

Diagnosis By Symptom

Special Tool(s)



Vehicle Communication Module (VCM) and Integrated Diagnostic System (IDS) software with appropriate hardware, or equivalent scan tool

The Diagnosis by Symptom Index gives the technician diagnostic information and direction, and suggests possible components, using a symptom as a starting point.

Diagnosis by Symptom Index — Directions

1. Using the Symptom Index, select the Concern/Symptom that best describes the condition.
2. Refer to the routine indicated in the Diagnosis by Symptom Index.
3. Always begin diagnosis of a symptom with:
 - a. preliminary inspections.
 - b. verification of conditions.
 - c. checking the transmission fluid level.
 - d. carrying out other test procedures as directed.
4. **NOTE:** *Not all concerns and conditions with electrical components will set a DTC. Be aware that the components listed may still be the cause.*

NOTE: *When the battery is disconnected or a new battery is installed, certain transmission operating parameters can be lost. The PCM must relearn these parameters. During this learning process, slightly firm shifts, delayed or early shifts may be experienced. This operation is considered normal and will not affect the function of the transmission. Normal operation will return once these parameters are stored by the PCM.*

Begin with the ROUTINE, if indicated. Follow the reference or action statements. Always carry out the On-Board Diagnostic (OBD) test as necessary. Never skip steps. Repair as necessary.

5. These components are listed in the removal sequence and by most probable cause. All components listed must be inspected to make sure that the repairs are complete.

Diagnosis by Symptom Index

Diagnosis by Symptom Index

5R55S	Routines
Engagement Concerns:	
<ul style="list-style-type: none"> • No Forward in D or D ((D) cancelled) Only 	201A
<ul style="list-style-type: none"> • No Forward Only (All Positions) 	201B
<ul style="list-style-type: none"> • No Reverse Only 	202
<ul style="list-style-type: none"> • Harsh Reverse Only 	203
<ul style="list-style-type: none"> • Harsh Forward Only 	204A

5R55S	Routines
<ul style="list-style-type: none"> • Harsh Manual 1st Gear Only 	204B
<ul style="list-style-type: none"> • Delayed/Soft Reverse Only 	205
<ul style="list-style-type: none"> • Delayed/Soft Forward Only 	206
<ul style="list-style-type: none"> • No Forward and No Reverse 	207
<ul style="list-style-type: none"> • Harsh Forward and Harsh Reverse 	208
<ul style="list-style-type: none"> • Delayed Forward and Delayed Reverse 	209
Shift Concerns:	
<ul style="list-style-type: none"> • Some/All Shifts Missing (Automatic Mode Only) 	210
<ul style="list-style-type: none"> • Timing Concern 	
Early/Late (Some/All)	211
Erratic/Hunting (Some/All)	212
<ul style="list-style-type: none"> • Feel Concerns 	
Soft/Slipping (Some/All)	213
Harsh (Some/All)	214
<ul style="list-style-type: none"> • No First Gear in Drive, Engages in a Higher Gear 	215
<ul style="list-style-type: none"> • No First Gear in Manual 1st 	216
<ul style="list-style-type: none"> • No Manual 2nd Gear 	217
<ul style="list-style-type: none"> • No 1-2 Shift 	220
<ul style="list-style-type: none"> • No 2-3 Shift 	221
<ul style="list-style-type: none"> • No 3-4 Shift 	222
<ul style="list-style-type: none"> • No 4-3 Shift 	223
<ul style="list-style-type: none"> • No 3-2 Shift 	224

5R55S	Routines
• No 2-1 Shift	225
• Soft/Slipping 1-2 Shift	226
• Soft/Slipping 2-3 Shift	227
• Soft/Slipping 3-4 Shift	228
• Soft/Slipping 4-3 Shift	229
• Soft/Slipping 3-2 Shift	230
• Soft/Slipping 2-1 Shift	231
• Harsh 1-2 Shift	232
• Harsh 2-3 Shift	233
• Harsh 3-4 Shift	234
• Harsh 4-3 Shift	235
• Harsh 3-2 Shift	236
• Harsh 2-1 Shift	237
• No 4-5 Shift	270
• No 5-4 Shift	271
• Soft/Slipping 4-5 Shift	272
• Soft/Slipping 5-4 Shift	273
• Harsh 4-5 Shift	274
• Harsh 5-4 Shift	275
Torque Converter Clutch (TCC) Operation Concerns:	

