

**CRUISE CONTROL SYSTEM  
(DIAGNOSTICS)  
H4DOTC (non-STi)**

# Basic Diagnostic Procedure

## CRUISE CONTROL SYSTEM (DIAGNOSTICS)

### 1. Basic Diagnostic Procedure

#### A: PROCEDURE

**NOTE:**

This section is specified for H4DOTC engine model except STi model.

Step	Check	Yes	No
<b>1 START DIAGNOSIS.</b> 1) Perform the pre-inspection. <Ref. to CC(diag)-5, INSPECTION, General Description.> 2) Check the cruise control switch operation.	Is the cruise control switch turned ON?	Go to step 2.	Go to phenomenon 1. <Ref. to CC(diag)-11, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
<b>2 PERFORM CRUISE CANCEL CONDITIONS DIAGNOSIS.</b> Perform the cruise cancel conditions diagnosis. <Ref. to CC(diag)-9, Subaru Select Monitor.>	Are any DTC indicated?	Go to "List of DTC". <Ref. to CC(diag)-29, List of Diagnostic Trouble Code (DTC).>	Go to step 3.
<b>3 CHECK CRUISE CONTROL SET OPERATION.</b> Check the cruise control set operation.	Can the cruise control be set while driving at 40 km/h (25 MPH)?	Go to step 4.	Go to phenomenon 2. <Ref. to CC(diag)-11, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
<b>4 CHECK VEHICLE SPEED IS HELD WITHIN SET SPEED.</b> Make sure the vehicle speed is held within set speed.	Is the vehicle speed held within set speed $\pm 3$ km/h ( $\pm 2$ MPH)?	Go to step 5.	Go to phenomenon 3. <Ref. to CC(diag)-11, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
<b>5 CHECK RES/ACC OPERATION.</b> Check the RES/ACC operation.	Does the vehicle speed increase or return to set speed after RES/ACC switch has been pressed?	Go to step 6.	Go to phenomenon 4. <Ref. to CC(diag)-11, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
<b>6 CHECK SET/COAST OPERATION.</b> Check the SET/COAST operation.	Does the vehicle speed decrease after SET/COAST switch has been pressed?	Go to step 7.	Go to phenomenon 5. <Ref. to CC(diag)-11, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>

# Basic Diagnostic Procedure

## CRUISE CONTROL SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
7	<b>CHECK CANCEL OPERATION.</b> Check the CANCEL operation.	Is the cruise control released after CANCEL switch has been pressed?	Go to step 8.  Go to phenomenon 6. <Ref. to CC(diag)-11, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
8	<b>CHECK CRUISE CONTROL RELEASE OPERATION.</b> Check the cruise control release operation.	Is the cruise control released after brake pedal has been depressed?	Go to step 9.  Go to phenomenon 7. <Ref. to CC(diag)-11, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
9	<b>CHECK CRUISE CONTROL RELEASE OPERATION.</b> Check the cruise control release operation.	Is the cruise control released after clutch pedal has been depressed? (MT model)	Finish the diagnostics.  Go to phenomenon 8. <Ref. to CC(diag)-11, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>

# General Description

## CRUISE CONTROL SYSTEM (DIAGNOSTICS)

### 2. General Description

#### A: CAUTION

##### 1. SUPPLEMENTAL RESTRAINT SYSTEM “AIRBAG”

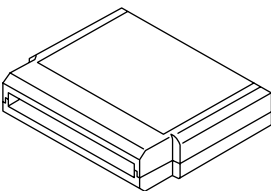
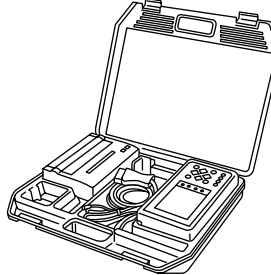
Airbag system wiring harness is routed near the cruise control module and cruise control switch.

#### CAUTION:

- All airbag system wiring harness and connectors are colored yellow. Do not use electrical test equipment on these circuits.
- Be careful not to damage the airbag system wiring harness when servicing the cruise control module and cruise control switch.

#### B: PREPARATION TOOL

##### 1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST24082AA260	24082AA260	CARTRIDGE	Troubleshooting for electrical systems.
 ST22771AA030	22771AA030	SUBARU SELECT MONITOR KIT	Troubleshooting for electrical systems.

##### 2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and ampere.

# General Description

## CRUISE CONTROL SYSTEM (DIAGNOSTICS)

### C: INSPECTION

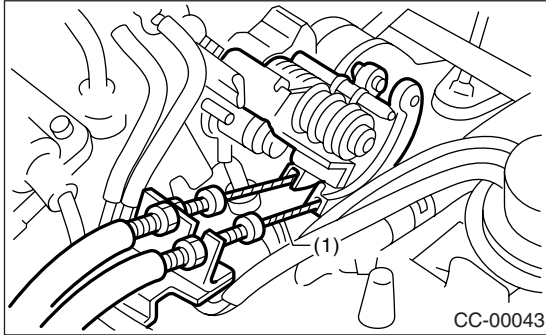
#### 1. BATTERY

Measure the battery voltage and specific gravity of electrolyte.

**Standard voltage:**  
**12 V, or more**

**Specific gravity:**  
**Above 1.260**

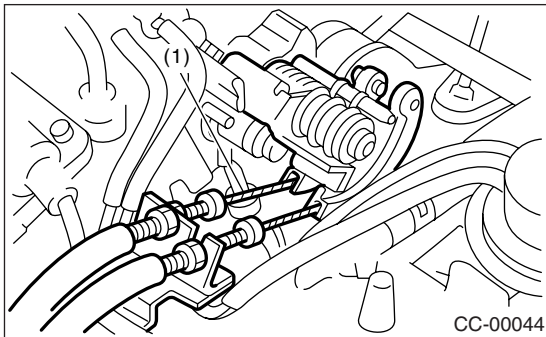
#### 2. CRUISE CONTROL CABLE



(1) Cruise control cable

Check the cruise control cable installation.  
If NG, install the cable securely.

#### 3. ACCELERATOR CABLE



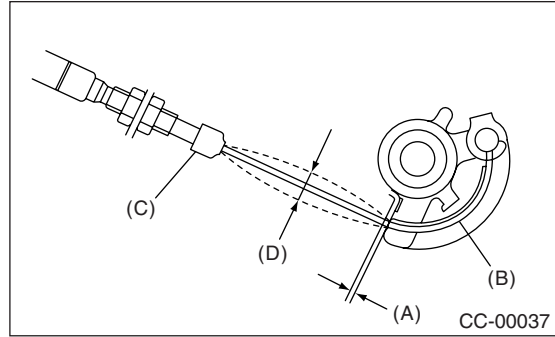
(1) Accelerator cable

Check the movement of accelerator cable when the cruise control throttle is moved by hand.  
If NG, check the throttle cam.

#### 4. THROTTLE CAM

Check that the throttle cam moves smoothly.  
If NG, repair the throttle cam.

#### 5. CABLE FREE PLAY



Check that the throttle cam-to-lever clearance (A) or cable (B) inner cable deflection amount (D) is within specifications.

**Throttle cam-to-lever clearance:**  
**0 — 1 mm (0 — 0.04 in)**

**Inner cable deflection:**  
**1 — 8 mm (0.04 — 0.31 in)**

If NG, adjust the clearance with adjusting nut.

**NOTE:**

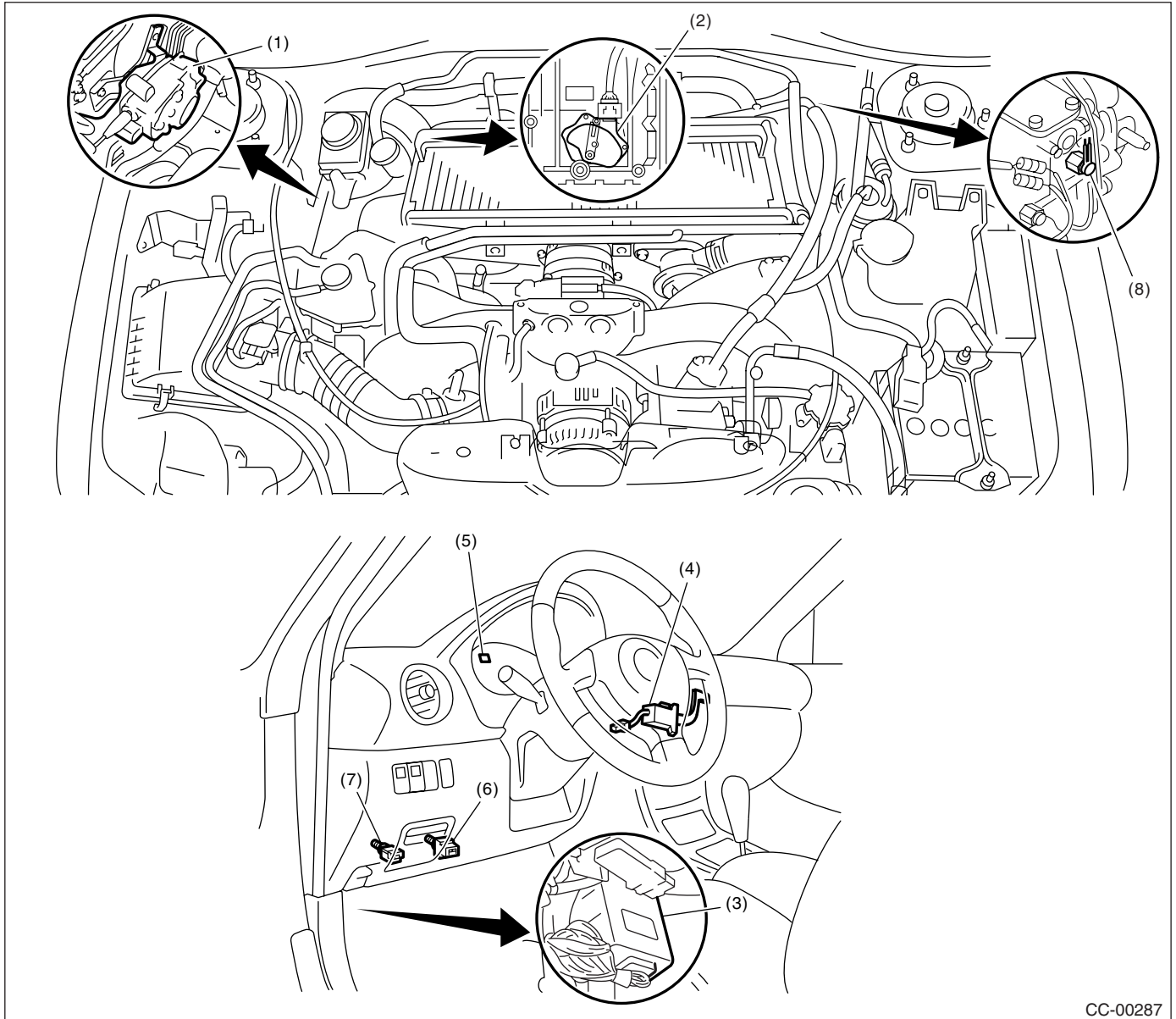
Check that the cap (C) is positioned in the groove.

