

1A



## DTC P0506 (C65)

### DTC Detecting Condition and Trouble Area

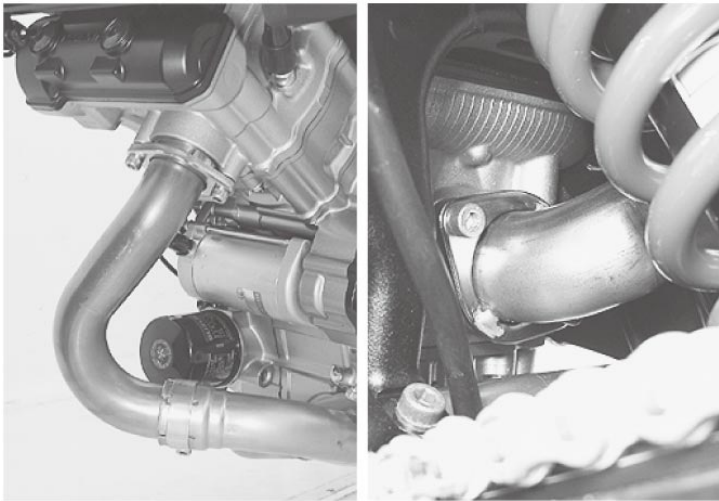



DTC detecting condition	Trouble area
<b>P0506 (C65): ISC Valve, Lower Than Desired RPM</b> Idle speed dropped lower than desired idle speed by more than specified range.	<ul style="list-style-type: none"> <li>• Air passage</li> <li>• STVA</li> <li>• Engine mechanism</li> </ul>

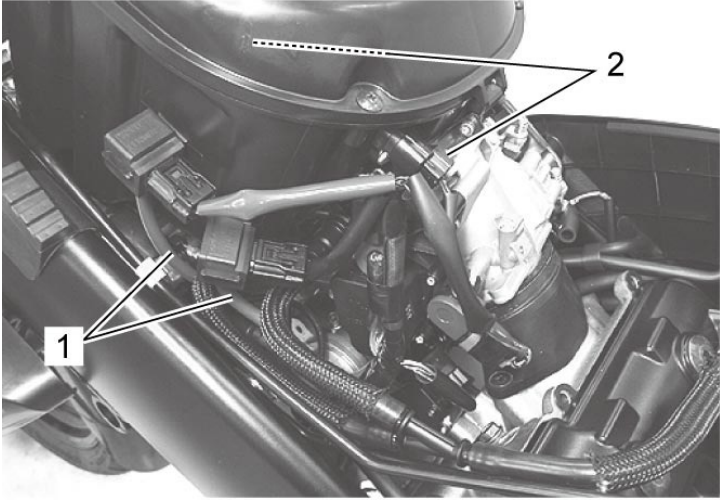




### Troubleshooting

#### NOTICE:

Be careful not to disconnect the STVA 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.

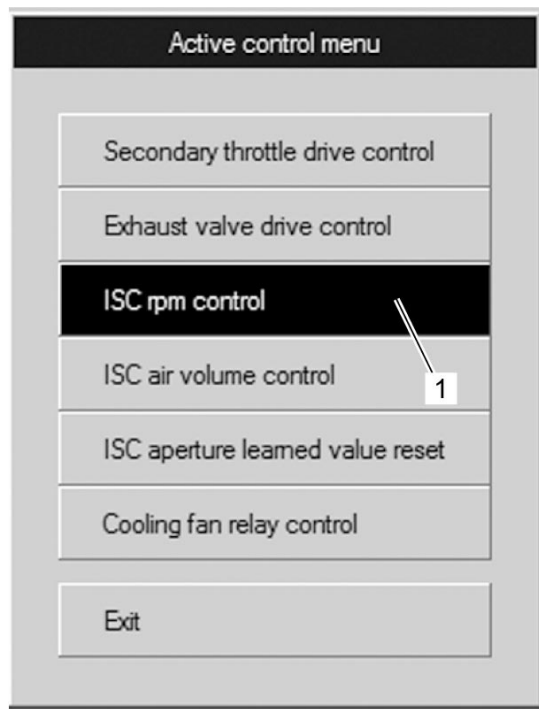
Step	Action	Yes	No
<b>1</b>	<b>Engine combustion check</b> 1) Run the engine at idle speed. 2) By spraying water to exhaust pipes from #1 to #2, check evaporation from each of them to make sure for equal combustion among cylinders.   <i>Is check result OK?</i>	Go to Step 2.	Repair or replace defective parts.
<b>2</b>	<b>STVA operation check</b> 1) Check STV actuator.  <i>Is check result OK?</i>	Go to Step 3.	Replace the throttle body. 
<b>3</b>	<b>Air intake system check</b> 1) Check air intake system air passage ways (1) and (2) for clogging and leakage.	Go to Step 4.	Repair or replace defective parts.

