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1. Basic Diagnostic Procedure

A: PROCEDURE

	Step	Check	Yes	No
1	CHECK MALFUNCTION INDICATOR LIGHT. Make sure the malfunction indicator light illuminates.	Does the malfunction indicator light illuminate?	Go to step 5.	Go to step 2.
2	CHECK CRUISE INDICATOR LIGHT. Make sure the cruise indicator light blinks.	Does the cruise indicator light blink?	Go to step 5.	Go to step 3.
3	CHECK CRUISE CONTROL MAIN SWITCH OPERATION. Check cruise control main switch operation. (Ensure the cruise indicator light illuminates.)	Is the cruise control main switch turned on? (Does the cruise indicator light illuminate?)	Go to step 4.	Go to phenomenon 1. <ref. cc(diag)-9,="" diagnostic="" diagnostics="" phenomenon,="" phenomenon.="" procedure="" to="" with=""></ref.>
4	CHECK CRUISE CONTROL SET OPERATION. Check the cruise control setting operation.	Can the cruise control be set while driving at 40 km/h (25 MPH) or more?	Go to step 6.	Go to step 5.
5	PERFORM CRUISE CONTROL CANCEL CONDITIONS DIAGNOSIS. Perform the cruise cancel conditions diagnosis.	Is DTC displayed?	Go to List of Diagnostic Trouble Code (DTC). <ref. (dtc).="" cc(diag)-12,="" code="" diagnostic="" list="" of="" to="" trouble=""></ref.>	Go to phenomenon 2. <ref. cc(diag)-9,="" diagnostic="" diagnostics="" phenomenon,="" phenomenon.="" procedure="" to="" with=""></ref.>
6	CHECK CRUISE SET INDICATOR LIGHT. Make sure the cruise set indicator light illuminates.	Does the cruise set indicator light illuminate?	Go to step 7.	Go to phenomenon 3. <ref. cc(diag)-9,="" diagnostic="" diagnostics="" phenomenon,="" phenomenon.="" procedure="" to="" with=""></ref.>
7	CHECK VEHICLE SPEED IS HELD WITHIN SET SPEED. Make sure the vehicle speed is held within set speed.	Is the vehicle speed kept within setting speed ±3 km/h (±2 MPH) ? (Make sure that on a level road.)	Go to step 8.	Go to phenomenon 4. <ref. cc(diag)-9,="" diagnostic="" diagnostics="" phenomenon,="" phenomenon.="" procedure="" to="" with=""></ref.>
8	CHECK RESUME/ACCEL OPERATION. Check the RESUME/ACCEL switch operation.	Does the vehicle speed increase or return to set speed after RESUME/ACCEL switch has been pressed?	Go to step 9.	Go to phenomenon 5. <ref. cc(diag)-9,="" diagnostic="" diagnostics="" phenomenon,="" phenomenon.="" procedure="" to="" with=""></ref.>

Basic Diagnostic Procedure

	Basic Diagnostic Procedure CRUISE CONTROL SYSTEM (DIAGNOSTICS)				
	Step	Check	Yes	No	
9	CHECK SET/COAST OPERATION. Check the SET/COAST switch operation.	Does the vehicle speed decrease after SET/COAST switch has been pressed?	Go to step 10.	Go to phenomenon 6. <ref. cc(diag)-9,="" diagnostic="" diagnostics="" phenomenon,="" phenomenon.="" procedure="" to="" with=""></ref.>	
10	CANCEL OPERATION CHECK. Check the CANCEL switch operation.	Is the cruise control released after CANCEL switch has been pressed?	Go to step 11.	Go to phenomenon 7. <ref. cc(diag)-9,="" diagnostic="" diagnostics="" phenomenon,="" phenomenon.="" procedure="" to="" with=""></ref.>	
11	CHECK CRUISE CONTROL RELEASE OP- ERATION. Check the cruise control release operation.	Is the cruise control released after brake pedal has been depressed?	Go to step 12.	Go to phenomenon 8. <ref. cc(diag)-9,="" diagnostic="" diagnostics="" phenomenon,="" phenomenon.="" procedure="" to="" with=""></ref.>	
12	CHECK CRUISE CONTROL RELEASE OP- ERATION. Check the cruise control release operation.	Is the cruise control released after shifting to the neutral position?	Go to step 13.	Go to phenomenon 9. <ref. cc(diag)-9,="" diagnostic="" diagnostics="" phenomenon,="" phenomenon.="" procedure="" to="" with=""></ref.>	
13	CHECK CRUISE CONTROL RELEASE OP- ERATION. Check the cruise control release operation.	Is the cruise control released after depressing the clutch pedal?	Finish the diagnosis.	Go to phenomenon 10. <ref. cc(diag)-9,="" diagnostic="" diagnostics="" phenomenon,="" phenomenon.="" procedure="" to="" with=""></ref.>	

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2. General Description

A: CAUTION

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

CAUTION:

- Airbag system wiring harnesses and connectors are 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 command switch. Airbag system wiring harness is routed near the cruise control command switch.

B: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
	1B021XU0	SUBARU SELECT MONITOR III KIT	Used for troubleshooting the electrical system.
ST1B021XU0			

2. GENERAL TOOL

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

C: INSPECTION

Measure the battery voltage and specific gravity of electrolyte.

