

SLIP CHECK PROCEDURE

This procedure will assist in isolating what area of the transmission is causing your slip, either the TCC system or internal transmission components. After you have isolated the origin of the slip, then utilize the TCC System Symptom Table or the Internal Transmission Symptom Table of this bulletin for most common concerns.

TO CHECK FOR A TCC SYSTEM CONCERN

TCC slip can occur either hot or cold or in both conditions. First, perform the following test at cold transmission temperatures, then perform the same test at normal operating temperature. Ideal slip from the transmission with the TCC applied is 50 RPM or less under light to normal throttle, no heavy engine load or hard accelerating conditions.

1. Use the Tech II scan tool to monitor TCC slip while driving the vehicle in 4th gear at steady speed with the TCC commanded ON.
2. When the TCC is applied or released (release the TCC with brake pedal, not the scan tool - release the TCC by lightly applying the brake pedal while simultaneously maintaining a steady throttle position), the slip speed should drop or rise 150 00 RPM. If the slip speed does not drop, then the DTC P1870 is being caused by the torque converter system.

CHECK FOR A TCC SYSTEM CONCERN

Action	Yes	No
Did TCC slip speed drop (150-300)?	Continue Slip Check Procedure for an internal trans concern	Go to TCC System Symptom Table

TO CHECK FOR AN INTERNAL TRANSMISSION CONCERN

Slip should be checked in every gear to isolate in which gear the slip may be occurring. Drive the vehicle in each forward gear range D1, D2, D3 and D4. Command the TCC ON with the Tech II in each gear and monitor slip speed.

NOTE: Vehicle speed must be over 11 km/h (7 mph). Some TCC slip is normal when the TCC applies directly after 11 km/h (7 mph) is reached.

If the slip speed remains constant from gear to gear, then the condition is most likely TCC related. EXAMPLE: Slip speed is higher in second and fourth gear than in third gear. This would lead a technician to a possible slipping band.

INTERNAL TRANSMISSION CONCERN

Action	Yes	No
Is slip speed equal in all gears?	Go to TCC System Symptom Table	Go to Internal Transmission Symptom Table

NOTE: These symptom tables are to be used when the following symptoms are associated with a DTC P1870.

1997 GMC Pickup K1500

4L60E TRANS TCC/INTERNAL SLIPPING/DTC P1870 DIAG

TCC SYSTEM SYMPTOMS

Symptom	Causes
TCC Slip (100 RPM Slip)	Check for bronze bushing material in the pan and filter. If bronze material is present, then the stator bushings (234) and turbine shaft (241) should be replaced (Bronze bushing may turn black with an acrid odor). The turbine shaft and housing (621) should be replaced if damaged. In rare instances, it may be necessary to check for an overheated torque converter (24) (Blue and/or distorted converter). TCC solenoid (66) - Perform leak check. Converter clutch valve (224) in pump be checked for 13 mm (0.500 in) of should bore travel without binding. Turbine shaft O-ring seal (618) cut. Turbine shaft hole not drilled to full depth. This concern can be checked by squirting trans fluid through the turbine shaft hole to check for full flow. This is a low mileage Failure.
No TCC Apply (300 RPM SLIP)	Converter clutch valve (224) stuck closed (Check for debris in valve bore). TCC PWM solenoid (396) broken/cracked. Visually inspect solenoid. TCC solenoid (66). Perform leak test. Turbine shaft O-ring seal (618) omitted.
TCC Slip With Stall Stumble	Converter clutch valve (224) stuck open (TCC is applying).
Intermittent TCC, Ok Cold, Slips Hot	TCC PWM solenoid (396). Leak test solenoidThe TCC regulator apply valve (380) and/orconverter clutch shift valve (224) may be sticking/side-loading. It is possible there will not be any damage to the valve upon inspection. Transmissions produced after 2/1/98 will have a groove cut into the spring end of the regulator apply valve. This design is to help float the valve in its bore (replace valve body assembly).

INTERNAL TRANSMISSION SYMPTOM

Symptom	Causes
3rd Or 4th Gear Slip	3-2 downshift solenoid (394) ball seat retention failed. Leak test solenoid. Usually associated with a 3-4 clutch/band worn. 3rd accumulator retainer and ball assembly (40) leaks. Test for proper check ball operation. Usually associated with burned 3-4 clutch.
No 4th Or Slipping 4th	Check ball in the wrong location or extra check ball that has dropped behind the spacer plate during trans assembly. The extra check ball can block the 4th apply servo feed. Clutch orifice cup plug (238) not fully pressed in.
Slip/Flare In Any Gear	Pump slide inner spring (207) or outer spring (206) omitted causing a slow slide
No 3rd	Clutch orifice cup plug (238) blown out.
Harsh 1-2 Upshift	4-3 sequence valve (383) stuck in bore by sediment.
No 2-3 Upshift	2-3 shift valve (368) or 2-3 shuttle valve (369) stuck in bore by sediment.
No 3-4 Upshift	3-4 shift valve (385) stuck in bore by sediment.