows more room inside Header for installation purposes.
- ▶ The Hydraulic Motor Operator does not allow Emergency Egress on either Low Energy Header.

1.2.1: Inswing Arm

- ▶ Inswing Arm is installed onto the Motor/Operator Spindle and placed inside a Track located on Swing door.
 - May need to place (1) spacer behind the Track in order for Swing door to swing past the 1 inch lip of Header.

1.2.2: Outswing Arm

- ▶ Outswing Arm is installed onto the Motor/Operator Spindle and then secured to a Shoe Arm located on Swing door.

1.3 GT 400-8400, and 500-8500, and 600-8600 Conversion Unit Header

- ▶ CU Header:
 - Mounted to an existing door frame or wall.
 - Retrofitted with an existing Swing Door.
- ▶ Bottom Load CU Header: GT 400-500-600
- ▶ Side Load CU Header: 8400-8500-8600
- ▶ All types of OHC Headers have Emergency Egress Capabilities
 - Inswing Arms need to use a Panic Latch conversion kit for Emergency Egress capability.

1.3.1: Inswing Arm

- ▶ Inswing Arm is installed onto the Motor/Operator Spindle and placed inside a Track located on Swing door.

1.3.2: Outswing Arm

- ▶ Outswing Arm is installed onto the Motor/Operator Spindle and then secured to a Shoe Arm located on Swing door.

SECTION 2: INSWING ARM (LOW ENERGY AND CONVERSION UNITS)

Note: Ensure there is a 2 inch gap minimum between the wall and the outside face of the Swing door in the fully opened position (90 degrees) for Inswing Arm to operate properly.

Inswing Arms installed on Headers: GT-710-8710; GT-400-8400; GT-500-8500; GT-600-8600 are displayed in Figure 2.

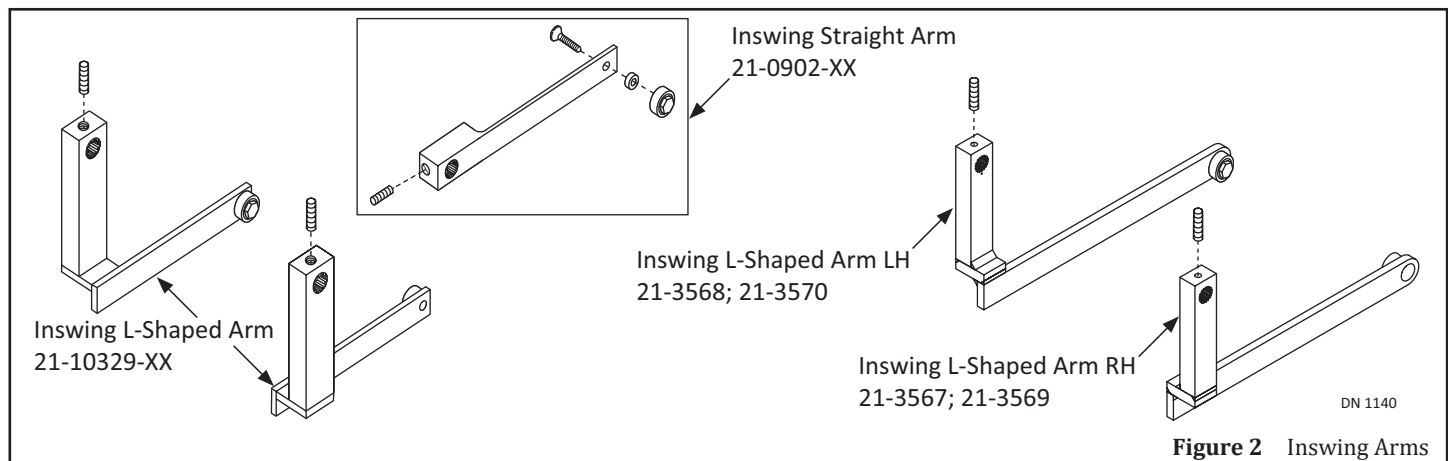


Figure 2 Inswing Arms

2.1 Types of Inswing Arms

Straight Inswing Arm: ▶ Reveal **equal** to 0 degrees
 ▶ Non-handed
 ▶ Do Not Use for Emergency Egress

Bent Arm (L-Shaped): ▶ Reveal **greater** than 0 degrees
 ▶ Handed
 ▶ Must Use for Emergency Egress

2.2 Reveal

Reveal is used to determine the appropriate Swing Arm and Swing Arm length. Reveal is calculated by measuring the distance between the face of Swing Door to the Back of Header. All Inswing arms are cut according to Reveal at the NABCO Factory.

