

DTC	P0617	STARTER RELAY CIRCUIT HIGH
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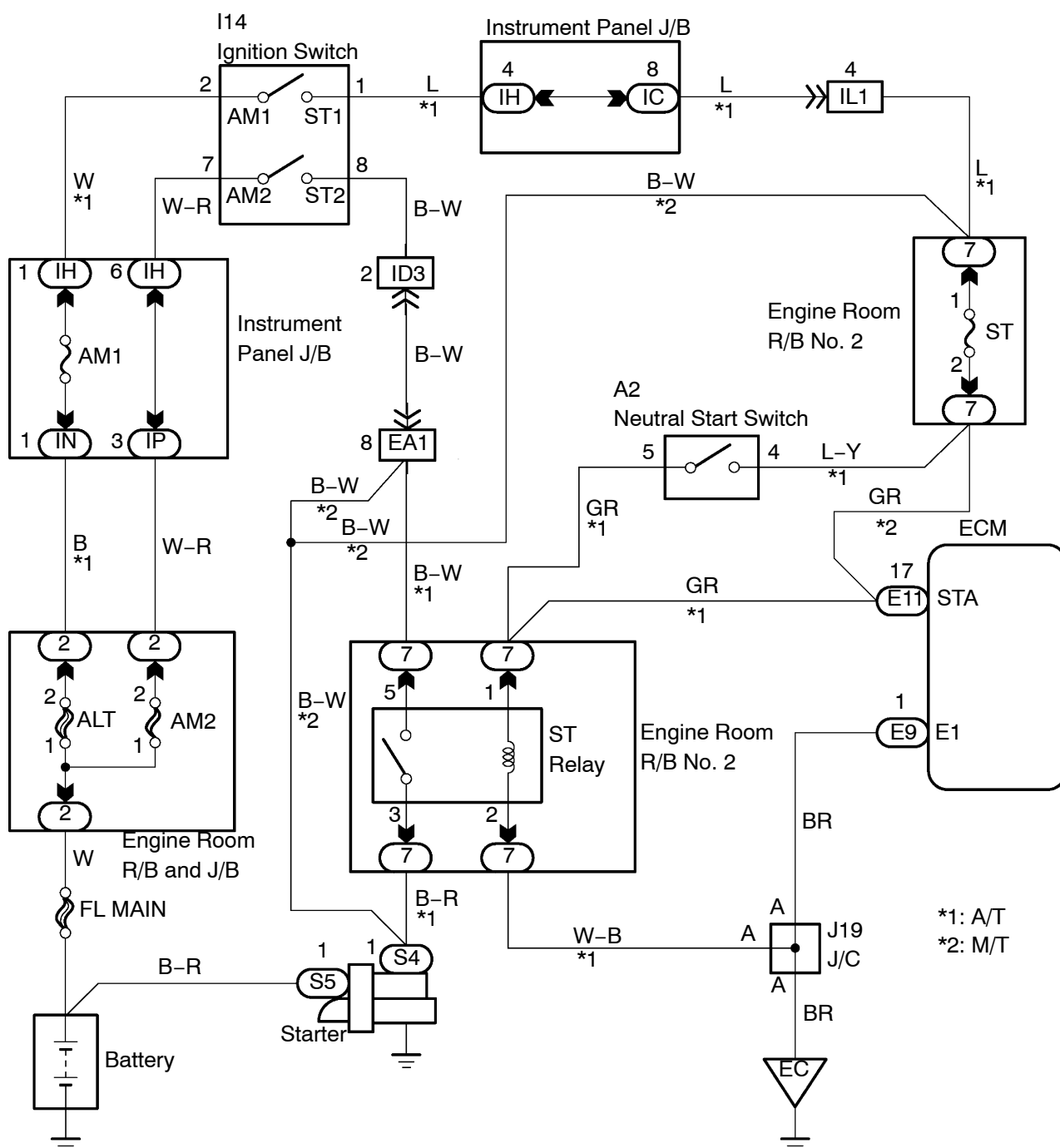
## CIRCUIT DESCRIPTION

