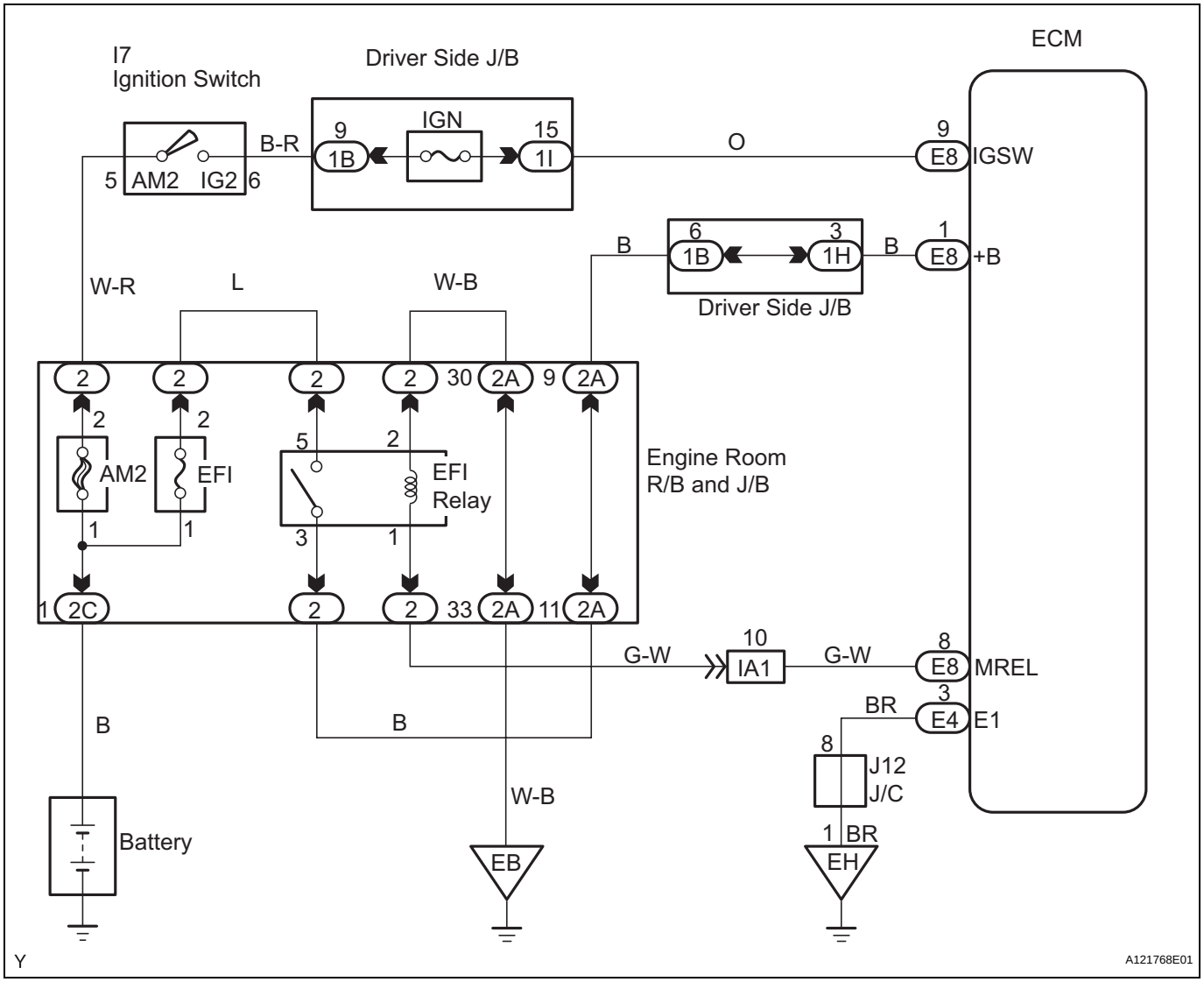
ECM Power Source Circuit

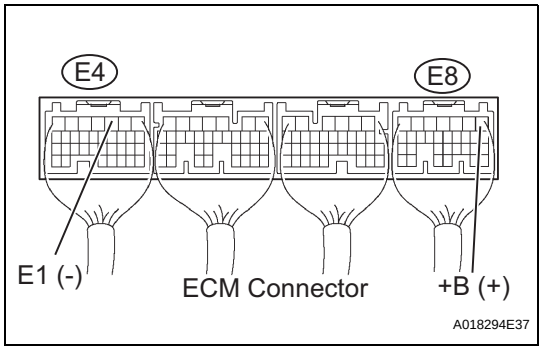
DESCRIPTION

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

WIRING DIAGRAM



1 **INSPECT ECM (+B VOLTAGE)**



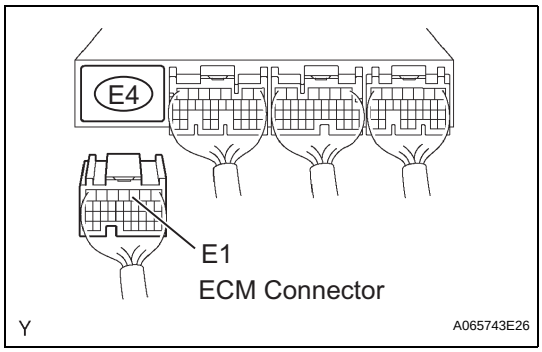
(a) Turn the ignition switch to ON.
(b) Measure the voltage between the terminals of the ECM connectors.
Standard Voltage

Tester Connections	Specified Conditions
+B (E8-1) - E1 (E4-3)	9 to 14 V

OK → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

ES **NG**

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



