

Malfunction Indicator Light

ENGINE (DIAGNOSTICS)

15. Malfunction Indicator Light

A: PROCEDURE

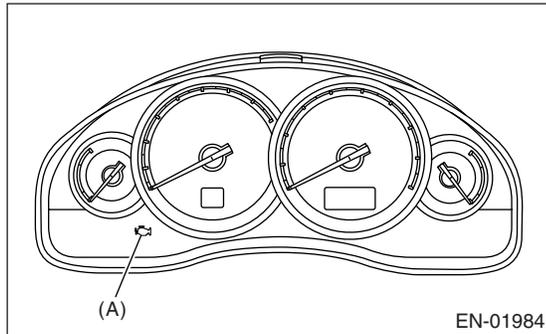
1. Activation of malfunction indicator light. <Ref. to EN(H4DOTC)(diag)-47, ACTIVATION OF MALFUNCTION INDICATOR LIGHT, Malfunction Indicator Light.>
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2. Check that the malfunction indicator light does not come on. <Ref. to EN(H4DOTC)(diag)-48, MALFUNCTION INDICATOR LIGHT DOES NOT COME ON, Malfunction Indicator Light.>
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3. Check that the malfunction indicator light does not go off. <Ref. to EN(H4DOTC)(diag)-50, MALFUNCTION INDICATOR LIGHT DOES NOT GO OFF., Malfunction Indicator Light.>
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4. Check that the malfunction indicator light does not blink. <Ref. to EN(H4DOTC)(diag)-51, MALFUNCTION INDICATOR LIGHT DOES NOT BLINK., Malfunction Indicator Light.>
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5. Check that the malfunction indicator light remains blinking. <Ref. to EN(H4DOTC)(diag)-53, MALFUNCTION INDICATOR LIGHT REMAINS BLINKING., Malfunction Indicator Light.>

B: ACTIVATION OF MALFUNCTION INDICATOR LIGHT

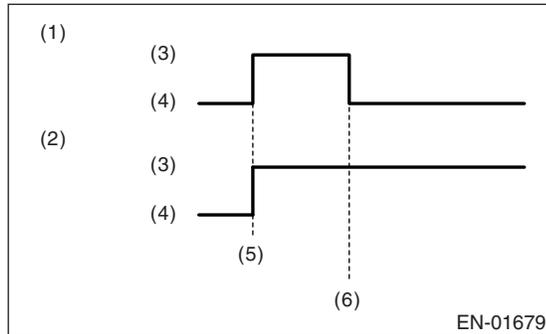
1) When the ignition switch is turned to ON (engine OFF), the malfunction indicator light (A) in the combination meter illuminates.

NOTE:

If the malfunction indicator light does not illuminate, perform the diagnosis of malfunction indicator light circuit or the combination meter circuit. <Ref. to EN(H4DOTC)(diag)-48, MALFUNCTION INDICATOR LIGHT DOES NOT COME ON, Malfunction Indicator Light.>



2) After starting the engine, the malfunction indicator light goes out. If it does not, either the engine or the emission control system is malfunctioning.



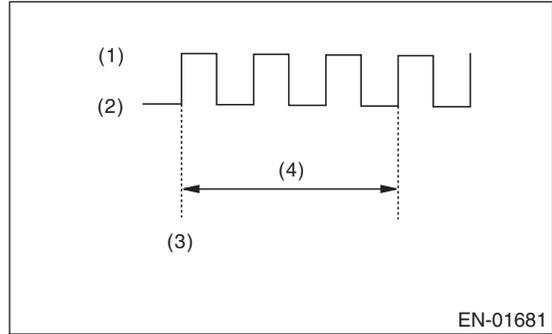
- (1) No trouble
- (2) Trouble occurs
- (3) ON
- (4) OFF
- (5) Ignition switch ON
- (6) Engine start

3) Turn the ignition switch to OFF and connect the test mode connector.

(1) When the ignition switch is turned to ON (engine OFF), the malfunction indicator light illuminates.

(2) Malfunction indicator light blinks at a cycle of 0.5 Hz after starting the engine. (During diagnosis)

(3) Malfunction indicator light blinks at a cycle of 3 Hz after diagnosis if there is no trouble. Malfunction indicator light illuminates if faulty.



