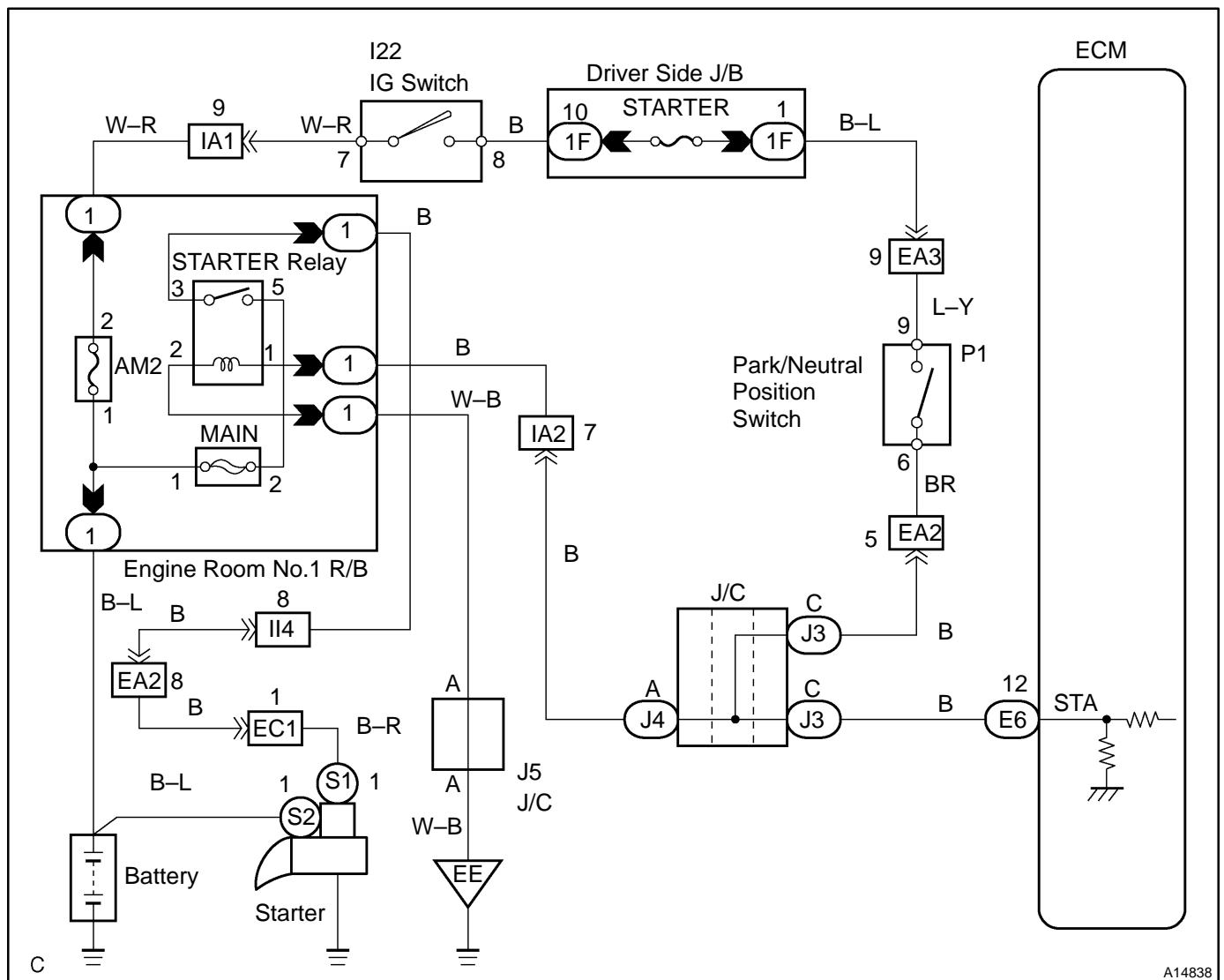


## Starter Signal Circuit

### CIRCUIT DESCRIPTION

When the engine is cranked, the intake air flow is slow, so fuel vaporization is poor. A rich mixture is therefore necessary in order to achieve good startability. While the engine is being cranked, the battery positive voltage is applied to terminal STA of the ECM. The starter signal is mainly used to increase the fuel injection volume for the starting injection control and after-start injection control.

### WIRING DIAGRAM



### INSPECTION PROCEDURE

#### HINT:

This diagnostic chart is based on the premise that the engine is cranked normally. If the engine is not cranked, proceed to the problem symptoms table on page [DI-192](#).

**LEXUS hand-held tester:**

- 1 Connect LEXUS hand-held tester, and check STA signal.**

**PREPARATION:**

- (a) Connect the LEXUS hand-held tester to the DLC3.  
 (b) Turn the ignition switch ON and push the LEXUS hand-held tester main switch ON.

**CHECK:**

Read the STA signal on the LEXUS hand-held tester while the starter operates.

**OK:**

Ignition Switch Position	ON	START
STA Signal	OFF	ON

OK

Proceed to next circuit inspection shown on problem symptoms table (See page [DI-192](#)).

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- 2 Check for open in harness and connector between ECM and starter relay (See page [IN-32](#)).**

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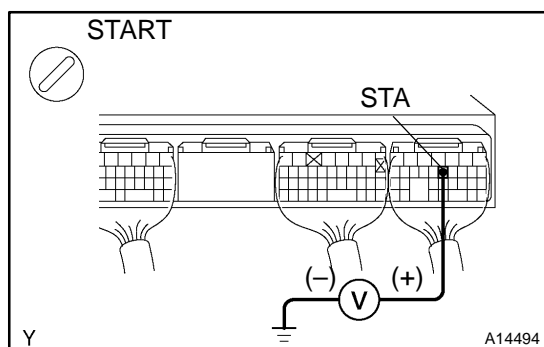
Repair or replace harness or connector.

OK

Check and replace ECM (See page [IN-32](#)).

**OBD II scan tool (excluding LEXUS hand-held tester):**

- 1 Check voltage between terminal STA of ECM connector and body ground.**

**PREPARATION:**

- (a) Remove the engine room ECM cover and hood.  
 (b) Turn the ignition switch ON.

**CHECK:**

Measure the voltage between terminal STA of the ECM connector and body ground, during the engine cranking.

**OK:**

**Voltage: 6 V or more**

OK

Proceed to next circuit inspection shown on problem symptoms table (See page [DI-192](#)).

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2

Check for open in harness and connector between ECM and starter relay (See page [IN-32](#)).

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Repair or replace harness or connector.

OK

Check and replace ECM (See page [IN-32](#)).