5R55S	Routines
<ul style="list-style-type: none"> Does Not Apply 	240
<ul style="list-style-type: none"> Always Applied/Stalls Vehicle 	241
<ul style="list-style-type: none"> Cycling/Shudder/Chatter 	242
Other Concerns:	
<ul style="list-style-type: none"> Selector Lever Efforts High 	251
<ul style="list-style-type: none"> External Leaks 	252
<ul style="list-style-type: none"> Noise/Vibration — Forward or Reverse 	254
<ul style="list-style-type: none"> Engine Will Not Crank 	255
<ul style="list-style-type: none"> No Park Range 	256
<ul style="list-style-type: none"> Transmission Overheating 	257
<ul style="list-style-type: none"> No Engine Braking in Manual 2nd Position 	258
<ul style="list-style-type: none"> No Engine Braking in Manual 1st Position 	259
<ul style="list-style-type: none"> Transmission Fluid Venting or Foaming 	261
<ul style="list-style-type: none"> Vehicle Movement with Selector Lever in "N" 	262
<ul style="list-style-type: none"> Slips/Chatters in Manual 1st Gear 	263
<ul style="list-style-type: none"> Slips/Chatters in Manual 2nd Gear 	264
<ul style="list-style-type: none"> No Engine Braking in Manual 3rd Position 	280
<ul style="list-style-type: none"> No Engine Braking in Manual 4th (D (D) cancelled) Position 	281
<ul style="list-style-type: none"> Slips/Chatters in Manual 3rd Gear 	282
<ul style="list-style-type: none"> Engine Braking in ALL Gears 	283

5R55S	Routines
<ul style="list-style-type: none"> No 2nd and 5th Gears (manual 2nd is ok) 	284
<ul style="list-style-type: none"> No 3rd, 4th and 5th gears 	285

Diagnostic Routines

Engagement Concern: No Forward in D or D ((D) Cancelled) Only

Possible Component	Reference/Action
201A — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, 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.
Main Control	
<ul style="list-style-type: none"> Main control body-to-case 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 a new main control valve 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"> 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.

Possible Component	Reference/Action
<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.
Overdrive (O/D) Servo	
<ul style="list-style-type: none"> <u>O/D</u> 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"> <u>O/D</u> 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.
Case	
<ul style="list-style-type: none"> Damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Engagement Concern: No Forward

Possible Component	Reference/Action
201B — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, 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.

Possible Component	Reference/Action
<ul style="list-style-type: none"> Condition 	<ul style="list-style-type: none"> Carry out the Transmission Fluid Condition Check. Refer to Preliminary Inspection in this section.
Main Control	
<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"> 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 a 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.
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.
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.
Forward Planetary Assembly	

Possible Component	Reference/Action
<ul style="list-style-type: none"> Planetary damage 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
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.
Case	
<ul style="list-style-type: none"> Damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Engagement Concern: No Reverse

Possible Component	Reference/Action
202 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Pressure Control Solenoid C (PCC) , Shift Solenoid B (SSB) 	<ul style="list-style-type: none"> Carry out <u>OB</u>D 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 the <u>OB</u>D 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"> Valves, springs damaged, misassembled, missing, stuck or bore damage 	<ul style="list-style-type: none"> If damaged or parts are missing, install a 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.
Direct Clutch Assembly	
<ul style="list-style-type: none"> Seals, piston damaged 	<ul style="list-style-type: none"> Inspect or 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.
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.
Reverse Drum Assembly	
<ul style="list-style-type: none"> One-Way Clutch (OWC) damaged 	<ul style="list-style-type: none"> Inspect for damage. Install a new drum assembly.
<ul style="list-style-type: none"> Bearing damaged 	<ul style="list-style-type: none"> Inspect for damage. Install a new drum assembly.

Engagement Concern: Harsh Reverse ONLY

Possible Component	Reference/Action
203 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, 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.

Possible Component	Reference/Action
	<ul style="list-style-type: none"> • Repair as required. Clear the DTCs, road test the vehicle and rerun <u>OB</u>D test.
Incorrect Pressures	
<ul style="list-style-type: none"> • High 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, spring damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> • If damaged or parts are missing, install a 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.
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.

