

307-02 Transmission Cooling - 10-Speed Automatic Transmission - 10R80  
 Diagnosis and Testing

2019 Ranger

Procedure revision date: 05/29/2018

## 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, verify the symptom and refer to the Symptom Chart.

### Symptom Chart — Transmission Cooling

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices.  
 REFER to: [Diagnostic Methods](#) (100-00 General Information, Description and Operation).

Symptom	Possible Sources	Action
<ul style="list-style-type: none"> <li>• Transmission overheating</li> </ul>	<ul style="list-style-type: none"> <li>• Clogged transmission fluid cooler or transmission fluid cooler tubes</li> <li>• Bent or crushed transmission fluid cooler tubes</li> </ul>	<ul style="list-style-type: none"> <li>• INSPECT the transmission fluid cooler and the transmission fluid cooler tubes for damage or plugging. INSTALL new components as necessary.</li> </ul>
	<ul style="list-style-type: none"> <li>• System leaks</li> </ul>	<ul style="list-style-type: none"> <li>• INSPECT transmission fluid cooler and transmission fluid cooler tubes for leaks. SERVICE as required.</li> </ul>
	<ul style="list-style-type: none"> <li>• Transmission fluid level is too high</li> </ul>	<ul style="list-style-type: none"> <li>• REFER to: <a href="#">Transmission Fluid Level Check</a> (307-01 Automatic Transmission - 10-Speed Automatic Transmission - 10R80, General Procedures).</li> </ul>
<ul style="list-style-type: none"> <li>• Engine coolant in the transmission fluid or transmission fluid in the engine coolant.</li> </ul>	<ul style="list-style-type: none"> <li>• Transmission fluid cooler internal leak</li> </ul>	<ul style="list-style-type: none"> <li>• INSTALL a new transmission fluid cooler. REFER to: <a href="#">Transmission Fluid Cooler</a> (307-02 Transmission Cooling - 10-Speed Automatic Transmission - 10R80, Removal and Installation).</li> </ul>

### Check Transmission Fluid Level and Condition

#### Transmission Fluid Level Check

To check the transmission fluid level,

REFER to: [Transmission Fluid Level Check](#) (307-01 Automatic Transmission - 10-Speed Automatic Transmission - 10R80, 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](#) (307-01 Automatic Transmission - 10-Speed Automatic Transmission - 10R80, 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](#) (307-02 Transmission Cooling - 10-Speed Automatic Transmission - 10R80, General Procedures).