Standard voltage:

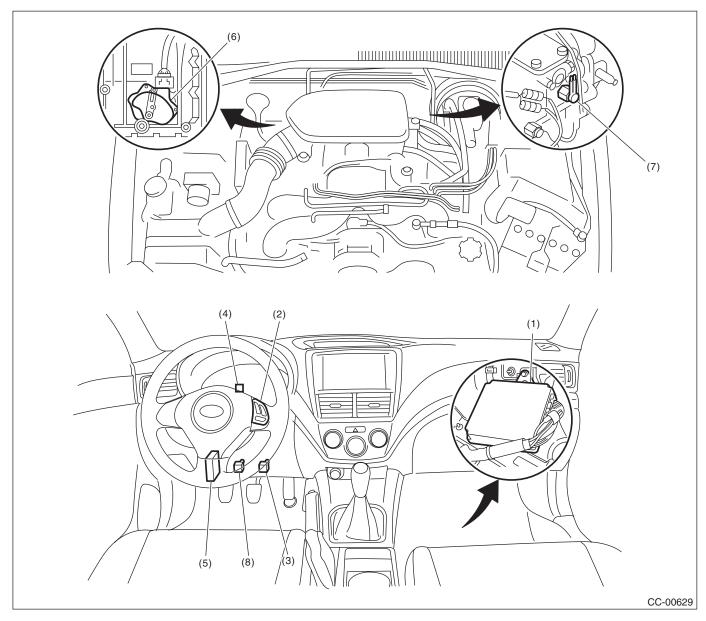
12 V or more

Specific gravity:

1.260 or more

3. Electrical Component Location

A: LOCATION

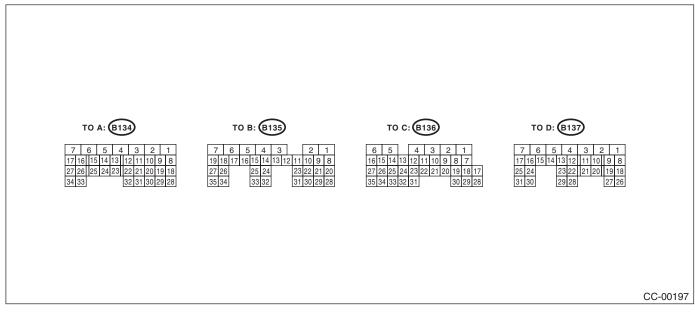


- (1) Engine control module (ECM)
- (2) Cruise control command switch
- (3) Stop light & brake switch
- (4) Cruise indicator light and cruise set indicator light
- (5) Transmission control module (TCM) (AT model)
- (6) Inhibitor switch (AT model)
- Neutral position switch (MT model)
- (8) Clutch switch (MT model)

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4. Engine Control Module (ECM) I/O Signal

A: ELECTRICAL SPECIFICATION



	Contents	Terminal No.	Measurement condition and I/O signal (Idling with ignition ON: Except cruise set light)	
Main power supply	VB (CONTROL 1) VB (CONTROL 2)	A7, B2	Battery voltage is detected when the main power is turned ON. "0 V" is detected when the main power is turned OFF.	
Command switch		B24	 "0 V" is detected when the command switch is in CANCEL position. "Approx. 1 V" is present when the command switch is in SET/COAST position. "Approx. 3 V" is detected when the command switch is in RESUME/ACCEL position. "Approx. 4 V" is detected when the command switch is released. 	
Brake switch 1 (Brake switch)		B20	 Battery voltage is detected when the brake pedal is released. "0 V" is present when brake pedal is depressed. 	
Brake switch 2 (Stop light switch)		B28	 Battery voltage is present when brake pedal is depressed. "0 V" is detected when the brake pedal is released. 	
Main swit	ch	B12	 "0 V" is present while the main switch is pressed or turned on. Approx. "5 V" is detected when the main switch is OFF. 	
Ground	GND (CONTROL 1) GND (CONTROL 2)	A5 C14 (2.0L Non-turbo model only)	_	
Ignition s	witch	B19	 Battery voltage is detected when the ignition switch is turned ON. "0 V" is detected when the ignition switch is turned OFF. 	
Clutch sw (MT mod		C25	 "0 V "is present when brake pedal is depressed. Battery voltage is detected when the clutch pedal is released.	
Neutral position switch (MT model)		C31	 Battery voltage is present when the shift lever is set in any position other than neutral. "Approx. 0 V" is detected when the shift lever is in neutral position. 	
Neutral signal (AT model)		C31 (Model without push start) B13 (Model with push start)	 "Approx. 5 V" (4AT model) or battery voltage (5AT model) is detected when the shift lever is set in any position except "P" or "N". "0 V" is detected when the shift lever is in "P" or "N" position. 	

B: WIRING DIAGRAM

<Ref. to WI-218, WIRING DIAGRAM, Cruise Control System.>

5. Subaru Select Monitor A: OPERATION

1. GENERAL DESCRIPTION

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

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

- 1) Cruise Control 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 memory in ECM stores the cancel condition (Code No.) which occurred during driving. When there are multiple cancel conditions (Code No.), they are shown on the Subaru Select Monitor.

CAUTION:

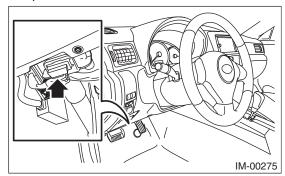
- The cruise control memory stores not only the cruise "cancel" which occurred (although "cancel" operation is not entered by the driver), but also the "cancel" condition input by the driver.
- The latest memory content (latest code) is cleared when ignition switch is turned to OFF. However, the memory content by the diagnosis of faulty switches relating to the system and cruise control is retained as the fault history (memory code) after the ignition switch is turned OFF.
- 2) Real-time Diagnosis:

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 when the problem occurs in the cruise control system or relevant circuits.
- (2) Monitor the signal conditions from switches and sensors.

2. CRUISE CONTROL CANCEL CONDITIONS DIAGNOSIS

- 1) Prepare the Subaru Select Monitor kit.
- 2) Connect the diagnosis cable to the Subaru Select Monitor.
- 3) Connect the Subaru Select Monitor to the 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 the data link connector.
- 4) Start the engine and turn the cruise control main switch to ON.
- 5) Start up the Subaru Select Monitor.
- 6) Select {2. Each System Check} in «Main Menu». On the system selection display screen, select the {Engine Control System} and the [OK]. Select the [OK] after the information of engine type is displayed.
- 7) Drive vehicle at 40 km/h (25 MPH) or more and set the cruise control.

CAUTION:

- When performing diagnosis, observe the legal speed limit on the road.
- DTC will be also displayed when cruise control is cancelled by the driver's operation. Do not confuse them.
- Be sure to get an assistant to support the diagnosis while driving, and have him/her operate the select monitor.

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8) When the set speed is canceled by itself (without any cancel operations such as applying brake) or when the cruise control could not be set by performing the setting operation, selecting the {Check Cancel Code} on the engine malfunction diagnosis screen will display the DTC on the select monitor display.

