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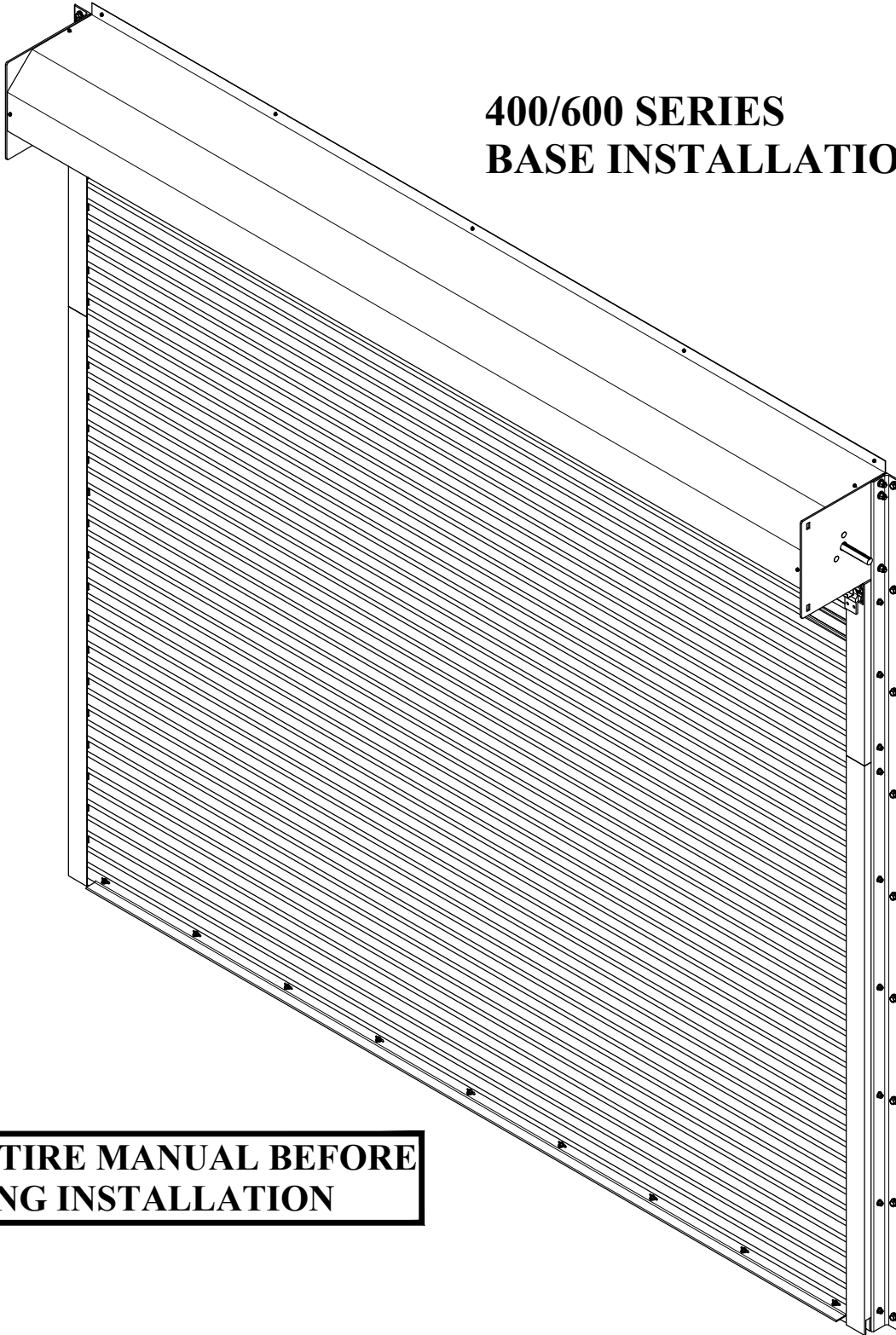
08-3323 Overhead Door O&M



ASTAAMERICA

BY JANUS INTERNATIONAL

**400/600 SERIES
BASE INSTALLATION MANUAL**




**READ ENTIRE MANUAL BEFORE
BEGINNING INSTALLATION**


SAFETY INFORMATION


OVERVIEW OF POTENTIAL HAZARDS

Overhead doors are large, heavy objects that move with the help of springs under high tension and electric motors. Since moving objects, springs under tension, and electric motors can cause injuries, your safety and the safety of others depend on you reading the information in this manual. If you have questions or do not understand the information presented, call your nearest service representative.

In this section, and those that follow, the words "Danger", "Warning", and "Caution" are used to emphasize important safety information. For example:

 **DANGER:** Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

 **WARNING:** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

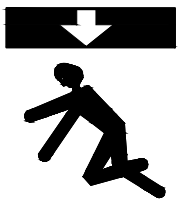



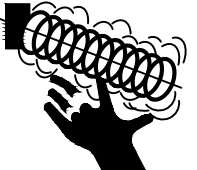

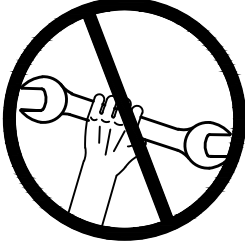

 **CAUTION:** Indicates a potentially hazardous situation which, if not avoided, may result in injury or property damage.

WARNING!

A rolling door is a large heavy object that moves with the help of springs under extreme tension and electric motors. Moving objects and springs under tension and electric motors can cause serious injuries or death. For your safety and the safety of others, follow these instructions.

CAUTION

Use proper lifting equipment and correct lifting procedures to avoid damage or injury.

POTENTIAL HAZARD	EFFECT	PREVENTION
 <p>MOVING DOOR</p>	 WARNING Could result in death or serious injury	Keep people clear of opening while door is moving. DO NOT allow children to play with the door operator. DO NOT operate a door that jams or has a broken spring.
 <p>ELECTRICAL SHOCK</p>	 WARNING Could result in death or serious injury	Turn off power before removing operator cover. When replacing operator cover, make sure wires are not pinched between or near moving parts. Operator must be properly grounded.
 <p>HIGH SPRING TENSION</p>	 WARNING Could result in death or serious injury	DO NOT try to remove, repair, or adjust springs or anything to which door spring parts are fastened, such as steel brackets or other like items. Repairs and adjustments must be made by a trained door system technician using proper tools and instructions.
 <p>HEAVY COMPONENTS</p>	 WARNING Could result in death or serious injury	Door must be fully opened when making adjustments. Repairs and adjustments must be made by a trained rolling door systems technician using proper tools and instructions.

OVERVIEW AND PARTS

Please ensure that all parts are include prior to beginning installation

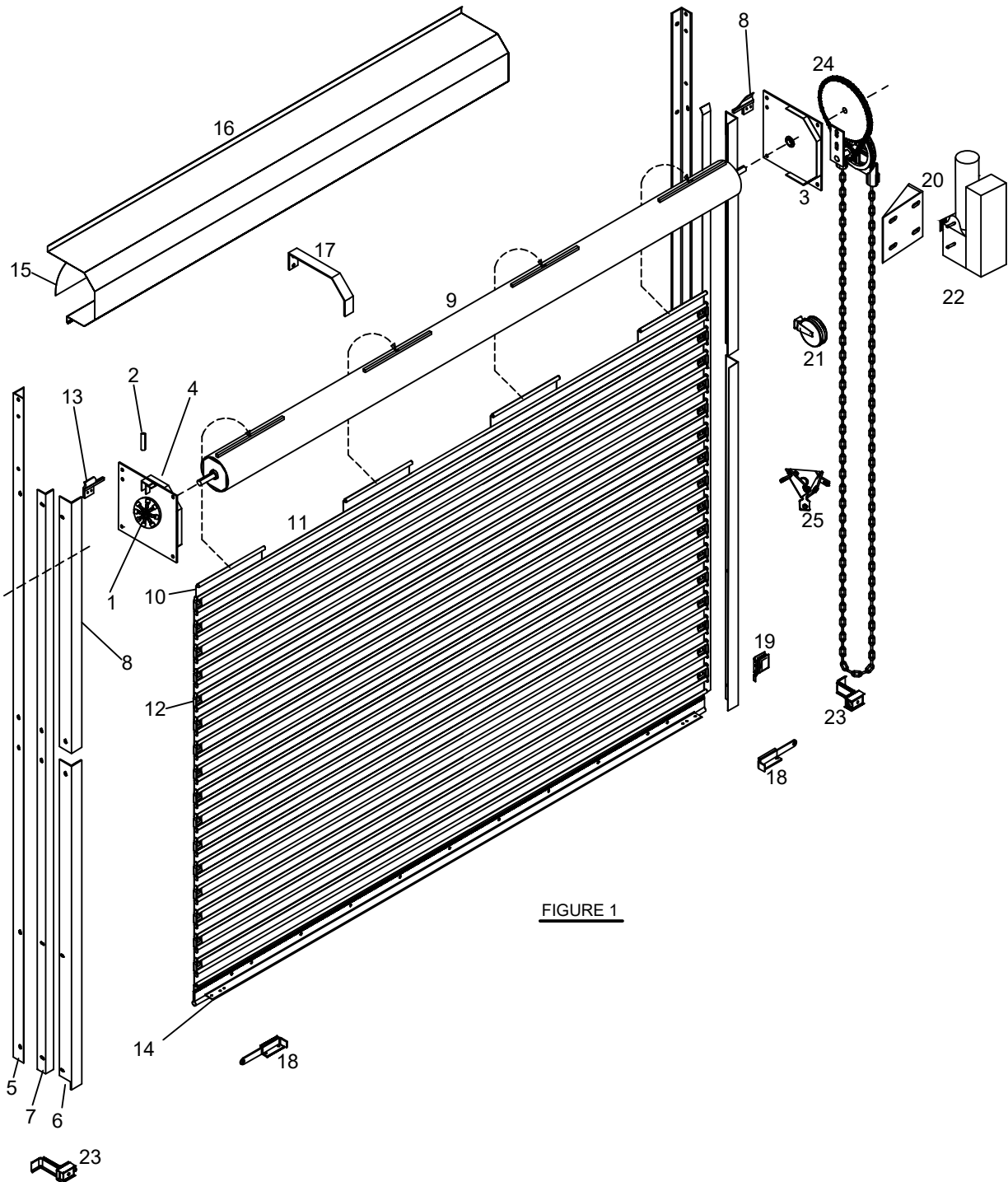


FIGURE 1

TABLE 1: PARTS LIST

Item #	PART DESCRIPTION	Item #	PART DESCRIPTION	Item #	PART DESCRIPTION
1	TENSION WHEEL ASSEMBLY	11	SLAT (FLAT OR CURVED)	21	TAKE-UP REEL (OPTIONAL)
2	TENSION WHEEL PIN	12	ENDLOCK / WINDLOCK	22	ELECTRIC OPERATOR (OPTIONAL)
3	HEADPLATE (DRIVE SIDE)	13	REMOVABLE HEADSTOP	23	PHOTO EYES (OPTIONAL)
4	HEADPLATE (TENSION SIDE)	14	BOTTOM BAR	24	REDUCTION DRIVE HOIST
5	WALL ANGLE	15	HOOD BAFFLE (OPTIONAL)	25	HAND CHAIN KEEPER
6	INNER ANGLE	16	HOOD		
7	OUTER ANGLE	17	HOOD SUPPORT BRACKET (AS NEEDED)		
8	SERVICE CUTOUT	18	SLIDE BOLT LOCKS (OPTIONAL)		
9	BARREL ASSEMBLY	19	INTERLOCK SWITCH (OPTIONAL)		
10	STARTER SLAT	20	MOTOR MOUNT BRACKET (OPTIONAL)		

