

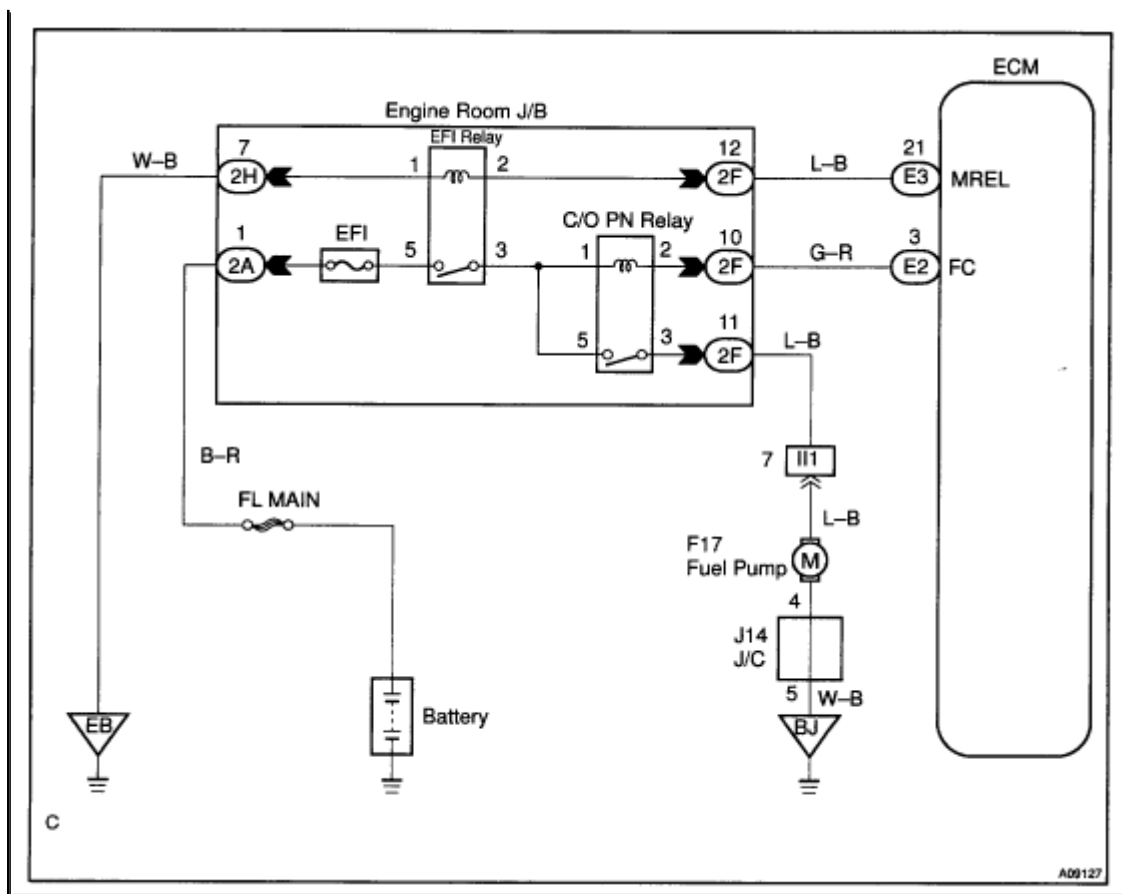
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### CIRCUIT DESCRIPTION

In the diagram below, when the engine is cranked, current flows from terminal ST of the ignition switch to the starter relay coil and also current flows to terminal STA of [ECM](#) (STA signal).

When the STA signal and NE signal are input to the [ECM](#), Tr is turned **ON**, current flows to coil of the [circuit opening relay](#), the relay switches on, power is supplied to the fuel pump and the fuel pump operates. While the NE signal is generated (engine running), the ECM keeps Tr **ON** (circuit opening relay **ON**) and the fuel pump also keeps operating.

