

DTC	P0617	Starter Relay Circuit High
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DESCRIPTION

While the engine is being cranked, the positive battery voltage is applied to terminal STA of the ECM. If the ECM detects the Starter Control (STA) signal while the vehicle is being driven, it determines that there is a malfunction in the STA circuit. The ECM then illuminates the MIL and sets the DTC. This monitor runs when the vehicle is driven at 12.4 mph (20 km/h) for over 20 seconds.

DTC No.	DTC Detection Conditions	Trouble Areas
P0617	When conditions (a), (b) and (c) met, positive (+B) battery voltage 10.5 V or more applied to ECM for 20 seconds (1 trip detection logic): (a) Vehicle speed more than 12.4 mph (20 km/h) (b) Engine speed more than 1,000 rpm (c) STA signal ON	<ul style="list-style-type: none"> • Park/Neutral Position (PNP) switch (A/T[*]) • Clutch start switch (M/T[*]) • Starter relay circuit • Ignition switch • ECM

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* : A/T denotes Automatic Transaxle models and M/T denotes Manual Transaxle models.

MONITOR STRATEGY

Related DTCs	P0617: Starter signal
Required Sensors/Components (Main)	STARTER relay, PNP switch, Clutch start switch and Ignition switch
Required Sensors/Components (Related)	Vehicle Speed Sensor (VSS), Crankshaft Position (CKP) sensor
Frequency of Operation	Continuous
Duration	20 seconds
MIL Operation	Immediate
Sequence of Operation	None