Possible Component	Reference/Action
<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.
Reverse Drum Assembly	
<ul style="list-style-type: none"> One-Way Clutch (OWC) damaged 	<ul style="list-style-type: none"> Inspect for damage. Install a new drum assembly.
<ul style="list-style-type: none"> Bearing damaged 	<ul style="list-style-type: none"> Inspect for damage. Install a new drum assembly.

Engagement Concern: Harsh Forward ONLY

Possible Component	Reference/Action
204A — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Pressure Control Solenoid A (PCA) , 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.
Incorrect Pressures	
<ul style="list-style-type: none"> High 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.

Possible Component	Reference/Action
<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 a 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"> Screw not tightened to specification 	<ul style="list-style-type: none"> Tighten to specification.
<ul style="list-style-type: none"> Seal rings or bearing damage 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Outside diameter of case bore damage 	<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.
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.

Engagement Concern: Harsh Manual 1st Gear ONLY

Possible Component	Reference/Action
204B — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Pressure Control Solenoid B (PCB) , Turbine Shaft 	<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

Possible Component	Reference/Action
Speed (TSS)	of the PCM.
	<ul style="list-style-type: none"> • GO to Pinpoint Test D and GO to Pinpoint Test E.
	<ul style="list-style-type: none"> • Repair as necessary. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.

Engagement Concern: Delayed or Soft Reverse ONLY

Possible Component	Reference/Action
205 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> • PCM, vehicle wiring harnesses, 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.
Incorrect Pressures	
<ul style="list-style-type: none"> • Low pressure 	<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 a 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.

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.
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.

Engagement Concern: Delayed/Soft Forward ONLY

Possible Component	Reference/Action
206 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, 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 necessary. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Incorrect Pressures	
<ul style="list-style-type: none"> 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.

Possible Component	Reference/Action
<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, spring damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> • If damaged or parts are missing, install a 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.
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.
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.

Possible Component	Reference/Action
<ul style="list-style-type: none"> Friction element 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.

Engagement Concern: No Forward and No Reverse

Possible Component	Reference/Action
207 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, 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.
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.
Main Control	
<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"> 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.
Input Shaft	
<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 damaged, stuck or not assembled correctly 	<ul style="list-style-type: none"> Inspect for damage. Install a new seal or flow control valve.
Overdrive (O/D) Planetary Assembly	
<ul style="list-style-type: none"> Planetary damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Center Shaft Assembly	
<ul style="list-style-type: none"> One-Way Clutch (OWC) 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.
<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.

Possible Component	Reference/Action
<ul style="list-style-type: none"> Bronze seal ring or bearing damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Forward Planetary Assembly	
<ul style="list-style-type: none"> Planetary damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Reverse Planetary Assembly	
<ul style="list-style-type: none"> Planetary damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Output Shaft	
<ul style="list-style-type: none"> Damage 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Torque Converter	
<ul style="list-style-type: none"> Damaged flexplate or adapter plate 	<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"> Damaged impeller hub 	
<ul style="list-style-type: none"> Damaged turbine hub 	
Direct <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.

Engagement Concern: Harsh Forward and Harsh Reverse

Possible Component	Reference/Action
208 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, 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 B and GO to Pinpoint Test C.
	<ul style="list-style-type: none"> Repair as necessary. 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 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 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.
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.

Engagement Concern: Delayed Forward and Delayed Reverse

Possible Component	Reference/Action
209 — ROUTINE	

Possible Component	Reference/Action
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, 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 B.
	<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"> 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 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 and springs damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> If damaged or parts are missing, install a 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	
<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.

Possible Component	Reference/Action
<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.

Shift Concern: Some/All Shifts Missing (Automatic Mode Only)

Possible Component	Reference/Action
210 — 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) , Torque Converter Clutch (TCC) solenoid, Pressure Control Solenoid A (PCA) , Pressure Control Solenoid B (PCB) , Pressure Control Solenoid C (PCC) , Output Shaft Speed (OSS) sensor, Transmission Range (TR) sensor, Intake Air Temperature (IAT) sensor, Vehicle Speed Sensor (VSS) input 	<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, IAT and VSS .
	<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 necessary. Clear the DTCs, road test the vehicle and rerun OBD test.
Some Shifts Missing ONLY	
	<ul style="list-style-type: none"> If only some shifts are missing, determine which shift(s) is missing.
	<ul style="list-style-type: none"> Refer to the following routine(s) for further No Shift concerns: <ul style="list-style-type: none"> No 1-2 Shift, Routine 220 No 2-3 Shift, Routine 221 No 3-4 Shift, Routine 222 No 4-5 Shift, Routine 270 No 5-4 Shift, Routine 271 No 4-3 Shift, Routine 223 No 3-2 Shift, Routine 224 No 2-1 Shift, Routine 225
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.

