

Impeller Hub Installation and Removal

INSTALLATION INSTRUCTIONS FOR IMPELLERS EQUIPPED WITH BROWNING MALLEABLE IRON SPLIT TAPER BUSHINGS

Many fans are furnished with split taper bushings for mounting the impeller to the shaft. When properly assembled, the bushings grip the hub with a positive clamping action.

A. Bushing barrel and bore of impeller are tapered – this assures concentric mounting and a true running propeller.

B. Capscrews, when tightened, lock bushing in propeller. Use special plated capscrews and nylock nuts.

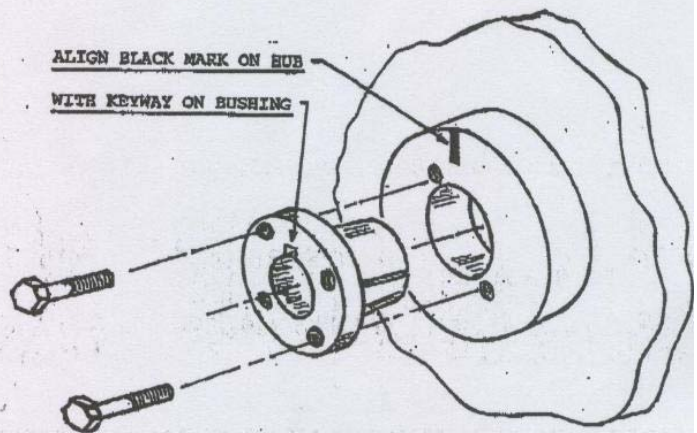
BUSHING NO.	BOLT SIZE	TORQUE FT. LBS.
QT/QH/LH	1/4 - 20	7-1/2
P-1	5/16 - 18	13
P-2	5/16 - 18	13
Q-2	3/8 - 16	24
R-2	3/8 - 16	24

C. Bushing is split so that when the locking capscrews force bushing into tapered bore, the bushing grips the shaft with a positive clamping fit – this will withstand vibration and punishing loads without being loosened.

D. Impeller and bushing assembly is keyed to the shaft and held in place by compression – this gives added driving strength.

Before assembly be sure shaft and keyway are clean and smooth. Check key size with both shaft and bushing keyways.

E. To assemble, put the capscrews through the clearance holes in the bushing and put bushing loosely into impeller. Do not press or drive. Start capscrews by hand, turning them just enough to engage threads in the nylock nut. Do not use a wrench at this time. The bushing should be loose enough in the propeller to move freely. Slide impeller and bushing assembly onto shaft, making allowance for end play of shaft to prevent rubbing. Fit key into keyway. Do not force impeller and bushing onto shaft. If it does not go on easily, check shaft, bushing, and key sizes once again.



Tighten capscrews progressively with wrench. Do this evenly as in mounting an automobile wheel. Take a part turn on each capscrew successively until all are tight. These capscrews force the taper bushing into the hub which in turn compresses the bushing onto the shaft. This makes a positive clamping fit. The torque must not exceed that shown in the table to the left.

WARNING: Do not attempt to pull bushing flange flush with hub end – there should be a clearance which varies approximately 3/16" to 1/4" with the bushing size when tightened. (Note, this is not a locating dimension.)

REMOVING IMPELLER ASSEMBLY FROM SHAFT

1. Remove all capscrews from impeller and hub assembly.
2. Start capscrews into the threaded holes in the bushing flange.
3. Tighten each bolt part of a turn successively to push the impeller off the bushing. This forces the bushing loose from the propeller hub and releases the compression so that the entire assembly will slide from the shaft.
4. Pull the bushing off the shaft. If the assembly has been in place some time it may be necessary to use a wheel puller to remove the bushing. Never use a wheel puller on the impeller.