	  <i>Is check result OK?</i>		
<b>4</b>	<b>Engine mechanical systems check</b> 1) Check the following points related to engine mechanical system. <ul style="list-style-type: none"><li>• Engine compression: </li><li>• Fuel pressure: </li></ul> <i>Is check result OK?</i>	Replace the ECM with a known good one, and inspect it again. 	Repair or replace defective parts.

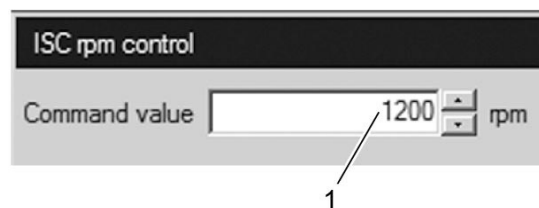
## Active Control Inspection (ISC RPM Control)

### Check 1

- 1) Set up the SDS tool referring 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).



- 5) Check that the "Spec" (1) is idle speed  $1200 \pm 100$  rpm.
- 6) Check that the "Desired idle rpm" (2) is within the specified idle rpm.



Item	Value	Unit	
<input type="checkbox"/> Vehicle speed	0	km/h	
<input checked="" type="checkbox"/> Engine speed	1222	rpm	
<input checked="" type="checkbox"/> Secondary throttle actuator position sensor	28	%	
<input type="checkbox"/> Desired idle rpm	1205	rpm	



## Check 2

- 1) Click the button (1) and decrease the "Spec" (2) to 1000 rpm slowly.
- 2) Check that the "Desired idle rpm" (3) is nearly equal to the "Spec" (2). At the same time, check that the number of percent (4) in the secondary throttle actuator position sensor decreases.
- 3) Click the button (5) and increase the "Spec" (2) slowly.
- 4) Check that the "Desired idle rpm" (3) is nearly equal to the "Spec" (2). Also, check that the number of percent (4) in the secondary throttle actuator position sensor increases.



Item	Value	Unit	
<input type="checkbox"/> Vehicle speed	0	km/h	
<input checked="" type="checkbox"/> Engine speed	1067	rpm	
<input checked="" type="checkbox"/> Secondary throttle actuator position sensor	20	%	
<input type="checkbox"/> Desired idle rpm	1004	rpm	



### Check 3

- 1) Click the button (1) and increase the "Spec" (2) to 1400 rpm slowly.
- 2) Check that the "Desired idle rpm" (3) is nearly equal to the "Spec" (2). Also, check that the number of percent (4) in the secondary throttle actuator position sensor increases.



Item	Value	Unit	
<input type="checkbox"/> Vehicle speed	0	km/h	
<input checked="" type="checkbox"/> Engine speed	1422	rpm	
<input checked="" type="checkbox"/> Secondary throttle actuator position sensor	37	%	
<input type="checkbox"/> Desired idle rpm	1405	rpm	



#### NOTE:

**Be careful not to increase the "Spec" to 1500 rpm, or the "Engine speed" may reach the upper limit.**

If the secondary throttle valve actuator does not function properly, inspect the ISC or replace the throttle body assembly. Refer to [DTC P0506 \(C65\)](#) or [Throttle Body Assembly Removal and Installation](#).