

DIAGNOSTIC PROCEDURE WITH DTC

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

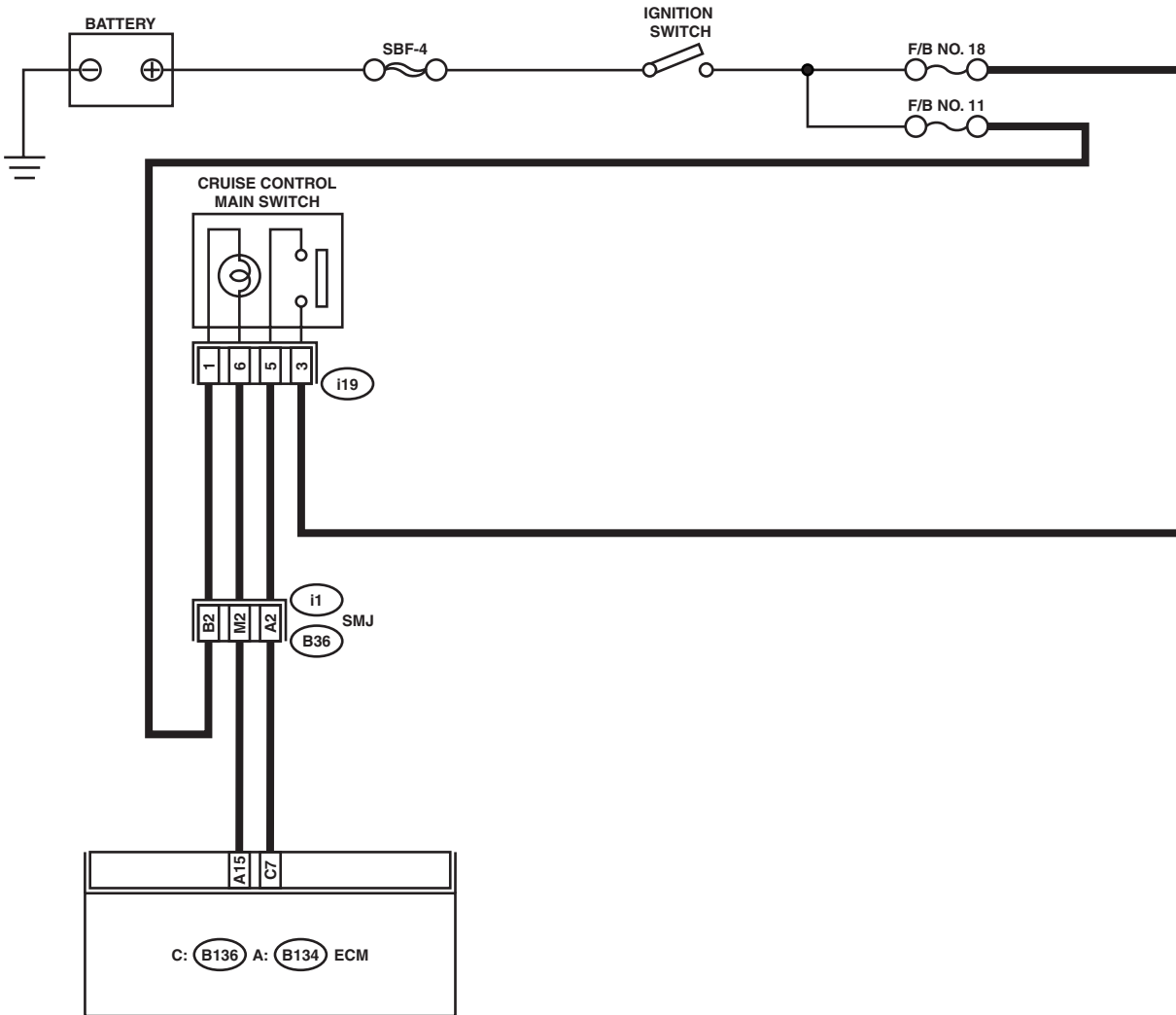
8. Diagnostic Procedure with DTC

A: DTC 11, 15, 21 AND 24 CRUISE CONTROL SWITCH

TROUBLE SYMPTOM:

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

WIRING DIAGRAM (MAIN SWITCH):



i19

1	2
3	6

A: B134

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	32	33	34	

C: B136

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	

B36

A1	A2	A3	A4	A5	A6
B1	B2	B3	B4	B5	B6
C1	C2	C3	C4	C5	C6
D1	D2	D3	D4	D5	D6
E1	E2	E3	E4	E5	E6
F1	F2	F3	F4	F5	F6
G1	G2	G3	G4	G5	G6
H1	H2	H3	H4	H5	H6
I1	I2	I3	I4	I5	I6
J1	J2	J3	J4	J5	J6
K1	K2	K3	K4	K5	K6
L1	L2	L3	L4	L5	L6
M1	M2	M3	M4	M5	M6
N1	N2	N3	N4	N5	N6
O1	O2	O3	O4	O5	O6
P1	P2	P3	P4	P5	P6

DIAGNOSTIC PROCEDURE WITH DTC

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
1 CHECK CRUISE CONTROL MAIN 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 when the main switch is pressed and is not pressed. Connector & terminal (B136) No. 7 (+) — Chassis ground (-):	Is the voltage 0 V when the main switch is not pressed? Is the voltage more than 10 V when the main switch is pressed?	Go to step 2.	<ul style="list-style-type: none"> • Check the fuse No. 18 (in fuse & relay box). • Check the harness for open or short between cruise control main switch and fuse & relay box. If no malfunction is found after checking above, Go to step 6.
2 CHECK SET/COAST SWITCH CIRCUIT. 1) Turn the ignition switch to OFF. 2) Disconnect the ECM harness connector. 3) Measure the voltage between harness connector terminal and chassis ground when SET/COAST switch is pressed and not pressed. Connector & terminal (B136) No. 11 (+) — Chassis ground (-):	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 3.	Go to step 5.
3 CHECK RESUME/ACCEL SWITCH CIRCUIT. Measure the voltage between harness connector terminal and chassis ground when RESUME/ACCEL switch is pressed and not pressed. Connector & terminal (B136) No. 10 (+) — Chassis ground (-):	Is the voltage 0 V when RESUME/ACCEL switch is not pressed? Is the voltage more than 10 V when RESUME/ACCEL switch is pressed?	Go to step 4.	Go to step 5.
4 CHECK CANCEL SWITCH CIRCUIT. Measure the voltage between harness connector terminal and chassis ground when CANCEL switch is pressed and not pressed. Connector & terminal (B136) No. 10 (+) — Chassis ground (-): (B136) No. 11 (+) — Chassis ground (-):	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 command switch circuit is OK.	Go to step 5.
5 CHECK POWER SUPPLY FOR COMMAND SWITCH. Check the horn operation.	Does the horn sound?	Go to step 6.	<ul style="list-style-type: none"> • Check the fuse No. 6 (in main fuse box). • Check the horn relay. <Ref. to COM-3, INSPECTION, Horn System.> • Check the harness for open or short between cruise control command switch and fuse & relay box.
6 CHECK CRUISE CONTROL COMMAND SWITCH. 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 command switch and ECM.	Replace the cruise control command switch.

DIAGNOSTIC PROCEDURE WITH DTC

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

MEMO:

DIAGNOSTIC PROCEDURE WITH DTC

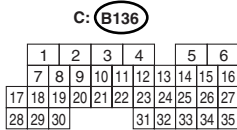
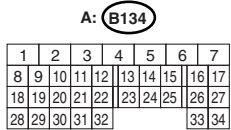
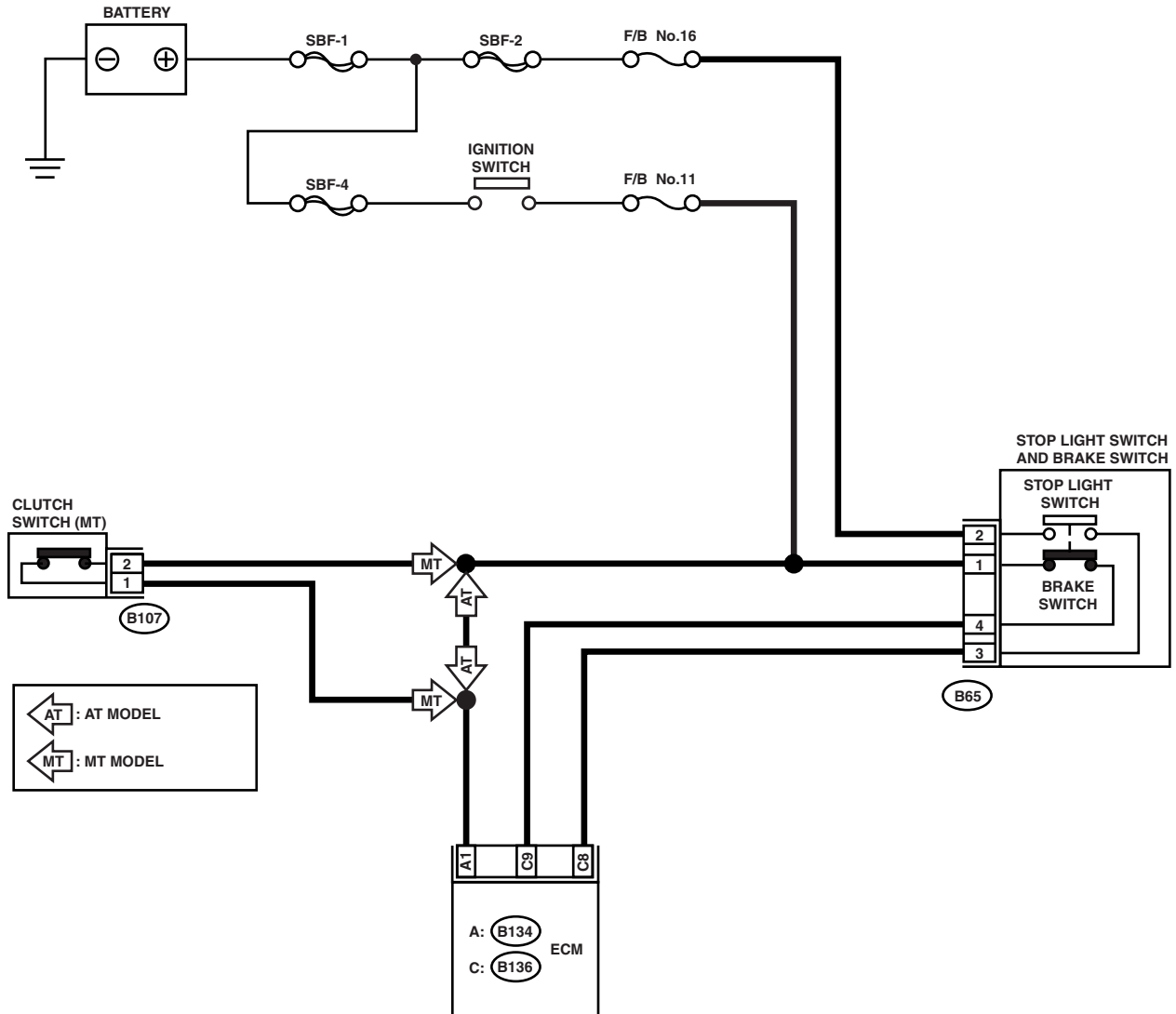
CRUISE CONTROL SYSTEM (DIAGNOSTICS)

B: DTC 12 AND 25 STOP LIGHT SWITCH AND BRAKE SWITCH

TROUBLE SYMPTOM:

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

WIRING DIAGRAM:



DIAGNOSTIC PROCEDURE WITH DTC

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
1 CHECK STOP LIGHT SWITCH AND BRAKE SWITCH CIRCUIT. 1) Turn the ignition switch to OFF. 2) Disconnect the stop light switch and brake switch harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. <i>Connector & terminal</i> <i>(B65) No. 2 (+) — Chassis ground (-):</i>	Is the voltage more than 10 V?	Go to step 2.	<ul style="list-style-type: none"> • Check the fuse No. 16 (in fuse & relay box). • Check the harness for open or short between stop light/brake switch and fuse & relay box.
2 CHECK STOP LIGHT SWITCH AND BRAKE SWITCH CIRCUIT. Measure the voltage between harness connector terminal and chassis ground. <i>Connector & terminal</i> <i>(B65) No. 1 (+) — Chassis ground (-):</i>	Is the voltage more than 10 V?	Go to step 3.	<ul style="list-style-type: none"> • Check the fuse No. 11 (in fuse & relay box). • Check the harness for open or short between stop light/brake switch and fuse & relay box. • Check the clutch switch and circuit.
3 CHECK STOP LIGHT SWITCH AND BRAKE SWITCH CIRCUIT. 1) Turn the ignition switch to OFF. 2) Disconnect the ECM harness connector. 3) Measure the resistance between ECM harness connector terminal and stop light switch and brake switch harness connector terminal. <i>Connector & terminal</i> <i>(B136) No. 8 — (B65) No. 3:</i> <i>(B136) No. 9 — (B65) No. 4:</i>	Is the resistance less than 10 Ω ?	Go to step 4.	Repair the harness.
4 CHECK STOP LIGHT SWITCH AND BRAKE SWITCH. Remove and check the stop light switch and brake switch. <Ref. to CC-9, Stop and Brake Switch.>	Are the stop light switch and brake switch OK?	Stop light switch and brake switch circuit are OK.	Replace the stop light switch and brake switch.