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INSTALLATION

1. Pre-Installation Evaluation

- a. Verify that your measurements match the opening width, height, headroom, side room, and depth dimensions shown on shop drawing.
- b. Verify that jamb construction is the same as shown in shop drawing and that structure is suitable for mounting guides.
- c. Verify that guides can be mounted plumb
- d. Verify that all door parts are present or available.

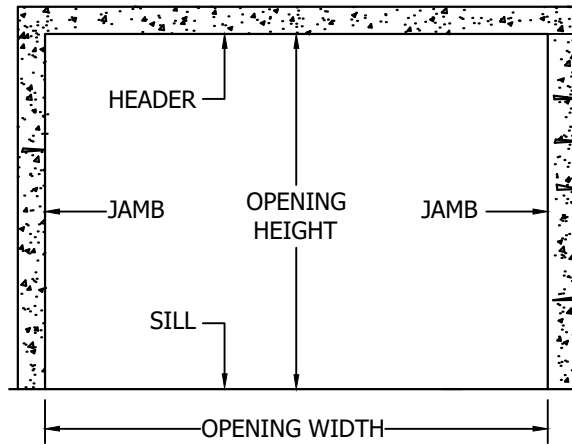


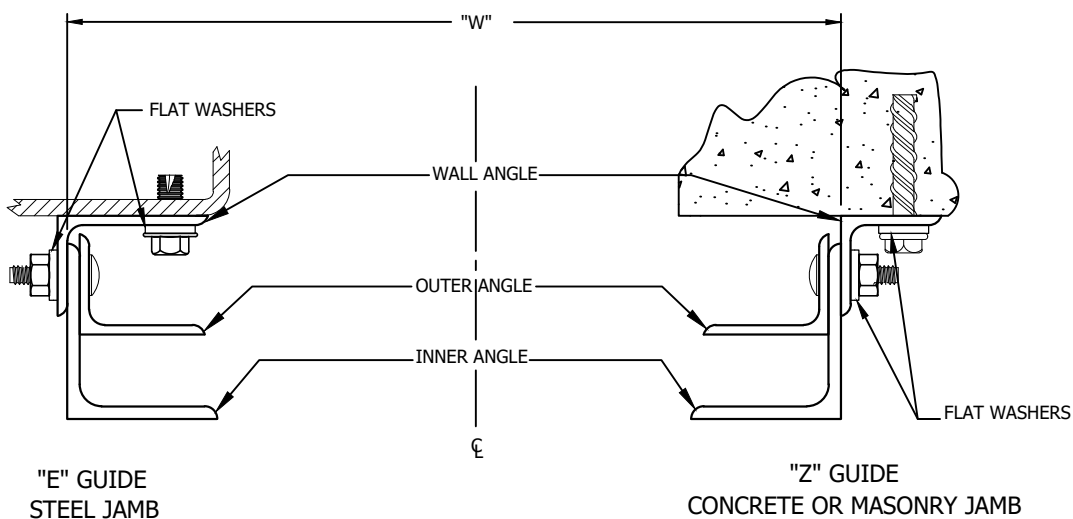
FIGURE 2

2. Laying Out Guides

- a. Find and mark centerline of jamb opening as shown in Figure 3 (1/2 width of jamb opening from either side of jamb).
- b. Determine "W" dimension from Table 2.
- c. Measure (1/2 "W" dimension) from center line of opening in both directions, and clearly mark floor at each jamb.
- d. Jamb floor marks should precisely equal "W" dimension, the distance between points shown in Figure 3.

GUIDE TYPE	"W" DIMENSION
TYPE 2, 3 & 4 NON-WINDLOCK GUIDES	BARREL + 1" / 25.4mm
TYPE 2, 3, 4 & 5 WINDLOCK GUIDES	BARREL + 1. 3/4" / 44.4mm
TYPE 6 & 7 WINDLOCK GUIDES	BARREL + 2" / 55.8mm

TABLE 2



STRUCTURAL ANGLE GUIDES - FACE OF WALL

FIGURE 3

3. Shooting Level Reference Marks (Recommended)

- a. Create level elevation marks at left and right jamb faces using a level reference device or survey instrument as shown in Figure 4.

✓ Be positive about the accuracy of your level elevation reference marks!

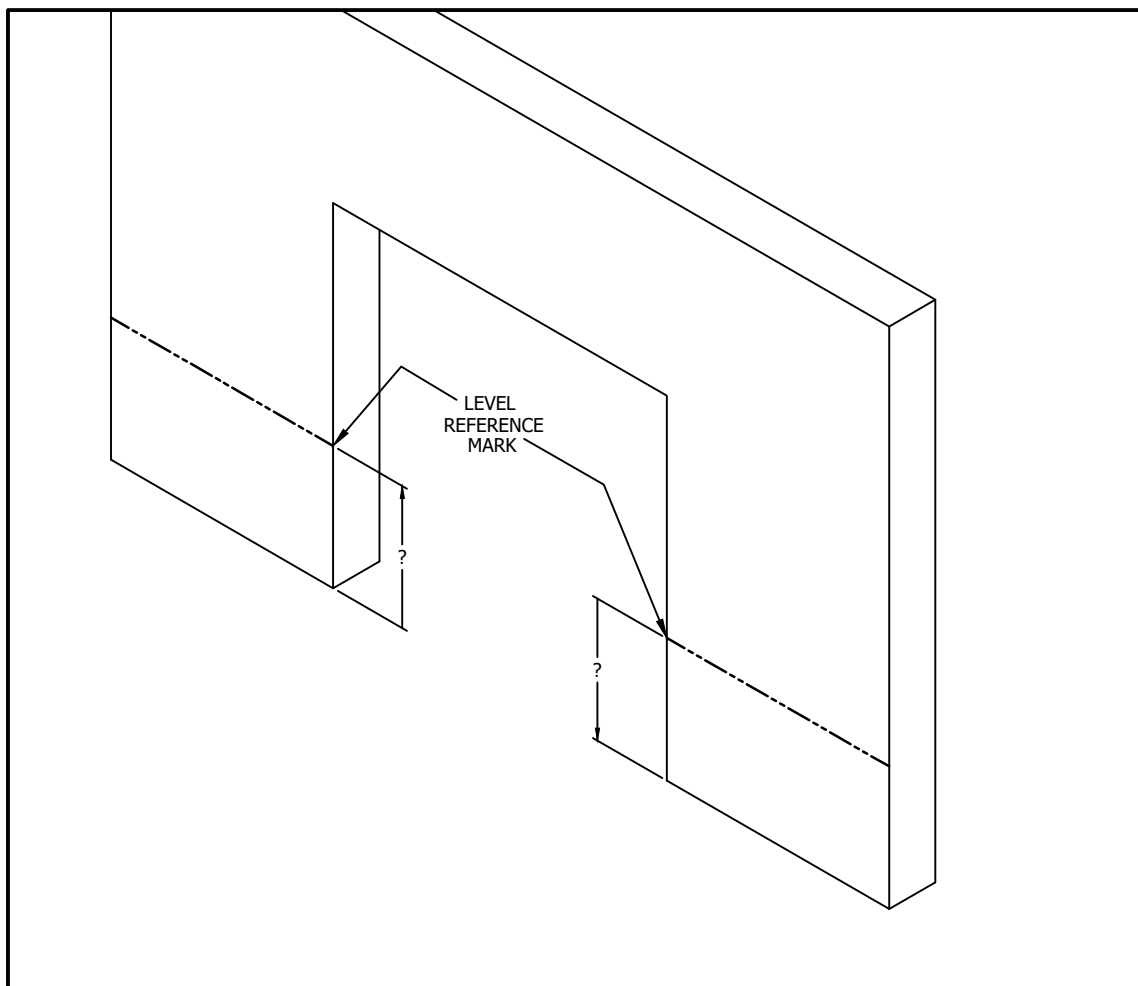


FIGURE 4

- b. Measure the distance from each level reference mark to the floor to determine if the floor is level.

✓ If there is a difference in measurements from the marks to the floor, the floor is not level. You must shim the wall angle with the difference at the longest reference measurement to verify that both wall angles are mounted at the same elevation.

MOUNTING METHOD DETAILS

This section provides essential details related to specific hardware required in each possible mounting application. Make note of your guide style and the material it is mounted to and follow these notes accordingly. See Figure 3 (Page 4) and the Parts Overview (Page 2) to differentiate Left and Right side Wall Angles, Inner/Outer Angles, and Service Cutouts.

NOTE: Use only fasteners provided and approved by Asta America.

Reference Table 3 to determine correct jamb fastener type and hole size for your application.