NOTE:

There are {Latest Code} and {Memory Code} in DTC. The latest code recognized during current test drive is displayed in {Latest Code}. DTCs by the diagnosis of faulty switches relating to the system and cruise control are displayed in {Memory Code}.

9) Perform Engine DTC Clear Memory operation. <Ref. to EN(H4DOTC)(diag)-55, OPERATION, Clear Memory Mode.>

DTCs of switches relating to the system and cruise control are deleted by clearing memory on the engine side.

NOTE:

The latest code will be cleared by turning ignition switch to OFF.

3. REAL-TIME DIAGNOSIS

- 1) Connect the Subaru Select Monitor.
- 2) Turn the ignition switch and cruise control main switch to ON.
- 3) Start up the Subaru Select Monitor.
- 4) Select {2. Each System Check} in «Main Menu».
- 5) On the «System Selection» display screen, select the {Engine Control System}.
- 6) Select the [OK] after the information of engine type is displayed.
- 7) Select {Current Data Display & Save} in Cruise Control Diagnosis display screen.
- 8) Make sure that normal display is shown when operated as follows:
- Depress and release the brake pedal. (Stop light switch and brake switch are turned ON.)
- · Turn the main switch to ON.
- Turn the «CANCEL» switch to ON.
- Turn the «SET/COAST» switch to ON.
- Turn the «RESUME/ACCEL» switch to ON.
- Depress or release the clutch pedal.
- Place the shift lever in any position other than neutral.

NOTE:

- For details concerning operation procedures, refer to the "SUBARU SELECT MONITOR OPERA-TION MANUAL".
- Refer to List of Diagnostic Trouble Code (DTC) for DTC. <Ref. to CC(diag)-12, List of Diagnostic Trouble Code (DTC).>

6. Diagnostics with Phenomenon

A: DIAGNOSTIC PROCEDURE WITH PHENOMENON

	Phenomenon	Check item	Reference
		(1) Check the cruise indicator light.	<ref. cc(diag)-11,="" check="" cruise="" indicator<br="" to="">LIGHT AND CRUISE SET INDICATOR LIGHT, Diagnostics with Phenomenon.></ref.>
1	Cruise control main switch is not turned to ON. (Cruise indicator light does not illuminate.)	(2) Check the cruise control command switch.	<ref. (dtc).="" 11,="" cc(diag)-15,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 15,="" cc(diag)-22,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 21,="" cc(diag)-24,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 24,="" cc(diag)-24,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 65,="" cc(diag)-26,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> with Diagnostic Trouble Code (DTC).></ref.></ref.></ref.></ref.></ref.>
		(1) Check the cruise control command switch.	<ref. (dtc).="" 11,="" cc(diag)-15,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 15,="" cc(diag)-22,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 21,="" cc(diag)-24,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 24,="" cc(diag)-24,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 65,="" cc(diag)-26,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> with Diagnostic Trouble Code (DTC).></ref.></ref.></ref.></ref.></ref.>
2	Cruise control cannot be set.	(2) Check stop light switch and brake switch.	<ref. (dtc).="" 12,="" cc(diag)-17,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 25,="" cc(diag)-24,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 61,="" cc(diag)-25,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""></ref.></ref.></ref.>
		(3) Check clutch switch.	<ref. (dtc).="" 13,="" cc(diag)-19,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""></ref.>
		(4) Check the neutral position switch.	<ref. (dtc).="" 14,="" cc(diag)-21,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 62,="" cc(diag)-25,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""></ref.></ref.>
		(5) Check vehicle speed sensor.	<ref. (dtc).="" 22,="" cc(diag)-24,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 32,="" cc(diag)-25,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 63,="" cc(diag)-26,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""></ref.></ref.></ref.>
3	Cruise set indicator light does not illuminate.	Check the cruise set indicator light.	<ref. cc(diag)-11,="" check="" cruise="" indicator<br="" to="">LIGHT AND CRUISE SET INDICATOR LIGHT, Diag- nostics with Phenomenon.></ref.>
4	Vehicle speed is not held within set speed ±3 km/h (±2 MPH).	Check the vehicle speed sensor.	<ref. (dtc).="" 22,="" cc(diag)-24,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 32,="" cc(diag)-25,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 63,="" cc(diag)-26,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""></ref.></ref.></ref.>

Diagnostics with Phenomenon

RUIS	E CONTROL SYSTEM (DIAG	Diagnostics with Phe	Reference
	Phenomenon	Check item	Reference
5	Vehicle speed does not increase or does not return to set speed after RESUME/ACCEL switch has been pressed.	Check the RESUME/ACCEL switch.	<ref. (dtc).="" 11,="" cc(diag)-15,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 15,="" cc(diag)-22,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 21,="" cc(diag)-24,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 24,="" cc(diag)-24,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 65,="" cc(diag)-26,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""></ref.></ref.></ref.></ref.></ref.>
6	Vehicle speed does not decrease after SET/COAST switch has been pressed.	Check the SET/COAST switch.	<ref. (dtc).="" 11,="" cc(diag)-15,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 15,="" cc(diag)-22,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 21,="" cc(diag)-24,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 24,="" cc(diag)-24,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 65,="" cc(diag)-26,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""></ref.></ref.></ref.></ref.></ref.>
7	Cruise control is not released after CANCEL switch has been pressed.	Check the CANCEL switch.	<ref. (dtc).="" 11,="" cc(diag)-15,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 15,="" cc(diag)-22,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 21,="" cc(diag)-24,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 24,="" cc(diag)-24,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 65,="" cc(diag)-26,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""></ref.></ref.></ref.></ref.></ref.>
8	Cruise control is not released after brake pedal has been depressed.	Check the stop light switch and brake switch.	<ref. (dtc).="" 12,="" cc(diag)-17,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 25,="" cc(diag)-24,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 61,="" cc(diag)-25,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""></ref.></ref.></ref.>
9	Cruise control is not released after shifting to the neutral position.	Check the neutral position switch.	<ref. (dtc).="" 14,="" cc(diag)-21,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""> <ref. (dtc).="" 62,="" cc(diag)-25,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""></ref.></ref.>
10	Cruise control is not released after clutch pedal has been depressed.	Check the clutch switch.	<ref. (dtc).="" 13,="" cc(diag)-19,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""></ref.>

Diagnostics with Phenomenon

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

B: CHECK CRUISE INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT TROUBLE SYMPTOM:

Cruise control can be set, but the cruise indicator light and cruise set indicator light do not illuminate.

