

LOW HEADROOM FRONT AND REAR MOUNT TORSION

Supplemental insert

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Part No. 301627

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This supplemental installation instruction is to be used as a supplement to the main Installation Instruction and Owner's Manual provided with the door. The instructions included in this document are ONLY those which deviate from the standard installation. All WARNINGS and CAUTIONS listed in the main manual are applicable to this supplemental instruction as well.

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INSTALLATION

1

Quick Install Jamb Brackets

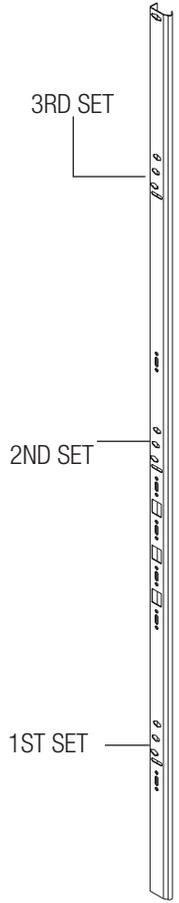
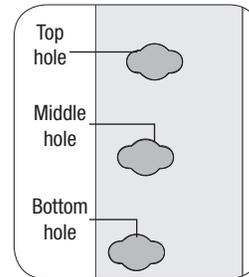
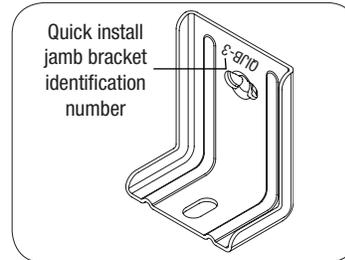
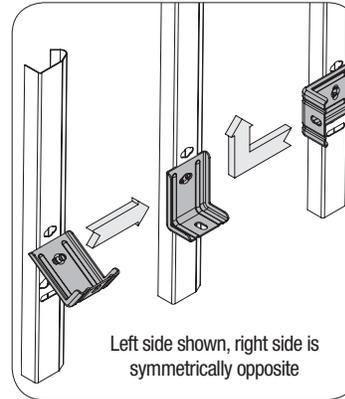
NOTE: For windload doors, skip to step, Windload Jamb Brackets, on page 2.

NOTE: Jamb brackets are stamped for identification.

For door models 9100/9405/9600/5120/5145/6100, use schedule (A), shown below to determine the placement of the jamb brackets for the door.

For door models 9700, use schedule (B), shown below to determine the placement of the jamb brackets for the door.

Locate the proper jamb brackets by the corresponding holes in the vertical track. To install the jamb brackets, align the twistlock tab on the quick install jamb bracket with the quick install feature in the track and turn the bracket perpendicular to the track so the mounting flange is toward the back (flat) leg of the track, shown in FIG. 1.1.



(A)						
DOOR HEIGHT	1ST SET		2ND SET		3RD SET	
	JAMB BRACKET	POSITION	JAMB BRACKET	POSITION	JAMB BRACKET	POSITION
6'0"						
57-3/4" TRACK	QIJB - 5	MIDDLE	QIJB - 8	TOP		N/A
6'5"						
62-3/4" TRACK	QIJB - 3	BOTTOM	QIJB - 7	MIDDLE		N/A
6'8"						
66" TRACK	QIJB - 3	BOTTOM	QIJB - 6	MIDDLE		N/A
7'0"						
69-1/2" TRACK	QIJB - 3	BOTTOM	QIJB - 6	MIDDLE		N/A
7'3"						
72-1/2" TRACK	QIJB - 3	BOTTOM	QIJB - 7	TOP	QIJB - 8	TOP
7'6"						
75-1/2" TRACK	QIJB - 3	BOTTOM	QIJB - 7	TOP	QIJB - 8	TOP
7'9"						
78-1/2" TRACK	QIJB - 3	BOTTOM	QIJB - 7	TOP	QIJB - 8	TOP
8'0"						
4 SECTIONS 81-1/2" TRACK	QIJB - 3	BOTTOM	QIJB - 7	TOP	QIJB - 8	TOP
8'0"						
5 SECTIONS	QIJB - 3	BOTTOM	QIJB - 7	TOP	QIJB - 8	TOP

(B)						
DOOR HEIGHT	1ST SET		2ND SET		3RD SET	
	JAMB BRACKET	POSITION	JAMB BRACKET	POSITION	JAMB BRACKET	POSITION
7'0"						
3 SECTIONS 69-1/2" TRACK	QIJB - 3	BOTTOM	QIJB - 6	MID-DLE		NOT APPLICABLE
8'0"						
4 SECTIONS 82" TRACK	QIJB - 3	BOTTOM	QIJB - 7	TOP	QIJB - 8	TOP

FIG. 1.1

Windload Jamb Brackets

NOTE: If you do not have windload jamb brackets, skip this step and complete step horizontal track installation on page 4.

NOTE: Windload specification 0356 only uses the (QI) jamb bracket schedule.

NOTE: The following (JB) denotes a slotted jamb bracket.

Measure the length of the vertical track. Using the windload jamb bracket schedule, determine the placement of the jamb brackets for your door height and track type.

Loosely fasten the (JB) jamb bracket to the track with a 1/4"-20 x 9/16" track bolt and 1/4"-20 flange hex nut, as shown in **FIG. 2.1** and **FIG. 2.2**.

WINDLOAD (JB) JAMB BRACKET SCHEDULE

DOOR HEIGHT	NO. OF SECTIONS	NO. OF JAMB BRACKETS (EACH JAMB)	TRACK TYPE	LOCATION OF CENTER LINE OF JAMB BRACKETS MEASURED FROM BOTTOM OF TRACK (ALL DIMENSIONS ± 2")
WINDLOAD SPECIFICATION 0228				
7'-0" or Less	4	1	Q.I.	2" (JB), 63" (JB)
			F.A.T	2" (JB), 42" (JB), 63 1/4" (JB)
7'-1" to 8'-0"	4 or 5	1	Q.I.	2" (JB), 34" (JB)
			F.A.T	2" (JB), 10" (JB), 29 3/4" (JB), 48" (JB), 66" (JB)
WINDLOAD SPECIFICATION 0229, 0600, & 0602				
7'-0" or Less	4	2	Q.I.	25 1/2" (JB), 63" (JB)
			F.A.T	10" (JB), 21 3/4" (JB), 42" (JB), 63 1/4" (JB)
7'-1" to 8'-0"	4 or 5	2	Q.I.	23" (JB), 34" (JB)
			F.A.T	10" (JB), 21 3/4" (JB), 29 3/4" (JB), 48" (JB), 66" (JB)
WINDLOAD SPECIFICATION 0230, 0232, 0233, 0234, 0601, 0603, 0607, & 0608				
7'-0" or Less	4	4	Q.I.	2" (JB), 25-1/2" (JB), 34" (JB), 63" (JB)
			F.A.T	2" (JB), 10" (JB), 21 3/4" (JB), 29 3/4" (JB), 42" (JB), 63 1/4" (JB)
7'-1" to 8'-0"	4 or 5	5	Q.I.	2" (JB), 23" (JB), 34" (JB), 58" (JB), 75" (JB)
			F.A.T	2" (JB), 10" (JB), 21 3/4" (JB), 29 3/4" (JB), 48" (JB), 57 1/4" (JB), 66" (JB), 75 1/2" (JB)
WINDLOAD SPECIFICATION 0605				
7'-0" or Less	4	4	Q.I.	2" (JB), 23" (JB), 34" (JB), 58" (JB), 75" (JB)
7'-1" to 8'-0"	4 or 5	5	F.A.T	2" (JB), 10" (JB), 21 3/4" (JB), 29 3/4" (JB), 48" (JB), 57 1/4" (JB), 66" (JB), 75 1/2" (JB)