JAMB	FASTENER	DRILL SIZE	NOTES
STEEL	3/8-16 X 1" TYPE 23 THD CUT SCREW	11/32"	3/16" THICK STEEL JAMB MINIMUM
	3/8-16 X 1-1/4" HEX BOLT AND NUT	7/16"	
	1/2-13 X 1-1/4" TYPE F THD CUT SCREW	29/64"	
	1/2-13 X 1-1/2" HEX BOLT AND NUT	9/16"	
CONCRETE OR FILLED BLOCK	3/8" X 4" DEWALT SCREW-BOLT+	3/8" ANSI B212.15	CLEAR HOLES OF CONCRETE DUST BEFORE INSTALLING FASTENER
	1/2" X 3" DEWALT SCREW-BOLT+	1/2" ANSI B212.15	
UNFILLED BLOCK OR SOFT BRICK	3/8" THREADED ROD & NUTS	7/16"	INSTALL CRUSH PLATES ON OPPOSITE SIDE OF WALL
	1/2" THREADED ROD & NUTS	9/16"	
WOOD	3/8" x 3" LAG BOLT	3/16"	4" x 4" MINIMUM

TABLE 3

NOTE: It is the manufacturers intent that E-type guides be disassembled prior to installation for attachment by machine screws or lag bolts. E-Type guides that are to be welded may be assembled if preferred.

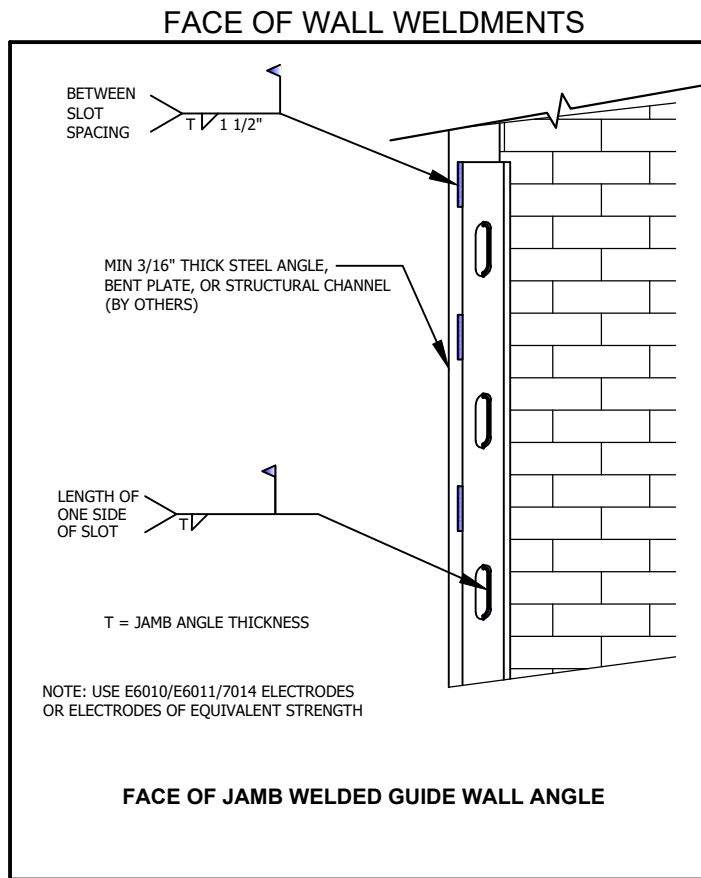


FIGURE 5

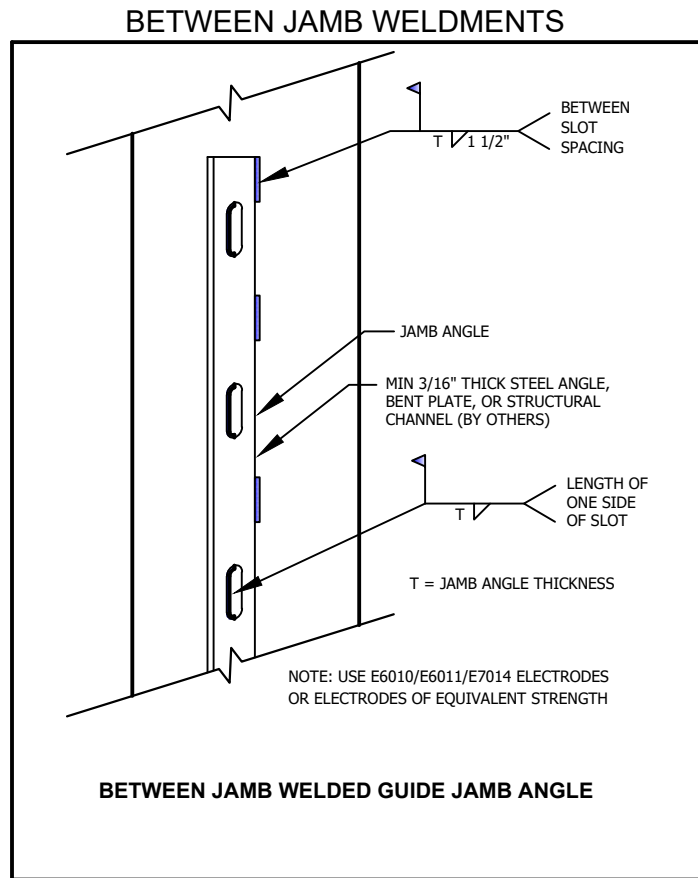


FIGURE 6

NOTE: Procedure for welding wall angles to steel jambs.

- ✓ Create weldments consistent only with the specifications shown in Figures 5 and 6.
- ✓ Guide angles are designed to be set upon the floor unless one angle requires the use of shims at the floor level to create level guide elevations as shown in Figure 4 (Page 5).
- ✓ Verify that the low side wall angle is shimmed to the correct height before permanent attachment to the jamb.

NOTE: Wall angles may extend above steel jambs onto masonry. In this case, attach with masonry anchors of size and type recommended by Table 3 (Page 6). Shim with washers as required to maintain a flush mounting surface for the wall angle.

- ✓ Washers must be installed under the head of each jamb fastener as shown in Figure 7.

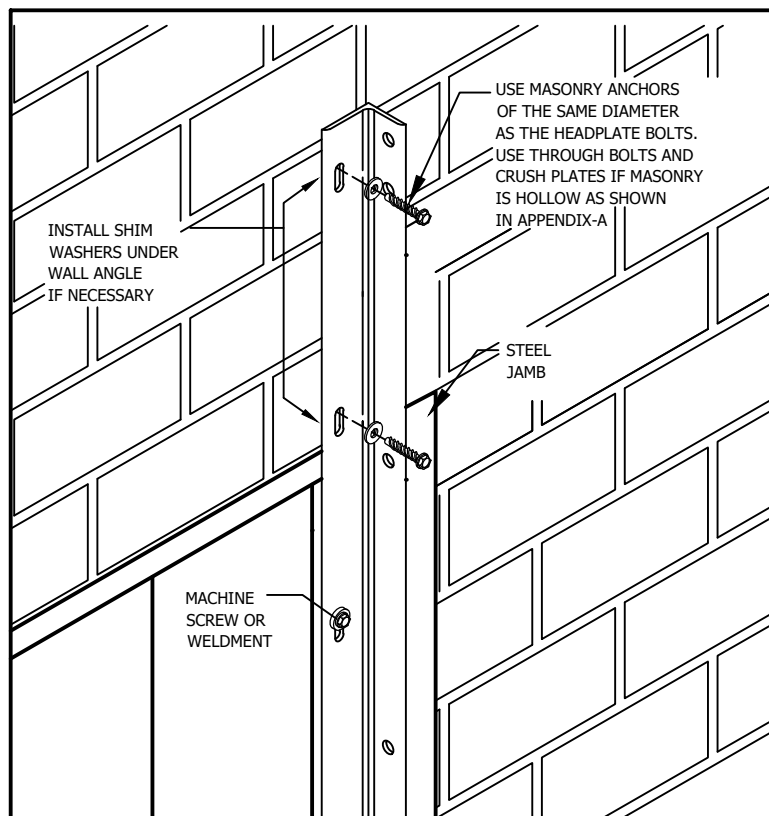


FIGURE 7

****If unsure of angle assembly orientation, refer to Appendix-A****

4. Installing Wall Angles

- a. Use a plumb bob or level reference device to establish a true plumb reference.
- b. Install first Wall Angle (Item 5) plumb vertically at the correct elevation, and at the correct "W" dimension floor mark. See Overview and Parts (Page 2) for part references and Table 3 (Page 6) for correct hardware.
- c. Install second Wall Angle by placing it at the "W" dimension marked on the floor at the second jamb as shown in Figure 8. Shim if necessary.
- d. Use a tape measure while attaching the second wall angle to maintain a consistent "W" dimension all the way to the top as shown in Figure 8.

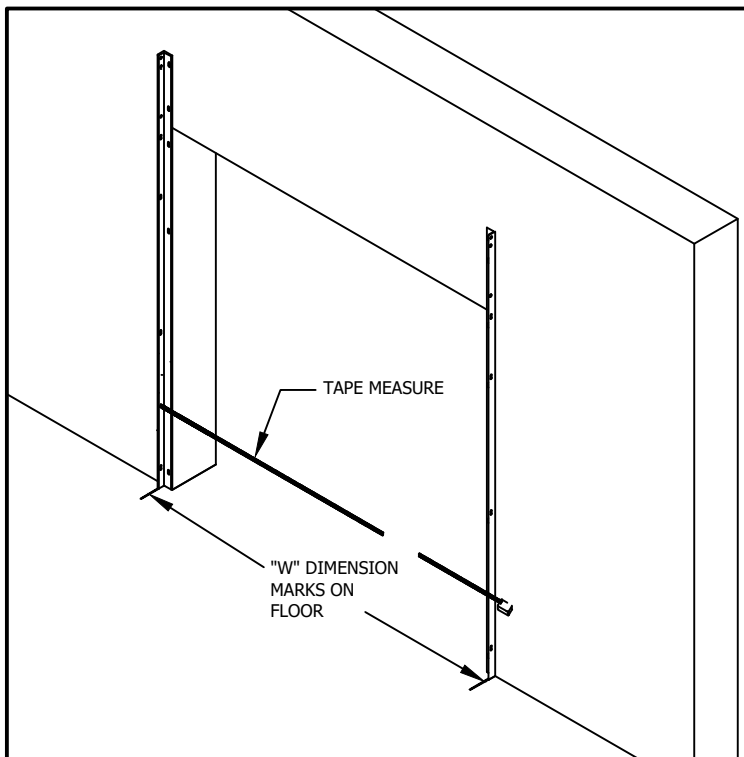


FIGURE 8

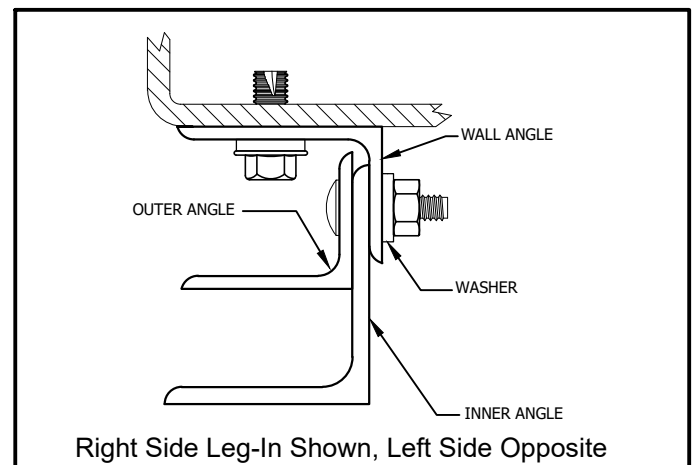


FIGURE 9

5. Installing Guide Angles / Fasteners

- a. For a Leg-In orientation, replicate the setup shown in Figure 9 for the right side. Mirror the setup for left. Use one washer under each nut as shown.
- b. For a Leg-Out orientation, see "Appendix A" for other guide type detail views.

