



Technical Service Information

ZF4HP22

PREMATURE FORWARD CLUTCH FAILURE

- COMPLAINT:** Some BMW's, Volvo's, Jaguars, Peugeots and Lincoln's with the ZF4 transmission may experience forward clutch failure for no apparent reason. Others may attempt to pull forward in neutral if the engine is accelerated above idle.
- CAUSE:** The turbine shaft has two sealing rings that direct oil to the converter. A worn stator support bore can cause a cross leak of converter oil into the forward clutch. Also the rear metal sealing ring on the turbine shaft can leak causing partial forward clutch apply.
- CORRECTION:** The turbine shaft must have a more positive seal to the stator support, and the forward clutch must be converted to a feed/bleed system. This correction can be accomplished by following the procedure below or by installing a ZF correction kit. This kit is manufactured by Independent Transmissions of South Miami, Florida and can be purchased through most transmission parts suppliers.

STEP #1. Replace the stator shaft if the bore is worn.

STEP #2. Remove the rear metal turbine shaft ring and *discard it*. Replace the ring with one made of Teflon. Make your own if necessary.(See Figure 1.)

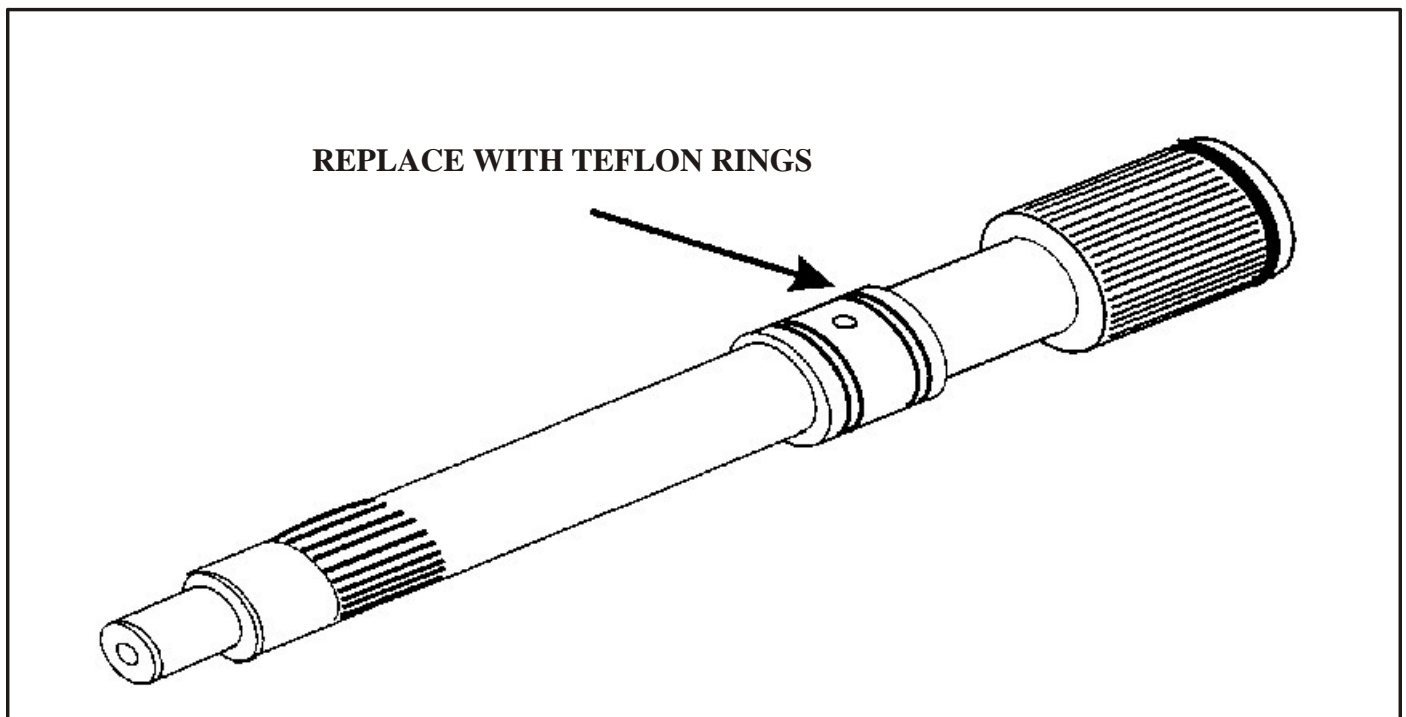


Figure 1

STEP #3 Drill a .045" hole in the Forward Clutch Piston. See figure 2.

