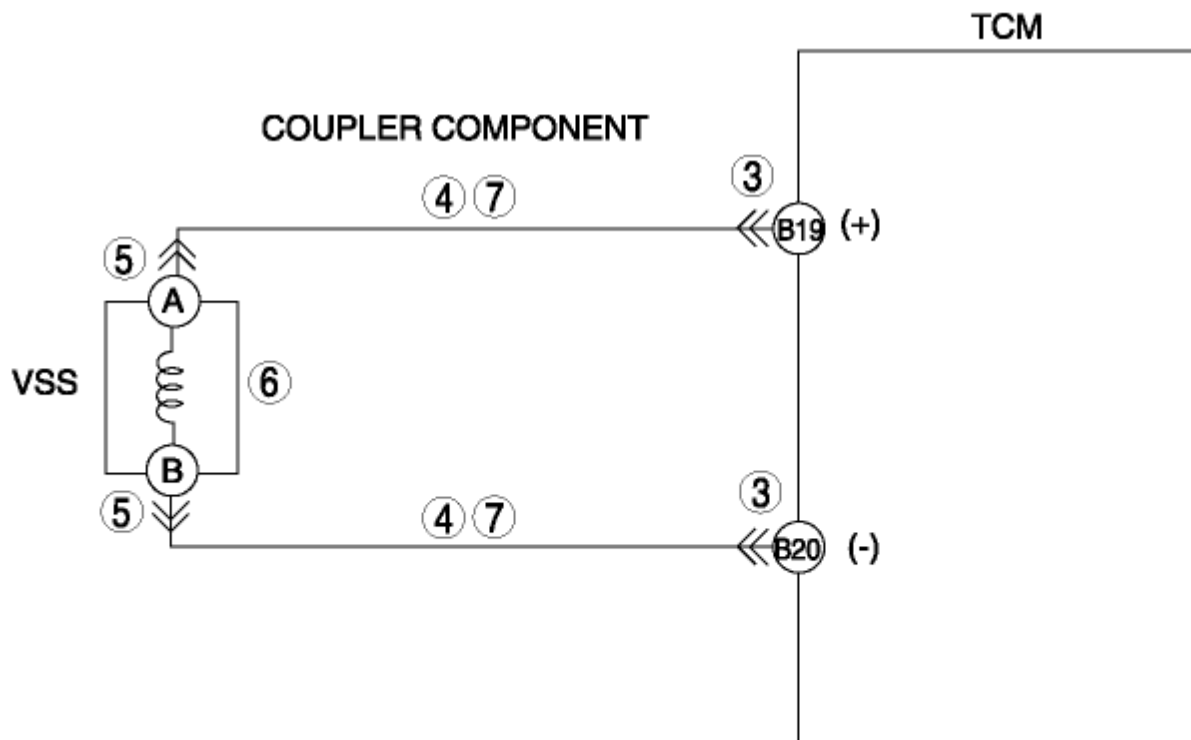


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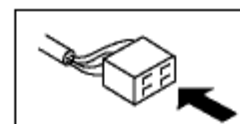
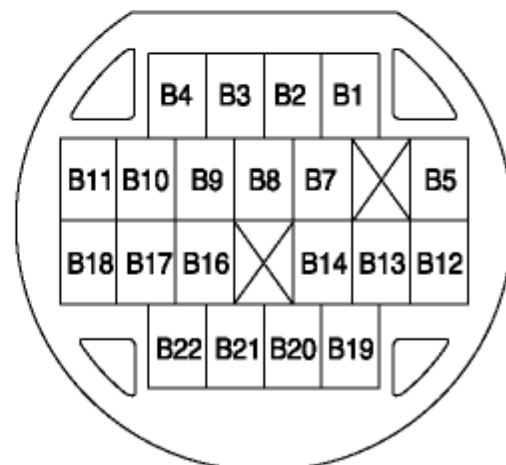
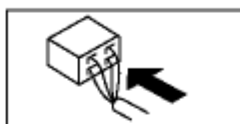
DTC P0720:00 [AY6A-EL]