6. Installing Barrel to Headplate Assemblies

a. Proceed at ground level and identify components as shown in Figures 10 and 11.

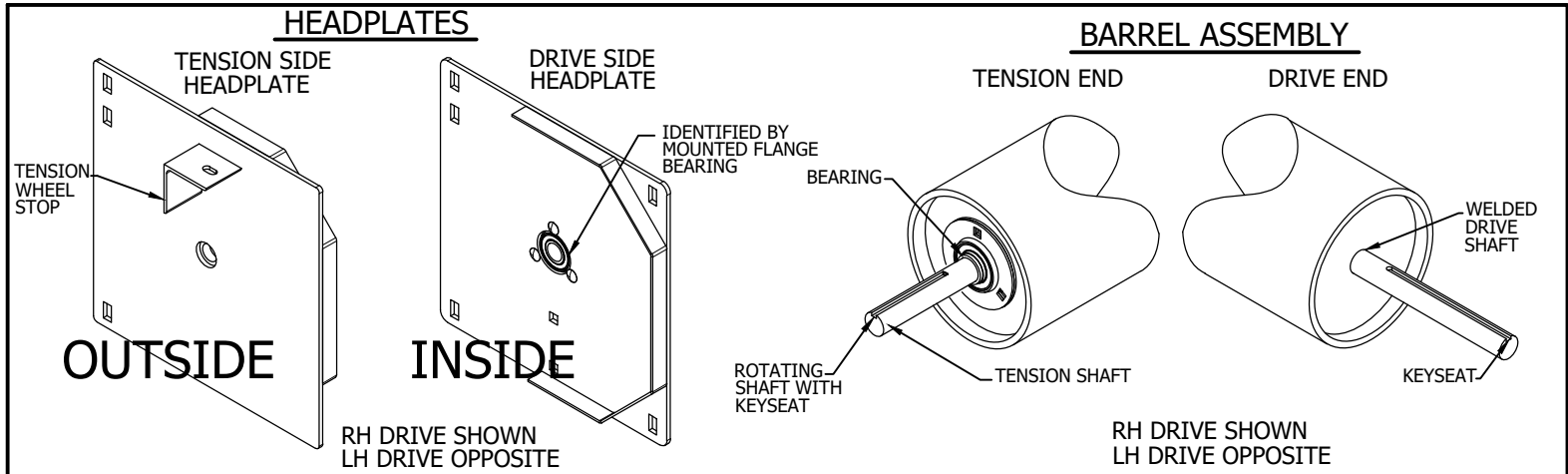


FIGURE 10

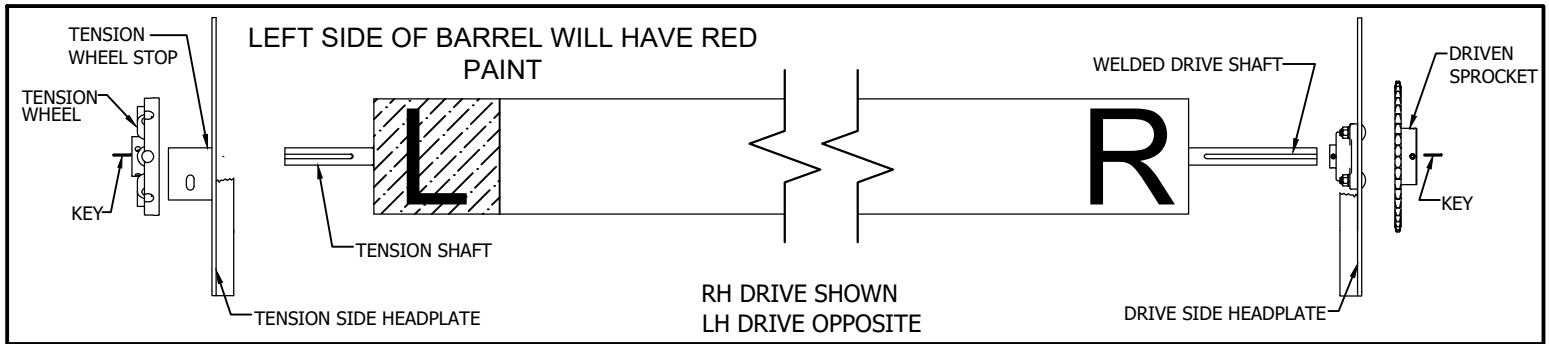


FIGURE 11

- Install drive side headplate with mounted bearing as far as possible onto drive shaft. If using a Chain Hoist, refer to Step 8 (Page 11) to install, then return to this step.
- Install sprocket and key onto drive shaft and tighten set screws on sprocket as shown in Figure 11.
- Install tension side headplate, tension wheel and key on tension shaft as shown in Figure 12. Tighten set screws on tension wheel.

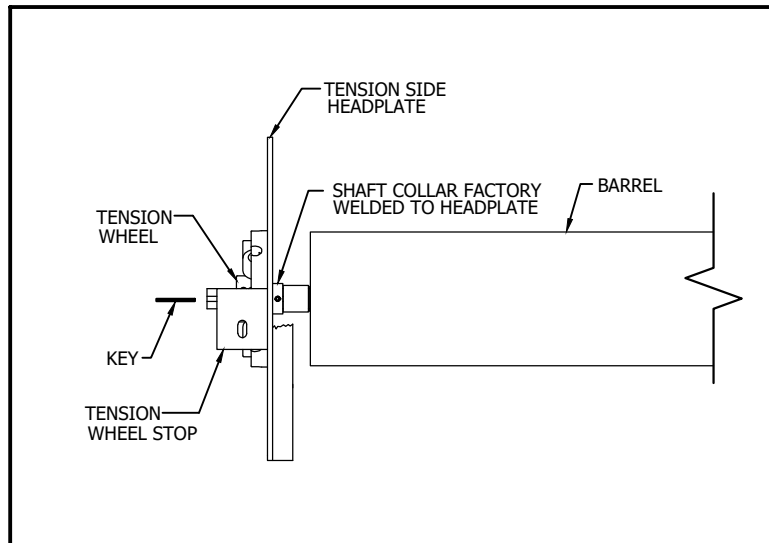


FIGURE 12

7. Installing Barrel and Headplates to Guide Assembly

- a. Carefully secure barrel to hoisting equipment and raise into position at top of wall angles. Attach headplate brackets to the **INSIDE** of wall angles as shown in Figure 13.
- b. **VERIFY THAT BARREL IS DEAD LEVEL BEFORE TIGHTENING HEADPLATE BOLTS!**
You may place a level on the barrel or use an auto leveling device. Move headplate up or down as needed.
- c. Verify that barrel is unrestricted and free to rotate before proceeding.

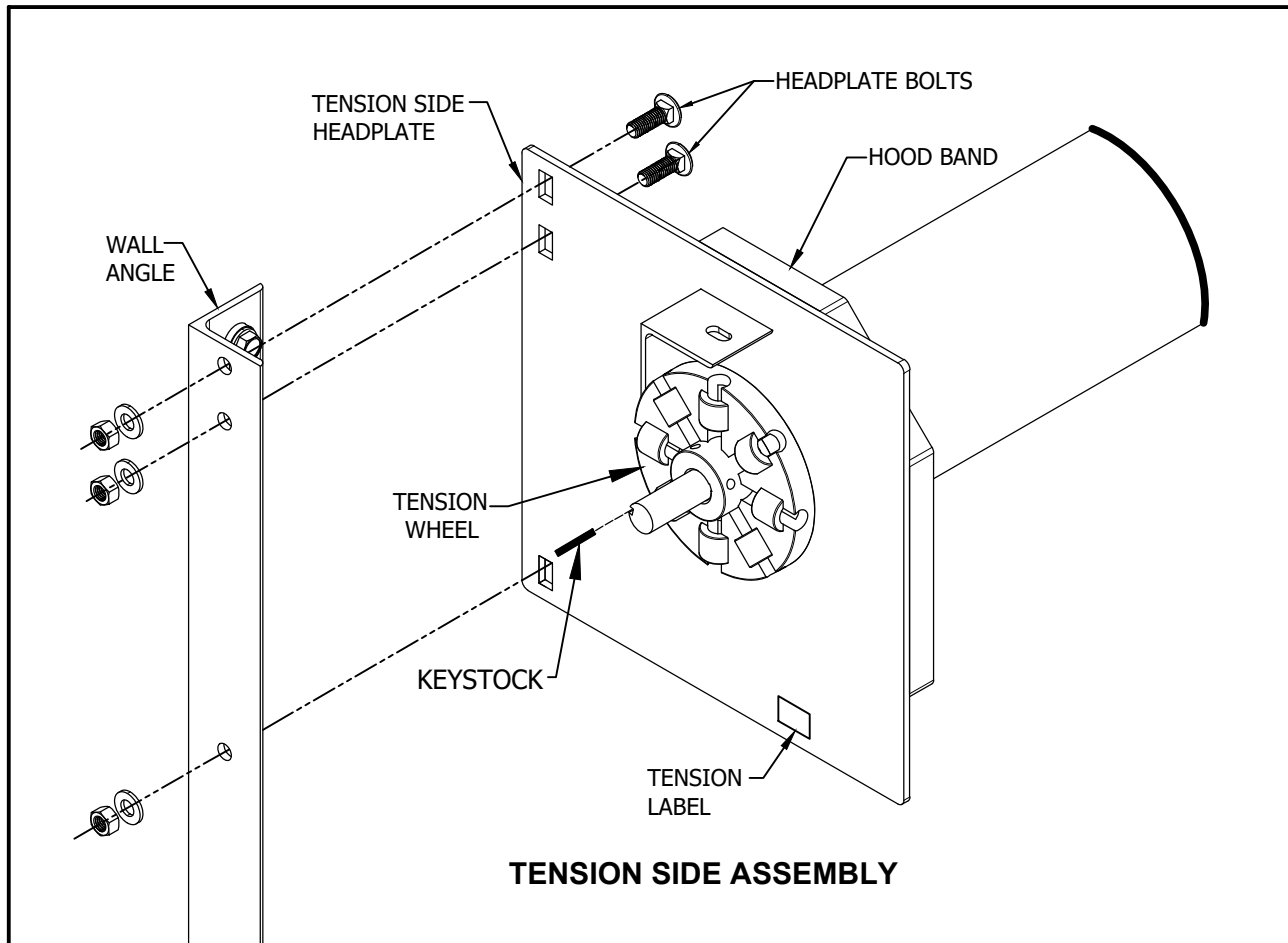


FIGURE 13

WARNING

Use proper lifting equipment and correct lifting procedures.
Failure to do so could result in death or serious injury.

