

ZF5HP-19/FL/FLA LOSS OF 3RD/4TH AND DTC 46 WHEN HOT

COMPLAINT: 1998 and up, Audi or BMW vehicles, equipped with the ZF5HP-19/ FL/FLA may exhibit a condition of a 2-3 upshift flair, or a loss of 3rd and/or 4th gear as well as a two digit diagnostic trouble code of 46 *Gear Monitoring (BMW DTC)*. Note: extreme cases have also caused a complaint of a no move forward when the code 46 sets, as limp home mode is 4th gear.

CAUSE: The cause may be, a loss of apply pressure to the F Clutch, as the sleeve in the drum is mispositioned allowing the sealing ring closest to the bearing to leak, as shown in Figure 1. Refer to Figure 3 for a drawing of the F Clutch drum and the sleeve to verify if the sleeve is in the right place. A small amount of movement of the sleeve can cause a leak in the "F" Clutch. Refer to Figure 2 and note that the F clutch is applied in 3rd, 4th and 5th gear. *Note: 4th gear is limp mode and the application chart shows that if the F clutch is not functional, this could cause it to stop moving.*

CORRECTION: Replace the F Clutch drum with the part number listed below in Service information.

SERVICE INFORMATION:

F DRUM ASSEMBLY (ZF part no. ALL).....1060277010
Erikson Industries- 800-388-4418

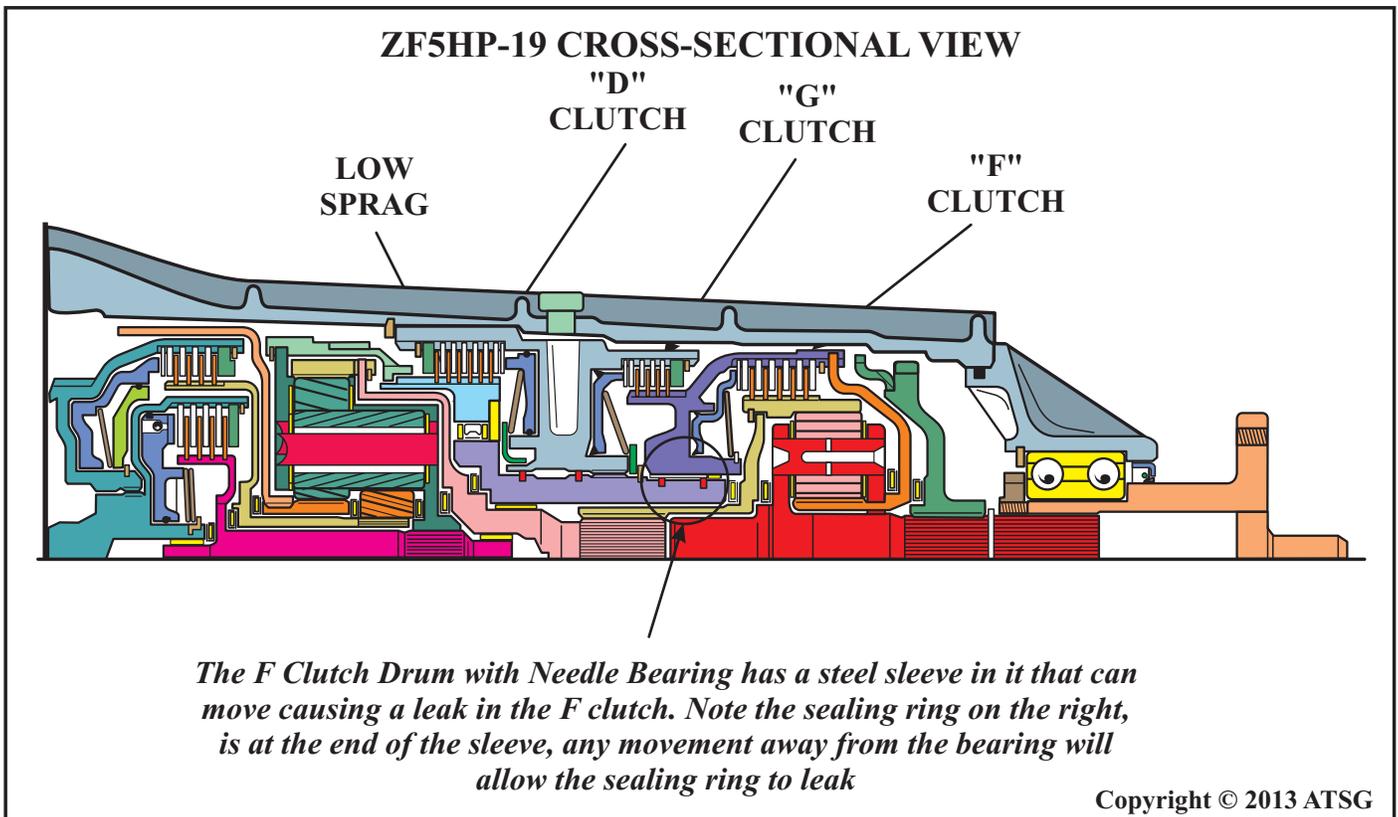
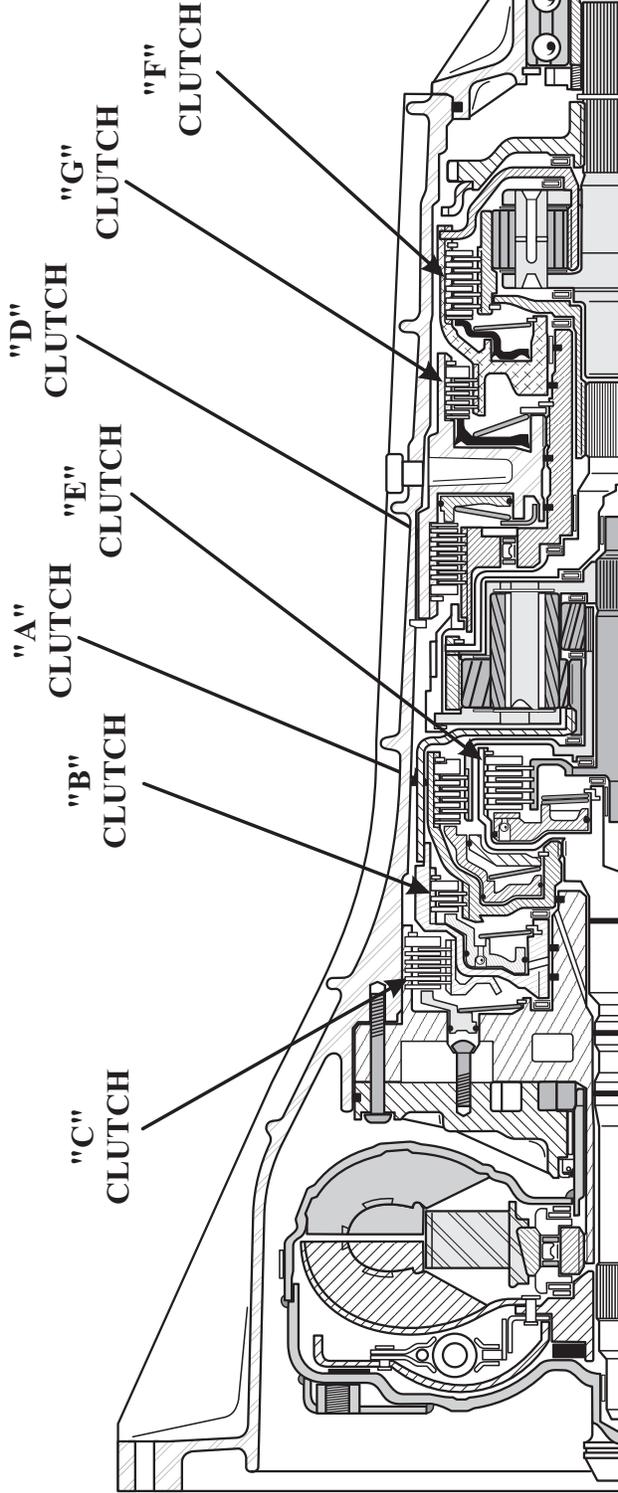


