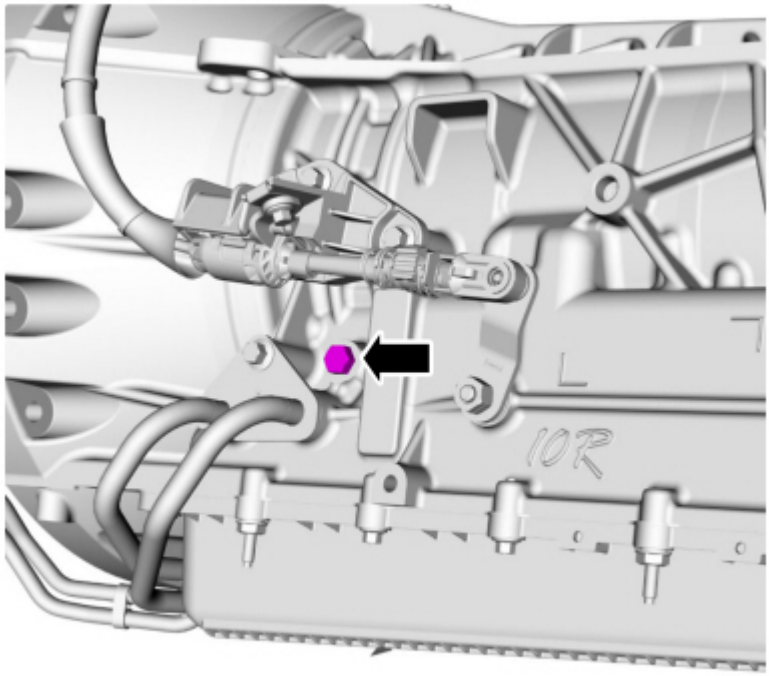
Special Testing Procedures

Line Pressure Test

NOTE: *Carry out the Line Pressure test prior to carrying out the Stall Speed Test. If the line pressure is low at stall, do not carry out the Stall Speed Test or further transmission damage will occur. Do not maintain Wide Open Throttle (WOT) in any transmission range for more than 5 seconds.*

This test verifies that the line pressure is within specification.



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1. **NOTE:** *The line pressure tap is an M10 X 1.00 thread. Do not use a National Pipe Thread (NPT) fitting when installing a pressure gauge. If a NPT fitting is used, damage to the transmission case will occur.*

   Connect the Transmission Fluid Pressure Gauge to the line pressure tap using an M10 X 1.00 fitting.

2. Start the engine and check the line pressures. Refer to the Line Pressure Chart to determine if the line pressure is within specification.

Line Pressure Chart

NOTE: *Actual and commanded pressures vary based on calibration and transmission adaptive strategies. All pressures listed are approximate.*

Gear	Line Pressure — kPa (psi)		Commanded — LPC pressure kPa (psi) a	
	Idle	WOT Stall	Idle	WOT Stall
P, N	619 (90)	-	94 (14)	-
R	619 (90)	1,675 (240)	94 (14)	410 (60)
(D)	619 (90)	1,600 (230)	94 (14)	375 (55)
3	619 (90)	1,230 (180)	94 (14)	275 (40)
2	619 (90)	1,675 (240)	94 (14)	410 (60)
1	619 (90)	1,600 (230)	94 (14)	375 (55)