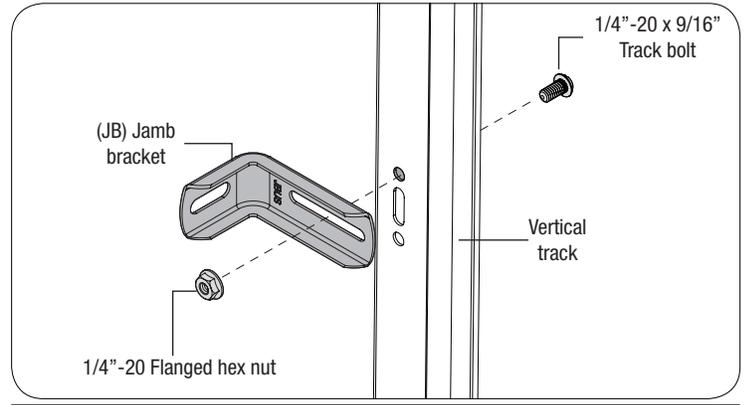


FIG. 2.1

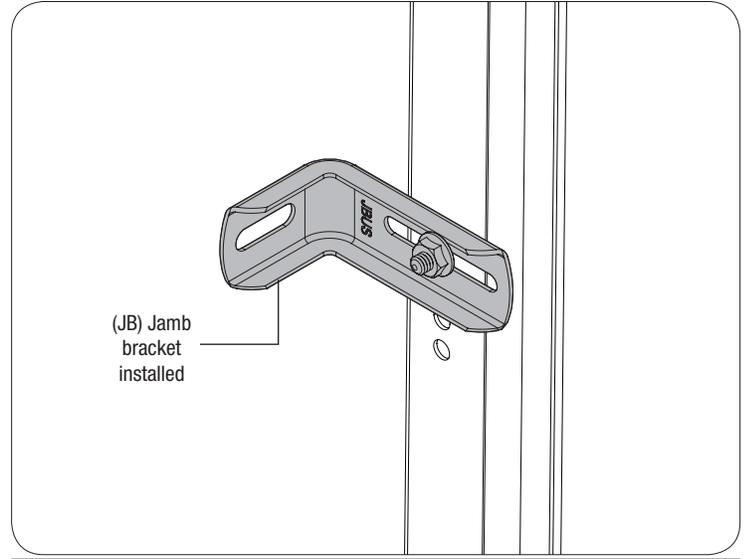


FIG. 2.2

Bottom Bracket Installation

Identify the low-headroom bottom brackets provided with your door (**A, B or C**). Place them, left and right onto the bottom corners of the section. Seat the bottom brackets against the edge of the section, as shown in **FIG. 3.1** and **3.2**.

FOR LOW HEADROOM BOTTOM BRACKET (A):

Secure the low headroom bottom bracket to the section with (3) 1/4" - 20 x 11/16" self drilling screws (RED HEAD) and (2) 1/4" - 20 x 11/16" self drilling screws, as shown in **FIG. 3.1**.

IMPORTANT: THE 1/4" - 20 X 11/16" RED HEAD SELF DRILLING SCREWS MUST BE MUST BE INSTALLED THROUGH THE HOLES OF THE BOTTOM CORNER BRACKETS, AS SHOWN.

Place roller into holes of each bottom bracket, as shown in **FIG. 3.1**.

FOR LOW HEADROOM BOTTOM BRACKET (B):

Secure the low headroom bottom bracket to the section with four 1/4" - 20 x 2 1/2" carriage bolts, 1/4" - 20 flange hex nuts (RED HEAD) and 1/4" - 20 flange hex nut, as shown in **FIG. 1.2**.

IMPORTANT: THE CARRIAGE BOLTS AND THE 1/4" - 20 RED HEAD FLANGE HEX NUTS MUST BE MUST BE INSTALLED ON THE BOTTOM CORNER BRACKETS, AS SHOWN.

Place roller into holes of each bottom bracket, as shown in **FIG. 3.2**.

FOR LOW HEADROOM BOTTOM BRACKET (C):

Secure the low headroom bottom bracket to the section with (3) 1/4" - 20 x 11/16" self drilling screws (RED HEAD) and (2) 1/4" - 20 x 11/16" self drilling screws, as shown in **FIG. 3.3**.

IMPORTANT: THE 1/4" - 20 X 11/16" RED HEAD SELF DRILLING SCREWS MUST BE MUST BE INSTALLED THROUGH THE HOLES OF THE BOTTOM CORNER BRACKETS, AS SHOWN.

Attach the counter balance cable to the low-headroom bottom brackets using clevis pins. Secure the clevis pins to bottom brackets using a 5/16" flat washer and cotter pin, as shown in **FIG. 3.4**.

NOTE: Place roller into the factory attached bottom brackets, as shown in **FIG. 3.5**.