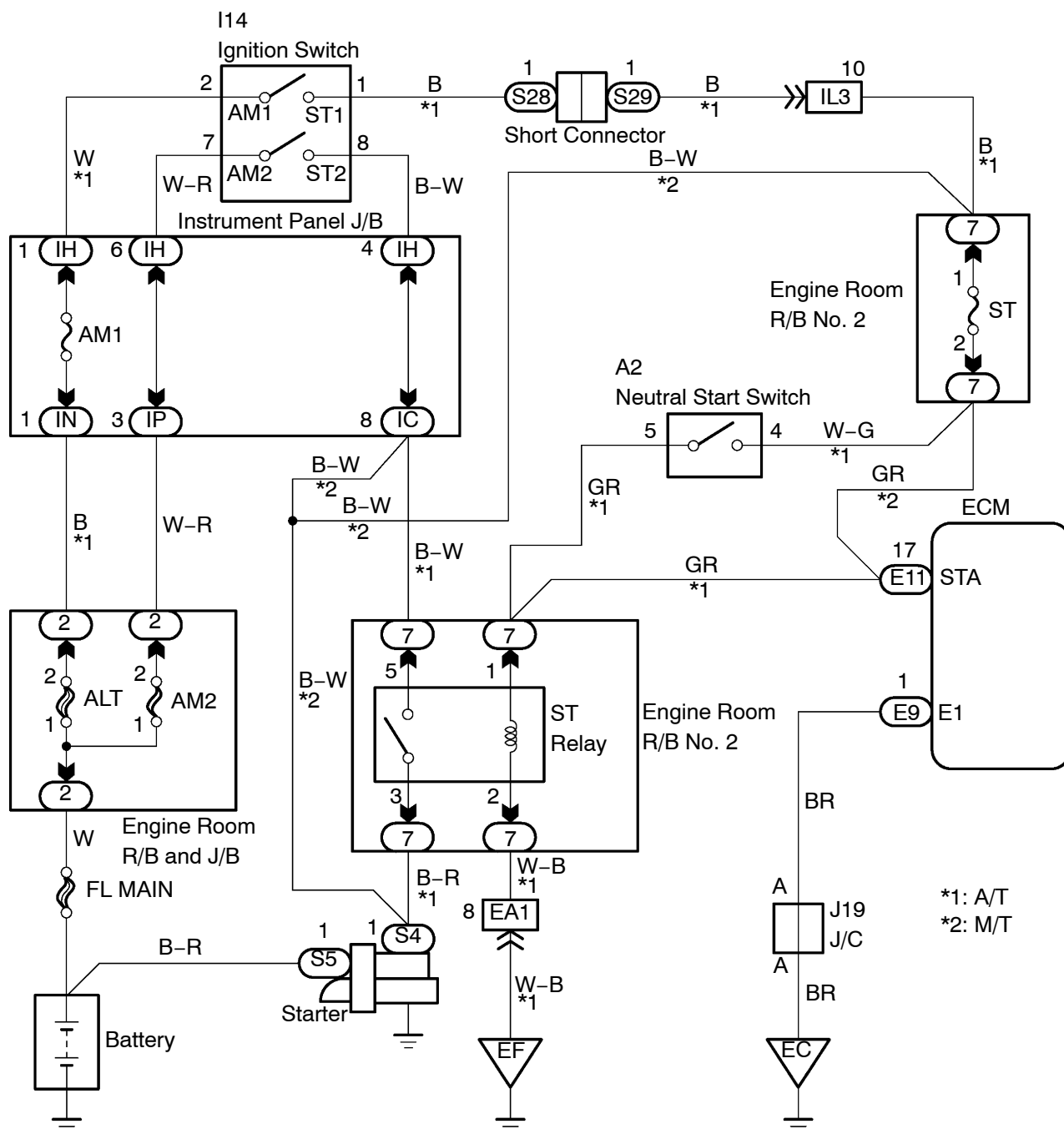
While the engine is being cranked, the battery voltage is applied to terminal STA of the ECM.

DTC No.	DTC Detection Condition	Trouble Area
P0617	When conditions (a), (b) and (c) are met when the battery voltage of 10.5 V or more is applied for 20 seconds (a) Vehicle speed greater than 20 km/h (12 mph) (b) Engine RPM greater than 1,000 rpm (c) STA signal ON	<ul style="list-style-type: none"> <li>• Short in park/neutral position switch circuit (A/T)</li> <li>• Short in STA circuit</li> <li>• Park/neutral position switch (A/T)</li> <li>• ECM</li> </ul>

## WIRING DIAGRAM

LHD:



**RHD:**

A88088

**INSPECTION PROCEDURE****HINT:**

Read freeze frame data using the intelligent tester II. Freeze frame data record the engine condition when malfunctions are detected. When troubleshooting, freeze frame data can help determine if the vehicle was moving or stationary, if the engine was warmed up or not, if the air-fuel ratio was lean or rich, and other data from the time the malfunction occurred.

