

ECD SYSTEM ECM Power Source Circuit

DESCRIPTION

When the ignition switch is turned to ON, the battery voltage is applied to terminal IGSW of the ECM. The MREL output signal from ECM causes a current to flow to the coil, closing the contacts of the MAIN relay and supplying power to terminal +B of the ECM.

WIRING DIAGRAM

Figure 1. w/ Entry and Start System

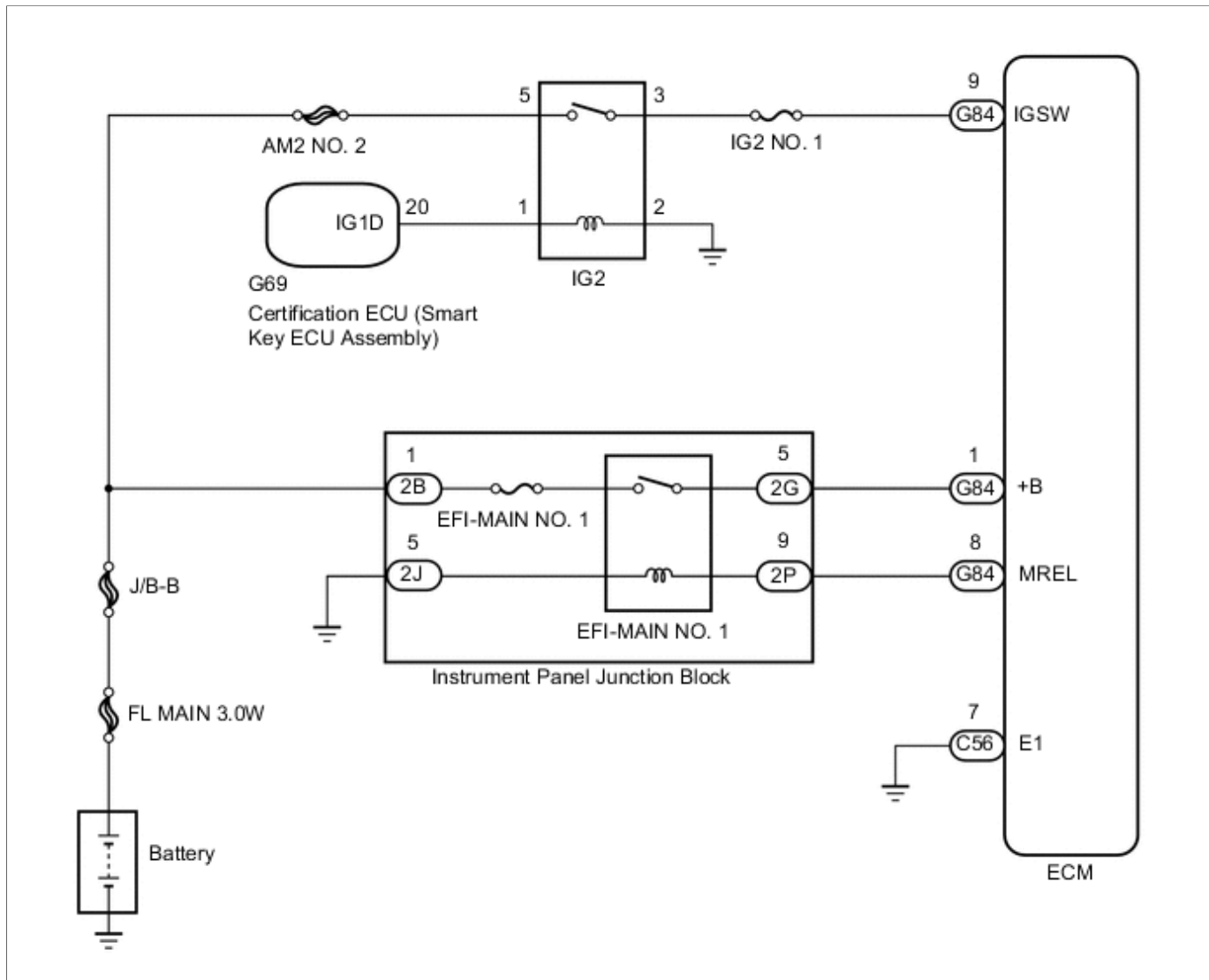
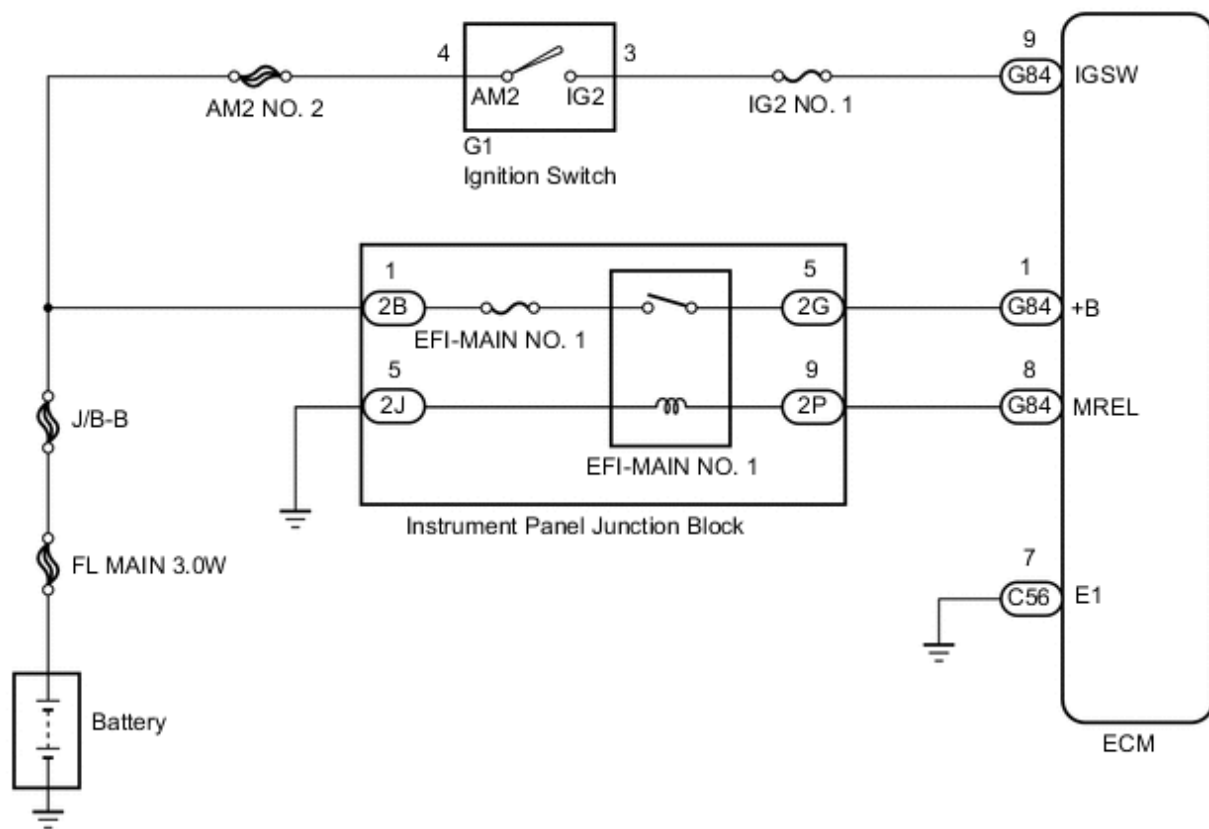


