AERODRY®

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Installation Instructions

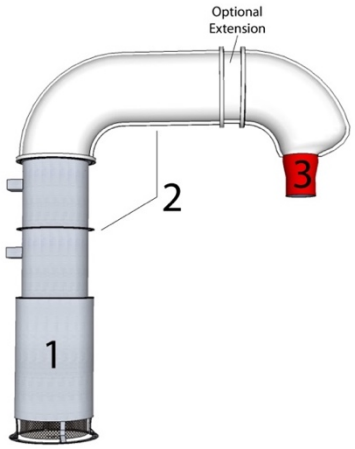
Only NEW, tested components, proven suitable for harsh wash conditions, are installed in Aerodry systems and provided as replacements.

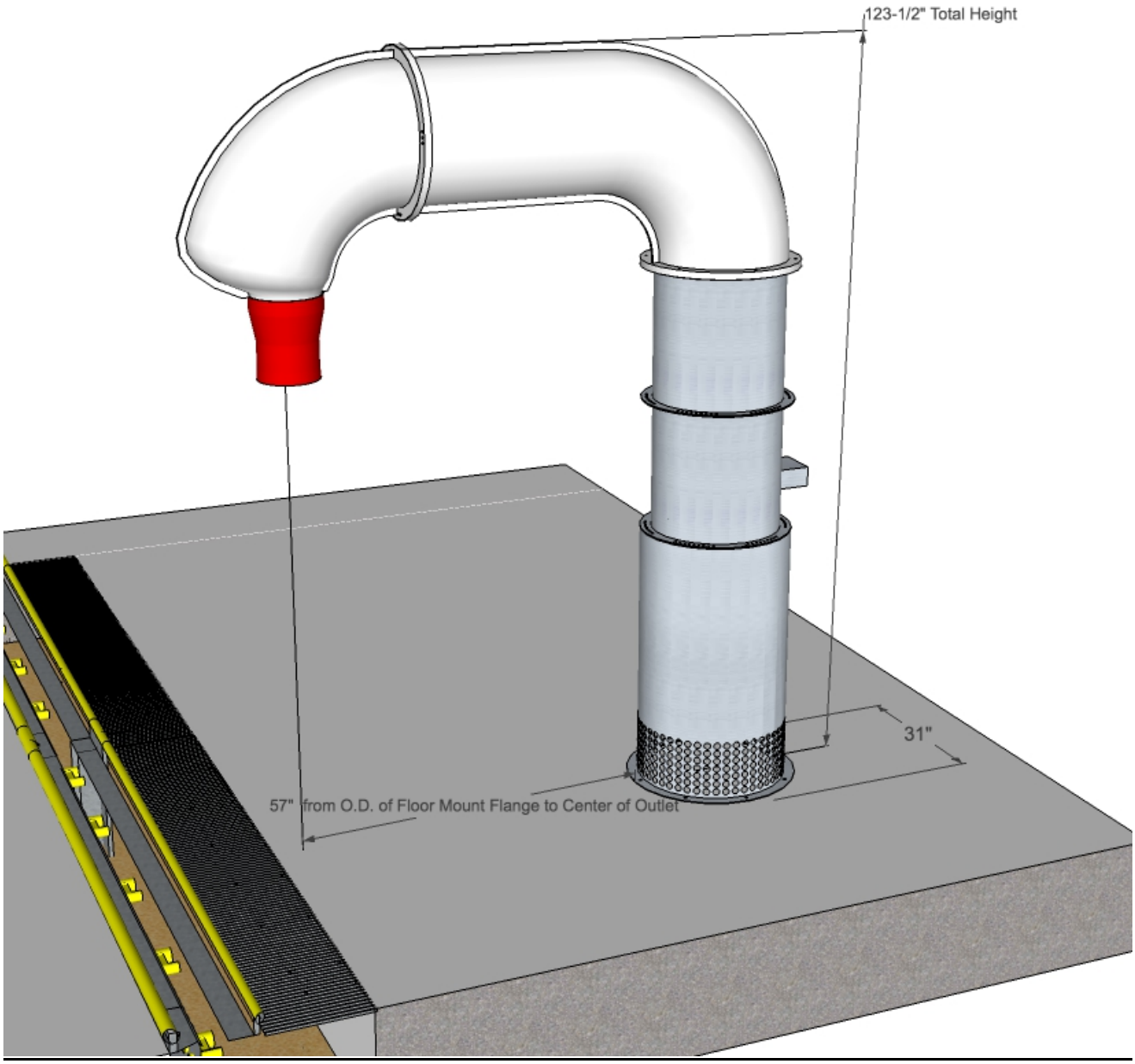
GENERAL

- Refer to attached footprint for your system.
- All measurements are from I.D. of floor mount flange or screen at the base of the Intake.
- Fasten Air producer to Intake with SS 5/16 x 1 ¼ inch HHCS screws & 1 ½ inch OD fender washers.
- Install washers under the HHCS screw and under the nylock nut. Use 1 ½ inch OD fender washers with HHCS screws to fasten fiberglass components and 7/8 inch OD flat washers are used with HC screws to fasten stainless components together. All connections must have gasket, which may be pre-applied – apply where needed.
- Because components are round, align and partially fasten first hole, then align and partially fasten hole directly across from first. Continue to work around the flange in that manner and when connections are made, fasten bolts completely.
- Concrete floor anchors provided by customer ("Redhead" brand or similar), min. four (4) per column, each ½ inch O.D., embedded 4 inches minimum.
- *It has been noted the width of certain new model trucks and SUVs has become greater. Depending on your wash clientele, it may be necessary to increase the distance between the side columns.*

TOP DUCT(S): Find centerline of wash system

- ✓ Set the **Intake 1** (250 lbs) for top duct 57 inches from centerline of wash system, measured from O.D. of mounting flange. Secure by at least one (1) anchor bolt to floor during assembly/testing.
- ✓ Lift **Assembly 2** onto intake. As shipped, it consists of either:
  a) two (2) Air producers and horizontal fiberglass (775 lbs) ***or***
  b) Air producer, SS spacer and horizontal fiberglass outlet (500 lbs)
- ✓ Secure Air producer to intake ring with six (6) fasteners per joint.
- ✓ Secure intake to floor by installing all floor anchors after adjustments are complete.
