

Possible Component	Reference/Action
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Shift Solenoid C (SSC) , Pressure Control Solenoid B (PCB) , Transmission Fluid Temperature (TFT) sensor 	<ul style="list-style-type: none"> Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> GO to Pinpoint Test A, GO to Pinpoint Test B and GO to Pinpoint Test D.
	<ul style="list-style-type: none"> Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Incorrect Pressures	
<ul style="list-style-type: none"> High/low pressures 	<ul style="list-style-type: none"> Carry out Line Pressure Test. Refer to Special Testing Procedures in this section.
Main Control	
<ul style="list-style-type: none"> Screws not tightened to specification 	<ul style="list-style-type: none"> Tighten to specification.
<ul style="list-style-type: none"> Separator plate damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, install a new separator plate.
<ul style="list-style-type: none"> Contamination 	<ul style="list-style-type: none"> Disassemble and clean.
<ul style="list-style-type: none"> Valves/springs damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> If damaged or parts are missing, install new main control assembly. If misassembled, reassemble correctly. DO NOT stone, file or sand valves. This will remove the anodized finish and may result in further main control or transmission damage.
<ul style="list-style-type: none"> Filter damaged, missing 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Shift Concern: Harsh 1-2 Shift

Possible Component	Reference/Action
232 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Shift Solenoid C (SSC) , Pressure Control Solenoid B (PCB) , Turbine Shaft Speed (TSS) sensor, Transmission Range (TR) sensor, Transmission Fluid Temperature (TFT) sensor 	<ul style="list-style-type: none"> Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> GO to Pinpoint Test A, GO to Pinpoint Test B, GO to Pinpoint Test C, GO to Pinpoint Test D and GO to Pinpoint Test E.

Possible Component	Reference/Action
	<ul style="list-style-type: none"> Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Incorrect Pressures	
<ul style="list-style-type: none"> High/low pressures 	<ul style="list-style-type: none"> Carry out Line Pressure Test. Refer to Special Testing Procedures in this section.
Main Control	
<ul style="list-style-type: none"> Screws not tightened to specification 	<ul style="list-style-type: none"> Tighten to specification.
<ul style="list-style-type: none"> Separator plate damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, install a new separator plate.
<ul style="list-style-type: none"> Contamination 	<ul style="list-style-type: none"> Disassemble and clean.
<ul style="list-style-type: none"> Valve/springs damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> If damaged or parts are missing, install new main control assembly. If misassembled, reassemble correctly. DO NOT stone, file or sand valves. This will remove the anodized finish and may result in further main control or transmission damage.
<ul style="list-style-type: none"> Filter damaged, missing 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Overdrive (O/D) Servo	
<ul style="list-style-type: none"> Servo retaining screws damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Seals (piston and cover) damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
O/D Band	
<ul style="list-style-type: none"> Band damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Servo worn or damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Not adjusted correctly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Shift Concern: Harsh 2-3 Shift

Possible Component	Reference/Action
233 — ROUTINE	
Powertrain Control System	

Possible Component	Reference/Action
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Shift Solenoid B (SSB) , Pressure Control Solenoid A (PCA) , Turbine Shaft Speed (TSS) sensor, intermediate shaft speed sensor, Transmission Range (TR) sensor, Transmission Fluid Temperature (TFT) sensor 	<ul style="list-style-type: none"> Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> GO to Pinpoint Test A, GO to Pinpoint Test B, GO to Pinpoint Test C, GO to Pinpoint Test D and GO to Pinpoint Test E.
	<ul style="list-style-type: none"> Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Incorrect Pressures	
<ul style="list-style-type: none"> High/low pressures 	<ul style="list-style-type: none"> Carry out Line Pressure Test. Refer to Special Testing Procedures in this section.
Main Control	
<ul style="list-style-type: none"> Screws not tightened to specification 	<ul style="list-style-type: none"> Tighten to specification.
<ul style="list-style-type: none"> Separator plate damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, install a new separator plate.
<ul style="list-style-type: none"> Contamination 	<ul style="list-style-type: none"> Disassemble and clean.
<ul style="list-style-type: none"> Valve/springs damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> If damaged or parts are missing, install new main control assembly. If misassembled, reassemble correctly. DO NOT stone, file or sand valves. This will remove the anodized finish and may result in further main control or transmission damage.
<ul style="list-style-type: none"> Filter damaged, missing 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Overdrive (O/D) Servo	
<ul style="list-style-type: none"> Servo retaining screws damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Seals (piston and cover) damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
O/D Band	
<ul style="list-style-type: none"> Band damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Servo worn or damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Not adjusted correctly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Possible Component	Reference/Action
Direct Clutch Assembly	
<ul style="list-style-type: none"> Seals, piston damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Check ball damaged, missing, not seating, off location 	<ul style="list-style-type: none"> Inspect for mislocation, poor seating, damage. Install a new cylinder.
<ul style="list-style-type: none"> Friction elements damaged or worn 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Return springs damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Intermediate Servo	
<ul style="list-style-type: none"> Servo retaining screws damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Seals (piston and cover) damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Intermediate Band	
<ul style="list-style-type: none"> Band damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Servo worn or damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Not adjusted correctly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Direct One-Way Clutch (OWC)	
<ul style="list-style-type: none"> Worn, damaged or assembled incorrectly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Shift Concern: Harsh 3-4 Shift

Possible Component	Reference/Action
234 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Shift Solenoid A (SSA) , Pressure Control Solenoid C (PCC) , Transmission Range (TR) sensor, Transmission Fluid Temperature (TFT) sensor 	<ul style="list-style-type: none"> Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> GO to Pinpoint Test A, GO to Pinpoint Test B, GO to Pinpoint Test C and GO to Pinpoint Test D.
	<ul style="list-style-type: none"> Repair as required. Clear the DTCs, road test the vehicle and

Possible Component	Reference/Action
	rerun <u>OBD</u> test.
Incorrect Pressures	
<ul style="list-style-type: none"> High/low pressures 	<ul style="list-style-type: none"> Carry out Line Pressure Test. Refer to Special Testing Procedures in this section.
Main Control	
<ul style="list-style-type: none"> Screws not tightened to specification 	<ul style="list-style-type: none"> Tighten to specification.
<ul style="list-style-type: none"> Separator plate damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, install a new separator.
<ul style="list-style-type: none"> Contamination 	<ul style="list-style-type: none"> Disassemble and clean.
<ul style="list-style-type: none"> Valve/springs damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> If damaged or parts are missing, install new main control assembly. If misassembled, reassemble correctly. DO NOT stone, file or sand valves. This will remove the anodized finish and may result in further main control or transmission damage.
<ul style="list-style-type: none"> Filter damaged, missing 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Center Support	
<ul style="list-style-type: none"> Screws not tightened to specification 	<ul style="list-style-type: none"> Tighten to specification.
<ul style="list-style-type: none"> Seal rings or bearing damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Outside diameter of case bore damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Support damaged or leaking 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Direct Clutch Assembly	
<ul style="list-style-type: none"> Seals, piston damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Check ball damaged, missing, not seating, off location 	<ul style="list-style-type: none"> Inspect for mislocation, poor seating, damage. Install a new cylinder.
<ul style="list-style-type: none"> Friction elements damaged or worn 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Return springs damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Intermediate Servo	
<ul style="list-style-type: none"> Seals (piston and cover) damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Shift Concern: Harsh 4-3 Shift

