

**GM 8L90****HARSH 6-5 DOWNSHIFTS**

**COMPLAINT:** A 2015 to 2022 Cadillac, Chevrolet or GMC vehicle equipped with the 8L90 transmission may have a complaint of a harsh downshift into fifth gear. Performing the clutch adapt procedure has no effect on the complaint.

Having decided that the cause of the complaint is internal, the transmission is removed from the vehicle. Since the 1-2-3-4-5-Reverse clutch is applied in Park, Neutral, Reverse and First through Fifth gears, the technician suspects a problem with the 1-2-3-4-5-Reverse brake clutch causing the harsh downshift from sixth to fifth gear.

**CAUSE:** Upon disassembly of the transmission, the 1-2-3-4-5-Reverse clutch plates were in good condition considering the high mileage on the vehicle. Upon further inspection, the technician notices that the 1-2-3-4-5-Reverse clutch apply piston has two cup plugs staked into the outer perimeter of the piston (figure 1). One acts as an air bleed orifice and the second is a solid plug. The cup plug with the orifice was missing. The hole this orifice cup plug sits in is approximately 0.150". With it missing, the apply rate is compromised.

**CORRECTION:** The 1-2-3-4-5-Reverse clutch is a brake clutch. This means when it applies it will stop the reaction internal ring gear from rotating. If the rate of apply cannot be controlled, not only will adaptations not overcome this problem, the delayed apply stopping the gear train will cause a bump to be felt when it applies on the downshift.

In addition to the apply piston missing an orifice, the technician also noticed that this piston made contact marks in the housing (figure 2). There was enough of a mark to consider if the extension housing should also be replaced.

The technician did a TSB search and found GM factory bulletin number 22-NA-246 which states that this is a normal occurrence and has no effect on clutch application. The extension housing does not need to be replaced for this reason. The 1-2-3-4-5-Reverse clutch apply piston also has a triangular shaped anti-rotation lug on the bottom which fits into a recess in the extension housing (figure 3). It is normal for the lug to have a polished appearance on the one side of the lug and the one side of the recess.

During the transmission overhaul, this piston was replaced. Clutch clearance and transmission end play were set to factory specifications. When road tested, the 6-5 downshift complaint was eliminated and the transmission operated normally.

**SERVICE INFORMATION:**

8L90 1-2-3-4-5-Reverse Clutch Apply Piston.....24272457 Piston.