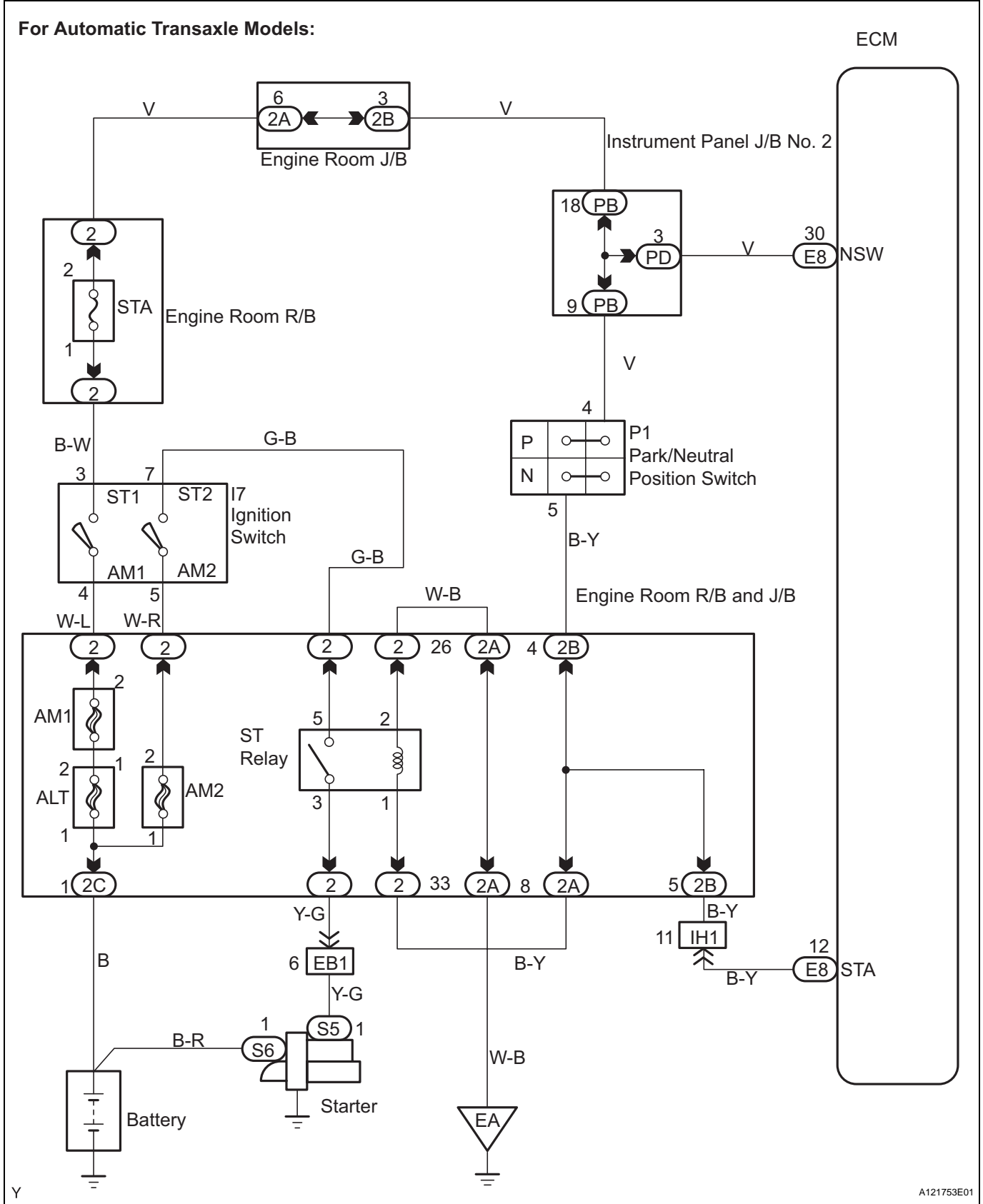
TYPICAL ENABLING CONDITIONS

Monitor runs whenever following DTCs not present	None
Battery voltage	10.5 V or more
Vehicle speed	12.4 mph (20 km/h) or more
Engine speed	1,000 rpm or more

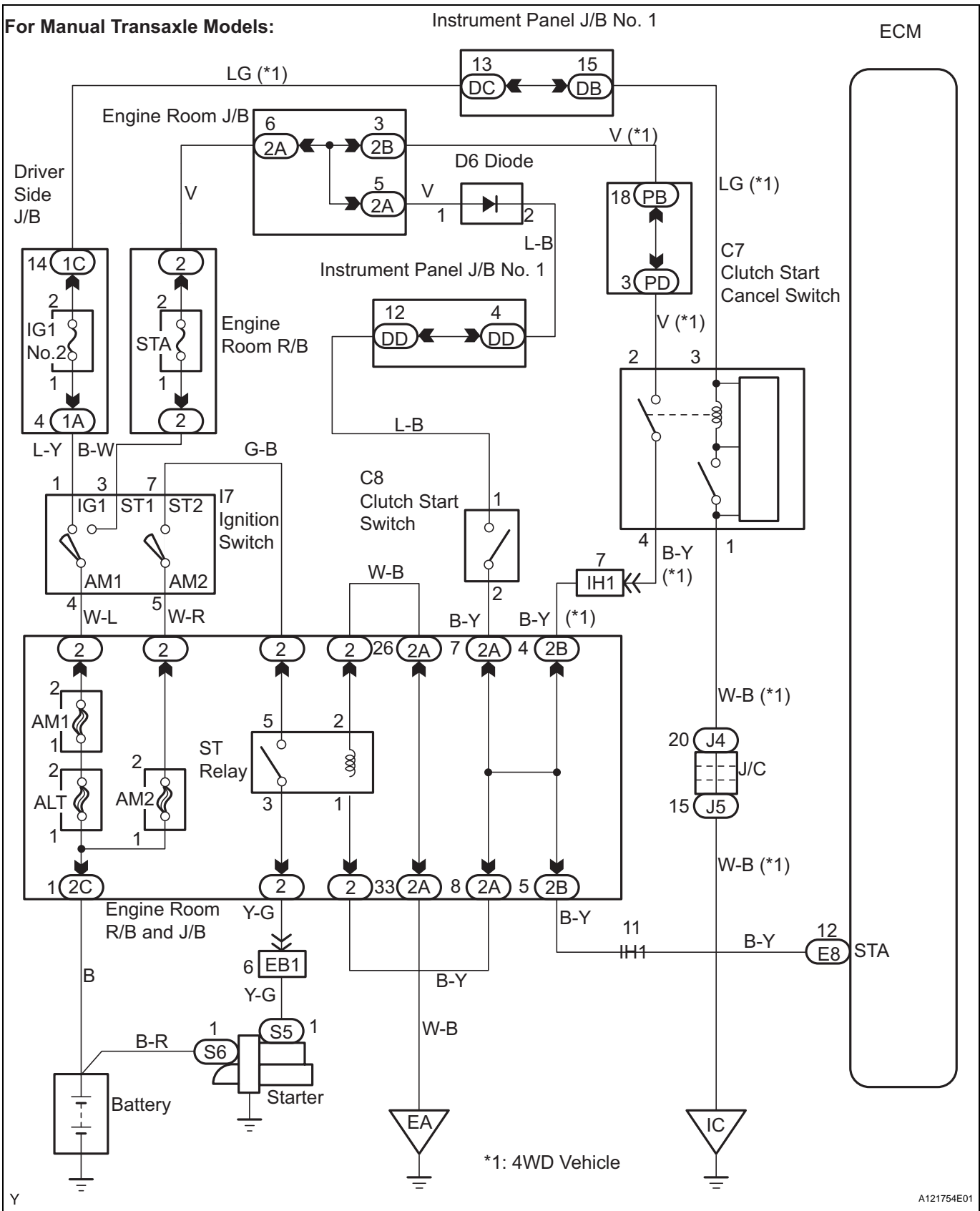
TYPICAL MALFUNCTION THRESHOLDS

Starter signal	ON
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WIRING DIAGRAM



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HINT:

- The following troubleshooting flowchart is based on the premise that the engine is cranked normally. If the engine will not crank, proceed to the problem symptoms table (See page [ES-29](#)).

