8. Diagnostic Procedure with Diagnostic Trouble Code (DTC)

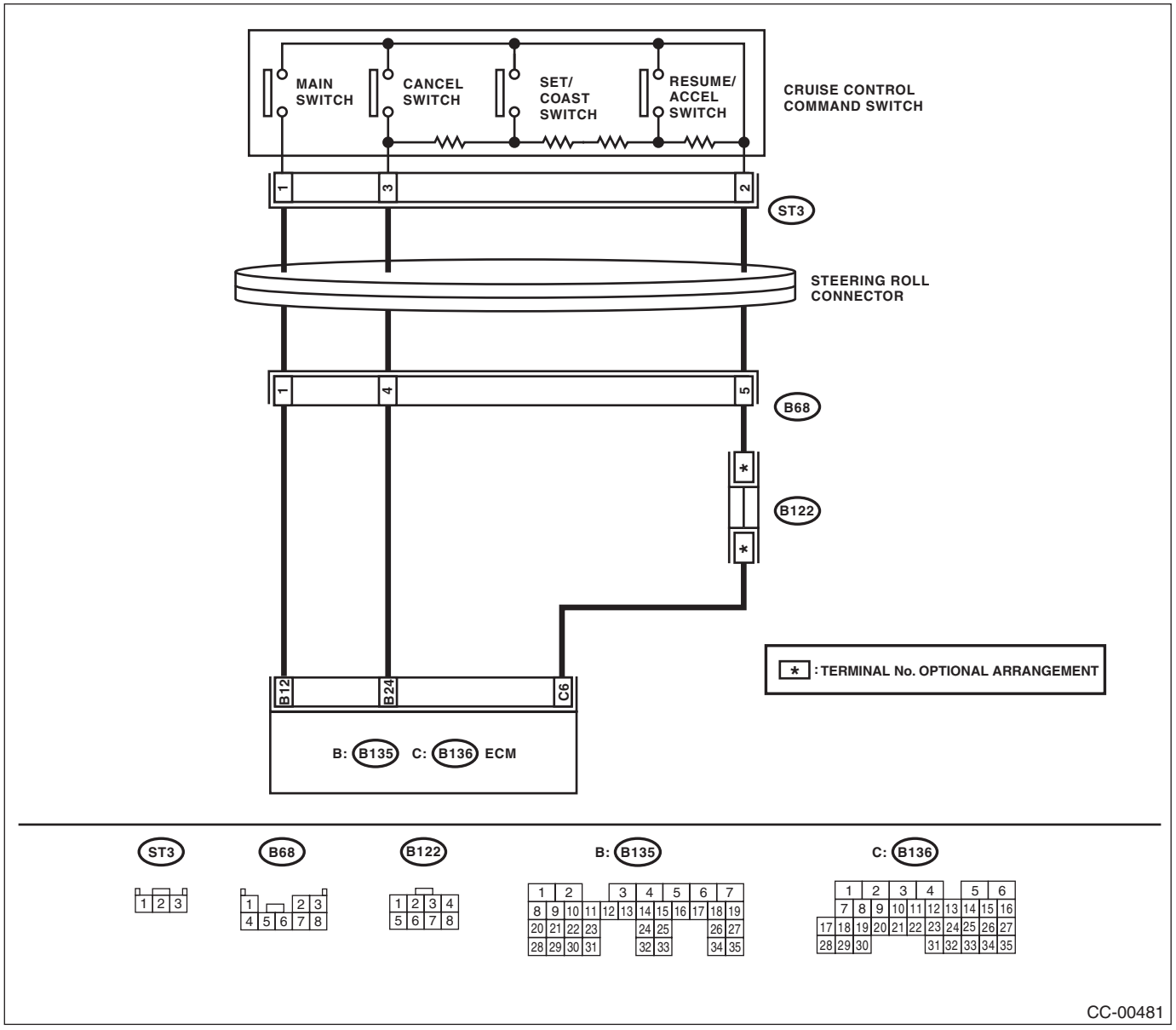
A: DTC 11

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. to AB-15, REMOVAL, Driver's Airbag Module.> 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. 1 (+) — Chassis ground (–):*** ***(ST3) No. 3 (+) — Chassis ground (–):***	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 circuit, 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. to CC-5, REMOVAL, Cruise Control Command Switch.> 3) Measure the resistance between harness connector terminal and chassis ground. ***Connector terminal*** ***(ST3) No. 6 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **3**.	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. to CC-5, Cruise Control Command Switch.>
4	**CHECK CANCEL SWITCH.** 1) Turn the ignition switch to OFF. 2) Remove the cruise control command switch. <Ref. to CC-5, REMOVAL, Cruise Control Command Switch.> 3) Measure the resistance between switch terminals when the CANCEL switch is pressed. ***Terminals*** ***No. 2 — No. 3:***	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. to CC-5, Cruise Control Command Switch.>
5	**CHECK SET/COAST SWITCH.** Measure the resistance between switch terminals when the SET/COAST switch is pressed. ***Terminals*** ***No. 2 — No. 3:***	Is the resistance approx. 250 Ω when SET/COAST switch is pressed?	Go to step **6**.	Replace the cruise control command switch. <Ref. to CC-5, Cruise Control Command Switch.>
6	**CHECK RESUME/ACCEL SWITCH CIRCUIT.** Measure the resistance between switch terminals when the RESUME/ACCEL switch is pressed. ***Terminals*** ***No. 2 — No. 3:***	Is the resistance approx. 1,500 Ω when RESUME/ACCEL switch is pressed?	Replace the ECM. <Ref. to FU(H4SO)-35, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-44, Engine Control Module (ECM).> <Ref. to FU(H6DO)-33, Engine Control Module (ECM).>	Replace the cruise control command switch. <Ref. to CC-5, Cruise Control Command Switch.>

