

**9. General Diagnostic Table**

Symptom	Problem parts																													
	Inhibitor switch	Control module	Vehicle speed sensor 1	Vehicle speed sensor 2	Select cable	Select lever	FWD switch	Starter motor and harness	Throttle position sensor	Diagnosis switch	Accumulator ("N" — "D")	Accumulator (2A)	Accumulator (4A)	Accumulator (3R)	ATF temperature sensor	Strainer	Duty solenoid A	Duty solenoid B	Shift solenoid 1	Shift solenoid 2	Shift solenoid 3	Control valve	Detent spring	Manual plate	Transfer clutch	Transfer valve	Transfer pipe	Duty solenoid C	Forward clutch	
Starter does not rotate when select lever is in "P" or "N."; starter rotates when select lever is "R", "D", "3" or "2."	X				X	X		X																						
Abnormal noise when select lever is in "P" or "N."																X													X	
Hissing noise occurs during standing starts.																X														
Noise occurs while driving in "D <sub>1</sub> " range.																														
Noise occurs while driving in "D <sub>2</sub> " range.																														
Noise occurs while driving in "D <sub>3</sub> " range.																														
Noise occurs while driving in "D <sub>4</sub> " range.																														
Engine stalls while shifting from one range to another.																						X								
Vehicle moves when select lever is in "N."																													X	
Shock occurs when select lever is moved from "N" to "D."		X									X											X								
Excessive time lag occurs when select lever is moved from "N" to "D."																						X								X
Shock occurs when select lever is moved from "N" to "R."		X										X										X								
Excessive time lag occurs when select lever is moved from "N" to "R."																						X								
Vehicle does not start in any shift range (engine revving up).																X						X								
Vehicle does not start in any shift range (engine stall).																														
Vehicle does not start in "R" range only (engine revving up).					X	X																X								
Vehicle does not start in "R" range only (engine stall).																														X
Vehicle does not start in "D" or "3" range (engine revving up).																														X
Vehicle does not start in "D", "3" or "2" range (engine revving up).																														X
Vehicle does not start in "D", "3" or "2" range (engine stall).																														
Vehicle starts in "R" range only (engine revving up).																						X								
Acceleration during standing starts is poor (high stall rpm).																						X								X
Acceleration during standing starts is poor (low stall rpm).																														
Acceleration is poor when select lever is in "D", "3" or "2" range (normal stall rpm).		X																				X								
Acceleration is poor when select lever is in "R" (normal stall rpm).																						X								
No shift occurs from 1st to 2nd gear.		X	X	X					X											X	X	X								
No shift occurs from 2nd to 3rd gear.		X																				X								
No shift occurs from 3rd to 4th gear.		X											X	X								X	X							
No "kick-down" shifts occur.		X							X																					
Engine brake is not effected when select lever is in "3" range.	X	X							X													X								

30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	Problem parts	Symptom
																													Starter does not rotate when select lever is in "P" or "N."; starter rotates when select lever is "R", "D", "3" or "2."	
							X												X					X					Abnormal noise when select lever is in "P" or "N."	
																								X					Hissing noise occurs during standing starts.	
					X											X	X								X				Noise occurs while driving in "D <sub>1</sub> " range.	
					X											X	X								X				Noise occurs while driving in "D <sub>2</sub> " range.	
					X											X									X				Noise occurs while driving in "D <sub>3</sub> " range.	
					X											X	X							X					Noise occurs while driving in "D <sub>4</sub> " range.	
																					X				X				Engine stalls while shifting from one range to another.	
																													Vehicle moves when select lever is in "N."	
																							X						Shock occurs when select lever is moved from "N" to "D."	
																							X						Excessive time lag occurs when select lever is moved from "N" to "D."	
																							X						Shock occurs when select lever is moved from "N" to "R."	
									X	X																			Excessive time lag occurs when select lever is moved from "N" to "R."	
X	X	X	X			X									X	X	X		X					X					Vehicle does not start in any shift range (engine revving up).	
																										X			Vehicle does not start in any shift range (engine stall).	
									X	X																			Vehicle does not start in "R" range only (engine revving up).	
								X								X													Vehicle does not start in "R" range only (engine stall).	
											X																		Vehicle does not start in "D" or "3" range (engine revving up).	
											X																		Vehicle does not start in "D", "3" or "2" range (engine revving up).	
											X																		Vehicle does not start in "D", "3" or "2" range (engine stall).	
											X														X				Vehicle starts in "R" range only (engine revving up).	
											X														X				Acceleration during standing starts is poor (high stall rpm).	
							X												X						X				Acceleration during standing starts is poor (low stall rpm).	
							X	X									X												Acceleration is poor when select lever is in "D", "3" or "2" range (normal stall rpm).	
X							X	X									X												Acceleration is poor when select lever is in "R" (normal stall rpm).	
								X																					No shift occurs from 1st to 2nd gear.	
							X					X																	No shift occurs from 2nd to 3rd gear.	
								X																					No shift occurs from 3rd to 4th gear.	
																													No "kick-down" shifts occur.	
																													Engine brake is not effected when select lever is in "3" range.	