Possible Component	Reference/Action
235 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> • PCM, vehicle wiring harnesses, Shift Solenoid A (SSA) , Pressure Control Solenoid A (PCA) , Transmission Range (TR) sensor, Transmission Fluid Temperature (TFT) sensor 	<ul style="list-style-type: none"> • Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> • GO to Pinpoint Test A, GO to Pinpoint Test B, GO to Pinpoint Test C and GO to Pinpoint Test D.
	<ul style="list-style-type: none"> • Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Incorrect Pressures	
<ul style="list-style-type: none"> • High/low pressures 	<ul style="list-style-type: none"> • Carry out Line Pressure Test. Refer to Special Testing Procedures in this section.
Main Control	
<ul style="list-style-type: none"> • Screws not tightened to specification 	<ul style="list-style-type: none"> • Tighten to specification.
<ul style="list-style-type: none"> • Separator plate damaged 	<ul style="list-style-type: none"> • Inspect for damage. If damaged, install a new separator plate.
<ul style="list-style-type: none"> • Contamination 	<ul style="list-style-type: none"> • Disassemble and clean.
<ul style="list-style-type: none"> • Valves, springs damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> • If damaged or parts are missing, install new main control assembly. If misassembled, reassemble correctly. DO NOT stone, file or sand valves. This will remove the anodized finish and may result in further main control or transmission damage.
<ul style="list-style-type: none"> • Filter damaged, missing 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
Direct Clutch Assembly	
<ul style="list-style-type: none"> • Seals, piston damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> • Check ball damaged, missing, not seating, off location 	<ul style="list-style-type: none"> • Inspect for mislocation, poor seating, damage. Install a new cylinder.
<ul style="list-style-type: none"> • Friction elements damaged or worn 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.

Possible Component	Reference/Action
<ul style="list-style-type: none"> Return springs damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Intermediate Servo	
<ul style="list-style-type: none"> Servo retaining screws damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Seals (piston and cover) damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Intermediate Band	
<ul style="list-style-type: none"> Band damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Servo worn or damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Not adjusted correctly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Shift Concern: Harsh 3-2 Shift

Possible Component	Reference/Action
236 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Shift Solenoid C (SSC), Pressure Control Solenoid B (PCB), Turbine Shaft Speed (TSS) sensor, intermediate shaft speed sensor, Transmission Range (TR) sensor, Transmission Fluid Temperature (TFT) sensor 	<ul style="list-style-type: none"> Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> GO to Pinpoint Test A, GO to Pinpoint Test B, GO to Pinpoint Test C, GO to Pinpoint Test D and GO to Pinpoint Test E.
	<ul style="list-style-type: none"> Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Incorrect Pressures	
<ul style="list-style-type: none"> High/low pressures 	<ul style="list-style-type: none"> Carry out Line Pressure Test. Refer to Special Testing Procedures in this section.
Main Control	
<ul style="list-style-type: none"> Screws not tightened to specification 	<ul style="list-style-type: none"> Tighten to specification.
<ul style="list-style-type: none"> Separator plate damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, install a new separator plate.

Possible Component	Reference/Action
<ul style="list-style-type: none"> Contamination 	<ul style="list-style-type: none"> Disassemble and clean.
<ul style="list-style-type: none"> Valve/springs damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> If damaged or parts are missing, install new main control assembly. If misassembled, reassemble correctly. DO NOT stone, file or sand valves. This will remove the anodized finish and may result in further main control or transmission damage.
<ul style="list-style-type: none"> Filter damaged, missing 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Overdrive (O/D) Servo	
<ul style="list-style-type: none"> Servo retaining screws damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Seals (piston and cover) damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
O/D Band	
<ul style="list-style-type: none"> Band damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Servo worn or damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Not adjusted correctly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Intermediate Servo	
<ul style="list-style-type: none"> Servo retaining screws damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Seals (piston and cover) damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Intermediate Band	
<ul style="list-style-type: none"> Band damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Servo worn or damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Not adjusted correctly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Shift Concern: Harsh 2-1 Shift

Possible Component	Reference/Action
237 — ROUTINE	
Powertrain Control System	

Possible Component	Reference/Action
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Shift Solenoid C (SSC), Pressure Control Solenoid B (PCB), Turbine Shaft Speed (TSS) sensor, Transmission Range (TR) sensor, Transmission Fluid Temperature (TFT) sensor 	<ul style="list-style-type: none"> Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> GO to Pinpoint Test A, GO to Pinpoint Test B, GO to Pinpoint Test C, GO to Pinpoint Test D and GO to Pinpoint Test E.
	<ul style="list-style-type: none"> Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Incorrect Pressures	
<ul style="list-style-type: none"> High/low pressures 	<ul style="list-style-type: none"> Carry out Line Pressure Test. Refer to Special Testing Procedures in this section.
Main Control	
<ul style="list-style-type: none"> Screws not tightened to specification 	<ul style="list-style-type: none"> Tighten to specification.
<ul style="list-style-type: none"> Separator plate damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, install a new separator plate.
<ul style="list-style-type: none"> Contamination 	<ul style="list-style-type: none"> Disassemble and clean.
<ul style="list-style-type: none"> Valve/springs damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> If damaged or parts are missing, install new main control assembly. If misassembled, reassemble correctly. DO NOT stone, file or sand valves. This will remove the anodized finish and may result in further main control or transmission damage.
<ul style="list-style-type: none"> Filter damaged, missing 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Overdrive (O/D) Servo	
<ul style="list-style-type: none"> Servo retaining screws damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Seals (piston and cover) damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
O/D Band	
<ul style="list-style-type: none"> Band damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Servo worn or damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Not adjusted correctly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Direct Clutch One-Way Clutch (OWC)	

Possible Component	Reference/Action
<ul style="list-style-type: none"> Worn, damaged or assembled incorrectly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Torque Converter Operation Concerns: Does Not Apply

Possible Component	Reference/Action
240 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Torque Converter Clutch (TCC) solenoid, Transmission Fluid Temperature (TFT) sensor and Engine Coolant Temperature (ECT) sensor 	<ul style="list-style-type: none"> Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> GO to Pinpoint Test A and GO to Pinpoint Test B.
	<ul style="list-style-type: none"> Repair as necessary. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Incorrect Pressures	
<ul style="list-style-type: none"> High/low pressures 	<ul style="list-style-type: none"> Carry out Line Pressure Test. Refer to Special Testing Procedures in this section.
Main Control	
<ul style="list-style-type: none"> Screws not tightened to specification 	<ul style="list-style-type: none"> Tighten to specification.
<ul style="list-style-type: none"> Separator plate damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, install a new separator plate.
<ul style="list-style-type: none"> Contamination 	<ul style="list-style-type: none"> Disassemble and clean.
<ul style="list-style-type: none"> Valve, springs damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> If damaged or parts are missing, install new main control assembly. If misassembled, reassemble correctly. DO NOT stone, file or sand valves. This will remove the anodized finish and may result in further main control or transmission damage.
<ul style="list-style-type: none"> Filter damaged, missing 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Torque Converter Assembly	
<ul style="list-style-type: none"> Torque converter internal failure preventing engagement, piston application 	<ul style="list-style-type: none"> Remove the transmission. Inspect for damage. Refer to Torque Converter Contamination Inspection in this section. If the torque converter fails to pass the criteria or is damaged, install a new or remanufactured torque converter.
Pump Assembly	

Possible Component	Reference/Action
<ul style="list-style-type: none"> Screws not tightened to specification 	<ul style="list-style-type: none"> Tighten screws to specification.
<ul style="list-style-type: none"> Gasket damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, install a new gasket.
<ul style="list-style-type: none"> Porosity, cross leaks, ball missing, plugged hole 	<ul style="list-style-type: none"> Inspect for damage. If damaged, repair as necessary.
<ul style="list-style-type: none"> Pump gears cracked and/or seized 	<ul style="list-style-type: none"> Inspect for damage. Install a new pump.
<ul style="list-style-type: none"> Flow control valves, springs or seals damaged, stuck or not assembled correctly 	<ul style="list-style-type: none"> Inspect for damage. Install a new seal or flow control valve.