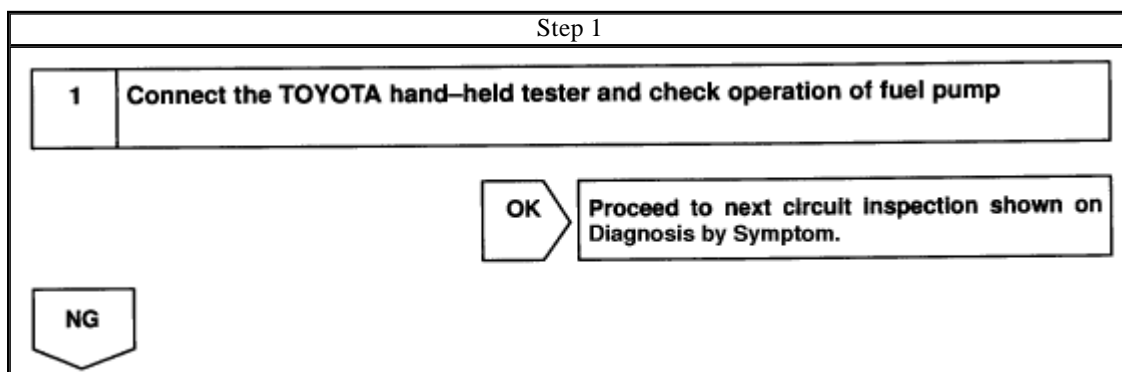


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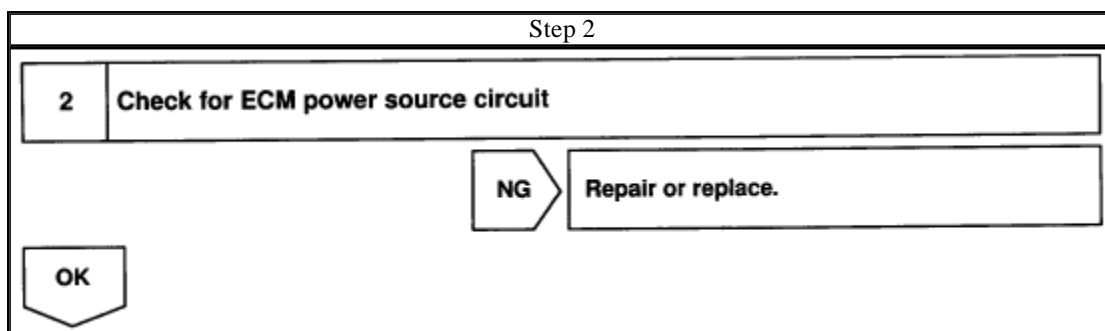
## WIRING DIAGRAM

## INSPECTION PROCEDURE



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## Step 3

**3 Check circuit opening relay (Marking: CIR OPN)**

NG

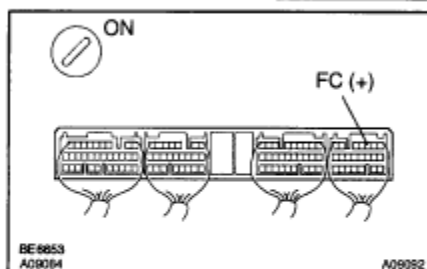
Replace circuit opening relay.

OK

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## Step 4

**4 Check voltage between terminal FC of ECM and body ground.****PREPARATION:**

- (a) Remove the ECM cover.
- (b) Turn the ignition switch ON.

**CHECK:**

Measure voltage between terminal FC of the ECM and body ground.

**OK:**

Voltage 9 – 14 V

NG

Check for open in harness and connector between EFI main relay and circuit opening relay and ECM

OK

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## Step 5

**5 Check fuel pump**

NG

Repair or replace fuel pump.

OK

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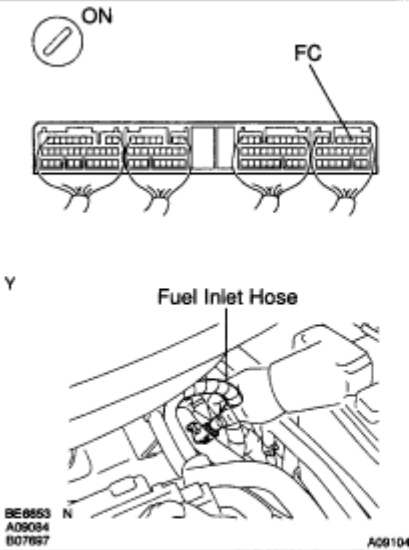
## Step 6

<b>6</b>	<b>Check for open in harness and connector between circuit opening relay (Marking: CIR OPN) and fuel pump and body ground</b>
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border: 1px solid black; padding: 5px; width: 15%; text-align: center;">OK</div> <div style="border: 1px solid black; padding: 5px; width: 15%; text-align: center;">NG</div> <div style="border: 1px solid black; padding: 5px; width: 60%; text-align: center;">Repair or replace harness or connector.</div> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px; width: 60%; text-align: center;">Check and replace ECM</div>	

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**TOYOTA hand-held tester**

Step 1	
<b>1</b>	<b>Check operation of fuel pump.</b>
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;">  </div> <div style="width: 65%;"> <p><b>PREPARATION:</b></p> <ul style="list-style-type: none"> <li>(a) Remove the ECM cover.</li> <li>(b) Turn the ignition switch ON.</li> </ul> <p><b>CHECK:</b></p> <ul style="list-style-type: none"> <li>(a) Connect between terminal FC of the ECM connector and body ground.</li> <li>(b) Check for fuel pressure in the fuel inlet hose when it is pinched off.</li> </ul> <p><b>OK:</b></p> <p style="text-align: center;"><b>There is pressure in fuel inlet hose.</b></p> <p><b>HINT:</b></p> <p>At this time, you will hear a fuel return flowing noise.</p> </div> </div> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;"> <div style="border: 1px solid black; padding: 5px; width: 15%; text-align: center;">NG</div> <div style="border: 1px solid black; padding: 5px; width: 60%; text-align: center;"> <b>Proceed to next circuit inspection shown on Diagnosis by Symptom.</b> </div> </div>	

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Step 2	
<b>2</b>	<b>Check for ECM power source circuit</b>
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border: 1px solid black; padding: 5px; width: 15%; text-align: center;">OK</div> <div style="border: 1px solid black; padding: 5px; width: 15%; text-align: center;">NG</div> <div style="border: 1px solid black; padding: 5px; width: 60%; text-align: center;">Repair or replace.</div> </div>	

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## Step 3

**3 Check circuit opening relay (Marking: CIR OPN)****NG****Replace circuit opening relay.****OK**

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## Step 4

**4 Check voltage between terminal FC of ECM and body ground (See Fuel Pump Control Circuit, step 4).****NG****Check for open in harness and connector between EFI main relay and circuit opening relay and ECM****OK**

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## Step 5

**5 Check fuel pump****NG****Repair or replace fuel pump.****OK**

ZOOM

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## Step 6

**6 Check for open in harness and connector between circuit opening relay (Marking: CIR OPN) and fuel pump and body ground****NG****Repair or replace harness or connector.****OK****Check and replace ECM**

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