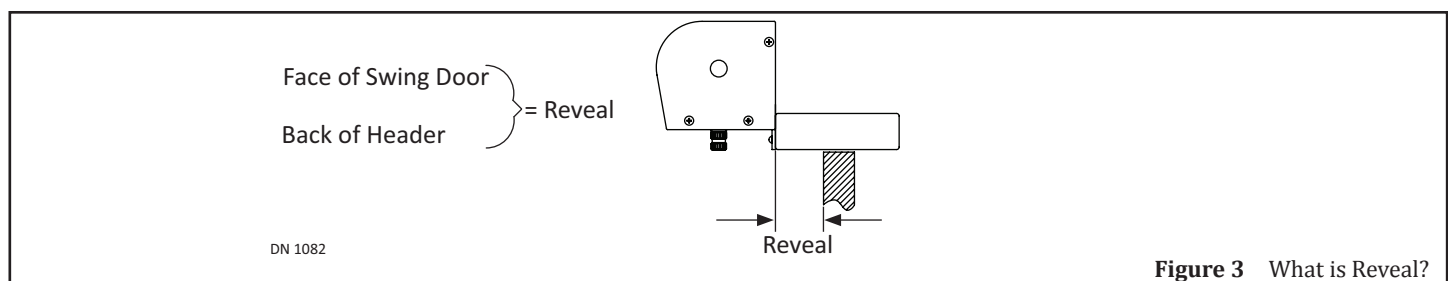


Figure 3 What is Reveal?

Table 1 GT 710-8710 Inswing Arm Length according to Reveal

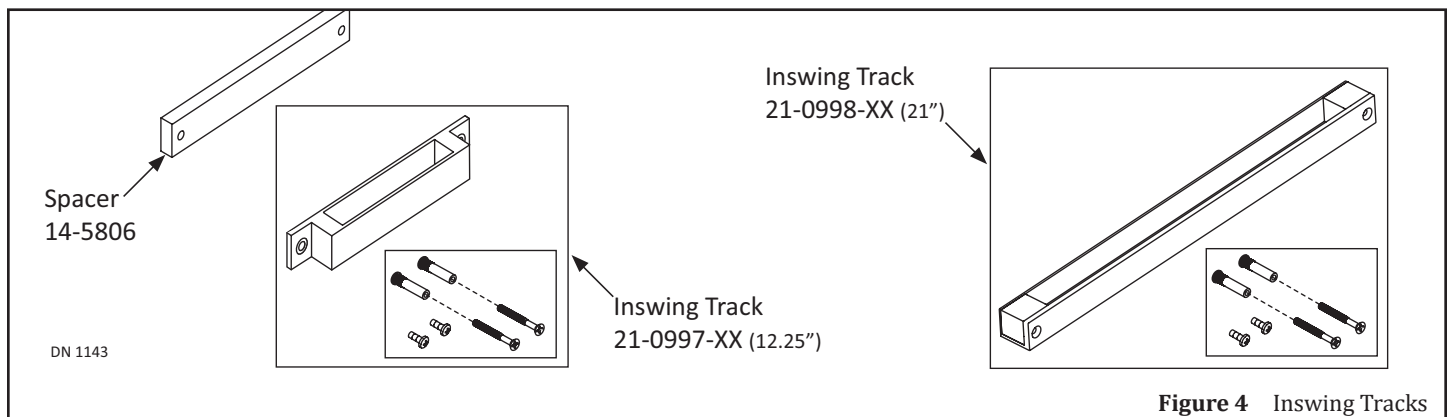
Reveal		Right Inswing Arm			Left Inswing Arm			
0°	21-0902-01	Clear	21-0902-02	Dark Bronze	21-0902-01	Clear	21-0902-02	Dark Bronze
0° - 2°	24-10329-51		24-10329-52		24-10329-11		24-10329-12	
2° - 5-1/2°	24-10329-61		24-10329-62		24-10329-21		24-10329-22	
5-1/2° - 9-3/4°	24-10329-71		24-10329-72		24-10329-31		24-10329-32	
9-3/4° - 13°	24-10329-81		24-10329-82		24-10329-41		24-10329-42	

Table 2 GT 400-8400, GT 500-8500, GT 600-8600 Inswing Arm Length according to Reveal

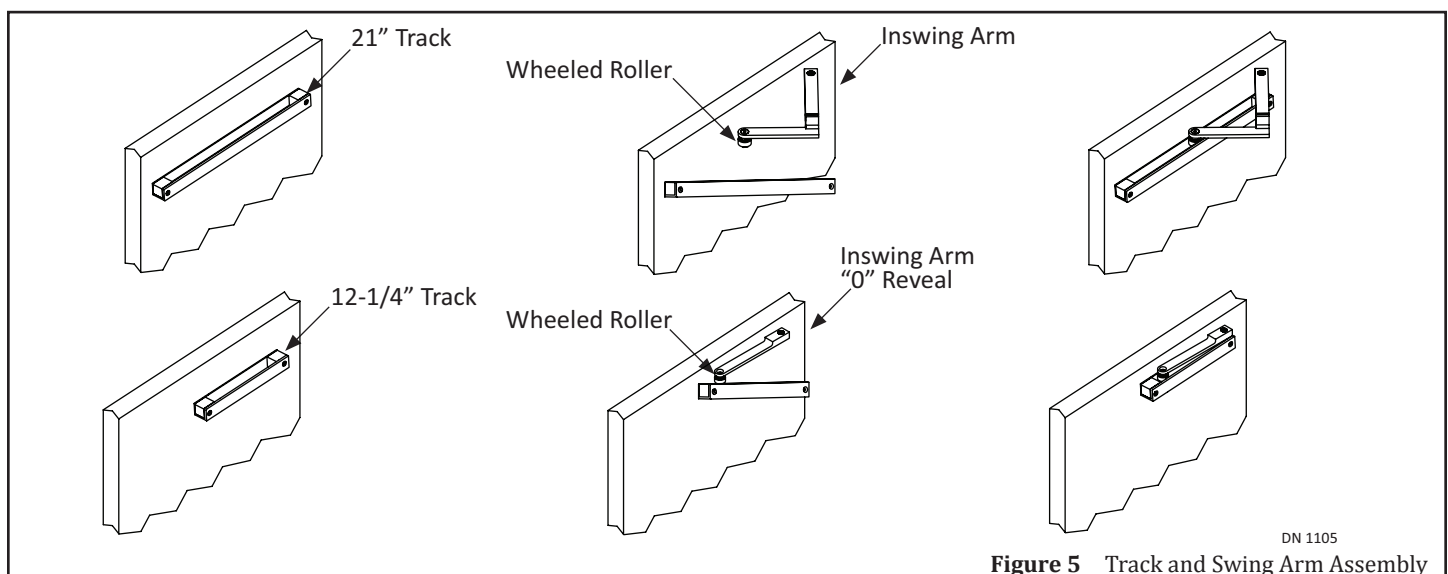
Reveal		Right Inswing Arm			Left Inswing Arm			
0°	21-0902-01	Clear	21-0902-02	Dark Bronze	21-0902-01	Clear	21-0902-02	Dark Bronze
0° - 3.25°	21-3567		21-3569		21-3568		21-3570	