- ✓ Attach large **Nozzle 3** to outlet using worm gear clamps (provided). Fiberglass outlet end and/or flexible nozzle may be angled slightly toward or away from wash system.
- ✓ Columns are shipped with four (4) hardware sets connecting components. After adjustments are made, install remaining setup hardware to secure all components.





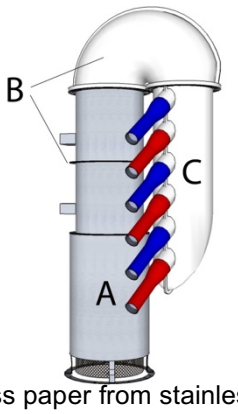
Continue with Side Columns on Page 3

SIDE COLUMNS – Advantage Model

- ✓ Position **Intake A** (250 lbs) for passenger side column one foot (1') from the intake for the top duct and 58-1/2 inches from centerline of wash. Secure to floor by at least one (1) anchor during assembly.
- ✓ Lift **Assembly B** onto intake. As shipped, it consists of either:
  a) two (2) 2 foot tall Air producers and fiberglass elbow (750 lbs) ***or***
  b) Air producer, SS spacer and fiberglass elbow (475 lbs).
- ✓ Elbow should run parallel to conveyor with open end toward exit. All connecting points are adjustable to modify outlet distance from vehicle and direction of air flow.
- ✓ Secure Air Producer to Intake with six (6) fasteners per joint.
- ✓ Apply gasket to outlet component, then use C-clamps to fasten **Outlet Component C** (50 lbs) to elbow. Angle outlets back toward the wash system.
- ✓ Secure column to floor by installing all floor anchors after adjustments are complete.
- ✓ Repeat above step for driver's side column placing intake 19 inches from outside conveyor rail.
- ✓ Attach flexible nozzles with worm gear clamps.
- ✓ Referring to Electrical Installation Instructions, complete electrical connection to power and controls. Wash & dry cars and adjust outlet angles.
- ✓ Using holes in fiberglass from shipping, secure outlet component to elbow with HHCS screws and fender washers. Additional hole set may be drilled in fiberglass to secure. Remove C-clamps.
- ✓ Columns are shipped with four (4) hardware sets connecting components. After adjusting, connect all joints with six (6) fasteners per joint.