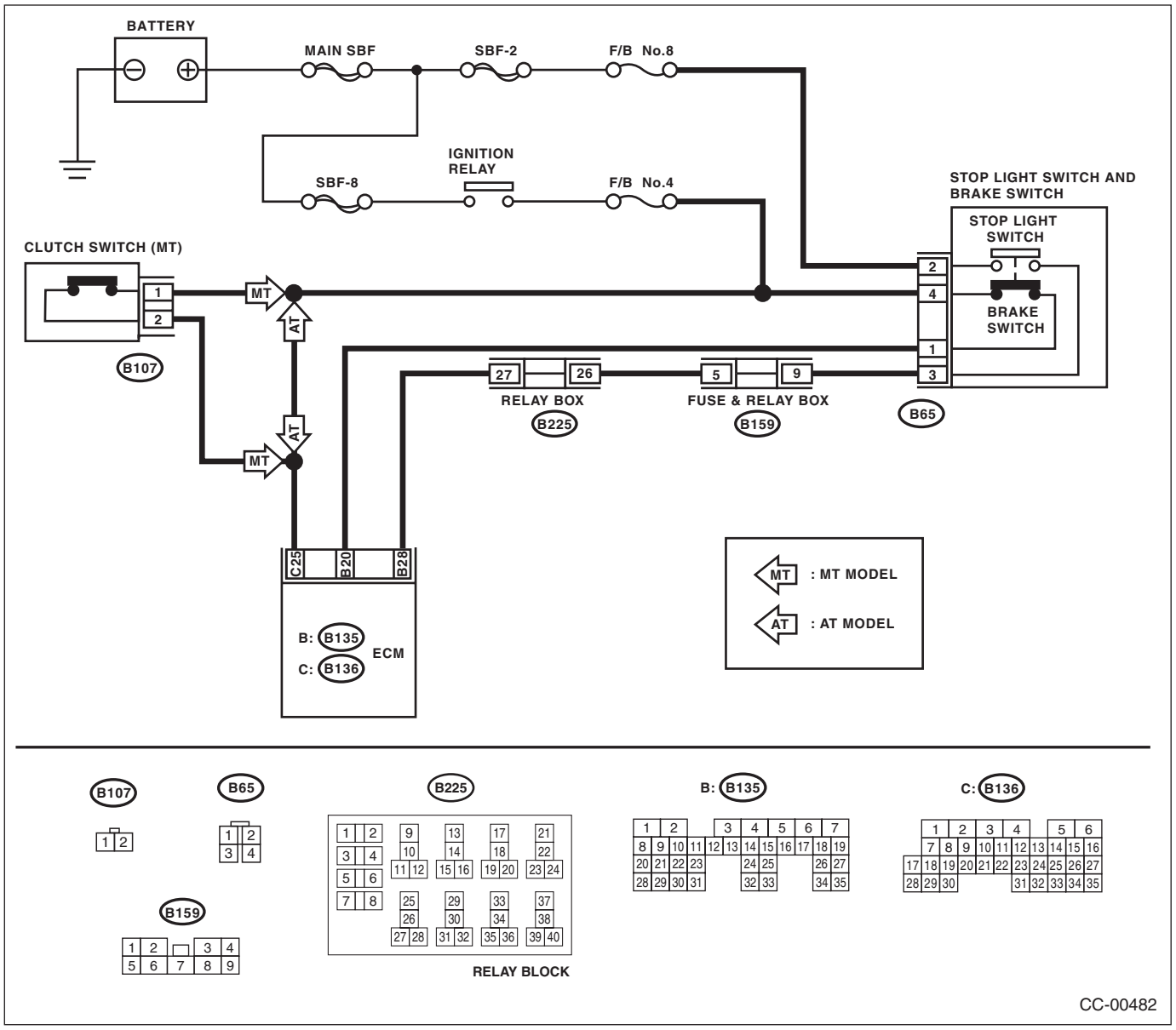
B: DTC 12

The DTC is detected when the brake pedal is pressed or problem relating to stop lamp & 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*** ***(B65) No. 2 (+) — 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*** ***(B65) No. 4 (+) — 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*** ***(B135) No. 28 — (B65) No. 3:*** ***(B135) No. 20 — (B65) No. 1:***	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. to CC-6, Stop Light & Brake Switch.>	Is the stop light & brake switch OK?	Replace the ECM. <Ref. to FU(H4SO)-35, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-44, Engine Control Module (ECM).> <Ref. to FU(H6DO)-33, Engine Control Module (ECM).>	Replace the stop light & brake switch.