Possible Component	Reference/Action
<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.
Selector Lever Cable/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.
<ul style="list-style-type: none"> Filter damaged, missing 	<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 damaged, stuck or not assembled correctly 	<ul style="list-style-type: none"> Inspect for damage. Install a new seal or flow control valve.
Overdrive (O/D) Planetary Assembly	

Possible Component	Reference/Action
<ul style="list-style-type: none"> Planetary 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.
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.

Shift Concern: Timing Concerns — Early/Late

Possible Component	Reference/Action
211— ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Output Shaft Speed (OSS) sensor, Intake Air Temperature (IAT) 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 and <u>IAT</u>.
	<ul style="list-style-type: none"> GO to Pinpoint Test E.
	<ul style="list-style-type: none"> Repair as necessary. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Some Shifts Early/Late ONLY	
	<ul style="list-style-type: none"> If only some shifts are early/late, determine which shift(s) is missing.
	<ul style="list-style-type: none"> Refer to the following routine(s) for further No Shift concerns:

Possible Component	Reference/Action
	<ul style="list-style-type: none"> ▪ Soft/Slipping 1-2 Shift, Routine 226 ▪ Soft/Slipping 2-3 Shift, Routine 227 ▪ Soft/Slipping 3-4 Shift, Routine 228 ▪ Soft/Slipping 4-5 Shift, Routine 272 ▪ Soft/Slipping 5-4 Shift, Routine 273 ▪ Soft/Slipping 4-3 Shift, Routine 229 ▪ Soft/Slipping 3-2 Shift, Routine 230 ▪ Soft/Slipping 2-1 Shift, Routine 221
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.
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: Timing Concerns — Erratic/Hunting (Some/All)

Possible Component	Reference/Action
212 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> • PCM, vehicle wiring harnesses, Output Shaft Speed (OSS) sensor, Intake Air Temperature (IAT) 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 and <u>IAT</u> .
	<ul style="list-style-type: none"> • GO to Pinpoint Test E.
	<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"> • Incorrect level 	<ul style="list-style-type: none"> • Adjust the 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.
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.
Further Diagnosis	
<ul style="list-style-type: none"> • For further diagnosis for timing issues, refer to Reference/Action 	<ul style="list-style-type: none"> • Refer to the following routine(s) for specific diagnosis: <ul style="list-style-type: none"> • No 1-2 Shift, Routine 220 • No 2-3 Shift, Routine 221 • No 3-4 Shift, Routine 222 • No 4-5 Shift, Routine 270 • No 5-4 Shift, Routine 271

Possible Component	Reference/Action
	<ul style="list-style-type: none"> • No 4-3 Shift, Routine 223 • No 3-2 Shift, Routine 224 • No 2-1 Shift, Routine 225 • Soft/Slip 1-2 Shift, Routine 226 • Soft/Slip 2-3 Shift, Routine 227 • Soft/Slip 3-4 Shift, Routine 228 • Soft/Slip 4-5 Shift, Routine 272 • Soft/Slip 5-4 Shift, Routine 273 • Soft/Slip 4-3 Shift, Routine 229 • Soft/Slip 3-2 Shift, Routine 230 • Soft/Slip 2-1 Shift, Routine 231 • Harsh 1-2 Shift, Routine 232 • Harsh 2-3 Shift, Routine 233 • Harsh 3-4 Shift, Routine 234 • Harsh 4-5 Shift, Routine 274 • Harsh 5-4 Shift, Routine 275 • Harsh 4-3 Shift, Routine 235 • Harsh 3-2 Shift, Routine 236 • Harsh 2-1 Shift, Routine 237

Engagement Concern: Feel — Soft/Slipping (Some/All)