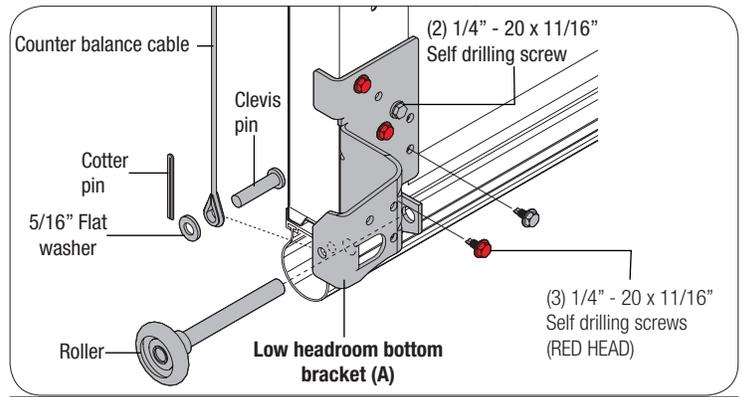


FIG. 3.1

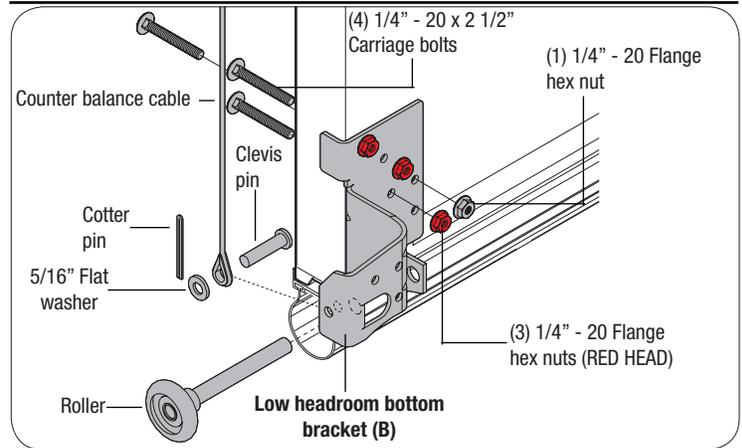


FIG. 3.2

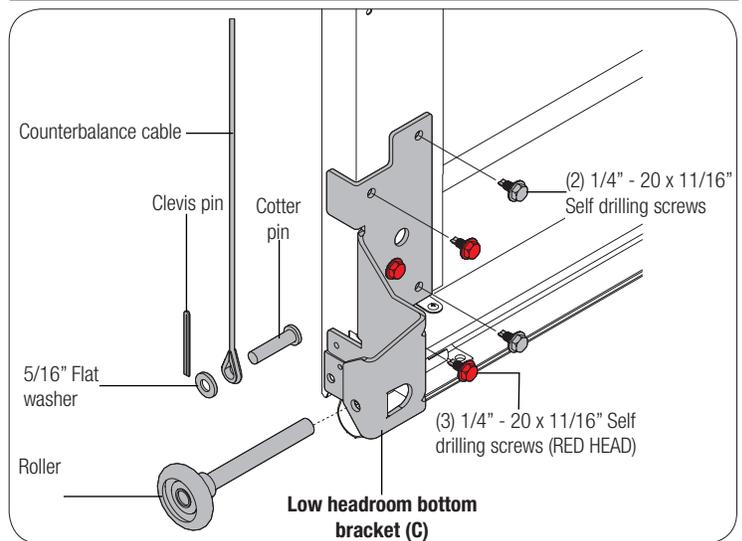


FIG. 3.3

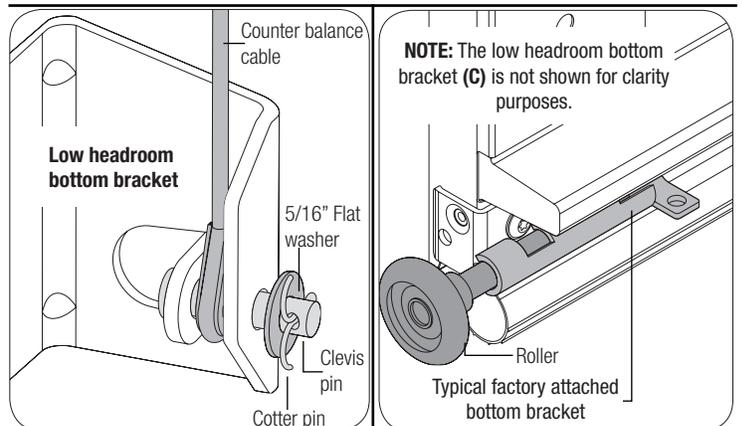


FIG. 3.4

FIG. 3.5

Low Headroom Top Bracket

Identify the low-headroom top brackets provided with your door (**A, B, C or D**). Push the top section of door out against the jamb until the section is parallel with the other sections of the door. Starting with the left hand side, align the edge of top bracket with the edge of section.

NOTE: When installing the top brackets, the top section must be vertically aligned with the rest of the sections from the side view. If needed reposition top bracket(s) to achieve vertical alignment.

FOR LOW HEADROOM TOP BRACKET (A):

Secure the low headroom top bracket to the section by placing one 1/4" - 20 x 11/16" self drilling screw through the lower slot of bracket. Adjust the low headroom top bracket if necessary and secure two more 1/4" - 20 x 11/16" self drilling screws through the top holes, as shown in FIG. 4.1.

Repeat the same process for the other side.

FOR LOW HEADROOM TOP BRACKET (B) OR (C):

NOTE: The LHR top bracket comes pre-assembled, as shown in FIG. 4.3 or FIG. 4.4. Locate the edge of the top section and seat the top bracket on male part of the top section, as shown in FIG. 4.2.

Attach the top bracket to the top section (B):

1. Attach one 1/4" - 20 x 11/16" self-drilling screw to the top bracket assembly.
2. Attach two 1/4" - 20 x 11/16" self-drilling screws to the top bracket assembly.
3. Attach two #12 x 1/2" phillips head screws on the opposite side of top bracket assembly.

Insert a roller into the top bracket slide, as shown in FIG. 4.3. Repeat the same process for the other side.

Attach the top bracket to the top section (C):

1. Attach one 1/4" - 14 x 5/8" self-tapping screw to the top bracket assembly.
2. Attach two 1/4" - 20 x 11/16" self-drilling screws to the top bracket assembly.
3. Attach two #12 x 1/2" phillips head screws on the opposite side of top bracket assembly.

Insert a roller into the top bracket slide, as shown in FIG. 4.4. Repeat the same process for the other side.

REVERSING THE TOP SLIDE (B) OR (C), IF NEEDED:

NOTE: Depending on your application, you may need to reverse the top bracket slide for more adjustment, if needed, prior to securing it to the top bracket base. Remove the top bracket slide by removing the two 1/4" - 20 x 5/8" carriage bolts, two retention washers and two 1/4" - 20 flanged hex nuts. Flip the top bracket slide in the opposite direction. Loosely fasten the top bracket slide to the bracket using two 1/4" - 20 x 5/8" carriage bolts, two retention washers and two 1/4" - 20 flanged hex nuts, as shown in FIG. 4.5 or FIG. 4.6.

NOTE: The retention washers must be fully seated against the top bracket base to ensure the anti-twist feature on the top bracket slide engages in the slotted hole in the top bracket base.