2.3 Inswing Track

Tracks installed on Swing door Units: GT-710-8710; GT-400-8400; GT-500-8500; GT-600-8600 are displayed in Figure 3.

**Figure 4** Inswing Tracks

There are (2) types of Tracks (12.25 inch and 21 inch). Track length depends upon Reveal and Arm Length with one exception, the 21 inch Track is used for emergency egress for all units except the GT 710-8710 unit. The GT 710-8710 unit does not have emergency egress capabilities due to the Hydraulic Motor Operator. The wheeled roller (located at the end of the Swing Arm) is placed inside the Track to allow the Swing door to fully open and close with one smooth motion. Please see Figure 4.

**Figure 5** Track and Swing Arm Assembly

2.3.1 The Spacer

The Spacer is installed behind a 12.25 inch Track, on GT 710 Unit only (no other Sideload Header has a bottom lip). If the wall/ frame is not straight, vertical, plum etc., and Reveal has a variance of zero to 1/4 inch; (1) Spacer is installed behind the 12.25 inch Track to keep the Swing Arm from hitting the bottom lip of Header. If a Spacer can not be obtained, a couple of washers can be used.

Table 3 Track Size according to Reveal

Unit	Reveal	12.25 inch Track			21 inch Track				
GT 710-8710	0" - 7-1/2"	21-0997-01	Clear	21-0997-02	Dark Bronze	21-0998-01	Clear	21-0998-02	Dark Bronze
GT 710 Spacer	0" - 1/4"	14-5806	Black	N/A		N/A		N/A	
GT 400-8400	0" - 3.25"	21-0997-01	Clear	21-0997-02		21-0998-01 Emergency Egress only		21-0998-01 Emergency Egress only	
GT 500-8500	0" - 3.25"	21-0997-01		21-0997-02					
GT 600-8600	0" - 3.25"	21-0997-01		21-0997-02					