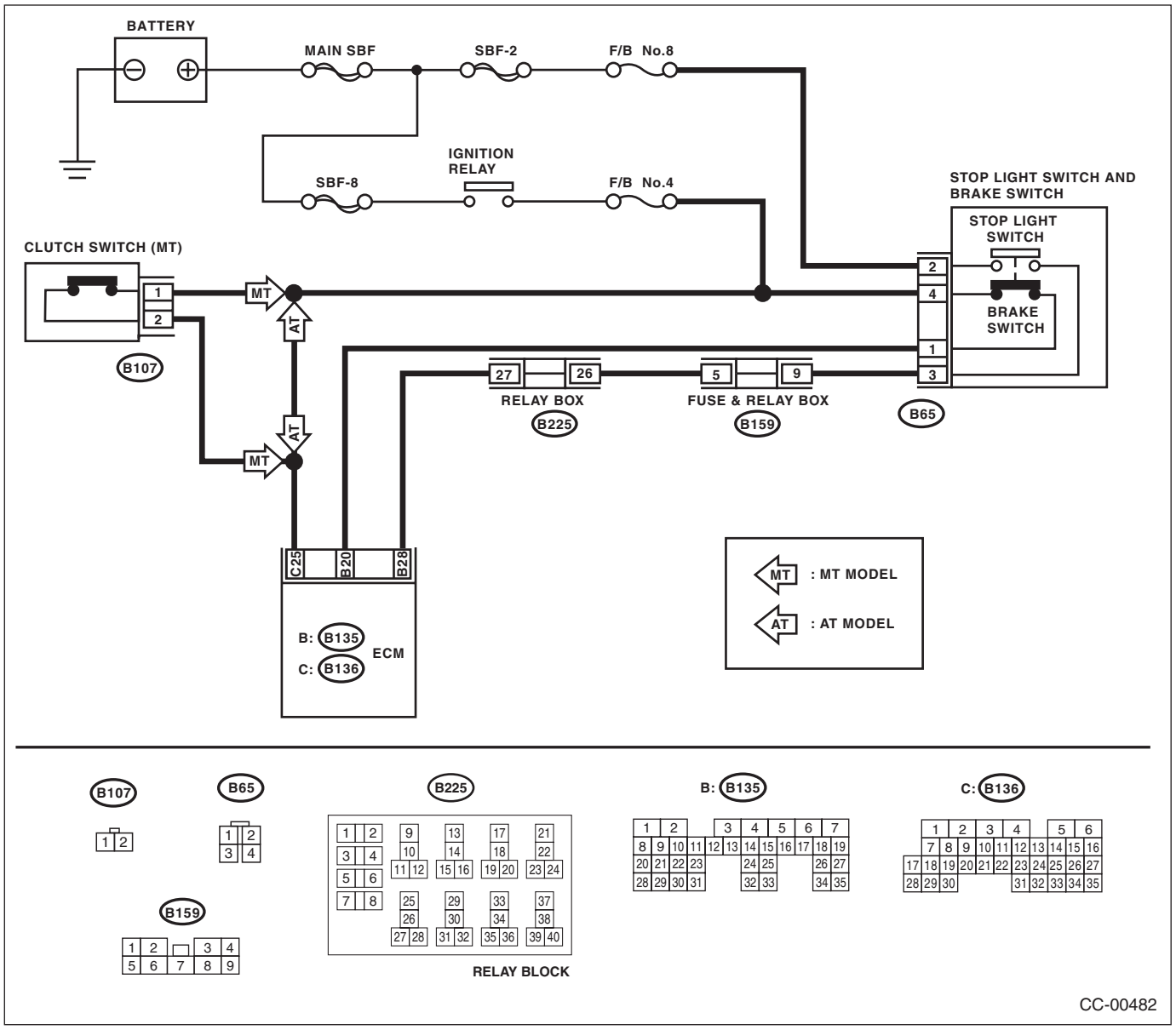
C: DTC 13

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. to CC-7, Clutch Switch.>	Is clutch switch OK?	Replace the ECM. <Ref. to FU(H4SO)-35, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-44, Engine Control Module (ECM).> <Ref. to FU(H6DO)-33, Engine Control Module (ECM).>	Replace the clutch switch.