DTC P0720:00	VSS circuit
DETECTION CONDITION	• Conditions: TCM communication normal • Circumstances: Normal VSS signal not input • Time period: Determined after 10 times lasting 0.1 or more seconds Diagnostic support note: • The MIL illuminates if the TCM detects the above malfunction condition during the first drive cycle. • The AT warning light illuminates. • PENDING CODE is not available. • FREEZE FRAME DATA is available. • The DTC is stored in the TCM memory.
FAIL-SAFE FUNCTION	• Inhibits learning control • Inhibits adaptive shift control • Back up from another device (DSC HU/CM, input/turbine speed sensor)
POSSIBLE CAUSE	• Coupler component connector or terminal malfunction • Short to GND in wiring harness between VSS terminal A and TCM terminal B19 • Short to GND in wiring harness between VSS terminal B and TCM terminal B20 • VSS connector or terminal malfunction • VSS malfunction • Open circuit between VSS terminal A and TCM terminal B19 • Open circuit between VSS terminal B and TCM terminal B20 • TCM malfunction



COUPLER COMPONENT CONNECTOR

VSS WIRING HARNESS-SIDE CONNECTOR



Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA HAS BEEN RECORDED Has the FREEZE FRAME DATA been recorded on the repair order?	Yes Go to the next step. No Record the FREEZE FRAME DATA on the repair order, then go to the next step.
	VERIFY RELATED REPAIR INFORMATION	

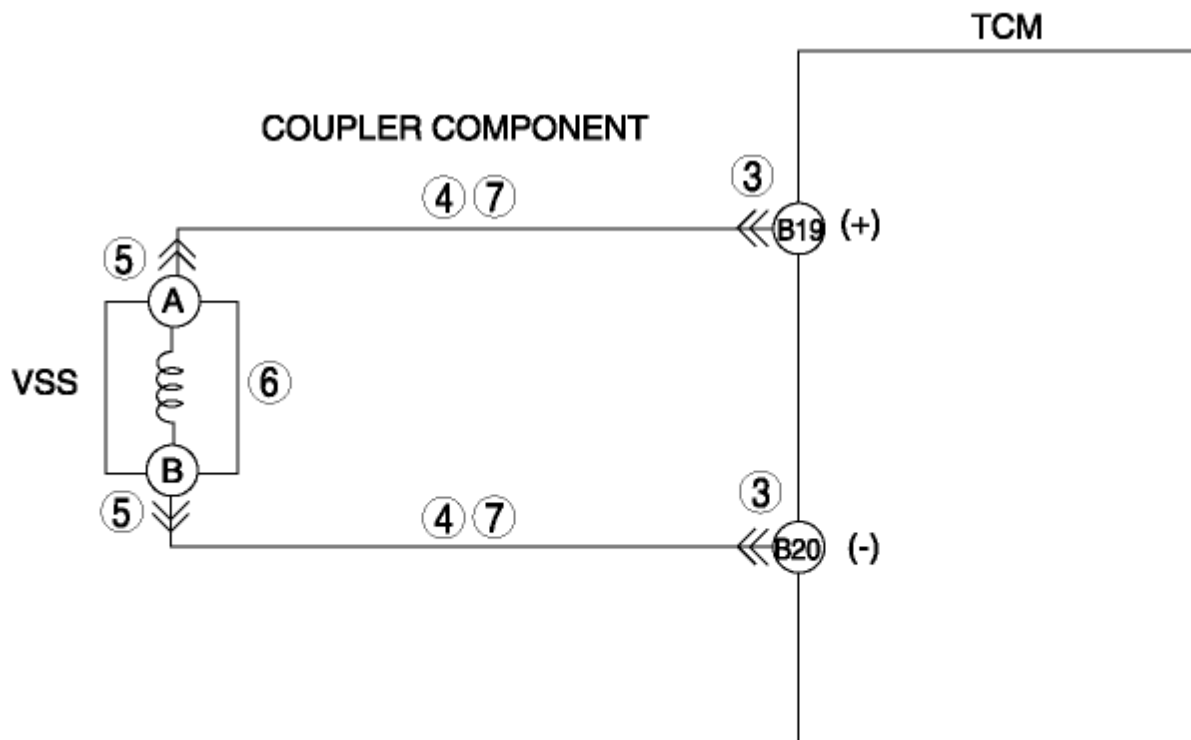
2	AVAILABILITY • Verify related Service Bulletins and/or on-line repair information availability. • Is any related repair information available?	YesPerform repair or diagnosis according to the available repair information. • If the vehicle is not repaired, go to the next step.
		NoGo to the next step.
3	INSPECT COUPLER COMPONENT CONNECTOR FOR POOR CONNECTION • Switch the ignition OFF (LOCK). • Remove the TCM. (See TCM REMOVAL/ INSTALLATION [AY6A-EL] .) • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction?	YesRepair or replace the terminal, then go to Step 8.
		NoGo to the next step.
4	INSPECT VSS CIRCUIT FOR SHORT TO GND • Switch the ignition OFF (LOCK). • Inspect for continuity between the following circuits: ▪ Coupler component terminal B19 (wiring harness-side) and body GND ▪ Coupler component terminal B20 (wiring harness-side) and body GND • Is there continuity?	YesRepair or replace the wiring harness for a possible short to GND, then go to Step 8.
		NoGo to the next step.
5	INSPECT VSS CONNECTOR FOR POOR CONNECTION • Switch the ignition OFF (LOCK). • Disconnect the VSS connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction?	YesRepair or replace the terminal, then go to Step 8.
		NoGo to the next step.
6	INSPECT VSS • Inspect the VSS. (See VEHICLE SPEED SENSOR (VSS) INSPECTION [AY6A-EL] .)	YesReplace the VSS, then go to Step 8. (See VEHICLE SPEED SENSOR (VSS) REMOVAL/ INSTALLATION [AY6A-EL] .)

