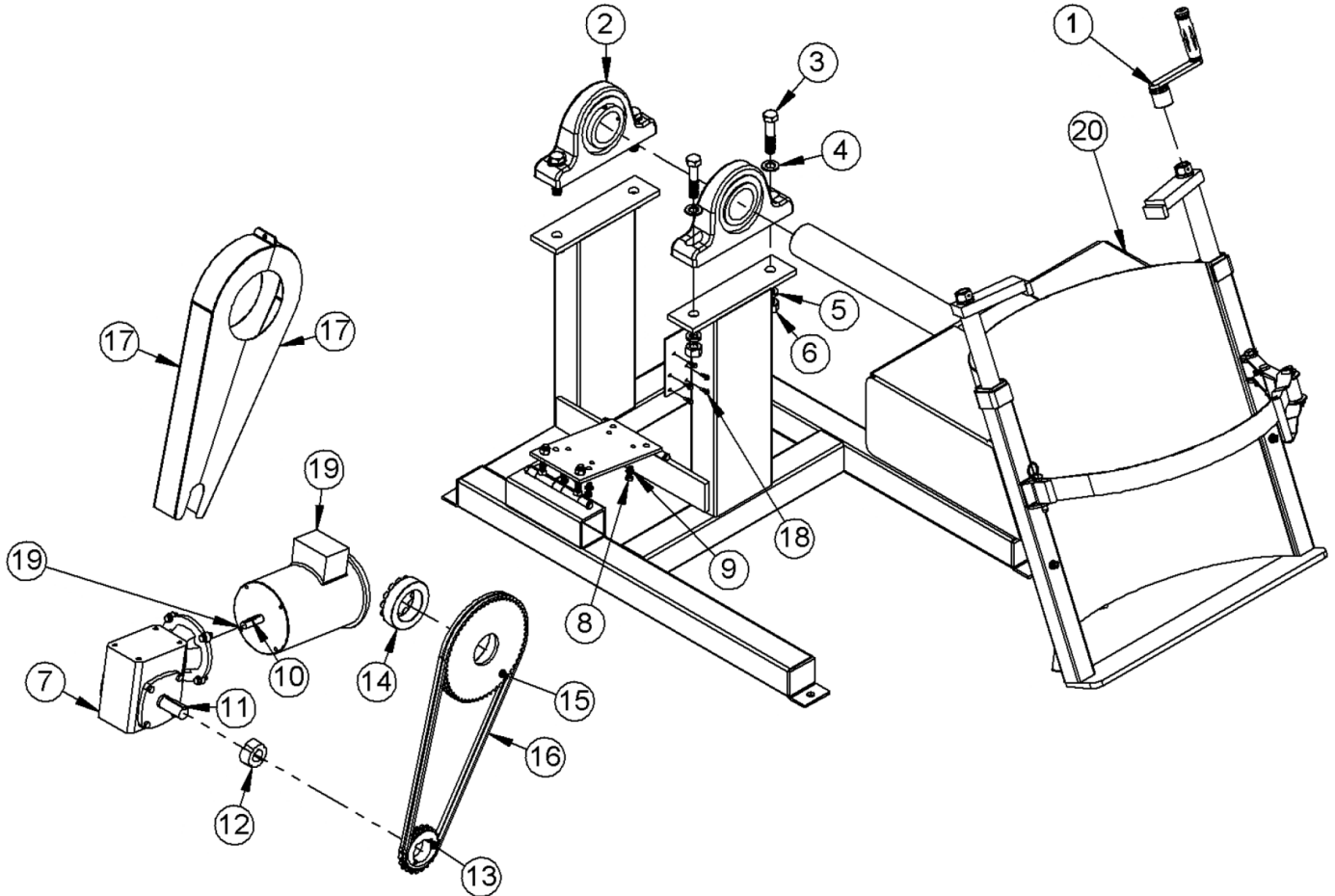


Parts List and Diagram for Morse 309 Series Serial number 277359 to 295662



ITEM	PART #	DESCRIPTION	QTY.
1	3145-P	HAND CRANK, W/ SOCKET, 310	2
2*	2654-P	BEARING, 2-15/16" PILLOW BLOCK	2
3	3318-P	HHCS, 3/4-10 X 3-1/2 GR5	4
4	55-P	WASHER, 3/4 SAE FL 1-1/2 OD	4
5	3319-P	WASHER, 3/4 SPLIT LOCK	4
6	2452-P	NUT, FIN, 3/4-10 HEX	4
7	4549-P	SPEED REDUCER, 1-300, 40:1	1
8	1572-P	HHCS, 3/8-16 X 1 GR2	8
9	1474-P	WASHER, 3/8 SPLIT LOCK	8
10	1638-P	KEY, SQUARE, 3/16 X 1-3/8"	1
11	1646-P	KEY, SQUARE, 1/4 X 1-1/2"	1
12*	4548-P	BUSHING, 1-1/8" TAPER LOCK	1
13*	3127-P	SPROCKET, #40D, 20T, TAPER 310	1
14*	3124-P	HUB, 2-15/16" KEYLESS, 310	1
15*	3117-P	SPROCKET, #40D, 60T, 310	1

ITEM	PART #	DESCRIPTION	QTY.
16*	3132-P	ROLLER CHAIN, #40D 29 PITCHES	1
17	5382-P	CHAIN COVER PIECE, LC309	2
18	193-P	SCREW, 12-14 X 3/4 3 PT TEK	5
19		MOTOR	1
20	5801-P	SADDLE ASM, 309, 310, 311	1

ITEM 19 - MOTOR

MODEL #	PART #	DESCRIPTION
309-1	290-1-2P	MOTOR, 1HP, 1PH, 56C, TEFC
309-3	4733-P	MOTOR, 1HP, 3PH, INV DUTY
309-E1	290-E1-2P	MOTOR, 1HP, 1PH, 56C, EXP
309-E1-50	290-E1-50-2P	MOTOR, 1HP, 1PH, 56C, 50HZ EXP
309-E3	290-E3-2P	MOTOR, 1HP, 3PH, 56C, EXP