SIDE COLUMNS – Base Model

- ✓ Position **Passenger Side Column** (600 lbs, shipped assembled) two feet (2') from the top duct column and 58-1/2 inches from centerline of wash. Secure to floor with at least one (1) anchor bolt while testing.
- ✓ Set **Driver's Side Column** 19 inches from outside rail of conveyor. Secure as above.
- ✓ Angle outlets +/- 15-20 degrees back toward wash system.
- ✓ Attach flexible rubber nozzles using worm gear clamps.
- ✓ Referring to Electrical Installation Instructions, complete electrical connection to power and controls. Wash & dry cars to adjust outlet angles.
- ✓ Secure columns to floor by installing all floor anchors after adjustments are complete.
- ✓ Columns are shipped with four (4) hardware sets connecting components. Connect all joints with six (6) fasteners per joint.



Remove excess paper from stainless and polish with damp cloth or stainless steel cleaner. Clean fiberglass with damp cloth and shine with liquid wax. Keep air intakes open and free of debris. Wipe exterior with gentle cleaners and soft cloth. Do not use caustic or acid base solutions. Routinely check electrical connections at exterior junction box. Motors are sealed and do not require greasing. Rubber nozzles may be trimmed if necessary.

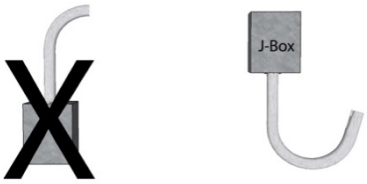
Aerodry Installation – Continue with Electrical Installation on Page 4

Electrical Installation of Aerodry Systems by Qualified Electrician

Customer's qualified electrician provides materials and installs 3-phase power (208v or 240v or 460v, 60 Hz) to dryer motors through properly sized 3 pole circuit breakers & motor starters with 3 thermal overloads. Connect only to reliable power source and insure connections are grounded.

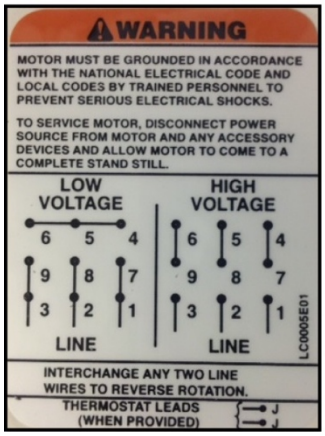
Customer's electrician is to provide materials and install single phase power from the Customer's programming equipment (start-stop system) to the actuation controls for each electric motor in the dryer.

To reduce accumulation of moisture, all electrical connections should enter from bottom of exterior J-Box on motor components, *not from top*. Conduit or flex leading to the J-Box should allow for a loop or low point prior to entering J-Box. Make sure all connections are tight. This will reduce accumulation of moisture near the seal.



ENSURE THAT ALL MOTORS ARE PROPERLY WIRED FOR THE SUPPLY VOLTAGE! Incorrect wiring may damage the motor and dryer.

<u>DO NOT CONNECT POWER UNTIL ASSEMBLY IS COMPLETE!</u>



Electrical box should have both a wiring diagram and utility plate (as shown above). If not present, call us.

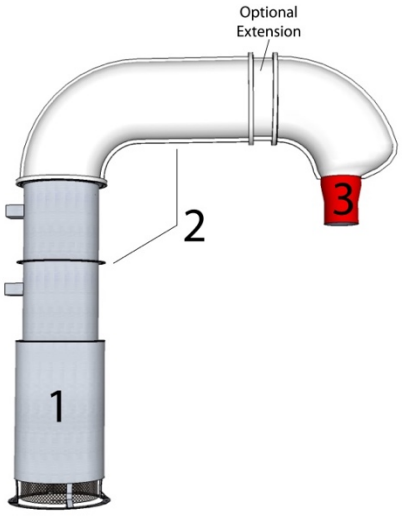
WIRE NUTS ARE NOT RELIABLE TO CONNECT 3 PHASE WIRING AT THE ELECTRIC MOTOR TERMINAL BOX. SPLIT BOLT or NSI CONNECTORS or SIMILAR ARE REQUIRED TO MAINTAIN WARRANTY (see examples at right). COVER WITH INSULATION TAPE AND RUBBER INSULATOR BOOTS.

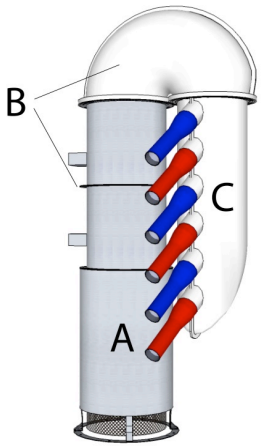
Checking Motor Rotation:
Start each individual motor independently to insure air flow is exiting the outlet nozzles. Failure to complete this may result in air flowing back toward the intake rather than through the outlet nozzles. Significantly reduced performance may be experienced in a dual-motor component in which the air flows of the two adjacent fans oppose one another.

