

Transmission Cooling

Inspection and Verification

1. Verify the customer concern by operating the vehicle to duplicate the condition.
2. If the inspection reveals obvious concern(s) that can be readily identified, repair as necessary.
3. Install new components if a transmission fluid leak is found in any of the transmission cooling components.
4. If the cause is not visually evident, check for DTC.

REFER to: Diagnostic Trouble Code (DTC) Charts and Pinpoint Tests - 6.2L V8 (307-01B Automatic Transmission, Transfer Case and Power Transfer Unit - 10-Speed Automatic Transmission â€“ 10R140, Diagnosis and Testing).

REFER to: Diagnostic Trouble Code (DTC) Charts and Pinpoint Tests - 7.3L 2V DEVCT V8 (239kW/320PS) (J0) (307-01B Automatic Transmission, Transfer Case and Power Transfer Unit - 10-Speed Automatic Transmission â€“ 10R140, Diagnosis and Testing).

REFER to: Diagnostic Trouble Code (DTC) Charts and Pinpoint Tests - 6.7L Power Stroke Diesel (307-01B Automatic Transmission, Transfer Case and Power Transfer Unit - 10-Speed Automatic Transmission â€“ 10R140, Diagnosis and Testing).

Symptom Chart â€“ Transmission Cooling

Symptom	Possible Sources	Action
• Transmission overheating	• Clogged transmission fluid cooler or transmission fluid cooler tubes • Bent or crushed transmission fluid cooler tubes	• INSPECT the transmission fluid cooler and the transmission fluid cooler tubes for damage or plugging. INSTALL new components as necessary.
	• System leaks	• INSPECT transmission fluid cooler and transmission fluid cooler tubes for leaks. SERVICE as required.
	• Transmission fluid level is too high	• REFER to: Transmission Fluid Level Check (307-01B Automatic Transmission, Transfer Case and Power Transfer Unit - 10-Speed Automatic Transmission â€“ 10R140, General Procedures).
	• Transmission fluid heater coolant control valve malfunctioning	• INSTALL a new transmission fluid heater coolant control valve. REFER to: Engine Cooling - System Operation and Component Description (303-03D Engine Cooling - 7.3L 2V DEVCT V8 (239kW/320PS) (J0), Description and Operation).
• Vibration â€“ a high frequency (20-80 Hz) that is felt through the seat or gear shifter. Changes with engine speed	• Transmission fluid cooler tubes grounded	• CHECK the transmission fluid cooler tubes. REPAIR as necessary.

Check Transmission Fluid Level and Condition

Transmission Fluid Level Check

To check the transmission fluid level,

REFER to: Transmission Fluid Level Check (307-01B Automatic Transmission, Transfer Case and Power Transfer Unit - 10-Speed Automatic Transmission â€“ 10R140, General Procedures).

High Transmission Fluid Level

A transmission fluid level that is too high may cause the transmission fluid to become aerated due to the churning action of the rotating internal parts. This will cause erratic control pressure, foaming, loss of transmission fluid from the vent tube and possible transmission malfunction and/or damage.

Low Transmission Fluid Level

A low transmission fluid level could result in poor transmission engagement, slipping, malfunction and/or damage. This could also indicate a leak in one of the transmission seals or gaskets.

Transmission Fluid Condition Check

1. Check the transmission fluid level,
REFER to: Transmission Fluid Level Check (307-01B Automatic Transmission, Transfer Case and Power Transfer Unit - 10-Speed Automatic Transmission â€“ 10R140, General Procedures).
 2. Place a drop of transmission fluid on a facial tissue and examine the stain.
 3. If evidence of solid material is found, the transmission fluid pan should be removed for further inspection.
 4. If transmission fluid contamination or transmission failure is confirmed by the sediment in the bottom of the transmission fluid pan, repair the transmission and clean the transmission fluid cooler tubes and the transmission fluid cooler.
 5. If the transmission is to be overhauled or if installing a new transmission, the transmission fluid cooler must be backflushed.
REFER to: Transmission Fluid Cooler - Backflushing and Cleaning (307-02B Transmission Cooling - 10-Speed Automatic Transmission â€“ 10R140, General Procedures).
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