

A/T Symptom Diagnosis

S6RW0D5104017

Trouble Diagnosis 1

Electrical repair

Condition	Possible cause	Correction / Reference Item
Excessive shift shock	Shift solenoid valve-A and/or -B circuit faulty	Inspect circuit for open, short and intermittent. If NG, repair.
	Pressure control solenoid valve circuit faulty	Inspect circuit for open, short and intermittent. If NG, repair.
	Timing solenoid valve circuit faulty only when N → D or 3 ↔ 4 shifting	Inspect circuit for open, short and intermittent. If NG, repair.
	Output shaft speed sensor (VSS) circuit faulty	Inspect circuit for open, short and intermittent. If NG, repair.
	Input shaft speed sensor circuit faulty	Inspect circuit for open, short and intermittent. If NG, repair.
	Transmission fluid temperature sensor circuit faulty	Inspect circuit for open, short and intermittent. If NG, repair.
	CAN communication circuit faulty	Inspect circuit for open, short and intermittent. If NG, repair.
	Throttle position sensor circuit faulty	Inspect circuit for open, short and intermittent referring to "DTC P0122: Throttle Position Sensor (Main) Circuit Low in Section 1A" and/or "DTC P0123: Throttle Position Sensor (Main) Circuit High in Section 1A". If NG, repair.
	Crankshaft position sensor circuit faulty	Inspect circuit for open, short and intermittent referring to "DTC P0335: Crankshaft Position (CKP) Sensor Circuit in Section 1A". If NG, repair.
	TCM	Substitute a known-good TCM and recheck.
No gear shift as 3rd gear	ECM	Substitute a known-good ECM and recheck.
	Shift solenoid valve-A and/or -B circuit faulty	Inspect circuit for open, short and intermittent. If NG, repair.
	Pressure control solenoid valve circuit faulty	Inspect circuit for open, short and intermittent. If NG, repair.
	Timing solenoid valve circuit faulty	Inspect circuit for open, short and intermittent. If NG, repair.
Poor 1 → 2 shift	TCM	Substitute a known-good TCM and recheck.
	Shift solenoid valve-B circuit faulty	Inspect circuit for open, short and intermittent. If NG, repair.
	Output shaft speed sensor (VSS) circuit faulty	Inspect circuit for open, short and intermittent. If NG, repair.
	Transmission range sensor circuit faulty	Inspect circuit for open, short and intermittent. If NG, repair.
	CAN communication circuit faulty	Inspect circuit for open, short and intermittent. If NG, repair.
	Throttle position sensor circuit faulty	Inspect circuit for open, short and intermittent referring to "DTC P0122: Throttle Position Sensor (Main) Circuit Low in Section 1A" and/or "DTC P0123: Throttle Position Sensor (Main) Circuit High in Section 1A". If NG, repair.
	TCM	Substitute a known-good TCM and recheck.
ECM	Substitute a known-good ECM and recheck.	

Condition	Possible cause	Correction / Reference Item
Poor 2 → 3 shift	Shift solenoid valve-A circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Output shaft speed sensor (VSS) circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Transmission range sensor circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	CAN communication circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Throttle position sensor circuit faulty	<i>Inspect circuit for open, short and intermittent referring to "DTC P0122: Throttle Position Sensor (Main) Circuit Low in Section 1A" and/or "DTC P0123: Throttle Position Sensor (Main) Circuit High in Section 1A". If NG, repair.</i>
	TCM	<i>Substitute a known-good TCM and recheck.</i>
	ECM	<i>Substitute a known-good ECM and recheck.</i>
Poor 3 → 4 shift	Shift solenoid valve-B circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Pressure control solenoid valve circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Timing solenoid valve circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Output shaft speed sensor (VSS) circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Input shaft speed sensor circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Transmission range sensor circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Transmission fluid temperature sensor circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	CAN communication circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Throttle position sensor circuit faulty	<i>Inspect circuit for open, short and intermittent referring to "DTC P0122: Throttle Position Sensor (Main) Circuit Low in Section 1A" and/or "DTC P0123: Throttle Position Sensor (Main) Circuit High in Section 1A". If NG, repair.</i>
	Engine coolant temperature sensor circuit faulty	<i>Inspect circuit for open, short and intermittent referring to "DTC P0117: Engine Coolant Temperature Circuit Low in Section 1A" and/or "DTC P0118: Engine Coolant Temperature Circuit High in Section 1A". If NG, repair.</i>
	Crankshaft position sensor circuit faulty	<i>Inspect circuit for open, short and intermittent referring to "DTC P0335: Crankshaft Position (CKP) Sensor Circuit in Section 1A". If NG, repair.</i>
	"3" position switch circuit faulty	<i>Inspect. If NG, repair.</i>
	TCM	<i>Substitute a known-good TCM and recheck.</i>
ECM	<i>Substitute a known-good ECM and recheck.</i>	