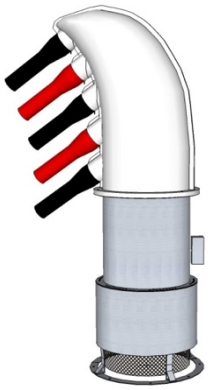
Your facility has limits as to how many motors can start at one time. It is the owner's responsibility to specify the control system capable to stagger-start motors by +/- 5 seconds per motor.

Remember to complete all work to applicable local and national codes!

Aerodry Installation – Weight and Anchor reference







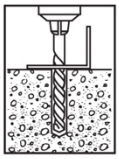
Top Duct:
Height: 10 feet 3 inches (312.42cm)
Weight: Single Motor Tower: 750 lbs (340kg)
Dual Motor Tower: 1,025 lbs (465kg)

Advantage Side:
Height: 10 feet 3 inches (312.42cm)
Weight: Single Motor Tower: 775 lbs (352kg)
Dual Motor Tower: 1,050 lbs (476kg)

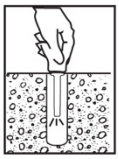
Base Side:
Height: 8 feet 3 inches (251.46cm)
Weight: 600 lbs (272kg)

½" Wedge Anchor

INSTALLATION STEPS



1. Select a carbide drill bit with a diameter equal to the anchor diameter. Drill hole to any depth exceeding the desired embedment. See chart for minimum recommended embedment.



2. Clean hole or continue drilling additional depth to accommodate drill fines.

3. Assemble washer and nut, leaving nut flush with end of anchor to protect threads. Drive anchor through material to be fastened until washer is flush to surface of material.

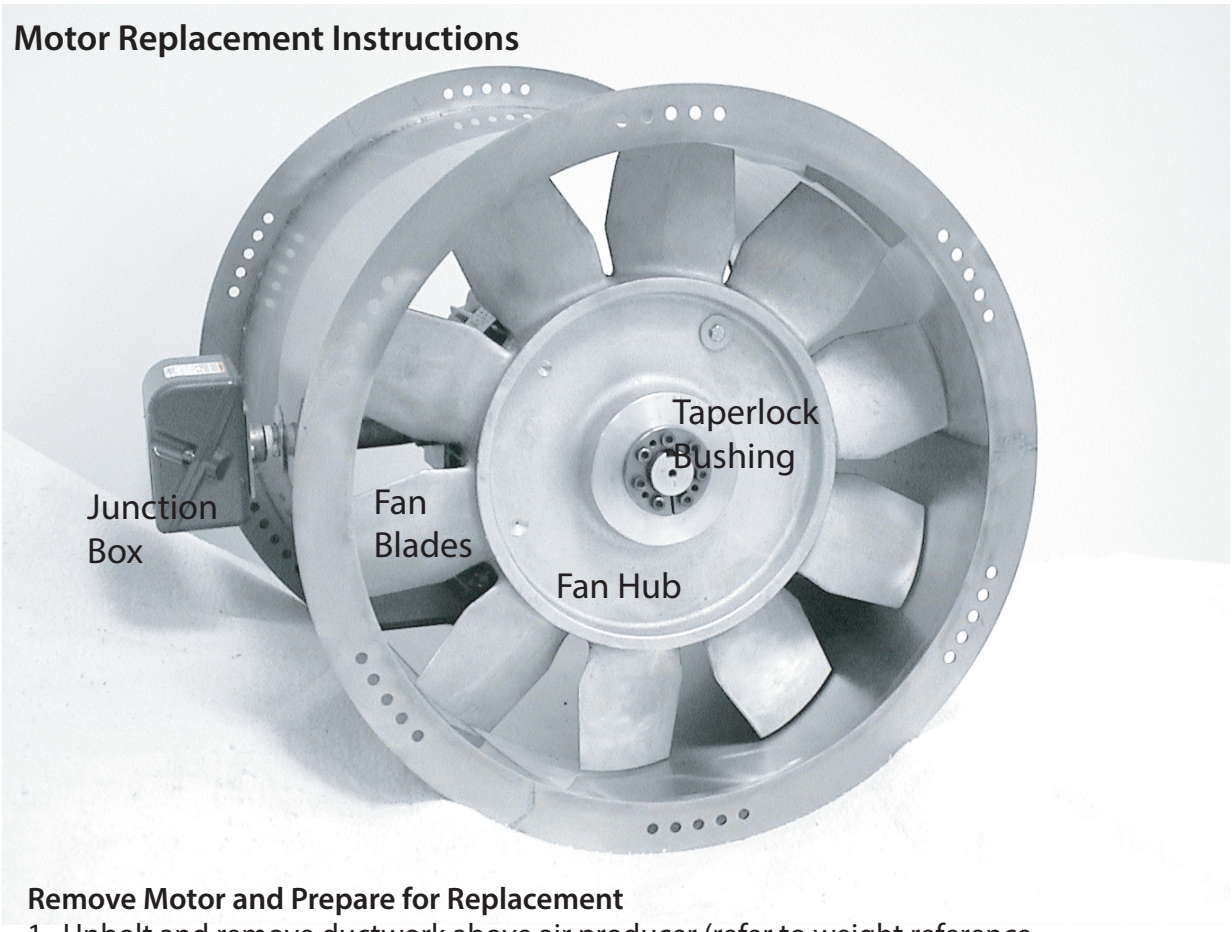
4. Expand anchor by tightening nut 3-5 turns past the hand tight position, or to the specified torque requirement.