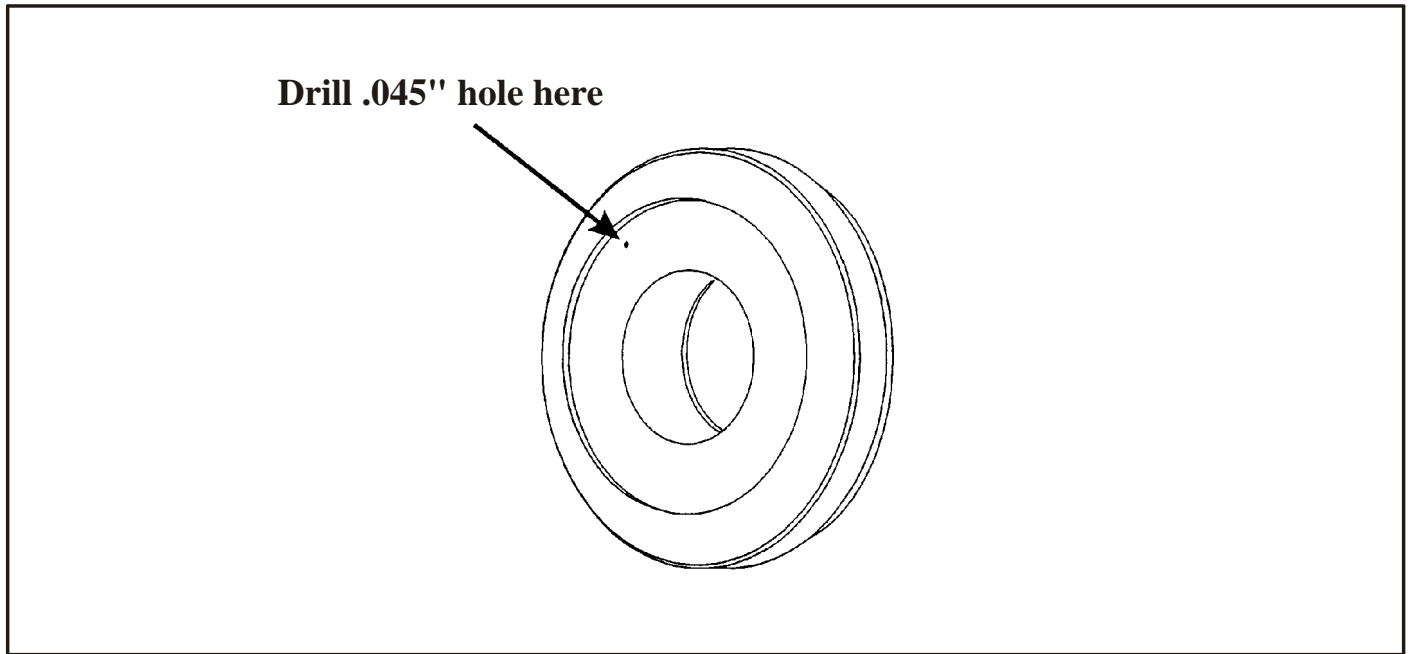


Figure 2

STEP #4 Replace the forward clutch orifice with the larger one found in the ZF correction kit, or drill out the old one to .093" (3/32). See figure #3.