FOR LOW HEADROOM HORIZONTAL TRACK (D):

NOTE: This is a traditional low headroom windload top bracket.

Vertically align the flat portion of roller slide with the endcap and u-bar at the top of top section. Fasten roller slide using (2) 1/4" - 14 x 7/8" self drilling screws, as shown in FIG. 4.7. Repeat the same process for the other side.

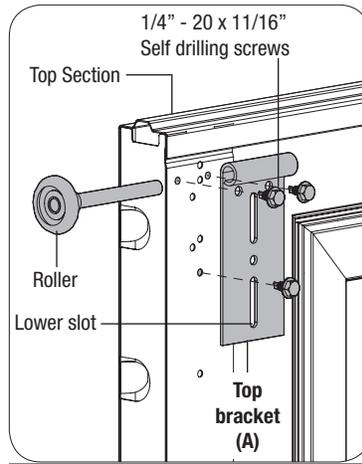


FIG. 4.1

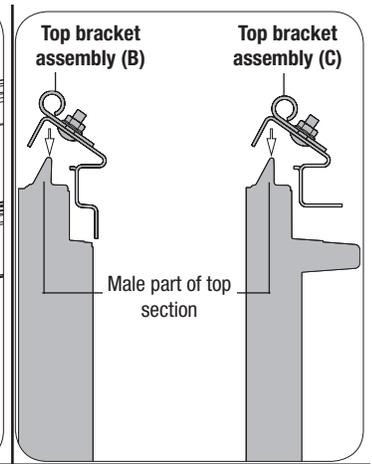


FIG. 4.2

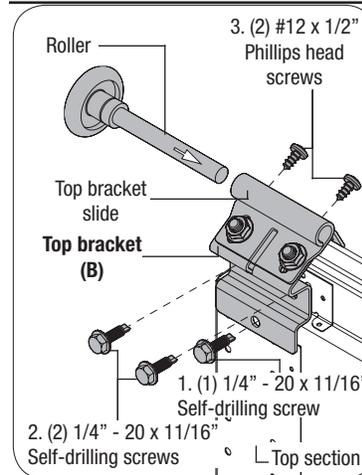


FIG. 4.3

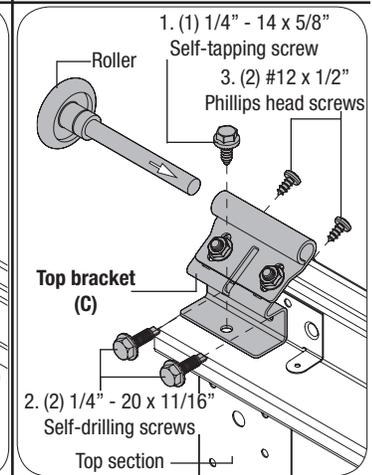


FIG. 4.4

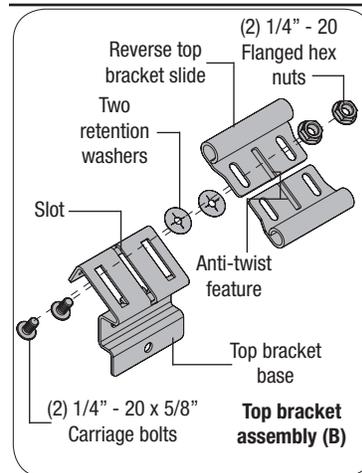


FIG. 4.5

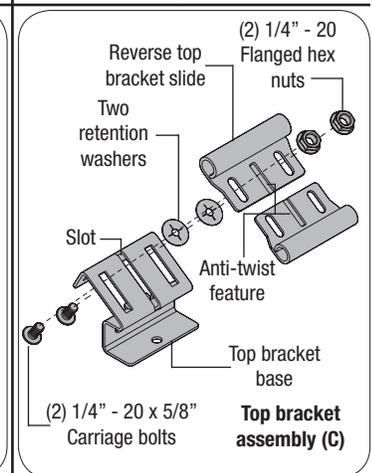


FIG. 4.6

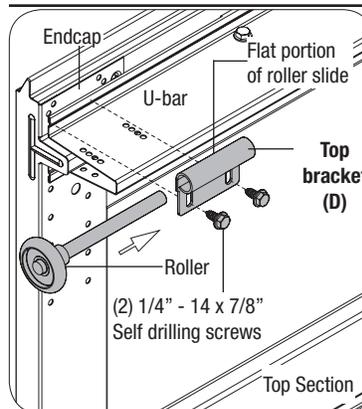


FIG. 4.7

WARNING

DO NOT RAISE DOOR UNTIL HORIZONTAL TRACKS ARE SECURED AT REAR, AS OUTLINED IN REAR SUPPORT INSTALLATION, OR DOOR COULD FALL FROM OVERHEAD POSITION CAUSING SEVERE OR FATAL INJURY.

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Quick Install Horizontal Track Installation

Place the horizontal tracks over the top of the previously installed vertical tracks as shown. Locate the keyslot in the track over the Twistlock® tabs on the flagangles. Hold the parts together and tap down on the track to lock into place.

Place (1) 1/4-20 x 9/16" track bolt through the slot in the end of the top curve and the appropriate slot in the flagangle, then secure with a 3/8" flat washer and flanged hex nut (do not fully tighten). Level the horizontal track, then tighten the bolt in the top curve, as shown in FIG. 5.1.

For 1" x 4" x 23" angles, refer to that specified step.

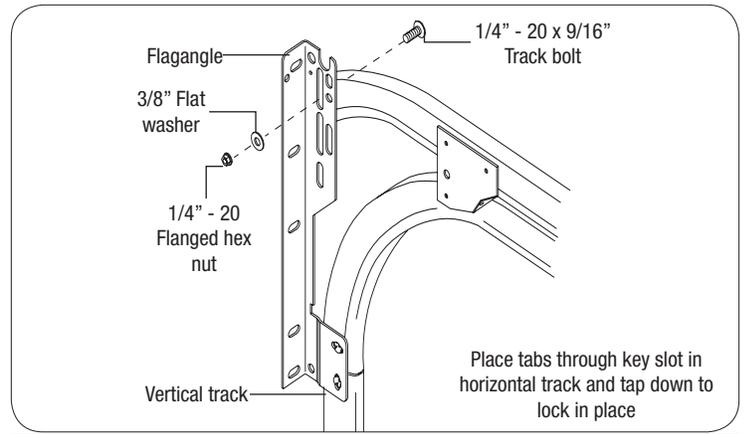


FIG. 5.1

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Universal Horizontal Track Installation

Place the horizontal tracks over the top of the previously installed vertical tracks as shown. Attach the bottom of the lower curve to the flagangle using (2) 1/4-20 x 9/16" track bolts and (2) nuts.