Figure 1

ZF-5HP-19 CLUTCH APPLICATION CHART

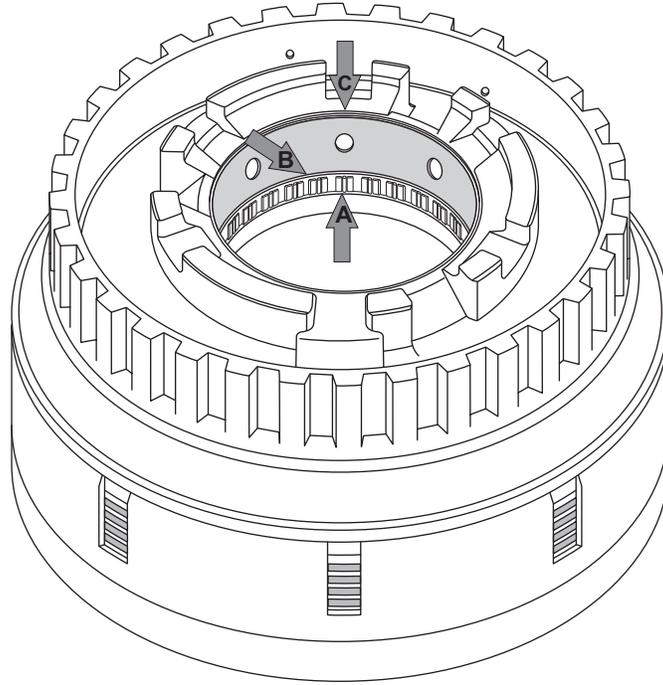


RANGE	"A" CLUTCH	"B" CLUTCH	"C" CLUTCH	"D" CLUTCH	"LOW" SPRAG	"E" CLUTCH	"F" CLUTCH	"G" CLUTCH	GEAR RATIO	CONV CLUT
Park								ON		
Reverse		ON		ON				ON	4.08	
Neutral								ON		
"D"-1st	ON				HOLD			ON	3.66	
"D"-2nd	ON		ON					ON	1.99	
"D"-3rd	ON		ON				ON	ON	1.40	*
"D"-4th	ON					ON	ON	ON	1.00	*
"D"-5th			ON			ON	ON	ON	0.74	*
"4"	Same as above, Automatic Shift 1st thru 4th, 5th gear is inhibited.									
"3"	Same as above, Automatic Shift 1st thru 3rd, 4th and 5th gear are inhibited.									
"2"	Same as above, Automatic Shift 1st thru 2nd, 3rd, 4th and 5th gear are inhibited.									

*Converter Clutch may be ON or OFF depending on vehicle speed and throttle position.

Figure 2

VERIFY SLEEVE IS IN THE RIGHT POSITION IN THE F CLUTCH DRUM



- Arrow "A"- Make sure that the Bearing is against the staked area in the drum
Arrow "B"- Make sure that the Sleeve is up against the Bearing
Arrow "C"- Make sure that the Sleeve is approximately .020" above the drum surface

Note: The sealing ring closest to the bearing is extremely close to the edge of the sleeve. Any movement of the sleeve will cause a leak in the "F" Clutch.

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Figure 3

*Special thanks
to Reno @ Continental
and Ralph Abraham
from Alonzo's Transmissions
for providing to is a drum.*