

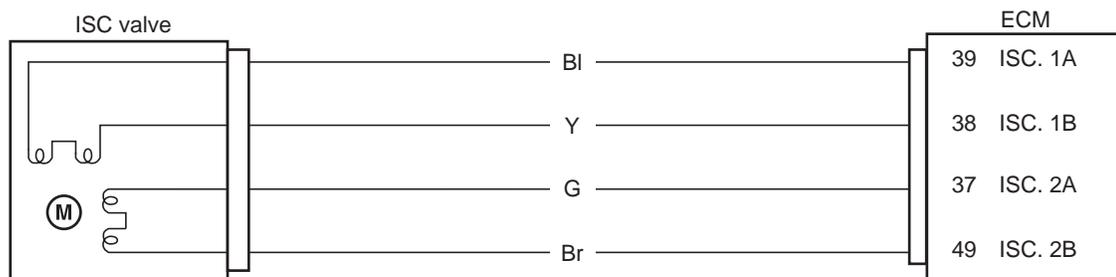
DTC “C40” (P0505 / P0506 / P0507): ISC Valve Circuit Malfunction

B838H21104024

Detected Condition and Possible Cause

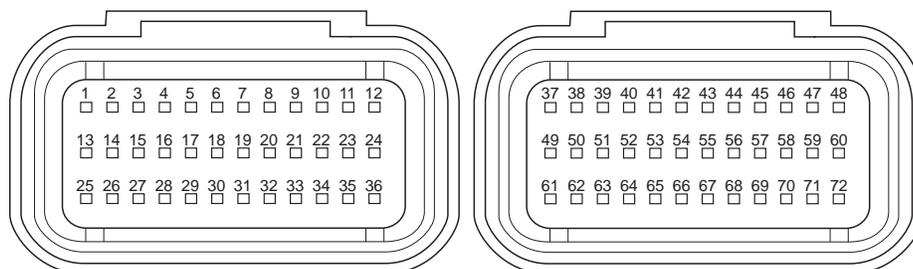
Detected Condition		Possible Cause
C40/P0505	The circuit voltage of motor drive is unusual.	<ul style="list-style-type: none"> ISC valve circuit open or shorted to ground.
C40/P0506	Idle speed is lower than the desired idle speed.	<ul style="list-style-type: none"> Air passage clogged. ISC valve is fixed. ISC valve preset position is incorrect.
C40/P0507	Idle speed is higher than the desired idle speed.	<ul style="list-style-type: none"> Disconnected ISC valve hose. ISC valve is fixed. ISC valve preset position is incorrect.

Wiring Diagram



I837H1110079-01

ECM coupler (Harness side)



I837H1110007-02

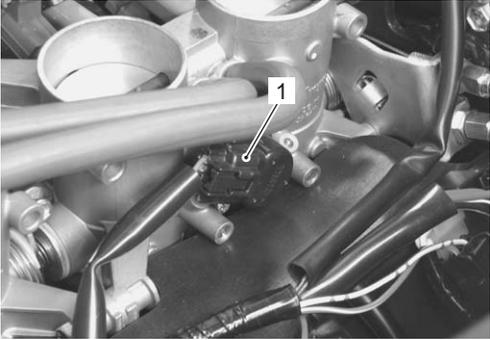
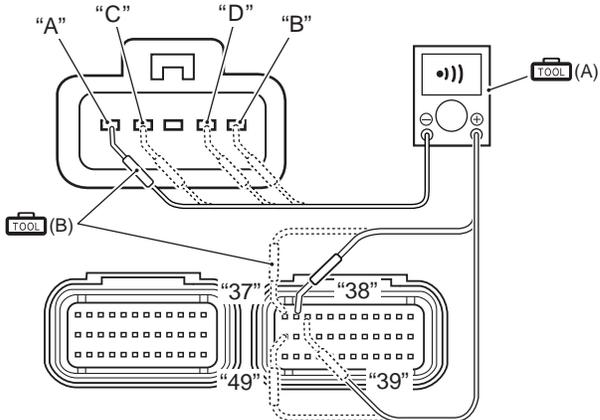
Troubleshooting