**GM 8L90**  
**HARSH 6-5 DOWNSHIFTS**

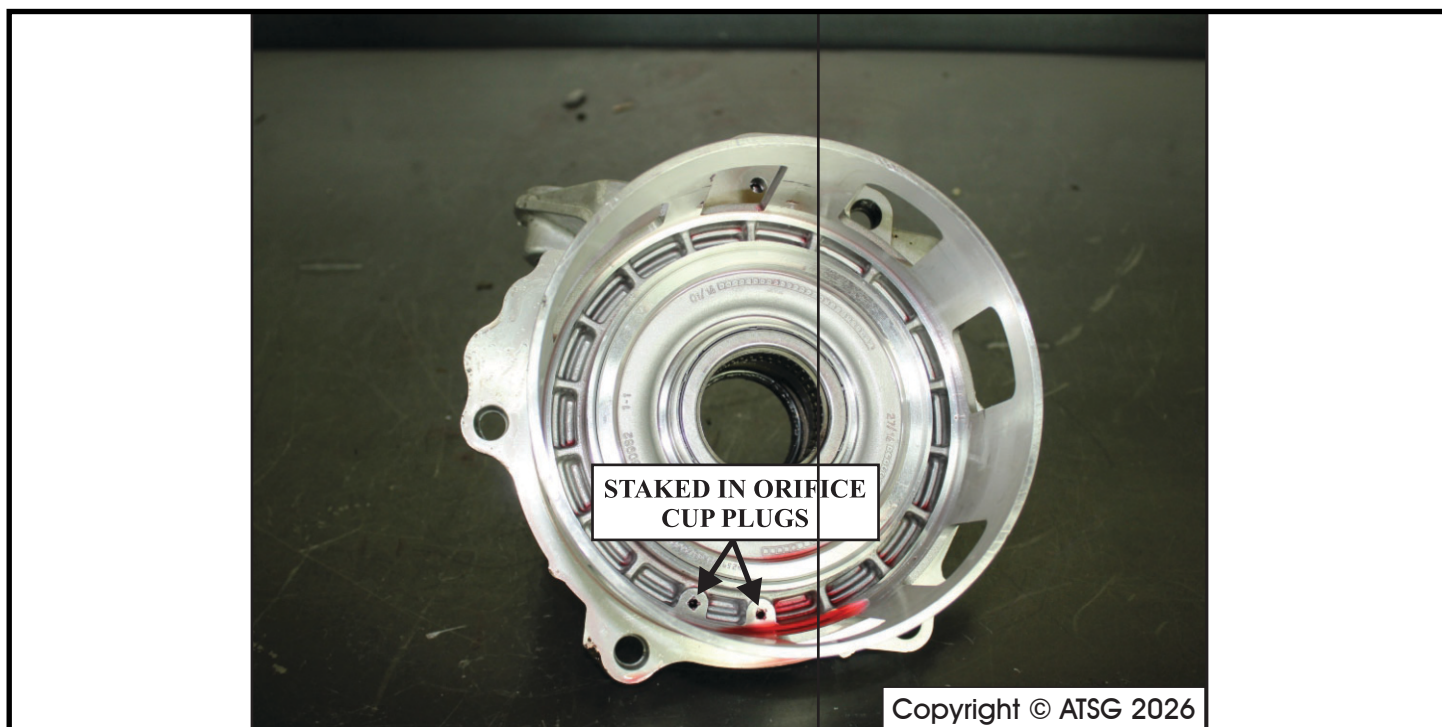


**Figure 1**



**Figure 2**

**GM 8L90**  
**HARSH 6-5 DOWNSHIFTS**

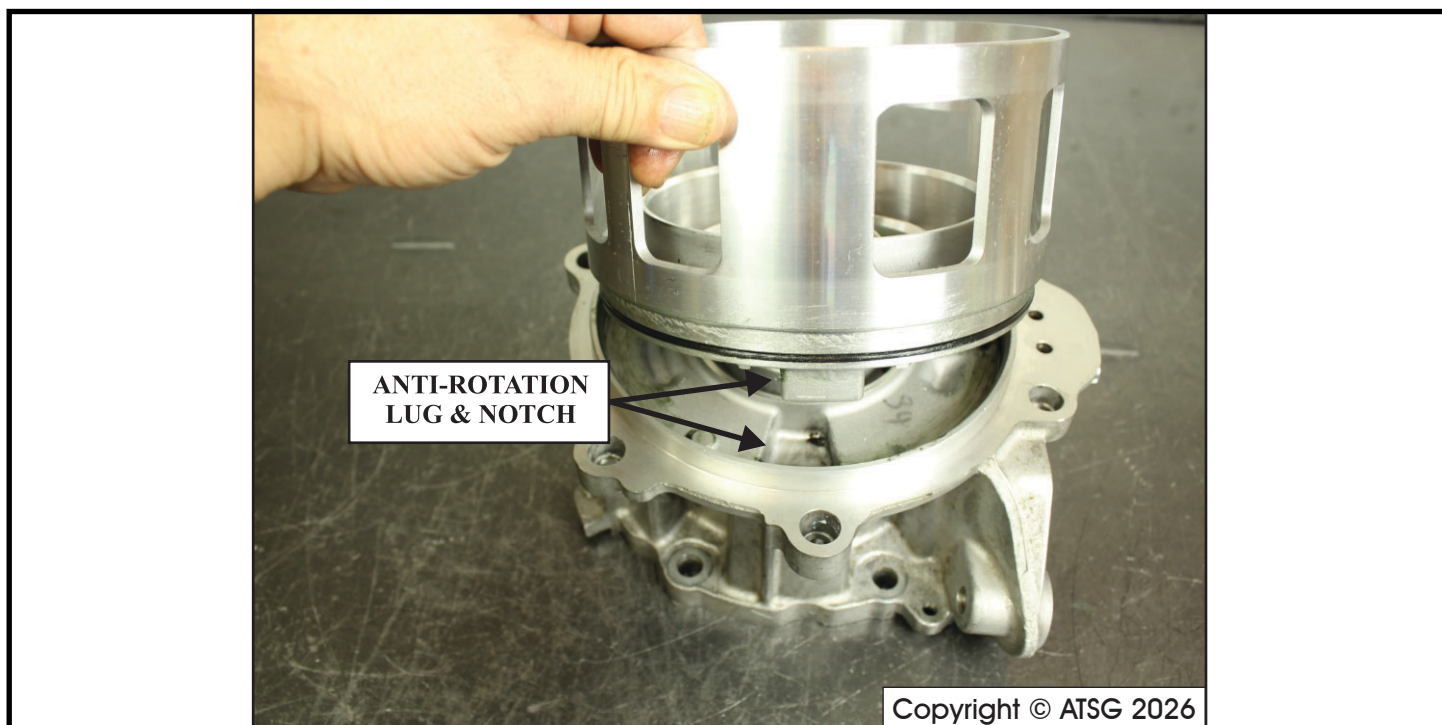


**Figure 3**