Place (1) 1/4-20 x 9/16" track bolt through the slot in the end of the top curve and the appropriate slot in the flagangle, then secure with a 5/16" flat washer and flanged hex nut (do not fully tighten). Level the horizontal track, then tighten the bolt in the top curve, as shown in FIG. 6.1.

For 1" x 4" x 23" angles, refer to that specified step.

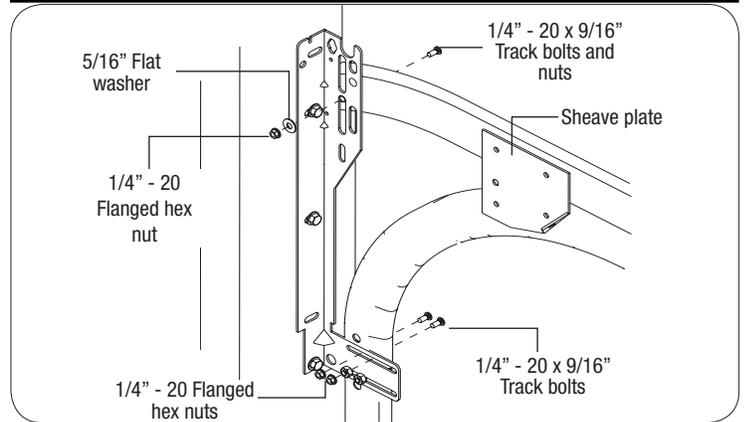


FIG. 6.1

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Quick Install and Universal Horizontal Track Installation for 1" x 4" x 23" Angle

Place the horizontal tracks over the top of the previously installed vertical tracks shown in the Quick Install Horizontal Track Install step. Locate the keyslot in the track over the Twistlock® tabs on the flagangles. Hold the parts together and tap down on the track to lock into place.

Place the horizontal tracks over the top of the previously installed vertical tracks shown in the Universal Horizontal Track Install step. Attach the bottom of the lower curve to the flagangle using (2) 1/4-20 track bolts and nuts. Secure the upper curve to the flagangle using (1) 1/4-20 x 9/16" track bolt, 3/8" flat washer and flanged hex nut as illustrated.

Secure 1" x 4" x 23" horizontal angle to the flag angle with (1) 3/8 x 3/4" truss head bolt and nut, as shown in FIG. 7.1.

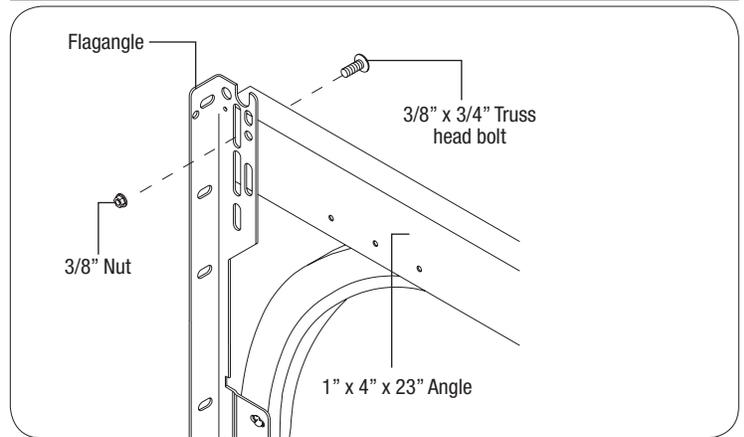


FIG. 7.1

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Torsion Shaft Assembly

Place the torsion shaft on the floor in front of the door. Facing the door, slide the nylon center bearing over the end of the tube until it is centered on the shaft. Slide the spring with the black winding cone over the left hand end of the tube. Slide the spring with the red winding cone (if applicable) over the right hand end of the shaft, as shown in **FIG. 8.1**.

NOTE: Front mount torsion shaft assembly for LHR doors are opposite from standard lift doors.

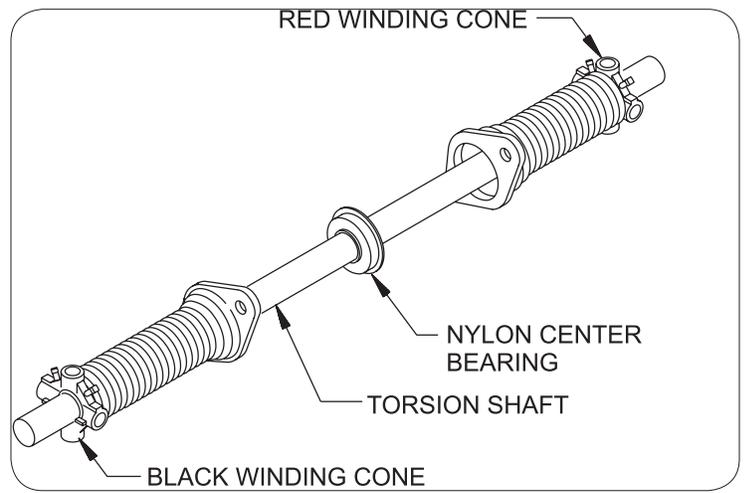


FIG. 8.1

9

End Bearing Fixture Installation

NOTE: It may be necessary to cut off the top of the flagangle for minimum headroom applications.

Place the left and right end bearing fixtures above the flagangles. Attach the fixtures to the jamb using (3) 5/16" x 1-5/8" lag bolts, as shown in **FIG. 9.1**.

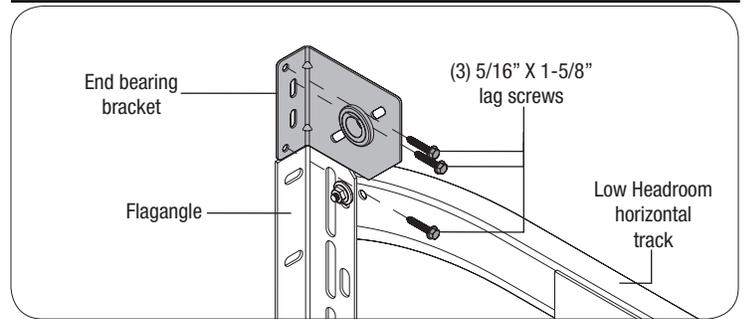


FIG. 9.1

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Center Bearing Fixture Installation

Locate the center of the door and mark a vertical pencil line on the spring mounting pad. Then measure the distance from the top of the door to the center of the bearing on the end bearing fixture. Mark a horizontal line on the spring mounting pad the measured distance up from the top of the door. Offset the center bearing bracket 1-1/2" off center on the spring mounting pad and center the bearing hole in the bracket over the horizontal line so that the torsion shaft will lay level through the brackets when installed. Attach the bracket to the spring pad using 5/16" RED HEAD lag screws, as shown in **FIG. 10.1**.