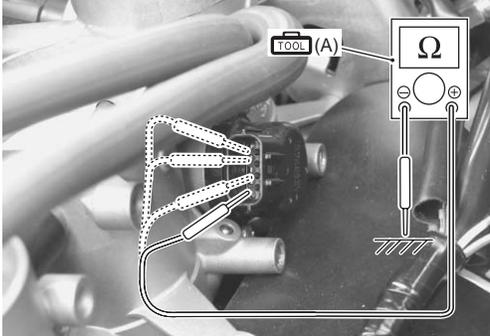
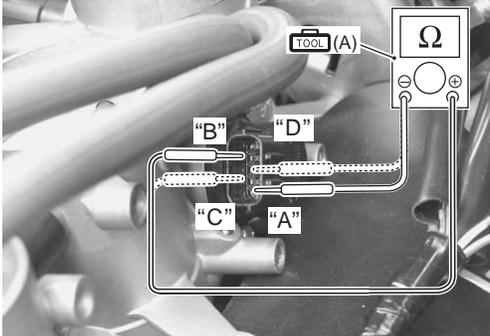
⚠ CAUTION

- Be careful not to disconnect the ISC valve coupler at least 5 seconds after ignition switch is turned to OFF.
If the ECM coupler is disconnected within 5 seconds after ignition switch is turned to OFF, there is a possibility of an unusual value being written in the ECM and causing an error of ISC valve operation.
- When using the multi-circuit tester, do not strongly touch the terminal of the ECM coupler with a needle pointed tester probe to prevent terminal damage.

NOTE

After repairing the trouble, clear the DTC using SDS tool. Refer to “Use of SDS Diagnosis Reset Procedures (Page 1A-15)”.

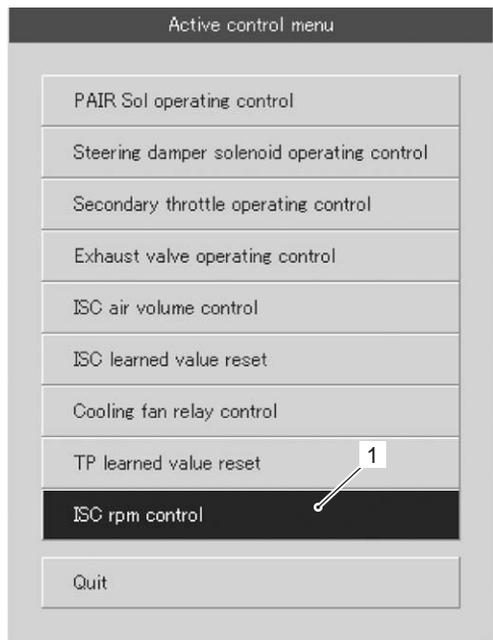
Step	Action	Yes	No
1	<p>1) Turn the ignition switch OFF.</p> <p>2) Remove the air cleaner box. Refer to "Air Cleaner Box Removal and Installation in Section 1D (Page 1D-7)".</p> <p>3) Check the ISC valve coupler (1) for loose or poor contacts. If OK, then check the ISC valve lead wire continuity.</p>  <p style="text-align: right; font-size: small;">I837H1110138-01</p> <p>4) Disconnect the ISC valve coupler and ECM coupler. Refer to "ECM Removal and Installation in Section 1C (Page 1C-1)".</p> <p>5) Check the continuity between terminal "A" and terminal "38", terminal "B" and terminal "37", terminal "C" and terminal "39", terminal "D" and terminal "49".</p> <p>Special tool</p> <p> (A): 09900-25008 (Multi-circuit tester set)</p> <p> (B): 09900-25009 (Needle pointed probe set)</p> <p>Tester knob indication Continuity test (•))</p> <p style="text-align: center;">ECM couplers (Harness side)</p>  <p style="text-align: right; font-size: small;">I837H1110080-02</p> <p><i>Is the continuity OK?</i></p>	Go to Step 2.	Bl, Y, G or Br wire open.

