TROUBLE SHOOTING

NOTE: **After verifying driveability complaint, perform trouble shooting and testing procedures in this article. For electronic diagnostics and testing, see the AUTO TRANS DIAGNOSIS - FORD 4R70W CONTROLS article. When fault codes are retrieved, all engine related codes MUST be repaired first. For engine trouble code repair and diagnostic information, see appropriate TESTS W/CODES article in ENGINE PERFORMANCE.**

NOTE: **Always check fluid level and condition. Ensure linkage is correctly adjusted and not damaged. Ensure electronic component connectors are tight and free from damage or contamination.**

SYMPTOM DIAGNOSIS

No Forward Engagement

Fluid level and condition, shift linkage, low forward clutch pressure, low line pressure, filter (plugged or damaged), valve body (3-4 shift valve, main regulator valve, manual valve), incorrectly tightened valve body (cross-leaks), 2-3 accumulator, pump assembly, forward clutch assembly, low one-way clutch assembly (planetary) and output shaft.

No Reverse Engagement

Fluid level and condition, shift linkage, low reverse clutch pressure, low reverse band pressure, low line pressure, filter (plugged), valve body (No. 6 shuttle ball, manual valve, main regulator valve), 1-2 accumulator, incorrectly tightened valve body (cross-leaks), low reverse servo, pump assembly, reverse clutch assembly and low reverse band.

Harsh Reverse Engagement

Fluid level and condition, shift linkage, high line pressure, high Electronic Pressure Control (EPC) pressure, oil filter (plugged), valve body (No. 6 shuttle ball, No. 5 check ball, manual valve, main regulator valve), incorrectly tightened valve body (cross-leaks), low reverse servo, pump assembly, reverse clutch assembly and low reverse band.

Harsh Forward Engagement

Fluid level and condition, high forward clutch pressure, high line pressure, high Electronic Pressure Control (EPC) pressure, valve body (main regulator valve, 2-3 accumulator), incorrectly tightened valve body (cross-leaks), pump assembly and forward clutch assembly.

Delayed/Soft Reverse Engagement

Fluid level and condition, shift linkage, low reverse clutch pressure, low reverse band pressure, low line pressure, filter (plugged), valve body (No. 6 shuttle ball, 1-2 accumulator, manual valve, main regulator valve), incorrectly tightened valve body (cross-leaks), low reverse servo, pump assembly, reverse clutch assembly and low reverse band.

Delayed/Soft Forward Engagement

Fluid level and condition, shift linkage, low forward clutch pressure, low line pressure, low Electronic Pressure Control (EPC) pressure, filter (plugged), valve body (3-4 shift valve, main regulator valve), incorrectly tightened valve body (cross-leaks), 2-3 or 1-2 accumulator, pump assembly and forward clutch assembly.

Some Or All Shifts Missing

Fluid level and condition, shift linkage and Transmission Range (TR) sensor.

Early/Late Shift Speeds

Incorrect tire size, incorrect axle ratio, fluid level and condition, line pressure, Electronic Pressure Control (EPC) pressure and valve body (EPC solenoid, miscellaneous components stuck, blocked solenoid screen).

Erratic/Hunting Shifting

Fluid level and condition, valve body (miscellaneous valves, accumulators-stuck), blocked valve body solenoid screen and Torque Converter Clutch (TCC).

Soft/Slipping Shift Feel

Fluid level and condition, low line pressure, Low Electronic Pressure Control (EPC) pressure, valve body (1-2 accumulator, main regulator valve, overdrive servo regulator) and EPC solenoid (stuck).

Harsh Shift Feel

Fluid level and condition, high line pressure, high Electronic Pressure Control (EPC) pressure, valve body (1-2 accumulator, main regulator valve, overdrive servo regulator) and EPC solenoid (stuck).

2nd Or 3rd Gear Starts In Drive (Or OD)

Shift linkage, Transmission Range (TR) sensor, low reverse clutch pressure, low reverse band pressure, low line pressure and miscellaneous internal failures.

No Manual Low Gear

Shift linkage, Transmission Range (TR) sensor, low reverse clutch pressure, low reverse band pressure, low line pressure, low Electronic Pressure Control (EPC) pressure, filter (plugged), valve body (No. 6 shuttle ball, manual valve, main regulator valve, low servo modulator valve), incorrectly tightened valve body (cross-leaks) and low reverse servo.

No Manual 2nd Gear

Shift linkage or cable, Transmission Range (TR) sensor, valve body (3-4 shift valve, 1-2 and 2-3 shift valve, 3-4 capacity modulator valve) and incorrectly tightened valve body (cross-leaks).