Condition	Possible cause	Correction / Reference Item
Poor 4 → 3 shift	Shift solenoid valve-B circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Pressure control solenoid valve circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Timing solenoid valve circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Output shaft speed sensor (VSS) circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Input shaft speed sensor circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	CAN communication circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Throttle position sensor circuit faulty	<i>Inspect circuit for open, short and intermittent referring to "DTC P0122: Throttle Position Sensor (Main) Circuit Low in Section 1A" and/or "DTC P0123: Throttle Position Sensor (Main) Circuit High in Section 1A". If NG, repair.</i>
	"3" position switch circuit faulty	<i>Inspect. If NG, repair.</i>
	TCM	<i>Substitute a known-good TCM and recheck.</i>
ECM	<i>Substitute a known-good ECM and recheck.</i>	
Poor 3 → 2 shift	Shift solenoid valve-A circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Output shaft speed sensor (VSS) circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	CAN communication circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Throttle position sensor circuit faulty	<i>Inspect circuit for open, short and intermittent referring to "DTC P0122: Throttle Position Sensor (Main) Circuit Low in Section 1A" and/or "DTC P0123: Throttle Position Sensor (Main) Circuit High in Section 1A". If NG, repair.</i>
	TCM	<i>Substitute a known-good TCM and recheck.</i>
ECM	<i>Substitute a known-good ECM and recheck.</i>	
Poor 2 → 1 shift	Shift solenoid valve-A circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Output shaft speed sensor (VSS) circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	CAN communication circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Throttle position sensor circuit faulty	<i>Inspect circuit for open, short and intermittent referring to "DTC P0122: Throttle Position Sensor (Main) Circuit Low in Section 1A" and/or "DTC P0123: Throttle Position Sensor (Main) Circuit High in Section 1A". If NG, repair.</i>
	TCM	<i>Substitute a known-good TCM and recheck.</i>
ECM	<i>Substitute a known-good ECM and recheck.</i>	
Incorrect gear shift point	Output shaft speed sensor (VSS) circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Pressure control solenoid valve circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	CAN communication circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Throttle position sensor circuit faulty	<i>Inspect circuit for open, short and intermittent referring to "DTC P0122: Throttle Position Sensor (Main) Circuit Low in Section 1A" and/or "DTC P0123: Throttle Position Sensor (Main) Circuit High in Section 1A". If NG, repair.</i>
	TCM	<i>Substitute a known-good TCM and recheck.</i>
	ECM	<i>Substitute a known-good ECM and recheck.</i>

Condition	Possible cause	Correction / Reference Item
Non operate TCC (lock-up) system	TCC solenoid valve circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Shift solenoid valve-A and/or-B circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Pressure control solenoid valve circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Output shaft speed sensor (VSS) circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Input shaft speed sensor circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Transmission range sensor circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Transmission fluid temperature sensor circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	CAN communication circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Throttle position sensor circuit faulty	<i>Inspect circuit for open, short and intermittent referring to "DTC P0122: Throttle Position Sensor (Main) Circuit Low in Section 1A" and/or "DTC P0123: Throttle Position Sensor (Main) Circuit High in Section 1A". If NG, repair.</i>
	Engine coolant temperature sensor circuit faulty	<i>Inspect circuit for open, short and intermittent referring to "DTC P0117: Engine Coolant Temperature Circuit Low in Section 1A" and/or "DTC P0118: Engine Coolant Temperature Circuit High in Section 1A". If NG, repair.</i>
	Brake light switch circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	TCM	<i>Substitute a known-good TCM and recheck.</i>
ECM	<i>Substitute a known-good ECM and recheck.</i>	
Higher or lower stall speed	Pressure control solenoid valve circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	TCM	<i>Substitute a known-good TCM and recheck.</i>
Excessive "N" → "D" or "N" → "R" time lag	Pressure control solenoid valve circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	Transmission fluid temperature sensor circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	TCM	<i>Substitute a known-good TCM and recheck.</i>
Higher or lower line pressure	Pressure control solenoid valve circuit faulty	<i>Inspect circuit for open, short and intermittent. If NG, repair.</i>
	TCM	<i>Substitute a known-good TCM and recheck.</i>