# Electrical Component Location

## CRUISE CONTROL SYSTEM (DIAGNOSTICS)

### 3. Electrical Component Location

#### A: LOCATION



CC-00287

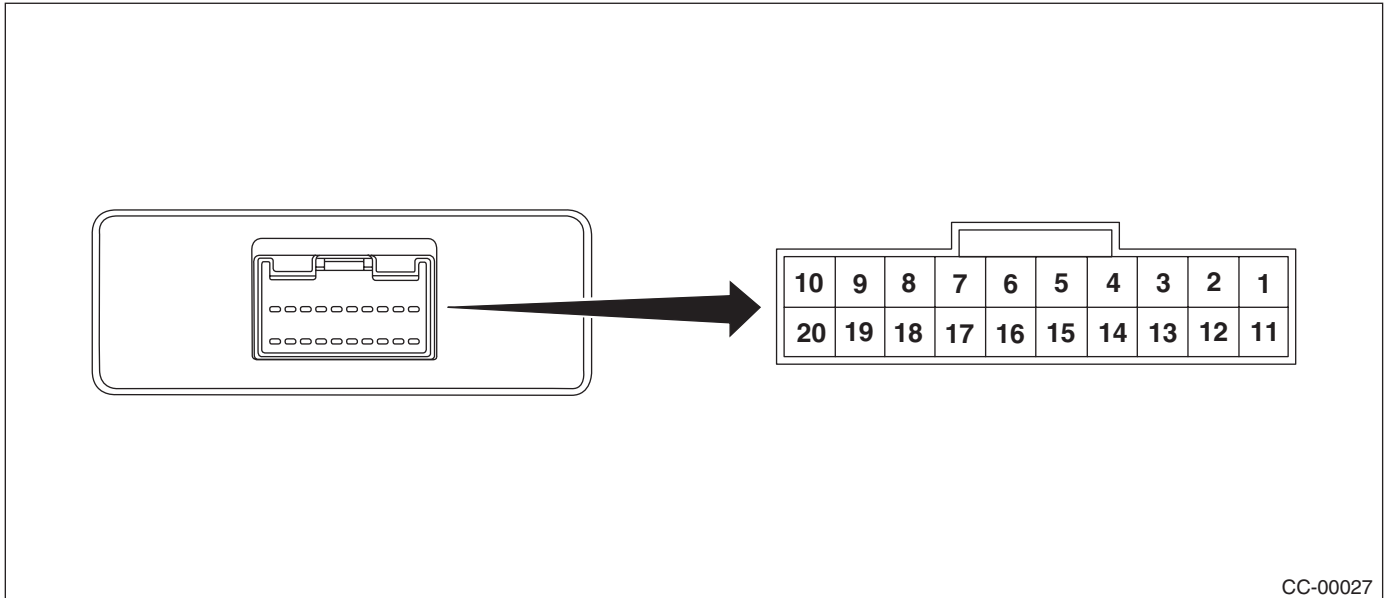
- |  |   |  |
|--|---|--|
| (1) Actuator   | (5) Cruise indicator light and cruise set indicator light | (7) Clutch switch (MT model)           |
| (2) Inhibitor switch (AT model)                          | (6) Stop light and brake switch                           | (8) Neutral position switch (MT model) |
| (3) Cruise control module                                |   |  |
| (4) Cruise control command switch (main switch built-in) |   |  |

# Cruise Control Module I/O Signal

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

## 4. Cruise Control Module I/O Signal

### A: ELECTRICAL SPECIFICATION



CC-00027

Content	Terminal No.	Measuring condition and I/O signal (ignition switch ON and engine idling)
Cruise indicator light	1	<ul style="list-style-type: none"> <li>Battery voltage is present when main switch is turned OFF.</li> <li>"0 V" voltage is present when main switch is turned ON.</li> </ul>
Cruise set indicator light	3	<ul style="list-style-type: none"> <li>"0 V" voltage is present when cruise control is set and operated.</li> <li>Battery voltage is present when cruise control is not set and not operated.</li> </ul>
Inhibitor switch (AT model)	4	<ul style="list-style-type: none"> <li>Battery voltage is present when selector lever is other than "P" or "N" position.</li> <li>"0 V" voltage is present when selector lever is set to "P" or "N" position.</li> </ul>
Motor B	5	<ul style="list-style-type: none"> <li>ON-and-OFF ("0 V"-and-battery voltage) operation is alternately repeated while cruise control is operating.</li> <li>"0 V" voltage is present when main switch is turned OFF.</li> </ul>
Ground	6	—
Motor A	7	<ul style="list-style-type: none"> <li>ON-and-OFF ("0 V"-and-battery voltage) operation is alternately repeated while cruise control is operating.</li> <li>"0 V" voltage is present when main switch is turned OFF.</li> </ul>
RES/ACC switch	9	<ul style="list-style-type: none"> <li>Battery voltage is present when switch is turned to RES/ACC position.</li> <li>"0 V" voltage is present when switch is released.</li> </ul>
SET/COAST switch	10	<ul style="list-style-type: none"> <li>Battery voltage is present when switch is turned to SET/COAST position.</li> <li>"0 V" voltage is present when switch is released.</li> </ul>
Main power supply	11	<ul style="list-style-type: none"> <li>Battery voltage is present when ignition switch is turned ON.</li> <li>"0 V" voltage is present when ignition switch is turned OFF.</li> </ul>
Ignition switch	12	<ul style="list-style-type: none"> <li>Battery voltage is present when ignition switch is turned ON.</li> <li>"0 V" voltage is present when ignition switch is turned OFF.</li> </ul>
Motor C	13	<ul style="list-style-type: none"> <li>ON-and-OFF ("0 V"-and-battery voltage) operation is alternately repeated while cruise control is operating.</li> <li>"0 V" voltage is present when main switch is turned OFF.</li> </ul>
Motor clutch	14	<ul style="list-style-type: none"> <li>ON-and-OFF ("0 V"-and-battery voltage) operation is alternately repeated while cruise control is operating.</li> <li>"0 V" voltage is present when vehicle is stopped.</li> </ul>
Cruise control main switch	15	<ul style="list-style-type: none"> <li>Battery voltage is present while the cruise control main switch is depressed.</li> <li>"0 V" voltage is present when cruise control main switch is turned OFF.</li> </ul>

## Cruise Control Module I/O Signal

### CRUISE CONTROL SYSTEM (DIAGNOSTICS)

Content	Terminal No.	Measuring condition and I/O signal (ignition switch ON and engine idling)
Brake switch	16	Leave clutch pedal released (MT model), while cruise control main switch is turned ON. Then check that; <ul style="list-style-type: none"> <li>• Battery voltage is present when brake pedal is released.</li> <li>• "0" volt is present when brake pedal is depressed.</li> </ul> Additionally for MT model, release the brake pedal with the cruise control main switch ON. Then check that; <ul style="list-style-type: none"> <li>• Battery voltage is present when clutch pedal is released.</li> <li>• "0" volt is present when clutch pedal is depressed.</li> </ul>
Data link connector	17	—
Data link connector	18	—
Vehicle speed sensor (MT model) TCM (AT model)	19	Lift-up the vehicle until all four wheels are raised off ground, and then rotate any wheel manually. Approx. "5" and "0" volt pulse signals are alternately input to cruise control module.
Stop light switch	20	Turn ignition switch to OFF. Then check that; <ul style="list-style-type: none"> <li>• Battery voltage is present when brake pedal is depressed.</li> <li>• "0" volt is present when brake pedal is released.</li> </ul>
NOTE: Voltage at terminals 5, 7, 13 and 14 cannot be checked unless vehicle is driving by cruise control operation.		

### **B: WIRING DIAGRAM**

<Ref. to WI-101, WIRING DIAGRAM, Cruise Control System.>



### 5. Subaru Select Monitor

#### A: OPERATION

##### 1. GENERAL

The on-board diagnosis function of the cruise control system uses the Subaru Select Monitor.

The on-board diagnosis function operates in two categories, which are used depending on the type of problems;

##### 1) Cruise cancel conditions diagnosis:

(1) This category of diagnosis requires actual vehicle driving in order to determine the cause, (as when cruise speed is cancelled during driving although cruise cancel condition is not entered).

(2) Cruise control module memory stores the cancel condition (Code No.) which occurred during driving. When there are plural cancel conditions (Code No.), they are shown on the Subaru Select Monitor.

#### CAUTION:

- The cruise control memory stores not only the cruise “cancel” which occurred (although “cancel” operation is not entered by the driver), but also the “cancel” condition input by the driver.
- The content of memory is cleared when ignition switch or cruise control main switch is turned OFF.

##### 2) Real-time diagnosis:

The real-time diagnosis function is used to determine whether or not the input signal system is in good order, according to signal emitted from switches, sensors, etc.

(1) Vehicle cannot be driven at cruise speed because problem occurs in the cruise control system or its associated circuits.

(2) Monitor the signal conditions from switches and sensors.

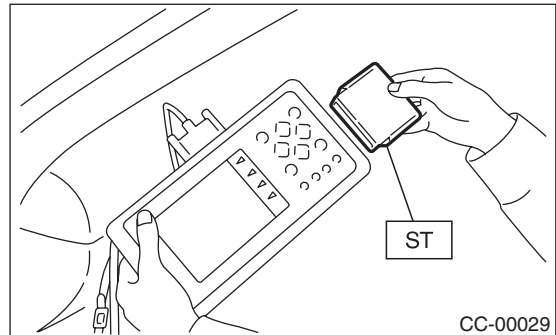
### 2. CRUISE CANCEL CONDITIONS DIAGNOSIS

#### 1) Prepare the Subaru Select Monitor kit.



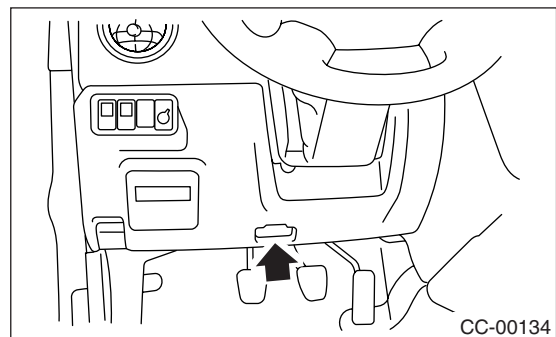
#### 2) Connect the diagnosis cable to Subaru Select Monitor.