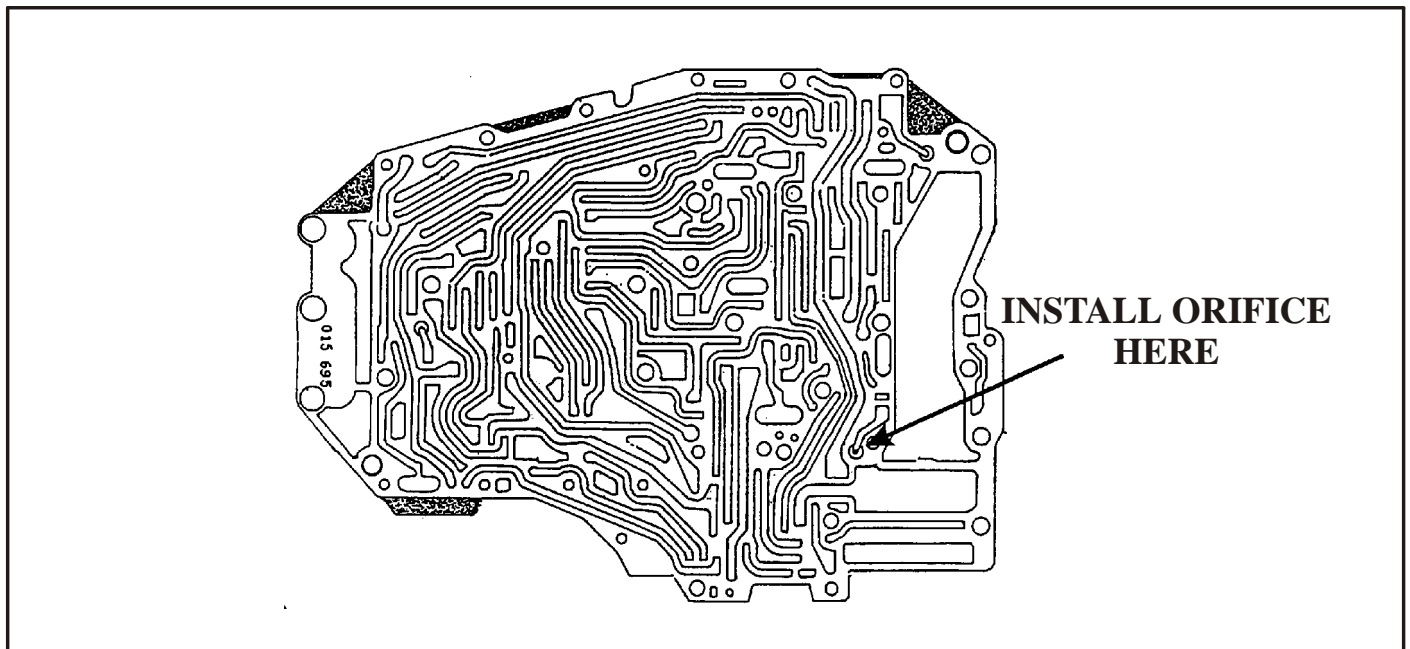


Figure 3

STEP #5 When installing the forward clutches, waved steel plates must be installed at each end of the clutch pack. Clutch clearance should be between .060" and .080". See figure #4.

