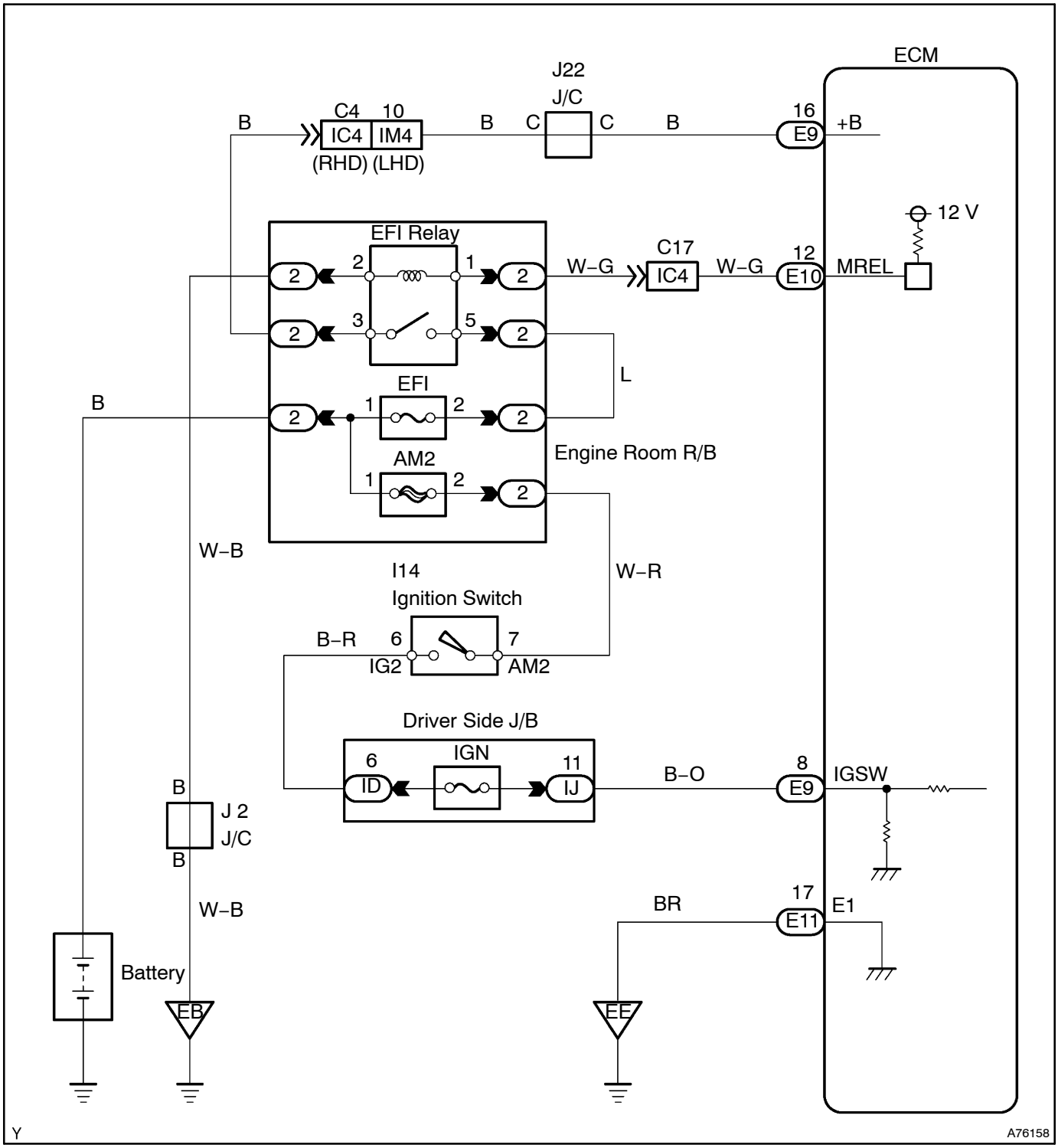
ECM POWER SOURCE CIRCUIT

CIRCUIT DESCRIPTION

When the ignition switch is turned ON, battery positive voltage is applied to the terminal IGSW of the ECM and main relay control circuit in the ECM sends a signal to the terminal MREL of the ECM switching on the main relay.