Torque Converter Operation Concern: Always Applied/Stalls Vehicle

Possible Component	Reference/Action
241 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Torque Converter Clutch (TCC) solenoid 	<ul style="list-style-type: none"> Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> GO to Pinpoint Test A.
	<ul style="list-style-type: none"> Repair as necessary. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Main Control	
<ul style="list-style-type: none"> Screws not tightened to specification 	<ul style="list-style-type: none"> Tighten to specification.
<ul style="list-style-type: none"> Separator plate damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, install a new separator plate.
<ul style="list-style-type: none"> Contamination 	<ul style="list-style-type: none"> Disassemble and clean.
<ul style="list-style-type: none"> Valve, springs damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> If damaged or parts are missing, install new main control assembly. If misassembled, reassemble correctly. DO NOT stone, file or sand valves. This will remove the anodized finish and may result in further main control or transmission damage.
<ul style="list-style-type: none"> Filter damaged, missing 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Torque Converter Assembly	

Possible Component	Reference/Action
<ul style="list-style-type: none"> Torque converter internal failure preventing engagement, piston release 	<ul style="list-style-type: none"> Remove the transmission. Inspect for damage. Refer to Torque Converter Contamination Inspection in this section. If the torque converter fails to pass the criteria or is damaged, install a new or remanufactured torque converter.
Low One-Way Clutch (OWC)	
<ul style="list-style-type: none"> Worn, damaged or assembled incorrectly. 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Torque Converter Operation Concern: Cycling/Shudder/Chatter

Possible Component	Reference/Action
242 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Torque Converter Clutch (TCC) solenoid 	<ul style="list-style-type: none"> Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> GO to Pinpoint Test A.
	<ul style="list-style-type: none"> Repair as necessary. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Transmission Fluid	
<ul style="list-style-type: none"> Transmission fluid condition — contaminated, degraded 	<ul style="list-style-type: none"> Carry out Transmission Fluid Condition Check. Refer to Preliminary Inspection in this section. If contaminated, locate source of contamination. If burnt, inspect mechanical bands, clutches. Repair as necessary. Change transmission fluid. Carry out drain and refill procedure. Refer to Transmission Fluid Exchange in this section. Carry out fluid cooler and torque converter cleaning procedure. Refer to Transmission Fluid Cooler Backflushing and Cleaning in this section.
Main Control	
<ul style="list-style-type: none"> Screws not tightened to specification 	<ul style="list-style-type: none"> Tighten to specification.
<ul style="list-style-type: none"> Separator plate damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, install a new separator plate.
<ul style="list-style-type: none"> Contamination 	<ul style="list-style-type: none"> Disassemble and clean.
<ul style="list-style-type: none"> Valve, springs damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> If damaged or parts are missing, install new main control assembly. If misassembled, reassemble correctly. DO NOT stone, file or sand valves. This will remove the anodized finish and may result in further main control or transmission damage.

Possible Component	Reference/Action
<ul style="list-style-type: none"> Filter damaged, missing 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Torque Converter Assembly	
<ul style="list-style-type: none"> Torque converter internal leakage, clutch material damaged 	<ul style="list-style-type: none"> Remove the transmission. Inspect for damage. Refer to Torque Converter Contamination Inspection in this section. If the torque converter fails to pass the criteria or is damaged, install a new or remanufactured torque converter.

Other Concerns: Selector Lever Efforts High

Possible Component	Reference/Action
251 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Transmission Range (TR) sensor 	<ul style="list-style-type: none"> Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> GO to Pinpoint Test C.
	<ul style="list-style-type: none"> Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Selector Lever Cable, <u>TR</u> Sensor	
<ul style="list-style-type: none"> Selector lever cable system or <u>TR</u> sensor damaged, misaligned 	<ul style="list-style-type: none"> Inspect and repair as necessary. Refer to Transmission Range (TR) Sensor Adjustment in this section or Section 307-05.
Main Control	
<ul style="list-style-type: none"> Screws not tightened to specification 	<ul style="list-style-type: none"> Tighten to specification.
<ul style="list-style-type: none"> Separator plate damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, install a new separator plate.
<ul style="list-style-type: none"> Contamination 	<ul style="list-style-type: none"> Disassemble and clean.
<ul style="list-style-type: none"> Valve/springs damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> If damaged or parts are missing, install new main control assembly. If misassembled, reassemble correctly. DO NOT stone, file or sand valves. This will remove the anodized finish and may result in further main control or transmission damage.
<ul style="list-style-type: none"> Filter damaged, missing 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Case	
<ul style="list-style-type: none"> Manual control lever assembly damage, manual valve inner lever pin bent, manual 	<ul style="list-style-type: none"> Inspect for damage. If damaged, install a new part.

Possible Component	Reference/Action
valve inner lever damaged, spring rod damaged	
<ul style="list-style-type: none"> Manual valve lever shaft retaining pin damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, repair as necessary.

Other Concerns: External Leaks

Possible Component	Reference/Action
252 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> Output Shaft Speed (OSS) sensor, intermediate shaft speed, Turbine Shaft Speed (TSS) sensor, Transmission Range (TR) sensor 	<ul style="list-style-type: none"> Inspect for leakage. If areas around sensor show signs of leakage, install a new sensor O-ring seal. If area behind <u>TR</u> sensor shows signs of a leak, a new manual lever shaft seal may need to be installed.
Transmission Fluid	
<ul style="list-style-type: none"> Incorrect level 	<ul style="list-style-type: none"> Adjust transmission fluid to correct level. Refer to Transmission Fluid Level Check in this section.
Case	
<ul style="list-style-type: none"> Case vent damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, repair as necessary.
<ul style="list-style-type: none"> Output shaft flange damage 	<ul style="list-style-type: none"> Inspect for damage. If damaged, repair as necessary.
Seals/Gaskets	
<ul style="list-style-type: none"> Leakage at gaskets, seals, cooler lines, torque converter studs, etc. 	<ul style="list-style-type: none"> Refer to Leakage Inspection in this section for potential leak locations.
	<ul style="list-style-type: none"> Remove all traces of lubricant on exposed surfaces of the transmission. Check vent for free breathing. Operate the vehicle at normal temperatures and carry out the Leakage Check with a Black Light, refer to Leakage Inspection in this section. Repair as necessary.
Vents	
<ul style="list-style-type: none"> Transmission fluid leakage through the vent system into the bellhousing 	<ul style="list-style-type: none"> Incorrect transmission fluid level may cause the transmission fluid to vent. If not already carried out, verify and adjust the fluid to the correct level. Refer to Transmission Fluid Level Check in this section.
	<ul style="list-style-type: none"> Verify the transmission operating temperature by monitoring the Transmission Fluid Temperature (TFT) while driving the vehicle for 32 km (20 mi) or 20 minutes. If the <u>TFT</u> exceeds 102°C (215°F) during the drive, refer to Routine No. 257 Transmission Overheating, Main Control, Thermostatic bypass valve.

Possible Component	Reference/Action
	<ul style="list-style-type: none"> Remove all traces of transmission fluid on exposed surfaces of the transmission.
	<ul style="list-style-type: none"> Check the vent for damage and obstructions. Verify that the vent is operating correctly by applying air through the vent tubes. If the vent is damaged or obstructed, repair as necessary.

Other Concern: Noise/Vibration — Forward or Reverse

NOTE: NVH symptoms should be identified using the diagnostic tools that are available. For a list of these tools, an explanation of their uses and a glossary of common terms, refer to [Section 100-04](#). Since it is possible any one of multiple systems may be the cause of a symptom, it may be necessary to use a process of elimination type of diagnostic approach to pinpoint the responsible system. If this is not the causal system for the symptom, refer back to [Section 100-04](#) for the next likely system and continue diagnosis.