#### 3) Insert the cartridge into Subaru Select Monitor. <Ref. to CC(diag)-4, SPECIAL TOOL, PREPARATION TOOL, General Description.>



#### 4) Connect the Subaru Select Monitor to data link connector.

(1) Data link connector is located in the lower portion of the instrument panel (on the driver's side).



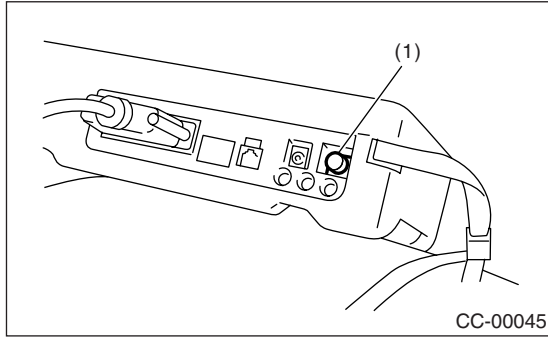
#### (2) Connect the diagnosis cable to data link connector.

#### 5) Start the engine and turn the cruise control main switch to ON.

# Subaru Select Monitor

## CRUISE CONTROL SYSTEM (DIAGNOSTICS)

6) Turn the Subaru Select Monitor switch to ON.



(1) Power switch

- Turn ON the “SET/COAST” switch.
- Turn ON the “RES/ACC” switch.
- Depress/release the clutch pedal. (MT model)
- Set the selector lever to “P” or “N”. (AT model)

### NOTE:

- For detailed operation procedure, refer to the SUBARU SELECT MONITOR OPERATION MANUAL.
- For details concerning DTCs, refer to the List of Diagnostic Trouble Code (DTC). <Ref. to CC(diag)-29, List of Diagnostic Trouble Code (DTC).>

7) On the Main Menu display screen, select the {All System Diagnosis} and press [YES] key.

### NOTE:

The DTC is also shown in the {Each System Check} mode. This mode is called up on the Cruise Control Diagnosis screen by selecting the item {Cancel Code(s) Display}.

8) Drive the vehicle at least 40 km/h (25 MPH) with cruise speed set.

9) If the cruise speed is canceled itself (without doing any cancel operations), a DTC will appear on the display.

### CAUTION:

- **When performing diagnostics, observe the legal speed of the road.**
- **A DTC will also appear when cruise cancel is effected by driver. Do not confuse.**
- **Have a co-worker ride in the vehicle to assist in diagnosis during driving.**

### NOTE:

DTC will be cleared by turning the ignition switch or cruise control main switch to OFF.

## 3. REAL-TIME DIAGNOSIS

- 1) Connect the select monitor.
- 2) Turn the ignition switch and cruise control main switch to ON.
- 3) Turn the Subaru Select Monitor switch to ON.
- 4) On the Main Menu display screen, select the {Each System Check} and press [YES] key.
- 5) On the System Selection Menu display screen, select the {Cruise Control} and press [YES] key.
- 6) Press the [YES] key after displayed the information of engine type.
- 7) On the Cruise Control Diagnosis display screen, select the {Current Data Display & Save} and press [YES] key.
- 8) Make sure that normal indication is displayed when operated as indicated below:
  - Depress/release the brake pedal. (Stop light switch and brake switch turn ON.)

## Diagnostics with Phenomenon

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

### 6. Diagnostics with Phenomenon

#### A: DIAGNOSTIC PROCEDURE WITH PHENOMENON

Phenomenon		Checking item	Reference
1	Cruise control main switch is not turned to ON.	(1) Check the power supply.	<Ref. to CC(diag)-13, CHECK POWER SUPPLY, Diagnostics with Phenomenon.>
		(2) Check the cruise control main switch.	<Ref. to CC(diag)-15, CHECK CRUISE CONTROL MAIN SWITCH, Diagnostics with Phenomenon.>
2	Cruise indicator light does not illuminate.	(1) Check the cruise indicator light.	<Ref. to CC(diag)-17, CHECK CRUISE INDICATOR LIGHT, Diagnostics with Phenomenon.>
		(2) Check the cruise set indicator light.	<Ref. to CC(diag)-19, CHECK CRUISE SET INDICATOR LIGHT, Diagnostics with Phenomenon.>
3	Cruise control cannot be set.	(1) Check the SET/COAST switch.	<Ref. to CC(diag)-21, CHECK CRUISE CONTROL COMMAND SWITCH, Diagnostics with Phenomenon.>
		(2) Check the stop light and brake switch.	<Ref. to CC(diag)-23, CHECK STOP LIGHT AND BRAKE SWITCH, Diagnostics with Phenomenon.>
		(3) Check the clutch switch (MT model).	<Ref. to CC(diag)-25, CHECK CLUTCH SWITCH (MT MODEL), Diagnostics with Phenomenon.>
		(4) Check the inhibitor switch (AT model).	<Ref. to CC(diag)-27, CHECK INHIBITOR SWITCH (AT MODEL), Diagnostics with Phenomenon.>
		(5) Check the vehicle speed sensor.	<Ref. to CC(diag)-32, DTC 22 VEHICLE SPEED SENSOR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
		(6) Check the motor drive system.	<Ref. to CC(diag)-35, DTC 35 AND 36 ACTUATOR MOTOR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
		(7) Check the motor clutch drive system.	<Ref. to CC(diag)-37, DTC 37 ACTUATOR MOTOR CLUTCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
4	Vehicle speed is not held within set speed $\pm 3$ km/h ( $\pm 2$ MPH).	(1) Check the vehicle speed sensor.	<Ref. to CC(diag)-32, DTC 22 VEHICLE SPEED SENSOR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
		(2) Check the motor drive system.	<Ref. to CC(diag)-35, DTC 35 AND 36 ACTUATOR MOTOR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
		(3) Check the motor clutch drive system.	<Ref. to CC(diag)-37, DTC 37 ACTUATOR MOTOR CLUTCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
5	Vehicle speed does not increase or does not return to set speed after RES/ACC switch has been pressed.	(1) Check the RES/ACC switch.	<Ref. to CC(diag)-21, CHECK CRUISE CONTROL COMMAND SWITCH, Diagnostics with Phenomenon.>
		(2) Check the motor drive system.	<Ref. to CC(diag)-35, DTC 35 AND 36 ACTUATOR MOTOR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
		(3) Check the motor clutch drive system.	<Ref. to CC(diag)-37, DTC 37 ACTUATOR MOTOR CLUTCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
6	Vehicle speed does not decrease after SET/COAST switch has been pressed.	(1) Check the SET/COAST switch.	<Ref. to CC(diag)-21, CHECK CRUISE CONTROL COMMAND SWITCH, Diagnostics with Phenomenon.>
		(2) Check the motor drive system.	<Ref. to CC(diag)-35, DTC 35 AND 36 ACTUATOR MOTOR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
		(3) Check the motor clutch drive system.	<Ref. to CC(diag)-37, DTC 37 ACTUATOR MOTOR CLUTCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

## Diagnostics with Phenomenon

### CRUISE CONTROL SYSTEM (DIAGNOSTICS)

Phenomenon		Checking item	Reference
7	Cruise control is not released after CANCEL switch has been pressed.	(1) Check the CANCEL switch.	<Ref. to CC(diag)-21, CHECK CRUISE CONTROL COMMAND SWITCH, Diagnostics with Phenomenon.>
		(2) Check the motor drive system.	<Ref. to CC(diag)-35, DTC 35 AND 36 ACTUATOR MOTOR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
		(3) Check the motor clutch drive system.	<Ref. to CC(diag)-37, DTC 37 ACTUATOR MOTOR CLUTCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
8	Cruise control is not released after brake pedal has been depressed.	(1) Check the stop light switch and brake switch.	<Ref. to CC(diag)-23, CHECK STOP LIGHT AND BRAKE SWITCH, Diagnostics with Phenomenon.>
		(2) Check the motor drive system.	<Ref. to CC(diag)-35, DTC 35 AND 36 ACTUATOR MOTOR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
		(3) Check the motor clutch drive system.	<Ref. to CC(diag)-37, DTC 37 ACTUATOR MOTOR CLUTCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
9	Cruise control is not released after clutch pedal has been depressed (MT model).	(1) Check the clutch switch.	<Ref. to CC(diag)-25, CHECK CLUTCH SWITCH (MT MODEL), Diagnostics with Phenomenon.>
		(2) Check the motor drive system.	<Ref. to CC(diag)-35, DTC 35 AND 36 ACTUATOR MOTOR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
		(3) Check the motor clutch drive system.	<Ref. to CC(diag)-37, DTC 37 ACTUATOR MOTOR CLUTCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>



## Diagnostics with Phenomenon

### CRUISE CONTROL SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
<b>1</b> <b>CHECK POWER SUPPLY.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the cruise control module harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. <b>Connector &amp; terminal</b> <b>(B94) No. 12 (+) — Chassis ground (-):</b>	Is the voltage more than 10 V?	Go to step 2.	<ul style="list-style-type: none"> <li>• Check the fuse No. 18 (in fuse &amp; relay box).</li> <li>• Check the harness for open or short between cruise control module and fuse &amp; relay box.</li> </ul>
<b>2</b> <b>CHECK GROUND CIRCUIT.</b> 1) Turn the ignition switch to OFF. 2) Measure the resistance between harness connector terminal and chassis ground. <b>Connector &amp; terminal</b> <b>(B94) No. 6 — Chassis ground:</b>	Is the resistance less than 10 $\Omega$ ?	Power supply and ground circuit are OK.	Repair the harness.



## Diagnostics with Phenomenon

### CRUISE CONTROL SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
<b>1</b> <b>CHECK CRUISE CONTROL MAIN SWITCH CIRCUIT.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the cruise control command switch harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. <i><b>Connector &amp; terminal</b></i> <i><b>(B68) No. 4 (+) — Chassis ground (-):</b></i>	Is the voltage more than 10 V?	Go to step 2.	<ul style="list-style-type: none"> <li>• Check the fuse No. 18 (in fuse &amp; relay box).</li> <li>• Check the harness for open or short between cruise control main switch and fuse &amp; relay box.</li> </ul>
<b>2</b> <b>CHECK CRUISE CONTROL MAIN SWITCH CIRCUIT.</b> 1) Turn the ignition switch OFF. 2) Disconnect the cruise control module harness connector. 3) Measure the resistance between cruise control module harness connector terminal and cruise control command switch harness connector terminal. <i><b>Connector &amp; terminal</b></i> <i><b>(B94) No. 15 — (B68) No. 5:</b></i>	Is the resistance less than 10 $\Omega$ ?	Go to step 3.	Repair the harness.
<b>3</b> <b>CHECK CRUISE CONTROL MAIN SWITCH.</b> Remove and check the cruise control command switch. <Ref. to CC-8, Cruise Control Command Switch.>	Is the cruise control command switch OK?	Replace the cruise control module.	Replace the cruise control command switch.