DIAGNOSTIC PROCEDURE WITH DTC

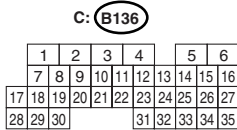
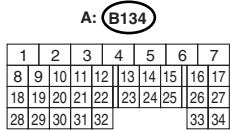
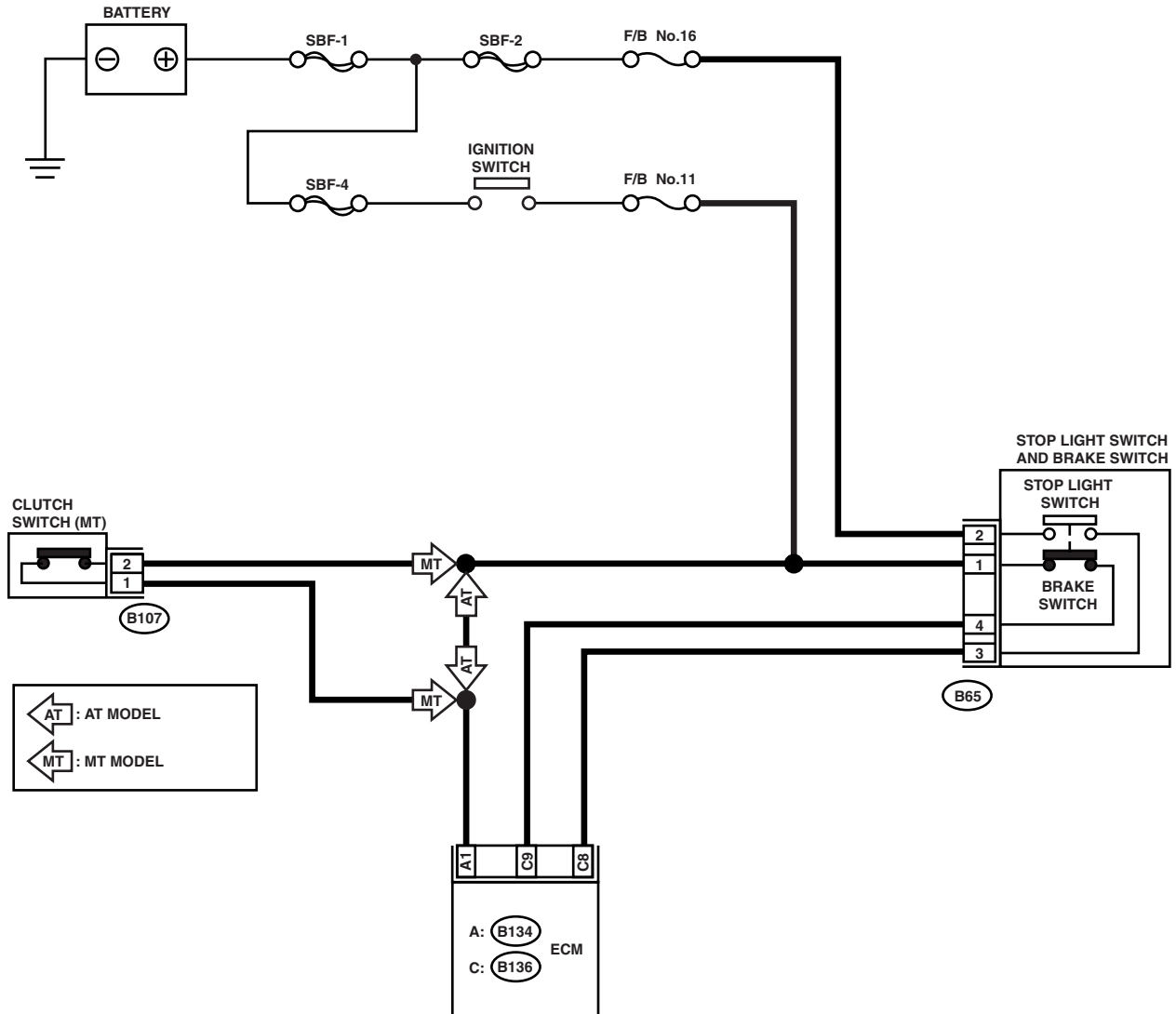
CRUISE CONTROL SYSTEM (DIAGNOSTICS)