- (1) ON
- (2) OFF
- (3) Ignition switch ON
- (4) 1 second

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ENGINE (DIAGNOSTICS)

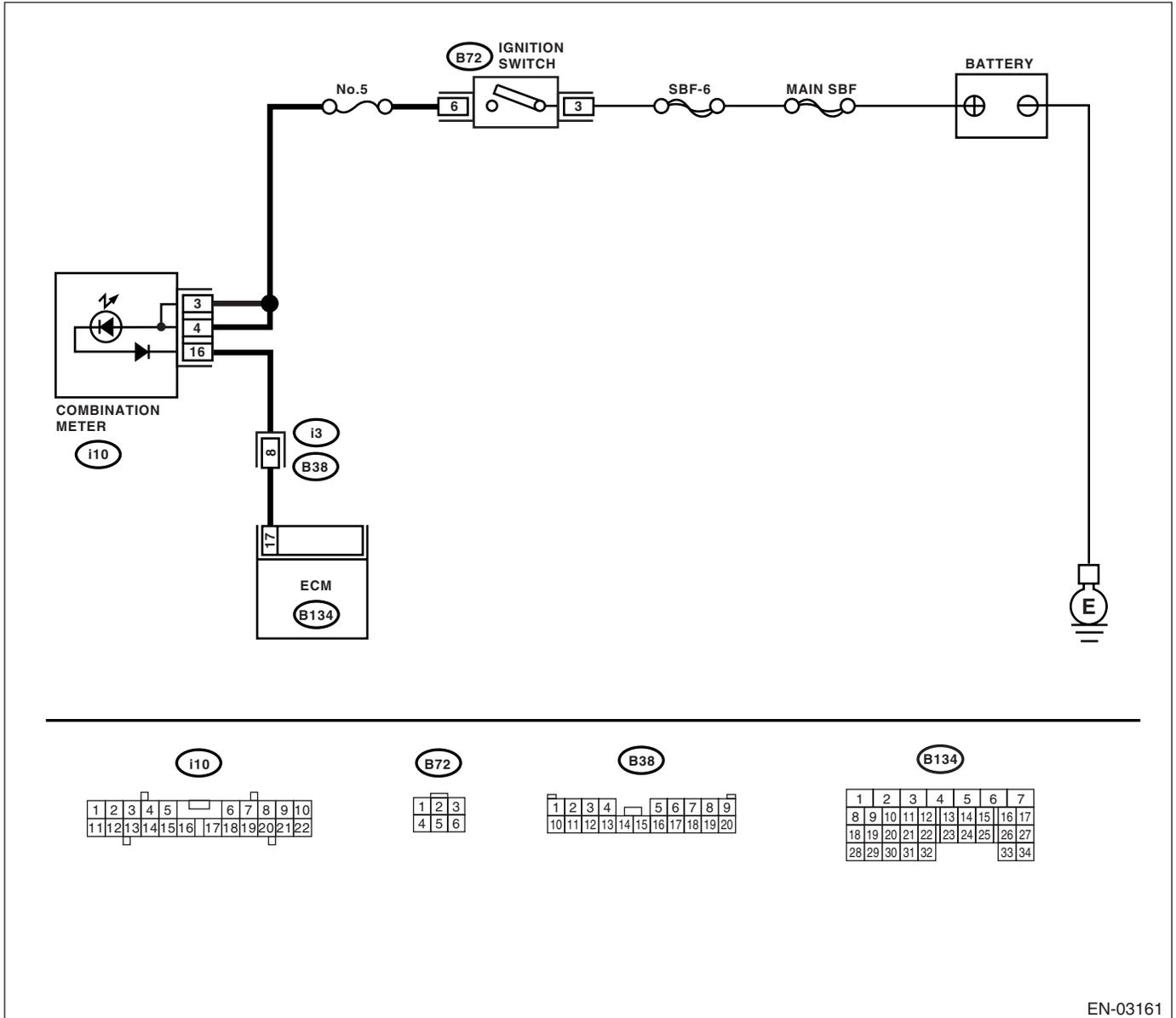
C: MALFUNCTION INDICATOR LIGHT DOES NOT COME ON DIAGNOSIS:

The malfunction indicator light circuit is open or shorted.

TROUBLE SYMPTOM:

When the ignition switch is turned to ON (engine OFF), malfunction indicator light does not come on.

