

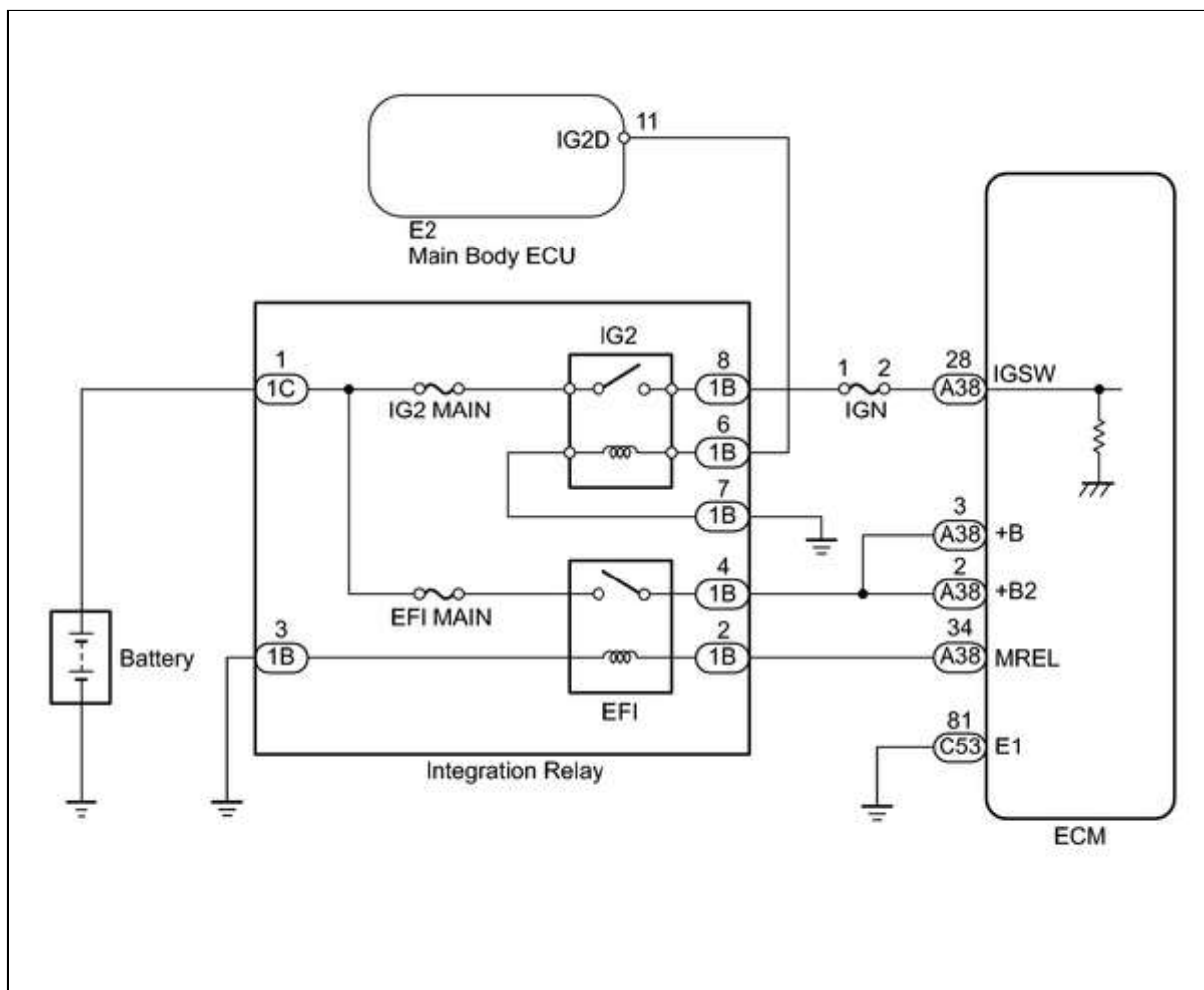
Last Modified: 2-7-2018	6.8:8.0.48	Doc ID: RM000001DN803NX
Model Year Start: 2010	Model: LX570	Prod Date Range: [07/2009 -]
Title: 3UR-FE ENGINE CONTROL: SFI SYSTEM: ECM Power Source Circuit; 2010 MY LX570 [07/2009 -]		

ECM Power Source Circuit

DESCRIPTION

When the engine switch is turned on (IG), the battery voltage is applied to the IGSW of the ECM. The output signal from the MREL terminal of the ECM causes a current to flow to the coil, closing the contacts of the integration relay (EFI relay) and supplying power to either terminal +B or +B2 of the ECM.