Possible Component	Reference/Action
254 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Torque Converter Clutch (TCC) solenoid, Pressure Control Solenoid A (PCA) , Pressure Control Solenoid B (PCB) , Pressure Control Solenoid C (PCC) 	<ul style="list-style-type: none"> Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> GO to Pinpoint Test A and GO to Pinpoint Test D.
	<ul style="list-style-type: none"> Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Selector Lever Cable/Transmission Range (TR) Sensor	
<ul style="list-style-type: none"> Selector lever cable or <u>TR</u> sensor damaged, misaligned 	<ul style="list-style-type: none"> Inspect and repair as necessary. Refer to Transmission Range (TR) Sensor Adjustment in this section or Section 307-05.
Main Control	
<ul style="list-style-type: none"> Screws not tightened to specification 	<ul style="list-style-type: none"> Tighten to specification.
<ul style="list-style-type: none"> Separator plate damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, install a new separator plate.
<ul style="list-style-type: none"> Contamination 	<ul style="list-style-type: none"> Disassemble and clean.
<ul style="list-style-type: none"> Valves/springs damaged, misassembled, missing, stuck, or bore damaged, thermostatic bypass valve damaged 	<ul style="list-style-type: none"> If damaged or parts are missing, install new main control assembly. If misassembled, reassemble correctly. DO NOT stone, file or sand valves. This will remove the anodized finish and may result in further main control or transmission damage.

Possible Component	Reference/Action
<ul style="list-style-type: none"> Filter damaged, missing 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Torque Converter Assembly	
<ul style="list-style-type: none"> Torque converter hub damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Flexplate or Adapter Plate	
<ul style="list-style-type: none"> Damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Nuts not tightened to specification 	<ul style="list-style-type: none"> Tighten to specification.
<ul style="list-style-type: none"> Adapter plate not aligned correctly 	<ul style="list-style-type: none"> Remove transmission and using special service tool and procedure in this section, align adapter plate.
Pump Assembly	
<ul style="list-style-type: none"> Screws not tightened to specification 	<ul style="list-style-type: none"> Tighten screws to specification.
<ul style="list-style-type: none"> Gasket damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, install a new gasket.
<ul style="list-style-type: none"> Porosity, cross leaks, ball missing, plugged hole 	<ul style="list-style-type: none"> Inspect for damage. If damaged, repair as necessary.
<ul style="list-style-type: none"> Pump gears cracked and/or seized 	<ul style="list-style-type: none"> Inspect for damage. Install a new pump.
<ul style="list-style-type: none"> Flow control valves, springs or seals damaged, stuck or not assembled correctly 	<ul style="list-style-type: none"> Inspect for damage. Install a new seal or flow control valve.
Low One-Way Clutch (OWC)	
<ul style="list-style-type: none"> Worn, damaged or assembled incorrectly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Clutch Assemblies	
<ul style="list-style-type: none"> Seals, piston damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Check ball damaged, missing, not seating, off location 	<ul style="list-style-type: none"> Inspect for damage, mislocation, poor seating. Install a new cylinder as necessary.
<ul style="list-style-type: none"> Friction elements damaged or worn 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Return springs damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Other Concern: Engine Will Not Crank

Possible Component	Reference/Action
255 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> • PCM, vehicle wiring harnesses, Transmission Range (TR) sensor 	<ul style="list-style-type: none"> • Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> • GO to Pinpoint Test C.
	<ul style="list-style-type: none"> • Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Selector Lever Cable/TR Sensor	
<ul style="list-style-type: none"> • Selector lever cable or TR sensor damaged, misaligned 	<ul style="list-style-type: none"> • Inspect and repair as necessary. Refer to Transmission Range (TR) Sensor Adjustment in this section or Section 307-05.
Main Control/Park System/TR Sensor Alignment	
<ul style="list-style-type: none"> • Detent spring, rooster comb, manual lever and TR sensor are not correctly aligned together 	<ul style="list-style-type: none"> • Disconnect TR sensor electrical connector. Remove outer manual lever nut. Loosen TR sensor screws. Loosen detent spring screw. Move manual lever through all gear ranges. Place manual lever into the NEUTRAL position. Tighten the detent spring screw to correct specification. Install TR Sensor Alignment Gauge. Tighten the TR sensor screws alternating sequence until correct tightening specification is obtained. Remove the TR Sensor Alignment Gauge. Install outer manual lever and nut. Tighten nut to correct specification. Install TR sensor connector. Verify that the vehicle will start in PARK and NEUTRAL. Verify that the reverse backup lamps illuminate in REVERSE.
Flexplate or Adapter Plate	
<ul style="list-style-type: none"> • Damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
Pump Assembly	
<ul style="list-style-type: none"> • Screws not tightened to specification 	<ul style="list-style-type: none"> • Tighten screws to specification.
<ul style="list-style-type: none"> • Gasket damaged 	<ul style="list-style-type: none"> • Inspect for damage. If damaged, install a new gasket.
<ul style="list-style-type: none"> • Porosity, cross leaks, ball missing, plugged hole 	<ul style="list-style-type: none"> • Inspect for damage. If damaged, repair as necessary.
<ul style="list-style-type: none"> • Pump gears cracked and/or seized 	<ul style="list-style-type: none"> • Inspect for damage. Install a new pump.
<ul style="list-style-type: none"> • Flow control valves, springs or seals 	<ul style="list-style-type: none"> • Inspect for damage. Install a new seal or flow control valve.

Possible Component	Reference/Action
damaged, stuck or not assembled correctly	

Other Concern: No Park Range

Possible Component	Reference/Action
256 — ROUTINE	
Selector Lever Cable/Transmission Range (TR) Sensor	
<ul style="list-style-type: none"> Selector lever cable system or <u>TR</u> sensor damaged, misaligned 	<ul style="list-style-type: none"> Inspect and repair as necessary. Refer to Transmission Range (TR) Sensor Adjustment in this section or Section 307-05.
Case	
<ul style="list-style-type: none"> Manual control lever assembly damaged, manual valve inner lever pin bent, manual valve inner lever damaged, spring rod damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, repair as necessary.
<ul style="list-style-type: none"> Manual valve lever shaft retaining pin damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, repair as necessary.
Park System	
<ul style="list-style-type: none"> Park gear, parking pawl, parking pawl return spring, park or guide plate, parking actuating rod, parking pawl shaft, manual lever, manual lever detent spring damaged or misassembled 	<ul style="list-style-type: none"> Inspect for damage. If damaged, repair as necessary.
<ul style="list-style-type: none"> External linkages/brackets damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, repair as necessary.

Other Concern: Transmission Overheating

Possible Component	Reference/Action
257 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Torque Converter Clutch (TCC) solenoid, Pressure Control Solenoid A (PCA) , Pressure Control Solenoid B (PCB) , Pressure Control Solenoid C (PCC) , Transmission Fluid Temperature (TFT) sensor 	<ul style="list-style-type: none"> Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> GO to Pinpoint Test A, GO to Pinpoint Test B and GO to Pinpoint Test D.

Possible Component	Reference/Action
	<ul style="list-style-type: none"> Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Transmission Fluid	
<ul style="list-style-type: none"> Incorrect level 	<ul style="list-style-type: none"> Adjust transmission fluid to correct level. Refer to Transmission Fluid Level Check in this section.
Hydraulic/Mechanical	
<ul style="list-style-type: none"> Thermostatic bypass valve in the main control valve body assembly 	<ul style="list-style-type: none"> Verify correct thermal valve function, while monitoring the <u>TFT</u> . Drive the vehicle for about 32 km (20 mi) or 20 minutes. If the temperature exceeds 102°C (215°F) during the drive, install a new main control valve body assembly.
Incorrect Pressures	
<ul style="list-style-type: none"> High/low pressures 	<ul style="list-style-type: none"> Carry out Line Pressure Test. Refer to Special Testing Procedures in this section.
Main Control	
<ul style="list-style-type: none"> Screws not tightened to specification 	<ul style="list-style-type: none"> Tighten to specification.
<ul style="list-style-type: none"> Separator plate damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, install a new separator plate.
<ul style="list-style-type: none"> Contamination 	<ul style="list-style-type: none"> Disassemble and clean.
<ul style="list-style-type: none"> Valves/springs damaged, misassembled, missing, stuck or bore damaged, thermostatic bypass valve damaged 	<ul style="list-style-type: none"> If damaged or parts are missing, install new main control assembly. If misassembled, reassemble correctly. DO NOT stone, file or sand valves. This will remove the anodized finish and may result in further main control or transmission damage.
<ul style="list-style-type: none"> Filter damaged, missing 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Thermostatic bypass valve damaged or malfunctioning 	<ul style="list-style-type: none"> If the verification procedure confirms the malfunction, install a new main control valve body assembly. If not malfunctioning, inspect for damage. If damaged, install a new main control valve body assembly.
Torque Converter Assembly	
<ul style="list-style-type: none"> Seized torque converter One-Way Clutch (OWC) 	<ul style="list-style-type: none"> Remove the transmission. Inspect for damage. Refer to Torque Converter Contamination Inspection in this section. If the torque converter fails to pass the criteria or is damaged, install a new or remanufactured torque converter.
<ul style="list-style-type: none"> Excessive slip detected 	

