

10. General Diagnostic Table

Symptom	Problem parts
Starter does not rotate when select lever is in "P" or "N"; starter rotates when select lever is in "R", "D", "3" or "2".	<ol style="list-style-type: none"> 1) Inhibitor switch 2) Select cable 3) Select lever 4) Starter motor and harness
Abnormal noise when select lever is in "P" or "N".	<ol style="list-style-type: none"> 1) Strainer 2) Transfer duty solenoid 3) Oil pump 4) Drive plate 5) ATF level too high or too low
Hissing noise occurs during standing start.	<ol style="list-style-type: none"> 1) Strainer 2) ATF level too high or too low
Noise occurs while driving in "D1".	<ol style="list-style-type: none"> 1) Final gear 2) Planetary gear
Noise occurs while driving in "D2".	<ol style="list-style-type: none"> 3) Reduction gear 4) Differential gear oil level too high or too low
Noise occurs while driving in "D3".	<ol style="list-style-type: none"> 1) Final gear 2) Low & reverse brake 3) Reduction gear 4) Differential gear oil level too high or too low
Noise occurs while driving in "D4".	<ol style="list-style-type: none"> 1) Final gear 2) Low & reverse brake 3) Planetary gear 4) Reduction gear 5) Differential gear oil level too high or too low
Engine stalls while shifting from one range to another.	<ol style="list-style-type: none"> 1) Control valve 2) Lock-up damper 3) Engine performance 4) Input shaft
Vehicle moves when select lever is in "N".	<ol style="list-style-type: none"> 1) Control module 2) Low clutch
Shock occurs when select lever is moved from "N" to "D".	<ol style="list-style-type: none"> 1) Control module 2) Harness 3) Control valve 4) ATF deterioration 5) Dropping resistor
Excessive time lag occurs when select lever is moved from "N" to "D".	<ol style="list-style-type: none"> 1) Control valve 2) Low clutch 3) Line pressure duty solenoid 4) Seal ring 5) Front gasket transmission case
Shock occurs when select lever is moved from "N" to "R".	<ol style="list-style-type: none"> 1) Control module 2) Harness 3) Control valve 4) ATF deterioration 5) Dropping resistor
Excessive time lag occurs when select lever is moved from "N" to "R".	<ol style="list-style-type: none"> 1) Control valve 2) Low & reverse clutch 3) Reverse clutch 4) Line pressure duty solenoid 5) Seal ring 6) Front gasket transmission case
Vehicle does not start in any shift range (engine stalls).	<ol style="list-style-type: none"> 1) Parking brake mechanism 2) Planetary gear

Symptom	Problem parts
Vehicle does not start in any shift range (engine revving up).	<ol style="list-style-type: none"> 1) Strainer 2) Line pressure duty solenoid 3) Control valve 4) Drive pinion 5) Hypoid gear 6) Axle shaft 7) Differential gear 8) Oil pump 9) Input shaft 10) Output shaft 11) Planetary gear 12) Drive plate 13) ATF level too low 14) Front gasket transmission case
Vehicle does not start in "R" range only (engine revving up).	<ol style="list-style-type: none"> 1) Select cable 2) Select lever 3) Control valve 4) Low & reverse clutch 5) Reverse clutch
Vehicle does not start in "R" range only (engine stalls).	<ol style="list-style-type: none"> 1) Low clutch 2) 2-4 brake 3) Planetary gear 4) Parking brake mechanism
Vehicle does not start in "D", "3" range only (engine revving up).	<ol style="list-style-type: none"> 1) Low clutch 2) One-way clutch
Vehicle does not start in "D", "3" or "2" range only (engine revving up).	<ol style="list-style-type: none"> 1) Low clutch
Vehicle does not start in "D", "3" or "2" range only (engine stalls).	<ol style="list-style-type: none"> 1) Reverse clutch
Vehicle starts in "R" range only (engine revving up).	<ol style="list-style-type: none"> 1) Control valve
Acceleration during standing starts is poor (high stall rpm).	<ol style="list-style-type: none"> 1) Control valve 2) Low clutch 3) Reverse clutch 4) ATF level too low 5) Front gasket transmission case 6) Differential gear oil level too high or too low
Acceleration during standing starts is poor (low stall rpm).	<ol style="list-style-type: none"> 1) Oil pump 2) Torque converter one-way clutch 3) Engine performance
Acceleration is poor when select lever is in "D", "3" or "2" range (normal stall rpm).	<ol style="list-style-type: none"> 1) Control module 2) Control valve 3) High clutch 4) 2-4 brake 5) Planetary gear
Acceleration is poor when select lever is in "R" (normal stall rpm).	<ol style="list-style-type: none"> 1) Control valve 2) High clutch 3) 2-4 brake 4) Planetary gear
No shift occurs from 1st to 2nd gear.	<ol style="list-style-type: none"> 1) Control module 2) Vehicle speed sensor 1 (Rear) 3) Vehicle speed sensor 2 (Front) 4) Throttle position sensor 5) Shift solenoid 1 6) Control valve 7) 2-4 brake
No shift occurs from 2nd to 3rd gear.	<ol style="list-style-type: none"> 1) Control module 2) Control valve 3) High clutch 4) Shift solenoid 2