Figure 2. w/o Entry and Start System



CAUTION / NOTICE / HINT

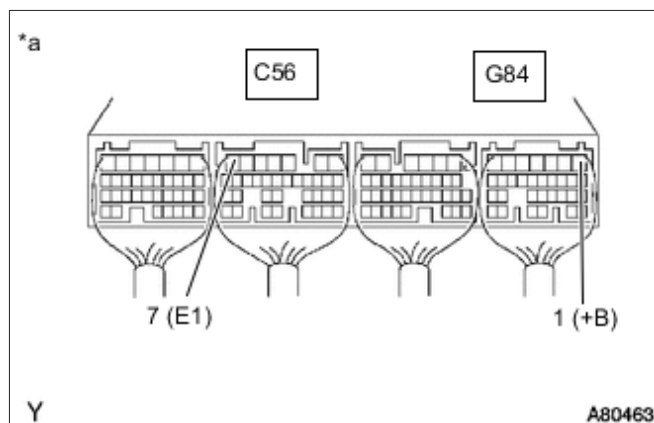
Note

- After replacing the ECM, the new ECM needs registration (See page) and initialization [Click here](#).
- Inspect the fuses of circuits related to this system before performing the following inspection procedure.

PROCEDURE

1. INSPECT ECM (+B VOLTAGE)

- Measure the voltage according to the value(s) in the table below.