Possible Component	Reference/Action
Pump Assembly	
<ul style="list-style-type: none"> Screws not tightened to specification 	<ul style="list-style-type: none"> Tighten screws to specification.
<ul style="list-style-type: none"> Gasket damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, install a new gasket.
<ul style="list-style-type: none"> Porosity, cross leaks, ball missing, plugged hole 	<ul style="list-style-type: none"> Inspect for damage. If damaged, repair as necessary.
<ul style="list-style-type: none"> Pump gears cracked and/or seized 	<ul style="list-style-type: none"> Inspect for damage. Install a new pump.
<ul style="list-style-type: none"> Flow control valves, springs or seals damaged, stuck or not assembled correctly 	<ul style="list-style-type: none"> Inspect for damage. Install a new seal or flow control valve.
Case	
<ul style="list-style-type: none"> Case vent damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, repair as necessary.
Other	
<ul style="list-style-type: none"> Restriction in the transmission cooling system 	<ul style="list-style-type: none"> Refer to Section 307-02 for information and diagnosis of cooling system.
<ul style="list-style-type: none"> Excessive trailer tow load 	<ul style="list-style-type: none"> Refer to the Owner's Literature for specifications on trailer towing.
<ul style="list-style-type: none"> Engine driveability concerns 	<ul style="list-style-type: none"> Check engine. Refer to Section 303-00.

Other Concerns: No Engine Braking in Manual 2nd Position

Possible Component	Reference/Action
258 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Shift Solenoid A (SSA) , Shift Solenoid C (SSC) , Shift Solenoid D (SSD) , Pressure Control Solenoid A (PCA) 	<ul style="list-style-type: none"> Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> GO to Pinpoint Test A and GO to Pinpoint Test D.
	<ul style="list-style-type: none"> Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Transmission Fluid	

Possible Component	Reference/Action
<ul style="list-style-type: none"> Incorrect transmission fluid level 	<ul style="list-style-type: none"> Adjust transmission fluid to correct level. Refer to Transmission Fluid Level Check in this section.
Incorrect Pressures	
<ul style="list-style-type: none"> High/low pressures 	<ul style="list-style-type: none"> Carry out Line Pressure Test. Refer to Special Testing Procedures in this section.
Overdrive (O/D) Servo	
<ul style="list-style-type: none"> Servo retaining screws damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Seals (piston and cover) damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
O/D Band	
<ul style="list-style-type: none"> Band damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Servo worn or damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Not adjusted correctly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Other Concern: No Engine Braking in Manual 1st Position

Possible Component	Reference/Action
259 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Shift Solenoid A (SSA) , Shift Solenoid C (SSC) , Shift Solenoid D (SSD) , Pressure Control Solenoid A (PCA) , Pressure Control Solenoid B (PCB) 	<ul style="list-style-type: none"> Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> GO to Pinpoint Test A and GO to Pinpoint Test D.
	<ul style="list-style-type: none"> Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Transmission Fluid	
<ul style="list-style-type: none"> Incorrect level 	<ul style="list-style-type: none"> Adjust transmission fluid to the correct level, refer to Transmission Fluid Level Check in this section.
Incorrect pressures	

Possible Component	Reference/Action
<ul style="list-style-type: none"> High/low pressures 	<ul style="list-style-type: none"> Carry out Line Pressure Test. Refer to Special Testing Procedures in this section.
Reverse Servo	
<ul style="list-style-type: none"> Servo retaining screws damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Seals (piston and cover) damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Reverse Band	
<ul style="list-style-type: none"> Band damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Servo worn or damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Other Concerns: Transmission Fluid Venting/Foaming

Possible Component	Reference/Action
261 — ROUTINE	
Transmission Fluid	
<ul style="list-style-type: none"> Incorrect level 	<ul style="list-style-type: none"> Adjust transmission fluid to correct level. Refer to Transmission Fluid Level Check in this section.
<ul style="list-style-type: none"> Condition 	<ul style="list-style-type: none"> Carry out Transmission Fluid Condition Check. Refer to Preliminary Inspection in this section.
Pump Assembly	
<ul style="list-style-type: none"> Screws not tightened to specification 	<ul style="list-style-type: none"> Tighten screws to specification.
<ul style="list-style-type: none"> Gasket damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, install a new gasket.
<ul style="list-style-type: none"> Porosity, cross leaks, ball missing, plugged hole 	<ul style="list-style-type: none"> Inspect for damage. If damaged, repair as necessary.
Case	
<ul style="list-style-type: none"> Case vent damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, repair as necessary.
Other	
<ul style="list-style-type: none"> Transmission overheating 	<ul style="list-style-type: none"> Refer to 257 Routine in this section.

Other Concern: Vehicle Movement with Gear Selector in N Position

Possible Component	Reference/Action
262 — ROUTINE	
Transmission Fluid	
<ul style="list-style-type: none"> • Incorrect level 	<ul style="list-style-type: none"> • Adjust transmission fluid to correct level. Refer to Transmission Fluid Level Check in this section.
Selector Lever Cable/Transmission Range (TR) Sensor	
<ul style="list-style-type: none"> • Selector lever cable system or <u>TR</u> sensor damaged, misaligned 	<ul style="list-style-type: none"> • Inspect and repair as necessary. Refer to Transmission Range (TR) Sensor Adjustment in this section or Section 307-05.
Incorrect Pressures	
<ul style="list-style-type: none"> • High/low pressures 	<ul style="list-style-type: none"> • Carry out Line Pressure Test. Refer to Special Testing Procedures in this section.
Main Control	
<ul style="list-style-type: none"> • Screws not tightened to specification 	<ul style="list-style-type: none"> • Tighten to specification.
<ul style="list-style-type: none"> • Separator plate damaged 	<ul style="list-style-type: none"> • Inspect for damage. If damaged, install a new separator plate.
<ul style="list-style-type: none"> • Contamination 	<ul style="list-style-type: none"> • Disassemble and clean.
<ul style="list-style-type: none"> • Valve/springs damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> • If damaged or parts are missing, install new main control assembly. If misassembled, reassemble correctly. DO NOT stone, file or sand valves. This will remove the anodized finish and may result in further main control or transmission damage.
Clutch Assemblies	
<ul style="list-style-type: none"> • Seals, piston damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> • Check ball damaged, missing, not seating, off location 	<ul style="list-style-type: none"> • Inspect for damage, mislocation, poor seating. Install a new cylinder as necessary.
<ul style="list-style-type: none"> • Friction elements damaged or worn. 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> • Return springs damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
Case	
<ul style="list-style-type: none"> • Manual control lever assembly damage, manual valve inner lever pin bent, manual valve inner lever damaged, spring rod damaged 	<ul style="list-style-type: none"> • Inspect for damage. If damaged, repair as necessary.

Possible Component	Reference/Action
<ul style="list-style-type: none"> Manual valve lever shaft retaining pin damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, repair as necessary.

