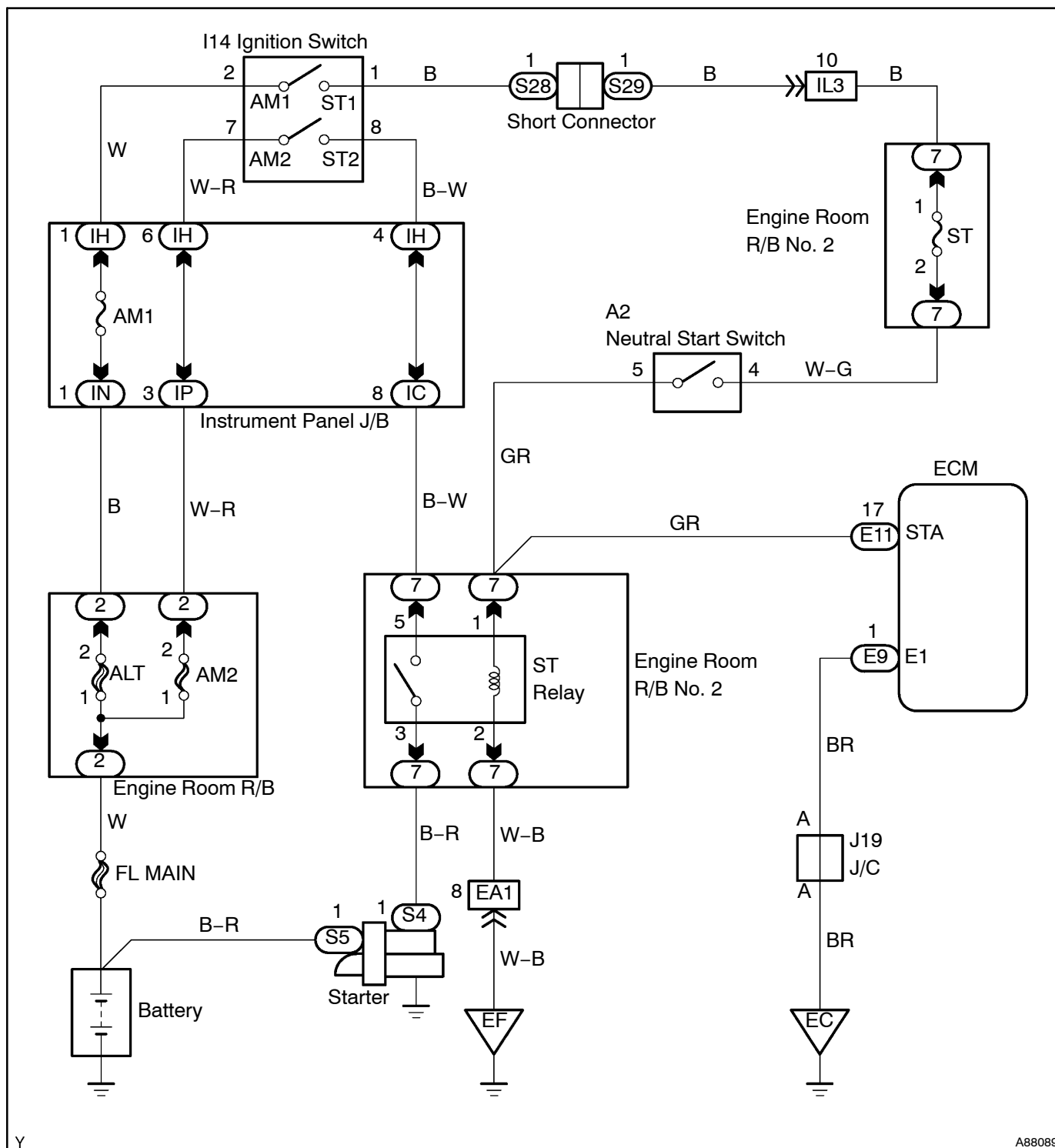


STARTER SIGNAL CIRCUIT

CIRCUIT DESCRIPTION

When the engine is cranked, the intake air flow becomes 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 voltage is applied to terminal STA of the ECM. The starter signal is mainly used to increase the fuel injection volume for starting injection control and after-start injection control.

WIRING DIAGRAM



Y

A88089

INSPECTION PROCEDURE

When using intelligent tester:

1 READ VALUE OF INTELLIGENT TESTER (STA SIGNAL)

- Connect the intelligent tester to the DLC3.
- Turn the ignition switch to ON and turn the intelligent tester ON.
- Select the following menu items: Powertrain/Engine and ECT/Data List/Starter SIG.
- Check the result when the ignition switch is turned to the ON and START positions.

