Transmission Fluid Level and Condition Check

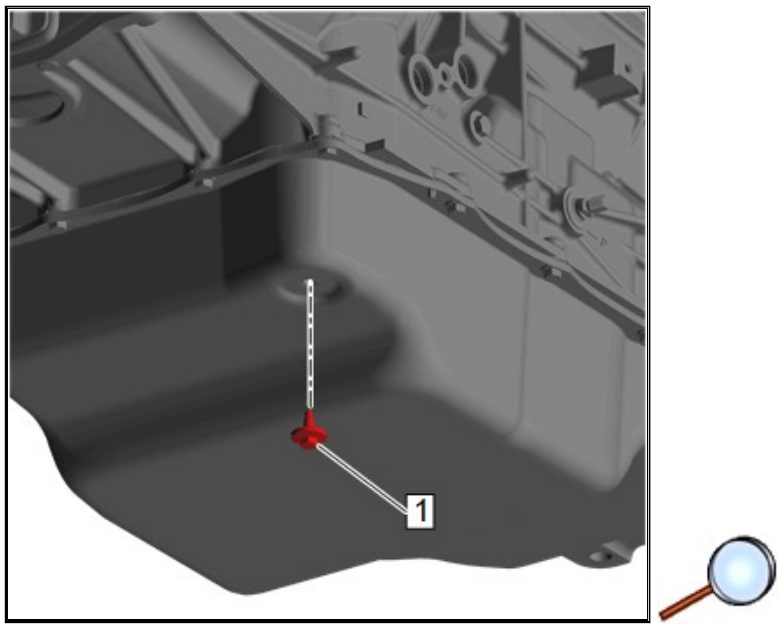
This procedure checks both the transmission fluid level, as well as the condition of the fluid itself. Since the transmission on this vehicle is not equipped with a fill tube and dipstick, a tube in the bottom pan is used to set the fluid level.

Warning: The transmission fluid temperature (TFT) must be between 75-80°C (167-176°F).If the TFT is lower than this temperature range, either idle or brake torque the vehicle to raise the fluid temperature. If the TFT is higher than this range, shut off the vehicle to allow the fluid to cool as required. Setting the fluid level with a TFT outside this range will result in either an over-fill or under-fill condition. If TFT is greater than 80°C = under-filled. If TFT is less than 75°C = over-filled. An under-filled transmission will cause premature component wear or damage. An over-filled transmission will cause fluid to overflow from the vent tube, possibly causing a fire that may result in serious bodily injury or severe vehicle damage, fluid foaming, or pump cavitation.

Note: This vehicle is equipped with an internal thermal bypass valve, the transmission fluid level should be checked only after the TFT has reached an operating temperature of 75°C (167°F). If the TFT has exceeded 80°C (176°F), let cool to 75°C (167°F) then you can check the fluid level.

1. Observe the TFT using the driver information center (DIC) or a scan tool.
2. Start and idle the engine.
3. Depress the brake pedal and move the shift lever through each gear range. Pause for at least 3 seconds in each range. Move the shift lever back to PARK. Ensure the engine RPM is low (500–800 RPM).
4. Allow the engine to idle for at least 1 minute.

   Caution: To obtain the required transmission temperature, set the vehicle parking brake, run converter stalls while also applying the foot brake and placing the transmission in drive gear range to heat the transmission oil. Run 10 seconds on, then 10 seconds off converter stall. Brake torque is not to exceed 1500 engine RPM's. Failure to maintain 10 second intervals or exceeding 1500 engine RPM's may result in transmission internal damage.
5. Raise the vehicle on a hoist. The vehicle must be level, with the engine running and the shift lever in the PARK range.



Caution: THE ENGINE MUST BE RUNNING when the trans oil level check plug is removed or excessive fluid loss will occur, resulting in an under-filled condition. An under-filled transmission will cause premature component wear or damage.

Note: Continue to monitor the TFT. If the TFT is not within the specified values, reinstall the trans oil level check plug and repeat the previous steps.

6. Remove the transmission pan plug (1) from the transmission. Allow any fluid to drain.
    - If the fluid is flowing as a steady stream, wait until the fluid begins to drip.
    - If no fluid comes out, add fluid until fluid comes out in a steady stream and then drips out. Transmission Fluid Fill Procedure
7. Inspect the fluid color. The fluid should be red or dark brown.
    - If the fluid color is very dark or black and has a burnt odor, inspect the fluid and inside of the bottom pan for excessive metal particles or other debris. A small amount of "friction" material in the bottom pan is a "normal" condition. If large pieces and/or metal particles are noted in the fluid or bottom pan, flush the oil cooler and cooler lines and overhaul the transmission. If there are no signs of transmission internal damage noted, replace the fluid filter assembly, repair the oil cooler, and flush the cooler lines.
    - Fluid that is cloudy or milky or appears to be contaminated with water indicates engine coolant or water contamination. Engine Coolant/Water in Transmission

Caution: Refer to Fastener Caution.

8. Replace the automatic transmission pan plug and tighten to **9 N•m (80 lb in)**.
9. Inspect for external leaks. Fluid Leak Diagnosis