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

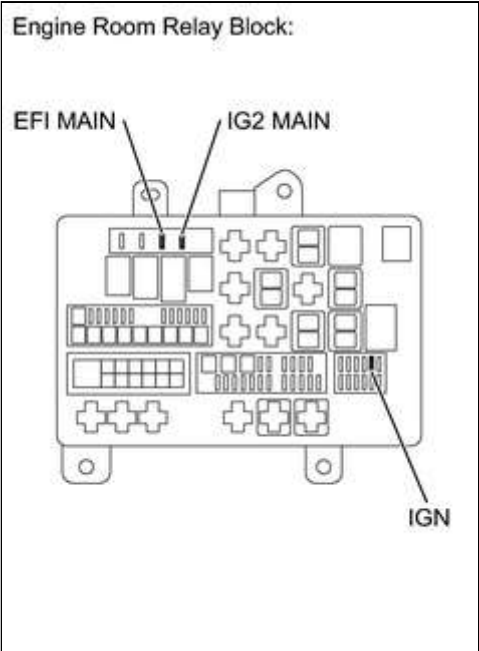
Inspect the fuses for circuits related to this system before performing the following inspection procedure.

PROCEDURE

1.INSPECT FUSES (IG2 MAIN, EFI MAIN AND IGN)

- (a) Remove the IG2 MAIN fuse, EFI MAIN fuse and IGN fuse from the engine room relay block.
- (b) Measure the resistance according to the value(s) in the table below.
- Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
IG2 MAIN fuse	Always	Below 1 Ω
EFI MAIN fuse	Always	Below 1 Ω
IGN fuse	Always	Below 1 Ω



NG

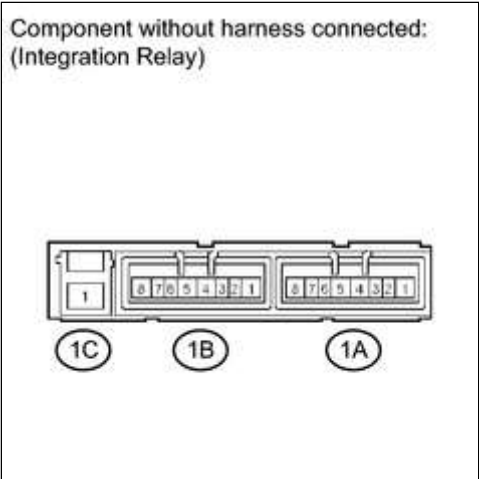
CHECK FOR SHORT IN ALL HARNESSES AND CONNECTORS CONNECTED TO FUSE AND REPLACE FUSE

OK

2.INSPECT RELAY (IG2, EFI)

- (a) Remove the integration relay from the engine room relay block.
- (b) Measure the resistance according to the value(s) in the table below.
- Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1C-1 - 1B-8	Battery voltage not applied	10 kΩ or higher
	Battery voltage applied to terminals 1B-6 and 1B-7	Below 1 Ω
1C-1 - 1B-4	Battery voltage not applied	10 kΩ or higher



TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
	Battery voltage applied to terminals 1B-2 and 1B-3	Below 1 Ω

NG  **REPLACE RELAY**

OK



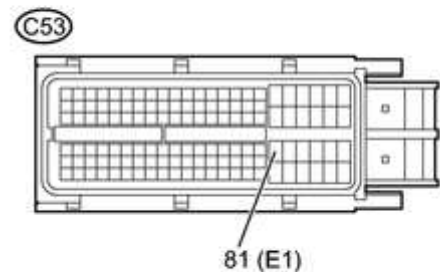
3. CHECK HARNESS AND CONNECTOR (ECM - BODY GROUND)

- (a) Disconnect the C53 ECM connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
C53-81 (E1) - Body ground	Always	Below 1 Ω

Front view of wire harness connector:
(to ECM)



NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK



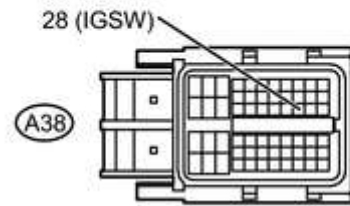
4. CHECK HARNESS AND CONNECTOR (RELAY BLOCK - ECM, MAIN BODY ECU, BATTERY)

- (a) Disconnect the A38 ECM connector.
- (b) Disconnect the E2 main body ECU connector.
- (c) Disconnect the cable from the battery positive (+) terminal.
- (d) Measure the resistance according to the value(s) in the table below.