No 1-2 Automatic Shift

Shift linkage, Transmission Range (TR) sensor, intermediate clutch pressure, line pressure, valve body (1-2 shift valve, 1-2 accumulator valve), Shift Solenoid No. 1 (SS1) failure, damaged No. 8 check ball, incorrectly tightened valve body (cross-leaks), pump assembly, intermediate clutch assembly, intermediate one-way clutch assembly and low one-way clutch assembly.

No 2-3 Automatic Shift

Shift linkage, direct clutch pressure, valve body (2-3 shift valve, No. 3 or No. 9 check ball, solenoid pressure regulator valve, 2-3 modulator valve), Shift Solenoid No. 2 (SS2) failure, output shaft seals, missing or leaking cup plug, 2-3 accumulator, blocked valve body solenoid screen, intermediate overrunning clutch assembly, direct clutch assembly and case (damaged output shaft seal area).

No 3-4 Automatic Shift

Shift linkage, Transmission Range (TR) sensor, forward clutch pressure, direct clutch pressure, line pressure, valve body (3-4 shift valve, solenoid pressure regulator valve, OD servo regulator, 3-4 capacity modulator valve, 1-2 and 2-3 shift valves), incorrectly tightened valve body (cross-leaks), Shift Solenoid No. 1 or 2 (SS1 or SS2) failure, OD servo cover, OD rod and piston cushion spring, No. 2, 4, 7 and/or 9 valve body check balls, blocked valve body solenoid screen, pump assembly, OD Band and/or reverse clutch drum assembly, intermediate overrunning clutch assembly, forward clutch assembly and input shaft.

No 4-3 Automatic Downshift

Forward clutch pressure, line pressure, valve body (3-4 shift valve, solenoid pressure regulator valve, OD servo regulator, 3-4 capacity modulator valve, 2-3 backout valve, 1-2 and 2-3 shift valves), incorrectly tightened valve body (cross-leaks), Shift Solenoid No. 1 (SS1) failure, OD servo, No. 2, 7, and/or 9 valve body check balls, blocked valve body solenoid screen, pump assembly, OD Band and/or reverse clutch drum assembly, intermediate overrunning clutch assembly, forward clutch assembly and input shaft.

No 3-2 Automatic Downshift

Direct clutch pressure, valve body (2-3 shift valve, check balls damage or missing), Shift Solenoid No. 2 (SS2) failure, intermediate one-way clutch assembly and direct clutch assembly.

No 2-1 Automatic Downshift

Intermediate clutch pressure, valve body (1-2 shift valve, 1-2 accumulator solenoid pressure regulator valve), Shift Solenoid No. 1 (SS1) failure, incorrectly tightened valve body (cross-leaks), pump assembly, intermediate clutch assembly, intermediate one-way clutch assembly and low one-way clutch assembly.

No Torque Converter Clutch Application

Shift linkage, low line pressure, low Electronic Pressure Control (EPC) pressure, valve body (solenoid pressure regulator valve, manual valve, bypass clutch control valve and plunger, converter pressure limit valve, drain back valve), incorrectly tightened valve body (cross-leaks), blocked valve body solenoid screen, TCC solenoid failure, pump assembly, input shaft and torque converter assembly.

Torque Converter Clutch Always Applied

Valve body (drain back valve, TCC valve and plunger), incorrectly tightened valve body (cross-leaks), TCC solenoid failure, No. 7 valve body check ball, pump assembly, input shaft and torque converter assembly.

Torque Converter Clutch Cycling/Shudder/Chatter

Fluid condition, valve body (solenoid pressure regulator valve, No. 7 check ball, bypass clutch control valve and plunger, converter pressure limit valve), incorrectly tightened valve body (cross-leaks), blocked valve body solenoid screen, TCC solenoid failure, pump assembly, input shaft and torque converter.

MISCELLANEOUS FAULTS

Intermittent Loss Of Torque During Or Just After 3-4 Upshift Or In 4th Gear

See FORD MOTOR CO. TSB NO. 95-5-15.

No Engine Braking In 2nd Gear, Manual 2nd Gear Or Manual 1st Gear

Shift linkage, valve body (3-4 shift valve, 1-2 and 2-3 shift valve, 3-4 capacity modulator valve), OD band, reverse clutch drum assembly and intermediate overrunning clutch assembly.

Poor Vehicle Performance

Shift linkage, Transmission Range (TR) sensor, incorrect shift speed or engagement, TCC always applied and torque converter.

Transmission Overheating

Fluid level and condition, poor fluid flow (cooler lines, auxiliary oil cooler, engine performance, valve body (drain back valve, TCC control valve, converter limit valve) and torque converter.