2.3.2 GT 710-8710 Track Location

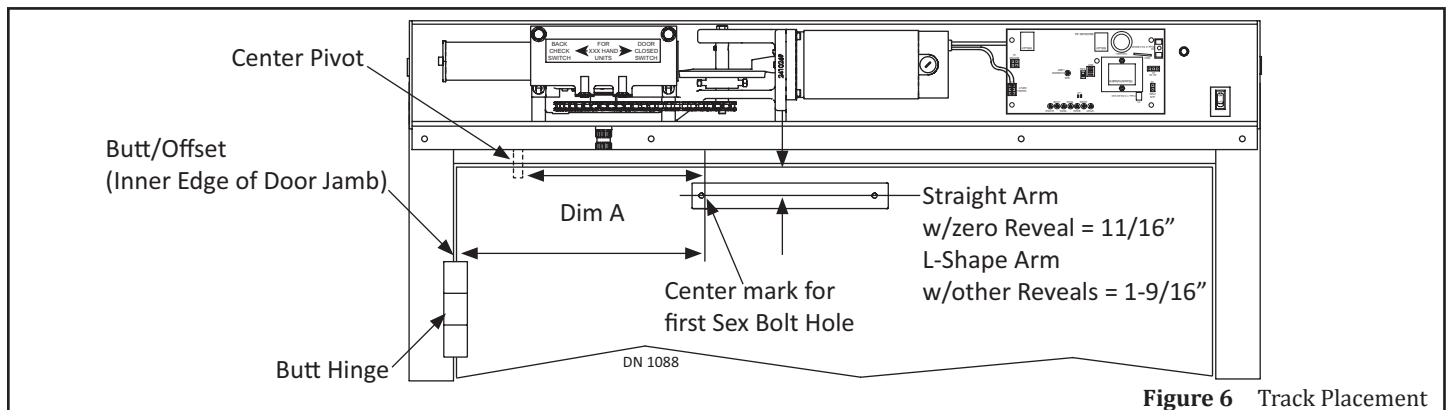


Figure 6 Track Placement

Table 4 12-1/4 inch Track location according to Reveal

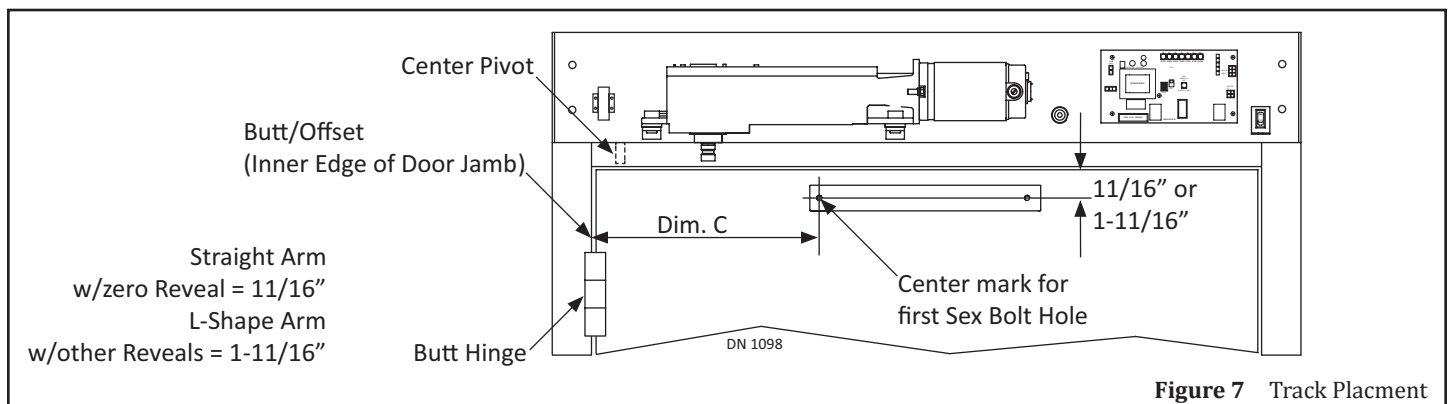
Small Track (12-1/4 inches) Dim A			
Reveal	Butt Hinge	Center Pivot w/Finger Guard	Center Pivot no Finger Guard
0	7-5/8"	8-3/16"	7-3/16"
1/4"	7-3/4"	8-3/8"	7-3/8"
1/2"	7-15/16"	8-9/16"	7-9/16"
3/4"	8-1/8"	8-3/4"	7-3/4"
1"	8-5/16"	8-15/16"	7-15/16"
1-1/4"	8-1/2"	9-1/8"	8-1/8"
1-1/2"	8-11/16"	9-5/16"	8-5/16"
1-3/4"	8-7/8"	9-1/2"	8-1/2"
2"	9-1/16"	9-3/4"	8-3/4"
2-1/4"	9-1/4"	9-15/16"	8-15/16"
2-1/2"	9-1/2"	10-1/8"	9-1/8"
2-3/4"	9-11/16"	10-3/8"	9-3/8"
3"	13-1/8"	10-9/16"	9-9/16"
3-1/4"	13-3/8"	14-1/16"	13-1/16"
3-1/2"	13-9/16"	14-1/4"	13-1/4"
3-3/4"	13-3/4"	14-1/2"	13-1/2"

Small Track (12-1/4 inches) Dim A			
Reveal	Butt Hinge	Center Pivot w/Finger Guard	Center Pivot no Finger Guard
4"	14"	14-11/16"	13-11/16"
4-1/4"	14-3/16"	14 -3/4"	13-3/4"
4-1/2"	14-7/16"	14-3/4"	13-3/4"
4-3/4"	14-1/2"	14-3/4"	13-3/4"
5"	14-1/2"	14-3/4"	13-3/4"
5-1/4"	14-1/2"	14-13/16"	13-13/16"
5-1/2"	4-1/2"	14-13/16"	13-13/16"
5-3/4"			
6"			
6-1/4"			
6-1/2"	18-1/2"	18-7/8"	17-7/8"
6-3/4"	18-9/16"		
7"	18-9/16"		
7-1/4"	18-5/8"		
7-1/2"	18-5/8"	N/A	N/A

Table 5 21 inch Track location according to Reveal

Large Track (21 inches) Dim A			
Reveal	Butt Hinge	Center Pivot w/Finger Guard	Center Pivot no Finger Guard
7-1/2"	N/A	14-1/2"	13-1/2"
7-3/4"	14-1/4"	14-9/16"	13-9/16"
8"			
8-1/4"		14-5/8"	13-5/8"
8-1/2"			
8-3/4"			
9"		14-1/4"	14-5/8"
9-1/4"			
9-1/2"			
9-3/4"			
10"			
10-1/4"	14-3/16"		

Large Track (21 inches) Dim A			
Reveal	Butt Hinge	Center Pivot w/Finger Guard	Center Pivot no Finger Guard
10-1/2"	19-1/4"	14-9/16"	13-9/16"
10-3/4"		19-5/8"	18-5/8"
11"		19-11/16"	18-11/16"
11-1/4"	19-9/16"		
11-1/2"	19-5/16"		
11-3/4"			
12"			
12-1/4"	19-5/16"	19-11/16"	18-11/16"
12-1/2"			
12-3/4"			
13"			

