

**XT® BUSHING INSTALLATION AND OPERATION  
INSTRUCTIONS FOR CONVEYOR PULLEYS  
EQUIPPED WITH XT HUBS  
DO NOT USE XT® BUSHINGS IN ANY PRODUCT  
OTHER THAN XT HUBS**

**BEFORE INSTALLATION:**

1. Make sure that the shaft, barrel & bore of the bushing, XT bushed conveyor pulley hub bores, keys and keyways are clean and free of burrs, paint, etc.
2. For proper operation, make sure that the shaft size is within the size limits shown in Table 1. Some applications may benefit from tighter shaft tolerances.

**CAUTION** Mounting a XT Bushing on a shaft smaller than the size limits shown in Table 1 may result in a faulty assembly. The assembly may come off the shaft or undesirable assembly run out may result.

**MOUNTING:**

3. Using a hoist or other appropriate means, place the shaft through the pulley being careful not to damage the bore of the hub(s) and locate in the desired position. When mounting on an inclined surface, if required, make sure the conveyor pulley and shaft do not drop during installation.
4. It may be necessary to slightly wedge open the saw slot on some Bushings in order to start the bore and position the bushing onto the shaft. A narrow edged regular screw driver may be used.

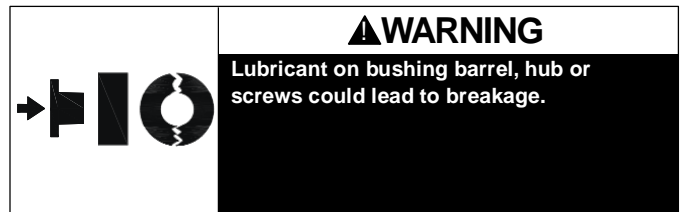
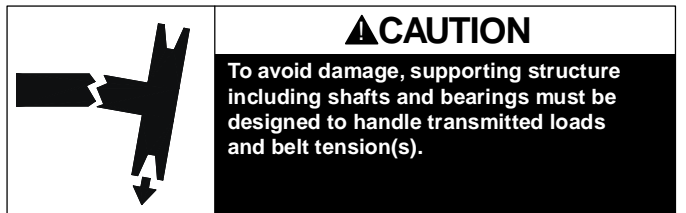
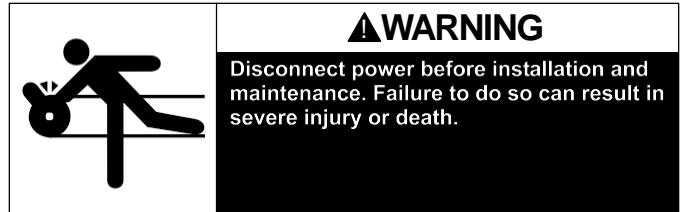
**CAUTION** Excessive wedging forces in Bushing saw slot may damage or break Bushing. AVOID.

5. Align the shaft keyseat with the Bushing bore keyway and install the key. Make sure the key runs the entire length of the bushing bore. For XT Conveyor Pulleys requiring two bushings, shaft keyways must be in linewith each other for proper bushing installation. Some Bushings with shallow keyways are supplied with shaft keys. For proper operation use the key supplied with the bushing.

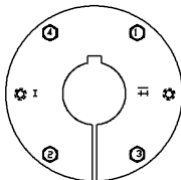
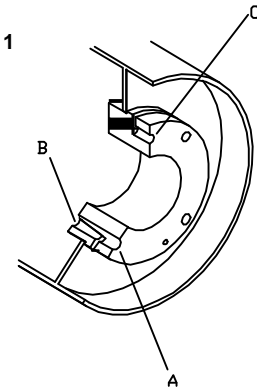
**CAUTION** To assure proper transmission of torque, all bushings used in drive pulleys must be keyed to the shaft.

6. Align the non-threaded holes (A) in the bushing flanges with the threaded holes in the hubs (B). Insert the cap screws and thread them by hand three or four turns. See Diagram 1 below.
7. Position the assembly axially on the shaft such that it is aligned with its running mate(s). Be sure to check for adequate clearance between the assembly and other nearby components if applicable.
8. Using a torque wrench and appropriate socket, tighten the cap screws sequentially in order as shown on the diagrams below. Tighten to the torque shown in Table 2. When the cap screw torque is at or near recommended torque, make at least two more sequential rounds to assure all cap screws are at Table 2.

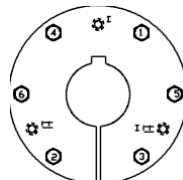
**CAUTION** Tightening the cap screws to a torque higher than shown in Table 2 may lead to product failure. AVOID.