309-E3-50	290-E575-2P	MOTOR, 1HP, 3PH, 56C, 575V EXP
309-E3-575	290-E3-50-2P	MOTOR, 1HP, 3PH, 56C, 50HZ EXP
309-A	290-A-2P	MOTOR, 2HP, AIR, 56C

* Recommended spare parts

B400 INSTALLATION AND REMOVAL INSTRUCTIONS FOR B-LOC® KEYLESS BUSHING SERIES B400

B-LOC® Keyless Bushings provide a high capacity, zero-backlash shaft/hub or coupling connection by means of a mechanical interference fit. Please follow these **INSTALLATION AND REMOVAL INSTRUCTIONS** carefully to ensure proper performance of this **B-LOC®** unit.

ⓘ WARNING ⓘ

When installing or removing **B-LOC®** products, always adhere to the following safety standards:

1. Be sure that the system is de-energized using proper lockout/tagout procedures.
2. Wear proper personal protective equipment.

INSTALLATION

(Refer to Figure 1)

B-LOC® Keyless Bushings are supplied lightly oiled and ready for installation. The frictional torque capacity of these devices is based on a coefficient of friction of 0.12 for lightly oiled screw, taper, shaft and bore contact areas.

Therefore, it is important **not** to use Molybdenum Disulfide (e.g., Molykote, Never-Seeze or similar lubricants) in any Keyless Bushing installation.