C: DTC 13 CLUTCH SWITCH

TROUBLE SYMPTOM:

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

WIRING DIAGRAM:



CC-00332

DIAGNOSTIC PROCEDURE WITH DTC

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

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. 2 (+) — Chassis ground (-):	Is the voltage more than 10 V?	Go to step 2.	<ul style="list-style-type: none"> • Check the fuse No. 11 (fuse & relay box). • Check the harness for open or short between clutch switch and fuse & relay box.
2 CHECK CLUTCH SWITCH CIRCUIT. 1) Turn the ignition switch to OFF. 2) Disconnect the ECM harness connector. 3) Measure the resistance between clutch switch harness connector terminal and ECM harness connector terminal. Connector & terminal (B107) No. 1 — (B134) No. 1:	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-10, Clutch Switch.>	Is the clutch switch OK?	Clutch switch circuit is OK.	Replace the clutch switch.

DIAGNOSTIC PROCEDURE WITH DTC

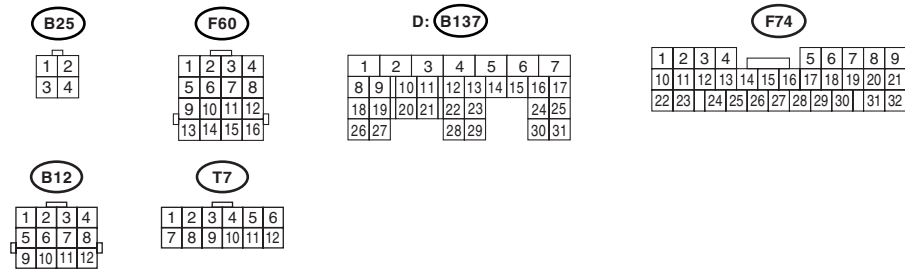
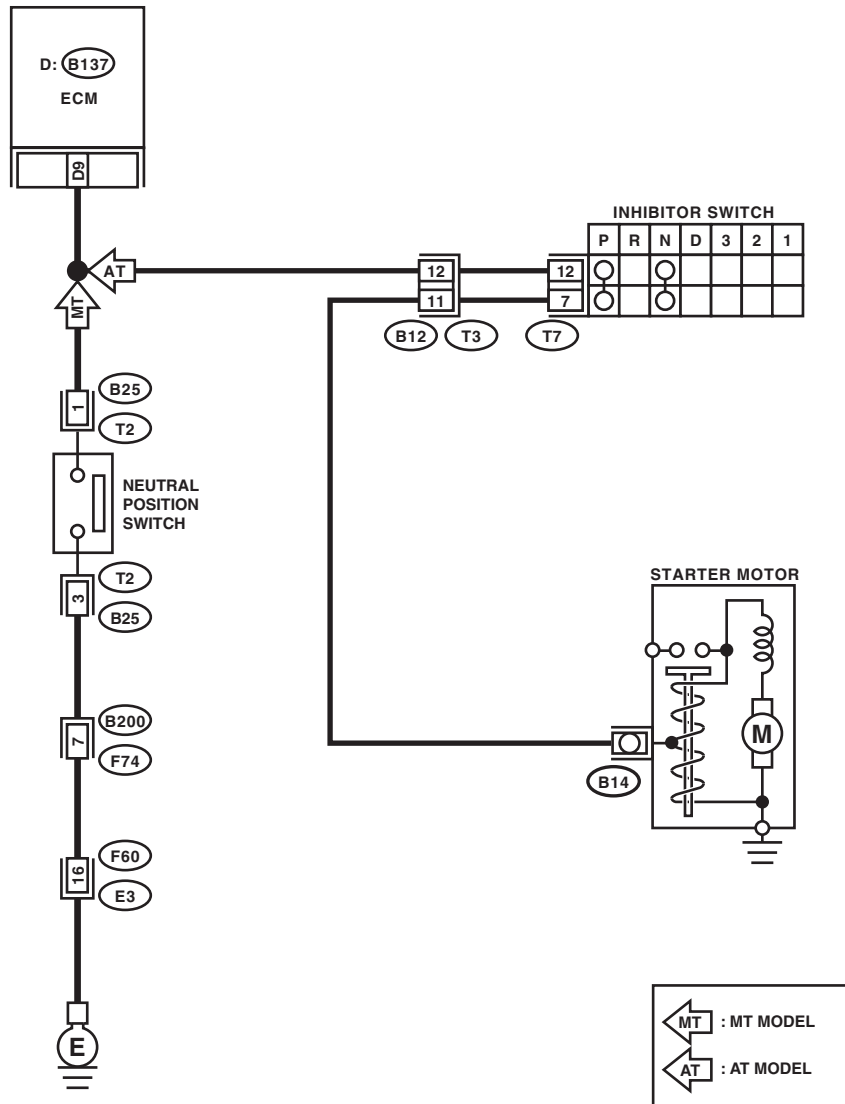
CRUISE CONTROL SYSTEM (DIAGNOSTICS)