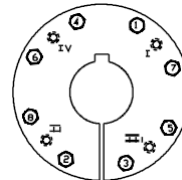
**DIAGRAM 1**



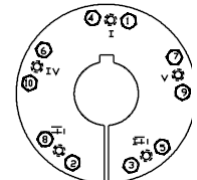
**XT15 to 80  
DIAGRAM 2**



**XT100  
DIAGRAM 3**



**XT120  
DIAGRAM 4**



**XT140  
DIAGRAM 5**

1, 2, 3, etc. are installation sequences. I, II, etc. are removal sequences.

9. When two Bushings are used, completely tighten the screws on one Bushing before proceeding to tighten the other one.
10. Since tightening the cap screws may affect the axial position of the Product, confirm that it is still properly aligned with its running mate. If not, determine how much the assembly must be moved to be in proper alignment.
11. If axial adjustment is required, (following REMOVAL procedure), reposition the assembly, and repeat steps 8 and 9.
12. Check installation gap - There must be a gap between the Bushing flange and the hub face. If there is no gap between them, disassemble the parts (follow REMOVAL procedure) and determine the reason(s) for the faulty assembly.

# XT® BUSHING INSTALLATION AND OPERATION INSTRUCTIONS FOR CONVEYOR PULLEYS EQUIPPED WITH XT HUBS (Cont'd.)

**REMOVAL:**

1. Remove all cap screws sequentially as shown on Diagrams 2, 3, 4 and 5 using the Roman numeral sequence.
2. Heavier Product may require a hoist or other means of supporting the Product during the remainder of removal procedure. When removing from an inclined surface, make sure the Bushing and Product do not drop during removal.
3. Insert cap screws in all threaded Bushing flange holes (C). Tighten the cap screws against hub face of the Product until the screw force releases the Product from the Bushing. If the Bushing does not release immediately, tap on the hub with a hammer.
4. When two Bushings are used, completely loosen the screws on one Bushing before proceeding to loosen the other one.
5. Remove the Bushing(s) and Product from the shaft using appropriate means.



## ⚠ WARNING

Operating drives without guards  
in place can result in  
severe injury or death.

**TABLE 1  
RECOMMENDED WRENCH TORQUE**

Shaft Size Range (IN)		Lower Shaft Size Limit (IN)	Shaft Size Range (MM)		Lower Shaft Size Limit (MM)
Above	Through		Above	Through	
-	1 1/2	-0.003	-	38.1	-0.076
1 1/2	2 1/2	-0.004	38.1	63.5	-0.102
2 1/2	4	-0.005	63.5	101.6	-0.127
4	6	-0.006	101.6	152.4	-0.152
6	8	-0.007	152.4	203.2	-0.178
8	9	-0.008	203.2	228.6	-0.203
9	-	-0.009	228.6	-	-0.229

Note: Upper limit is +0 whether units are INCHES or MILLIMETERS.

**TABLE 1  
RECOMMENDED WRENCH TORQUE**

XT SIZE	SAE Grade 5 Cap Screw		CAP SCREW TORQUE		
	NO.	SIZE	(IN-LBS)	(FT-LBS)	(N - M)
15	4	1/4 - 20NC	95	8	10.7
20	4	5/16 - 18NC	192	16	21.7
25	4	3/8 - 16NC	348	29	39.3
30	4	7/16 - 14NC	552	46	62.4
35	4	1/2 - 13NC	840	70	94.9
40	4	9/16 - 12NC	1200	100	135.6
45	4	5/8 - 11NC	1680	140	189.8
50	4	3/4 - 10NC	3000	250	339.0
60	4	7/8 - 9NC	4800	400	542.3
70	4	1 - 8NC	7200	600	813.5
80	4	1 1/8 - 7NC	9000	750	1016.9
100	6	1 1/8 - 7NC	9000	750	1016.9
120	8	1 1/8 - 7NC	9000	750	1016.9
140	10	1 1/8 - 7NC	9000	750	1016.9

(N - M) = Newton Meters

**OPERATING INSTRUCTIONS:**

1. All pulleys should be checked for tightness on their shafts.
 

**NOTE:** For the first month of operation, inspect the bushings for proper seating and cap screws for correct cap screw torque at least once a week and thereafter during periodic shutdowns.
2. The pulley lagging should be checked for wear, cracks, and tightness. Changes in coefficient of friction between the drive pulleys and belt could result in belt slippage.
3. The ends of pulleys should be inspected for cracks or other signs of stress or fatigue. The pulley should not be operated if a crack develops.
4. Take-up pulleys and belt tensioning devices should function normally. Excessive belt tension could fail pulleys, bearings and shafts.
5. Pulleys should be checked for vertical and lateral alignment. Misalignment can result in belt tracking problems and pulley wear.
6. Bearings should be visually checked for excessive shaft movement in the bearing during operation.
7. All bearings should be checked for alignment, lubrication, and tightness of locking devices.
8. Conveyor pulleys should not be cleaned during operation. It is extremely dangerous to be near the nip point when the pulley is in operation.
9. The conveyor should not be operated without the necessary protective guards.