

# Troubleshooting

SYMPTOM	Check these items on PROBABLE CAUSE LIST	Check these items on NOTES PAGE	The following symptoms can be caused by improper repair or assembly.	Check these items on PROBABLE CAUSE DUE TO IMPROPER REPAIR	Check these items on NOTES PAGE
Engine runs, but car does not move in any gear.	1, 6, 7, 16	K, L, R, S	Car creeps in N.	R1, R2	
Car moves in R and 2, but not in D3 or D4.	8, 29, 44, 48	C, M, O	Car does not move in D3 or D4.	R5	
Car moves in D3, D4 and R, but not in 2.	9, 30, 49	C, L	Trans lock up in R.	R4	
Car moves in D3, D4 and 2, but not in R.	1, 11, 12, 22, 38, 39, 40	C, L, Q	Trans has no park.	R3	
Car moves in N.	1, 8, 9, 10, 11, 46, 47	C, D	Excessive drag in trans.	R8	RK
Excessive idle vibration.	5, 17	B, K, L	Excessive vibration, rpm related.	R9	
Slips in all gears.	6, 7, 16	C, L, U	Noise with wheels moving only.	R7	
Slips in low gear.	8, 29, 44, 45, 48	C, N, O, U	Main seal pops out.	R10	S
Slips in 2nd gear.	9, 20, 23, 30, 45, 49	C, L, U	Various shifting problems.	R11, R12	
Slips in 3rd gear.	10, 21, 23, 31, 44, 45	C, L, U	Harsh upshifts.	R13	
Slips in 4th gear.	11, 23, 32, 45	C, L, U	In D3 or D4 trans starts in 2nd gear.	R6	
Slips in reverse gear.	11, 32	C	PROBABLE CAUSE		
Slips on 2-3 upshift.	3, 15, 24	E, L, V	1. Shift cable broken/out of adjustment		
Slips on 3-4 upshift.	3, 15, 25	E, L, V	2. Throttle cable too short		
No upshift; trans stays in low gear.	12, 13, 14, 19, 23	E, F, G, L	3. Throttle cable too long		
No downshift to low gear.	12, 19	G, L	4. Wrong type ATF		
Late upshift.	2, 12, 13, 14	E, F, L, V	5. Idle rpm too low/high		
Early upshift.	3, 13, 14	E, F, L, V	6. Oil pump worn or seized		
Erratic shifting.	2, 14, 26	E, F, V	7. Pressure regulator stuck		
Harsh shift (up & down shifts).	2, 4, 15, 23, 24, 25, 27, 47	A, E, H, I, L, V	8. Low clutch defective		
Harsh shift (1-2).	2, 9	C, D, V	9. 2nd clutch defective		
Harsh shift (2-3).	2, 10, 23, 24	C, D, H, L, V	10. 3rd clutch defective		
Harsh shift (3-4).	2, 11, 23, 25	C, D, I, L, V	11. 4th clutch defective		
Harsh kickdown shifts.	2, 23, 27	L, V, Q	12. Governor valve stuck		
Harsh kickdown shift (2-1).	48	O	13. Throttle A valve stuck		
Harsh downshift (3-2) at closed throttle.	15	E, T	14. Modulator valve stuck		
Axle(s) slips out of trans on turns.	43, 50	L, P, Q	15. Throttle B valve stuck		
Axle(s) stuck in trans.	43	L, Q	16. Oil screen clogged		
Ratcheting noise when shifting into R.	6, 7, 38, 39, 40	K, L, Q	17. Torque convertor defective		
Loud popping noise when taking off in R.	38, 39, 40	L, Q	18. Torque governor check valve stuck		
Ratcheting noise when shifting from R to P, or from R to N.	38, 39, 40, 51	K, L, Q	19. 1-2 shift valve stuck		
Noise from trans in all selector lever positions.	6, 17	K, L, Q	20. 2-3 shift valve stuck		
Noise from trans only when wheels rolling.	39, 42	L, Q	21. 3-4 shift valve stuck		
Gear whine, rpm related (pitch changes with shifts).	6, 41	K, L, Q	22. Reverse control valve stuck		
Gear whine, speed related (pitch changes with speed).	39, 42	L, Q	23. Clutch pressure control valve stuck		
Trans will not shift into 4th gear in D4.	1, 21, 28	L	24. 2nd orifice control valve stuck		
Engine stalls on emergency stops (shift lever in D4 only).	2, 33	L, V	25. 3rd orifice control valve stuck		
Lockup clutch does not lock up smoothly.	35, 37, 17	L	26. 3-2 timing valve stuck		
Lockup clutch does not operate properly.	2, 3, 12, 15, 18, 33, 34, 35, 36, 37	E, L, V	27. Kickdown valve stuck		
Transmission has multitude of problems shifting, at disassembly large deposits of metal found on magnet.	43	L, Q	28. Shift timing valve/accr stuck		
			29. Low clutch accumulator defective		
			30. 2nd clutch accumulator defective		
			31. 3rd clutch accumulator defective		
			32. 4th/reverse accumulator defective		
			33. Lockup clutch cut valve stuck		
			34. Lockup clutch timing valve A stuck		
			35. Lockup clutch timing valve B stuck		
			36. Lockup clutch shift valve stuck		
			37. Lockup clutch control valve stuck		
			38. Shift fork bent		
			39. Reverse gears worn/damaged (3 gears)		
			40. Reverse selector gear worn		
			41. 3rd gears worn/damaged (2 gears)		
			42. Final gears worn/damaged (2 gears)		
			43. Differential pinion shaft worn		
			44. Feedpipe O-ring broken		



