

ON-BOARD DIAGNOSTIC [ENGINE CONTROL SYSTEM (FS)]

Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA HAS BEEN RECORDED <ul style="list-style-type: none"> Has FREEZE FRAME DATA been recorded? 	Yes Go to next step.
		No Record FREEZE FRAME DATA on repair order, then go to next step.
2	VERIFY RELATED REPAIR INFORMATION AVAILABILITY <ul style="list-style-type: none"> Check for related Service Bulletins availability. Is any related repair information available? 	Yes Perform repair or diagnosis according to available repair information. <ul style="list-style-type: none"> If vehicle is not repaired, go to next step.
		No Go to next step.
3	INSPECT PSP SWITCH <ul style="list-style-type: none"> Perform PSP switch inspection (See 01-40B-44 POWER STEERING PRESSURE (PSP) SWITCH INSPECTION [FS].) Is PSP switch okay? 	Yes Go to next step.
		No Replace the PSP switch, then go to Step 5.
4	INSPECT PSP SWITCH SIGNAL CIRCUIT FOR SHORT TO GROUND <ul style="list-style-type: none"> Disconnect PCM connector. Check for continuity between PSP switch terminal (harness-side) and body ground. Is there continuity? 	Yes Repair or replace harness for short to ground, then go to next step.
		No Go to next step.
5	VERIFY TROUBLESHOOTING OF DTC P0550 COMPLETED <ul style="list-style-type: none"> Make sure to reconnect all disconnected connectors. Start engine. Clear DTC from PCM memory using WDS or equivalent. Drive vehicle above 60.2 km/h {37.4 mph} for 1 minute. Verify that ECT PID is above 60°C {140°F} using WDS or equivalent. Is PENDING CODE of same DTC present? 	Yes Replace PCM, then go to next step.
		No Go to next step.
6	VERIFY AFTER REPAIR PROCEDURE <ul style="list-style-type: none"> Perform "After Repair Procedure". (See 01-02B-9 AFTER REPAIR PROCEDURE [FS].) Is there any DTC present? 	Yes Go to applicable DTC inspection. (See 01-02B-15 DTC TABLE [FS].)
		No Troubleshooting completed.

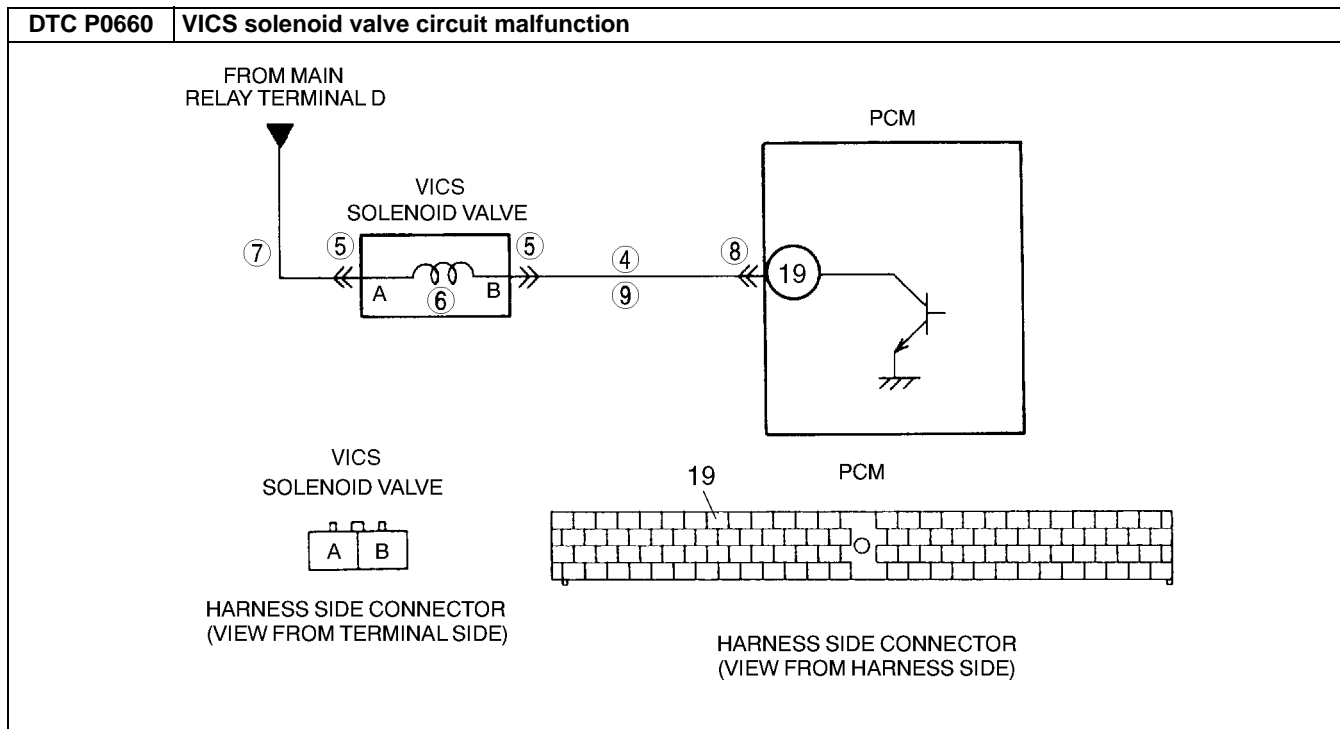
01-02B

DTC P0660 [FS]