	Is there any malfunction?	No	Go to the next step.
7	INSPECT VSS CIRCUIT FOR OPEN CIRCUIT - Switch the ignition OFF (LOCK). - Inspect for continuity between the following circuits: - VSS terminal A (wiring harness-side) and coupler component terminal B19 (wiring harness-side) - VSS terminal B (wiring harness-side) and coupler component terminal B20 (wiring harness-side) - Is there continuity?	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit, then go to the next step.
8	VERIFY DTC TROUBLESHOOTING COMPLETED - Make sure to reconnect all the disconnected connectors. - Clear the DTC using the M-MDS. - Perform the following procedure to ensure that the DTC has been resolved: - Start the engine. - Warm up the engine to normal operating temperature. - Drive the vehicle, two separate times, in D position at 20 km/h {12 mph} or more for 150 s or more. - Is the same DTC present?	Yes	Replace the TCM, then go to the next step. (See TCM REMOVAL/ INSTALLATION [AY6A-EL] .)
		No	Go to the next step.
9	VERIFY NO DTCs ARE PRESENT - Perform the "Reading DTCs Procedure". (See ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [AY6A-EL] .) - Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [AY6A-EL] .)
		No	DTC troubleshooting completed.

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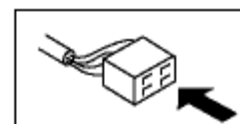
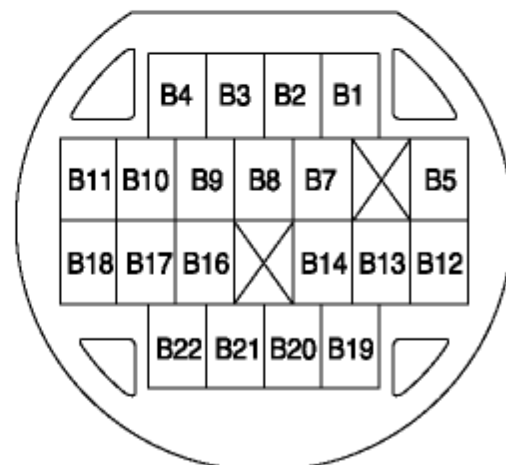
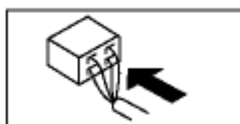
DTC P0720:00 [AY6A-EL]