PROBABLE CAUSE	
45.	Servo valve check valve loose
46.	Gear clearance incorrect
47.	Clutch clearance incorrect
48.	Sprag clutch defective
49.	Sealing rings/guide worn
50.	Axle-inboard joint clip missing
51.	4th gears worn/damaged (2 gears)

PROBABLE CAUSES DUE TO IMPROPER REPAIR	
R1	Improper clutch clearance
R2	Improper gear clearance
R3	Parking pawl installed upside down
R4	Parking shift arm installed upside down
R5	Sprag clutch installed upside down
R6	Feed pipe missing in governor shaft
R7	Reverse hub installed upside down
R8	Oil pump binding
R9	Torque converter not fully seated in oil pump
R10	Main seal improperly installed
R11	Springs improperly installed
R12	Valves improperly installed
R13	Ball check valves not installed
R14	Shift fork bolt not installed

NOTES	
A	Flushing procedure (repeat 3 times): 1. Drain the trans. 2. Refill with 3 qts. of Dexron recommended type ATF. 3. Start engine and shift trans to D4. 4. Let trans shift through gears at least 5 times. 5. Shift to reverse and neutral at least 5 times. 6. Drain and refill.
B	Set idle rpm in gear to specified idle speed. If still no good, adjust the motor mounts as outlined in engine section of service manual.
C	If the large clutch piston O-ring is broken, inspect the piston groove for rough machining.
D	If the clutch pack is seized, or is excessively worn, inspect the other clutches for wear, and check the orifice control valves and throttle valves for free movement.
E	If throttle valve B is stuck, inspect the clutches for wear.
F	If the modulator valve is stuck open (does not modulate line pressure), the trans will shift normally with less than 5/8 throttle but will shift up very late over 5/8 throttle. If the modulator valve is stuck closed, throttle valve A pressure will be zero and result in early upshifts and no forced downshifts.
G	If the 1-2 valve is stuck closed, the transmission will not upshift. If stuck open, the transmission has no low gear.
H	If the 2nd orifice control valve is stuck, inspect the 2nd and 3rd clutch packs for wear.
I	If the 3rd orifice control valve is stuck, inspect the 3rd and 4th clutch packs for wear.
J	If the clutch pressure control valve is stuck closed, the transmission will not shift out of low gear.

NOTES	
K	Improper alignment of main valve body and torque converter case may cause oil pump seizure. The symptoms are mostly an rpm related—ticking noise high pitched squeak. In severe instances, it may stall the engine. Follow instruction procedure on <b>page 16-50</b> .
L	If the oil screen is clogged with particles of steel or aluminum, inspect the oil pump and differential pinion shaft. If both are OK, and no cause for the contamination is found, replace the torque converter.
M	If the low clutch feedpipe guide in the end cover is scored by the mainshaft, inspect the ball bearing for excessive movement in the transmission housing. If OK, replace the end cover as it is dented. The O-ring under the guide is <b>probably broken</b> .
N	Replace the mainshaft if the bushings for the low and 4th feedpipe are loose or damaged. If the low feedpipe is damaged or out of round, replace it. If the 4th feedpipe is damaged or out of round, replace the end cover.
O	A worn or damaged sprag clutch is mostly a result of shifting the trans in D3 or D4 while the wheels rotate in reverse, such as rocking the car in snow.
P	Inspect the frame for collision damage.
Q	Inspect for damage or wear: 1. Governor shaft woodruff key 2. Reverse selector gear teeth chamfers 3. Engagement teeth chamfers of countershaft 4th & reverse gear 4. Shift fork, for scuff marks in center 5. Differential pinion shaft for wear under pinion gears 6. Bottom of 3rd clutch for swirl marks Replace items 1, 2, 3 and 4 if worn or damaged. If trans makes clicking, grinding or whirring noise, also replace mainshaft 4th gear and reverse idler gear and counter 4th gear in addition to 1, 2, 3, or 4. If differential pinion shaft is worn, overhaul differential assy and replace oil screen and thoroughly clean trans flush torque converter and cooler and lines. If bottom of 3rd clutch is swirled 6, and trans makes gear noise, replace countershaft and ring gear.
R	Be very careful not to damage the torque converter case when <b>replacing the main ball bearing. You may also damage the oil pump when you torque down the main valve body; this will result in oil pump seizure if not detected. Use proper tools.</b>
S	Install the main seal flush with the torque converter case. When pushing it into the torque converter case until it bottoms out, it will block the oil return passage and result in damage.
T	Harsh downshifts when coasting to a stop with zero throttle may be caused by a bent-in throttle valve retainer/cam stopper. If <b>throttle cable adjustment may clear this problem, check this adjustment, too. See page 16-68.</b>
U	Check if servo valve check valve stopper cap is installed. If it was not installed, the check valve may have been pushed out by hydraulic pressure causing a leak (internal) affecting all forward gears.
V	Throttle cable adjustment is essential for proper operation of the transmission. Not only does it affect the shift points if misadjusted but also the shift quality and lockup clutch operation. A too long adjusted cable will result in throttle pressure being too low for the amount of engine torque input into the transmission, and may cause clutch slippage. A too short adjusted cable will result in too high throttle pressures which may cause harsh shifts, erratic shifts and torque converter hunting.