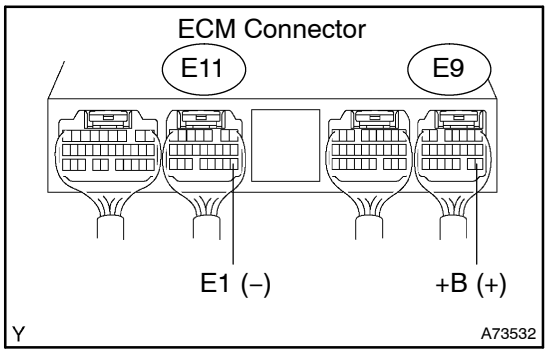
This signal causes current to flow to the coil, closing the contacts of the main relay and supplying power to the terminal +B of the ECM.

WIRING DIAGRAM



INSPECTION PROCEDURE

1 CHECK ECM (+B VOLTAGE)



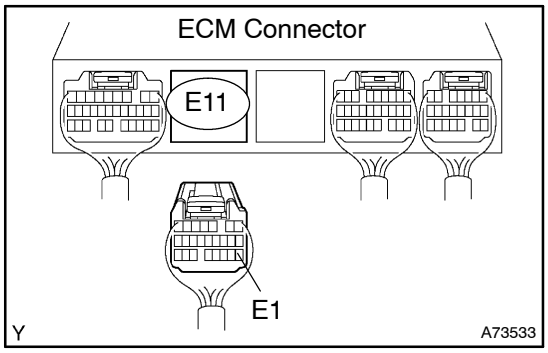
(a) Turn the ignition switch ON.
(b) Measure the voltage between the terminals of the E9 and E11 ECM connectors.
Voltage:

Symbols (Terminal No.)	Specified condition
+B (E9–16) ⇔ E1 (E11–17)	9 – 14 V

OK → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN ON PROBLEM SYMPTOMS TABLE (See page 05–99)**

NG

2 CHECK HARNESS AND CONNECTOR (ECM GROUND)



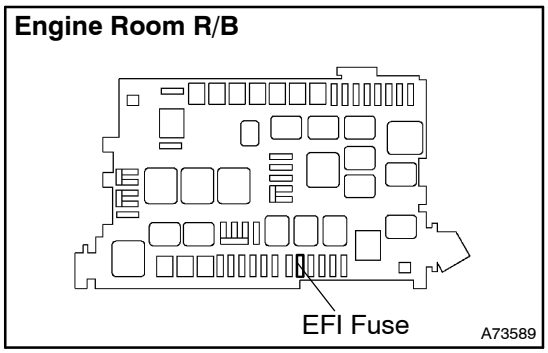
(a) Disconnect the E11 ECM connector.
(b) Check the continuity between the terminal of the E11 ECM wire harness side connector and body ground.
Standard:

Symbols (Terminal No.)	Specified condition
E1 (E11–17) ⇔ Body ground	Continuity

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

OK

3 INSPECT FUSE (EFI FUSE)

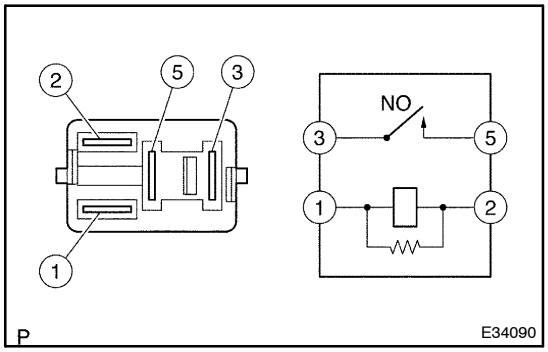


(a) Remove the EFI fuse.
(b) Check the continuity of the EFI fuse.
Standard: Continuity

NG → **CHECK FOR SHORT IN ALL HARNESS AND COMPONENTS CONNECTED FUSE (EFI FUSE)**

OK

4 INSPECT EFI RELAY



(a) Remove the main relay.
(b) Check the continuity between the terminals.
Standard:

Terminal No.	Specified condition
1 ⇔ 2	Continuity
3 ⇔ 5	No continuity

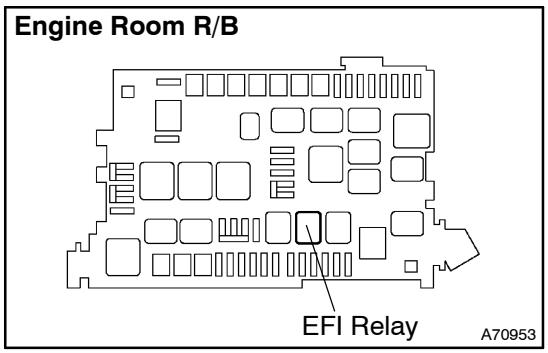
(c) Apply the battery positive voltage between the terminals 1 and 2.
(d) Check the continuity between the terminals 3 and 5.
Standard:

Terminal No.	Specified condition
3 ⇔ 5	Continuity

NG → **REPLACE EFI RELAY**

OK

5 CHECK RELAY OPERATION (EFI RELAY)

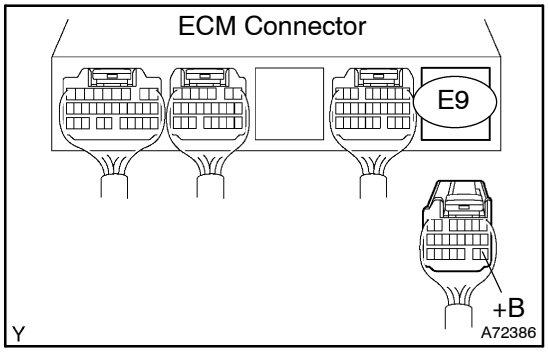


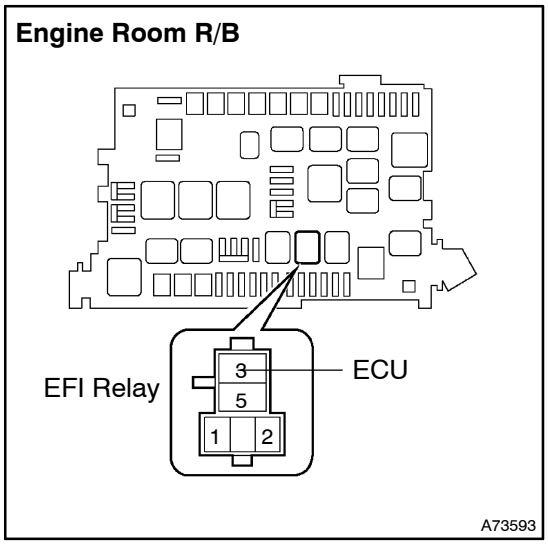
(a) Confirm that the EFI relay operates normally when turning the ignition switch ON.
Result:
EFI relay operation should is heard successively when turning the ignition switch ON

NG → **Go to step 7**

OK

6 CHECK HARNESS AND CONNECTOR (ECM ⇔ EFI RELAY)





(a) Disconnect the E9 ECM connector.
(b) Remove the EFI relay.
(c) Check the continuity between the wire harness side connectors.

Standard(Check for open):

Symbols (Terminal No.)	Specified condition
+B (E9–16) ⇔ ECU (EFI relay terminal 3 of R/B)	Continuity

Standard(Check for short):

Symbols (Terminal No.)	Specified condition
+B (E9–16) or ECU (EFI relay terminal 3 of R/B)⇔ Other terminals and body ground	No continuity

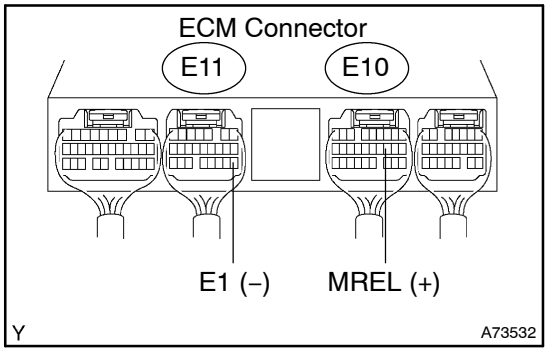
NOTICE:
Do not insert the tester hard in the procedure (c), or the holder may be damaged.

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

OK

CHECK OR REPAIR HARNESS OR CONNECTOR (EFI RELAY ⇔ BATTERY)

7 CHECK ECM (MREL VOLTAGE)



(a) Turn the ignition switch ON.
(b) Check the voltage between the terminals of the E10 and E11 ECM connectors.

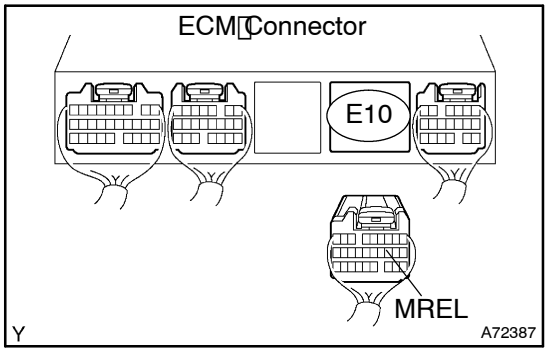
Voltage:

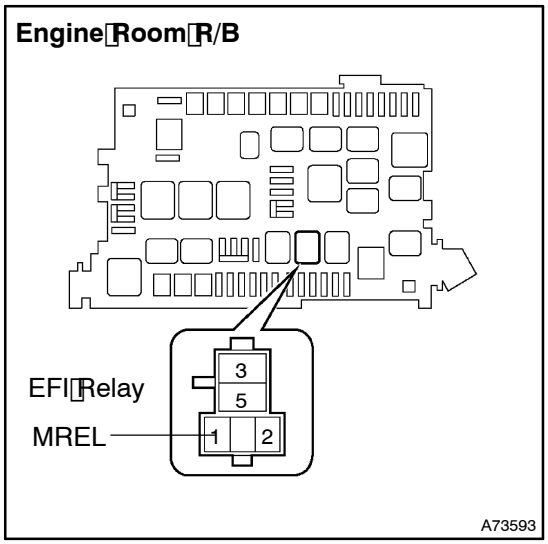
Symbols (Terminal No.)	Specified condition
MREL (E10–12) ⇔ E1 (E11–17)	9 – 14 V

NG → **Go to step 9**

OK

8 CHECK HARNESS AND CONNECTOR (ECM ⇔ EFI RELAY)





(a) Disconnect the E10 ECM connector.
(b) Remove the EFI relay.
(c) Check the continuity between the wire harness side connectors.

Standard (Check for open):

Symbols (Terminal No.)	Specified condition
MREL (E10–12) ⇔ MREL (EFI relay terminal 1 of R/B)	Continuity

Standard (Check for short):

Symbols (Terminal No.)	Specified condition
MREL (E10–12) or MREL (EFI relay terminal 1 of R/B) ⇔ Other terminals and body ground	No continuity

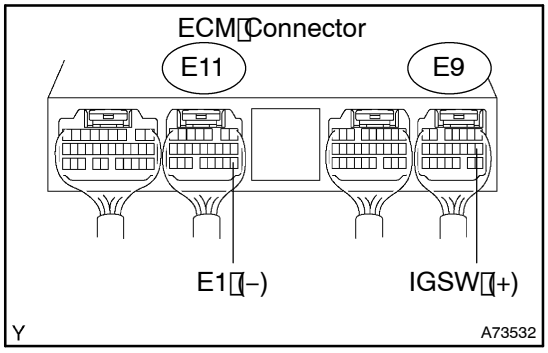
NOTICE:
Do not insert the tester hard in the procedure (c), or the holder may be damaged.

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

OK

CHECK OR REPAIR HARNESS OR CONNECTOR (EFI RELAY ⇔ BODY GROUND)

9 CHECK ECM (IGSW VOLTAGE)



(a) Turn the ignition switch ON.
(b) Check the voltage between the terminals of the E9 and E11 ECM connectors.

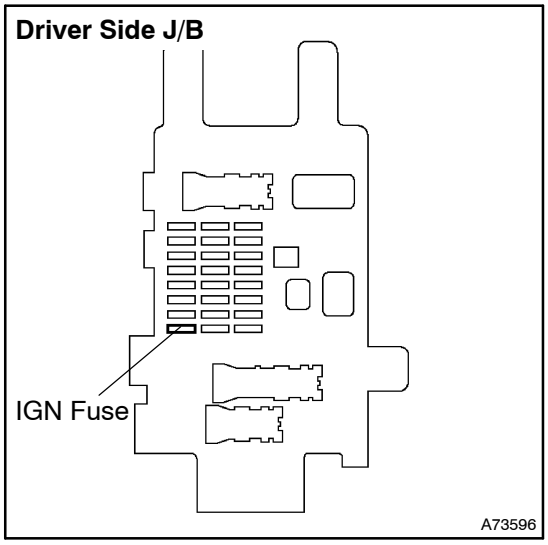
Voltage:

Symbols (Terminal No.)	Specified condition
IGSW (E9–8) ⇔ E1 (E11–17)	9 – 14 V

NG → **CHECK AND REPLACE ECM (See page 01–36)**

OK

10	INSPECT FUSE (IGN FUSE)

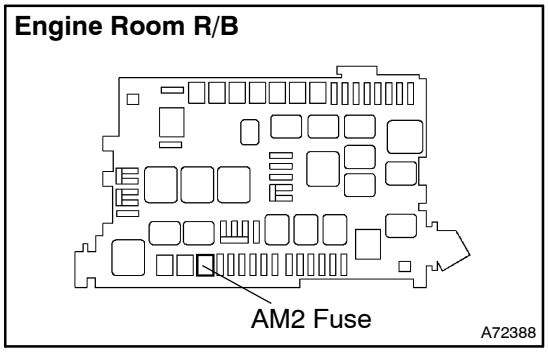


(a) Remove the IGN fuse.
(b) Check the continuity of the IGN fuse.
Standard: Continuity