Table 6 GT 400-8400, GT 500-8500, GT 600-8600 Track Location**Figure 7** Track Placement**Table 7** GT 400-8400, GT 600-8600 Track Location according to Reveal

Small Track (12-1/4 inches) Dim A			
Reveal	Butt Hinge	Center Pivot w/Finger Guard	Center Pivot no Finger Guard
0-3.25	N/A	13"	12"

Large Track (21 inches) Dim A			
Reveal	Butt Hinge	Center Pivot w/Finger Guard	Center Pivot no Finger Guard
0-3.25"	N/A	3- 3/4"	2-3/4"

Table 8 GT 500-8500 Track Location according to Reveal

Small Track (12-1/4 inches) Dim A			
Reveal	Butt Hinge	Center Pivot w/Finger Guard	Center Pivot no Finger Guard
0-3.25	N/A	13-3/4"	12"

Large Track (21 inches) Dim A			
Reveal	Butt Hinge	Center Pivot w/Finger Guard	Center Pivot no Finger Guard
0-3.25"	N/A	3- 3/4"	2-3/4"

SECTION 3: OUTSWING ARM (LOW ENERGY AND CONVERSION UNITS)

Outswing Arms shown in Figure 8 installed onto Headers: GT-710-8710; GT-400-8400; GT-500-8500; GT-600-8600, are attached to the Operator Spindle and the Arm Shoe located on the Swing door.

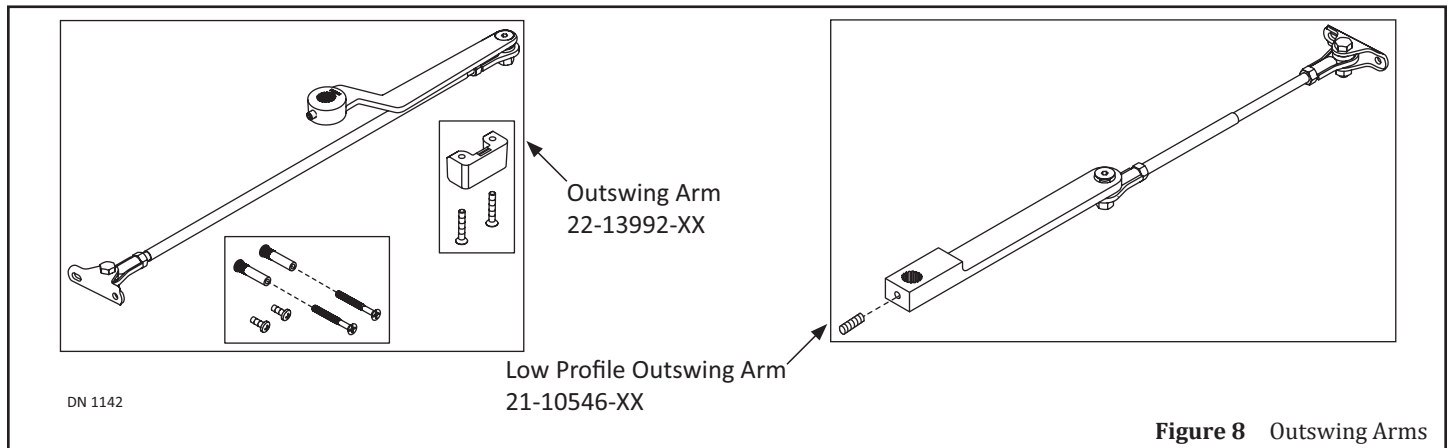


Figure 8 Outswing Arms

3.1 Types of Outswing Arms

Outswing Arm: ▶ Standard
▶ Used when height of Swing door is less than 80 inches high.

Low Profile Outswing Arm: ▶ Used when height of Swing door is a minimum (80-81 inches high).
▶ Allows 1 extra inch Header clearance.
▶ Can also be used for aesthetic purposes.

The Outswing Arm is shipped by NABCO fully assembled. The Outswing Arm needs to be unassembled before the Arm Shoe can be secured to the Swing door and the Threaded Rod can be cut to the appropriate length according to Reveal. Please see Figure 9.

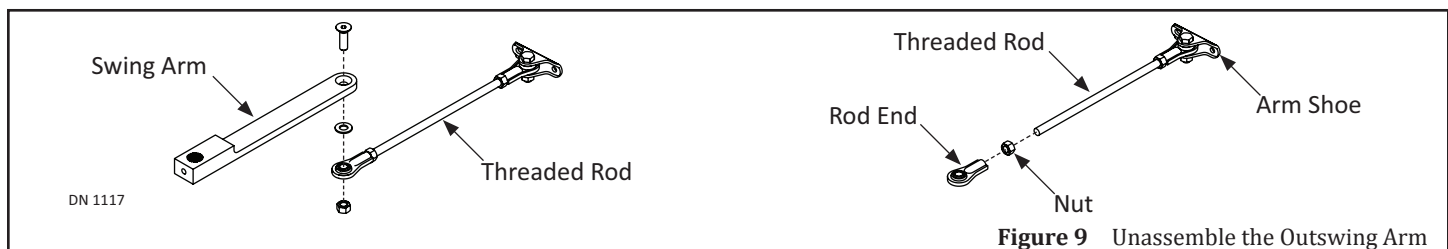


Figure 9 Unassemble the Outswing Arm

3.2 Reveal

Reveal is used to determine appropriate Threaded Rod length only (not Arm Shoe location). Reveal is calculated by measuring the distance between the face of Swing Door to the Back of Header. All threaded rods for Outswing arms are cut according to Reveal by the installer. Please see Dimension B displayed in Figure 10.

