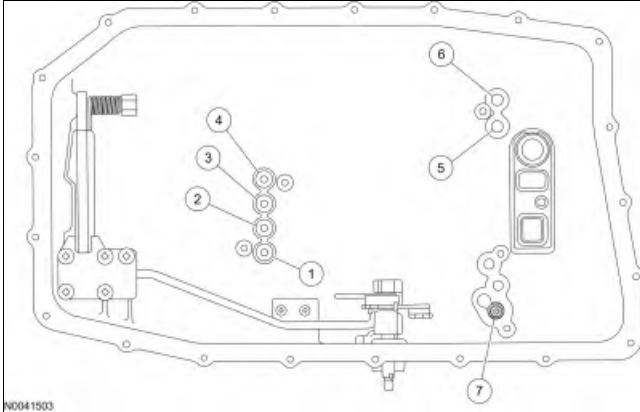


Special Testing Procedures

Air Pressure Test



Item	Description
1	Intermediate clutch (C) port
2	Low/reverse clutch (D1) port
3	Not used
4	Direct clutch (B) port
5	Overdrive clutch (E) port
6	Forward clutch (A) port
7	Thermal bypass valve

NOTE: The center support contains an air bleed for the Low Reverse clutch. Some leakage during the air test can be normal.

NOTE: Scarf cut seals require hydraulic flow to seal properly some leakage during air test can be normal . The direct clutch uses 2 scarf cut seals.

A clutch concern can be located by substituting air pressure for fluid pressure to determine the location of the concern.

1. Using a rubber tipped blow gun, apply 40 PSI (276 kpa) to the suspect clutch port for 2-3 seconds
 - A dull thud indicates the clutch piston applied.
 - A hissing noise may indicate a leak in the hydraulic passages. Hydraulic circuits that use scarf cut seals and/or air bleeds will have some normal leakage.
2. While holding the blow gun nozzle firmly against the port in the transmission case, release the trigger.
3. Wait 1-2 seconds.
 - A hissing noise may indicate a leak in the hydraulic passages.
4. 4. Remove the blow gun from the port.
 - A sudden release of air pressure indicates the hydraulic passages are capable of holding pressure.
 - No noise may indicate a leak in the hydraulic passages.

Front Pump Output Test

The special tests are designed to aid the technician in diagnosing the hydraulic and mechanical portions of the transmission. The front pump output test can also be used to detect a stuck or inoperative main control torque converter regulator valve. The datalogger is used to measure the amount of time it takes the vehicle to reach approximately 5 Km/h (3 MPH) at engine idle speed without pressing the accelerator pedal, verifying transmission pump operation.

1. Verify the fluid level is full.
REFER to: Transmission Fluid Level Check (307-01A Automatic Transmission, Transfer Case and Power Transfer Unit - 6-Speed Automatic Transmission â€“ 6R100, General Procedures).
2. Verify transmission fluid temperature is at 77 Â°C (170 Â°F) or above.
3. Park the vehicle for a minimum of 6 hours or overnight on a level spot where it can be driven forward uninhibited for up to 5 Km/h (3 MPH).
4. Using a diagnostic scan tool, with Ignition ON and Engine Off, select the following PIDs:
 - VSS Vehicle speed
 - TRS Transmission Range selector
 - BOO1 Brake On
 - APP% Accelerator Pedal Position
 - Gear_Mode Transmission gear
 - TFT Transmission Fluid Temperature
 - TSS_SRC Turbine Speed Sensor
 - RPM Engine Revolutions
 - Gear_Rat Transmission Gear ratio
5. **NOTE:** *Read and review the following steps before performing them as they need to happen consecutively.*

Make sure the parking brake is released prior to the next step.

6. **NOTE:** *Do not apply the accelerator pedal for this test.*

Press the record function and perform the following steps.

- Press the brake pedal.
 - Start the engine.
 - Immediately place the transmission selector lever in the D position.
 - Immediately release the brake pedal and allow the vehicle to move at idle speed only. Do not accelerate.
7. After recording for 15 seconds, stop the vehicle.
 8. Using the scroll feature, slide the time bar to the point when the brake was released as indicated by PID BOO1, and note the time at the bottom.
 9. Move the slide until the VSS shows 5 Km/h (3 MPH), or the maximum speed attained.
 10. Did the vehicle reach 5 Km/h (3 MPH) within 5 seconds?
 - Yes - vehicle is operating normally. This procedure does not apply.
 - No - replace the transmission pump assembly.
REFER to: Transmission (307-01A Automatic Transmission, Transfer Case and Power Transfer Unit - 6-Speed Automatic Transmission â€“ 6R100, Overhaul).

Front Pump Output Test- Torque Converter Pressure Regulator Valve

1. Using a diagnostic scan tool, perform a self-test and check for DTCs .
 2. RECORD the RPM and TSS data while raising the engine RPM.
 3. If the TSS stays at 0 RPM the torque converter is malfunctioning.
 4. INSPECT the main control torque converter regulator valve.
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