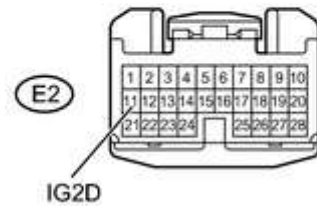
Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A38-28 (IGSW) - 1B-8	Always	Below 1 Ω
1B-7 - Body ground	Always	Below 1 Ω
Positive (+) battery cable - 1C-1	Always	Below 1 Ω
E2-11 (IG2D) - 1B-6	Always	Below 1 Ω
A38-28 (IGSW) or 1B-8 - Body ground	Always	10 k Ω or higher
Positive (+) battery cable or 1C-1 - Body ground	Always	10 k Ω or higher
E2-11 (IG2D) or 1B-6 - Body ground	Always	10 k Ω or higher

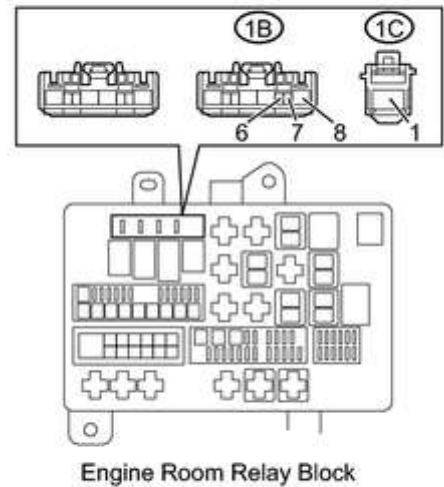
Front view of wire harness connector:
(to ECM)



Front view of wire harness connector:
(to Main Body ECU)



Front view of wire harness connector:
(to Integration Relay)



NG REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

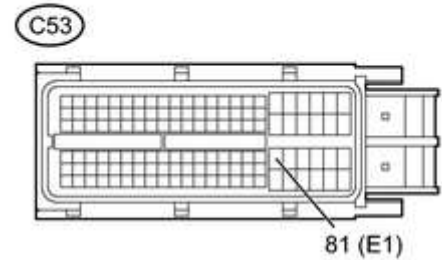
5. INSPECT ECM (IGSW VOLTAGE)

- (a) Disconnect the A38 and C53 ECM connectors.
- (b) Turn the engine switch on (IG).
- (c) Measure the voltage according to the value(s) in the table below.

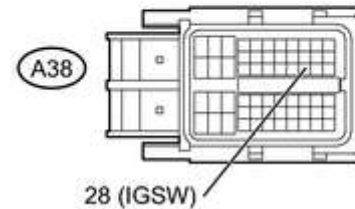
Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
A38-28 (IGSW) - C53-81 (E1)	Engine switch on (IG)	11 to 14 V

Front view of wire harness connector:
(to ECM)



Front view of wire harness connector:
(to ECM)



OK ► **GO TO STEP 7**

NG ► **GO TO STEP 6**

6. CHECK SMART ACCESS SYSTEM WITH PUSH-BUTTON START (POWER SOURCE MODE DOES NOT CHANGE)

- (a) Check the smart access system with push-button start  .

NG ► **REPAIR SMART ACCESS SYSTEM WITH PUSH-BUTTON START**

OK

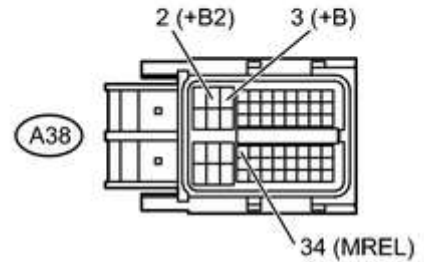
**7. CHECK HARNESS AND CONNECTOR (INTEGRATION RELAY - ECM, BATTERY AND BODY GROUND)**

- (a) Disconnect the A38 ECM connector.
- (b) Disconnect the cable from the battery positive terminal.
- (c) Remove the integration relay from the engine room relay block.
- (d) Disconnect the integration relay connector.
- (e) Measure the resistance according to the value(s) in the table below.

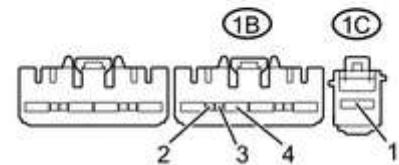
Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A38-3 (+B) - 1B-4	Always	Below 1 Ω
A38-2 (+B2) - 1B-4	Always	Below 1 Ω
A38-34 (MREL) - 1B-2	Always	Below 1 Ω
1C-1 - Positive (+) battery cable	Always	Below 1 Ω
1B-3 - Body ground	Always	Below 1 Ω
A38-3 (+B) or 1B-4 - Body ground	Always	10 k Ω or higher
A38-2 (+B2) or 1B-4 - Body ground	Always	10 k Ω or higher
A38-34 (MREL) or 1B-2 - Body ground	Always	10 k Ω or higher
1C-1 or Positive (+) battery cable - Body ground	Always	10 k Ω or higher

Front view of wire harness connector:
(to ECM)



Front view of wire harness connector:
(to Integration Relay)



NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ► REPLACE ECM