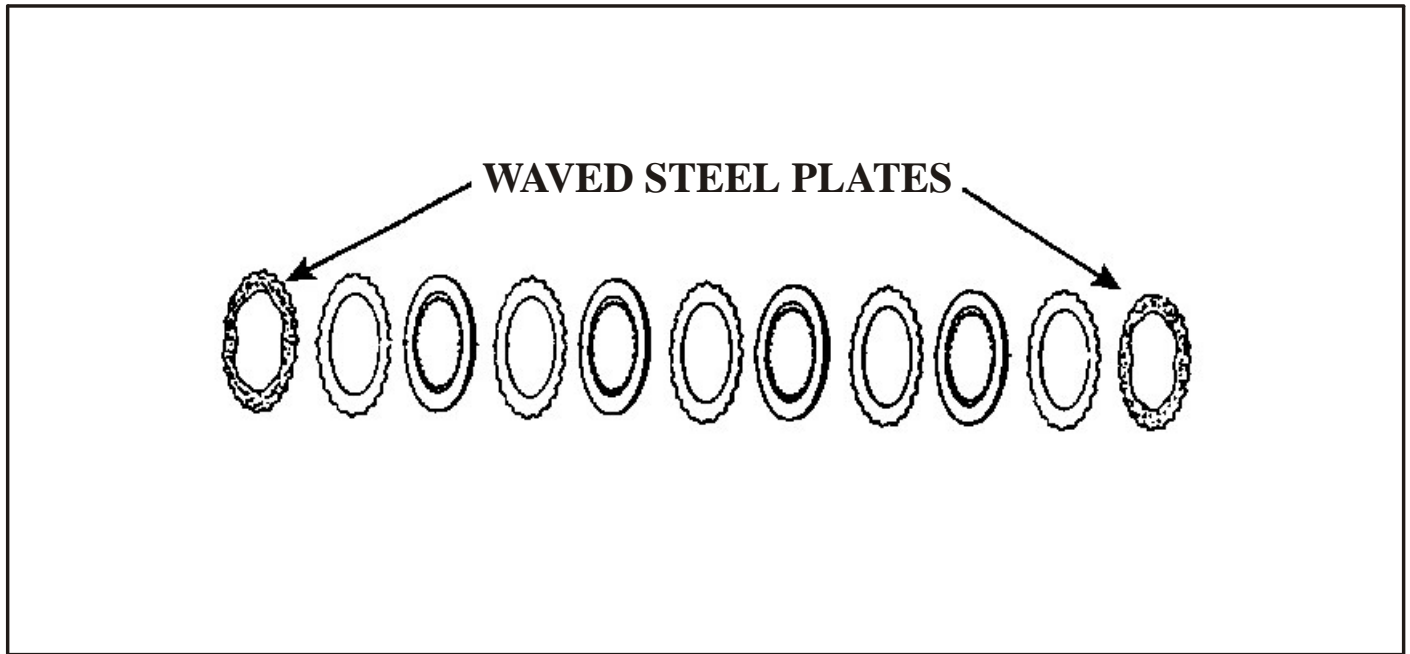


Figure 4

STEP #6 Care must be taken to ensure that the snap ring retaining the forward clutch hub to the drum must be fully seated in the snap ring groove. See figure 5.

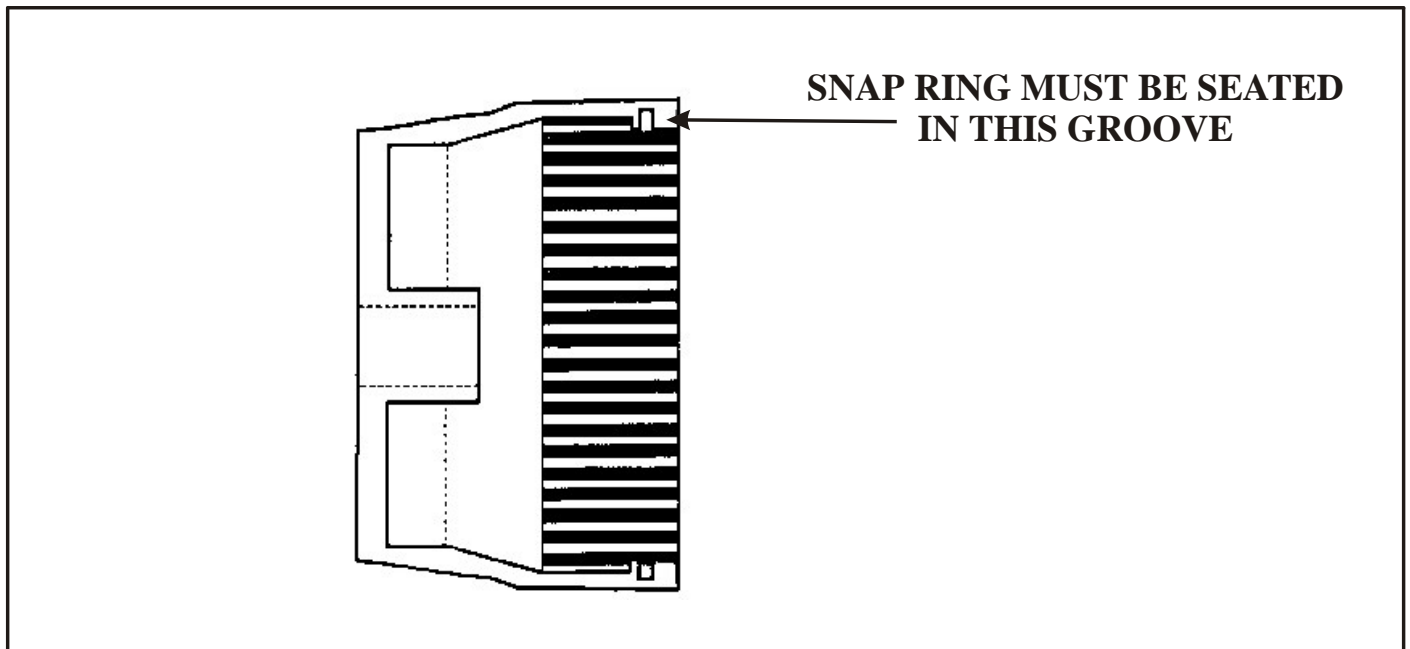


Figure 5