

TESTING

Check fluid level and correct if necessary. Use initial road test to verify transmission malfunction. Ensure engine is operating properly. If transmission problems occur on initial road test, check adjustments and fluid levels. See appropriate TRANSMISSION SERVICING - A/T article in AUTOMATIC TRANSMISSION SERVICING.

ROAD TEST

NOTE: This test determines if shift control system is functioning properly.

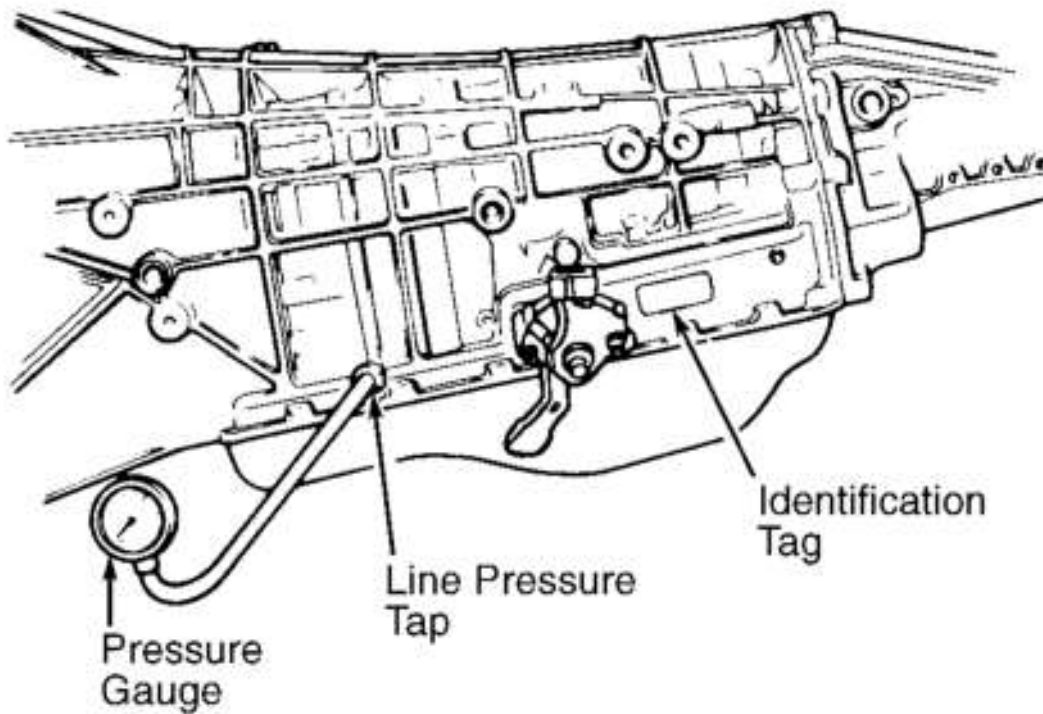
1. Check minimum throttle upshifts in overdrive. Transmission should start in 1st gear and shift automatically into and through each gear at pre-determined specifications. See **SHIFT SPEEDS (MPH)**.
2. With transmission in 4th gear (overdrive), depress overdrive cancel switch. Transmission should downshift to 3rd gear.
3. Depress accelerator pedal to floor (WOT). Transmission should downshift from 3rd to 2nd or 1st gear, depending on vehicle speed. See **SHIFT SPEEDS (MPH)**.
4. When traveling above 50 MPH at less than half throttle, move transmission from Overdrive to 2nd gear and release accelerator pedal. Transmission should immediately downshift into 2nd gear. With vehicle in 2nd gear, move selector to 1st gear and release accelerator pedal. Transmission should downshift to 1st gear at less than 30-35 MPH.

LINE PRESSURE TEST

1. Connect a 0-300 psi (0-21.1 kg/cm²) pressure gauge to line pressure tap on left side of transmission case just forward of control levers. See **Fig. 11**.
2. With engine at normal operating temperature, apply parking and service brakes. Check line pressure in all ranges. Pressure should be approximately as specified. See **LINE PRESSURE SPECIFICATIONS**.

LINE PRESSURE SPECIFICATIONS

Gear	psi (kg/cm ²) @ Idle	psi (kg/cm ²) @ WOT Stall
"P", "N"	55-65 (3.87-4.57)	N/A
"R"	75-99 (5.27-6.96)	240-265 (16.87-18.63)
O/D, 2	55-65 (3.87-4.57)	156-174 (10.97-12.23)
1	75-99 (5.27-6.96)	157-182 (11.04-12.80)



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Fig. 11: Testing With Pressure Gauge
 Courtesy of FORD MOTOR CO.

LINE PRESSURE TEST RESULTS

Compare recorded line pressures with table. See **LINE PRESSURE SPECIFICATIONS** under LINE PRESSURE TEST. If line pressures are outside of specified ranges, use following list to determine cause of trouble.

High At Idle In All Ranges

Check main regulator valve, solenoid body and wiring harness.

Low At Idle In All Ranges

Check for low fluid level, restricted intake filter, loose main body, solenoid body or accumulator body-to-case bolts. Excessive leakage in pump, case control bodies, sticking main regulator valve or damaged inlet tube seal.

Low In "P" Or "N"

Check valve body.

Low In "O/D"

Check forward clutch.

Low In "2"

Check forward clutch, intermediate clutch, coast clutch and servo.

Low In "1"

Check forward clutch, low-reverse clutch and/or coast clutch.

Low In "R"

Check coast clutch, low-reverse clutch and/or direct clutch.