**** ONLY FOR USE IN CONCRETE****

*Ultimate Tension and Shear Values (Lbs/kN) in Concrete**

ANCHOR DIA. In. (mm)	INSTALLATION TORQUE Ft. Lbs. (Nm)	EMBEDMENT DEPTH In. (mm)	ANCHOR TYPE	f'c = 2000 PSI (13.8 MPa)				f'c = 4000 PSI (27.6 MPa)				f'c = 6000 PSI (41.4 MPa)			
				TENSION Lbs. (kN)		SHEAR Lbs. (kN)		TENSION Lbs. (kN)		SHEAR Lbs. (kN)		TENSION Lbs. (kN)		SHEAR Lbs. (kN)	
1/2 (12.7)	55 (74.6)	2-1/4 (57.2)	WS-Carbon or WS-G Hot-Dipped Galvanized WW-304 S.S. SWW-316 S.S.	4,660	(20.7)	4,760	(21.2)	5,100	(22.7)	4,760	(21.2)	7,040	(31.3)	7,040	(31.3)
		4-1/8 (104.8)		4,660	(20.7)	7,240	(32.2)	9,640	(42.9)	7,240	(32.2)	10,820	(48.1)	8,160	(36.3)
		6 (152.4)		5,340	(23.8)	7,240	(32.2)	9,640	(42.9)	7,240	(32.2)	10,820	(48.1)	8,160	(36.3)

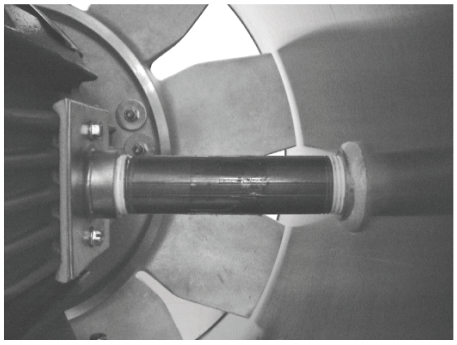
Motor Replacement Instructions



Remove Motor and Prepare for Replacement

1. Unbolt and remove ductwork above air producer (refer to weight reference contained in Installation Instructions).
2. Place housing on its side.
3. Remove taperlock bushing from fan hub. (6 mm bolts of Taperlock secure fan to motor shaft.)
4. Tip housing so fan is facing the floor.
5. Tap gently on back of **fan hub, not fan blades**, to remove fan from motor shaft.
4. Remove junction box and steel nipple by turning counter clockwise.
5. Tip housing back on its side.
6. Remove motor mount bolts from footplate of motor & remove motor.

Install Replacement Motor



1. Place new motor on housing motor plate lining up holes in motor footplatewith holes on housing plate.
2. Place all four (4) bolts with nuts. Do not tighten at this time.
3. Place fan on motor shaft and insert new taperlock bushing.
4. Tighten new taperlock bushing (6 mm) following bushing manufacturer's instructions attached here (30 ft-lbs).
5. Center fan and motor and insert steel nipple with junction box attachment, while making sure fan is centered in housing.
6. Tighten all four (4) bolts in footplate.
7. Check free rotation by manually spinning fan in clockwise direction.
8. Refer to Installation Instructions to re-install complete air producer.

