



ZF6HP TRANSMISSIONS

BUMPS AND CLUNKS

COMPLAINT: A ZF6HP26 transmission comes into the shop to be rebuilt. After rebuilding it, downshift clunks and bumps are noticed during the road test. Resetting the adapts doesn't resolve the problem nor does the PCM adapt from driving the vehicle for lengthy periods of time. A new or different valve body is installed with different solenoids and still the downshift bumps and clunks continue. It is then decided to bring it to the dealer for software updates and adaptation reset. Afterwards, the shifts feel a little better, especially the 2-1, but the shifts are still not clean enough to deliver the car. By this time the fluid being used becomes a consideration. With Shell M1375.4/Life Guard 6 fluid selling around 25 bucks a liter with a trans that takes 9.5 liters on a dry fill, a high end synthetic fluid at 5 dollars a quart is used. Out of desperation, the unit is pulled and all the fluid is drained. The transmission goes back in along with \$237.50 dollars worth of O.E. fluid. The bumps and clunks remain.

CAUSE: During the rebuilding process, modifications for tighter clutch clearances were performed to improve shift quality. This type of modification has been a successful for the most part but no so with the ZF6HP transmission (Figure 1). The adaptive process is based on friction surface area per friction plate which requires looser clearances for proper shift overlap to take place. When clearances are brought to the tighter end, it interferes with the computer's calculating process to make that shift. It will not be able to properly adjust for the overlap resulting in bumpy shifts.

CORRECTION: Adjust clutch clearances as follows:

Clutch A:	.062" - .080"
Clutch B:	.055" - .073"
Clutch C:	.054" - .072"
Clutch D:	.082" - .106"
Clutch E:	.072" - .093"

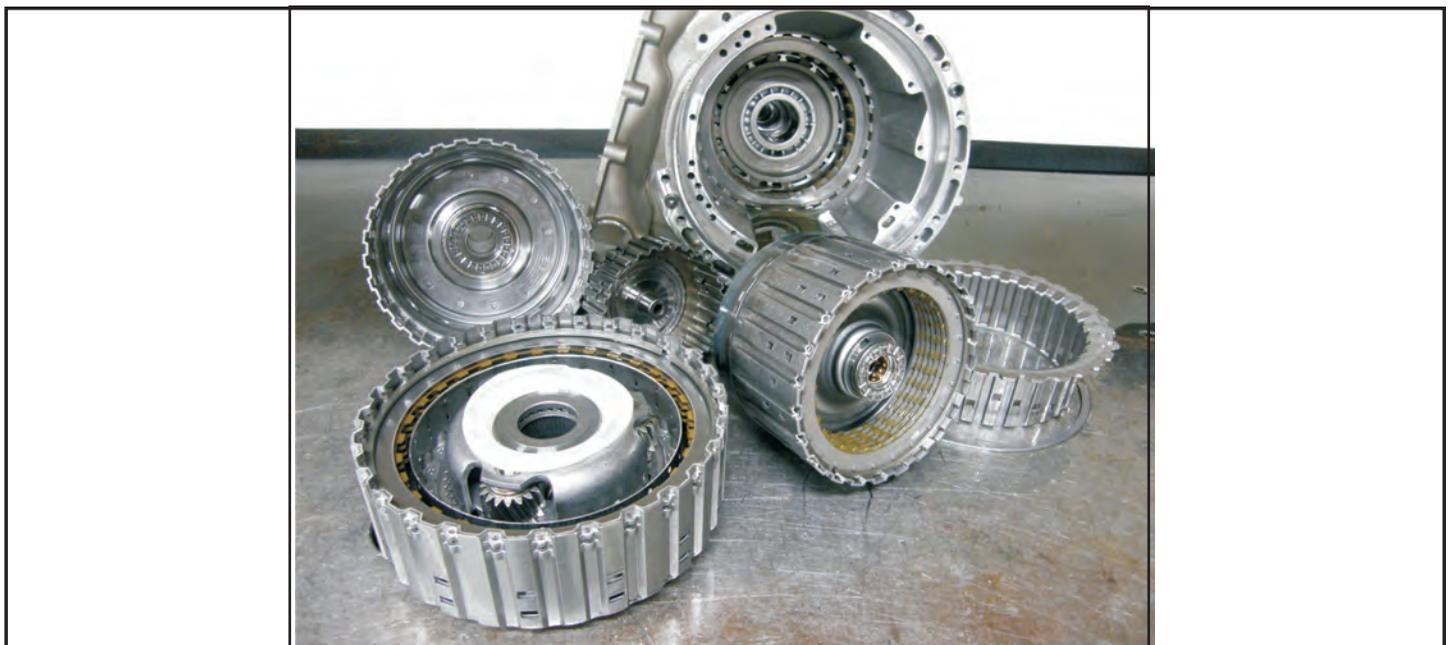


Figure 1