## Diagnostics with Phenomenon

### CRUISE CONTROL SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
<p><b>1</b></p> <p><b>CHECK CRUISE INDICATOR LIGHT CIRCUIT.</b></p> <p>1) Turn the ignition switch to OFF.                      2) Disconnect the combination meter harness connector.                      3) Turn the ignition switch to ON.                      4) Measure the voltage between harness connector terminal and chassis ground.</p> <p><b>Connector &amp; terminal</b>  <i>(i11) No. 7 (+) — Chassis ground (-):</i></p>	<p>Is the voltage more than 10 V?</p>	<p>Go to step 2.</p>	<ul style="list-style-type: none"> <li>• Check the fuse No. 13 (in fuse &amp; relay box).</li> <li>• Check the harness for open or short between combination meter and fuse &amp; relay box.</li> </ul>
<p><b>2</b></p> <p><b>CHECK CRUISE INDICATOR LIGHT CIRCUIT.</b></p> <p>1) Turn the ignition switch to OFF.                      2) Disconnect the cruise control module harness connector.                      3) Measure the resistance between cruise control module harness connector terminal and combination meter harness connector terminal.</p> <p><b>Connector &amp; terminal</b>  <i>(B94) No. 1 — (i10) No. 28:</i></p>	<p>Is the resistance less than 10 <math>\Omega</math>?</p>	<p>Go to step 3.</p>	<p>Repair the harness.</p>
<p><b>3</b></p> <p><b>CHECK CRUISE INDICATOR LIGHT CIRCUIT.</b></p> <p>Ground the cruise control module harness connector terminal with a suitable wire.</p> <p><b>Connector &amp; terminal</b>  <i>(B94) No. 1 — Chassis ground:</i></p>	<p>Does the cruise indicator light illuminate?</p>	<p>Replace the cruise control module.</p>	<p>Check the cruise indicator light bulb in combination meter, and replace it if malfunction occurred. No malfunction found, replace the printed circuit of combination meter.</p>

# Diagnostics with Phenomenon

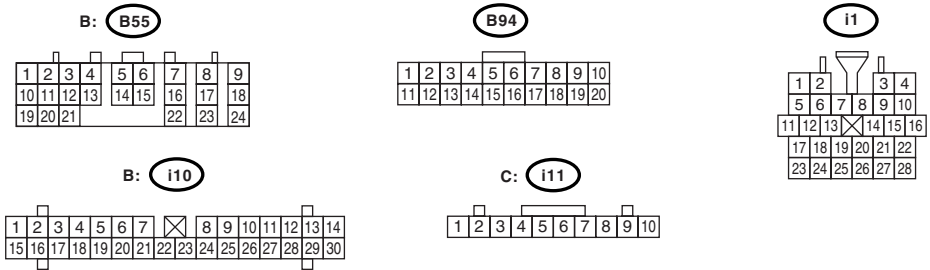
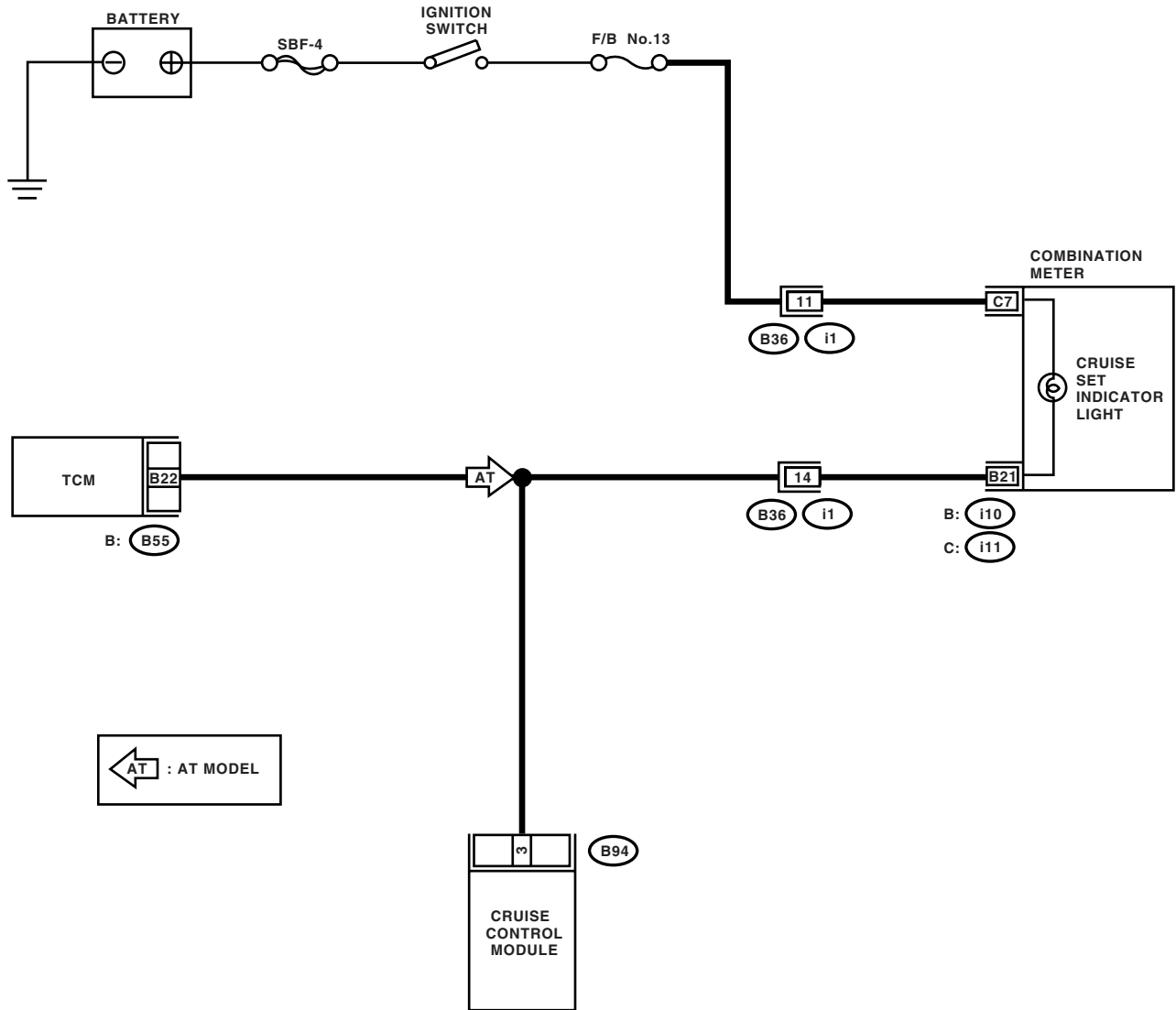
## CRUISE CONTROL SYSTEM (DIAGNOSTICS)

### E: CHECK CRUISE SET INDICATOR LIGHT

#### TROUBLE SYMPTOM:

Cruise control can be set, but cruise set indicator light does not illuminate.

#### WIRING DIAGRAM:



CC-00298

## Diagnostics with Phenomenon

### CRUISE CONTROL SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
<b>1</b> <b>CHECK CRUISE SET INDICATOR LIGHT CIRCUIT.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the combination meter harness connector. 3) Measure the voltage between harness connector terminal and chassis ground. <b>Connector &amp; terminal</b> <i>(i11) No. 7 (+) — Chassis ground (-):</i>	Is the voltage more than 10 V?	Go to step 2.	<ul style="list-style-type: none"> <li>• Check the fuse No. 13 (in fuse &amp; relay box).</li> <li>• Check the harness for open or short between combination meter and fuse &amp; relay box.</li> </ul>
<b>2</b> <b>CHECK CRUISE SET INDICATOR LIGHT CIRCUIT.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the cruise control module harness connector. 3) Measure the resistance between cruise control module harness connector terminal and combination meter harness connector terminal. <b>Connector &amp; terminal</b> <i>(i10) No. 21 — (B94) No. 3:</i>	Is the resistance less than 10 $\Omega$ ?	Go to step 3.	Repair the harness.
<b>3</b> <b>CHECK CRUISE SET INDICATOR LIGHT CIRCUIT.</b> Ground the cruise control module harness connector terminal with a suitable wire. <b>Connector &amp; terminal</b> <i>(B94) No. 3 — Chassis ground:</i>	Does the cruise set indicator light illuminate?	Replace the cruise control module.	Check the cruise set indicator light bulb in combination meter, and replace it if malfunction occurred. No malfunction found, replace the printed circuit of combination meter.

# Diagnostics with Phenomenon

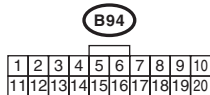
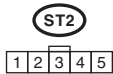
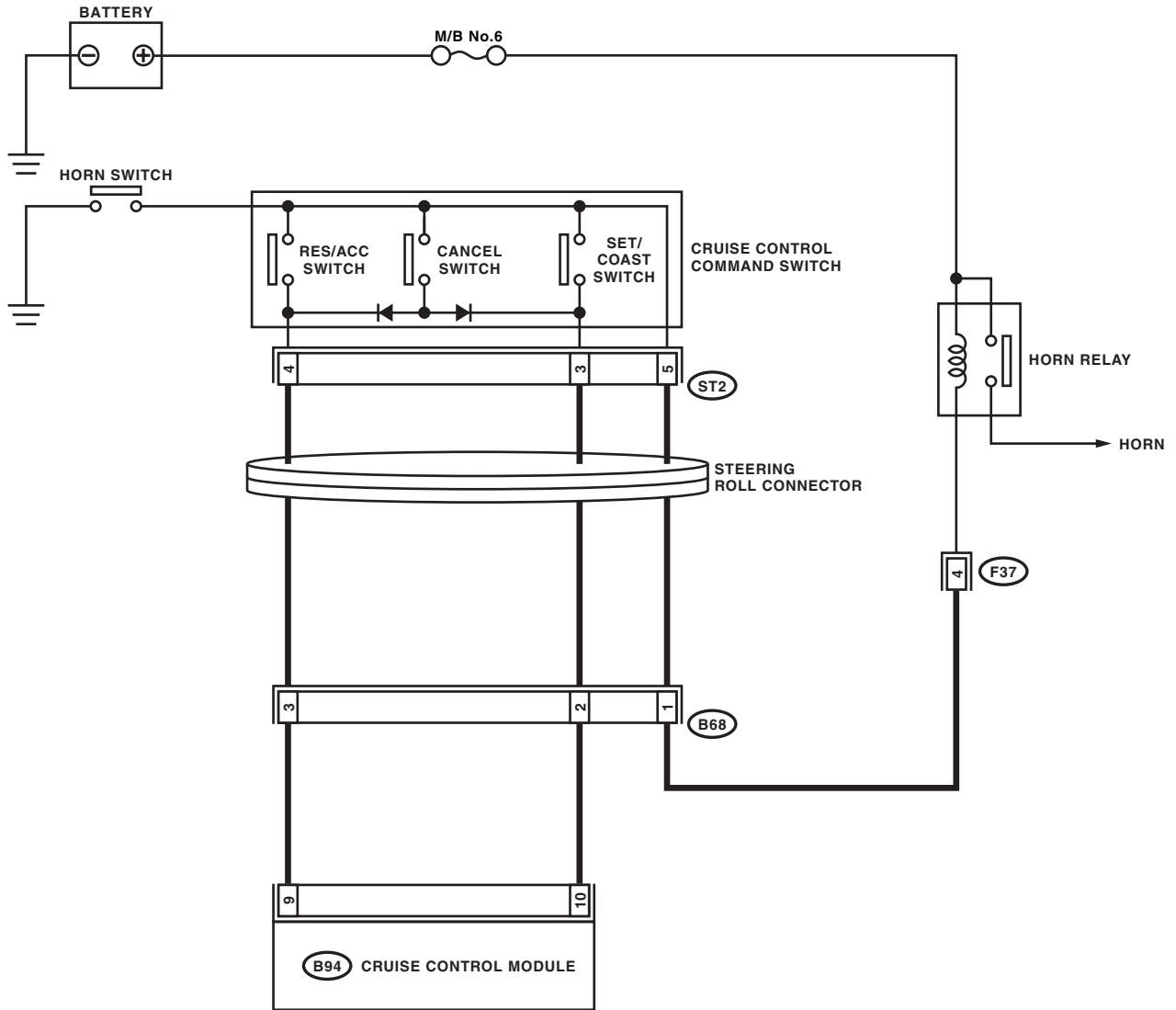
CRUISE CONTROL SYSTEM (DIAGNOSTICS)