D: DTC 14

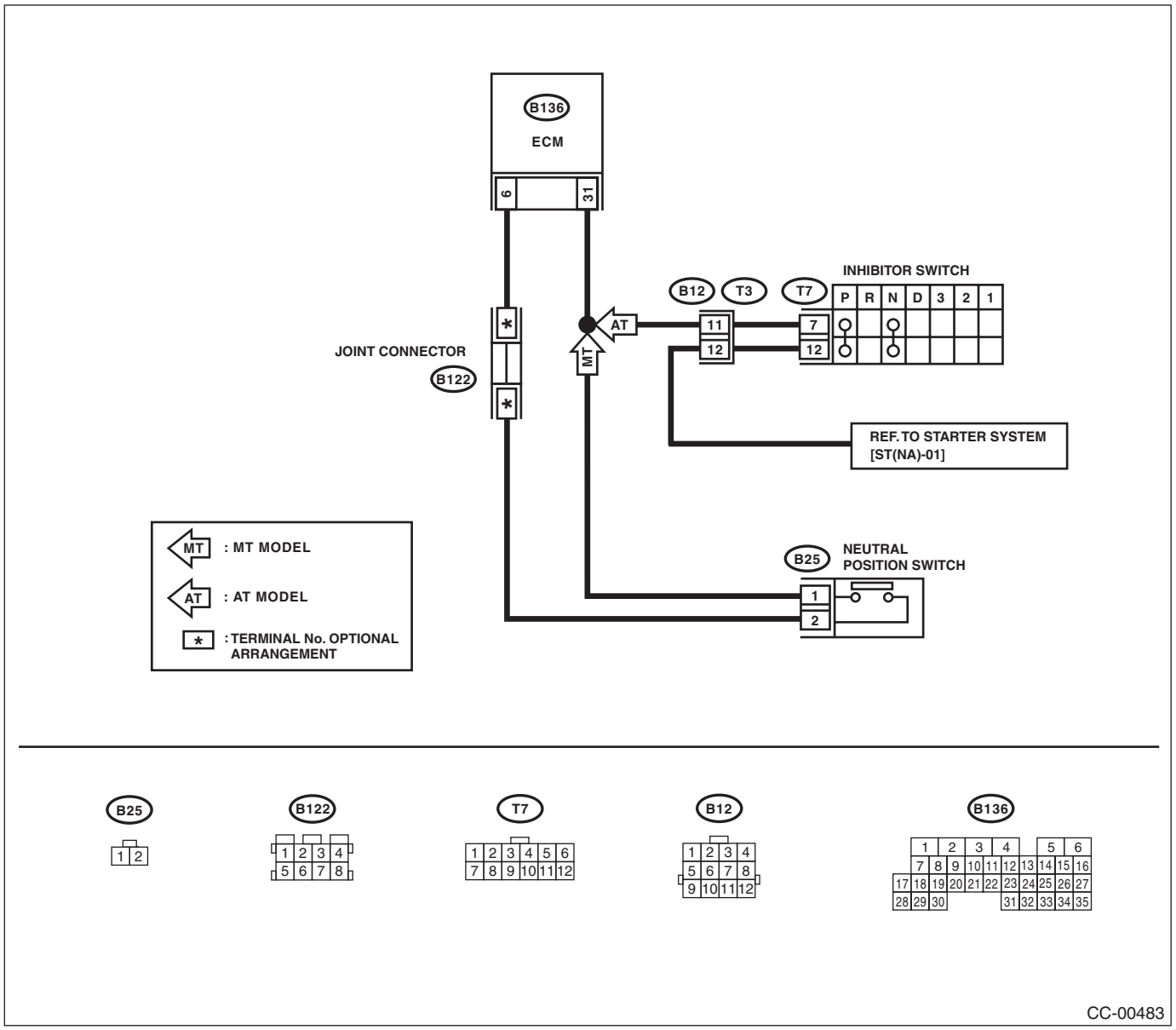
The DTC is detected when the select lever is placed in neutral position or problem relating to the neutral position switch occurs.

TROUBLE SYMPTOM:

Cruise control cannot be set.