Result:

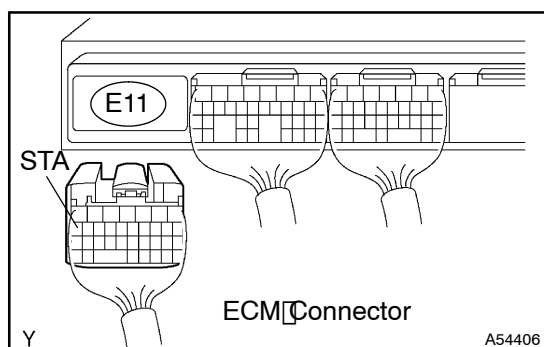
Ignition Switch Position	ON	START
STA Signal	OFF	ON

OK

PROCEED TO NEXT CIRCUIT INSPECTION
SHOWN IN PROBLEM SYMPTOMS TABLE
(See page 05-262)

NG

2 CHECK HARNESS AND CONNECTOR (ECM - ST RELAY)



- Disconnect the E11 ECM connector.
- Disconnect the I14 ignition switch connector.
- Check the resistance.

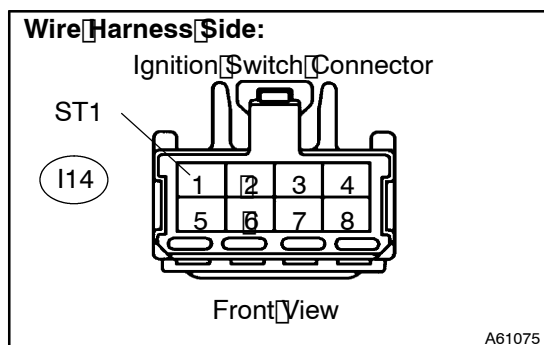
Standard (Check for open):

Tester Connection	Specified Condition
STA (E11-17) - ST1 (I14-1)	Below 1 Ω

Standard (Check for short):

Tester Connection	Specified Condition
STA (E11-17) or ST1 (I14-1) - Body Ground	10 kΩ or higher

- Reconnect the ECM connector.
- Reconnect the ignition switch connector.

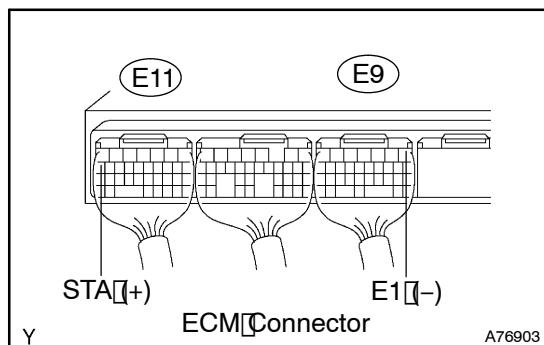


NG

REPAIR OR REPLACE HARNESS OR
CONNECTOR

OK

REPLACE ECM (See page 10-30)

When not using intelligent tester:**1 INSPECT ECM (STA VOLTAGE)**

- (a) Turn the Ignition switch to ON.
 (b) Measure the voltage between the terminals of the E9 and E11 ECM connectors.

Standard:

Tester Connection	Specified Condition
STA (E11-17) - E1 (E9-1)	0 V

- (c) Measure the voltage between the terminals of the E9 and E11 ECM connectors when the engine is cranked.

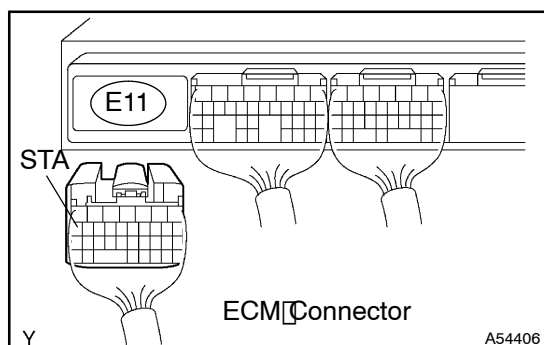
Standard:

Tester Connection	Specified Condition
STA (E11-7) - E1 (E9-1)	6 V or more

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE
 (See page 05-262)

NG

2 CHECK HARNESS AND CONNECTOR (ECM - ST RELAY)

- (a) Disconnect the E11 ECM connector.
 (b) Disconnect the I14 Ignition switch connector.
 (c) Check the resistance.

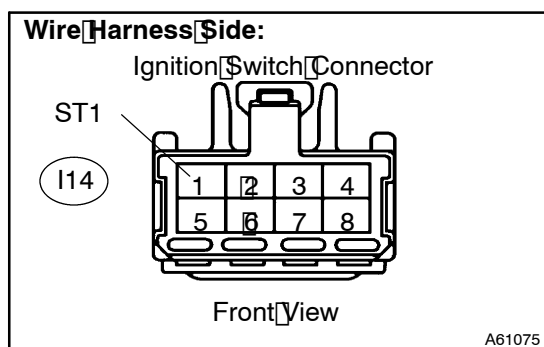
Standard (Check for open):

Tester Connection	Specified Condition
STA (E11-17) - ST1 (I14-1)	Below 1 Ω

Standard (Check for short):

Tester Connection	Specified Condition
STA (E11-17) or ST1 (I14-1) - Body Ground	10 kΩ or higher

- (d) Reconnect the ECM connector.
 (e) Reconnect the Ignition switch connector.



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REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE ECM (See page 10-30)