Possible Component	Reference/Action
213 — 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) , Pressure Control Solenoid A (PCA) , Pressure Control Solenoid B (PCB) , Pressure Control Solenoid C (PCC) , intermediate shaft speed sensor, Transmission Fluid Temperature (TFT) sensor, Intake Air Temperature (IAT) sensor, Vehicle Speed Sensor (VSS) input 	<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, <u>IAT</u> and <u>VSS</u> .
	<ul style="list-style-type: none"> • GO to Pinpoint Test A, GO to Pinpoint Test B, GO to Pinpoint Test D and GO to Pinpoint Test E.
	<ul style="list-style-type: none"> • Repair as necessary. Clear the DTCs, road test the vehicle and rerun <u>OBD</u> test.
Some Shifts Soft/Slipping ONLY	
	<ul style="list-style-type: none"> • If only some of the shifts are soft/slipping, determine which shift(s) is missing.
	<ul style="list-style-type: none"> • Refer to the following routine(s) for further Soft/Slipping concerns: <ul style="list-style-type: none"> ▪ Soft/Slipping 1-2 Shift, Routine 226 ▪ Soft/Slipping 2-3 Shift, Routine 227 ▪ Soft/Slipping 3-4 Shift, Routine 228 ▪ Soft/Slipping 4-5 Shift, Routine 272 ▪ Soft/Slipping 5-4 Shift, Routine 273 ▪ Soft/Slipping 4-3 Shift, Routine 229 ▪ Soft/Slipping 3-2 Shift, Routine 230

Possible Component	Reference/Action
	<ul style="list-style-type: none"> ▪ Soft/Slipping 2-1 Shift, Routine 231
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"> • 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.
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.
Fluid 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.

Possible Component	Reference/Action
<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.
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 bearings damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> Outside diameter of case bore damage 	<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.
Direct 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.
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.
<ul style="list-style-type: none"> • Not adjusted correctly 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.
Case	
<ul style="list-style-type: none"> • Damaged 	<ul style="list-style-type: none"> • Inspect for damage. Repair as necessary.

Shift Concern: Feel — Harsh (Some/All)

Possible Component	Reference/Action
214— ROUTINE	
Powertrain Control System	

Possible Component	Reference/Action
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Shift Solenoid A (SSA) , Shift Solenoid B (SSB) , Shift Solenoid C (SSC) , Pressure Control Solenoid A (PCA) , Pressure Control Solenoid B (PCB) , Pressure Control Solenoid C (PCC) , intermediate shaft speed sensor, Transmission Range (TR) sensor, Transmission Fluid Temperature (TFT) sensor, Intake Air Temperature (IAT) sensor, Vehicle Speed Sensor (VSS) input 	<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, IAT and VSS .
	<ul style="list-style-type: none"> GO to Pinpoint Test A, GO to Pinpoint Test B, GO to Pinpoint Test D and GO to Pinpoint Test E.
	<ul style="list-style-type: none"> Repair as necessary. Clear the DTCs, road test the vehicle and rerun OBD test.
Some Shifts Harsh ONLY	
	<ul style="list-style-type: none"> If only some of the shifts are harsh, determine which shift(s) is missing.
	<ul style="list-style-type: none"> Refer to the following routine(s) for further No Shift concerns: <ul style="list-style-type: none"> Harsh 1-2 Shift, Routine 232 Harsh 2-3 Shift, Routine 233 Harsh 3-4 Shift, Routine 234 Harsh 4-5 Shift, Routine 274 Harsh 5-4 Shift, Routine 275 Harsh 4-3 Shift, Routine 235 Harsh 3-2 Shift, Routine 236 Harsh 2-1 Shift, Routine 237
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	
<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"> 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.
Input Shaft	
<ul style="list-style-type: none"> Damaged 	<ul style="list-style-type: none"> Inspect for damage. Install new 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.
Center Shaft Assembly	
<ul style="list-style-type: none"> Center shaft assembly damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
<ul style="list-style-type: none"> One-Way Clutch (OWC) 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.
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.