*a

Component with harness connected
(ECM)

Standard Voltage

Tester Connection	Condition	Specified Condition
G84-1 (+B) - C56-7 (E1)	IG ON	11 to 14 V

Result

Proceed to
OK
NG



2. CHECK HARNESS AND CONNECTOR (ECM - BODY GROUND)

- Disconnect the ECM connector.
- Measure the resistance according to the value(s) in the table below.

Standard Resistance

Tester Connection	Condition	Specified Condition
C56-7 (E1) - Body ground	Always	Below 1 Ω

- Reconnect the ECM connector.

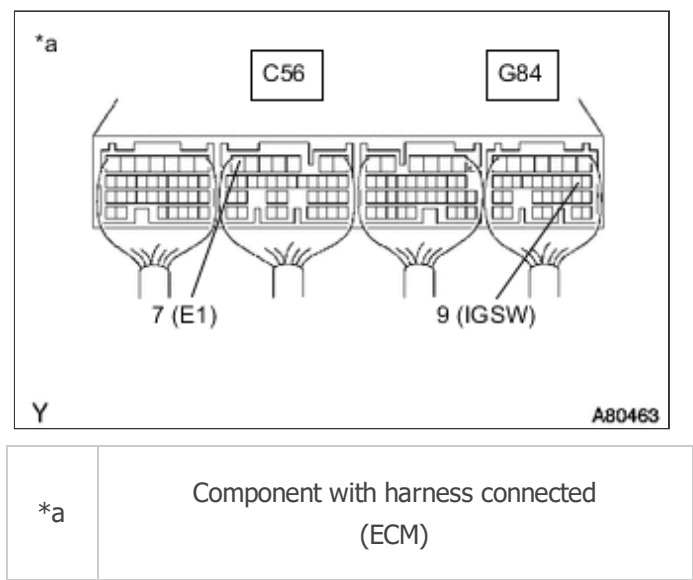
Result

Proceed to
OK
NG



3. INSPECT ECM (IGSW VOLTAGE)

- a. Turn the ignition switch to ON.
- b. Measure the voltage according to the value(s) in the table below.



Standard Voltage

Tester Connection	Switch Condition	Specified Condition
G84-9 (IGSW) - C56-7 (E1)	Ignition switch ON	11 to 14 V

Result

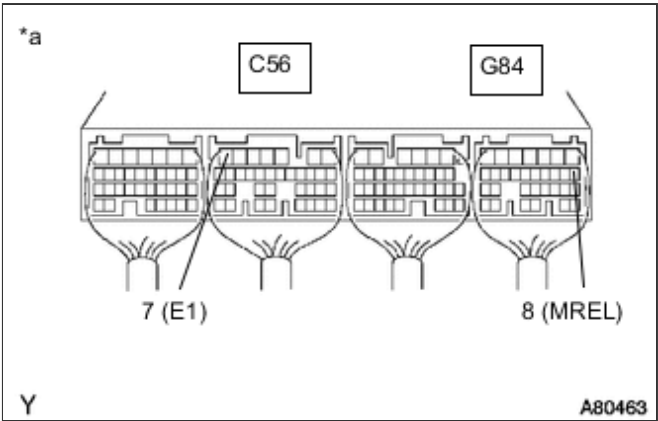
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NG (w/o Entry and Start System)
NG (w/ Entry and Start System)



4. INSPECT ECM (MREL VOLTAGE)

- a. Turn the ignition switch to ON.

b. Measure the voltage according to the value(s) in the table below.



*a	Component with harness connected (ECM)
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Standard Voltage

Tester Connection	Switch Condition	Specified Condition
G84-8 (MREL) - C56-7 (E1)	Ignition switch ON	11 to 14 V

Result

Proceed to
OK
NG



5. INSPECT INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY (EFI-MAIN NO. 1 RELAY)

a. Inspect the instrument panel junction block assembly (EFI-MAIN NO. 1 relay).
[Click here](#)

Result

Proceed to
OK
NG



6. CHECK HARNESS AND CONNECTOR (EFI-MAIN NO. 1 RELAY - ECM, EFI-MAIN NO. 1 RELAY - BODY GROUND)

- a. Check the harness and connector between the instrument panel junction block (EFI-MAIN NO. 1 relay) and ECM.
 - i. Disconnect the instrument panel junction block connector.
 - ii. Disconnect the ECM connector.
 - iii. Measure the resistance according to the value(s) in the table below.