## F: CHECK CRUISE CONTROL COMMAND SWITCH

### TROUBLE SYMPTOM:

Cruise control cannot be set. (Cancelled immediately.)

### WIRING DIAGRAM:



CC-00299

## Diagnostics with Phenomenon

### CRUISE CONTROL SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
<b>1 CHECK SET/COAST SWITCH CIRCUIT.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the cruise control module harness connector. 3) Measure the voltage between harness connector terminal and chassis ground when SET/COAST switch is pressed and not pressed. <b>Connector &amp; terminal</b> <b>(B94) No. 10 (+) — Chassis ground (-):</b>	Is the voltage 0 V when SET/COAST switch is not pressed? Is the voltage more than 10 V when SET/COAST switch is pressed?	Go to step 2.	Go to step 4.
<b>2 CHECK RES/ACC SWITCH CIRCUIT.</b> Measure the voltage between harness connector terminal and chassis ground when RES/ACC switch is pressed and not pressed. <b>Connector &amp; terminal</b> <b>(B94) No. 9 (+) — Chassis ground (-):</b>	Is the voltage 0 V when RES/ACC switch is not pressed? Is the voltage more than 10 V when RES/ACC switch is pressed?	Go to step 3.	Go to step 4.
<b>3 CHECK CANCEL SWITCH CIRCUIT.</b> Measure the voltage between harness connector terminal and chassis ground when CANCEL switch is pressed and not pressed. <b>Connector &amp; terminal</b> <b>(B94) No. 9 (+) — Chassis ground (-):</b> <b>(B94) No. 10 (+) — Chassis ground (-):</b>	Is the voltage 0 V when CANCEL switch is not pressed? Is the voltage more than 10 V when CANCEL switch is pressed?	Cruise control switch circuit is OK.	Go to step 4.
<b>4 CHECK POWER SUPPLY FOR CRUISE CONTROL SWITCH.</b> Check the horn operation.	Does the horn sound?	Go to step 5.	<ul style="list-style-type: none"> <li>• Check the fuse No. 6 (in main fuse box).</li> <li>• Check the horn relay. &lt;Ref. to COM-3, HORN RELAY, INSPECTION, Horn System.&gt;</li> <li>• Check the harness for open or short between cruise control switch and fuse &amp; relay box.</li> </ul>
<b>5 CHECK CRUISE CONTROL COMMAND SWITCH.</b> Remove and check the cruise control command switch. <Ref. to CC-8, Cruise Control Command Switch.>	Is the cruise control command switch OK?	Check the harness between cruise control switch and cruise control module.	Replace the cruise control command switch.

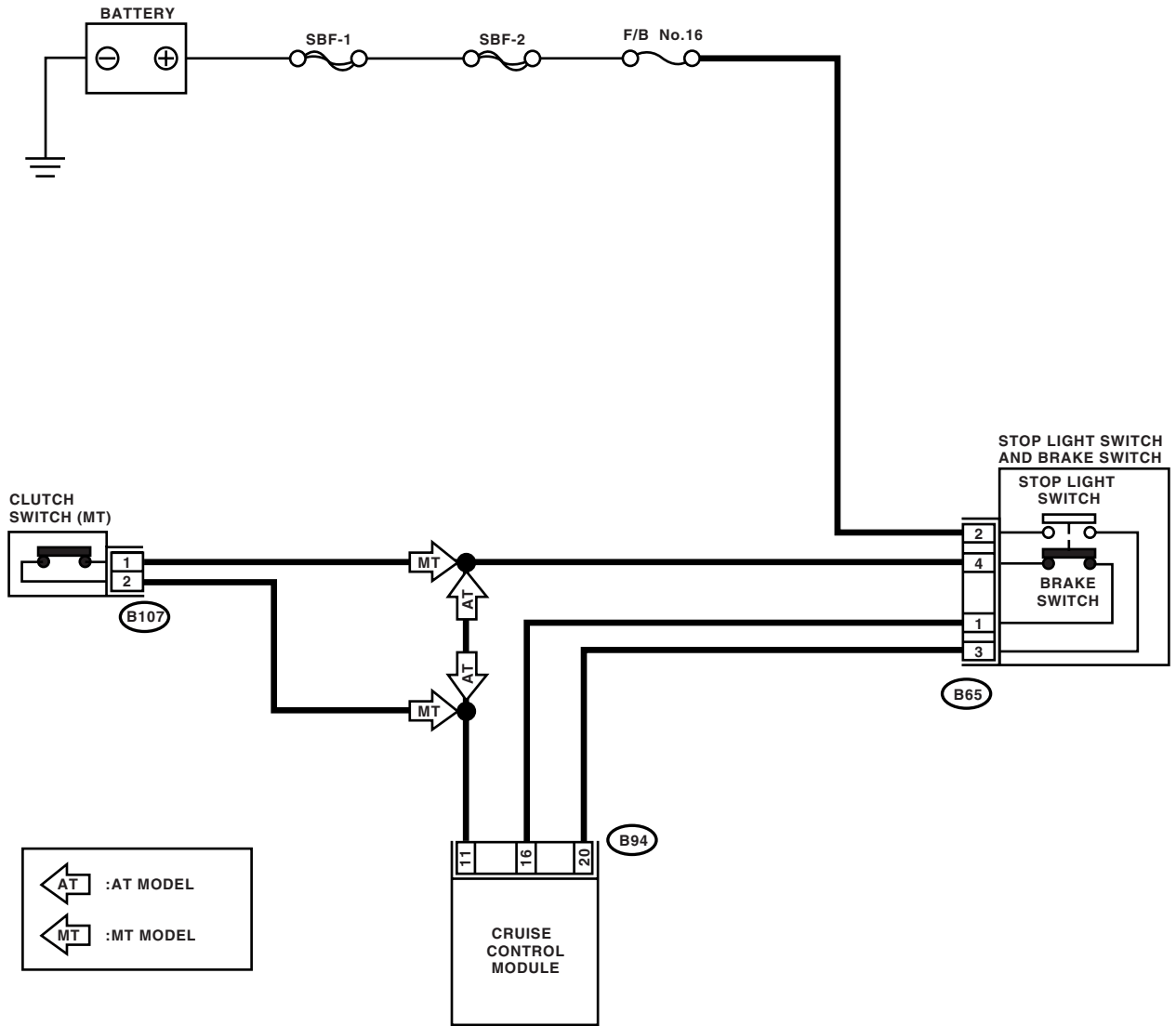
# Diagnostics with Phenomenon

## G: CHECK STOP LIGHT AND BRAKE SWITCH

### TROUBLE SYMPTOM:

Cruise control cannot be set.

### WIRING DIAGRAM:



(B107)



(B65)



(B94)



## Diagnostics with Phenomenon

### CRUISE CONTROL SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
<b>1 CHECK STOP LIGHT AND BRAKE SWITCH CIRCUIT.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the stop light and brake switch harness connector. 3) Turn the ignition switch to ON. 4) Turn the cruise control main switch to ON. 5) Measure the voltage between harness connector terminal and chassis ground. <i><b>Connector &amp; terminal</b></i> <i><b>(B65) No. 2 (+) — Chassis ground (-):</b></i>	Is the voltage more than 10 V?	Go to step 2.	<ul style="list-style-type: none"> <li>• Check the fuse No. 16 (in fuse &amp; relay box).</li> <li>• Check the harness for open or short between stop light/brake switch and fuse &amp; relay box.</li> </ul>
<b>2 CHECK STOP LIGHT AND BRAKE SWITCH CIRCUIT.</b> Measure the voltage between harness connector terminal and chassis ground. <i><b>Connector &amp; terminal</b></i> <i><b>(B65) No. 4 (+) — Chassis ground (-):</b></i>	Is the voltage more than 10 V?	Go to step 3.	<ul style="list-style-type: none"> <li>• Check the harness for open or short between stop light/brake switch and cruise control module (AT model).</li> <li>• Check the clutch switch and circuit (MT model).</li> </ul>
<b>3 CHECK STOP LIGHT AND BRAKE SWITCH CIRCUIT.</b> 1) Turn the cruise control main switch and ignition switch to OFF. 2) Disconnect the cruise control module harness connector. 3) Measure the resistance between cruise control module harness connector terminal and stop light and brake switch harness connector terminal. <i><b>Connector &amp; terminal</b></i> <i><b>(B94) No. 20 — (B65) No. 3:</b></i> <i><b>(B94) No. 16 — (B65) No. 1:</b></i>	Is the resistance less than 10 $\Omega$ ?	Go to step 4.	Repair the harness.
<b>4 CHECK STOP LIGHT AND BRAKE SWITCH.</b> Remove and check the stop light and brake switch. <Ref. to CC-9, Stop Light and Brake Switch.>	Are the stop light and brake switch OK?	Stop light and brake switch circuit are OK.	Replace the stop light and brake switch.