Possible Component	Reference/Action
<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.
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.
<ul style="list-style-type: none"> Not adjusted correctly 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.
Output Shaft	
<ul style="list-style-type: none"> Damaged 	<ul style="list-style-type: none"> Inspect for damage. Install new as necessary.
Case	
<ul style="list-style-type: none"> Damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Shift Concern: No 1st and 2nd Gear in Drive, Engages in a Higher Gear

Possible Component	Reference/Action
215 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Shift Solenoid A (SSA) , Shift Solenoid B (SSB) , 	<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

Possible Component	Reference/Action
Shift Solenoid C (SSC) , Transmission Range (TR) sensor	of the PCM.
	<ul style="list-style-type: none"> • GO to Pinpoint Test A and GO to Pinpoint Test C.
	<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"> • 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.
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.

Engagement Concern: No 1st Gear in Manual 1 Position

Possible Component	Reference/Action
216 — ROUTINE	

Possible Component	Reference/Action
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Shift Solenoid A (SSA) , Shift Solenoid B (SSB) , 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 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"> 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) Planetary Assembly	
<ul style="list-style-type: none"> Planetary 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.

Shift Concern: No 2nd Gear in Manual 2 Position

Possible Component	Reference/Action
217 — 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) , Pressure Control Solenoid B (PCB) 	<ul style="list-style-type: none"> • Carry out On-Board Diagnostic (OBD) tests. For additional information, 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 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"> • Valves, springs damaged, misassembled, missing, stuck or bore damaged 	<ul style="list-style-type: none"> • If damaged or parts are missing, install a 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.
<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> 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.

Possible Component	Reference/Action
<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.
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.

Shift Concern: No 1-2 Shift

Possible Component	Reference/Action
220 — 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, Vehicle Speed Sensor (VSS) input 	<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 and <u>VSS</u> .
	<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.
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.
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.
O/D Planetary Assembly	
<ul style="list-style-type: none"> Planetary damaged 	<ul style="list-style-type: none"> Inspect for damage. Repair as necessary.

Shift Concern: No 2-3 Shift

Possible Component	Reference/Action
221 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Shift Solenoid B (SSB) , Torque Converter Clutch (TCC) solenoid, Pressure Control Solenoid A (PCA) , 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.
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"> 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.
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.
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 mislocation, poor seating, damage. Install a new cylinder.
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: No 3-4 Shift

Possible Component	Reference/Action
222 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> • PCM, vehicle wiring harnesses, Shift Solenoid A (SSA) , 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.
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.
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.

Possible Component	Reference/Action
<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.
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.
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 mislocation, poor seating, damage. Install a new cylinder.

Shift Concern: No 4-3 Shift

Possible Component	Reference/Action
223 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Shift Solenoid A (SSA) , Shift Solenoid B (SSB) , Pressure Control Solenoid A (PCA) , 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.

Possible Component	Reference/Action
	<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.
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.
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: No 3-2 Shift

Possible Component	Reference/Action
224 — 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) , 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.
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.
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.
Forward Clutch Assembly	

Possible Component	Reference/Action
<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.

Shift Concern: No 2-1 Shift

Possible Component	Reference/Action
225 — 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"> 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.
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"> 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.
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.
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 1-2 Shift

Possible Component	Reference/Action
226 — 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, Vehicle Speed Sensor (VSS) input 	<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 <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.
<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.
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 2-3 Shift

Possible Component	Reference/Action
227 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Shift Solenoid A (SSA) , Pressure Control Solenoid A (PCA) , intermediate shaft speed 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 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.
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 mislocation, poor seating, damage. Install a new cylinder.
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.
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: Soft/Slipping 3-4 Shift

Possible Component	Reference/Action
228 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Shift Solenoid A (SSA) , 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.
	<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.
Center Support	
<ul style="list-style-type: none"> Screw not tightened to specification 	<ul style="list-style-type: none"> Tighten to specification.

Possible Component	Reference/Action
<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"> 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.

Shift Concern: Feel — Soft/Slipping 4-3 Shift

Possible Component	Reference/Action
229 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Shift Solenoid A (SSA), Pressure Control Solenoid A (PCA), 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.

Possible Component	Reference/Action
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.
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: Soft/Slipping 3-2 Shift

Possible Component	Reference/Action
230 — ROUTINE	
Powertrain Control System	
<ul style="list-style-type: none"> PCM, vehicle wiring harnesses, Shift Solenoid C (SSC) , Pressure Control Solenoid B (PCB) , intermediate shaft speed 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 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"> 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.
<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.
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: Feel — Soft/Slipping 2-1 Shift

Possible Component	Reference/Action
231 — ROUTINE	