Other Concern: Slips/Chatters in Manual 1st Position

Possible Component	Reference/Action
263 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Pressure Control Solenoid A (PCA), Pressure Control Solenoid B (PCB) 	<ul style="list-style-type: none"> Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> GO to Pinpoint Test D.
	<ul style="list-style-type: none"> Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Transmission Fluid	
<ul style="list-style-type: none"> Incorrect level 	<ul style="list-style-type: none"> Adjust transmission fluid to the correct level. Refer to Transmission Fluid Level Check in this section.
<ul style="list-style-type: none"> Condition 	<ul style="list-style-type: none"> Carry out Transmission Fluid Condition Check. Refer to Preliminary Inspection in this section.
Incorrect Pressures	
<ul style="list-style-type: none"> High/low pressures 	<ul style="list-style-type: none"> Carry out Line Pressure Test. Refer to Special Testing Procedures in this section.
Main Control	
<ul style="list-style-type: none"> Screws not tightened to specification 	<ul style="list-style-type: none"> Tighten to specification.
<ul style="list-style-type: none"> Separator plate damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, install a new separator plate.
<ul style="list-style-type: none"> Contamination 	<ul style="list-style-type: none"> Disassemble and clean.
<ul style="list-style-type: none"> Valve/springs damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> If damaged or parts are missing, install new main control assembly. If misassembled, reassemble correctly. DO NOT stone, file or sand valves. This will remove the anodized finish and may result in further main control or transmission damage.
<ul style="list-style-type: none"> Filter damaged, missing 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Pump Assembly	

Possible Component	Reference/Action
<ul style="list-style-type: none"> Screws not tightened to specification 	<ul style="list-style-type: none"> Tighten screws to specification.
<ul style="list-style-type: none"> Gasket damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, install a new gasket.
<ul style="list-style-type: none"> Porosity, cross leaks, ball missing, plugged hole 	<ul style="list-style-type: none"> Inspect for damage. If damaged, repair as necessary.
<ul style="list-style-type: none"> Pump gears cracked and/or seized 	<ul style="list-style-type: none"> Inspect for damage. Install a new pump.
<ul style="list-style-type: none"> Flow control valves, springs, or seals damaged, stuck or not assembled correctly 	<ul style="list-style-type: none"> Inspect for damage. Install a new seal or flow control valve.
Forward Clutch Assembly	
<ul style="list-style-type: none"> Seals, piston damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Check ball damaged, missing, not seating, off location 	<ul style="list-style-type: none"> Inspect for mislocation, poor seating, damage. Install a new cylinder.
<ul style="list-style-type: none"> Friction elements damaged or worn 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Return springs damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Bronze seal ring or bearing damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Reverse Servo	
<ul style="list-style-type: none"> Servo retaining screws damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Seals (piston and cover) damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Reverse Band	
<ul style="list-style-type: none"> Band damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Servo worn or damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Direct One-Way Clutch (OWC)	
<ul style="list-style-type: none"> Worn, damaged or assembled incorrectly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Other Concern: Slips/Chatters in Manual 2nd Position

Possible Component	Reference/Action
264 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> • PCM, vehicle wiring harnesses, Pressure Control Solenoid A (PCA) , Pressure Control Solenoid B (PCB) 	<ul style="list-style-type: none"> • Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> • GO to Pinpoint Test D.
	<ul style="list-style-type: none"> • Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Transmission Fluid	
<ul style="list-style-type: none"> • Incorrect level 	<ul style="list-style-type: none"> • Adjust transmission fluid to the correct level. Refer to Transmission Fluid Level Check in this section.
<ul style="list-style-type: none"> • Condition 	<ul style="list-style-type: none"> • Carry out Transmission Fluid Condition Check. Refer to Preliminary Inspection in this section.
Incorrect Pressures	
<ul style="list-style-type: none"> • High/low pressures 	<ul style="list-style-type: none"> • Carry out Line Pressure Test. Refer to Special Testing Procedures in this section.
Overdrive (O/D) Servo	
<ul style="list-style-type: none"> • Servo retaining screws damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> • Seals (piston and cover) damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
<u>O/D</u> Band	
<ul style="list-style-type: none"> • Band damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> • Servo worn or damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> • Not adjusted correctly 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
<u>O/D</u> Planetary Assembly	
<ul style="list-style-type: none"> • Planetary damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
Forward Clutch Assembly	
<ul style="list-style-type: none"> • Seals, piston damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.

Possible Component	Reference/Action
<ul style="list-style-type: none"> • Check ball damaged, missing, not seating, off location 	<ul style="list-style-type: none"> • Inspect for mislocation, poor seating, damage. Install a new cylinder.
<ul style="list-style-type: none"> • Friction elements damaged or worn 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> • Return springs damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> • Bronze seal ring or bearing damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.

Shift Concern: No 4-5 Shift

Possible Component	Reference/Action
270 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> • PCM, vehicle wiring harnesses, Shift Solenoid C (SSC) , Pressure Control Solenoid B (PCB) , Output Shaft Speed (OSS) sensor, Transmission Range (TR) sensor 	<ul style="list-style-type: none"> • Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
<ul style="list-style-type: none"> • Transmission Control Switch (TCS) 	<ul style="list-style-type: none"> • GO to Pinpoint Test A, GO to Pinpoint Test C, GO to Pinpoint Test D and GO to Pinpoint Test E.
	<ul style="list-style-type: none"> • Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
	<ul style="list-style-type: none"> • For <u>TCS</u> diagnosis, refer to Section 307-05.
Incorrect Pressures	
<ul style="list-style-type: none"> • High/low pressures 	<ul style="list-style-type: none"> • Carry out Line Pressure Test. Refer to Special Testing Procedures in this section.
Main Control	
<ul style="list-style-type: none"> • Screws not tightened to specification 	<ul style="list-style-type: none"> • Tighten to specification.
<ul style="list-style-type: none"> • Separator plate damaged 	<ul style="list-style-type: none"> • Inspect for damage. If damaged, install a new separator plate.
<ul style="list-style-type: none"> • Contamination 	<ul style="list-style-type: none"> • Disassemble and clean.

Possible Component	Reference/Action
<ul style="list-style-type: none"> Valve/springs damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> If damaged or parts are missing, install new main control assembly. If misassembled, reassemble correctly. DO NOT stone, file or sand valves. This will remove the anodized finish and may result in further main control or transmission damage.
<ul style="list-style-type: none"> Filter damaged, missing 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Overdrive (O/D) Servo	
<ul style="list-style-type: none"> Servo retaining screws damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Seals (piston and cover) damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
O/D Band	
<ul style="list-style-type: none"> Band damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Servo worn or damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Not adjusted correctly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Shift Concern: No 5-4 Shift

Possible Component	Reference/Action
271 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Shift Solenoid C (SSC), Pressure Control Solenoid C (PCC), Output Shaft Speed (OSS) sensor, Transmission Range (TR) sensor 	<ul style="list-style-type: none"> Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> GO to Pinpoint Test A, GO to Pinpoint Test C, GO to Pinpoint Test D and GO to Pinpoint Test E.
	<ul style="list-style-type: none"> Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
<ul style="list-style-type: none"> Transmission Control Switch (TCS) 	<ul style="list-style-type: none"> For <u>TCS</u> diagnosis, refer to Section 307-05.
Incorrect Pressures	
<ul style="list-style-type: none"> High/low pressures 	<ul style="list-style-type: none"> Carry out Line Pressure Test. Refer to Special Testing Procedures in this section.
Main Control	

Possible Component	Reference/Action
<ul style="list-style-type: none"> Screws not tightened to specification 	<ul style="list-style-type: none"> Tighten to specification.
<ul style="list-style-type: none"> Separator plate damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, install a new separator plate.
<ul style="list-style-type: none"> Contamination 	<ul style="list-style-type: none"> Disassemble and clean.
<ul style="list-style-type: none"> Valves/springs damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> If damaged or parts are missing, install new main control assembly. If misassembled, reassemble correctly. DO NOT stone, file or sand valves. This will remove the anodized finish and may result in further main control or transmission damage.
<ul style="list-style-type: none"> Filter damaged, missing 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Overdrive (O/D) Servo	
<ul style="list-style-type: none"> Servo retaining screws damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Seals (piston and cover) damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
O/D Band	
<ul style="list-style-type: none"> Band damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Servo worn or damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Not adjusted correctly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Shift Concern: Soft/Slipping 4-5 Shift