(a) Disconnect the negative battery cable.
(b) Disconnect the E4 ECM connector.
(c) Check the resistance.
Standard Resistance

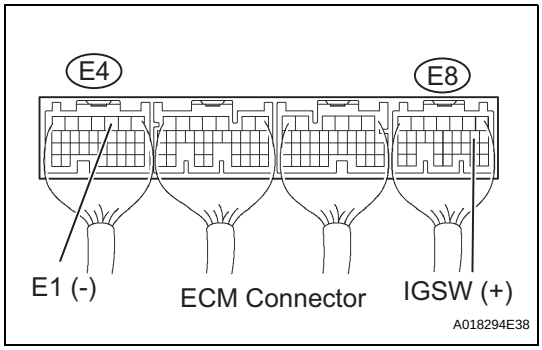
Tester Connections	Specified Conditions
E1 (E4-3) - Body ground	Below 1 Ω

(d) Reconnect the ECM connector.
(e) Reconnect the negative battery cable.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

3 **INSPECT ECM (IGSW VOLTAGE)**



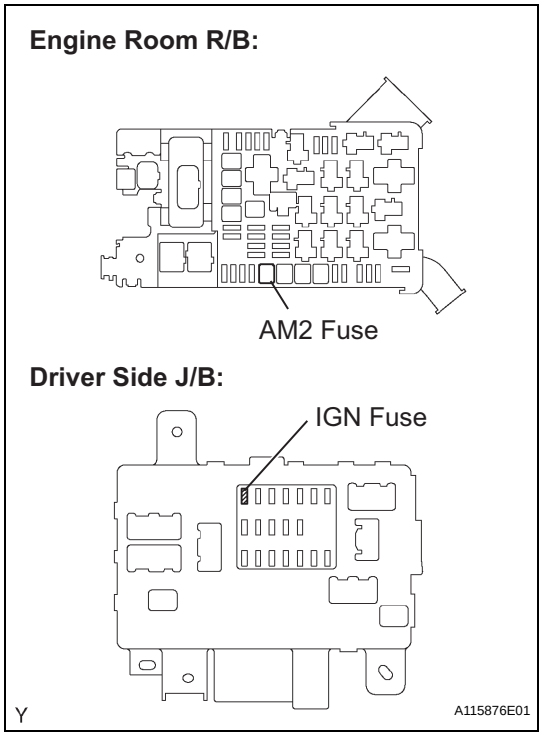
(a) Turn the ignition switch to ON.
(b) Measure the voltage between the terminals of the ECM connectors.
Standard Voltage