Step	Action	Yes	No
2	<p>1) Check the continuity between each ISC valve terminal and ground.</p> <p>Special tool TOOL (A): 09900-25008 (Multi-circuit tester set)</p> <p>Tester knob indication Resistance (Ω)</p> <p>ISC valve continuity $\infty \Omega$ (Infinity) (Terminal – Ground)</p>  <p style="text-align: right; font-size: small;">I837H1110139-01</p> <p>2) If OK, then measure the resistance (between the BI wire terminal “A” and Y wire terminal “B”) and (between the G wire terminal “C” and Br wire terminal “D”).</p> <p>ISC valve resistance Approx. 80 Ω at 20 °C (68 °F) (Terminal: “A” – Terminal: “B”, Terminal: “C” – Terminal: “D”)</p>  <p style="text-align: right; font-size: small;">I837H1110140-01</p> <p><i>Is the resistance OK?</i></p>	<p>If wire is OK, intermittent trouble or faulty ECM.</p>	<p>Replace the ISC valve with a new one. Refer to “Throttle Body Removal and Installation in Section 1D (Page 1D-10)”.</p>

ACTIVE CONTROL INSPECTION (ISC RPM CONTROL)

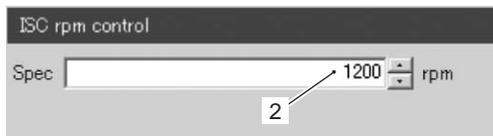
Check 1

- 1) Set up the SDS tool. (Refer to the SDS operation manual for further details.)
- 2) Check that the engine is running.
- 3) Click the "Active control".
- 4) Click the "ISC rpm control" (1).



I837H1110081-02

- 5) Check that the "Spec" (2) is idle speed 1 200 ± 100 rpm.
- 6) Check that the "Desired idle speed" (3) is within the specified idle rpm.



I838H1110004-01

Item	Value	Unit
<input type="checkbox"/> Vehicle speed	0.0	km/h
<input type="checkbox"/> Engine speed	1210	rpm
<input type="checkbox"/> Desired idle speed	1205	rpm
<input type="checkbox"/> ISC valve position	73	step

I838H1110005-01

Check 2

- 1) Click the button (4) and decrease the "Spec" (2) to 1 100 rpm slowly.
- 2) Check that the "Desired idle speed" (3) is nearly equal to the "Spec" (2). At the same time, check that the number of steps (5) in the ISC valve position decreases.
- 3) Click the button (6) and increase the "Spec" (2) slowly.
- 4) Check that the "Desired idle speed" (3) is nearly equal to the "Spec" (2). Also, check that the number of steps (5) in the ISC valve position increases.



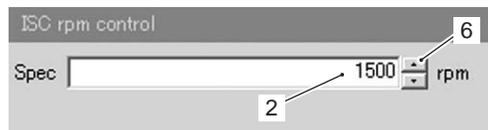
I837H1110082-01

Item	Value	Unit
<input type="checkbox"/> Cooling fan relay	Off	
<input type="checkbox"/> Engine speed	1099	rpm
<input type="checkbox"/> Desired idle speed	1104	rpm
<input type="checkbox"/> ISC valve position	66	step
<input type="checkbox"/> Throttle position	27.9	°

I837H1110083-01

Check 3

- 1) Click the button (6) and increase the "Spec" (2) to 1 500 rpm slowly.
- 2) Check that the "Desired idle speed" (3) is nearly equal to the "Spec" (2). Also, check that the number of steps (5) in the ISC valve position increases.



I837H1110084-01

Item	Value	Unit
<input type="checkbox"/> Cooling fan relay	Off	
<input type="checkbox"/> Engine speed	1506	rpm
<input type="checkbox"/> Desired idle speed	1506	rpm
<input type="checkbox"/> ISC valve position	86	step
<input type="checkbox"/> Throttle position	27.9	°

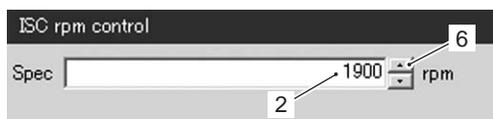
I837H1110085-01

Check 4

- 1) Click the button (6) and increase the “Spec” (2) to 1 900 rpm.
- 2) Check that the “Desired idle speed” (3) is approx. 1 900 rpm.
- 3) Check that the “Engine speed” (7) is close to 1 900 rpm.