Possible Component	Reference/Action
272 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Shift Solenoid C (SSC) , Pressure Control Solenoid B (PCB) , Transmission Fluid Temperature (TFT) sensor 	<ul style="list-style-type: none"> Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> GO to Pinpoint Test A, GO to Pinpoint Test B and GO to Pinpoint Test D.
	<ul style="list-style-type: none"> Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Incorrect Pressures	

Possible Component	Reference/Action
<ul style="list-style-type: none"> High/low pressures 	<ul style="list-style-type: none"> Carry out Line Pressure Test. Refer to Special Testing Procedures in this section.
Main Control	
<ul style="list-style-type: none"> Screws not tightened to specification 	<ul style="list-style-type: none"> Tighten to specification.
<ul style="list-style-type: none"> Separator plate damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, install a new separator plate.
<ul style="list-style-type: none"> Contamination 	<ul style="list-style-type: none"> Disassemble and clean.
<ul style="list-style-type: none"> Valves/springs damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> If damaged or parts are missing, install new main control assembly. If misassembled, reassemble correctly. DO NOT stone, file or sand valves. This will remove the anodized finish and may result in further main control or transmission damage.
<ul style="list-style-type: none"> Filter damaged, missing 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Overdrive (O/D) Servo	
<ul style="list-style-type: none"> Servo retaining screws damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Seals (piston and cover) damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
O/D Band	
<ul style="list-style-type: none"> Band damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Servo worn or damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Not adjusted correctly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Shift Concern: Feel — Soft/Slipping 5-4 Shift

Possible Component	Reference/Action
273 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Shift Solenoid C (SSC) , Pressure Control Solenoid C (PCC) , Transmission Fluid Temperature (TFT) sensor 	<ul style="list-style-type: none"> Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.

Possible Component	Reference/Action
	<ul style="list-style-type: none"> • GO to Pinpoint Test A, GO to Pinpoint Test B and GO to Pinpoint Test D.
	<ul style="list-style-type: none"> • Repair as required. Clear the DTCs, road test the vehicle and rerun OBD test.
Incorrect Pressures	
<ul style="list-style-type: none"> • High/low pressures 	<ul style="list-style-type: none"> • Carry out Line Pressure Test. Refer to Special Testing Procedures in this section.
Main Control	
<ul style="list-style-type: none"> • Screws not tightened to specification 	<ul style="list-style-type: none"> • Tighten to specification.
<ul style="list-style-type: none"> • Separator plate damaged 	<ul style="list-style-type: none"> • Inspect for damage. If damaged, install a new separator plate.
<ul style="list-style-type: none"> • Contamination 	<ul style="list-style-type: none"> • Disassemble and clean.
<ul style="list-style-type: none"> • Valves/springs damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> • If damaged or parts are missing, install new main control assembly. If misassembled, reassemble correctly. DO NOT stone, file or sand valves. This will remove the anodized finish and may result in further main control or transmission damage.
<ul style="list-style-type: none"> • Filter damaged, missing 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
Direct Clutch Assembly	
<ul style="list-style-type: none"> • Seals, piston damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> • Check ball damaged, missing, not seating, off location 	<ul style="list-style-type: none"> • Inspect for mislocation, poor seating, damage. Install a new cylinder.
<ul style="list-style-type: none"> • Friction elements damaged or worn 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> • Return springs damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
Direct One-Way Clutch (OWC)	
<ul style="list-style-type: none"> • Worn, damaged or assembled incorrectly 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.

Shift Concerns: Harsh 4-5 Shift

Possible Component	Reference/Action
274 — ROUTINE	

Possible Component	Reference/Action
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Shift Solenoid C (SSC) , Pressure Control Solenoid B (PCB) , Turbine Shaft Speed (TSS) sensor, Transmission Range (TR) sensor, Transmission Fluid Temperature (TFT) sensor 	<ul style="list-style-type: none"> Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> GO to Pinpoint Test A, GO to Pinpoint Test B, GO to Pinpoint Test C, GO to Pinpoint Test D and GO to Pinpoint Test E.
	<ul style="list-style-type: none"> Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Incorrect Pressures	
<ul style="list-style-type: none"> High/low pressures 	<ul style="list-style-type: none"> Carry out Line Pressure Test. Refer to Special Testing Procedures in this section.
Main Control	
<ul style="list-style-type: none"> Screws not tightened to specification 	<ul style="list-style-type: none"> Tighten to specification.
<ul style="list-style-type: none"> Separator plate damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, install a new separator.
<ul style="list-style-type: none"> Contamination 	<ul style="list-style-type: none"> Disassemble and clean.
<ul style="list-style-type: none"> Valve/springs damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> If damaged or parts are missing, install new main control assembly. If misassembled, reassemble correctly. DO NOT stone, file or sand valves. This will remove the anodized finish and may result in further main control or transmission damage.
<ul style="list-style-type: none"> Filter damaged, missing 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Overdrive (O/D) Servo	
<ul style="list-style-type: none"> Servo retaining screws damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Seal (piston and cover) damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<u>O/D</u> Band	
<ul style="list-style-type: none"> Band damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Servo worn or damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Not adjusted correctly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Shift Concern: Harsh 5-4 Shift

Possible Component	Reference/Action
275 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> • PCM, vehicle wiring harnesses, Shift Solenoid C (SSC) , Pressure Control Solenoid C (PCC) , Turbine Shaft Speed (TSS) sensor, Transmission Range (TR) sensor, Transmission Fluid Temperature (TFT) sensor 	<ul style="list-style-type: none"> • Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> • GO to Pinpoint Test A, GO to Pinpoint Test B, GO to Pinpoint Test C, GO to Pinpoint Test D and GO to Pinpoint Test E.
	<ul style="list-style-type: none"> • Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Incorrect Pressures	
<ul style="list-style-type: none"> • High/low pressures 	<ul style="list-style-type: none"> • Carry out Line Pressure Test. Refer to Special Testing Procedures in this section.
Main Control	
<ul style="list-style-type: none"> • Screws not tightened to specification 	<ul style="list-style-type: none"> • Tighten to specification.
<ul style="list-style-type: none"> • Separator plate damaged 	<ul style="list-style-type: none"> • Inspect for damage. If damaged, install a new separator plate.
<ul style="list-style-type: none"> • Contamination 	<ul style="list-style-type: none"> • Disassemble and clean.
<ul style="list-style-type: none"> • Valve/springs damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> • If damaged or parts are missing, install new main control assembly. If misassembled, reassemble correctly. DO NOT stone, file or sand valves. This will remove the anodized finish and may result in further main control or transmission damage.
<ul style="list-style-type: none"> • Filter damaged, missing 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
Overdrive (O/D) Servo	
<ul style="list-style-type: none"> • Servo retaining screws damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> • Seals (piston and cover) damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
O/D Band	

Possible Component	Reference/Action
<ul style="list-style-type: none"> Band damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Servo worn or damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Not adjusted correctly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Direct One-Way Clutch (OWC)	
<ul style="list-style-type: none"> Worn, damaged or assembled incorrectly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Other Concern: No Engine Braking in Manual 3rd Position

Possible Component	Reference/Action
280 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Shift Solenoid A (SSA) , Shift Solenoid B (SSB) , Shift Solenoid C (SSC) , reverse pressure switch, Pressure Control Solenoid A (PCA) , Pressure Control Solenoid B (PCB) 	<ul style="list-style-type: none"> Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> GO to Pinpoint Test A, GO to Pinpoint Test D.
	<ul style="list-style-type: none"> Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Transmission Fluid	
<ul style="list-style-type: none"> Incorrect level 	<ul style="list-style-type: none"> Adjust transmission fluid to correct level. Refer to Transmission Fluid Level Check in this section.
Incorrect Pressures	
<ul style="list-style-type: none"> High/low pressures 	<ul style="list-style-type: none"> Carry out Line Pressure Test. Refer to Special Testing Procedures in this section.
Main Control	
<ul style="list-style-type: none"> Screws not tightened to specification 	<ul style="list-style-type: none"> Tighten to specification.
<ul style="list-style-type: none"> Separator plate damaged 	<ul style="list-style-type: none"> Inspect for damage. If damaged, install a new separator plate.
<ul style="list-style-type: none"> Contamination 	<ul style="list-style-type: none"> Disassemble and clean.