WIRING DIAGRAM:



EN-03161

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Step	Check	Yes	No
1 CHECK OUTPUT SIGNAL FROM ECM. 1) Turn the ignition switch to ON. 2) Measure the voltage between ECM connector and chassis ground. Connector & terminal (B134) No. 17 (+) — Chassis ground (-):	Is the voltage less than 1 V?	Go to step 4.	Go to step 2.
2 CHECK POOR CONTACT. Check for poor connection when shaking or pulling ECM connector and harness.	Does malfunction indicator light illuminate?	Repair the poor contact in ECM connector.	Go to step 3.
3 CHECK ECM CONNECTOR. Check the connection of ECM connector.	Is the ECM connector correctly connected?	Replace the ECM. <Ref. to FU(H4DOTC)-39, Engine Control Module (ECM).>	Repair the connection of ECM connector.
4 CHECK HARNESS BETWEEN COMBINATION METER AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Remove the combination meter. <Ref. to IDI-15, Combination Meter.> 3) Disconnect the connector from ECM and combination meter. 4) Measure the resistance of harness between ECM and combination meter connector. Connector & terminal (B134) No. 17 — (i10) No. 16:	Is the resistance less than 1 Ω ?	Go to step 5.	Repair the harness and connector. NOTE: In this case, repair the following: <ul style="list-style-type: none"> • Open circuit in harness between ECM and combination meter connector • Poor contact in coupling connector
5 CHECK POOR CONTACT. Check poor contact in combination meter connector.	Is there poor contact in combination meter connector?	Repair the poor contact in combination meter connector.	Go to step 6.
6 CHECK HARNESS BETWEEN COMBINATION METER AND IGNITION SWITCH CONNECTOR. 1) Turn the ignition switch to ON. 2) Measure the voltage between combination meter connector and chassis ground. Connector & terminal (i10) No. 3 (+) — Chassis ground (-): (i10) No. 4 (+) — Chassis ground (-):	Is the voltage more than 10 V?	Replace the board of combination meter. <Ref. to IDI-15, Combination Meter.>	Check the following and repair if necessary. NOTE: <ul style="list-style-type: none"> • Blown out fuse • Open or short circuit in harness between fuse and battery terminal • Poor contact in ignition switch connector

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D: MALFUNCTION INDICATOR LIGHT DOES NOT GO OFF.

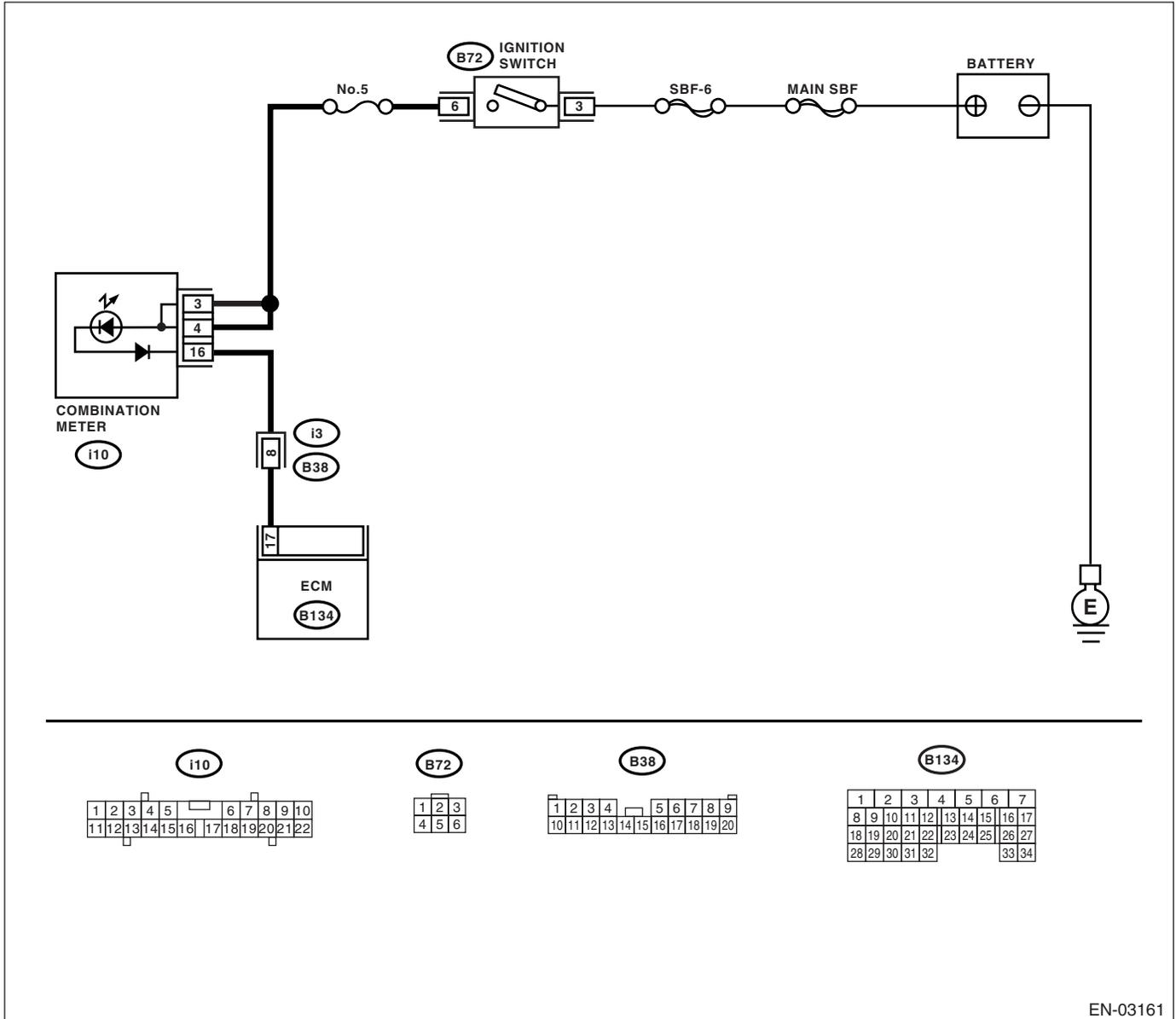
DIAGNOSIS:

The malfunction indicator light circuit is shorted.

TROUBLE SYMPTOM:

Although malfunction indicator light comes on when the engine runs, DTC is not shown on the Subaru Select Monitor display.

WIRING DIAGRAM:



EN-03161

Step	Check	Yes	No	
1	CHECK HARNESS BETWEEN COMBINATION METER AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM. 3) Turn the ignition switch to ON.	Does malfunction indicator light illuminate?	Repair the short circuit in harness between combination meter and ECM connector.	Replace the ECM. <Ref. to FU(H4DOTC)-39, Engine Control Module (ECM).>

E: MALFUNCTION INDICATOR LIGHT DOES NOT BLINK.

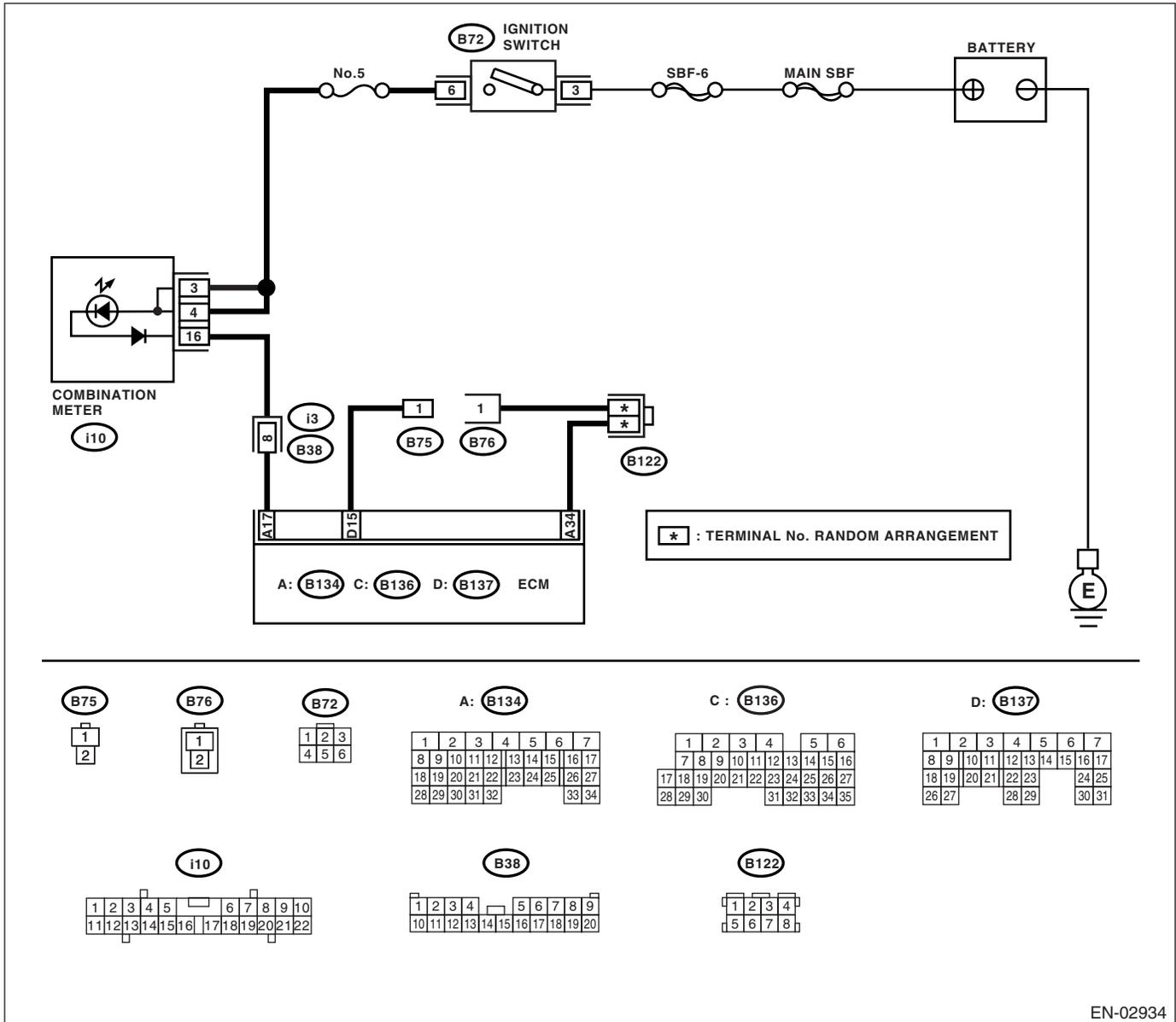
DIAGNOSIS:

- The malfunction indicator light circuit is open or shorted.
- Test mode connector circuit is open.

TROUBLE SYMPTOM:

Malfunction indicator light does not blink during inspection mode.

WIRING DIAGRAM:



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Step	Check	Yes	No
1 CHECK STATUS OF MALFUNCTION INDICATOR LIGHT. 1) Turn the ignition switch to OFF. 2) Disconnect the test mode connectors. 3) Turn the ignition switch to ON. (engine OFF)	Does malfunction indicator light illuminate?	Go to step 2.	Repair the malfunction indicator light circuit. <Ref. to EN(H4DOTC)(diag)-48, MALFUNCTION INDICATOR LIGHT DOES NOT COME ON, Malfunction Indicator Light.>
2 CHECK HARNESS BETWEEN COMBINATION METER AND ECM CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM. 3) Turn the ignition switch to ON.	Does malfunction indicator light illuminate?	Repair the ground short circuit in harness between combination meter and ECM connector.	Go to step 3.
3 CHECK HARNESS BETWEEN TEST MODE CONNECTOR AND ECM. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM. 3) Measure the resistance of harness between test mode connector and ECM. <i>Connector & terminal</i> <i>(B76) No. 1 — (B134) No. 34:</i>	Is the resistance less than 1 Ω ?	Go to step 4.	Repair the harness and connector. NOTE: In this case, repair the following: • Open circuit in harness between test mode connector and ECM • Poor contact in joint connector
4 CHECK POOR CONTACT. Check poor contact in ECM connector.	Is the poor contact in ECM connector?	Repair the poor contact in ECM connector.	Go to step 5.
5 CHECK HARNESS BETWEEN ECM AND TEST MODE CONNECTOR. Measure the resistance of harness between ECM and test mode connector. <i>Connector & terminal</i> <i>(B137) No. 15 — (B75) No. 1:</i>	Is the resistance less than 1 Ω ?	Go to step 6.	Repair the open circuit in harness between ECM and test mode connector.
6 CHECK POOR CONTACT. Check poor contact in ECM connector.	Is the poor contact in ECM connector?	Repair the poor contact in ECM connector.	Replace the ECM. <Ref. to FU(H4DOTC)-39, Engine Control Module (ECM).>

F: MALFUNCTION INDICATOR LIGHT REMAINS BLINKING.