D: DTC 14 NEUTRAL POSITION SWITCH

TROUBLE SYMPTOM:

Cruise control cannot be set.

WIRING DIAGRAM:



CC-00333

DIAGNOSTIC PROCEDURE WITH DTC

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
1	CHECK TRANSMISSION TYPE.	Go to step 2.	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 (-):	Go to step 3.	Check the harness for open or short 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 chassis ground. Connector & terminal (T7) No. 7 — (B14) No. 1:	Go to step 4.	Repair the harness.
4	CHECK INHIBITOR SWITCH. Remove and check the inhibitor switch.	Inhibitor switch circuit is OK.	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 (B25) No. 1 (+) — Chassis ground (-):	Go to step 6.	Check the harness for open or short between neutral position switch and ECM.
6	CHECK NEUTRAL POSITION SWITCH CIRCUIT. 1) Turn the ignition switch to OFF. 2) Measure the resistance between neutral position switch harness connector terminal and chassis ground. Connector & terminal (B25) No. 3 (+) — Chassis ground (-):	Go to step 7.	Repair the harness.
7	CHECK NEUTRAL POSITION SWITCH. Remove and check the neutral position switch. <Ref. to 5MT-37, Switches and Harness.>	Neutral position switch circuit is OK.	Replace the neutral position switch.

DIAGNOSTIC PROCEDURE WITH DTC

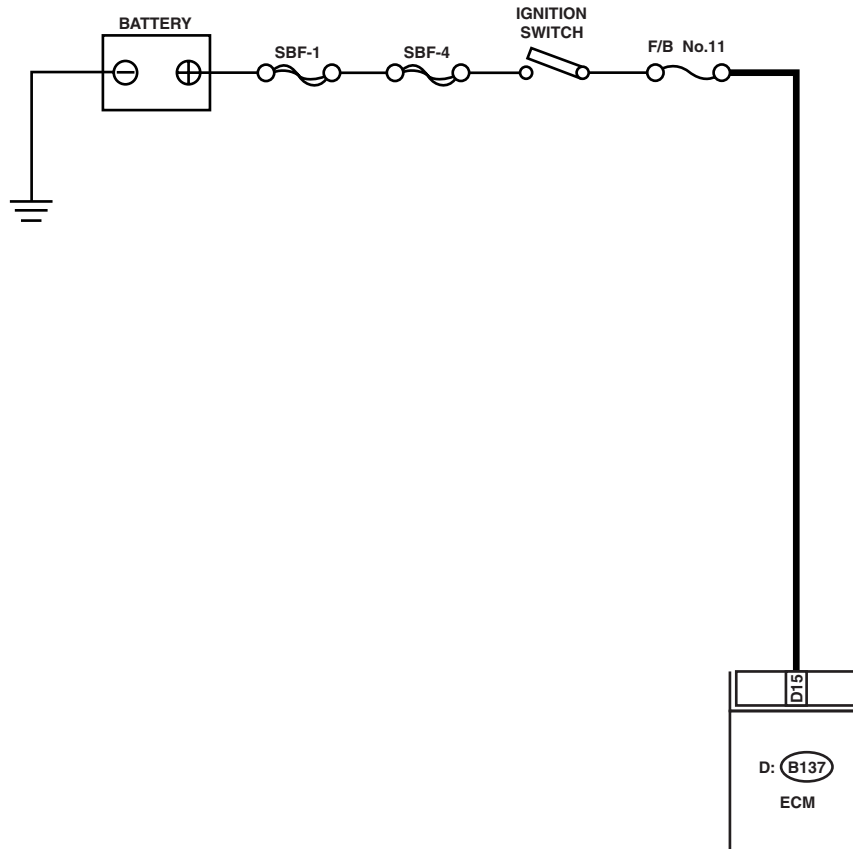
CRUISE CONTROL SYSTEM (DIAGNOSTICS)

E: DTC 16 IGNITION SWITCH

TROUBLE SYMPTOM:

Cruise control cannot be set.