	Step	Check	Yes	No
1	CHECK CRUISE INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT. 1) Perform the self-diagnosis of combination meter. <ref. combination="" idi-4,="" inspection,="" meter="" self-diagnosis,="" system.="" to=""> 2) Check the cruise indicator light and cruise set indicator light if they illuminate.</ref.>	Do the cruise indicator light and cruise set indicator light illuminate?	Go to step 2.	Replace the meter case assembly. <ref. idi-14,<br="" to="">Combination Meter.></ref.>
2	CHECK DTC OF LAN COMMUNICATION CIRCUIT. 1) Complete self-diagnosis, and turn the ignition switch to ON again. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is DTC of Low-speed CAN displayed?		Replace the ECM. <ref. (ecm).="" control="" engine="" fu(h4so)-39,="" module="" to=""> <ref. (ecm).="" control="" engine="" fu(h4dotc)-45,="" module="" to=""></ref.></ref.>

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7. List of Diagnostic Trouble Code (DTC)

A: LIST

DTC	Item	Contents of diagnosis	Reference
11	Main switch	Main switch of cruise control command switch is turned to OFF, and then the cruise control is released.	This DTC is displayed without operating the main switch. <ref. (dtc).="" 11,="" cc(diag)-15,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""></ref.>
12	Stop light & brake switch	Stop light switch or brake switch is turned to ON, and then the cruise control is released.	This DTC is displayed without depressing the brake pedal. <ref. (dtc).="" 12,="" cc(diag)-17,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""></ref.>
13	Clutch switch	Clutch switch is turned to ON, and then the cruise control is released.	This DTC is displayed without depressing the clutch pedal. <ref. (dtc).="" 13,="" cc(diag)-19,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""></ref.>
14	Neutral switch	Neutral position switch is turned to ON, and then the cruise control is released.	This DTC is displayed without shifting to neutral position. <ref. (dtc).="" 14,="" cc(diag)-21,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""></ref.>
15	Cancel switch	Cancel switch is turned to ON, and then the cruise control is released.	This DTC is displayed without operating the cancel switch. <ref. (dtc).="" 15,="" cc(diag)-22,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""></ref.>
16	Ignition switch	Ignition switch is turned to OFF, and then the cruise control is released.	This DTC is displayed without operating the ignition switch. <ref. (dtc).="" 16,="" cc(diag)-23,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""></ref.>
21	Cruise control switch mal- function when ignition switch is turned to ON	When the ignition switch is turned to ON, each switch of cruise control command switch is already turned to ON.	This DTC is displayed when the ignition switch is turned to ON without operating the cruise control command switch. <ref. (dtc).="" 21,="" cc(diag)-24,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""></ref.>
22	Vehicle Speed Variation Malfunction	Malfunction of vehicle speed signal variation is detected.	<ref. cc(diag)-24,<br="" to="">DTC 22, Diagnostic Pro- cedure with Diagnostic Trouble Code (DTC).></ref.>

List of Diagnostic Trouble Code (DTC)

DTO	IL	Oculoute of House 1	D-4
DTC	Item	Contents of diagnosis	Reference
24	Cruise Control Related Switch Malfunction	Open circuit of cruise control switch is detected during cruise driving. (The system is judged as model without cruise control.)	This DTC is displayed with normal operation. <ref. to<br="">CC(diag)-24, DTC 24, Diagnostic Procedure with Diagnostic Trouble Code (DTC).></ref.>
25	Brake Switch Input Circuit Malfunction	Malfunction of brake switch input circuit in ECM is detected.	<ref. cc(diag)-24,<br="" to="">DTC 25, Diagnostic Pro- cedure with Diagnostic Trouble Code (DTC).></ref.>
31	Engine speed signal	 Abnormal increase of engine speed is detected. Gear is placed in Neutral, 1st or Reverse position. 	Cruise in 2nd shift position or more. <ref. cc(diag)-24,<br="" to="">DTC 31, Diagnostic Pro- cedure with Diagnostic Trouble Code (DTC).></ref.>
32	Out of vehicle speed range of cruise control operation	Controlled vehicle speed decreased under the limit during cruising. Set operation was performed at vehicle speed unavailable for setting. RESUME operation was performed without memorized vehicle speed.	This DTC is displayed, though the vehicle speed is increased to the speed available for cruise set and set operation was performed again. <ref. (dtc).="" 32,="" cc(diag)-25,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""></ref.>
34	Prohibition when accelerator position is continued to be large	The vehicle has been driven at higher speed than set vehicle speed for an abnormally long time (approximately 10 minutes) during cruise driving.	This DTC is displayed when driving for a long period of time at higher speed than appropriate cruise set vehicle speed by operating accelerator pedal. In this case, the cruise setting is deactivated. <ref. (dtc).="" 34,="" cc(diag)-25,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""></ref.>
35	Prohibition when vehicle speed feedback is impossible	Set vehicle speed cannot be kept because of some reasons (steep uphill, parking brake, abnormal decrease of engine output, etc.) during cruise driving.	This DTC is displayed when driving condition is not suitable for cruise control. Perform cruise set operation again after clearing the possible cause. <ref. (dtc).="" 35,="" cc(diag)-25,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""></ref.>

List of Diagnostic Trouble Code (DTC)