IMPORTANT: THE 5/16" RED HEAD LAG SCREWS MUST BE ATTACHED TO THE CENTER BRACKET(S).

IMPORTANT: USE A 5/16" X 2-1/2" RED HEAD LAG SCREW INSTEAD OF THE 5/16" X 1-5/8" RED HEAD LAG SCREW IF MOUNTING SURFACE IS COVERED BY DRYWALL. THE LAG SCREW MUST BE ATTACHED THROUGH THE BOTTOM HOLE OF THE CENTER BRACKET(S).

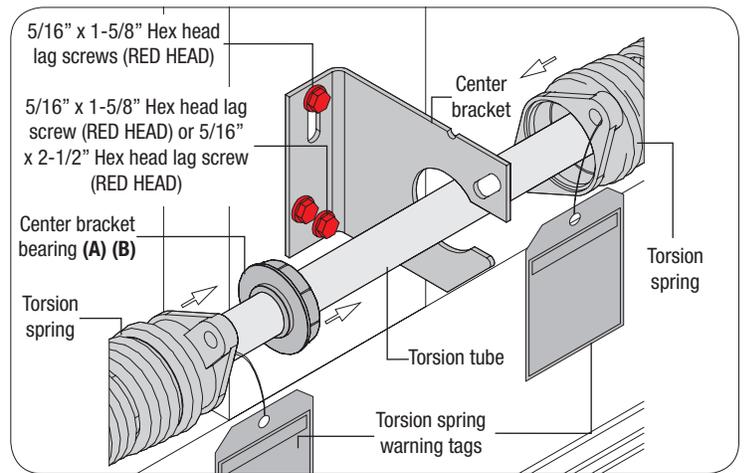


FIG. 10.1

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Torsion Shaft Installation

Lift the torsion shaft off the floor. Slide one end of the shaft through the end bearing fixture. Extend the shaft through the bearing until the opposite end of the shaft can be inserted into the other fixture. Equalize the amount that the shaft protrudes on each side. Slide the nylon center bearing into the end of (1) spring and align the stationary spring cone(s) with the holes in the center bearing bracket. Secure the spring(s) to the center bearing bracket using (2) 3/8"-16 x 1-1/2" bolts and nuts. Slide the red drum over the left end of the shaft as shown (inside looking out) and the black drum over the right end of the shaft, as shown in **FIG. 11.1**.

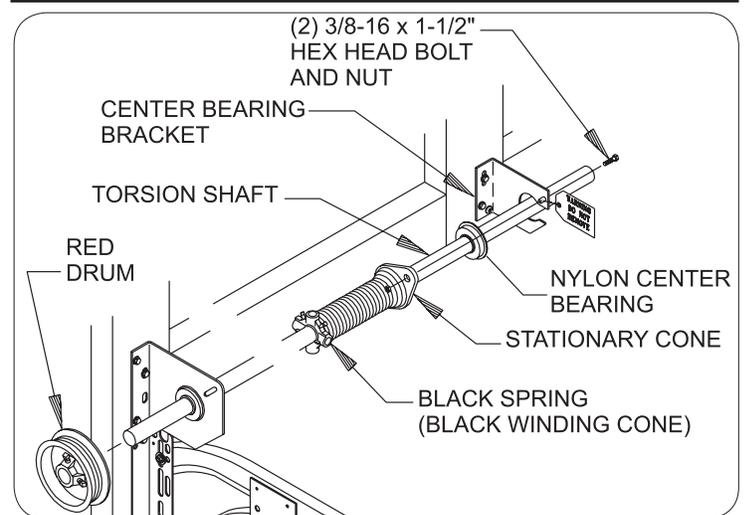


FIG. 11.1

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Counterbalance Cable Installation and Winding Instructions

Wrap the counterbalance cables around the front of the drums. Hook the cable stops behind the slots of the drums. (Cables should terminate at 9 O'clock). Secure the cable drums to the torsion shaft by tightening the set screws. Clamp locking pliers onto the vertical track just above one of the rollers and wind the torsion springs downward the required number of turns. See warning tag on spring(s), as shown in FIG. 12.1.

NOTE: The torsion spring counter-balance system for front mount low headroom is wound in the opposite direction of standard lift.

NOTE: Refer to provided installation manual for information regarding spring adjustment.

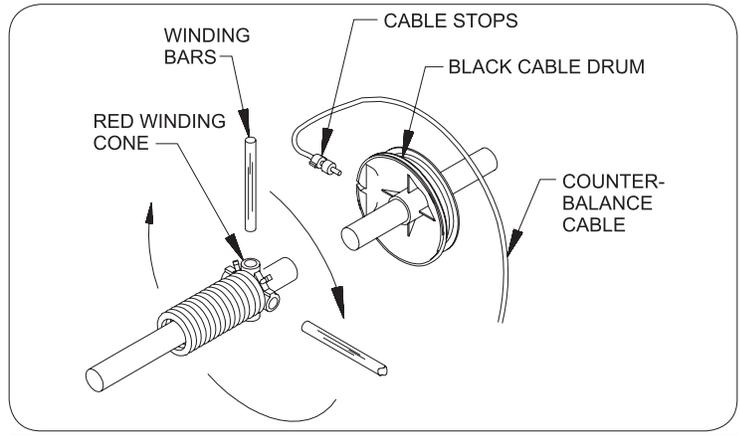


FIG. 12.1

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Rear Support Installation

Clamp a pair of locking pliers onto the straight leg of each horizontal track 30"-35" from the jamb. Raise the door until the top roller hits the locking pliers previously installed and clamp a pair of locking pliers, below the bottom rollers, onto the straight leg of both vertical tracks to prevent the door from falling. Move the horizontal track until it is parallel with the edge of the door and level, then secure the lower horizontal track to the rear support drop angle using a 5/16"-18 x 1-1/4" bolt and nut. Drill a 5/16" hole through the top horizontal track and secure with a 5/16"-18 x 1-1/4" bolt and nut to be used as a roller stop, as shown in FIG. 13.1. Lower the door into the opening to finish the installation.

NOTE: rear support material supplied by others (lateral brace must always be used to prevent swaying of horizontal track).