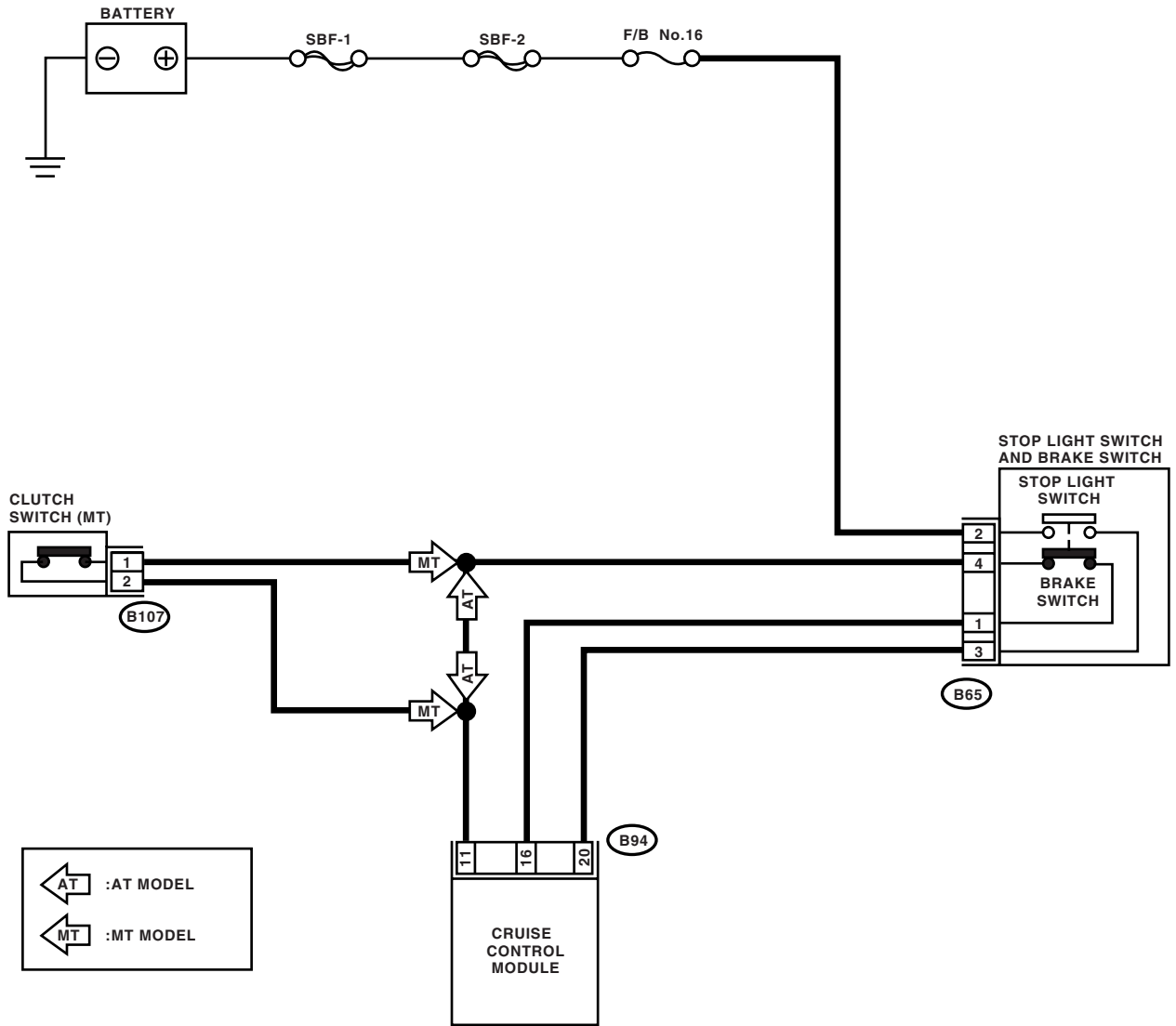
# Diagnostics with Phenomenon

## H: CHECK CLUTCH SWITCH (MT MODEL)

### TROUBLE SYMPTOM:

Cruise control cannot be set.

### WIRING DIAGRAM:



B107



B65



B94



## Diagnostics with Phenomenon

### CRUISE CONTROL SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
<b>1</b> <b>CHECK CLUTCH SWITCH CIRCUIT.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the clutch switch harness connector. 3) Turn the ignition switch to ON. 4) Turn the cruise control main switch to ON. 5) Measure the voltage between harness connector terminal and chassis ground. <b>Connector &amp; terminal</b> <b>(B107) No. 2 (+) — Chassis ground (-):</b>	Is the voltage more than 10 V?	Go to step 2.	Check the harness for open or short between clutch switch and cruise control module.
<b>2</b> <b>CHECK CLUTCH SWITCH CIRCUIT.</b> 1) Turn the cruise control main switch and ignition switch to OFF. 2) Disconnect the stop light and brake switch harness connector. 3) Measure the resistance between clutch switch harness connector terminal and stop light and brake switch harness connector terminal. <b>Connector &amp; terminal</b> <b>(B107) No. 1 — (B65) No. 4:</b>	Is the resistance less than 10 $\Omega$ ?	Go to step 3.	Repair the harness.
<b>3</b> <b>CHECK CLUTCH SWITCH.</b> Remove and check the clutch switch. <Ref. to CC-10, Clutch Switch.>	Is the clutch switch OK?	Clutch switch circuit is OK.	Replace the clutch switch.

# Diagnostics with Phenomenon

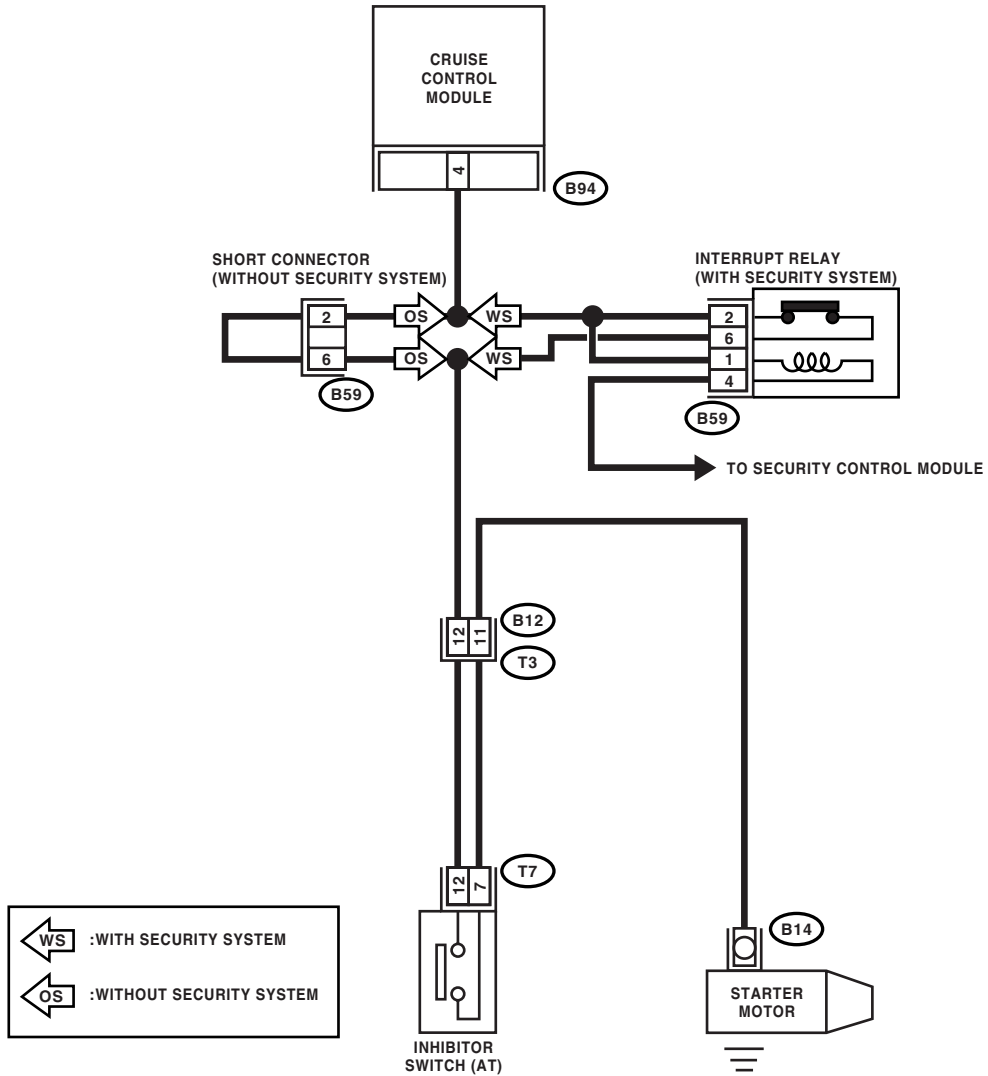
CRUISE CONTROL SYSTEM (DIAGNOSTICS)

## I: CHECK INHIBITOR SWITCH (AT MODEL)

### TROUBLE SYMPTOM:

Cruise control cannot be set.

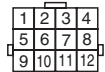
### WIRING DIAGRAM:



B59



B12



T7



B94



CC-00189

## Diagnostics with Phenomenon

### CRUISE CONTROL SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
<b>1</b> <b>CHECK INHIBITOR SWITCH CIRCUIT.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the inhibitor switch harness connector. 3) Turn the ignition switch to ON. 4) Turn the cruise control main switch to ON. 5) Measure the voltage between harness connector terminal and chassis ground. <i><b>Connector &amp; terminal</b></i> <i><b>(T7) No. 12 (+) — Chassis ground (-):</b></i>	Is the voltage more than 10 V?	Go to step <b>2</b> .	Check the harness for open or short between inhibitor switch and cruise control module.
<b>2</b> <b>CHECK INHIBITOR SWITCH CIRCUIT.</b> 1) Turn the cruise control main switch and ignition switch to OFF. 2) Disconnect the starter motor harness connector. 3) Measure the resistance between inhibitor switch harness connector terminal and chassis ground. <i><b>Connector &amp; terminal</b></i> <i><b>(T7) No. 7 — (B14) No. 1:</b></i>	Is the resistance less than 10 $\Omega$ ?	Go to step <b>3</b> .	Repair the harness.
<b>3</b> <b>CHECK INHIBITOR SWITCH.</b> Remove and check the inhibitor switch. <Ref. to CC-11, Inhibitor Switch.>	Is the inhibitor switch OK?	Inhibitor switch circuit is OK.	Replace the inhibitor switch.