SE C	List o	f Diagnostic Trouble Code (DTC)	Reference
OTC	Item	Contents of diagnosis	Reference
41	VDC/TCS operation	Vehicle dynamics control (VDC) or TCS is operated during cruise driving or cruise setting.	This DTC is displayed when driving condition is not suitable for cruise control. Perform cruise set operation again after clearing the possible cause. <ref. (dtc).="" 41,="" cc(diag)-25,="" code="" diagnostic="" dtc="" procedure="" to="" trouble="" with=""></ref.>
43	ABS/VDC malfunction	ABS or Vehicle dynamics control (VDC) system malfunction is detected during cruise driving or cruise setting.	<ref. cc(diag)-25,<br="" to="">DTC 43, Diagnostic Pro- cedure with Diagnostic Trouble Code (DTC).></ref.>
44	Body integrated unit mal- function	Body integrated unit system malfunction is detected during cruise driving or cruise setting.	<ref. cc(diag)-25,<br="" to="">DTC 44, Diagnostic Pro- cedure with Diagnostic Trouble Code (DTC).></ref.>
45	Meter Failure	Combination meter malfunction is detected during cruise driving or cruise setting.	<ref. cc(diag)-25,<br="" to="">DTC 45, Diagnostic Pro- cedure with Diagnostic Trouble Code (DTC).></ref.>
61	Brake switch malfunction	Malfunction in the stop light & brake switch is detected.	<ref. cc(diag)-25,<br="" to="">DTC 61, Diagnostic Pro- cedure with Diagnostic Trouble Code (DTC).></ref.>
62	Neutral position switch malfunction	Neutral position switch malfunction is detected.	<pre><ref. (dtc).="" 62,="" cc(diag)-25,="" cedure="" code="" diagnostic="" dtc="" pro-="" to="" trouble="" with=""></ref.></pre>
63	Vehicle speed variation malfunction 1	Malfunction of vehicle speed signal variation is detected.	<ref. cc(diag)-26,<br="" to="">DTC 63, Diagnostic Pro- cedure with Diagnostic Trouble Code (DTC).></ref.>
64	Engine sensor related sensor malfunction 1	Malfunction related to engine is detected.	<ref. cc(diag)-26,<br="" to="">DTC 64, Diagnostic Pro- cedure with Diagnostic Trouble Code (DTC).></ref.>
65	Cruise control related switch malfunction 1	Cruise control command switch malfunction is detected. (While the switch is pressed ON for a long time (approximately two minutes), stuck ON condition is detected.)	<ref. cc(diag)-26,<br="" to="">DTC 65, Diagnostic Pro- cedure with Diagnostic Trouble Code (DTC).></ref.>
66	Cruise control computational malfunction	Cruise control calculation (microcomputer) malfunction is detected.	<ref. cc(diag)-26,<br="" to="">DTC 66, Diagnostic Pro- cedure with Diagnostic Trouble Code (DTC).></ref.>

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

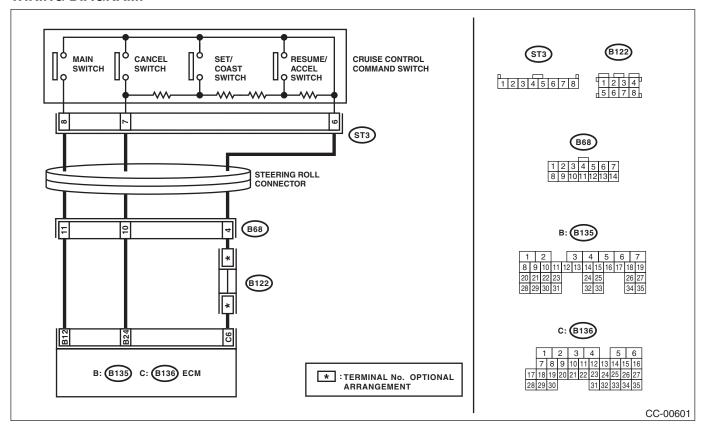
8. Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC 11

The malfunction is detected when the main switch is pressed or problem relating to the main switch occurs. **TROUBLE SYMPTOM:**

- Cruise control cannot be set. (Cancelled immediately.)
- · Cruise control cannot be released.

WIRING DIAGRAM:



				`\\\\
	Step	Check	Yes	No
1	CHECK CRUISE CONTROL COMMAND SWITCH CIRCUIT. 1) Remove the driver's airbag module. <ref. ab-16,="" airbag="" driver's="" module.="" removal,="" to=""> 2) Disconnect the harness connector of cruise control command switch. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. Connector & terminal (ST3) No. 8 (+) — Chassis ground (-): (ST3) No. 7 (+) — Chassis ground (-):</ref.>	Is the voltage 5 V or more?	Go to step 2.	Check the harness between cruise control command switch and ECM, and the steering roll connector for open or short cir- cuit, or for poor contact.
2	CHECK CRUISE CONTROL COMMAND SWITCH CIRCUIT. 1) Turn the ignition switch to OFF. 2) Remove the cruise control command switch. <ref. cc-5,="" command="" control="" cruise="" removal,="" switch.="" to=""> 3) Measure the resistance between harness connector terminal and chassis ground. Connector terminal (ST3) No. 6 — Chassis ground:</ref.>	Is the resistance less than 10 Ω ?		Check for open between cruise control command switch and ECM and chassis ground, and check the ECM.
3	CHECK CRUISE CONTROL COMMAND SWITCH. Measure the resistance between switch terminals when the cruise control command switch is not being pressed. Terminals No. 6 — No. 7:	Is the resistance approx. 4 kΩ?	Go to step 4.	Replace the cruise control command switch. <ref. cc-5,="" command="" control="" cruise="" switch.="" to=""></ref.>
4	CHECK CANCEL SWITCH. 1) Turn the ignition switch to OFF. 2) Remove the cruise control command switch. <ref. cc-5,="" command="" control="" cruise="" removal,="" switch.="" to=""> 3) Measure the resistance between switch terminals when the CANCEL switch is pressed. Terminals No. 6 — No. 7:</ref.>	Is the resistance approx. less than 1 Ω when the CANCEL switch is pressed?	Go to step 5.	Replace the cruise control command switch. <ref. cc-5,<br="" to="">Cruise Control Command Switch.></ref.>
5	CHECK SET/COAST SWITCH. Measure the resistance between switch terminals when the SET/COAST switch is pressed. Terminals No. 6 — No. 7:	Is the resistance approx. 250 Ω when SET/COAST switch is pressed?	Go to step 6.	Replace the cruise control command switch. <ref. to<br="">CC-5, Cruise Con- trol Command Switch.></ref.>
6	CHECK RESUME/ACCEL SWITCH CIRCUIT. Measure the resistance between switch terminals when the RESUME/ACCEL switch is pressed. Terminals No. 6 — No. 7:	Is the resistance approx. 1,500 Ω when RESUME/ACCEL switch is pressed?	Replace the ECM. <ref. (ecm).="" control="" engine="" fu(h4so)-39,="" module="" to=""> <ref. (ecm).="" control="" engine="" fu(h4dotc)-45,="" module="" to=""></ref.></ref.>	Replace the cruise control command switch. <ref. to<br="">CC-5, Cruise Con- trol Command Switch.></ref.>