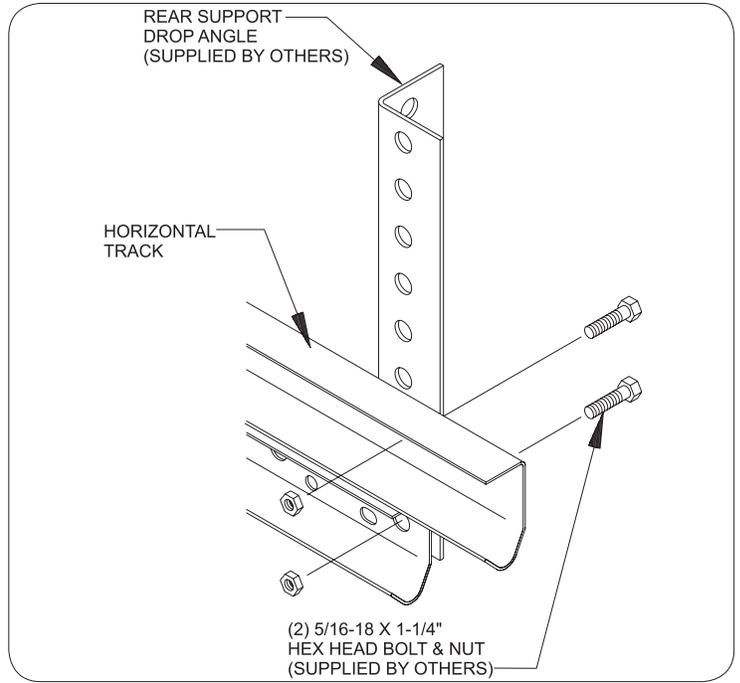


FIG. 13.1

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Rear Support Installation For Rear mount Torsion Springs

With assistance, raise the door until 1-1/2 sections are in the horizontal track. Clamp a pair of locking pliers, below the bottom rollers, onto the straight leg of both vertical tracks to prevent the door from falling. Move the horizontal track until it is parallel with the edge of the door, then secure the horizontal track to the rear support drop angle using (2) 3/8"-16 x 3/4" truss head bolts and nuts each, as shown in FIG. 14.1. With assistance lower the door back into the opening.

NOTE: rear support material supplied by others (lateral brace must always be used to prevent swaying of horizontal track).

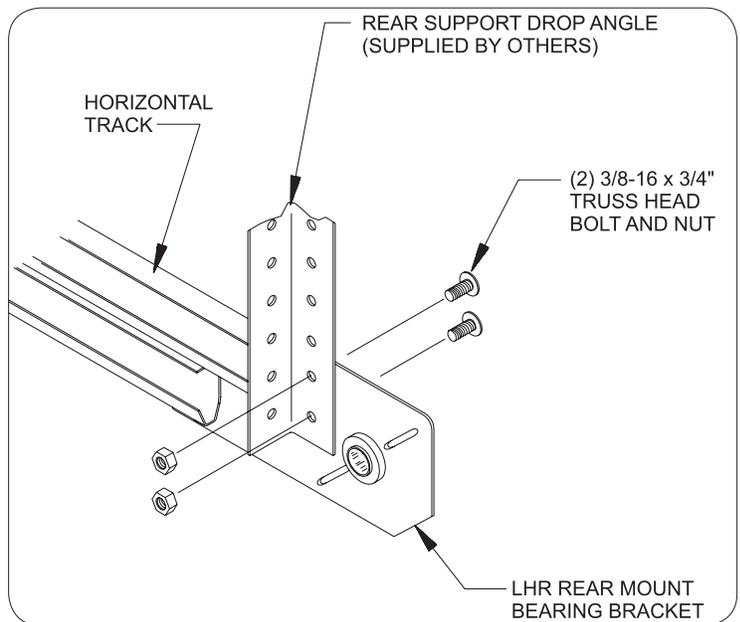


FIG. 14.1

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Rear Support Installation For Rear mount Torsion Springs

Place a 3/8"-16 x 1-1/2" hex head bolt through the hole in the sheave plate and slide a steel sheave over the end of the bolt. Secure the sheave using (1) 3/8" hex nut. For 1" x 4" x 23" angle applications, secure the steel sheave using the sheave saddle and (2) 5/16" x 3/4" square neck carriage bolts and nuts. Repeat for the other side, then loop the counterbalance cables over each sheave, as shown in **FIG. 15.1**.

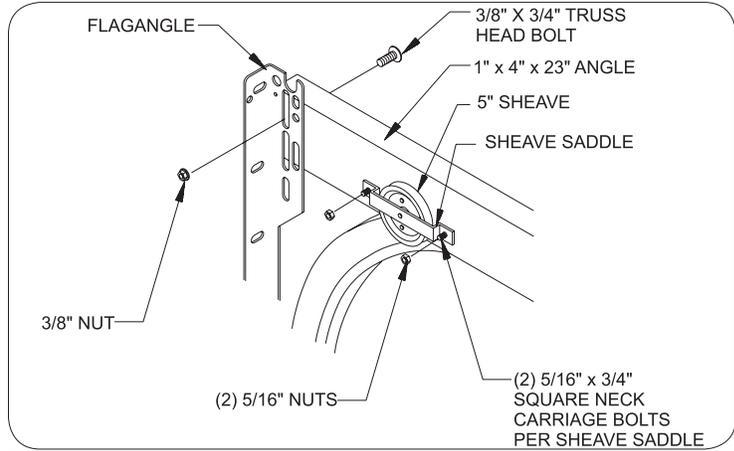
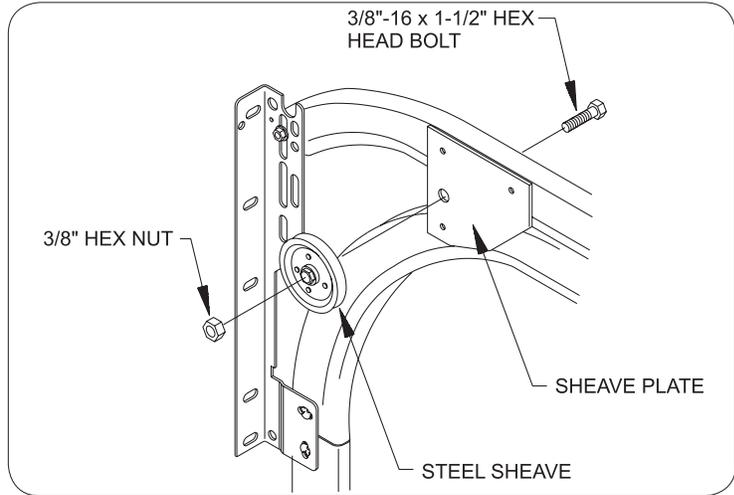


FIG. 15.1

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Torsion Shaft Assembly

Place the torsion shaft on the floor at the end of the horizontal track. Facing the door, slide the center bearing bracket over the end of the tube until it is centered on the shaft. Slide the spring with the black winding cone over the left hand end of the tube. Slide the red spring (if applicable) over the right end of the shaft , as shown in **FIG. 16.1**.