A3U010201088W01

DTC P0660	VICS solenoid valve circuit malfunction
DETECTION CONDITION	<ul style="list-style-type: none"> PCM monitors input voltages from VICS solenoid valve while engine running. If voltage at PCM terminal 19 remains low or high, PCM determines that VICS solenoid valve circuit has malfunction. <p>Diagnostic support note</p> <ul style="list-style-type: none"> This is a intermittent monitor (CCM) PCM detects the above malfunction condition in two consecutive drive cycles. PENDING CODE is available if PCM detects the above malfunction condition during first drive cycle. FREEZE FRAME DATA is available. DTC is stored in PCM memory.
POSSIBLE CAUSE	<ul style="list-style-type: none"> VICS solenoid valve malfunction Connector or terminal malfunction Short to ground in wiring between VICS solenoid valve terminal B and PCM terminal 19 Open circuit in wiring between main relay terminal D and VICS solenoid valve terminal A Open circuit in wiring between VICS solenoid valve terminal B and PCM terminal 19 Short to power circuit between VICS solenoid valve terminal B and PCM terminal 19 PCM malfunction

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Diagnostic procedure

STEP	INSPECTION		ACTION
1	VERIFY RELATED REPAIR INFORMATION AVAILABILITY <ul style="list-style-type: none"> • Check for related Service Bulletins availability. • Is any related repair information available? 	Yes	Perform repair or diagnosis according to available repair information. <ul style="list-style-type: none"> • If vehicle is not repaired, go to next step.
		No	Go to next step.
2	CLASSIFY INTERMITTENT CONCERN OR CONTINUOUS CONCERN <ul style="list-style-type: none"> • Start engine. • Increase engine speed above 4,750 rpm. • Is PENDING CODE same DTC present? 	Yes	Go to next step.
		No	Intermittent concern exists. Go to INTERMITTENT CONCERN TROUBLESHOOTING procedure. (See 01-03B-4 INTERMITTENT CONCERN TROUBLESHOOTING [FS].)
3	CLASSIFY OPEN CIRCUIT OR SHORT TO GROUND MALFUNCTION <ul style="list-style-type: none"> • Disconnect VICS solenoid valve tube at solenoid side that connects to VICS solenoid valve. • Connect vacuum pump to VICS solenoid valve. • Apply vacuum. • Wait for 5 seconds. • Is vacuum maintained? 	Yes	Go to Step 5.
		No	Go to next step.
4	INSPECT PASSAGE CONTROL OF VICS SOLENOID VALVE <ul style="list-style-type: none"> • Turn ignition key to OFF. • Disconnect VICS solenoid valve connector. • Apply vacuum and wait for 5 seconds. • Is vacuum maintained? 	Yes	Repair or replace harness between solenoid valve terminal B and PCM terminal 19 for short to ground, then go to Step 10.
		No	Replace VICS solenoid valve, then go to Step 10.
5	INSPECT VICS SOLENOID VALVE CONNECTOR FOR POOR CONNECTION <ul style="list-style-type: none"> • Turn ignition key to OFF. • Check for poor connection (damaged/pulled-out pins, corrosion, etc.). • Is there malfunction? 	Yes	Repair or replace terminal, then go to Step 10.
		No	Go to next step.
6	INSPECT VICS SOLENOID VALVE <ul style="list-style-type: none"> • Measure resistance between VICS solenoid valve terminals (part-side). • Is resistance within 22—26 ohms? 	Yes	Go to next step.
		No	Replace VICS solenoid valve, then go to Step 10.

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STEP	INSPECTION	ACTION	
7	INSPECT VICS SOLENOID VALVE POWER SUPPLY CIRCUIT FOR OPEN CIRCUIT <ul style="list-style-type: none"> • Turn ignition key to ON (Engine OFF). • Measure voltage between VICS solenoid valve terminal A (harness-side) and body ground. • Is voltage B+? 	Yes	Go to next step.
		No	Repair or replace harness for open, then go to Step 10.
8	INSPECT PCM CONNECTOR FOR POOR CONNECTION <ul style="list-style-type: none"> • Turn ignition key to OFF. • Disconnect PCM connector. • Check for poor connection at terminal 19. (damaged/pulled-out pins, corrosion, etc.). • Is there malfunction? 	Yes	Repair terminal, then go to Step 10.
		No	Go to next step.
9	INSPECT VICS SOLENOID VALVE CONTROL CIRCUIT FOR OPEN CIRCUIT <ul style="list-style-type: none"> • Connect VICS solenoid valve connector. • Connect breakout box with PCM disconnected. • Turn ignition key to ON (Engine OFF). • Measure voltage between breakout box terminal 19 and body ground. • Is voltage B+? 	Yes	Go to next step.
		No	Repair or replace harness for open, then go to next step.
10	VERIFY TROUBLESHOOTING OF DTC P0660 COMPLETED <ul style="list-style-type: none"> • Make sure to reconnect all disconnected connectors. • Turn ignition key to ON (Engine OFF). • Clear DTC from PCM memory using WDS or equivalent. • Start engine. • Increase engine speed above 4,750 rpm. • Is PENDING CODE of same DTC present? 	Yes	Replace PCM, then go to next step.
		No	Go to next step.
11	VERIFY AFTER REPAIR PROCEDURE <ul style="list-style-type: none"> • Perform "After Repair Procedure". (See 01-02B-9 AFTER REPAIR PROCEDURE [FS].) • Is there any DTC present? 	Yes	Go to applicable DTC inspection. (See 01-02B-15 DTC TABLE [FS].)
		No	Troubleshooting completed.

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