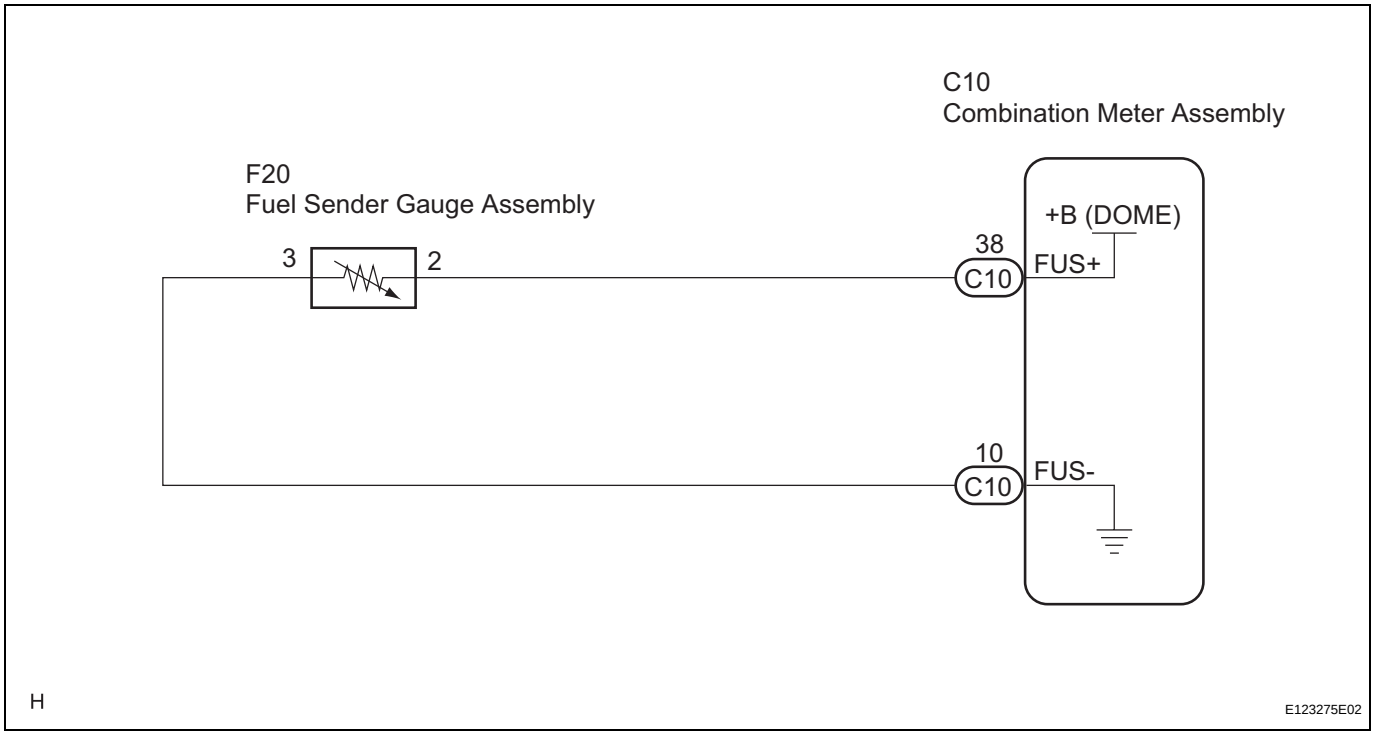
Fuel Receiver Gauge Malfunction

DESCRIPTION

The meter CPU uses the fuel sender gauge assembly to determine the level of the fuel in the fuel tank. The resistance of the fuel sender gauge will vary between approximately 15 Ω with the float at the full position, and 410 Ω with the float at the empty position. The meter outputs battery voltage through two 820 Ω resistors that are mounted in parallel inside the meter ECU. The meter CPU measures the voltage between the variable resistor in the fuel sender gauge and the two resistors mounted in parallel in the meter. Voltage measured at this point will vary as the float of the fuel sender gauge is moved. The highest voltage observed should be approximately half of battery voltage.