## List of Diagnostic Trouble Code (DTC)

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

### 7. List of Diagnostic Trouble Code (DTC)

#### A: LIST

DTC	Item	Contents of diagnosis	Reference
21	Inner relay is seized.	Cruise control module inner relay is seized when main switch is OFF.	<Ref. to CC(diag)-31, DTC 21, 24, 25 AND 2A CRUISE CONTROL MODULE BUILT-IN RELAY, CPU RAM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
22	Vehicle speed sensor	Vehicle speed signal changes more than 10 km/h (6 MPH) within 350 ms.	<Ref. to CC(diag)-32, DTC 22 VEHICLE SPEED SENSOR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
24	Cruise control module is abnormal.	Two vehicle speed values stored in cruise control module memory are not the same.	<Ref. to CC(diag)-31, DTC 21, 24, 25 AND 2A CRUISE CONTROL MODULE BUILT-IN RELAY, CPU RAM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
25	Cruise control module is abnormal.	Two output values stored in cruise control module memory are not the same.	<Ref. to CC(diag)-31, DTC 21, 24, 25 AND 2A CRUISE CONTROL MODULE BUILT-IN RELAY, CPU RAM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
28	Wiring harness opened.	Open wiring harness circuit is detected via control module relay when main switch is ON.	<Ref. to CC(diag)-34, DTC 28 WIRING HARNESS OPENED, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
35	Motor drive system is abnormal.	<ul style="list-style-type: none"> <li>• Motor output circuit is open or shorted.</li> <li>• Motor drive circuit is open or shorted.</li> </ul>	<Ref. to CC(diag)-35, DTC 35 AND 36 ACTUATOR MOTOR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
36	Trouble of motor turning speed	Motor turning speed is low.	<Ref. to CC(diag)-35, DTC 35 AND 36 ACTUATOR MOTOR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
37	Motor clutch drive system is abnormal.	<ul style="list-style-type: none"> <li>• Motor clutch output circuit is open or shorted.</li> <li>• Motor clutch drive circuit is open or shorted.</li> </ul>	<Ref. to CC(diag)-37, DTC 37 ACTUATOR MOTOR CLUTCH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

## List of Diagnostic Trouble Code (DTC)

### CRUISE CONTROL SYSTEM (DIAGNOSTICS)

DTC	Item	Contents of diagnosis	Reference
38	Motor drive shaft does not engage properly.	Motor drive gear engagement is not properly adjusted.	<Ref. to CC(diag)-39, DTC 38 MOTOR DRIVE SHAFT DOES NOT ENGAGE PROPERLY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
39	Motor is overloaded.	Current flows through motor more frequently than under normal conditions.	<Ref. to CC(diag)-39, DTC 39 MOTOR IS OVERLOADED, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
2A	Cruise control module is abnormal.	Cruise control module self-diagnosis function senses abnormality.	<Ref. to CC(diag)-31, DTC 21, 24, 25 AND 2A CRUISE CONTROL MODULE BUILT-IN RELAY, CPU RAM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

### 8. Diagnostic Procedure with Diagnostic Trouble Code (DTC)

#### A: DTC 21, 24, 25 AND 2A CRUISE CONTROL MODULE BUILT-IN RELAY, CPU RAM

##### DIAGNOSIS:

- Poor welding of built-in relay of cruise control module.
- Failure of built-in CPU RAM of cruise control module.

##### TROUBLE SYMPTOM:

- Cruise control is canceled and memorized cruise speed is also canceled.
- Once cruise control is canceled, cruise control cannot be set until the ignition switch and cruise control main switch turns OFF, and then turns ON again.

##### NOTE:

Check input/output signal and vehicle speed signal with select monitor. When signals are in good condition, failure is in cruise control module. (Check the power supply and ground conditions of cruise control module.)

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

## CRUISE CONTROL SYSTEM (DIAGNOSTICS)

### B: DTC 22 VEHICLE SPEED SENSOR

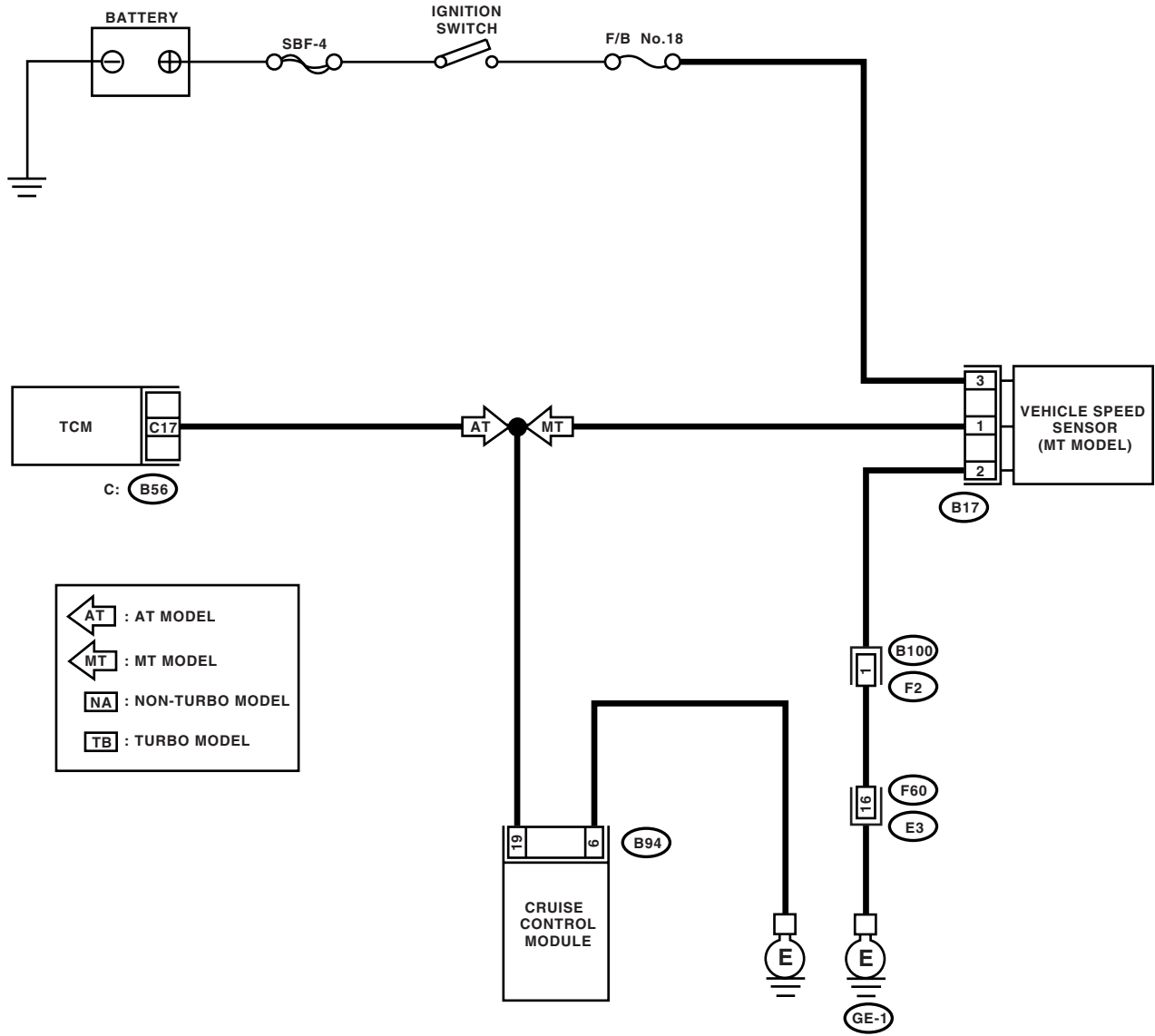
#### DIAGNOSIS:

Disconnection or short circuit of vehicle speed sensor system.

#### TROUBLE SYMPTOM:

Cruise control cannot be set. (Cancelled immediately.)

#### WIRING DIAGRAM:





# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

## CRUISE CONTROL SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
<b>1</b>	<b>CHECK TRANSMISSION TYPE.</b>	Go to step 2.	Go to step 6.
<b>2</b>	<b>CHECK HARNESS BETWEEN BATTERY AND VEHICLE SPEED SENSOR.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from vehicle speed sensor. 3) Turn the ignition switch to ON. 4) Measure the voltage between vehicle speed sensor harness connector terminal and chassis ground.  <b>Connector &amp; terminal</b> <b>(B17) No. 3 (+) — Chassis ground (-):</b>	Go to step 3.	Check the harness for open or short between fuse and vehicle speed sensor.
<b>3</b>	<b>CHECK HARNESS BETWEEN CRUISE CONTROL MODULE AND VEHICLE SPEED SENSOR.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from cruise control module. 3) Measure the resistance between vehicle speed sensor harness connector terminal and cruise control module harness connector terminal.  <b>Connector &amp; terminal</b> <b>(B17) No. 1 — (B94) No. 19:</b>	Go to step 4.	Repair the harness.
<b>4</b>	<b>CHECK HARNESS BETWEEN VEHICLE SPEED SENSOR AND ENGINE GROUND.</b> 1) Turn the ignition switch to OFF. 2) Measure the resistance between vehicle speed sensor harness connector terminal and engine ground.  <b>Connector &amp; terminal</b> <b>(B17) No. 2 — Engine ground:</b>	Go to step 5.	Repair the harness.
<b>5</b>	<b>CHECK VEHICLE SPEED SENSOR.</b> 1) Connect the harness connector to vehicle speed sensor. 2) Lift-up the vehicle and support with rigid racks. 3) Drive the vehicle at speed greater than 20 km/h (12 MPH).  <b>Warning:</b> <b>Be careful not to be caught up by the running wheels.</b> 4) Measure the voltage between cruise control module harness connector terminal and chassis ground.  <b>Connector &amp; terminal</b> <b>(B94) No. 19 (+) — Chassis ground (-):</b>	Replace the cruise control module. <Ref. to CC-7, Cruise Control Unit.>	Replace the vehicle speed sensor.
<b>6</b>	<b>CHECK HARNESS BETWEEN CRUISE CONTROL MODULE AND TRANSMISSION CONTROL MODULE.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from transmission control module and cruise control module. 3) Measure the resistance between cruise control module harness connector terminal and transmission control module harness connector terminal.  <b>Connector &amp; terminal</b> <b>(B94) No. 19 — (B56) No. 17:</b>	Go to step 7.	Repair the harness.

