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Shift Bushing Installation Tool Instructions

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Unobtainium Supply Co.
523 Longley Rd
Groton, MA 01450
978.448.2110
www.UnobtainiumSupply.com

Shift Bushing Installation Tool Instructions

1. Please verify that you have all the following before proceeding.

The installation tool consisting of:

- 1- 8mm bolt
- 1- sleeve
- 1- large washer
- 1- small washer
- 2- 8mm nuts

you will also need:

- 13mm combination wrench
- 13mm socket
- Ratchet handle
- Torque wrench
- Sandpaper or green Scotchbrite™
- White lithium grease

2. Put the transmission in 2nd gear.

CAUTION: Be careful to not rotate or move the shift shaft in or out throughout the remainder of the instructions. Otherwise you may have to pull the transmission sump cover to get the shift shaft fork back onto the 2nd gear L lever.

3. Remove the bolt through the shift shaft u-joint containing the bushing to be replaced.
4. Then move the U end of the joint out of the way so that you can access the bushing. Moving the gear shift lever back into 3rd gear will help get the U end out of the way.

Figure 1: Bushing Removal



4. BUSHING REMOVAL:

- a. Thread a nut onto the bolt, leaving about 12mm between the nut and the bolt's head as shown in Figure 1.
- b. Slide the large washer onto the bolt.
- c. Slide the bolt through the sleeve and then through the old bushing.
(My apologies, the picture is in error: bushing is on wrong side of the shaft).
- d. Place the smaller washer onto the end of the bolt against the end of the old bushing.
- e. Thread the 2nd nut on to the bolt's end.
- f. Turn the nut nearest the bolt's head until it is finger tight against the bushing. Also, make sure that the small washer & the sleeve are centered on the bushing.
- g. Using the combination wrench,, hold the bolt's head so that it cannot turn and use the ratchet & socket to turn the 1st nut against the sleeve, thus drawing the old bushing out of the shaft and into the sleeve.
CAUTION: do not try to use an impact type air wrench; you are likely to break the thru-bolt!!!

Figure 2: Bushing Installation



5. NEW BUSHING INSTALLATION

- a. Clean shift shaft's thru-hole & remove any rust from it with a small piece of fine grit sandpaper or green Scotchbrite™.
- b. Lubricate the thru-hole and new bushing with a thin coat of white lithium grease.
- c. The installation setup is very similar to the removal setup, except that the location of the large & small washers is reversed, and the new bushing replaces the removal sleeve as shown in Figure 2.
- d. Using a pair of wrenches, hold the bolt's head so that it cannot turn and turn the 2nd nut against the sleeve, thus drawing the new bushing into the shaft's thru-hole. When the bushing's inner end reaches the large washer, stop drawing it in & move to the next step.

CAUTION: The bushing is slightly longer than the shaft's end. To avoid crushing the bushing, do not attempt to draw the new bushing in until the small washer is flat against the thru-hole. Instead, observe the new bushing as it is being drawn in.

- e. Remove the nut & large washer, then insert the sleeve over the bolt, reinstall the nut & washer & draw the bushing in until it is centered on the shaft's end.

6. Move the shift lever back into 2nd gear & position the mating U-joint over the new bushing, insert the bolt thru the U-joint & bushing, then install the nut onto the bolt's end. Torque the nut to 2.5Kg-m (18 Ft-lb).

TIP: You may find that the shaft's end has compressed the bushing enough so that the center hole is reduced such that thru-bolt does not want to go thru the bushing. In this case, the bushing's thru-hole will need to be slightly enlarged. Roll up some sandpaper & slide it back & fourth inside the hole, or else run an 8mm drill thru the hole.

7. Verify that the transmission shifts properly between all gears before driving your vehicle. If necessary perform a shift adjustment.

Unobtainium Supply Company

523 Longley Rd.

Groton, MA

01450

eMAIL: info@UnobtainiumSupply.com

Phone: 978-448-2110