Possible Component	Reference/Action
<ul style="list-style-type: none"> Valve/springs damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> If damaged or parts are missing, install new main control assembly. If misassembled, reassemble correctly. DO NOT stone, file or sand valves. This will remove the anodized finish and may result in further main control or transmission damage.
<ul style="list-style-type: none"> Filter damaged, missing 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Coast Clutch Assembly	
<ul style="list-style-type: none"> Seals, piston damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Check ball damaged, missing, not seating, off location 	<ul style="list-style-type: none"> Inspect for mislocation, poor seating, damage. Install a new cylinder.
<ul style="list-style-type: none"> Friction elements damaged or worn 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Return springs damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Center Support	
<ul style="list-style-type: none"> Screw not tightened to specification 	<ul style="list-style-type: none"> Tighten to specification.
<ul style="list-style-type: none"> Seal rings or bearing damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Outside diameter of case bore damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Support damaged or leaking 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Intermediate Servo	
<ul style="list-style-type: none"> Servo retaining screws damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Seals (piston and cover) damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Intermediate Band	
<ul style="list-style-type: none"> Band damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Servo worn or damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Not adjusted correctly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Other Concern: No Engine Braking in Manual 4th (D (D) Cancelled) Position

Possible Component	Reference/Action
281 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> • PCM, vehicle wiring harnesses, Shift Solenoid D (SSD) , reverse pressure switch, Pressure Control Solenoid B (PCB) 	<ul style="list-style-type: none"> • Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> • GO to Pinpoint Test A, GO to Pinpoint Test D.
	<ul style="list-style-type: none"> • Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Transmission Fluid	
<ul style="list-style-type: none"> • Incorrect level 	<ul style="list-style-type: none"> • Adjust transmission fluid to correct level. Refer to Transmission Fluid Level Check in this section.
Main Control	
<ul style="list-style-type: none"> • Screws not tightened to specification 	<ul style="list-style-type: none"> • Tighten to specification.
<ul style="list-style-type: none"> • Filter damaged, missing 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> • Separator plate damaged 	<ul style="list-style-type: none"> • Inspect for damage. If damaged, install a new separator plate.
<ul style="list-style-type: none"> • Contamination 	<ul style="list-style-type: none"> • Disassemble and clean.
<ul style="list-style-type: none"> • Valve/springs damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> • If damaged or parts are missing, install new main control assembly. If misassembled, reassemble correctly. DO NOT stone, file or sand valves. This will remove the anodized finish and may result in further main control or transmission damage.
Coast Clutch Assembly	
<ul style="list-style-type: none"> • Seals, piston damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> • Check ball damaged, missing, not seating, off location 	<ul style="list-style-type: none"> • Inspect for mislocation, poor seating, damage. Install a new cylinder.
<ul style="list-style-type: none"> • Friction elements damaged or worn 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> • Return springs damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.

Other Concern: Slip/Chatters in Manual 3rd Position

Possible Component	Reference/Action
282 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> • PCM, vehicle wiring harnesses, Pressure Control Solenoid A (PCA) , Pressure Control Solenoid B (PCB) 	<ul style="list-style-type: none"> • Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> • GO to Pinpoint Test D.
	<ul style="list-style-type: none"> • Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Transmission Fluid	
<ul style="list-style-type: none"> • Incorrect level 	<ul style="list-style-type: none"> • Adjust transmission fluid to the correct level. Refer to Transmission Fluid Level Check in this section.
<ul style="list-style-type: none"> • Condition 	<ul style="list-style-type: none"> • Carry out Transmission Fluid Condition Check. Refer to Preliminary Inspection in this section.
Incorrect Pressures	
<ul style="list-style-type: none"> • High/low pressures 	<ul style="list-style-type: none"> • Carry out Line Pressure Test. Refer to Special Testing Procedures in this section.
Overdrive (O/D) Servo	
<ul style="list-style-type: none"> • Servo retaining screws damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> • Seals (piston and cover) damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
<u>O/D</u> Band	
<ul style="list-style-type: none"> • Band damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> • Servo worn or damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> • Not adjusted correctly 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
Intermediate Servo	
<ul style="list-style-type: none"> • Servo retaining screws damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> • Seals (piston and cover) damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
Intermediate Band	
<ul style="list-style-type: none"> • Band damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.

Possible Component	Reference/Action
<ul style="list-style-type: none"> Servo worn or damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Not adjusted correctly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Forward Clutch Assembly	
<ul style="list-style-type: none"> Seals, piston damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Check ball damaged, missing, not seating, off location 	<ul style="list-style-type: none"> Inspect for mislocation, poor seating, damage. Install a new cylinder.
<ul style="list-style-type: none"> Friction elements damaged or worn 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Return springs damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Bronze seal ring or bearing damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Direct One-Way Clutch (OWC)	
<ul style="list-style-type: none"> Worn, damaged or assembled incorrectly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Low <u>OWC</u>	
<ul style="list-style-type: none"> Worn, damaged or assembled incorrectly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Other Concern: Engine Braking in ALL Gears

Possible Component	Reference/Action
283 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Shift Solenoid D (SSD) 	<ul style="list-style-type: none"> Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> GO to Pinpoint Test A.
	<ul style="list-style-type: none"> Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Torque Converter Assembly	
<ul style="list-style-type: none"> Torque converter internal failure preventing engagement, piston release 	<ul style="list-style-type: none"> Remove the transmission. Inspect for damage. Refer to Torque Converter Contamination Inspection in this section. If the torque converter fails to pass the criteria or is damaged, install a new or remanufactured torque converter.

Other Concern: No 2nd and 5th Gears (Manual 2nd is Ok)

Possible Component	Reference/Action
284 — ROUTINE	
Hydraulic/Mechanical	
	<ul style="list-style-type: none"> Verify that Manual 2 is present and functions correctly. If Manual 2 is not operating correctly go to Shift Concerns: Routine 210 - Some/All Shifts Missing (Automatic Mode) and continue diagnosis. If Manual 2 is operating correctly continue with this routine.
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Pressure Control Solenoid B (PCB) , Pressure Control Solenoid C (PCC) 	<ul style="list-style-type: none"> Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> GO to Pinpoint Test D.
	<ul style="list-style-type: none"> Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.

Other Concern: No 3rd, 4th and 5th Gears

Possible Component	Reference/Action
285 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Pressure Control Solenoid A (PCA) , Pressure Control Solenoid B (PCB) 	<ul style="list-style-type: none"> Carry out On-Board Diagnostic (OBD) tests. Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual for diagnosis and testing of the PCM.
	<ul style="list-style-type: none"> GO to Pinpoint Test D.
	<ul style="list-style-type: none"> Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Overdrive (O/D) Servo	
<ul style="list-style-type: none"> Servo retaining screws damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Seals (piston and cover) damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<u>O/D</u> Band	

Possible Component	Reference/Action
<ul style="list-style-type: none"> Band damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Servo worn or damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Not adjusted correctly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
O/D Planetary Assembly	
<ul style="list-style-type: none"> Planetary damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Intermediate Servo	
<ul style="list-style-type: none"> Servo retaining screws damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Seals (piston and cover) damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Intermediate Band	
<ul style="list-style-type: none"> Band damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Servo worn or damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Not adjusted correctly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.