Symptom	Problem parts
No shift occurs from 3rd to 4th gear.	<ol style="list-style-type: none"> 1) Control module 2) Shift solenoid 1 3) ATF temperature sensor 4) Control valve 5) 2-4 brake
Engine brake is not effected when select lever is in "3" range.	<ol style="list-style-type: none"> 1) Inhibitor switch 2) Control module 3) Throttle position sensor 4) Control valve
Engine brake is not effected when select lever is in "3" or "2" range.	<ol style="list-style-type: none"> 1) Control valve
Engine brake is not effected when select lever is in "1" range.	<ol style="list-style-type: none"> 1) Control valve 2) Low & reverse brake
Shift characteristics are erroneous.	<ol style="list-style-type: none"> 1) Inhibitor switch 2) Control module 3) Vehicle speed sensor 1 (Front) 4) Vehicle speed sensor 2 (Rear) 5) Throttle position sensor 6) Control valve 7) Ground earth
No lock-up occurs.	<ol style="list-style-type: none"> 1) Control module 2) Throttle position sensor 3) ATF temperature sensor 4) Control valve 5) Lock-up facing 6) Engine speed signal
Parking brake is not effected.	<ol style="list-style-type: none"> 1) Select cable
Shift lever cannot be moved or is hard to move from "P" range.	<ol style="list-style-type: none"> 2) Select lever 3) Parking mechanism
ATF spurts out.	<ol style="list-style-type: none"> 1) ATF level too high
Differential oil spurts out.	<ol style="list-style-type: none"> 1) Differential gear oil too high
Differential oil level changes excessively.	<ol style="list-style-type: none"> 1) Seal pipe 2) Double oil seal
Odor is produced from ATF supply pipe.	<ol style="list-style-type: none"> 1) High clutch 2) 2-4 brake 3) Low & reverse clutch 4) Reverse clutch 5) Lock-up facing 6) ATF deterioration
Shock occurs from 1st to 2nd gear.	<ol style="list-style-type: none"> 1) Control module 2) Throttle position sensor 3) 2-4 brake duty solenoid 4) ATF temperature sensor 5) Line pressure duty solenoid 6) Control valve 7) 2-4 brake 8) ATF deterioration 9) Engine performance 10) Dropping resistor 11) 2-4 brake timing solenoid
Slippage occurs from 1st to 2nd gear.	<ol style="list-style-type: none"> 1) Control module 2) Throttle position sensor 3) 2-4 brake duty solenoid 4) ATF temperature sensor 5) Line pressure duty solenoid 6) Control valve 7) 2-4 brake 8) 2-4 brake timing solenoid 9) High clutch