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Aerodry Systems, LLC
303-438-0120

INSTALLATION AND REMOVAL INSTRUCTIONS FOR B-LOC® KEYLESS BUSHING SERIES B106 & B103

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 all power switches are locked out before installing or removing ***B-LOC***® products.
2. Eye protection is required when installing or removing ***B-LOC***® products - please wear safety glasses and protective clothing.

INSTALLATION

(Refer to Figure 1)

B-LOC® Series B103 and B106 Keyless Bushings are supplied lightly oiled and ready for installation. They are self-centering and fit straight-thru hub bores. Note that Series B103 units permit axial hub movement during installation. In contrast, the extended flange on Series B106 units results in an axially fixed hub position during assembly. When reinstalling a used unit, make sure that all slits are aligned. 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.

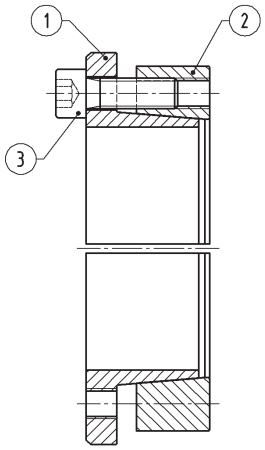

Figure 1

1. Make sure that locking screw, taper, shaft and bore contact areas are clean and lightly oiled and that all collar slits are aligned.
2. Loosen all locking screws by a minimum of four (4) turns and transfer at least three (3) screws into push-off threads in order to keep Parts 1 and 2 separated during assembly (see Figure 2).
3. After inserting Keyless Bushing into hub bore, relocate locking screws used for separating Parts 1 and 2.
4. Hand tighten locking screws and confirm that collar Item 1 is parallel and in full contact with face of part to be attached to shaft.
5. 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.
6. 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.
7. Reset torque wrench to specified torque (M_a) and check all locking screws. No screw should turn at this point, otherwise repeat Step 6 for 1 or 2 more passes. It is not necessary to re-check tightening torque after equipment has been in operation.

NOTE: The torque capacity of these units can be increased by approximately 25% by thoroughly cleaning the shaft and Keyless Bushing bore of any lubricant. In applications subject to extreme corrosion, the slits in all collars should be sealed with a suitable caulking compound or equivalent. Likewise, push-off threads should be protected from corrosion.

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. Even after 1/4 turns can no longer be achieved, it is important to continue to use equal turning angles for every screw until the specified tightening torque is reached.

REMOVAL

(Refer to 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.

IMPORTANT! Make sure ends of locking screws used for removal are ground flat and are slightly chamfered to prevent damage to screw and collar threads during push-off.

1. Check to ensure that axial movement of collars - necessary for release of connection - is not restricted. Likewise, ensure that push-off threads are in good condition.
2. Relax all locking screws by approx. four (4) complete turns and transfer screws to all push-off threads located in flange of collar Item 1.
3. Release connection by evenly tightening all push-off screws (not exceeding 1/4 turns) in a diametrically opposite sequence.

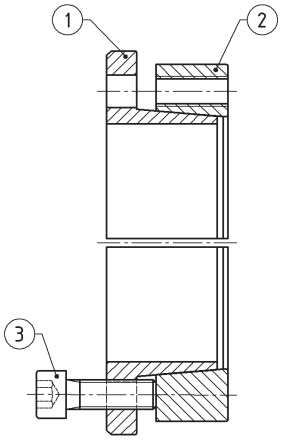

Figure 2

LOCKING SCREW SIZES AND SPECIFIED TIGHTENING TORQUE M_a

Metric Series	Inch Series	Tightening Torque M_a (ft-lbs)		Screw Size	Hex Key Size (mm)
		B106	B103		
20 x 47 to 40 x 65	3/4 to 1-1/2	12	10	M 6	5
45 x 75 to 65 x 95	1-5/8 to 2-9/16	30	25	M 8	6
70 x 110 to 95 x 135	2-11/16 to 3-3/4	60	50	M 10	8
100 x 145 to 120 x 165	3-15/16 to 4-3/4	105	90	M 12	10
130 x 180 to 200 x 260	4-15/16 to 8	166	135	M 14	12
220 x 285 to 260 x 325		257	219	M 16	14
280 x 355 to 300 x 375		350	290	M 18	14
320 x 405 to 340 x 425		500	420	M 20	17
360 x 455 to 400 x 495		675	560	M 22	17

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For technical assistance, please call 1-717-665-2421