Tester Connections	Specified Conditions
IGSW (E8-9) - E1 (E4-3)	9 to 14 V

OK → **Go to step 6**

NG

4 CHECK FUSE (AM2 AND IGN)



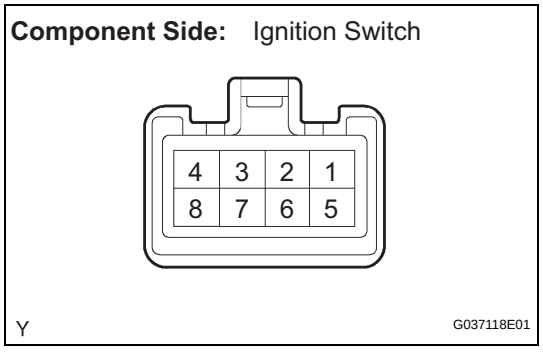
(a) Check the AM2 fuse.
  (1) Remove the AM2 fuse from the engine room R/B.
  (2) Check the AM2 fuse resistance.
    Standard Resistance:
    Below 1 Ω
  (3) Reinstall the AM2 fuse.

(b) Check the IGN fuse.
  (1) Remove the IGN fuse from the driver side J/B.
  (2) Check the IGN fuse resistance.
    Standard Resistance:
    Below 1 Ω
  (3) Reinstall the IGN fuse.

NG → **CHECK FOR SHORT IN ALL HARNESS AND COMPONENTS CONNECTED TO FUSE**

OK

5 INSPECT IGNITION OR STARTER SWITCH ASSEMBLY



(a) Disconnect the I7 ignition switch connector.

(b) Check the resistance.

Standard Resistance

Ignition Switch Positions	Tester Connections	Specified Conditions
LOCK	All Terminals	10 kΩ or higher
ACC	2-4	Below 1 Ω
ON	1-4, 1-6, 2-4, 3-4, 5-6	Below 1 Ω
START	1-4, 3-4, 5-6, 5-7	Below 1 Ω

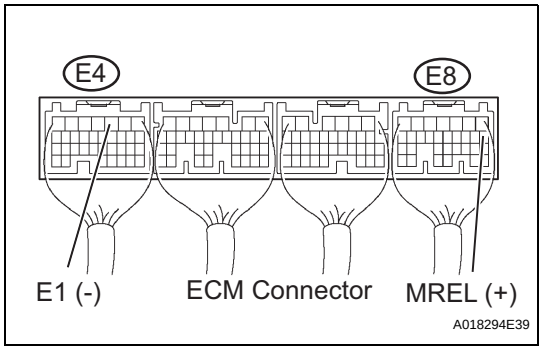
(c) Reconnect the ignition switch connector.

NG → **REPLACE IGNITION OR STARTER SWITCH ASSEMBLY**

OK

CHECK AND REPAIR HARNESS AND CONNECTOR (BATTERY - IGNITION SWITCH, IGNITION SWITCH - ECM)

6 INSPECT ECM (MREL VOLTAGE)



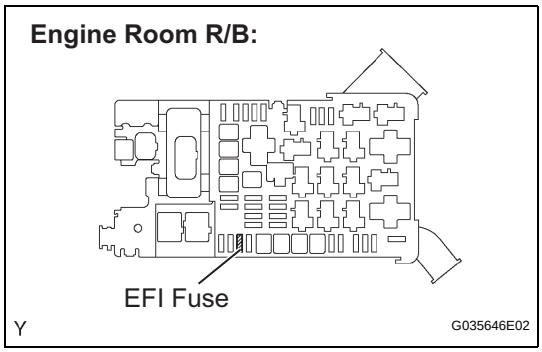
(a) Turn the ignition switch to ON.
(b) Measure the voltage between the terminals of the ECM connectors.
Standard Voltage