Trouble Diagnosis 2

On-vehicle repair

Condition	Possible cause	Correction / Reference Item
Unable to run in all range	Faulty valve body component	<i>Replace valve body assembly.</i>
Excessive shift shock	Engine abnormal condition	<i>Inspect and repair engine.</i>
	Malfunction of shift solenoid valve-A and/or -B	<i>Inspect. If NG, replace.</i>
	Malfunction of output shaft speed sensor (VSS)	<i>Inspect. If NG, replace.</i>
	Malfunction of input shaft speed sensor	<i>Inspect. If NG, replace.</i>
	Malfunction of transmission range sensor	<i>Inspect. If NG, replace.</i>
	Malfunction of transmission fluid temperature sensor	<i>Inspect. If NG, replace.</i>
	Malfunction of timing solenoid valve only when N → D or 3 ↔ 4 shifting	<i>Inspect. If NG, replace.</i>
	Malfunction of pressure control solenoid valve	<i>Inspect. If NG, replace valve body assembly.</i>
	Malfunction of brake light switch except N → D or N → R shifting	<i>Inspect referring to "Brake Light Switch Inspection in Section 9B". If NG, replace.</i>
	Malfunction of crankshaft position sensor	<i>Inspect referring to "Camshaft Position (CMP) Sensor Inspection in Section 1C". If NG, replace.</i>
	Malfunction of Accelerator pedal position (APP) sensor	<i>Inspect referring to "Accelerator Pedal Position (APP) Sensor Assembly On-Vehicle Inspection in Section 1C". If NG, replace.</i>
	Faulty valve body component	<i>Replace valve body assembly.</i>
	Poor 1 → 2 shift	Malfunction of shift solenoid valve-B
Malfunction of output shaft speed sensor (VSS)		<i>Inspect. If NG, replace.</i>
Malfunction of transmission range sensor		<i>Inspect. If NG, replace.</i>
Malfunction of Accelerator pedal position (APP) sensor		<i>Inspect referring to "Accelerator Pedal Position (APP) Sensor Assembly On-Vehicle Inspection in Section 1C". If NG, replace.</i>
Faulty valve body component		<i>Replace valve body assembly.</i>
Poor 2 → 3 shift	Malfunction of shift solenoid valve-A	<i>Inspect. If NG, replace.</i>
	Malfunction of output shaft speed sensor (VSS)	<i>Inspect. If NG, replace.</i>
	Malfunction of transmission range sensor	<i>Inspect. If NG, replace.</i>
	Malfunction of Accelerator pedal position (APP) sensor	<i>Inspect referring to "Accelerator Pedal Position (APP) Sensor Assembly On-Vehicle Inspection in Section 1C". If NG, replace.</i>
	Faulty valve body component	<i>Replace valve body assembly.</i>

Condition	Possible cause	Correction / Reference Item
Poor 3 → 4 shift	Malfunction of shift solenoid valve-B	<i>Inspect. If NG, replace.</i>
	Malfunction of timing solenoid valve	<i>Inspect. If NG, replace.</i>
	Malfunction of output shaft speed sensor (VSS)	<i>Inspect. If NG, replace.</i>
	Malfunction of input shaft speed sensor	<i>Inspect. If NG, replace.</i>
	Malfunction of transmission range sensor	<i>Inspect. If NG, replace.</i>
	Malfunction of transmission fluid temperature sensor	<i>Inspect. If NG, replace.</i>
	Malfunction of "3" position switch	<i>Inspect. If NG, replace.</i>
	Malfunction of engine coolant temperature sensor	<i>Inspect referring to "Engine Coolant Temperature (ECT) Sensor Inspection in Section 1C". If NG, replace.</i>
	Malfunction of Accelerator pedal position (APP) sensor	<i>Inspect referring to "Accelerator Pedal Position (APP) Sensor Assembly On-Vehicle Inspection in Section 1C". If NG, replace.</i>
	Malfunction of pressure control solenoid valve	<i>Inspect. If NG, replace valve body assembly.</i>
	Faulty valve body component	<i>Replace valve body assembly.</i>
Poor 4 → 3 shift	Malfunction of shift solenoid valve-B	<i>Inspect. If NG, replace.</i>
	Malfunction of timing solenoid valve	<i>Inspect. If NG, replace.</i>
	Malfunction of output shaft speed sensor (VSS)	<i>Inspect. If NG, replace.</i>
	Malfunction of input shaft speed sensor	<i>Inspect. If NG, replace.</i>
	Malfunction of "3" position off switch	<i>Inspect. If NG, replace.</i>
	Malfunction of Accelerator pedal position (APP) sensor	<i>Inspect referring to "Accelerator Pedal Position (APP) Sensor Assembly On-Vehicle Inspection in Section 1C". If NG, replace.</i>
	Malfunction of pressure control solenoid valve	<i>Inspect. If NG, replace valve body assembly.</i>
	Faulty valve body component	<i>Replace valve body assembly.</i>
Poor 3 → 2 shift	Malfunction of shift solenoid valve-A	<i>Inspect. If NG, replace.</i>
	Malfunction of output shaft speed sensor (VSS)	<i>Inspect. If NG, replace.</i>
	Malfunction of Accelerator pedal position (APP) sensor	<i>Inspect referring to "Accelerator Pedal Position (APP) Sensor Assembly On-Vehicle Inspection in Section 1C". If NG, replace.</i>
	Faulty valve body component	<i>Replace valve body assembly.</i>
Poor 2 → 1 shift	Malfunction of shift solenoid valve-B	<i>Inspect. If NG, replace.</i>
	Malfunction of output shaft speed sensor (VSS)	<i>Inspect. If NG, replace.</i>
	Malfunction of Accelerator pedal position (APP) sensor	<i>Inspect referring to "Accelerator Pedal Position (APP) Sensor Assembly On-Vehicle Inspection in Section 1C". If NG, replace.</i>
	Faulty valve body component	<i>Replace valve body assembly.</i>
Incorrect shift point	Engine abnormal condition	<i>Inspect and repair engine.</i>
	Malfunction of output shaft speed sensor (VSS)	<i>Inspect. If NG, replace.</i>
	Malfunction of Accelerator pedal position (APP) sensor	<i>Inspect referring to "Accelerator Pedal Position (APP) Sensor Assembly On-Vehicle Inspection in Section 1C". If NG, replace.</i>