CONVERTER CLUTCH TEST

NOTE: Due to the difficulty of feeling converter clutch shift, a tachometer and/or vacuum gauge **MUST BE** connected to engine.

1. To check converter for engagement and disengagement, drive vehicle at approximately 50 MPH and lightly tap brake pedal. Engine RPM and vacuum should increase when clutch disengages.
2. Engine RPM will increase when brake pedal is tapped and about 5 seconds after pedal is released. If this does not occur, see **AUTO TRANS DIAGNOSIS - FORD E4OD** article.

STALL SPEED TEST

Testing Precautions

1. Engine coolant and transmission fluid **MUST BE** at proper level and operating temperature. Hold accelerator down long enough to stabilize tachometer. **DO NOT** hold at WOT for more than 5 seconds.
2. **DO NOT** exceed maximum specified RPM for vehicle. Before shifting into each selector position, run engine in Neutral at 1000 RPM for 15-20 seconds to cool transmission. If engine speed exceeds specification, release accelerator immediately, as this indicates clutch or band slippage.

Testing Procedure

Connect tachometer to engine. Apply parking and service brakes firmly. Stall test transmission in each driving range at WOT. Note maximum RPM obtained. Engine speed should be within limits. See **STALL SPEED SPECIFICATIONS**. If maximum RPM obtained is not within specifications, see **STALL SPEED TEST RESULTS**.

STALL SPEED SPECIFICATIONS

Engine	Stall Speeds (RPM)
4.9L PFI	1485-1845
5.0L PFI	1955-2420
5.8L PFI	2100-2420
7.3L Diesel	1680-2050
7.5L PFI	1840-2280

STALL SPEED TEST RESULTS

Low In All Ranges

Poor engine performance. Faulty torque converter reactor one-way clutch.

High In All Ranges

General transmission problems are indicated. Perform control pressure tests.

High In "O/D Only"

Forward clutch, overdrive one-way clutch or low-reaction one-way clutch faulty.

High In "2" Only

Forward clutch, or overdrive one-way clutch and coast clutch faulty.

High In "1" Only

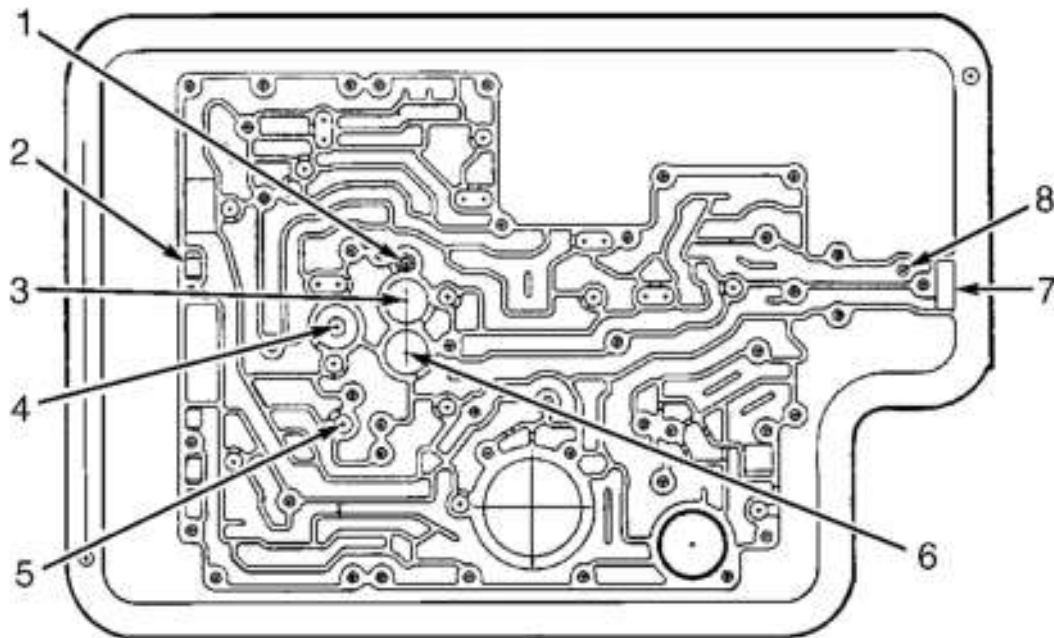
Forward clutch, or reverse clutch and low-reaction one-way clutch, or coast clutch and overdrive one-way clutch faulty.

High In "R" Only

Direct clutch, or overdrive one-way clutch and coast clutch, or reverse clutch faulty.

AIR PRESSURE CHECKS

1. A "No Drive" condition can exist, even with correct transmission fluid pressure, due to inoperative clutches or bands. Inoperative units can be located by substituting air pressure for fluid pressure to determine location of malfunction.
2. To check unit, drain transmission fluid. Remove oil pan, filter, seal assembly, solenoid body and valve body.
3. Forward, coast, reverse, overdrive, direct and intermediate clutch operation may be checked as follows: Using shop air, apply air to proper points. See **Fig. 12**. A dull thud can be heard when clutch piston is applied. If no thud is heard, movement of piston can be felt by placing finger tips on input shell. If seals are leaking, a hissing sound will be heard.



- 1. Direct Clutch Feed
- 2. Coast Clutch Feed
- 3. Forward Clutch Feed
- 4. Overdrive Clutch Feed

- 5. Intermediate Clutch Feed
- 6. Intermediate Lube
- 7. Rear Lube
- 8. Low-Reverse Clutch Feed

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Fig. 12: Locating Air Pressure Test Points
 Courtesy of FORD MOTOR CO.