NOTE: At this time, you may refer to the specific operator instructions provided to finish the installation of the operator.

- ✓ Refer to the Step 8 & the provided owners manual for motor operators.

8. Installing Drive Systems

CHAIN HOIST:

- Before the Drive Side Headplate is attached to the barrel, insert the (2) 1/2" Carriage Bolts through the square holes on the Headplate directly below the shaft, then through the Chain Hoist Bracket with the shaft towards the exterior.
- Slide the bracket upwards to make the distance between the shafts as short as possible. Temporarily secure in place with the corresponding 1/2" Washers, Lock Washers, and Nuts.
- Place the Sprockets on their respective shafts. Align the keyway of the large (Driven) Sprocket to the keyway of the Shaft.
- Insert the Key into the keyway and align the Sprockets. Tighten the set screw on the large Sprocket and secure small sprocket and pocket wheel with the Set Collars.
- Size and install Chain on both Sprockets. Relieve bracket tension by loosening the 1/2" Carriage Bolts. Chain should tension under the weight of the bracket and hoist. Tighten Carriage Bolts.

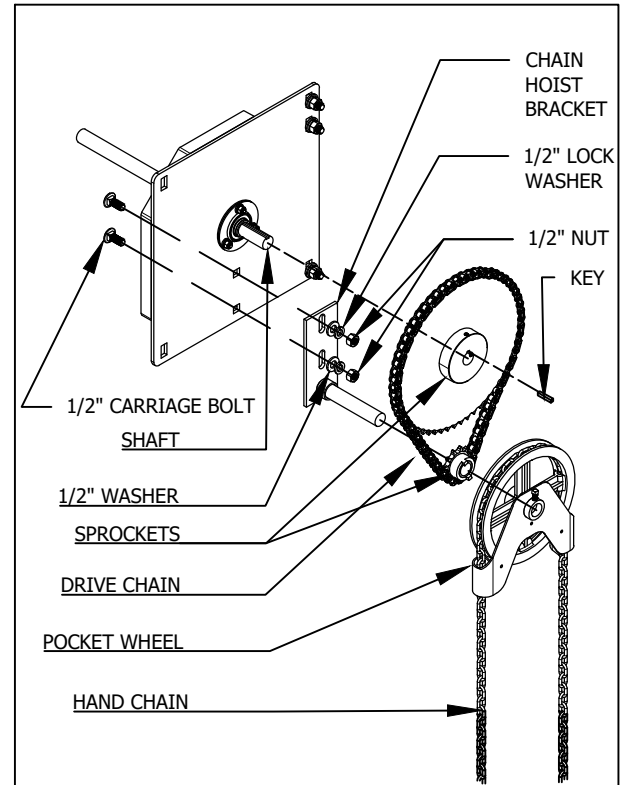


Figure 14

RIGHT HAND DRIVE SHOWN
LEFT HAND OPPOSITE

ELECTRIC OPERATOR:

- Attach the operator to bracket using the supplied hex bolts, flat washers, lock washers and hex nuts as shown in Figure 15.
- Install motor operator and bracket assembly to the drive side headplate with two 1/2" carriage bolts as shown in Figure 15.
- Pivot the assembly toward wall as far as possible for drive chain installation, and temporarily tighten the two carriage bolts.
- Install the drive shaft sprocket with supplied key.
- Align the drive shaft and operator sprockets and tighten set screws.
- Size & install the supplied roller chain and secure with master link.
- Loosen the operator carriage bolts and tighten the roller chain by pulling the assembly away from the wall. The chain should appear tight, but deflect when squeezed by hand.
- Tighten operator bracket carriage bolts and set screw to lock the bracket in place and to retain roller chain setting during future operation.

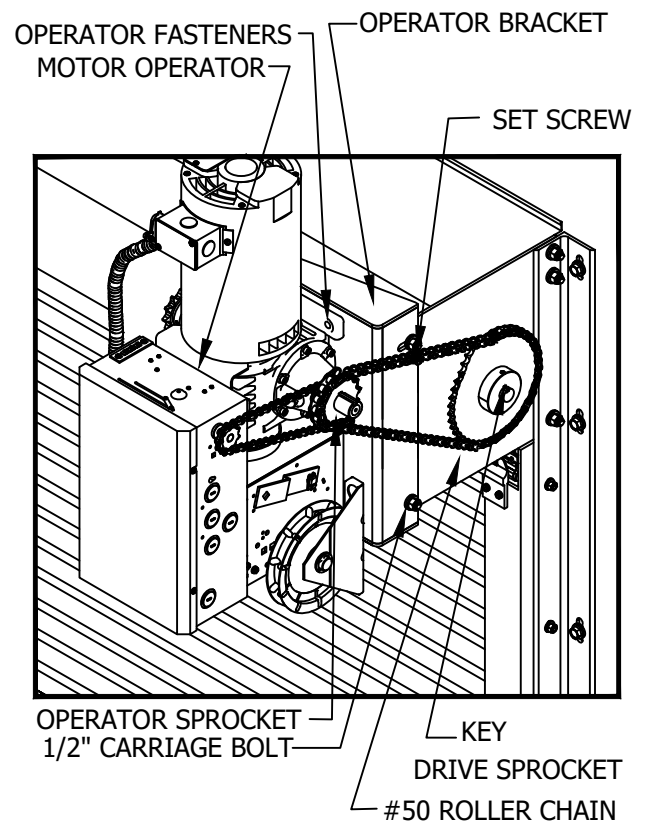


Figure 15

9. Installing Curtain to Barrel

SLINGING: IMPORTANT SAFETY PRECAUTIONS

Use only straight-eye choker style slings with a minimum 5,000 lb weight rating.

Use slings of the same length that keep the factory rolled curtain as close to the barrel assembly as possible.

Close and secure sling ends with a clevis or chain shackle of adequate size that features a SCREW-IN STYLE PIN ONLY. DO NOT USE A CLIP RETAINED SHACKLE OR CLEVIS PIN!!

- a. Using hoisting equipment, suspend the curtain assembly below the barrel on two or more slings.
- b. Center the factory-rolled curtain assembly between guides in the service cutout portion of the guide assembly as shown in Figure 16.
- c. Use locking pliers to temporarily fasten two or more segmented starter slats to slings.
- d. Roll curtain, slings, and barrel as one unit in order to pull the starter slats and curtain over the top of the barrel. **FLIP UNSECURED STARTER SLATS UP TO AVOID CRUSHING.**
- e. Lock the drive system. Attach segmented starter slats to barrel using Asta America supplied cap head screws and remove locking pliers.

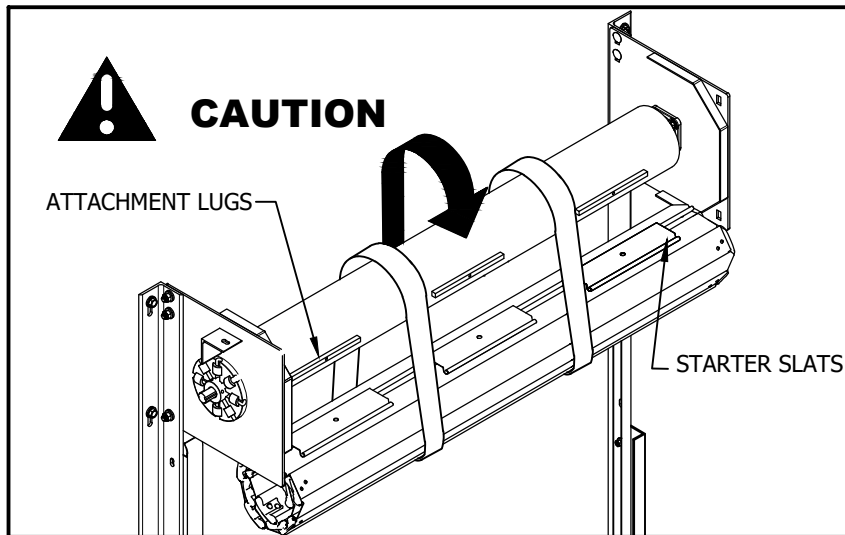
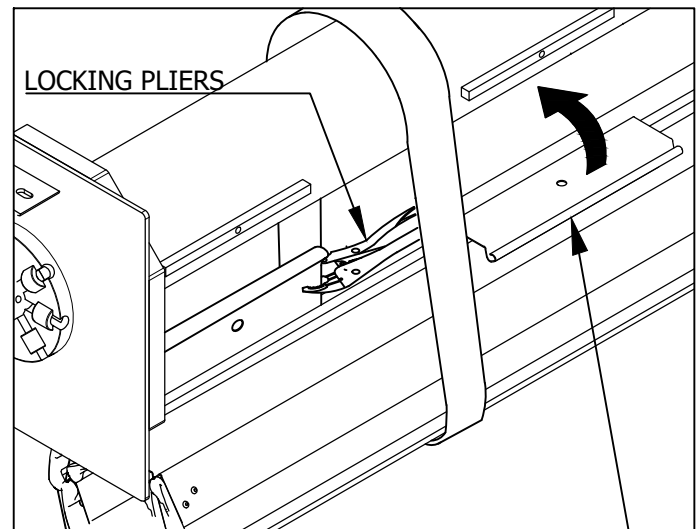


FIGURE 16



FLIP UNSECURED STARTER SLATS UP

- ✓ It may be necessary to use the hoisting equipment to lift the weight of the curtain enough to allow rotation of the barrel to bring the attachment barrel lugs into position with segmented starter slats.
 - ✓ When ALL starter slats are attached to the barrel lugs, you may lower the hoisting equipment and proceed with the next step.
- g. Transfer the entire curtain assembly onto the barrel, but leave the bottom bar hanging 3"-4" below the head stop location. Center each slat on the barrel, maintaining even distance between sides and headplates.
 - h. Secure curtain to prevent downward rotation by placing hand chain in keeper.

