

REMOVING THE CUTTER BUSHINGS:

The Willard Cutter-Bender comes with two cutter bushings, both the same size, $1\frac{3}{8}$ " x $1\frac{1}{4}$ ". For the purpose of clarifying which bushing we are discussing and its location, we will refer to them as NO.1 and NO.2 bushing.

1. Remove the six $\frac{5}{16}$ " x $\frac{3}{4}$ " socket cap screws from the top and bottom split washers. After split washers are removed, pull the hub out of the front of the housing.

2. Remove the two $\frac{5}{16}$ " x 1" socket cap screws from the back plate and remove the back plate.

REMOVAL OF NO. 1 BUSHING: (held in by back plate)

3. The NO.1 bushing that is held in by the back plate can be pushed out with your finger with no problem, from either direction. (After the back plate and hub has been removed.)

REMOVAL OF NO.2 BUSHING: (bushing inserted into hub)

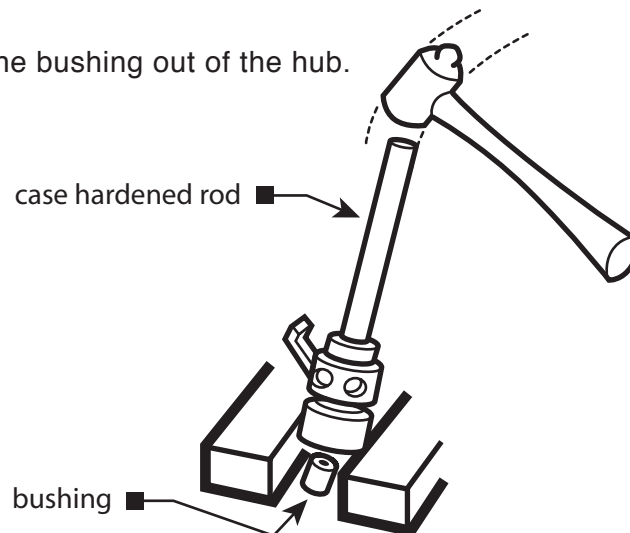
NOTE:

To remove bushing NO.2 you will need a large hammer and a $\frac{7}{8}$ " case hardened steel rod or drive pin. The rod should be about 12" long. To remove the bushing from the hub will require some work. The bushing must be hammered out with the $\frac{7}{8}$ " x 12" rod. (Any rod smaller than $\frac{7}{8}$ " might get stuck inside the center of the bushing.)

4. Place the hub on a solid surface with at least a 2" hole in the center to allow the bushing to fall out or place on two pieces of solid material with a 2" space between them.

5. Insert the $\frac{7}{8}$ " rod into the hole at the top of the hub. (The end with the bender dog.)

6. Using the hammer, pound the bushing out of the hub.



REPLACING THE CUTTER BUSHINGS :

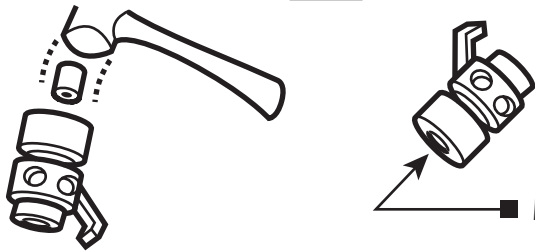
REPLACING NO. 1 BUSHING :

1. To replace the No.1 bushing simply push the bushing into the hole in back of the housing and replace the back plate and the two 1" socket cap screws.

REPLACE NO. 2 BUSHING :

2. The No.2 bushing must be hammered into the BOTTOM of the hub. You DO NOT need the $\frac{7}{8}$ " rod for replacement.

3. Place the hub on a solid surface BOTTOM UP. Hammer the bushing into the hub, making sure it is FLUSH with the bottom of the hub.



NOTE: Before replacing the hub into housing, you should clean and grease the roller bearings. (See instructions below.)

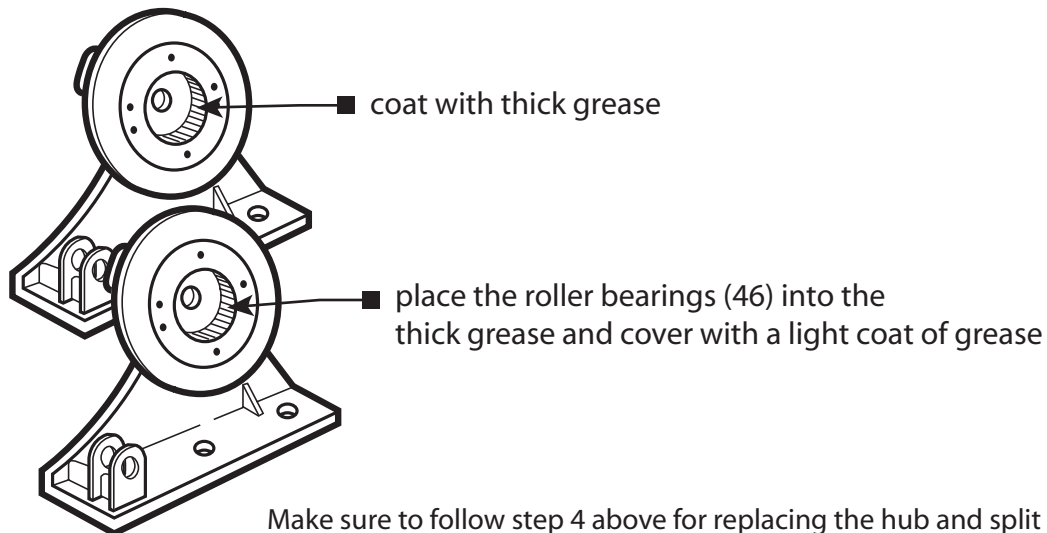
■ Make sure bushing is flush with bottom.

4. Replace the hub into the housing. Replace the top and bottom split washers with the six $\frac{3}{4}$ " socket cap screws.

CLEANING THE ROLLER BEARINGS :

1. Remove the 46 roller bearings and clean with solvent. Wipe out the grease from the inside of housing and clean the inside wall of the housing.

2. Thickly coat the inside of the housing with a heavy machine or chassis grease and lay the 46 roller bearings against the inside wall of the housing. The bearings will be held in place by the thick grease. Put a light coat of grease over the top of the roller bearings after they are in place. Now you are ready for step No. 4 (above).



Make sure to follow step 4 above for replacing the hub and split washers. Make sure the socket cap screws are tight.