



Sedan Range

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SERVICE

TECHNICAL BULLETIN

ZF 4HP 24 E Transmission Diagnosis – Using PDU to Verify Fluid is at Operating Temperature

MODEL 1995-97 MY
Sedan (4.0L NA)
VIN
720001-812255

ISSUE:

When diagnosing transmission operating complaints such as shifting complaints or TCM MIL illumination, it is important that fluid level is at the full mark at when hot.

Incorrect fluid levels can lead to improper diagnosis.

It is important that the transmission operating temperature is reached before checking the fluid level since transmission fluid expands as it heats up. Since the time required to reach normal operating temperature can vary depending on ambient temperatures, a precise check of transmission fluid temperature can be made when using the PDU for diagnosis.

ACTION:

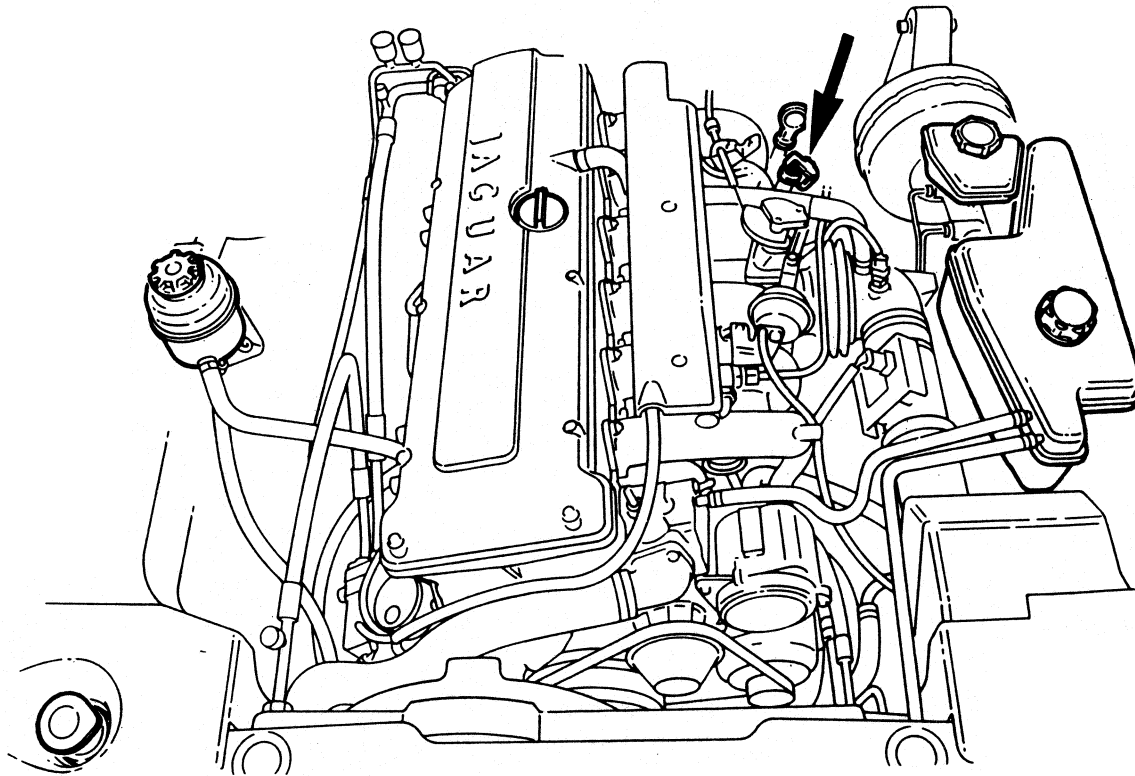
When diagnosing transmission operating complaints using the PDU, bring the fluid to the operating temperature of 80°C (176°F) by driving a distance of 10-15 miles (15-25 km).

CAUTION: Do not perform a stall test to raise the fluid temperature as this can cause excessive temperatures which will affect fluid level.

Use the PDU while in diagnostics to confirm that the correct temperature has been reached as follows:

1. Connect the PDU to the vehicle and make the following menu selections: Diagnostics, Toolbox, Powertrain, Datalogger, ZF transmission. Select Transmission Oil Temperature (TOT).
2. Park the vehicle on level ground, apply the parking brake firmly and place the selector in the Park position. Leave the engine running.