Tester Connections	Specified Conditions
MREL (E8-8) - E1 (E4-3)	9 to 14 V

NG → **REPLACE ECM**

OK

7 CHECK FUSE (EFI)

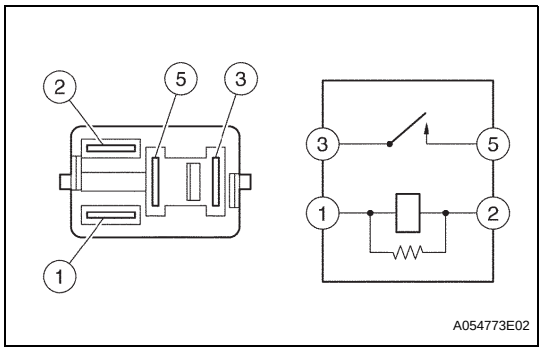


(a) Remove the EFI fuse from the engine room R/B.
(b) Check the EFI fuse resistance.
Standard Resistance:
Below 1 Ω
(c) Reinstall the EFI fuse.

NG → **CHECK FOR SHORT IN ALL HARNESS AND COMPONENTS CONNECTED TO FUSE**

OK

8 INSPECT EFI RELAY



(a) Remove the EFI relay from the engine room R/B.
(b) Check the EFI relay resistance.
Standard Resistance

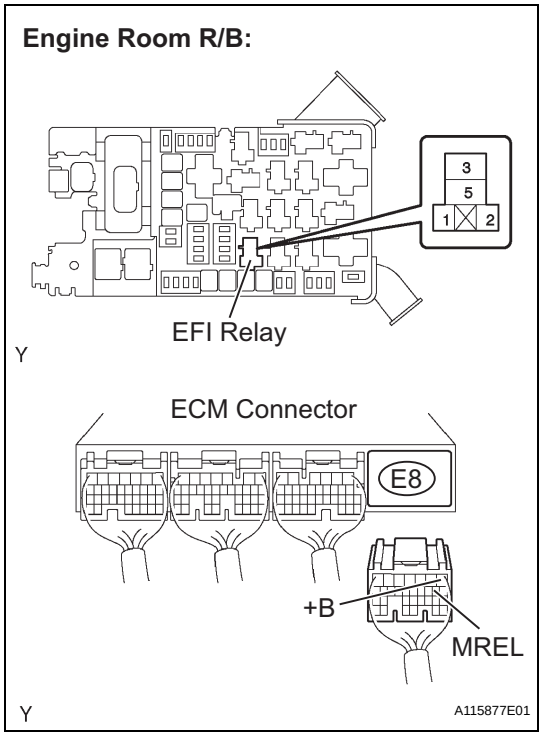
Tester Connections	Specified Conditions
3 - 5	10 kΩ or higher
3 - 5	Below 1 Ω (when battery voltage applied to terminals 1 and 2)

(c) Reinstall the EFI relay.

NG → **REPLACE EFI RELAY**

OK

9	CHECK HARNESS AND CONNECTOR (EFI RELAY - ECM, EFI RELAY - BODY GROUND)



(a) Check the harness and connector between the EFI relay and ECM.
  (1) Remove the EFI relay from the engine room R/B.
  (2) Disconnect the E8 ECM connector.
  (3) Check the resistance.

Standard Resistance (Check for open)

Tester Connections	Specified Conditions
Engine room R/B (EFI relay terminal 1) - MREL (E8-8)	Below 1 Ω
Engine room R/B (EFI relay terminal 3) - +B (E8-1)	Below 1 Ω

Standard Resistance (Check for short)

Tester Connections	Specified Conditions
Engine room R/B (EFI relay terminal 1) or MREL (E8-8) - Body ground	10 kΩ or higher
Engine room R/B (EFI relay terminal 3) or +B (E8-1) - Body ground	10 kΩ or higher

  (4) Reconnect the ECM connector.
  (5) Reinstall the EFI relay.

(b) Check the harness and connector between the EFI relay and body ground.
  (1) Remove the EFI relay from the engine room R/B.
  (2) Check the resistance.

Standard Resistance (Check for open):

Tester Connections	Specified Conditions
Engine room R/B (EFI relay terminal 2) - Body ground	Below 1 Ω

  (3) Reinstall the EFI relay.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

CHECK AND REPLACE HARNESS AND CONNECTOR (TERMINAL 5 OF EFI RELAY - BATTERY POSITIVE TERMINAL)