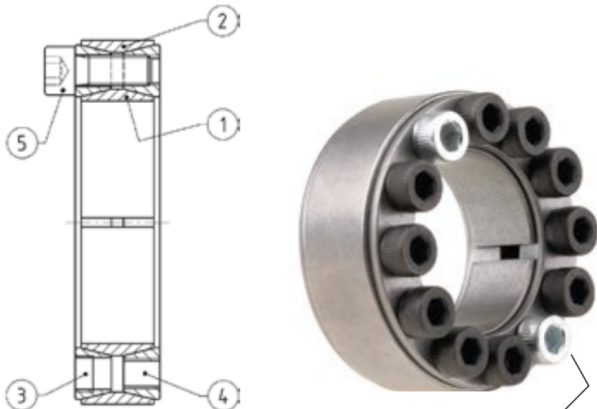


Figure 1

1. Make sure that locking screw, taper, shaft and bore contact areas are clean and lightly oiled with a light machine oil.
2. Insert Keyless Bushing into hub counterbore prior to shaft installation.
3. After confirming correct hub position, hand-tighten three (3) or four (4) equally spaced locking screws until initial contact with shaft and hub bore is established.
4. Use torque wrench and set it approximately 5% higher than specified tightening torque (M_a). Tighten locking screws in either a clockwise or counterclockwise sequence (it is not necessary to tighten in a diametrically opposite pattern), using only 1/4 (i.e., 90°) turns for several passes until 1/4 turns can no longer be achieved.
5. Continue to apply overtorque for 1 to 2 more passes. This is required to compensate for a system-related relaxation of locking screws since tightening of a given screw will always relax adjacent screws. Without overtorquing, an infinite number of passes would be needed to reach specified tightening torque.
6. Reset torque wrench to specified torque (M_a) and check all locking screws. No screw should turn at this point, otherwise repeat Steps 5 and 6.

- NOTE:**
1. It is not necessary to re-check tightening torque after equipment has been in operation.
 2. In applications subject to extreme corrosion, the slits in all collars can be sealed with a suitable caulking compound or equivalent.

INSTALLATION OF B-LOC® KEYLESS BUSHING OVER SHAFT KEYWAYS

The Keyless Bushing should be positioned so that slits in Keyless Bushing collars that contact the shaft are located approximately opposite the keyway. In addition, a locking screw should be centered directly over the keyway.

When tightening locking screws, it is important to follow the installation procedure outlined above, which specifies equal 1/4 turns of each locking screw. Failure to follow these instructions could result in excessive tightening of the screw over the keyway, possibly causing permanent deformation of the Keyless Bushing collars.

REMOVAL

(Refer to Figure 2)

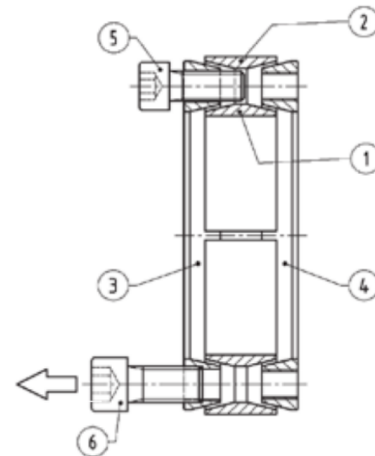


Figure 2

Prior to initiating the following removal procedure, check to ensure that no torque or thrust loads are acting on the Keyless Bushing, shaft or any mounted components.

1. Loosen locking screws in several stages by using approx. 1/4 turns, following either a clockwise or counterclockwise sequence.
- NOTE:** **B-LOC®** Series B400 Keyless Bushings feature self-releasing tapers, meaning collars should release during Step 1. However, if for some reason the thrust collars jam, a light tap on three (3) equally spaced heads of loosened locking screws will positively release the connection.
2. Hub and Keyless Bushing are normally removed together. Removal of Keyless Bushing only from deep counterbores is accomplished by inserting pull-off screws (not provided) into threads located under plated locking screws. These threads are NOT to be used for high pulling forces, as thrust collar is only partially threaded.

LOCKING SCREW SIZES AND SPECIFIED TIGHTENING TORQUE M_a B400 KEYLESS BUSHINGS

Metric Series	Inch Series	Tightening Torque M_a (ft lb)	Screw Size	Hex Key Size (mm)	Pull-off Thread dB
20 x 47 to 40 x 65	3/4 to 1-1/2	11	M6	5	M8
42 x 75 to 65 x 95	1-5/8 to 2-9/16	26	M8	6	M10
70 x 110 to 95 x 135	2-5/8 to 3-3/4	51	M10	8	M12
100 x 145 to 160 x 210	3-7/8 to 6	91	M12	10	M14
170 x 225 to 200 x 260	6-7/16 to 8	138	M14	12	M16
220 x 285 to 260 x 325		214	M16	14	M20
280 x 355 to 300 x 375		293	M18	14	M22
320 x 405 to 340 x 425		420	M20	17	M24
360 x 455 to 420 x 515		565	M22	17	M27
440 x 545 to 1000 x 1110		725	M24	19	M30

dB = pull-off thread, located only under cadmium plated screws of front thrust collar