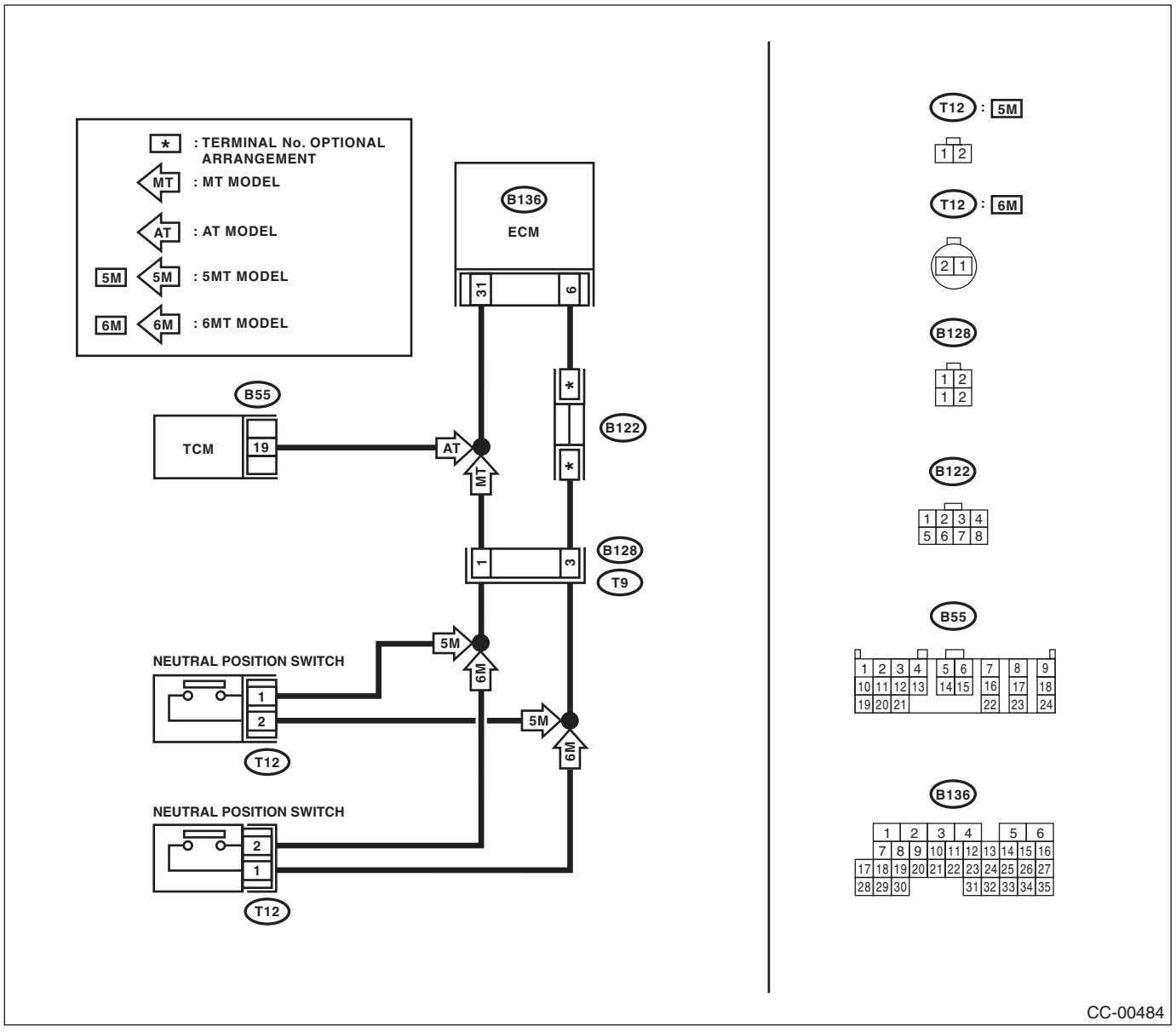
WIRING DIAGRAM:

- H4 Non-turbo model



CC-00483

- H4 turbo model
- H6 model



	Step	Check	Yes	No
1	**CHECK VEHICLE FOR SPECIFICATION.** Check the vehicle destination and specification.	Is the vehicle a 5AT model?	Go to step **2**.	Go to step **5**.
2	**CHECK NEUTRAL POSITION SWITCH.** 1) Connect the Subaru Select Monitor to the data link connector. 2) Turn the ignition switch to ON and run the Subaru Select Monitor. 3) Select {Engine Control System} from the main menu. 4) Then, select {Current Data Display & Save}. 5) Check the neutral position switch signal by shifting the select lever to "P" or "N" range.	Is the Subaru Select Monitor run when select lever is shifted into "P" or "N" range? Is Subaru Select Monitor closed when select lever is shifted to a range other than the "P" or "N" range?	Replace the ECM. <Ref. to FU(H4DOTC)-44, Engine Control Module (ECM).> <Ref. to FU(H6DO)-33, Engine Control Module (ECM).>	Go to step **3**.
3	**CHECK TCM OUTPUT VOLTAGE.** 1) Turn the ignition switch to ON. 2) Measure the voltage between TCM harness connector terminal and chassis ground. ***Connector & terminal*** ***(B55) No. 19 (+) — Chassis ground (–):***	Is voltage 10 V or more when select lever is shifted to a range other than "P" or "N" range? Is voltage less than 1 V when select lever is shifted into "P" or "N" range?	Go to step **4**.	Check the TCM. <Ref. to 5AT(diag)-2, Basic Diagnostic Procedure.>
4	**CHECK HARNESS BETWEEN TCM AND ECM.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from TCM and ECM. 3) Measure the resistance between TCM harness connector terminal and ECM harness connector terminal. ***Connector & terminal*** ***(B136) No. 31 — (B55) No. 19:***	Is the resistance less than 10 Ω?	Replace the ECM. <Ref. to FU(H4DOTC)-44, Engine Control Module (ECM).> <Ref. to FU(H6DO)-33, Engine Control Module (ECM).>	Repair the wiring harness.
5	**CHECK TRANSMISSION TYPE.**	Is the transmission type 4AT?	Go to step **6**.	MT model: Go to step **9**.
6	**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. 7 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **7**.	Check for open or short in the harness between inhibitor switch and ECM.
7	**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. 12 — Starter motor:***	Is the resistance less than 10 Ω?	Go to step **8**.	Repair the harness.
8	**CHECK INHIBITOR SWITCH.** Remove and check the inhibitor switch. <Ref. to CC-8, Inhibitor Switch.>	Is the inhibitor switch OK?	Replace the ECM. <Ref. to FU(H4SO)-35, Engine Control Module (ECM).>	Replace the inhibitor switch.

	Step	Check	Yes	No
9	**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*** ***Non-turbo model:*** ***(B25) No. 1 (+) — Chassis ground (–):*** ***Turbo model:*** ***(B128) No. 1 (+) — Chassis ground (–):***	Is the voltage approx. 5 V?	Go to step **10**.	Check for open or short in the harness between neutral position switch and ECM.
10	**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*** ***Non-turbo model:*** ***(B25) No. 2 — Chassis ground:*** ***Turbo model:*** ***(B128) No. 3 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **11**.	Repair the harness.
11	**CHECK NEUTRAL POSITION SWITCH.** Remove and check the neutral position switch. <Ref. to CC-9, Neutral Position Switch.>	Is the neutral position switch OK?	Replace the ECM. <Ref. to FU(H4SO)-35, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-44, Engine Control Module (ECM).>	Replace the neutral position switch.