- i. Install the head stops to the service cut-outs. See Figure 17.
- j. Install guide service cut-outs with previously installed head stops as shown in Figure 17.
- k. Install the Hand Chain Keeper (Item 25) between the drive side Wall Angle and Washers on the 3rd-from-bottom bolt.
- l. Tighten guide assembly fasteners securely, ensuring that the inner angle guides and service cut-outs are flush, providing a smooth path for the curtain.

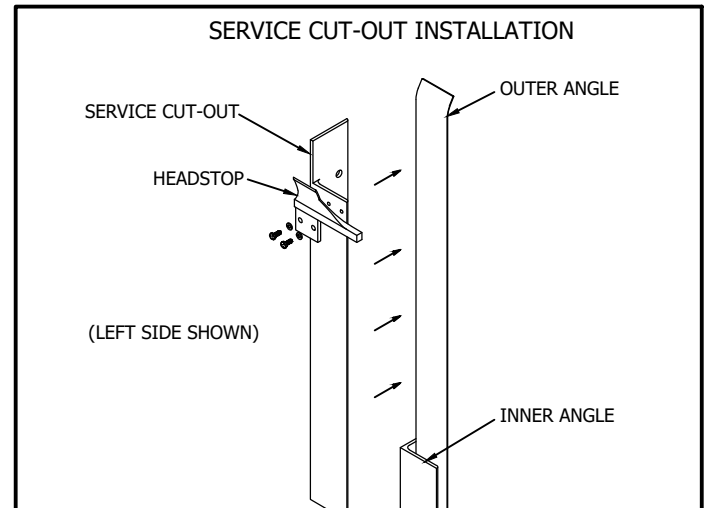


FIGURE 17

10. Applying Tension Preload to Barrel Assembly

- a. Install locking pliers to service cutouts approximately 4" down from head stops to prevent any downward curtain travel as shown in Figure 18.
- b. Release and lower the curtain to rest slack upon the locking pliers. Barrel should be free to rotate at this time.
- c. Apply tension from the top, downward, as shown in Figure 18 to the preload turn amount shown on tension label and on barrel sticker.

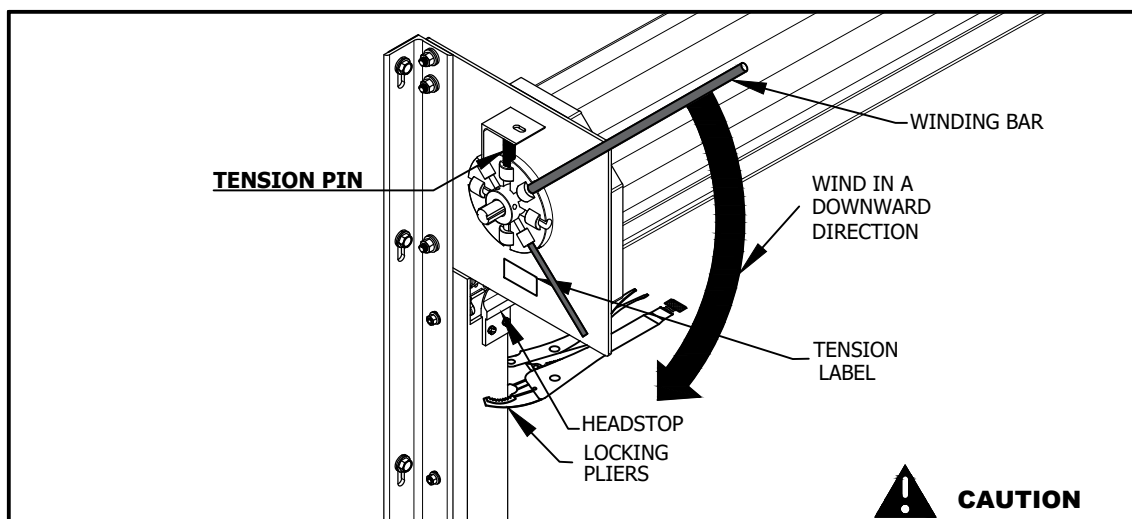


FIGURE 18



WARNING: Use two solid steel winding bars of a diameter matching the tension wheel lugs. Use of undersized or non-solid steel winding bars could result in component failure, injury, or death.

- d. Bottom bar should rise from locking pliers and come to rest touching head stops when full preload tension has been applied. Continue applying tension until this occurs,
- e. Insert tension wheel pin and retainer as shown in Figure 19.
- f. You may now remove slings.

TENSION PIN IS TO BE SECURED BY RETAINER (BOLTED IN PLACE) AFTER ADJUSTING

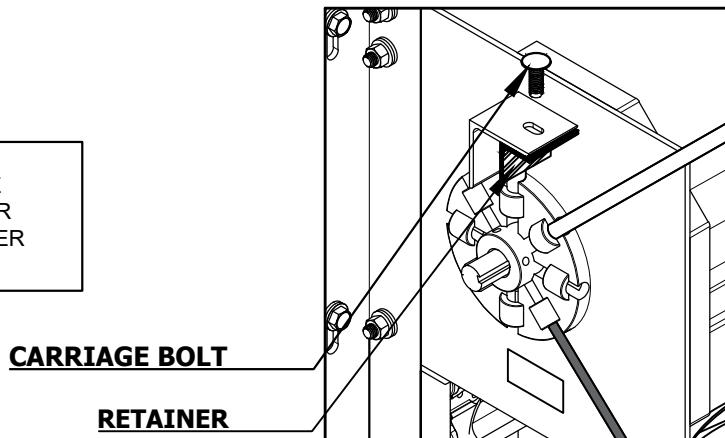


FIGURE 19

11. Checking Correct Operation

Proced through the list, checking for correct operation and potential error. If any components do not function properly, refer back to the relevant step or the Troubleshooting guide (Appendix-D).

- | | |
|--|--------------------------|
| | ✓ |
| a. Clear the doorway and closing path of the door. | <input type="checkbox"/> |
| b. Lower and raise the door several times. | <input type="checkbox"/> |
| c. Inspect curtain to certify that the endlocks or windlocks at each end of the curtain are centered and do not rub on the headplates. | <input type="checkbox"/> |
| d. Make any necessary tension adjustments, hoist adjustments, or operator limit adjustments in order to achieve reliable operation and complete range of travel with no binding or dragging. | <input type="checkbox"/> |
| e. Verify that all fasteners are correctly installed and secured tightly | <input type="checkbox"/> |
| f. Attach the product safety labels as directed on labels. | <input type="checkbox"/> |
| g. Apply sensing edge warning label if applicable. | <input type="checkbox"/> |
| h. The bottom bar must rest near the floor when in the closed position. | <input type="checkbox"/> |
| i. The bottom bar must rest on the headstops when in the fully open position. | <input type="checkbox"/> |
| j. The bottom bar must be level in both the open and closed position. | <input type="checkbox"/> |

After all points above have been checked, proceed to Step 12 for Hood Installation.

12. Installation of the Hood(s)

- a. If the provided hood is a single piece with supports, then skip to instruction 12.c. If it has one piece and NO supports, skip to instruction 12.d. If hood was provided in two or more pieces, then overlap the pieces so that the combined hood length is equal to the measured distance between the headplates as shown. Be sure to measure INTERIOR headplate widths on both the front and back side, checking for discrepancies.

Overlap spacing for hoods with 3 or more sections may be found with the following formula:

$$\left[\left(\text{"Length of each section"} \times \text{"# of sections"} \right) - \text{"Headplate to Headplate"} \right] / \left(\text{"# of Sections"} - 1 \right)$$

OR

$$\left(\text{Total Hood Length Provided} - \text{Length of Hood Needed} \right) / \text{\# of Joints}$$

This number will be the length of overlapping material at each joint.

- b. Fasten overlapped area together with two rows of TEK screws on each flat section as shown below (C).
- c. If hood support brackets are supplied, install evenly across the span of the door, with the topsides flush with the headplate hood band. Use hardware as established in Table 3 (Page 6). Spacing distance can be found by dividing headplate-to-headplate distance by number of supports. This number should be below 8'.
- d. Raise hood with mechanical hoist or forklift and fasten to headplates (A) and header (B). If using multiple sections, place a screw into the header within each overlap section (E).
- e. Fasten hood to bracket at location "D". SUPPORTS MAY LINE UP WITH SECTION JOINTS / TEK SCREWS, DEPENDING ON THE SIZE OF THE DOOR. If a hood-joining screw makes contact with the bracket, use the hood screws to secure.