LOCATION OF TRANSMISSION DIPSTICK



JSI-2641

ILLUSTRATION 1

3. Clean the area around the dipstick handle (Illustration 1).
4. Remove the dipstick and wipe off the fluid with a lint-free cloth or paper towel. Do not allow any lint or dirt to enter the transmission. **Cleanliness is essential.**
5. Replace the dipstick slowly to avoid an air lock. Ensure that it is completely seated.
6. After waiting 5 seconds, remove the dipstick and note the fluid level. The engine must remain running with the transmission in the Park position during this fluid level check.

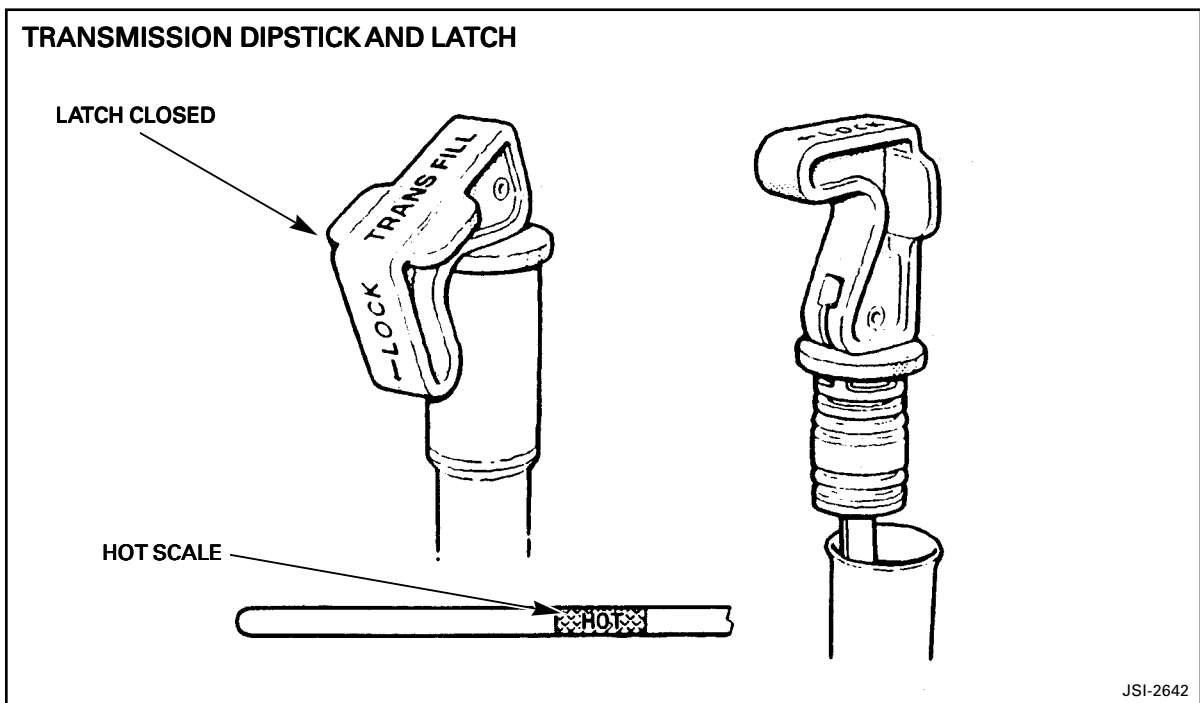


ILLUSTRATION 2

7. Repeat the check to verify the initial reading. The correct fluid level is halfway between the MIN and MAX marks on the knurled HOT scale (Illustration 2)

NOTE: When checking the level on the dipstick, the presence of fluid on the edges of the dipstick is insufficient to indicate the level. The fluid must be present across the whole dipstick to register the true level.

When the dipstick is inserted back into the filler tube, flip the lever down (Illustration 2) to seal the tube.

8. If the fluid is low, add fluid until the correct level is reached. Allow time for the additional fluid to drain fully from the dipstick tube before rechecking the fluid level. Do not overfill as this will cause aeration of the fluid.
9. After adding fluid, apply the service brakes and with engine running at idle speed, move the transmission selector lever through all positions.

FLUID CLEANLINESS

- Do not store automatic transmission fluid in any container that may have been contaminated by other fluids or dirt.
- Do not dispense fluid for easy pouring into any contaminated container.
- Never reuse transmission fluid previously used in service.