## Diagnostic Procedure with Diagnostic Trouble Code (DTC)

### CRUISE CONTROL SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
<b>7</b> <b>CHECK TRANSMISSION CONTROL MODULE.</b> 1) Connect the harness connector to transmission control module. 2) Lift-up the vehicle and support with rigid racks. 3) Drive the vehicle faster than 10 km/h (6 MPH). <b>Warning:</b> <b>Be careful not to be caught by the running wheels.</b> 4) Measure the voltage between transmission control module harness connector terminal and chassis ground. <b>Connector &amp; terminal</b> <b>(B56) No. 17 (+) — Chassis ground (-):</b>	Is the voltage less than 1 V ←→ more than 5 V?	Replace the cruise control module. <Ref. to CC-7, Cruise Control Unit.>	Replace the transmission control module. <Ref. to 4AT-76, Transmission Control Module (TCM).>

### C: DTC 28 WIRING HARNESS OPENED

Step	Check	Yes	No
<b>1</b> <b>CHECK BATTERY.</b> Measure the battery specific gravity of electrolyte.	Is the battery specific gravity more than 1.260?	Go to step 2.	Charge or replace the battery. Go to step 2.
<b>2</b> <b>CHECK FUSES, CONNECTORS AND HARNESSSES.</b> Check the condition of the main and other fuses, and harnesses and connectors. Also check for proper grounding.	Is there anything unusual about the appearance of main fuse, fuse, harness, connector and grounding?	Repair or replace the faulty parts.	End of inspection.

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

## D: DTC 35 AND 36 ACTUATOR MOTOR

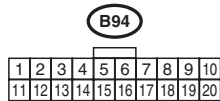
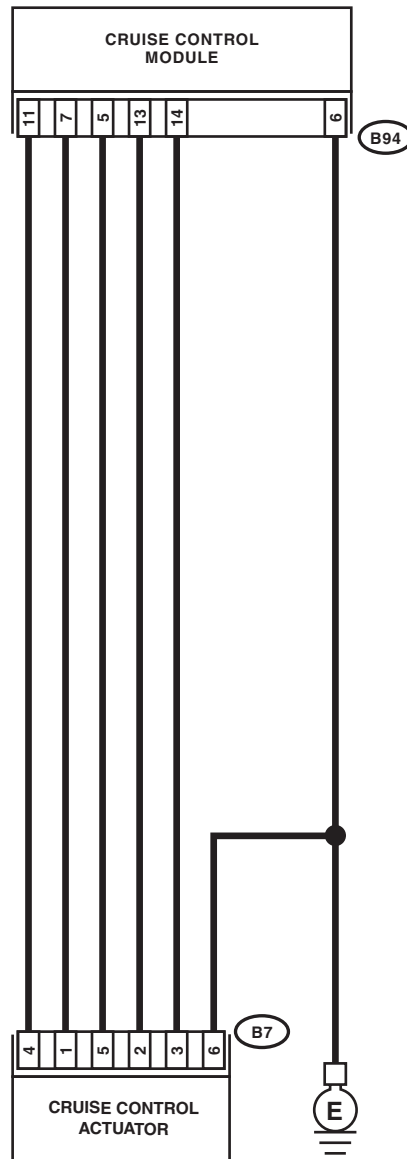
### DIAGNOSIS:

Open or poor contact of cruise control actuator motor.

### TROUBLE SYMPTOM:

Cruise control cannot be set. (Cancelled immediately.)

### WIRING DIAGRAM:



CC-00177

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

## CRUISE CONTROL SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
<b>1 CHECK POWER SUPPLY.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from cruise control actuator. 3) Turn the ignition switch to ON. 4) Turn the cruise control main switch to ON. 5) Measure the voltage between cruise control actuator harness connector terminal and chassis ground. <i><b>Connector &amp; Terminal</b></i> <i><b>(B7) No. 4 (+) — Chassis ground (-):</b></i>	Is the voltage more than 10 V?	Go to step 2.	Check the harness for open or short between cruise control module and cruise control actuator.
<b>2 CHECK GROUND CIRCUIT OF ACTUATOR.</b> 1) Turn the ignition switch and cruise control main switch to OFF. 2) Measure the resistance between cruise control actuator harness connector terminal and chassis ground. <i><b>Connector &amp; Terminal</b></i> <i><b>(B7) No. 6 — Chassis ground:</b></i>	Is the resistance less than 10 $\Omega$ ?	Go to step 3.	Repair the harness.
<b>3 MEASURE RESISTANCE OF ACTUATOR.</b> Measure the resistance of cruise control actuator motor. <i><b>Terminals</b></i> <i><b>No. 4 — No. 1:</b></i> <i><b>No. 4 — No. 2:</b></i> <i><b>No. 4 — No. 5:</b></i>	Is the resistance approx. 5 $\Omega$ ?	Go to step 4.	Replace the cruise control actuator. <Ref. to CC-6, Actuator.>
<b>4 CHECK HARNESS BETWEEN ACTUATOR AND CRUISE CONTROL MODULE.</b> 1) Disconnect the harness connector from cruise control module. 2) Measure the resistance between cruise control module harness connector terminal and cruise control actuator harness connector terminal. <i><b>Connector &amp; terminal</b></i> <i><b>(B7) No. 1 — (B94) No. 7:</b></i>	Is the resistance less than 10 $\Omega$ ?	Go to step 5.	Repair the harness.
<b>5 CHECK HARNESS BETWEEN ACTUATOR AND CRUISE CONTROL MODULE.</b> Measure the resistance between cruise control module harness connector terminal and cruise control actuator harness connector terminal. <i><b>Connector &amp; terminal</b></i> <i><b>(B7) No. 5 — (B94) No. 5:</b></i>	Is the resistance less than 10 $\Omega$ ?	Replace the cruise control module. <Ref. to CC-7, Cruise Control Unit.>	Repair the harness.

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

## E: DTC 37 ACTUATOR MOTOR CLUTCH

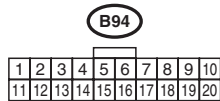
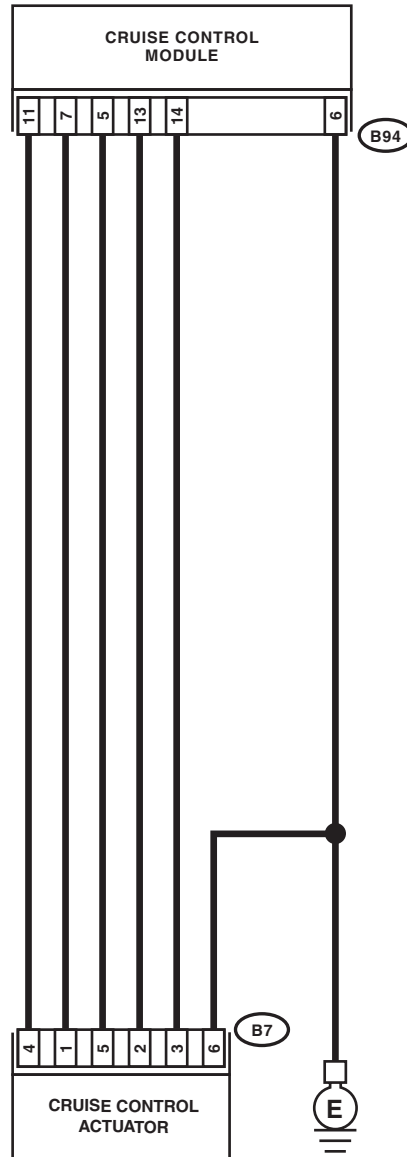
### DIAGNOSIS:

Open or poor contact of cruise control actuator motor clutch.

### TROUBLE SYMPTOM:

Cruise control cannot be set. (Cancelled immediately.)

### WIRING DIAGRAM:



CC-00177

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

## CRUISE CONTROL SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
<b>1 CHECK POWER SUPPLY.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from cruise control actuator. 3) Turn the ignition switch to ON. 4) Turn the cruise control main switch to ON. 5) Measure the voltage between cruise control actuator harness connector terminal and chassis ground. <i>Terminals</i> <i>(B7) No. 4 (+) — Chassis ground (-):</i>	Is the voltage more than 10 V?	Go to step 2.	Check the harness for open or short between cruise control module and cruise control actuator.
<b>2 CHECK GROUND CIRCUIT OF ACTUATOR.</b> 1) Turn the ignition switch and cruise control main switch to OFF. 2) Measure the resistance between cruise control actuator harness connector terminal and chassis ground. <i>Terminals</i> <i>(B7) No. 6 — Chassis ground:</i>	Is the resistance less than 10 $\Omega$ ?	Go to step 3.	Repair the harness.
<b>3 MEASURE RESISTANCE OF ACTUATOR CLUTCH.</b> Measure the resistance of cruise control actuator clutch. <i>Terminals</i> <i>No. 3 — No. 6:</i>	Is the resistance approximately 39 $\Omega$ ?	Go to step 4.	Replace the cruise control actuator. <Ref. to CC-6, Actuator.>
<b>4 CHECK HARNESS BETWEEN ACTUATOR AND CRUISE CONTROL MODULE.</b> 1) Disconnect the harness connector from cruise control module. 2) Measure the resistance between cruise control module harness connector terminal and cruise control actuator harness connector terminal. <i>Connector &amp; terminal</i> <i>(B7) No. 2 — (B94) No. 13:</i>	Is the resistance less than 10 $\Omega$ ?	Go to step 5.	Repair the harness.
<b>5 CHECK HARNESS BETWEEN ACTUATOR AND CRUISE CONTROL MODULE.</b> Measure the resistance between cruise control module harness connector terminal and cruise control actuator harness connector terminal. <i>Connector &amp; terminal</i> <i>(B7) No. 3 — (B94) No. 14:</i>	Is the resistance less than 10 $\Omega$ ?	Replace the cruise control module. <Ref. to CC-7, Cruise Control Unit.>	Repair the harness.

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

## F: DTC 38 MOTOR DRIVE SHAFT DOES NOT ENGAGE PROPERLY

Step	Check	Yes	No
<b>1 CHECK ACTUATOR MOTOR.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from cruise control actuator. 3) Remove the cruise control actuator from mounting bracket. 4) Pull the cable by hand to check for looseness or status of inner gear engagement.	Are foreign particles caught in the inner gear or does inner gear engage and disengage improperly?	Replace the cruise control actuator. <Ref. to CC-6, Actuator.>	Check the cruise control cable adjustment. <Ref. to CC(diag)-5, CABLE FREE PLAY, INSPECTION, General Description.>

## G: DTC 39 MOTOR IS OVERLOADED

Step	Check	Yes	No
<b>1 CHECK THE OPERATING CURRENT TO ACTUATOR MOTOR.</b> 1) Connect the Subaru Select Monitor to data link connector. 2) Try to drive the vehicle while operating the cruise control system. 3) Measure the operation current to the cruise control actuator motor. <b>Connector &amp; terminal</b> <b>(B7) No. 4 (+) — Chassis ground (-):</b>	Is the current more than 10 A?	Replace the cruise control module. <Ref. to CC-7, Cruise Control Unit.>	Check the power supply circuit. <Ref. to CC(diag)-13, CHECK POWER SUPPLY, Diagnostics with Phenomenon.>

# **Diagnostic Procedure with Diagnostic Trouble Code (DTC)**

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

---