NG → **CHECK FOR SHORT IN ALL HARNESS AND COMPONENTS CONNECTED FUSE (IGN FUSE)**

OK

11	INSPECT FUSE (AM2)

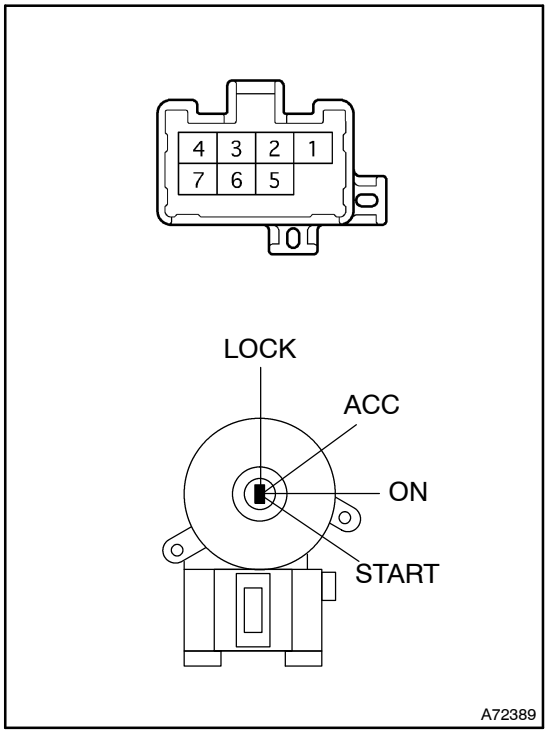


(a) Remove the AM2 fuse.
(b) Check the continuity of the AM2 fuse.
Standard: Continuity

NG → **CHECK FOR SHORT IN ALL HARNESS AND COMPONENTS CONNECTED FUSE (AM2 FUSE)**

OK

12 INSPECT IGNITION OR STARTER SWITCH ASSY



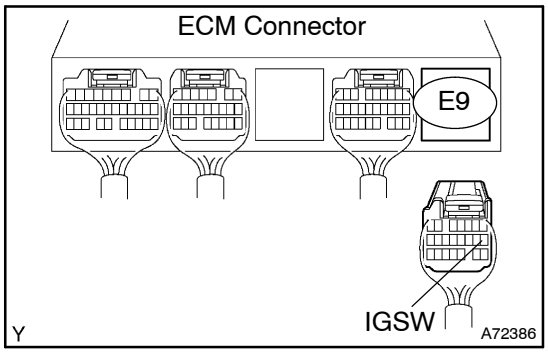
(a) Check the continuity between the terminals.

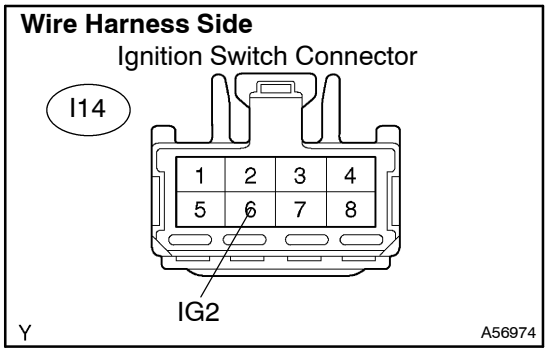
Switch position	Terminal No.	Specified condition
LOCK	All Terminals	No continuity
ACC	2 ⇔ 3	Continuity
ON	2 ⇔ 3 ⇔ 4 5 ⇔ 6	
START	1 ⇔ 2 ⇔ 3 5 ⇔ 7	

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

OK

13 CHECK HARNESS AND CONNECTOR (ECM ⇔ IGNITION SWITCH ASSY)





(a) Disconnect the E9 ECM connector.
(b) Disconnect the I14 ignition switch connector.
(c) Check the continuity between the wire harness side connectors.

Standard (Check for open):

Symbols (Terminal No.)	Specified condition
IGSW (E9–8) ⇔ IG2 (I14–6)	Continuity

Standard (Check for short):

Symbols (Terminal No.)	Specified condition
IGSW (E9–8) or IG2 (I14–6) ⇔ Other terminals and body ground	No continuity

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

OK

CHECK OR REPAIR HARNESS OR CONNECTOR (IGNITION SWITCH ASSY ⇔ BATTERY)