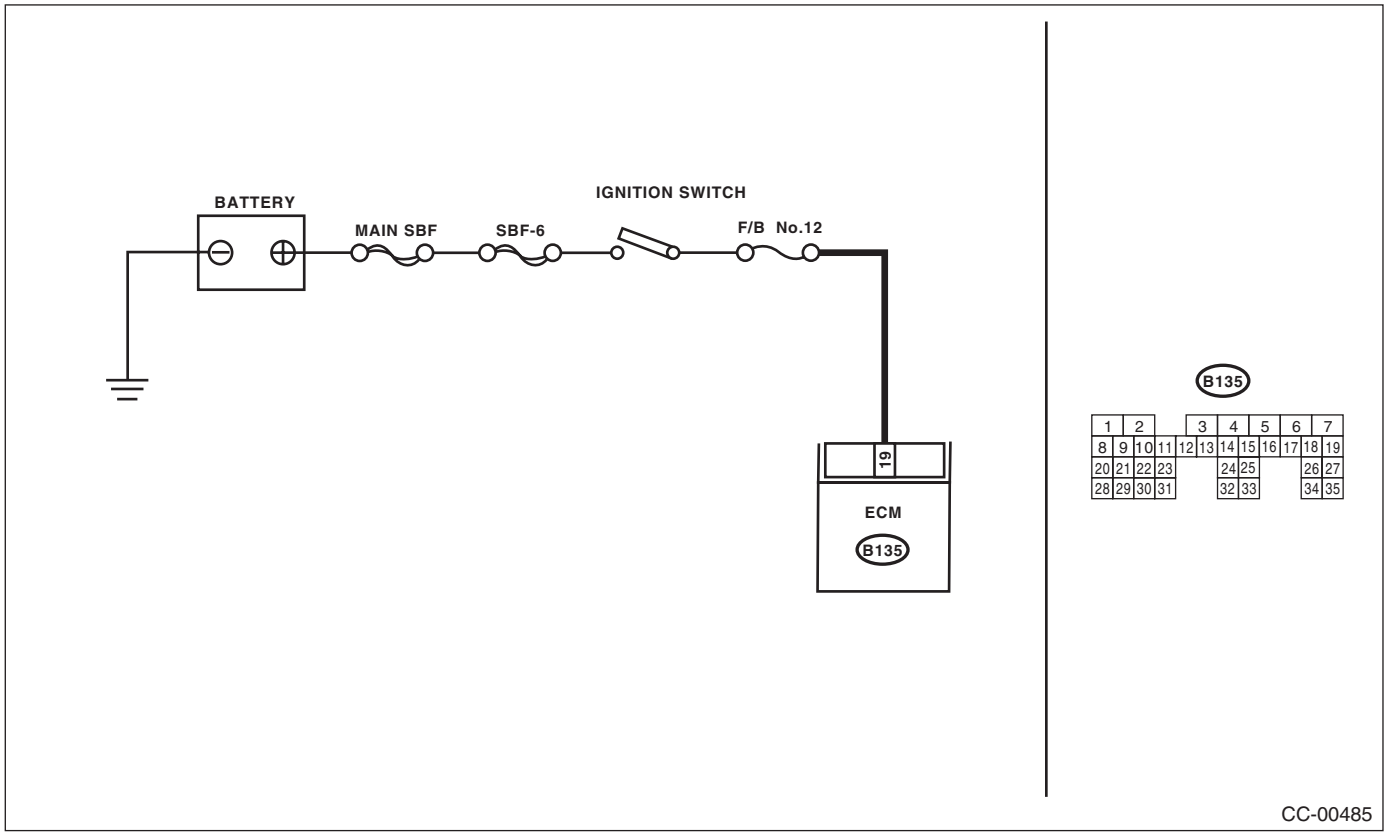
E: DTC 15

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).>

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.** 1) Turn the ignition switch to OFF. 2) Disconnect the ECM harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B135) No. 19 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Check for poor contact of the ECM connector.	• Check fuse No. 12 (in fuse & relay box). • Check the harness for open or short circuit between ignition switch and ECM.

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 ABS(diag)-2, Basic Diagnostic Procedure.> <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>	Go to step **2**.
2	**CHECK LAN COMMUNICATION CIRCUIT ERROR DISPLAY.** Check if the communication error is displayed on the odo/trip meter in combination meter.	Is the error code “Er xx” displayed on odo/trip meter?	Check the LAN communication circuit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Replace the ECM. <Ref. to FU(H4SO)-35, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-44, Engine Control Module (ECM).> <Ref. to FU(H6DO)-33, Engine Control Module (ECM).>

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.>
<Ref. to EN(H6DO)(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.

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)-26, 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.
<Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

R: DTC 45

Malfunction of the combination meter is detected.
Combination meter malfunction is detected during cruise driving or cruise setting.
<Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

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).>

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)-26, 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.>
<Ref. to EN(H6DO)(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.>
<Ref. to EN(H6DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

IMMOBILIZER (DIAGNOSTICS)

IM(diag)