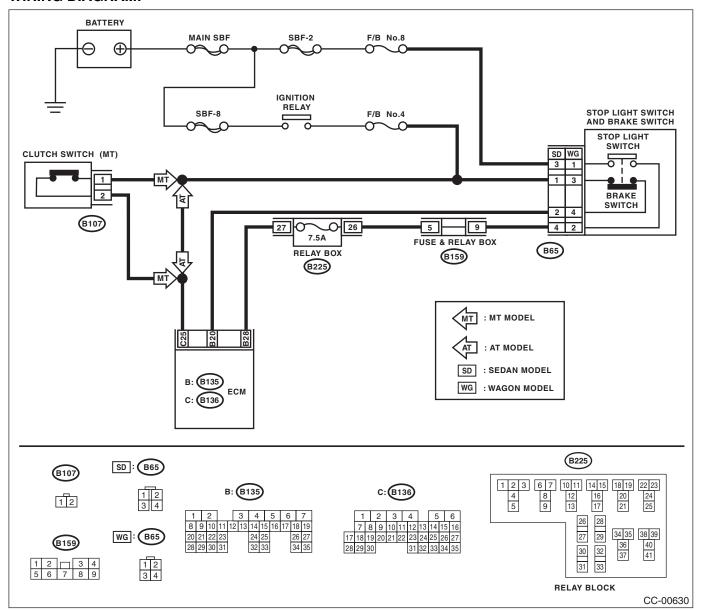
CRUISE CONTROL SYSTEM (DIAGNOSTICS)

B: DTC 12

The DTC is detected when the brake pedal is pressed or problem relating to stop light & brake switch occurs. **TROUBLE SYMPTOM:**

- · Cruise control cannot be set.
- Cruise control cannot be released.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	CHECK STOP LIGHT & BRAKE SWITCH CIRCUIT. 1) Turn the ignition switch to OFF. 2) Disconnect the stop light & brake switch harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. Connector & terminal Wagon model: (B65) No. 1 (+) — Chassis ground (-): Sedan model: (B65) No. 3 (+) — Chassis ground (-):	Is the voltage 10 V or more?	Go to step 2.	Check fuse No. 8 (in fuse & relay box). Check for open or short in the harness between stop light & brake switch and fuse & relay box.
2	CHECK STOP LIGHT & BRAKE SWITCH CIRCUIT. Measure the voltage between harness connector terminal and chassis ground. Connector & terminal Wagon model: (B65) No. 3 (+) — Chassis ground (-): Sedan model: (B65) No. 1 (+) — Chassis ground (-):	Is the voltage 10 V or more?	Go to step 3.	Check fuse No. 4 (in fuse & relay box). Check for open or short in the harness between stop light & brake switch and fuse & relay box.
3	CHECK STOP LIGHT & BRAKE SWITCH CIRCUIT. 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of ECM. 3) Measure the resistance between ECM harness connector terminal and stop light & brake switch harness connector terminal. Connector & terminal Wagon model: (B135) No. 20 — (B65) No. 4: (B135) No. 28 — (B65) No. 2: Sedan model: (B135) No. 20 — (B65) No. 2: (B135) No. 28 — (B65) No. 4:	Is the resistance less than 10 Ω ?	Go to step 4.	Repair the harness.
4	CHECK STOP LIGHT & BRAKE SWITCH CIRCUIT. Remove and check the stop light & brake switch. <ref. &="" brake="" cc-7,="" light="" stop="" switch.="" to=""></ref.>	Is the stop light & brake switch OK?	Replace the ECM. <ref. (ecm).="" control="" engine="" fu(h4so)-39,="" module="" to=""> <ref. (ecm).="" control="" engine="" fu(h4dotc)-45,="" module="" to=""></ref.></ref.>	Replace the stop light & brake switch.

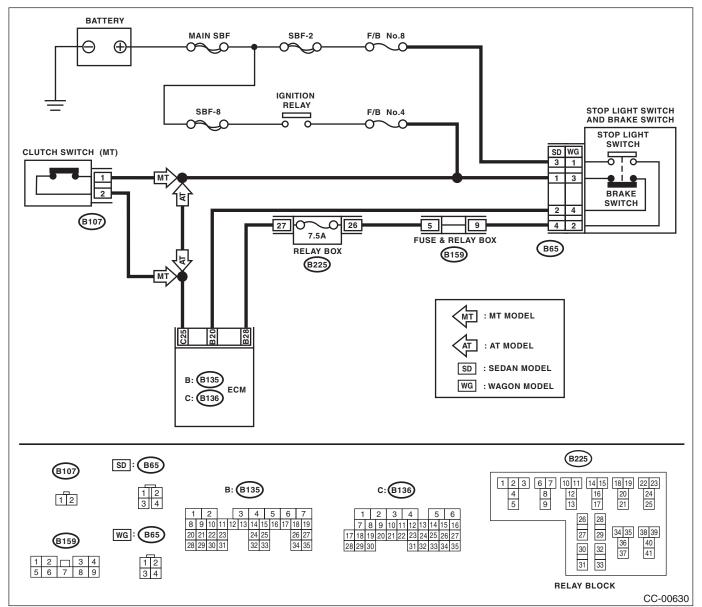
CRUISE CONTROL SYSTEM (DIAGNOSTICS)

C: DTC 13

The DTC is detected when the clutch pedal is depressed or problem relating to the clutch switch occurs. **TROUBLE SYMPTOM:**