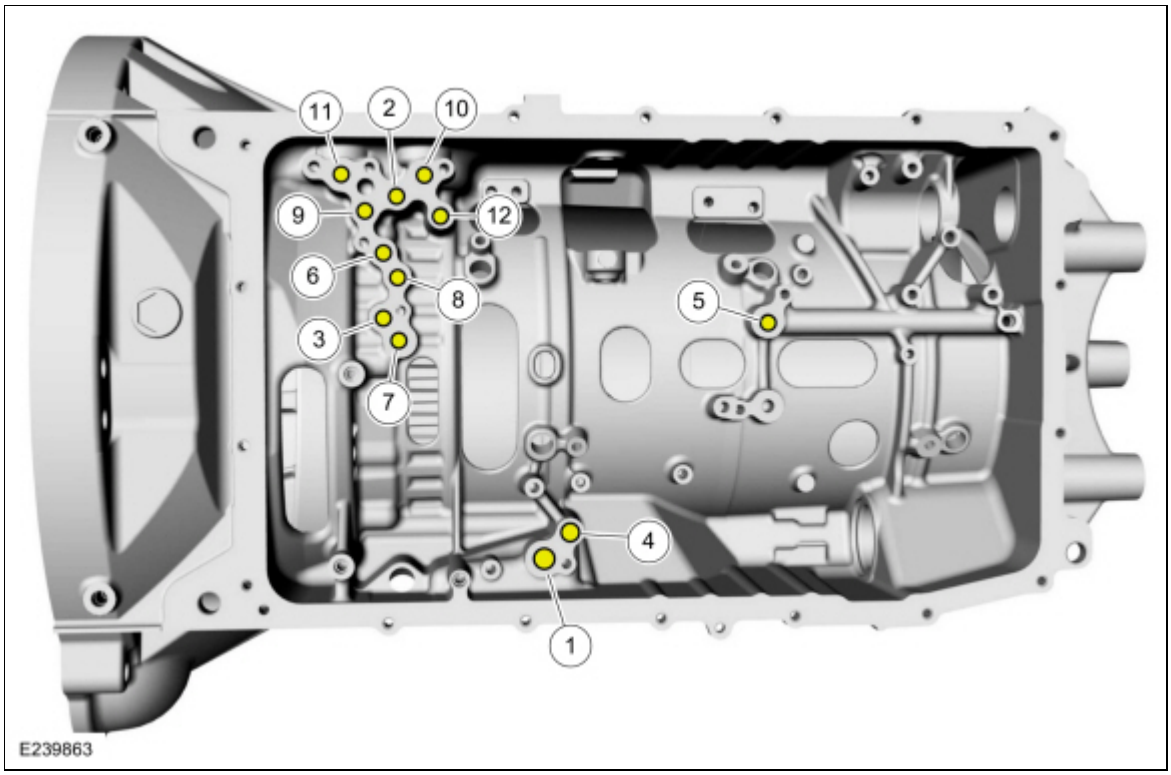
Commanded pressure as viewed on diagnostic equipment.

3. If the line pressure is not within specification, refer to the Line Pressure Diagnosis Chart.

4. When the pressure tests are complete, install the line pressure tap plug.
    1. Tighten to 13.5 Nm (120 lb-in).

Test Results	Possible Source
HIGH at IDLE - ALL RANGES	• Wiring harnesses • LPC solenoid • LPC valve
LOW at IDLE - ALL RANGES	• Low fluid level • Fluid inlet filter/seal • Main control • Cross leaks • Gaskets • Pump • Separator plate

Air Pressure Test



10R80 Air Ports

Item	Description
1	A clutch
2	B clutch
3	C clutch
4	D clutch
5	E clutch
6	F clutch
7	TCC apply
8	TCC release
9	Lube
10	To cooler
11	From cooler
12	Line pressure tap

NOTE: *When applying air pressure to the clutches using the indicated ports, restrict air pressure to no more than 276 kPa (40psi).*

A no-drive condition can exist even with correct transmission fluid pressure because of inoperative clutches. Refer to the Clutch Application Chart to determine which clutch is applied in each gear range. A clutch concern can be located through a series of checks by substituting air pressure for fluid pressure to determine the location of the conce

Stall Speed Test

NOTE: *Carry out the Line Pressure Test prior to the Stall Speed Test. If line pressure is low, do not carry out the stall test or additional transmission damage will occur. Do not maintain Wide Open Throttle (WOT) in any gear range for more than 5 seconds.*

NOTE: *After testing each of the ranges, move the selector lever into the NEUTRAL position and run the engine at 1,000 rpm for about 15 seconds to allow the torque converter to cool off before continuing onto the next range.*

NOTE: *If the engine speed exceeds maximum specified rpm, release the accelerator pedal immediately.*

NOTE: *Only perform the stall speed test with the engine and transmission at normal operating temperatures.*

The Stall Speed Test checks the operation of the following items:

- Torque converter clutch stator
- A clutch
- B clutch
- C clutch
- D clutch
- E clutch
- F clutch

1. Connect a scan tool.

2. Press the accelerator pedal to WOT in each range. Record the rpm reached in each range. Stall speeds should be in the appropriate range.

Stall Speed

Engine	Drive	Reverse
3.5L	3478-3845 rpm	3478-3845 rpm

Test Results Possible Source	Possible Source
Stall speed high — R only	• General line pressure concerns • F clutch
Stall speed high — 1st and 3rd gears	• E clutch
Stall speed high — Both 2nd and 3rd gears	• C clutch
Stall speed high — 2nd, 3rd and R gears	• D clutch
Stall speed high — All ranges	• A clutch
Stall speed low — R and 1st, 2nd	• Engine driveability concern • TCC stator