Symptom	Problem parts
Shock occurs from 2nd to 3rd gear.	<ol style="list-style-type: none"> 1) Control module 2) Throttle position sensor 3) 2-4 brake duty solenoid 4) ATF temperature sensor 5) Line pressure duty solenoid 6) Control valve 7) High clutch 8) 2-4 brake 9) ATF deterioration 10) Engine performance 11) 2-4 brake timing solenoid
Slippage occurs from 2nd to 3rd gear.	<ol style="list-style-type: none"> 1) Control module 2) Throttle position sensor 3) 2-4 brake duty solenoid 4) ATF temperature sensor 5) Line pressure duty solenoid 6) Control valve 7) High clutch 8) 2-4 brake 9) 2-4 brake timing solenoid
Shock occurs from 3rd to 4th gear.	<ol style="list-style-type: none"> 1) Control module 2) Throttle position sensor 3) 2-4 brake duty solenoid 4) ATF temperature sensor 5) Line pressure duty solenoid 6) Control valve 7) 2-4 brake timing solenoid 8) 2-4 brake 9) ATF deterioration 10) Engine performance 11) Low clutch timing solenoid 12) Low clutch
Slippage occurs from 3rd to 4th gear.	<ol style="list-style-type: none"> 1) Control module 2) Throttle position sensor 3) 2-4 brake duty solenoid 4) ATF temperature sensor 5) Line pressure duty solenoid 6) Control valve 7) 2-4 brake 8) 2-4 brake timing solenoid
Shock occurs when select lever is moved from "3" to "2" range.	<ol style="list-style-type: none"> 1) Control module 2) Throttle position sensor 3) ATF temperature sensor 4) Line pressure duty solenoid 5) Control valve 6) 2-4 brake duty solenoid 7) 2-4 brake 8) ATF deterioration 9) 2-4 brake timing solenoid
Shock occurs when select lever is moved from "D" to "1" range.	<ol style="list-style-type: none"> 1) Control module 2) Throttle position sensor 3) ATF temperature sensor 4) Line pressure duty solenoid 5) Control valve 6) ATF deterioration 7) 2-4 brake duty solenoid 8) 2-4 brake timing solenoid 9) Low clutch timing solenoid

Symptom	Problem parts
Shock occurs when select lever is moved from "2" to "1" range.	<ol style="list-style-type: none"> 1) Control module 2) Throttle position sensor 3) ATF temperature sensor 4) Line pressure duty solenoid 5) Control valve 6) Low & reverse clutch 7) ATF deterioration 8) 2-4 brake duty solenoid 9) 2-4 brake timing solenoid 10) Low clutch timing solenoid
Shock occurs when accelerator pedal is released at medium speeds.	<ol style="list-style-type: none"> 1) Control module 2) Throttle position sensor 3) ATF temperature sensor 4) Line pressure duty solenoid 5) Control valve 6) Lock-up damper 7) Engine performance 8) 2-4 brake duty solenoid 9) 2-4 brake timing solenoid 10) Low clutch timing solenoid
Vibration occurs during straight-forward operation.	<ol style="list-style-type: none"> 1) Control module 2) Lock-up duty solenoid 3) Lock-up facing 4) Lock-up damper
Vibration occurs during turns (tight corner "braking" phenomenon).	<ol style="list-style-type: none"> 1) Control module 2) Vehicle speed sensor 1 (Front) 3) Vehicle speed sensor 2 (Rear) 4) Throttle position sensor 5) ATF temperature sensor 6) Transfer clutch 7) Transfer valve 8) Transfer duty solenoid 9) ATF deterioration 10) Harness
Front wheel slippage occurs during standing starts.	<ol style="list-style-type: none"> 1) Control module 2) Vehicle speed sensor 2 (Front) 3) FWD switch 4) Throttle position sensor 5) ATF temperature sensor 6) Control valve 7) Transfer clutch 8) Transfer valve 9) Transfer pipe 10) Transfer duty solenoid
Vehicle is not set in FWD mode.	<ol style="list-style-type: none"> 1) Control module 2) FWD switch 3) Transfer clutch 4) Transfer valve 5) Transfer duty solenoid
Select lever is hard to move.	<ol style="list-style-type: none"> 1) Select cable 2) Select lever 3) Detent spring 4) Manual plate
Select lever is too high to move (unreasonable resistance).	<ol style="list-style-type: none"> 1) Detent spring 2) Manual plate
Select lever slips out of operation during acceleration or while driving on rough terrain.	<ol style="list-style-type: none"> 1) Select cable 2) Select lever 3) Detent spring 4) Manual plate

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