WIRING DIAGRAM



ME

INSPECTION PROCEDURE

1	PERFORM ACTIVE TEST BY INTELLIGENT TESTER

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch to the ON position.
(c) Turn the tester ON.
(d) Enter following menus: DIAGNOSIS / OBD/MOBD / METER / ACTIVE TEST.
(e) Check the operation by referring to the values in the table below.

METER:

Tester Display	Test Part	Test Details	Diagnostic Note
FUEL GAUGE	Fuel receiver gauge	EMPTY, 1/2, FULL	-

OK:
Needle indication is normal.

NG → **REPLACE COMBINATION METER ASSEMBLY**

OK

2	READ VALUE OF INTELLIGENT TESTER

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch to the ON position.
(c) Turn the tester ON.
(d) Enter following menus: DIAGNOSIS / OBD/MOBD / METER / DATA LIST.
(e) Check the values by referring to the values in the table below.

METER:

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
FUEL GAUGE	Fuel input signal Min.: 0, Max.: 255	Fuel gauge indicates (F): 47 Fuel gauge indicates (1/2): 148 Fuel gauge indicates (E): 205	-

OK:

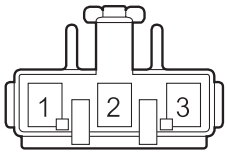
Fuel value signal displayed on the tester is almost the same as needle indication.

NG → **REPLACE COMBINATION METER ASSEMBLY**

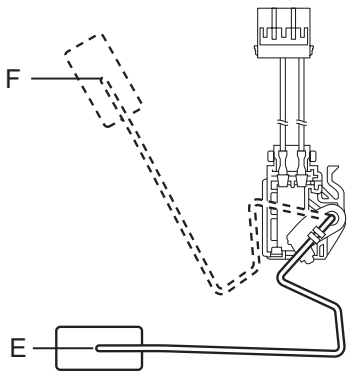
OK

3	INSPECT FUEL SENDER GAUGE ASSEMBLY

Fuel Sender Gauge Assembly
Wire Harness Connector Front View:



Fuel Sender Gauge Assembly:



E143790E01

(a) Disconnect the connector from the fuel sender gauge.
(b) Check the the float moves smoothly between F and E.
(c) Measure the resistance between terminals 1 and 2 of the connector according to the value(s) in the table below.
Standard resistance: Fuel sender gauge

Float Level	Resistance (Ω)
F	13.5 to 16.5
Between E and F	13.5 to 414.5 (Gradually changes)
E	405.5 to 414.5

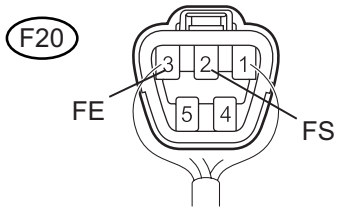
NG → **REPLACE FUEL SENDER GAUGE ASSEMBLY**

OK

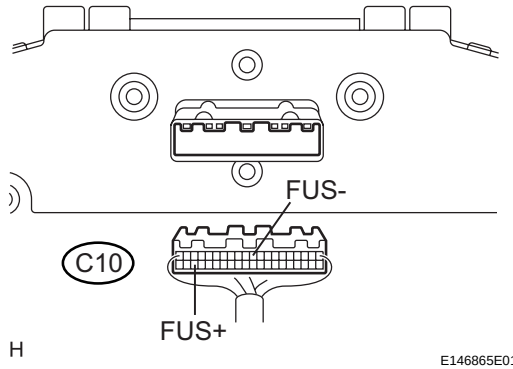
ME

4	**CHECK HARNESS AND CONNECTOR (COMBINATION METER ASSEMBLY - FUEL SENDER GAUGE ASSEMBLY)**

Fuel Sender Gauge Assembly Wire Harness View:



Combination Meter Assembly Wire Harness View:



E146865E01

(a) Disconnect the F20 and C10 connectors.
(b) Measure the resistance according to the value(s) in the table below.

Standard resistance

Tester Connection	Condition	Specified Condition
F20-2 (FS) - C10-38 (FUS+)	Always	Below 1 Ω
F20-3 (FE) - C10-10 (FUS-)	Always	Below 1 Ω
F20-2 (FS) - Body ground	Always	10 kΩ or higher
C10-10 (FUS-) - Body ground	Always	10 kΩ or higher

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

OK

REPLACE COMBINATION METER ASSEMBLY

ME