Condition	Possible cause	Correction / Reference Item
Non operate TCC (lock-up) system	Malfunction of TCC solenoid valve	<i>Inspect. If NG, replace.</i>
	Malfunction of shift solenoid valve-A and/or -B	<i>Inspect. If NG, replace.</i>
	Malfunction of output shaft speed sensor (VSS)	<i>Inspect. If NG, replace.</i>
	Malfunction of input shaft speed sensor	<i>Inspect. If NG, replace.</i>
	Malfunction of transmission range sensor	<i>Inspect. If NG, replace.</i>
	Malfunction of transmission fluid temperature sensor	<i>Inspect. If NG, replace.</i>
	Malfunction of pressure control solenoid valve	<i>Inspect. If NG, replace valve body assembly.</i>
	Malfunction of Accelerator pedal position (APP) sensor	<i>Inspect referring to "Accelerator Pedal Position (APP) Sensor Assembly On-Vehicle Inspection in Section 1C". If NG, replace.</i>
	Malfunction of engine coolant temperature sensor	<i>Inspect referring to "Engine Coolant Temperature (ECT) Sensor Inspection in Section 1C". If NG, replace.</i>
	Malfunction of brake light switch	<i>Inspect referring to "Brake Light Switch Inspection in Section 9B". If NG, replace.</i>
Excessive "N" → "D" or "N" → "R" time lag	Faulty valve body component	<i>Replace valve body assembly.</i>
	Malfunction of transmission fluid temperature sensor	<i>Inspect. If NG, replace.</i>
	Pressure control solenoid valve circuit faulty	<i>Inspect. If NG, replace valve body assembly.</i>
	Clogged oil strainer	<i>Replace.</i>
	Faulty valve body component	<i>Replace valve body assembly.</i>

Trouble Diagnosis 3 Off-vehicle repair

Condition	Possible cause	Correction / Reference Item
Unable to run in all range	Faulty oil pump	<i>Inspect. If NG, replace.</i>
	Seized or broken planetary gear	<i>Inspect. If NG, replace.</i>
	Faulty one-way No.2 clutch	<i>Inspect. If NG, replace.</i>
	Damaged drive plate	<i>Inspect. If NG, replace.</i>
	Faulty forward clutch	<i>Inspect. If NG, replace.</i>
	Faulty reverse clutch	<i>Inspect. If NG, replace.</i>
	Faulty 1st and reverse brake	<i>Inspect. If NG, replace.</i>
	Faulty torque converter	<i>Replace.</i>
Excessive "N" → "D" shift shock	Faulty forward clutch	<i>Inspect. If NG, replace.</i>
Excessive "N" → "R" shift shock	Faulty reverse clutch	<i>Inspect. If NG, replace.</i>
	Faulty 1st and reverse brake	<i>Inspect. If NG, replace.</i>
Poor 1 → 2 shift, excessive shock or slippage	Faulty 2nd brake	<i>Inspect. If NG, replace.</i>
	Faulty one-way No.1 clutch	<i>Inspect. If NG, replace.</i>
Poor 2 → 3 shift, excessive shock or slippage	Faulty direct clutch	<i>Inspect. If NG, replace.</i>
Poor 3 ↔ O/D shift, excessive shock or slippage	Faulty forward clutch	<i>Inspect. If NG, replace.</i>
	Faulty O/D and 2nd coast brake	<i>Inspect. If NG, replace.</i>
Poor 3 → 2 shift, excessive shock or slippage	Faulty direct clutch	<i>Inspect. If NG, replace.</i>
	Faulty one-way No.1 clutch	<i>Inspect. If NG, replace.</i>
Poor 2 → 1 shift, excessive shock or slippage	Faulty 2nd brake	<i>Inspect. If NG, replace.</i>
	Faulty one-way No.2 clutch	<i>Inspect. If NG, replace.</i>