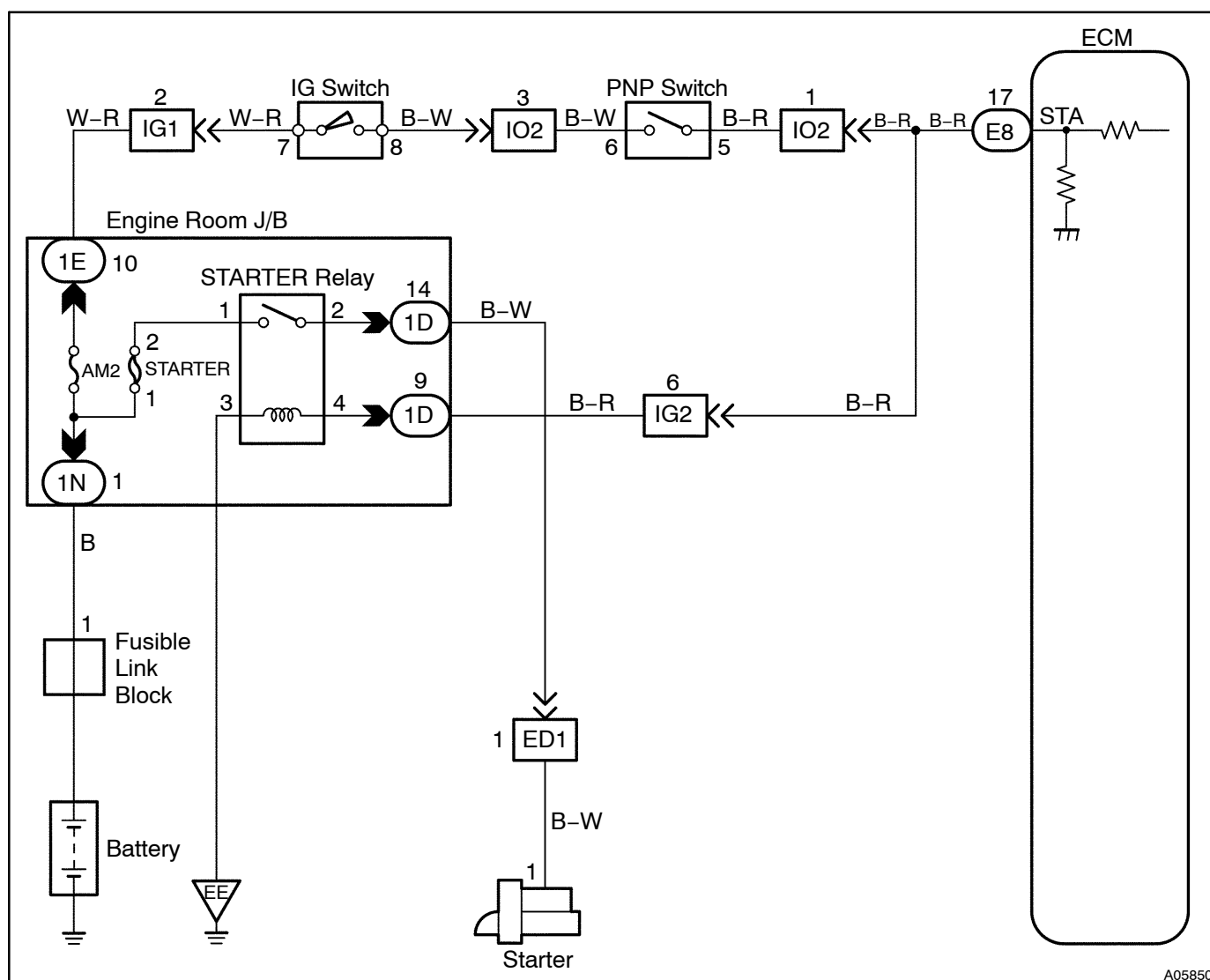


Starter Signal Circuit

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-23](#).

TOYOTA hand-held tester

1	Connect TOYOTA hand-held tester, and check STA signal.
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PREPARATION:

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

CHECK:

Read STA signal on the TOYOTA hand-held tester while 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-23](#)).

NG

2	Check for open in harness and connector between ECM and starter relay (Marking: STARTER) (See page IN-34).
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NG

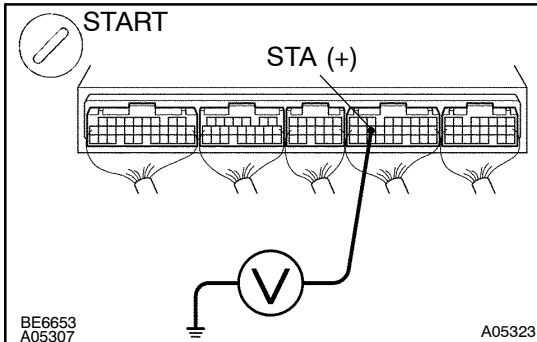
Repair or replace harness or connector.

OK

Check and replace ECM (See page [IN-34](#)).

OBD II scan tool (excluding TOYOTA hand-held tester)

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

**PREPARATION:**

- (a) Remove the glove compartment door.
- (b) Turn the ignition switch ON.

CHECK:

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

OK:

Voltage: 6 V or more

OK

Proceed to next circuit inspection shown on problem symptoms table (See page [DI-23](#)).

NG

- | | |
|----------|---|
| 2 | Check for open in harness and connector between ECM and starter relay (Marking: STARTER) (See page IN-34). |
|----------|---|

NG

Repair or replace harness or connector.

OK

Check and replace ECM (See page [IN-34](#)).