WIRING DIAGRAM:



D: **B137**

1	2	3	4	5	6	7			
8	9	10	11	12	13	14	15	16	17
18	19	20	21	22	23			24	25
26	27		28	29				30	31

CC-00334

DIAGNOSTIC PROCEDURE WITH DTC

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

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 (B137) No. 15 (+) — Chassis ground (-):	Is the voltage more than 10 V?	Check the poor contact of ECM connector.	<ul style="list-style-type: none">• Check the fuse No. 11 (fuse & relay box).• Check the harness for open or short between ignition switch and ECM.

DIAGNOSTIC PROCEDURE WITH DTC

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

F: DTC 22 AND 32 VEHICLE SPEED SENSOR

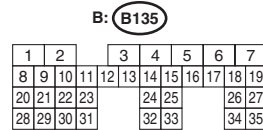
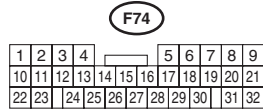
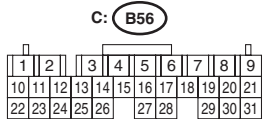
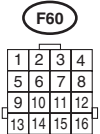
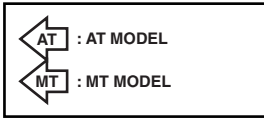
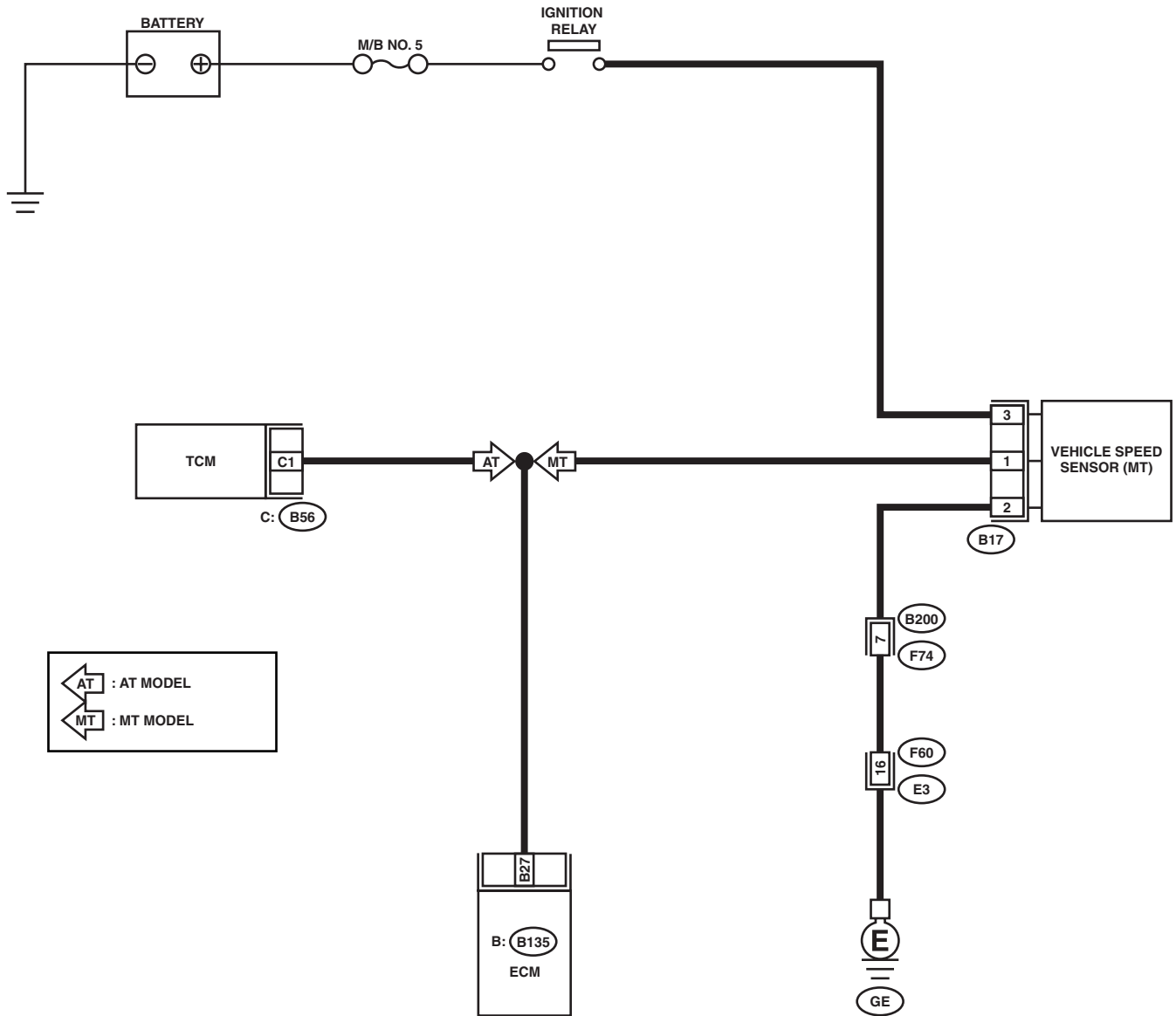
DIAGNOSIS:

Disconnection or short circuit of vehicle speed sensor system.

TROUBLE SYMPTOM:

Cruise control cannot be set. (Cancelled immediately.)

WIRING DIAGRAM:



DIAGNOSTIC PROCEDURE WITH DTC

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No	
1	CHECK TRANSMISSION TYPE.	Is the transmission type MT?	Go to step 2.	Go to step 6.
2	CHECK HARNESS BETWEEN BATTERY AND VEHICLE SPEED SENSOR. 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. Connector & terminal (B17) No. 3 (+) — Chassis ground (-):	Is the measured valve more than 10 V?	Go to step 3.	Check the harness for open or short between ignition relay and vehicle speed sensor.
3	CHECK HARNESS BETWEEN CRUISE CONTROL MODULE AND VEHICLE SPEED SENSOR. 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 ECM harness connector terminal. Connector & terminal (B17) No. 1 — (B135) No. 27:	Is the measured valve less than 10 Ω?	Go to step 4.	Repair the harness.
4	CHECK HARNESS BETWEEN VEHICLE SPEED SENSOR AND ENGINE GROUND. 1) Turn the ignition switch to OFF. 2) Measure the resistance between vehicle speed sensor harness connector terminal and engine ground. Connector & terminal (B17) No. 2 — Engine ground:	Is the measured valve less than 10 Ω?	Go to step 5.	Repair the harness.
5	CHECK VEHICLE SPEED SENSOR. 1) Connect the harness connector to vehicle speed sensor. 2) Lift-up the vehicle and support with safety stands. 3) Drive the vehicle at speed greater than 20 km/h (12 MPH). Warning: Be careful not to be caught up by the running wheels. 4) Measure the voltage between ECM harness connector terminal and chassis ground. Connector & terminal (B135) No. 27 (+) — Chassis ground (-):	Is the measured valve less than 1 V or more than 5 V?	Check the poor contact in ECM connector.	Replace the vehicle speed sensor.
6	CHECK HARNESS BETWEEN CRUISE CONTROL MODULE AND TRANSMISSION CONTROL MODULE. 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from transmission control module and ECM. 3) Measure the resistance between ECM harness connector terminal and transmission control module harness connector terminal. Connector & terminal (B135) No. 27 — (B56) No. 1:	Is the measured valve less than 10 Ω?	Go to step 7.	Repair the harness.

DIAGNOSTIC PROCEDURE WITH DTC

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

	Step	Check	Yes	No
7	<p>CHECK TRANSMISSION CONTROL MODULE.</p> <ol style="list-style-type: none">1) Connect the harness connector to transmission control module.2) Lift-up the vehicle and support with safety stands.3) Drive the vehicle faster than 10 km/h (6 MPH). <p>Warning: Be careful not to be caught by the running wheels.</p> <ol style="list-style-type: none">4) Measure the voltage between transmission control module harness connector terminal and chassis ground. <p>Connector & terminal (B56) No. 1 (+) — Chassis ground (-):</p>	Is the measured value less than 1 V or more than 5 V?	Check the poor contact in ECM connector.	Replace the transmission control module.