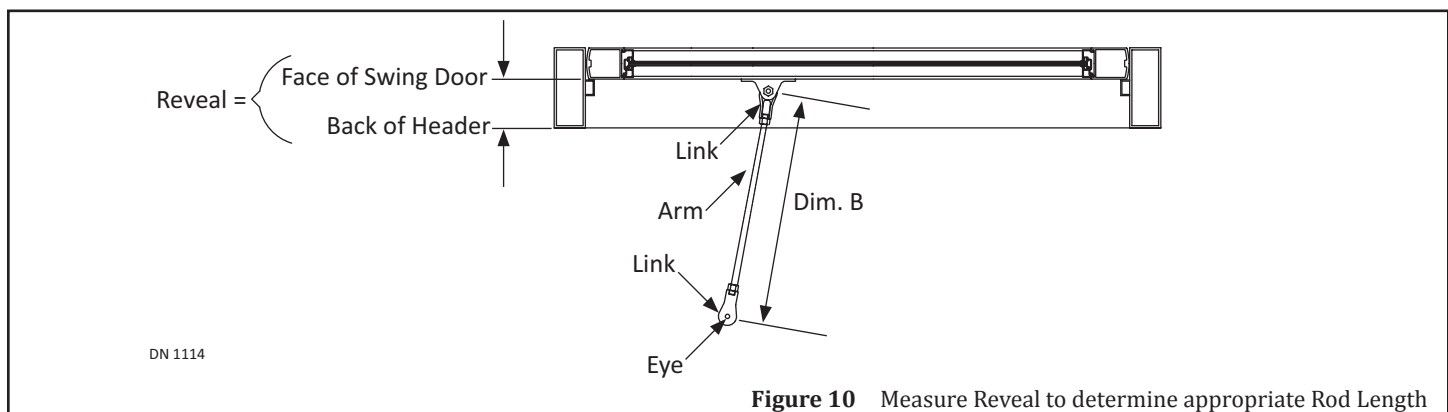


Figure 10 Measure Reveal to determine appropriate Rod Length

3.3 GT 710-8710 Outswing Arm Installation

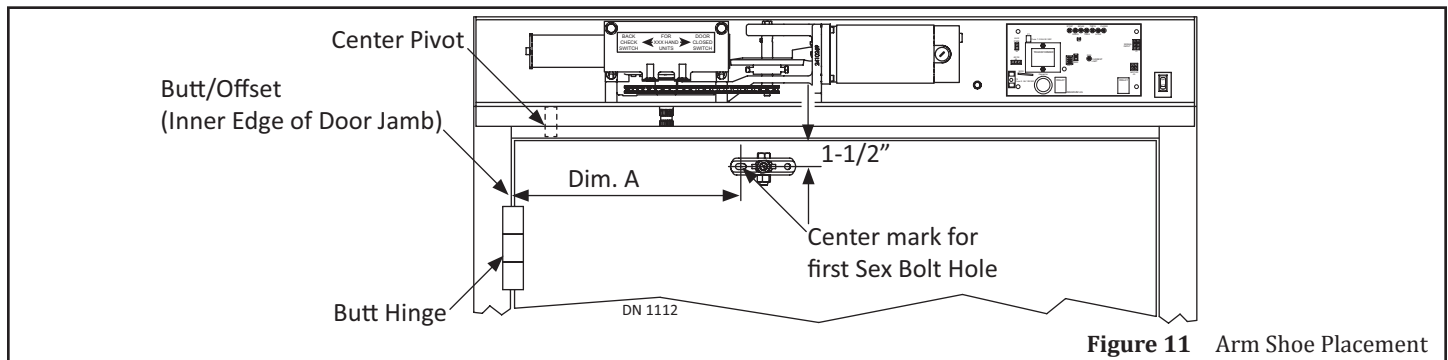


Figure 11 Arm Shoe Placement

Table 9 Arm Shoe Mounting Location

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

Table 10 20 inch Threaded Rod Length according to Reveal

Reveal	Rod Length	Reveal	Rod Length	Reveal	Rod Length	Reveal	Rod Length	Reveal	Rod Length
0"	16-5/8"	1"	17-3/8"	2"	18-1/8"	3"	18-7/8"	3-3/4"	19-1/2"
1/4"	16-13/16"	1-1/4"	17-9/16"	2-1/4"	18-5/16"	3-1/4"	19-1/8"	4"	19-11/16"
1/2"	17"	1-1/2"	17-3/4"	2-1/2"	18-1/2"	3-1/2"	19-5/16"	4-1/4"	19-7/8"
3/4"	17-3/16"	1-3/4"	17-15/16"	2-3/4"	18-11/16"				