NOTE

Be careful not to increase the “Spec” to 2 000 rpm, or the “Engine speed” may reach the upper limit.



I837H1110086-01

Item	Value	Unit
<input type="checkbox"/> Cooling fan relay		Off
<input type="checkbox"/> Engine speed	7 → 1948	rpm
<input type="checkbox"/> Desired idle speed	→ 1907	rpm
<input type="checkbox"/> ISC valve position	3 → 114	step
<input type="checkbox"/> Throttle position	→ 27.9	°

I837H1110087-01

If the ISC valve does not function properly, inspect the ISC valve or replace the ISC valve. Refer to “DTC “C40” (P0505 / P0506 / P0507): ISC Valve Circuit Malfunction (Page 1A-97)” or “Throttle Body Disassembly and Assembly in Section 1D (Page 1D-11)”.

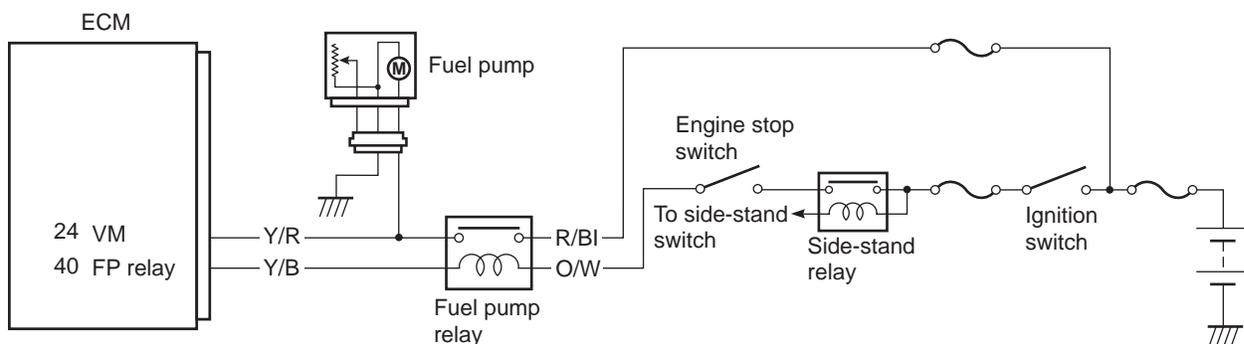
DTC “C41” (P0230-H/L): FP Relay Circuit Malfunction

B838H21104025

Detected Condition and Possible Cause

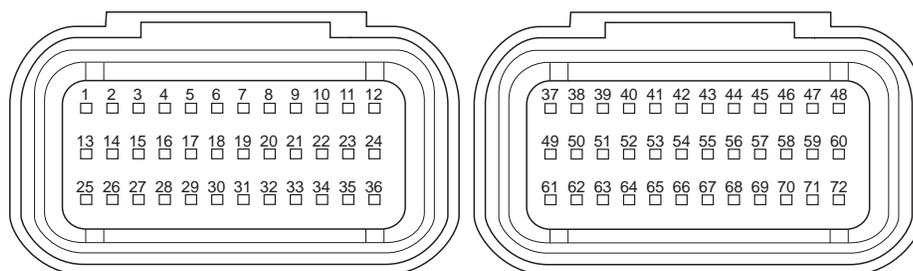
Detected Condition		Possible Cause
C41	No voltage is applied to fuel pump.	<ul style="list-style-type: none"> • Fuel pump relay circuit open or short. • Fuel pump relay malfunction.
P0230	H Voltage is applied to fuel pump although fuel pump relay is turned OFF.	<ul style="list-style-type: none"> • Fuel pump relay switch circuit is shorted to power source. • Faulty pump relay (switch side).
	L No voltage is applied to fuel pump although fuel pump relay is turned ON.	<ul style="list-style-type: none"> • Fuel pump relay coil circuit open or short. • Faulty pump relay (coil side).

Wiring Diagram



I837H1110088-01

ECM coupler (Harness side)



I837H1110007-02