



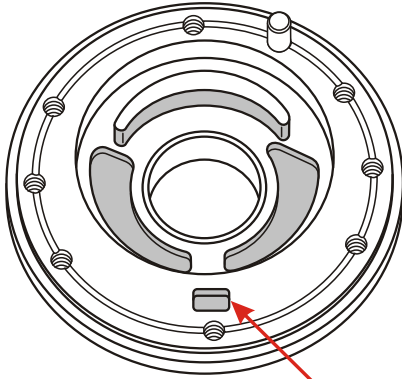
Technical Service Information

ZF-4HP-22/24

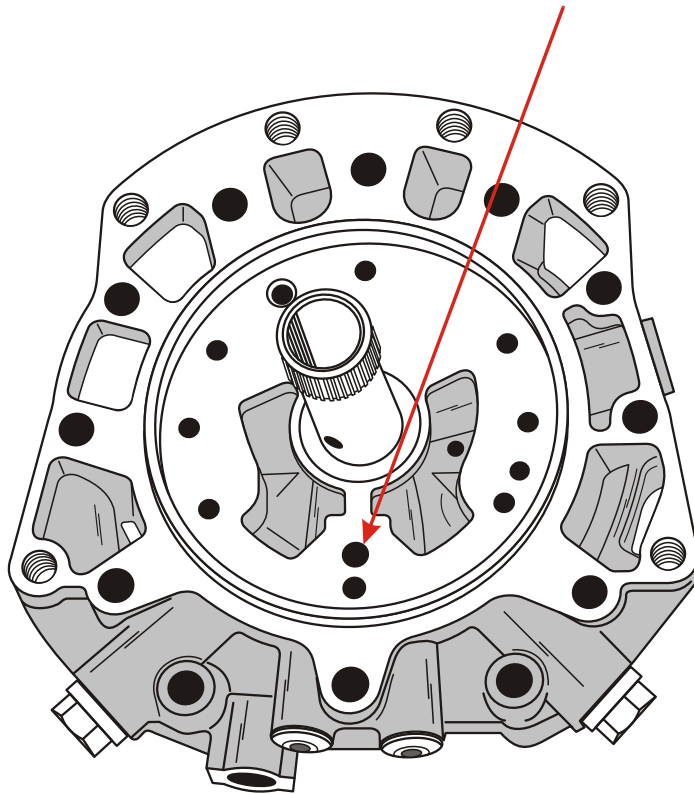
REPEATED LEAK FROM BELL HOUSING AREA

- COMPLAINT:** Repeated leakage of transmission fluid, coming from the bell housing area on any vehicle equipped with the ZF-4HP-22 or 4HP-24 transmission. This usually occurs after rebuild coupled with pump parts replacement that was necessary.
- CAUSE:** Beginning in the 1989 model year, ZF implemented a running change to the pump body and pump cover on both the 4HP-22 and the 4HP-24 transmissions. This change was made to increase the durability of the converter bushing with increased lubrication to this area. This change however, created the possibility of mis-matching parts that are not compatible. The 1st design pump body and cover has the drain back hole located at the 6 O'clock position and the drain back passage was moved to the 3 O'clock position in the 2nd design pump body and cover, as shown in Figure 1. Installing 2nd design pump body with 1st design pump cover will completely block the drain back passage and the repeated leakage will occur. Installing the 1st design pump body with 2nd design pump cover will function, but you will now be faced with the possibility of premature converter bushing failure.
- CORRECTION:** To eliminate both conditions, always install the 2nd design pump body, matched with the 2nd design pump cover, as shown in Figure 1.

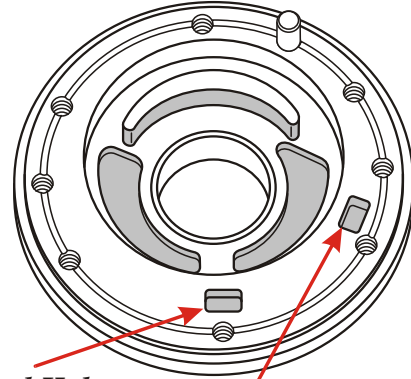
1ST DESIGN PUMP BODY AND PUMP COVER



Drain Back Passage

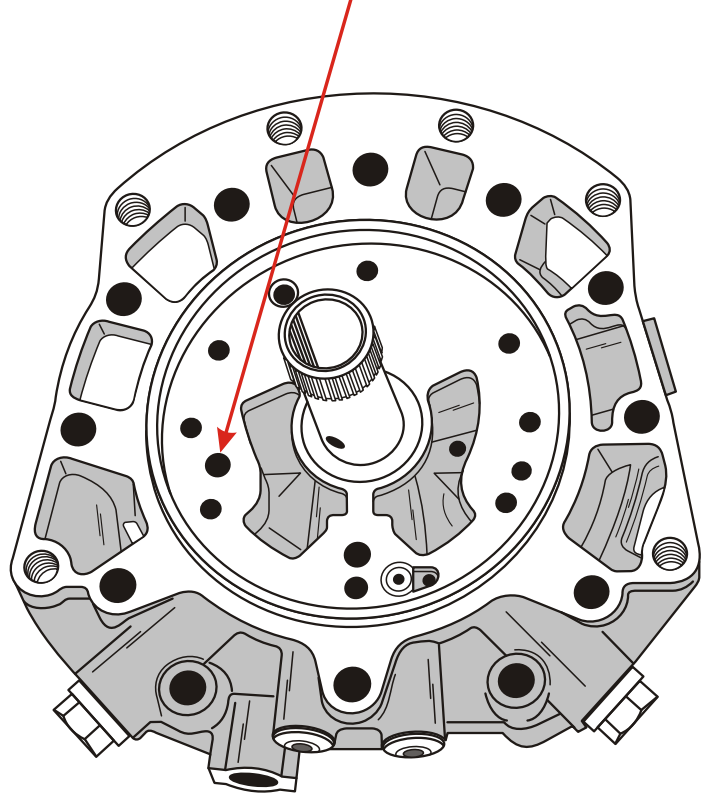


2ND DESIGN PUMP BODY AND PUMP COVER



Blind Hole

Drain Back Passage



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Figure 1