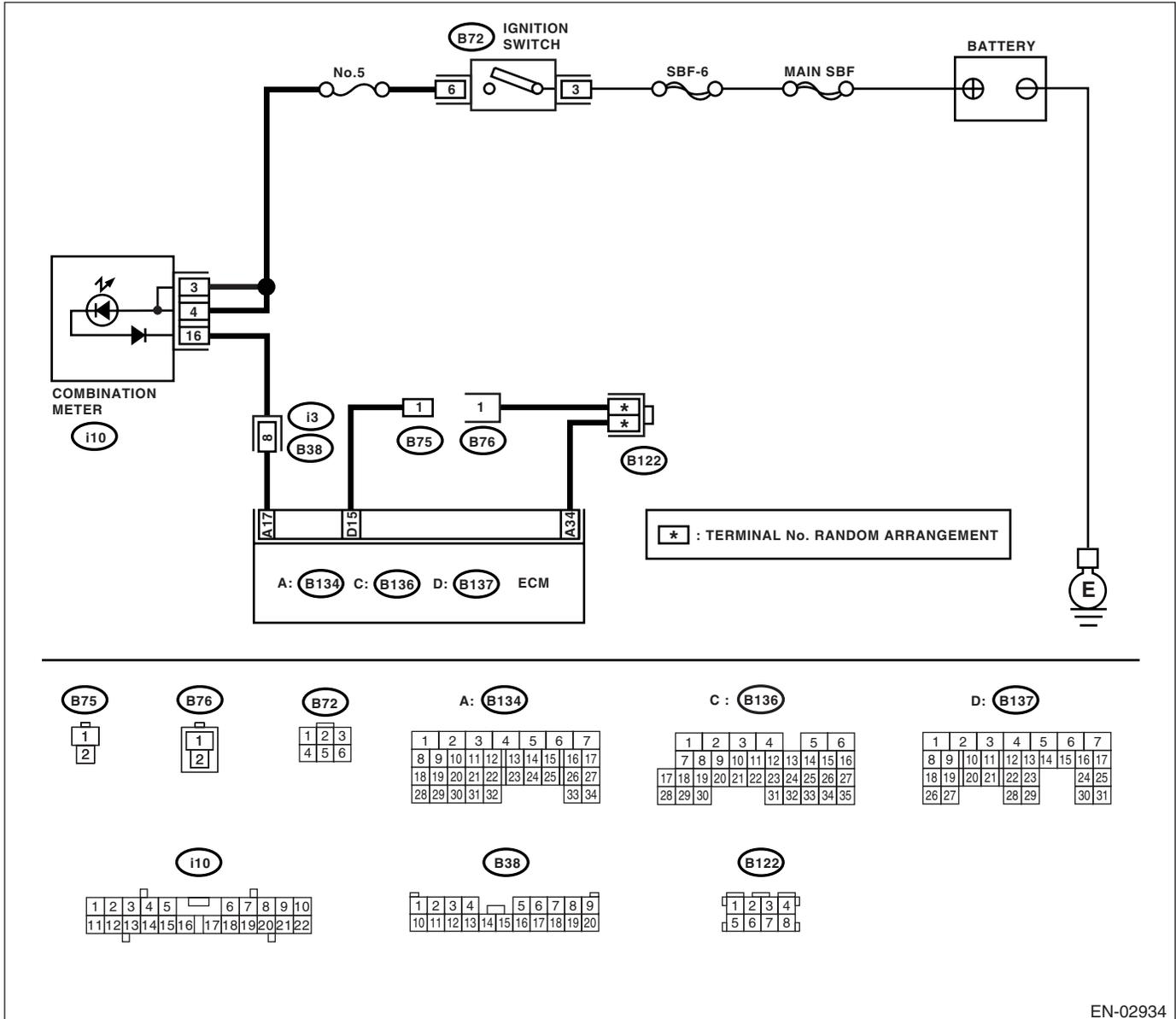
DIAGNOSIS:

Test mode connector circuit is shorted.

TROUBLE SYMPTOM:

Malfunction indicator light blinks when test mode connector is not connected.

WIRING DIAGRAM:



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Step	Check	Yes	No
1 CHECK TEST MODE CONNECTOR. 1) Disconnect the test mode connectors 2) Turn the ignition switch to ON.	Does the malfunction indicator light blink?	Go to step 2.	System is in good order. NOTE: Malfunction indicator light blinks at a cycle of 3 Hz when test mode connector is connected.
2 CHECK HARNESS BETWEEN ECM CONNECTOR AND CHASSIS GROUNDING TERMINAL. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM. 3) Measure the resistance of harness between ECM connector and chassis ground. Connector & terminal (B137) No. 15 — Chassis ground:	Is the resistance less than 5 Ω ?	Repair the short circuit in harness between ECM and test mode connector.	Replace the ECM. <Ref. to FU(H4DOTC)-39, Engine Control Module (ECM).>