Table 11 30 inch Threaded Rod Length according to Reveal

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

3.4 GT 400-800, GT 500-8500, GT 600-8600 Outswing Arm Installation

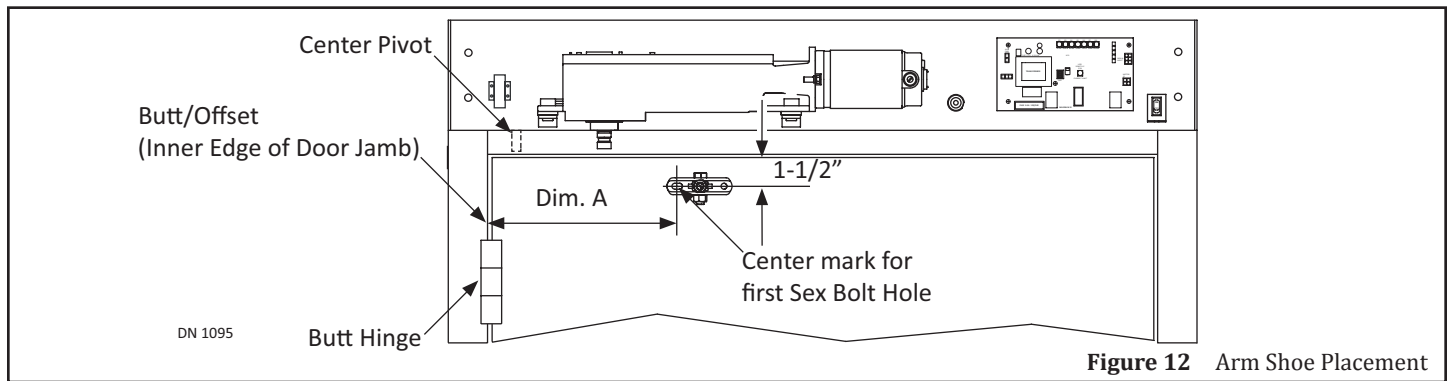


Figure 12 Arm Shoe Placement

Table 12 Arm Shoe Mounting Location

Model	Pivot Type	Outswing (Dimension A)	
		With Fingerguard	No Fingerguard
GT 400 - 8400	Butt/Offset	N/A	12-7/16"
	Center Pivot	16"	15"
GT 600 - 8600	Butt/Offset	N/A	12-7/16"
	Center Pivot	16"	15"
GT 500 - 8500	Butt/Offset	N/A	10-3/16"
	Center Pivot	13-3/4"	12-3/4"

Spindle position is not adjusted to compensate for Butt/Offset or Center Pivot locations. It is necessary to determine Threaded Rod length according to Reveal, plus Butt/Offset or Center Pivot variables.

Table 13 20 inch Threaded Rod Length according to Reveal

Model	Pivot Type	Reveal					
		1-1/8 inch	2-1/8 inch	3-1/8 inch	4-1/8 inch	5-1/8 inch	6-1/8 inch
GT 400 & 8400	Butt/Offset	11-7/8"	12-7/8"	13-7/8"	14-7/8"	15-7/8"	16-7/8"
	Center Pivot	12-1/2"	13-1/2"	14-1/2"	15-1/2"	16-1/2"	17-1/2"
GT 500 & 8500	Butt/Offset	11-7/8"	12-7/8"	13-7/8"	14-7/8"	15-7/8"	16-7/8"
	Center Pivot	11-7/8"	12-7/8"	13-7/8"	14-7/8"	15-7/8"	16-7/8"
GT 600 & 8600	Butt/Offset	11-7/8"	12-7/8"	13-7/8"	14-7/8"	15-7/8"	16-7/8"
	Center Pivot	12-1/2"	13-1/2"	14-1/2"	15-1/2"	16-1/2"	17-1/2"

SECTION 4: OHC SWING ARM (OVERHEAD CONCEALED UNITS)

4.1 GT 300-350 Swing Arm Location

The OHC Swing Arm shown in Figure 13, installed onto Headers: GT-300-350, is attached to the Operator Spindle and OHC Track located inside the Top Door Rail.

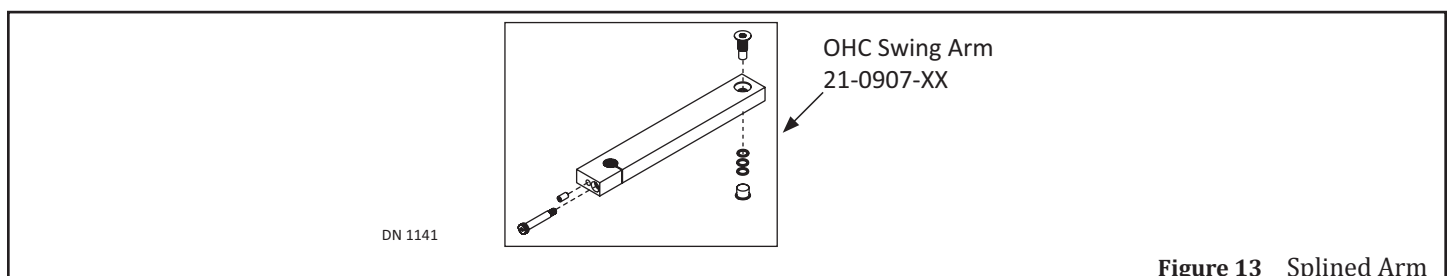


Figure 13 Splined Arm

It is not necessary to measure Reveal to determine Swing Arm length. There is only (1) OHC Swing Arm type. The only variable when installing the OHC Swing Arm is Web depth. (3) Washers are shipped with the OHC Assembly. According to Web Depth located in the Top Door Rail, install the following number of Washers:

- ▶ 3 Washers for 3/16 inch Door Clearance
- ▶ 2 Washers for 1/8 inch Door Clearance
- ▶ 1 Washers for 1/16 inch Door Clearance

4.2 GT 300-350 Track Location

It is not necessary to measure Reveal to determine Track Location. When the Swing Arm is inserted into the Pivot Pin Receiver the Track slides back or forth until the Swing Arm is fully aligned.

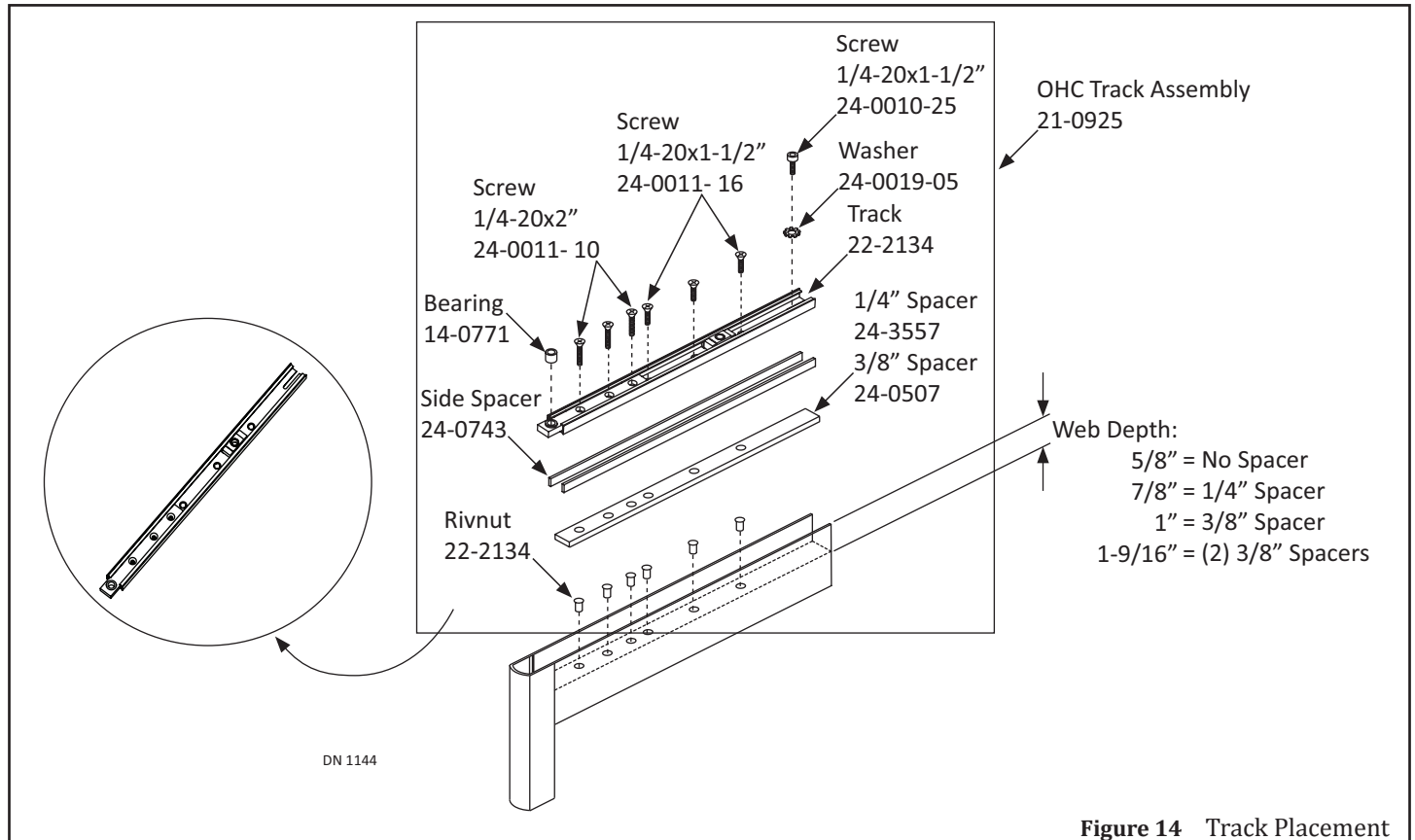


Figure 14 Track Placement

The only variable when installing the OHC Track is Web depth. (1) or more Spacers are shipped with the OHC Track. According to Web Depth located in the Top Door Rail, install the following number of Spacers between the Track and face of Web:

- ▶ 5/8 inch deep: No Spacer Block is required
- ▶ 7/8 inch deep: Insert 1/4 inch Spacer Block
- ▶ 1 inch deep: Insert 3/8 inch Spacer Block
- ▶ 1-9/16 inch deep: Insert (2) 3/8 inch Spacer Blocks