- · Cruise control cannot be set.
- Cruise control cannot be released.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	 CHECK CLUTCH SWITCH CIRCUIT. 1) Turn the ignition switch to OFF. 2) Disconnect the clutch switch harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. Connector & terminal (B107) No. 1 (+) — Chassis ground (-): 	Is the voltage 10 V or more?	Go to step 2.	Check fuse No. 4 (in fuse & relay box). Check open or shorted circuit of harness between clutch switch and fuse & relay box.
2	CHECK CLUTCH SWITCH CIRCUIT. 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of ECM. 3) Measure the resistance between clutch switch harness connector terminal and ECM harness connector terminal. Connector & terminal (B107) No. 2 — (B136) No. 25:	Is the resistance less than 10 Ω ?	Go to step 3.	Repair the harness.
3	CHECK CLUTCH SWITCH. Remove and check the clutch switch. <ref. cl-26,="" clutch="" inspection,="" switch.="" to=""></ref.>	Is clutch switch OK?	Replace the ECM. <ref. (ecm).="" control="" engine="" fu(h4so)-39,="" module="" to=""> <ref. (ecm).="" control="" engine="" fu(h4dotc)-45,="" module="" to=""></ref.></ref.>	Replace the clutch switch.

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

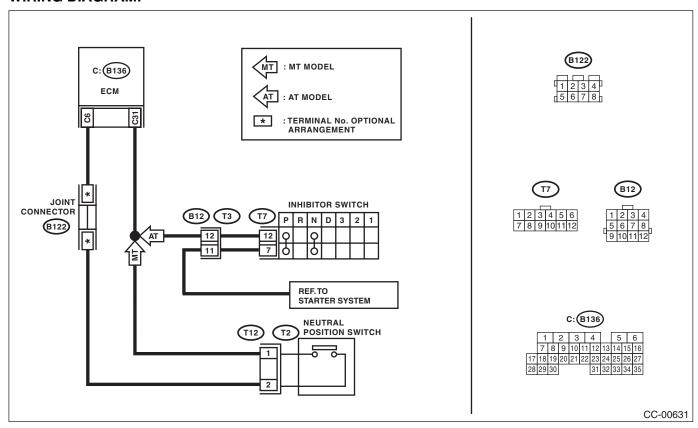
D: DTC 14

The DTC is detected when the select lever is placed in neutral position or problem relating to the neutral position switch occurs.

TROUBLE SYMPTOM:

Cruise control cannot be set.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	CHECK TRANSMISSION TYPE.	Is the transmission type 4AT?	Go to step 2.	MT model: Go to step 5 .
2	CHECK INHIBITOR SWITCH CIRCUIT. 1) Turn the ignition switch to OFF. 2) Disconnect the inhibitor switch harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. Connector & terminal (T7) No. 12 (+) — Chassis ground (-):	Is the voltage 10 V or more?	Go to step 3.	Check for open or short in the har- ness between inhibitor switch and ECM.
3	CHECK INHIBITOR SWITCH CIRCUIT. 1) Turn the ignition switch to OFF. 2) Disconnect the starter motor harness connector. 3) Measure the resistance between inhibitor switch harness connector terminal and starter motor. Connector & terminal (T7) No. 7 — Starter motor:	Is the resistance less than 10 Ω ?	Go to step 4.	Repair the harness.

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

	Step	Check	Yes	No
4	CHECK INHIBITOR SWITCH. Remove and check the inhibitor switch. <ref. cc-9,="" inhibitor="" switch.="" to=""></ref.>	Is the inhibitor switch OK?	Replace the ECM. <ref. to<br="">FU(H4SO)-39, Engine Control Module (ECM).></ref.>	Replace the inhibitor switch.
5	CHECK NEUTRAL POSITION SWITCH CIRCUIT. 1) Turn the ignition switch to OFF. 2) Disconnect the neutral position switch harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. Connector & terminal (T12) No. 2 (+) — Chassis ground (-):	Is the voltage approx. 5 V?	Go to step 6.	Check for open or short in the har- ness between neu- tral position switch and ECM.
6	CHECK NEUTRAL POSITION SWITCH CIRCUIT. 1) Turn the ignition switch to OFF. 2) Measure resistance between harness connector terminal of neutral position switch and chassis ground. Connector & terminal (T12) No. 1 — Chassis ground:	Is the resistance less than 10 Ω ?	Go to step 7.	Repair the harness.
7	CHECK NEUTRAL POSITION SWITCH. Remove and check the neutral position switch. <ref. 4at-47,="" inhibitor="" inspection,="" switch.="" to=""></ref.>	Is the neutral position switch OK?	Replace the ECM. <ref. (ecm).="" control="" engine="" fu(h4so)-39,="" module="" to=""> <ref. (ecm).="" control="" engine="" fu(h4dotc)-45,="" module="" to=""></ref.></ref.>	Replace the neutral position switch.

E: DTC 15

This DTC is detected when the cancel switch is pressed or problem relating to the main switch occurs. **TROUBLE SYMPTOM:**

- Cruise control cannot be set. (Cancelled immediately.)
- · Cruise control cannot be released.

Refer to DTC 11 for diagnostic procedure.

<Ref. to CC(diag)-15, DTC 11, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

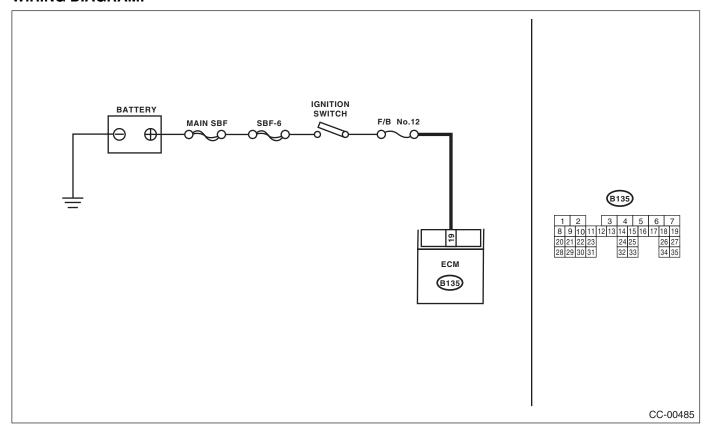
F: DTC 16

This DTC is detected when the ignition switch is turned OFF or problem relating to the ignition switch occurs.