Symptom	Problem parts																												
	Inhibitor switch	Control module	Vehicle speed sensor 1	Vehicle speed sensor 2	Select cable	Select lever	FWD switch	Starter motor and harness	Throttle position sensor	Diagnosis switch	Accumulator ("N" — "D")	Accumulator (2A)	Accumulator (4A)	Accumulator (3R)	ATF temperature sensor	Strainer	Duty solenoid A	Duty solenoid B	Shift solenoid 1	Shift solenoid 2	Shift solenoid 3	Control valve	Detent spring	Manual plate	Transfer clutch	Transfer valve	Transfer pipe	Duty solenoid C	Forward clutch
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Engine brake is not effected when select lever is in "3" or "2" range.																													
Engine brake is not effected when select lever is in "1" range.																							X						
Shift characteristics are erroneous.	X	X	X	X					X													X							
No lock-up occurs.		X							X						X							X							
Vehicle cannot be set in "D" range power mode.		X							X																				
"D" range power mode cannot be released.		X							X						X														
Parking brake is not effected.					X	X																							
Shift lever cannot be moved or is hard to move from "P" range.					X	X																							
Select lever is hard to move.					X	X																	X	X					
Select lever is too light to move (unreasonable resistance).																							X	X					
ATF spurts out.																													
Differential oil spurts out.																													
Differential oil level changes excessively.																													
Odor is produced from oil supply pipe.																										X			X
Shock occurs when select lever is moved from "1" to "2" range.		X							X			X			X		X					X							
Slippage occurs when select lever is moved from "1" to "2" range.		X							X			X			X		X					X							
Shock occurs when select lever is moved from "2" to "3" range.		X							X				X	X	X		X					X							
Slippage occurs when select lever is moved from "2" to "3" range.		X							X				X	X	X		X					X							
Shock occurs when select lever is moved from "3" to "4" range.		X							X			X	X	X	X		X					X							
Slippage occurs when select lever is moved from "3" to "4" range.		X							X			X	X	X	X		X					X							
Shock occurs when select lever is moved from "3" to "2" range.		X							X						X		X					X							
Shock occurs when select lever is moved from "D" to "1" range.		X							X						X		X					X							
Shock occurs when select lever is moved from "2" to "1" range.		X							X						X		X					X							
Shock occurs when accelerator pedal is released at medium speeds.		X							X						X		X					X							
Vibration occurs during straight-forward operation.		X																	X										
Select lever slips out of position during acceleration or while driving on rough terrain.					X	X																	X	X					
Vibration occurs during turns (tight corner "braking" phenomenon).		X	X	X					X						X										X	X			X
Front wheel slippage occurs during standing starts.		X		X			X		X						X							X			X	X	X	X	X
Vehicle is not set in FWD mode.		X					X																		X	X			X
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29

30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	Problem parts	Symptom
X																													Engine brake is not effected when select lever is in "3" or "2" range.	
									X																				Engine brake is not effected when select lever is in "1" range.	
																										X			Shift characteristics are erroneous.	
																					X								No lock-up occurs.	
																													Vehicle cannot be set in "D" range power mode.	
																											X		"D" range power mode cannot be released.	
																											X		Parking brake is not effected.	
																											X		Shift lever cannot be moved or is hard to move from "P" range.	
																													Select lever is hard to move.	
																													Select lever is too light to move (unreasonable resistance).	
																								X					ATF spurts out.	
																									X				Differential oil spurts out.	
					X									X															Differential oil level changes excessively.	
X							X	X	X	X											X	X							Odor is produced from oil supply pipe.	
								X															X			X			Shock occurs when select lever is moved from "1" to "2" range.	
								X																					Slippage occurs when select lever is moved from "1" to "2" range.	
							X	X															X		X				Shock occurs when select lever is moved from "2" to "3" range.	
							X	X																					Slippage occurs when select lever is moved from "2" to "3" range.	
X								X															X		X				Shock occurs when select lever is moved from "3" to "4" range.	
								X																					Slippage occurs when select lever is moved from "3" to "4" range.	
X								X															X						Shock occurs when select lever is moved from "3" to "2" range.	
																							X						Shock occurs when select lever is moved from "D" to "1" range.	
									X														X						Shock occurs when select lever is moved from "2" to "1" range.	
																								X		X			Shock occurs when accelerator pedal is released at medium speeds.	
																						X	X						Vibration occurs during straight-forward operation.	
																								X					Select lever slips out of position during acceleration or while driving on rough terrain.	
																							X						Vibration occurs during turns (tight corner "braking" phenomenon).	
																													Front wheel slippage occurs during standing starts.	
																													Vehicle is not set in FWD mode.	