DTC P0720:00	VSS circuit
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FAIL-SAFE FUNCTION	• Inhibits learning control • Inhibits adaptive shift control • Back up from another device (DSC HU/CM, input/turbine speed sensor)
POSSIBLE CAUSE	• Coupler component connector or terminal malfunction • Short to GND in wiring harness between VSS terminal A and TCM terminal B19 • Short to GND in wiring harness between VSS terminal B and TCM terminal B20 • VSS connector or terminal malfunction • VSS malfunction • Open circuit between VSS terminal A and TCM terminal B19 • Open circuit between VSS terminal B and TCM terminal B20 • TCM malfunction



COUPLER COMPONENT CONNECTOR

VSS WIRING HARNESS-SIDE CONNECTOR



Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA HAS BEEN RECORDED Has the FREEZE FRAME DATA been recorded on the repair order?	Yes Go to the next step. No Record the FREEZE FRAME DATA on the repair order, then go to the next step.
	VERIFY RELATED REPAIR INFORMATION	

2	AVAILABILITY • Verify related Service Bulletins and/or on-line repair information availability. • Is any related repair information available?	YesPerform repair or diagnosis according to the available repair information. • If the vehicle is not repaired, go to the next step.
		NoGo to the next step.
3	INSPECT COUPLER COMPONENT CONNECTOR FOR POOR CONNECTION • Switch the ignition OFF (LOCK). • Remove the TCM. (See TCM REMOVAL/ INSTALLATION [AY6A-EL] .) • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction?	YesRepair or replace the terminal, then go to Step 8.
		NoGo to the next step.
4	INSPECT VSS CIRCUIT FOR SHORT TO GND • Switch the ignition OFF (LOCK). • Inspect for continuity between the following circuits: ▪ Coupler component terminal B19 (wiring harness-side) and body GND ▪ Coupler component terminal B20 (wiring harness-side) and body GND • Is there continuity?	YesRepair or replace the wiring harness for a possible short to GND, then go to Step 8.
		NoGo to the next step.
5	INSPECT VSS CONNECTOR FOR POOR CONNECTION • Switch the ignition OFF (LOCK). • Disconnect the VSS connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction?	YesRepair or replace the terminal, then go to Step 8.
		NoGo to the next step.
6	INSPECT VSS • Inspect the VSS. (See VEHICLE SPEED SENSOR (VSS) INSPECTION [AY6A-EL] .)	YesReplace the VSS, then go to Step 8. (See VEHICLE SPEED SENSOR (VSS) REMOVAL/ INSTALLATION [AY6A-EL] .)

	Is there any malfunction?	No	Go to the next step.
7	INSPECT VSS CIRCUIT FOR OPEN CIRCUIT - Switch the ignition OFF (LOCK). - Inspect for continuity between the following circuits: - VSS terminal A (wiring harness-side) and coupler component terminal B19 (wiring harness-side) - VSS terminal B (wiring harness-side) and coupler component terminal B20 (wiring harness-side) - Is there continuity?	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit, then go to the next step.
8	VERIFY DTC TROUBLESHOOTING COMPLETED - Make sure to reconnect all the disconnected connectors. - Clear the DTC using the M-MDS. - Perform the following procedure to ensure that the DTC has been resolved: - Start the engine. - Warm up the engine to normal operating temperature. - Drive the vehicle, two separate times, in D position at 20 km/h {12 mph} or more for 150 s or more. - Is the same DTC present?	Yes	Replace the TCM, then go to the next step. (See TCM REMOVAL/ INSTALLATION [AY6A-EL] .)
		No	Go to the next step.
9	VERIFY NO DTCs ARE PRESENT - Perform the "Reading DTCs Procedure". (See ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [AY6A-EL] .) - Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [AY6A-EL] .)
		No	DTC troubleshooting completed.