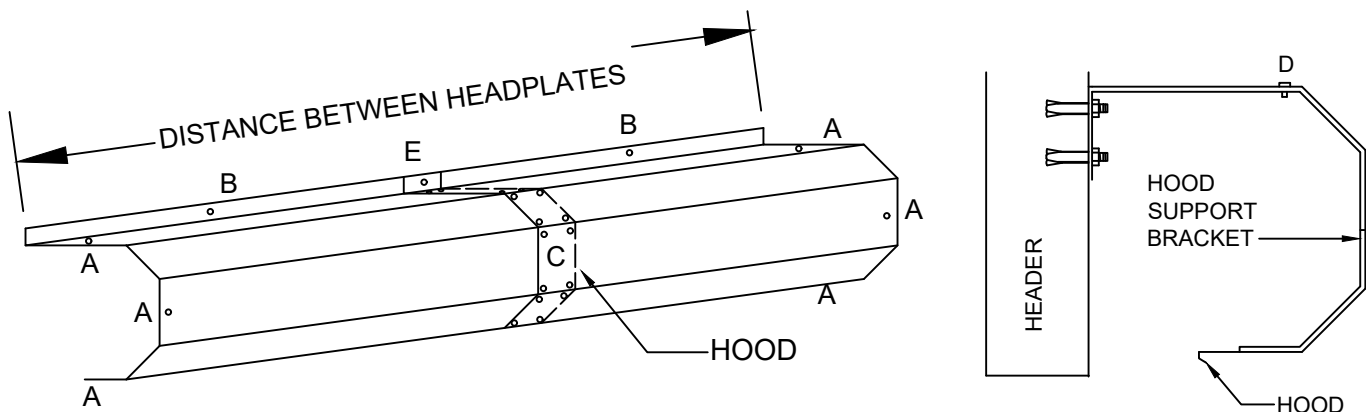
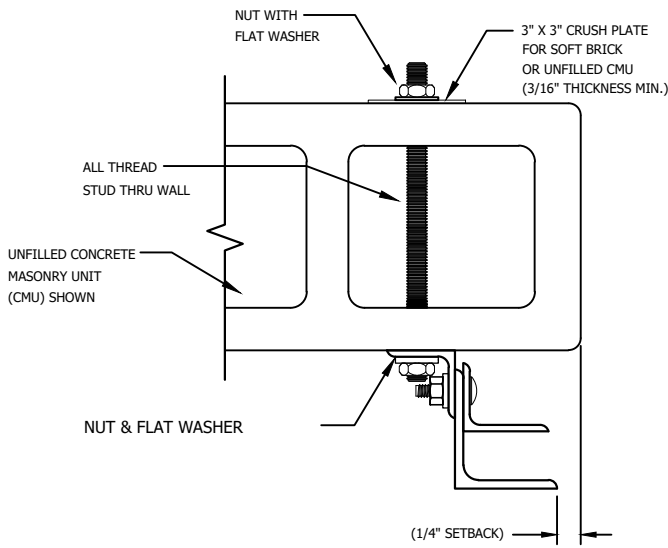
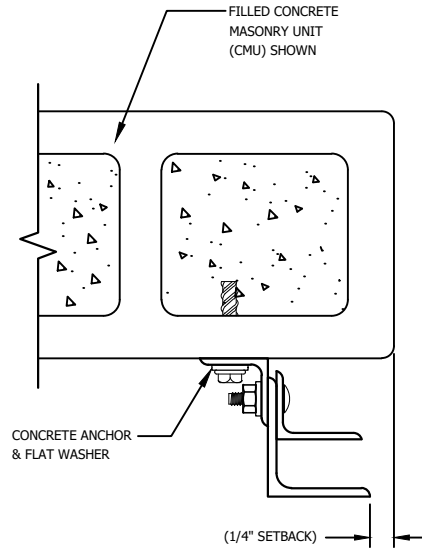


FIGURE 20

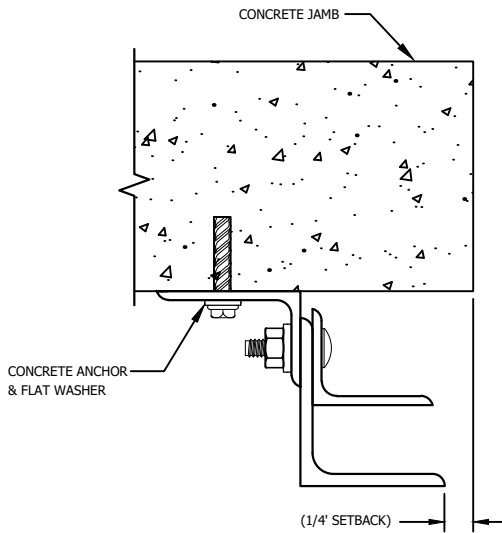
Appendix A: Guide Mounting Details



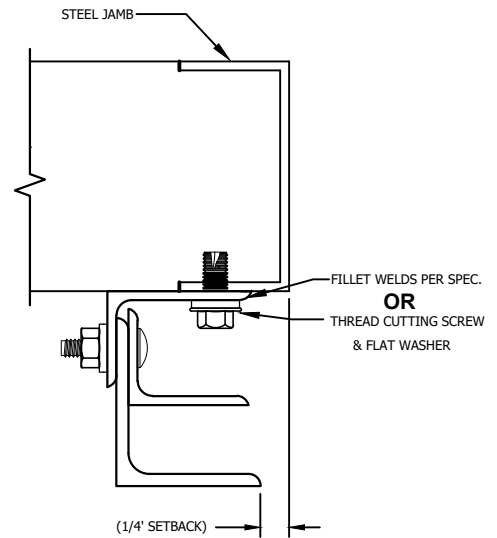
LEG OUT, LEFT SIDE, MOUNTED TO UNFILLED CMU



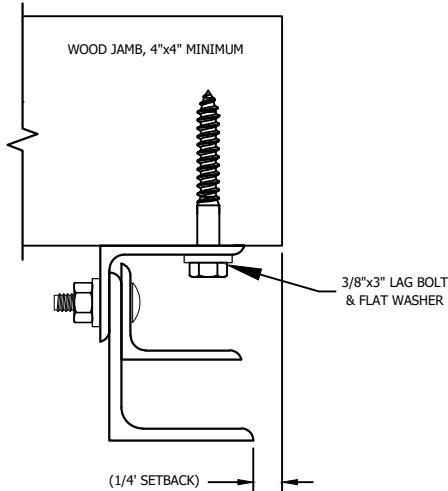
LEG OUT, LEFT SIDE, MOUNTED TO FILLED CMU



LEG OUT, LEFT SIDE, MOUNTED TO CONCRETE



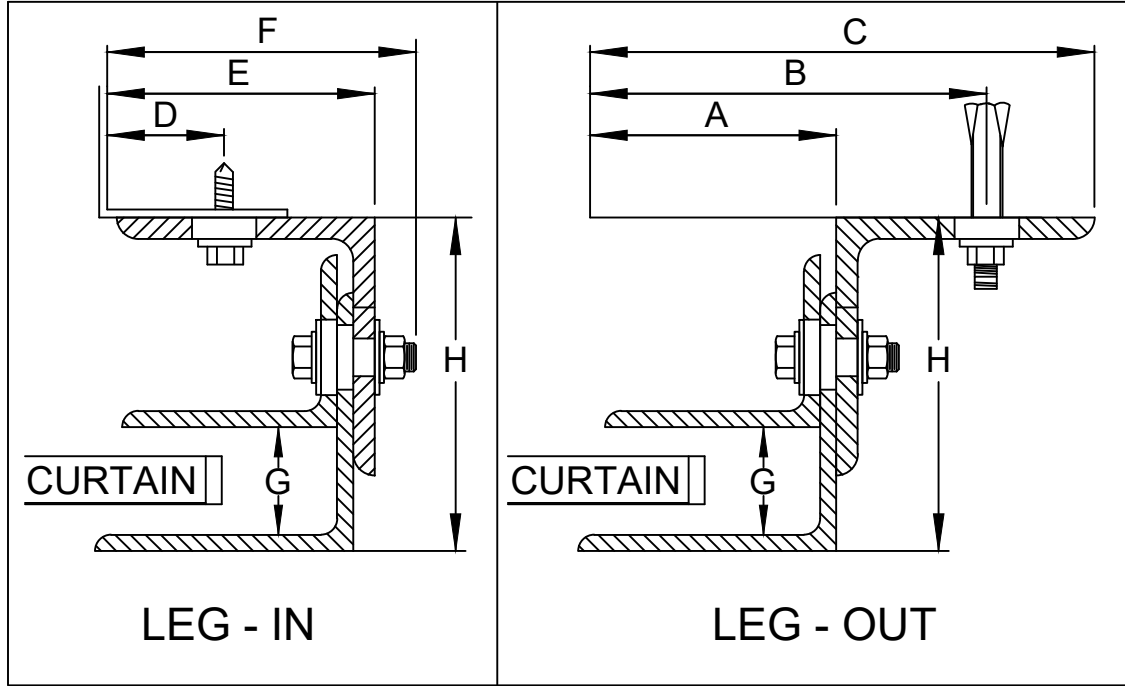
LEG IN, LEFT SIDE, MOUNTED TO STEEL



LEG IN, LEFT SIDE, MOUNTED TO WOOD

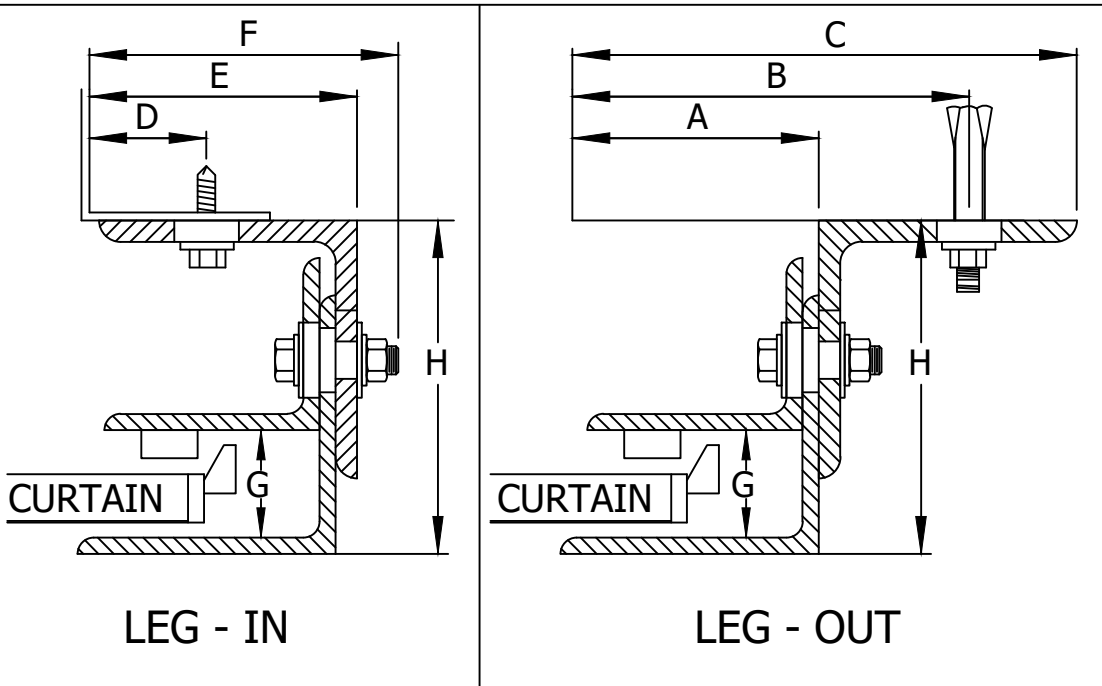
ALL DETAILS DEPICT
LEFT SIDE, ABOVE-VIEW
ORIENTATION. RIGHT
HAND OPPOSITE.