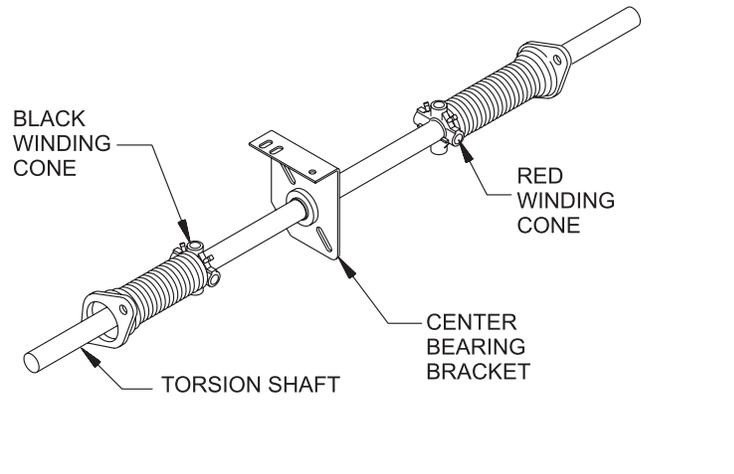


FIG. 16.1

Torsion Shaft Installation

Lift the torsion shaft off the floor. Slide one end of the shaft through the end bearing bracket. Extend the shaft through the bearing until the opposite end of the shaft can be inserted into the other bracket. Equalize the amount that the shaft protrudes on each side. Slide the center bearing bracket to the center of the torsion shaft. Secure the bracket to the ceiling using perforated angle or wood blocking. Place the stationary cone(s) of the torsion springs in line with the slots in the end bearing brackets and secure using (2) 3/8"-16 x 1-1/2" hex head bolts and nuts (each) as shown. Place the black drum over the left end of the torsion shaft (inside looking out) and the red drum over the right end.

Apply locking pliers to the track above a roller before winding springs. Ensure that counterbalance cables are over the steel sheaves and wrap the counterbalance cables over the tops of the drums. Hook the cable stops behind the notches in the drums. Rotate the drums to add tension to the cables, clamp locking pliers onto the torsion shaft so that cables maintain tension. Tighten the set screws for each drum. Cables should terminate at 6 O'clock position minimum (as shown), and cable tension should be equal for both sides. Check the spring warning tag for number of turns required. Using approved winding bars, wind the springs upward the required number of turns, as shown in **FIG. 17.1**.

NOTE: SEE PROVIDED INSTALLATION MANUAL FOR INFORMATION REGARDING ADJUSTING SPRING TENSION.

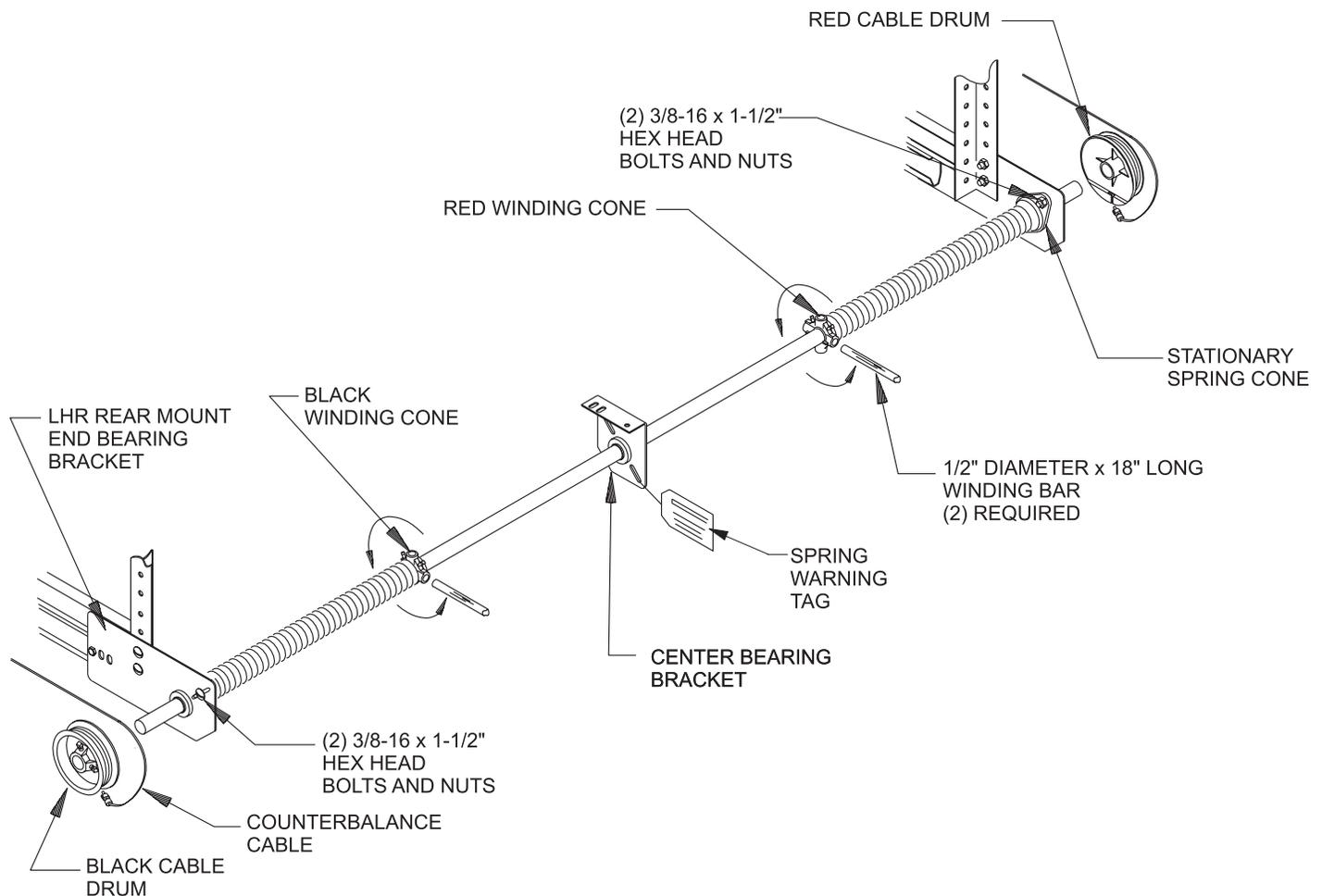


FIG. 17.1