## When using Intelligent Tester II:

### 1 READ VALUE OF INTELLIGENT TESTER II (STA SIGNAL)

- Connect the Intelligent Tester II to the DLC3.
- Turn the Ignition switch to ON and turn the Intelligent Tester II 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:

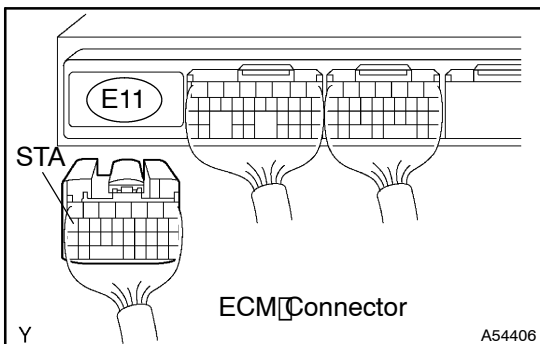
Ignition Switch Position	ON	START
STA Signal	OFF	ON

OK

**PROCEED TO NEXT CIRCUIT INSPECTION SHOWN ON PROBLEM SYMPTOMS TABLE (See page 05-12)**

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### 2 CHECK HARNESS AND CONNECTOR



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

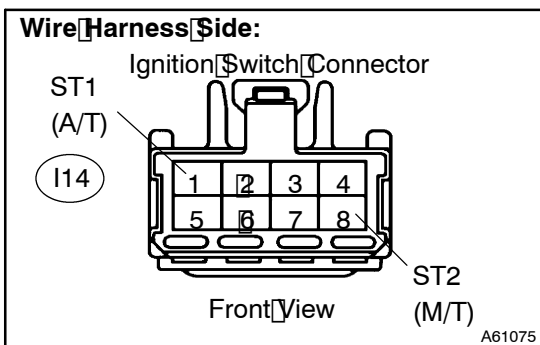
#### Standard (Check for open):

Tester Connection	Specified Condition
A/T: STA (E11-17) - ST1 (I14-1) M/T: STA (E11-17) - ST2 (I14-8)	Below 1 Ω

#### Standard (Check for short):

Tester Connection	Specified Condition
A/T: STA (E11-17) or ST1 (I14-1) - Body ground M/T: STA (E11-17) or ST2 (I14-8) - Body ground	10 kΩ or higher

- Reconnect the ECM connector.
- Reconnect the Ignition switch connector.

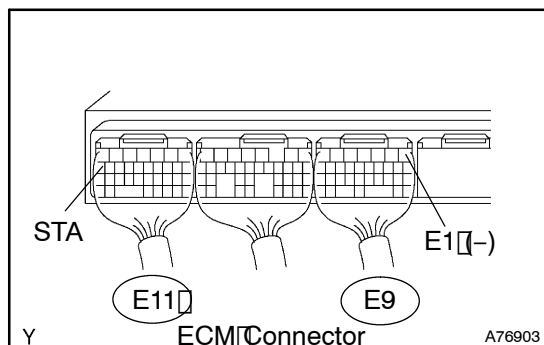


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**REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

**REPLACE ECM (See page 10-30)**

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

- (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

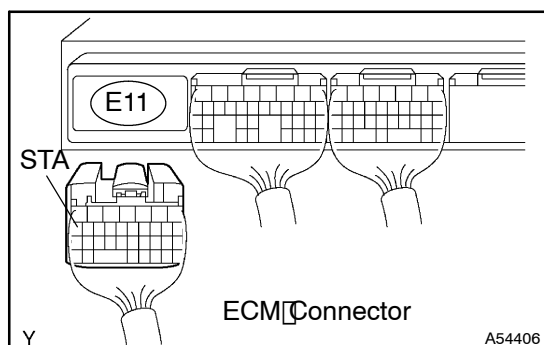
- (c) Measure the voltage between the terminals of the E9 and E11 ECM connectors when the engine is cranked.

**Standard:**

Tester Connection	Specified Condition
STA (E11-17) - E1 (E9-1)	6 V or more

**OK**

**PROCEED TO NEXT CIRCUIT INSPECTION  
 SHOWN ON PROBLEM SYMPTOMS TABLE  
 (See page 05-12)**

**NG****2 CHECK HARNESS AND CONNECTOR**

- (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
A/T: STA (E11-17) - ST1 (I14-1) M/T: STA (E11-17) - ST2 (I14-8)	Below 1 Ω

**Standard (Check for short):**

Tester Connection	Specified Condition
A/T: STA (E11-17) or ST1 (I14-1) - Body Ground M/T: STA (E11-17) or ST2 (I14-8) - Body Ground	10 kΩ or higher

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

**NG**

**REPAIR OR REPLACE HARNESS OR  
 CONNECTOR**

**OK**

**REPLACE ECM (See page 10-30)**