TROUBLE SYMPTOM:

Cruise control cannot be set.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	CHECK IGNITION SWITCH CIRCUIT.	Is the voltage 10 V or more?	Check for poor	Check fuse No.
	 Turn the ignition switch to OFF. 		contact of the ECM	12 (in fuse & relay
	Disconnect the ECM harness connector.		connector.	box).
	Turn the ignition switch to ON.			 Check the har-
	4) Measure the voltage between harness con-			ness for open or
	nector terminal and chassis ground.			short circuit
	Connector & terminal			between ignition
	(B135) No. 19 (+) — Chassis ground (–):			switch and ECM.

NOTED RESALE

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

G: DTC 21

Cruise control command switch malfunction is detected.

TROUBLE SYMPTOM:

- Cruise control cannot be set. (Cancelled immediately.)
- Cruise control cannot be released.

Refer to DTC 11 for diagnostic procedure.

<Ref. to CC(diag)-15, DTC 11, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

H: DTC 22

Malfunction related to vehicle speed sensor is detected.

DIAGNOSIS:

Open or shorted circuit in vehicle speed sensor system.

TROUBLE SYMPTOM:

Cruise control cannot be set. (Cancelled immediately.)

	Step	Check	Yes	No
1	CHECK ABS OR VDC WARNING LIGHT. 1) Turn the ignition switch to ON. 2) After the initial operation of combination meter is completed, check if ABS or VDC warning light continues to illuminate.	Does the warning light continue to illuminate?	Check ABSCM or VDCCM. <ref. to<br="">ABS(diag)-2, Basic Diagnostic Proce- dure.> <ref. to<br="">VDC(diag)-2, Basic Diagnostic Procedure.></ref.></ref.>	Go to step 2.
2	CHECK DTC OF LAN COMMUNICATION CIRCUIT. Read the DTC of body integrated unit using Subaru Select Monitor.	Is DTC of Low-speed CAN displayed?		Replace the ECM. <ref. (ecm).="" control="" engine="" fu(h4so)-39,="" module="" to=""> <ref. (ecm).="" control="" engine="" fu(h4dotc)-45,="" module="" to=""></ref.></ref.>

I: DTC 24

Malfunction in cruise control-related switch is detected.

TROUBLE SYMPTOM:

- Cruise control cannot be set. (Cancelled immediately.)
- · Cruise control cannot be released.

Refer to DTC 11 for diagnostic procedure.

<Ref. to CC(diag)-15, DTC 11, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

J: DTC 25

Malfunction of brake input circuit in ECM is detected.

Refer to the Engine Diagnostic Procedure for diagnostic procedure.

<Ref. to EN(H4SO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

<Ref. to EN(H4DOTC)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

K: DTC 31

Malfunction of the engine speed signal is detected.

Abnormal increase of engine speed is detected.

Gear is set to 1st or Reverse position.

After driving at the 2nd gear position or more, perform the cruise setting again. If the DTC is not detected, it is normal.

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

L: DTC 32

This DTC is detected out of vehicle speed range.

Increase vehicle speed high enough to allow the cruise control to function, and then perform setting operation again.

If the DTC is detected after performing the setting operation, perform DTC 22 diagnosis.

Refer to DTC 22 for diagnostic procedure.

<Ref. to CC(diag)-24, DTC 22, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

M: DTC 34

The vehicle has been driven at a speed higher than set speed for a long time (approximately 10 minutes) during cruise driving.

DTC is detected when driving for a long period of time at higher speed than appropriate cruise speed by operating accelerator pedal.

Perform the cruise control setting operation again. If the DTC is not detected, it is normal.

N: DTC 35

Detected when it is impossible to perform the vehicle speed feedback.

Set vehicle speed cannot be kept for some reasons (steep uphill, unreleased parking brake, etc.) during cruise driving.

DTC is detected when driving condition is not suitable for cruise control.

Perform cruise set operation again after clearing the possible cause.

O: DTC 41

VDC/TCS has operated.

Vehicle dynamics control (VDC) or TCS is operated during cruise driving or cruise setting.

<Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

P: DTC 43

ABS/VDC malfunction is detected.

VDC malfunction is detected during cruise driving or cruise setting.

<Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

Q: DTC 44

Body integrated unit malfunction is detected.

Body integrated unit system malfunction is detected during cruise driving or cruise setting.

R: DTC 45

Malfunction of the combination meter is detected.

Combination meter malfunction is detected during cruise driving or cruise setting.

S: DTC 61

Malfunction in the stop light & brake switch is detected.

TROUBLE SYMPTOM:

- · Cruise control cannot be set.
- Cruise control cannot be released.

Refer to DTC 12 for diagnostic procedure.

<Ref. to CC(diag)-17, DTC 12, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

T: DTC 62

Neutral position switch malfunction is detected.

TROUBLE SYMPTOM:

Cruise control cannot be set.

Refer to DTC 14 for diagnostic procedure.

<Ref. to CC(diag)-21, DTC 14, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

U: DTC 63

Malfunction of vehicle speed signal variation is detected.

TROUBLE SYMPTOM:

Cruise control cannot be set. (Cancelled immediately.)

Refer to DTC 22 for diagnostic procedure.

<Ref. to CC(diag)-24, DTC 22, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

V: DTC 64

Malfunction related to engine is detected.

Refer to the Engine Diagnostic Procedure for diagnostic procedure.

<Ref. to EN(H4SO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>, <Ref. to EN(H4DOTC)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

W: DTC 65

Cruise control command switch malfunction is detected.

While the command switch is pressed ON for a long time (approximately two minutes), stuck ON condition is detected.

TROUBLE SYMPTOM:

- Cruise control cannot be set. (Cancelled immediately.)
- Cruise control cannot be released.

Refer to DTC 11 for diagnostic procedure.

<Ref. to CC(diag)-15, DTC 11, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

X: DTC 66

Cruise control calculation malfunction is detected.

Refer to the Engine Diagnostic Procedure for diagnostic procedure.

<Ref. to EN(H4SO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

<Ref. to EN(H4DOTC)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>