Standard Resistance

Tester Connection	Condition	Specified Condition
2G-5 - G84-1 (+B)	Always	Below 1 Ω
2P-9 - G84-8 (MREL)	Always	Below 1 Ω
2G-5 or G84-1 (+B) - Body ground	Always	10 k Ω or higher
2P-9 or G84-8 (MREL) - Body ground	Always	10 k Ω or higher

- iv. Reconnect the ECM connector.
- v. Reconnect the instrument panel junction block connector.
- b. Check the harness and connector between the instrument panel junction block (EFI-MAIN NO. 1 relay) and body ground.
 - i. Disconnect the instrument panel junction block connector.
 - ii. Measure the resistance according to the value(s) in the table below.

Standard Resistance

Tester Connection	Condition	Specified Condition
2J-5 - Body ground	Always	Below 1 Ω

- iii. Reconnect the instrument panel junction block connector.

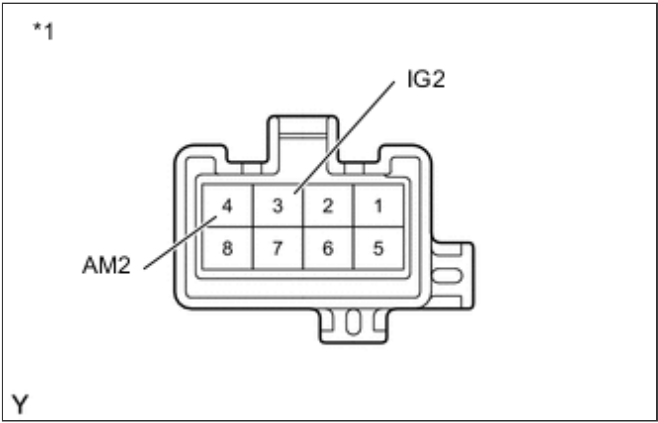
Result

Proceed to
OK
NG

OK	▶	REPAIR OR REPLACE HARNESS OR CONNECTOR (BATTERY - MAIN RELAY)
NG	▶	REPAIR OR REPLACE HARNESS OR CONNECTOR

7. INSPECT IGNITION SWITCH

- a. Disconnect the ignition switch connector.
- b. Measure the resistance according to the value(s) in the table below.



*1	Ignition Switch
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Standard Resistance

Tester Connection	Switch Condition	Specified Condition
4 (AM2) - 3 (IG2)	LOCK	10 kΩ or higher
4 (AM2) - 3 (IG2)	ON	Below 1 Ω

- c. Reconnect the ignition switch connector.

Result

Proceed to
OK

Proceed to
NG

NG

OK

REPAIR OR REPLACE HARNESS OR CONNECTOR (BATTERY - IGNITION SWITCH, IGNITION SWITCH - ECM)

NG

REPLACE IGNITION SWITCH [Click here](#)

8. INSPECT IG2 RELAY

a. Inspect the IG2 relay.

[Click here](#)

Result

Proceed to

OK

NG

NG

REPLACE IG2 RELAY

OK

9. CHECK HARNESS AND CONNECTOR (IG2 RELAY - ECM)

a. Disconnect the ECM connector.

b. Remove the IG2 relay from No. 4 instrument panel relay block.

c. Measure the resistance according to the value(s) in the table below.

Standard Resistance

Tester Connection	Condition	Specified Condition
G84-9 (IGSW) - IG2 Relay terminal 3	Always	Below 1 Ω
G84-9 (IGSW) or IG2 Relay terminal 3 - Body ground and other terminals	Always	10 k Ω or higher

d. Reconnect the ECM connector.

e. Reinstall the IG2 relay.

Result

Proceed to
OK
NG



10. CHECK TERMINAL VOLTAGE (IG2 RELAY)

- Remove the IG2 relay from No. 4 instrument panel relay block.
- Measure the voltage according to the value(s) in the table below.

Standard Voltage

Tester Connection	Switch Condition	Specified Condition
IG2 Relay terminal 5 - Body ground	Always	11 to 14 V

Result

Proceed to
OK
NG



11. CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU - IG2 RELAY)

- Disconnect the certification ECU (smart key ECU assembly) connector.
- Remove the IG2 relay from No. 4 instrument panel relay block.
- Measure the resistance according to the value(s) in the table below.

Standard Resistance

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Tester Connection	Condition	Specified Condition
G69-20 (IG1D) - IG2 Relay terminal 1	Always	Below 1 Ω
IG2 Relay terminal 2 - Body ground	Always	Below 1 Ω
G69-20 (IG1D) or IG2 Relay terminal 1 - Body ground and other terminals	Always	10 k Ω or higher

- d. Reconnect the certification ECU (smart key ECU assembly) connector.
- e. Reinstall the IG2 relay.

Result

Proceed to
OK
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