Appendix B: Guide Measurement Details



GUIDE DETAIL (NON-WINDLOCK)

GUIDE DETAIL (WINDLOCK)



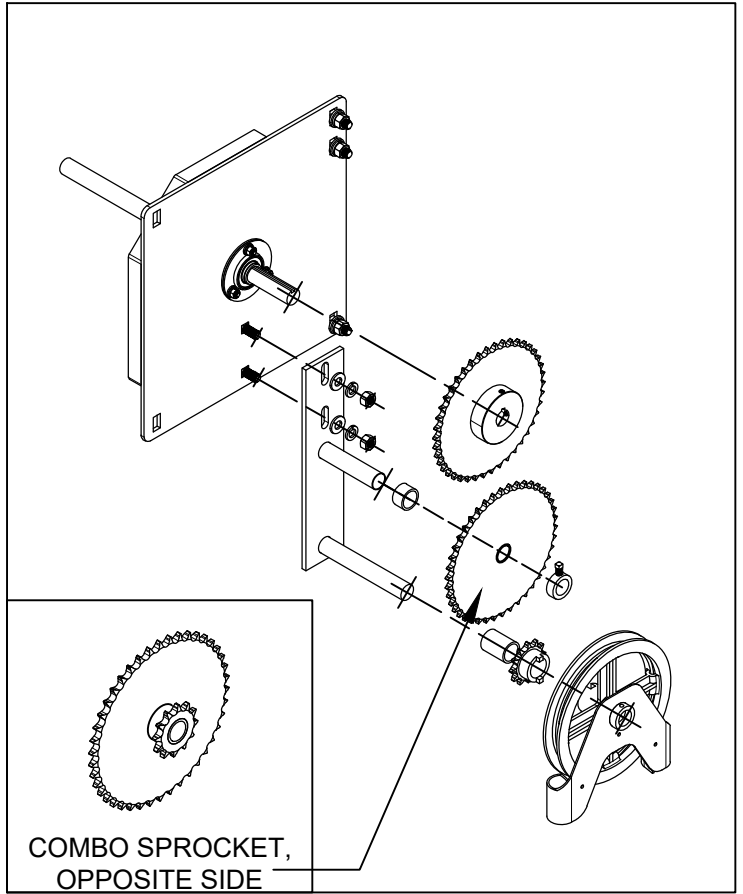
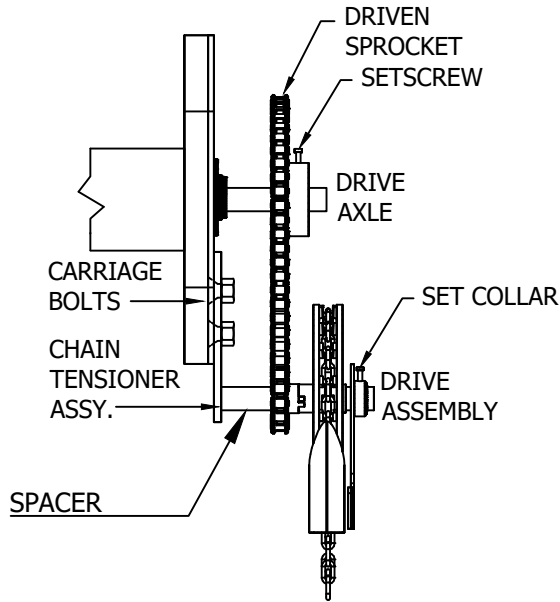
GUIDE DIMENSION - FACE OF WALL

TYPE	A	B	C	D	E	F	G	H
2	3" / 76.2mm	4 1/4" / 107.9mm	5 1/2" / 139.7mm	1 15/16" / 49.2mm	3 3/16" / 80.9mm	3 13/16" / 96.8mm	1 1/8" / 28.5mm	3 3/4" / 95.2mm
3	3" / 76.2mm	4 1/2" / 114.3mm	6" / 152.4mm	1 11/16" / 42.9mm	3 3/16" / 80.9mm	3 13/16" / 96.8mm	1 1/8" / 28.5mm	4 1/4" / 107.9mm
4	3" / 76.2mm	4 1/2" / 114.3mm	6" / 152.4mm	1 3/4" / 44.5mm	3 1/4" / 82.5mm	3 13/16" / 96.8mm	1 1/8" / 28.5mm	4 1/4" / 107.9mm
2 (W/L)	3 3/8" / 85.7mm	4 5/8" / 117.5mm	5 7/8" / 149.2mm	2 5/16" / 58.7mm	3 9/16" / 90.4mm	4 3/16" / 106.3mm	1 7/16" / 36.5mm	4" / 101.6mm
3 (W/L)	3 3/8" / 85.7mm	4 7/8" / 123.8mm	6 3/8" / 161.9mm	2 1/16" / 52.4mm	3 9/16" / 90.4mm	4 3/16" / 106.3mm	1 7/16" / 36.5mm	4 1/2" / 114.3mm
4 (W/L)	3 3/8" / 85.7mm	4 7/8" / 123.8mm	6 3/8" / 161.9mm	2 1/8" / 53.8mm	3 5/8" / 92.0mm	4 3/16" / 106.3mm	1 7/16" / 36.5mm	4 1/2" / 114.3mm
5 & 5IM (W/L)	3 3/8" / 85.7mm	4 7/8" / 123.8mm	6 3/8" / 161.9mm	2 1/8" / 53.8mm	3 5/8" / 92.0mm	4 3/8" / 111.1mm	1 9/16" / 39.6mm	4 5/8" / 117.4mm
6 (W/L)	4 1/4" / 107.9mm	6" / 152.4mm	7 3/4" / 196.8mm	2 7/8" / 73.0mm	4 9/16" / 115.8mm	5 1/4" / 133.3mm	1 9/16" / 39.6mm	7 1/4" / 184.1mm
7 (W/L)	5" / 127mm	7 1/2" / 190.5mm	10" / 254mm	3 1/8" / 79.3mm	5 5/8" / 142.8mm	6 7/16" / 163.5mm	1 9/16" / 39.6mm	7 1/4" / 184.1mm

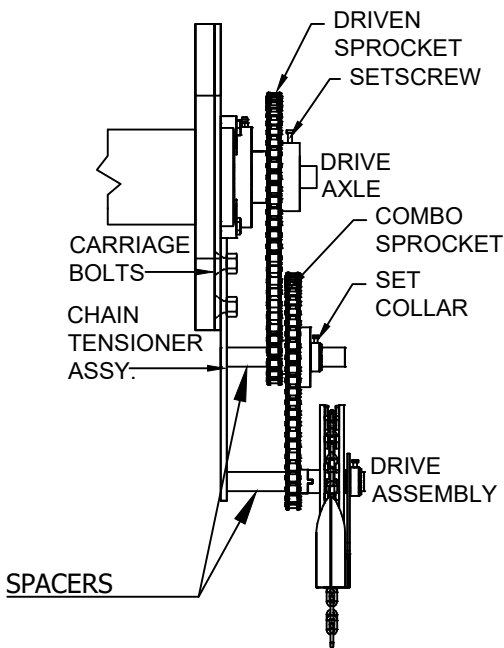
Appendix C: Single, Double, and Triple Reduction Details

Single, Double, and Triple Reduction Chain Hoists may come pre-assembled. In the need of assembly, refer to Page 11 for hardware and Single Reduction Assembly. For Double and Triple Reduction Chain Hoists, see detailed views below.

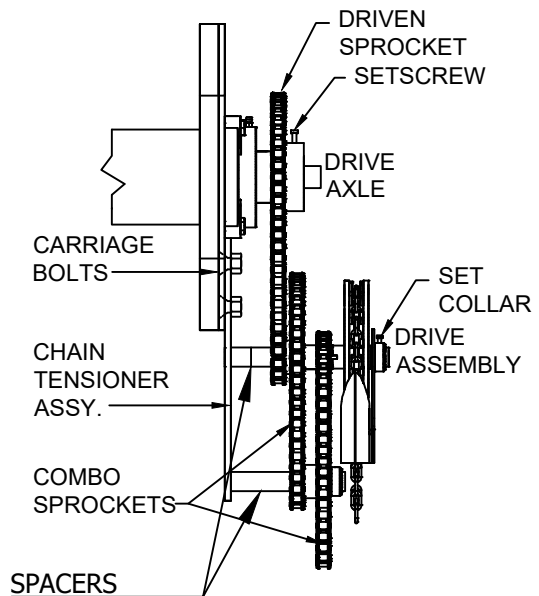
SINGLE REDUCTION



DOUBLE REDUCTION



TRIPLE REDUCTION



TROUBLESHOOTING

<u>Issue</u>	<u>Solution</u>
Difficult to Open or Close	Check guides for any obstructions. If none, see "Curtain Rubs on Headplates or Guides"
Curtain Rubs on Headplates or Guides	Verify "W" dimension (reference Step 2). Verify top and bottom distance of the guides. Center each slat on the barrel.
Headstops Scrape Curtain	Headstops can be bent out slightly if scraping occurs. Contact Asta America if touch up paint is needed.
Curtain Rolls to One Side "Coning"	Check that barrel is level. If not level, raise low side headplate. Center the barrel between headplates and starting at the top, center each slat between the headplates by prying between the headplate and the endlock/windlock on the slat to move it toward the center.
Door Does not Open or Close when Operated	Verify keystone is seated in the keyway and set screws are tightened for all sprockets and pocket wheels.
Skipping or Popping Sound while Opening or Closing	Verify sprockets are aligned and roller chains have proper tension.
Hood Sagging Excessively	If using multiple hood sections, ensure they are connected as described in Step 12. Check hood support spacing. Identify the low spot and move the closest support to the halfway point between where it is and where the low spot is.
Electric Operator Not Working	For issues with electric operators, please contact operator manufacturer to troubleshoot.
Missing/Damaged Parts or Further Assistance	Contact Asta America at (770) 974-2600

400 / 600 BASE INSTALLATION MANUAL



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