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- Read freeze frame data using an intelligent tester. 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.

1 READ DATA LIST (STARTER SIGNAL)

- Connect an intelligent tester to the DLC3.
- Turn the ignition switch to ON and turn the tester ON.
- Select the following menu items: DIAGNOSIS / ENHANCED OBD II / DATA LIST / PRIMARY / STARTER SIG.
- Check the value displayed on the tester when the ignition switch is turned to the ON and START positions.

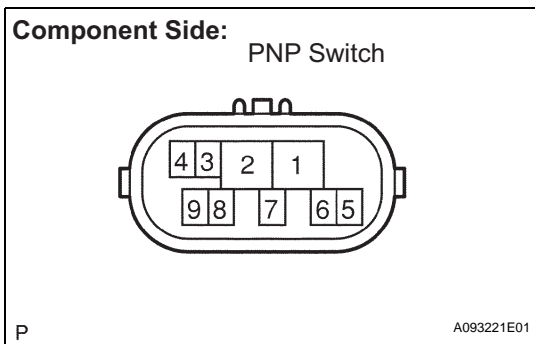
Result

Ignition Switch Positions	STARTER SIG
ON	OFF
START	ON

OK → **REPLACE ECM**

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2 INSPECT PARK / NEUTRAL POSITION SWITCH OR CLUTCH START SWITCH ASSEMBLY



- Inspect the Park/Neutral Position (PNP) switch (for A/T models).
 - Disconnect the P1 PNP switch connector.
 - Check the resistance when the transmission gear selector lever is moved to each position.

Standard Resistance

Gear Selector Lever Positions	Tester Connections	Specified Conditions
P	2 - 6, 4 - 5	Below 1 Ω
R	1 - 2	Below 1 Ω
N	2 - 9, 4 - 5	Below 1 Ω
D	2 - 7	Below 1 Ω
2	2 - 3	Below 1 Ω
L	2 - 8	Below 1 Ω

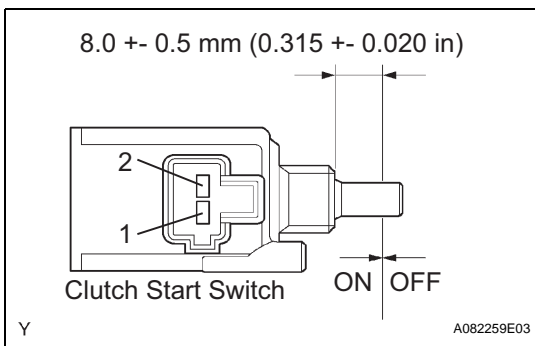
- Reconnect the PNP switch connector.

- Inspect the clutch start switch (for M/T models).
 - Disconnect the C8 clutch start switch connector.
 - Check the resistance when the clutch start switch is ON and OFF.

Standard Resistance

Ignition Switch Positions	Tester Connections	Specified Conditions
ON (pushed)	1 - 2	Below 1 Ω
OFF (free)	1 - 2	10 kΩ or higher

- Reconnect the clutch start switch connector.



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REPLACE PARK / NEUTRAL POSITION SWITCH OR CLUTCH START SWITCH ASSEMBLY (GO TO STEP 3 AFTER REPLACEMENT)

OK

3 READ DATA LIST (STARTER SIGNAL)

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the ignition switch to ON and turn the tester ON.
- (c) Select the following menu items: DIAGNOSIS / ENHANCED OBD II / DATA LIST / PRIMARY / STARTER SIG.
- (d) Check the value displayed on the tester when the ignition switch is turned to the ON and START positions.

Result

Ignition Switch Positions	STARTER SIG
ON	OFF
START	ON

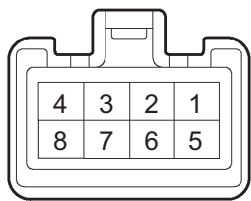
OK

SYSTEM OK

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4 INSPECT IGNITION OR STARTER SWITCH ASSEMBLY

Component Side: Ignition Switch



- (a) Disconnect the I7 ignition switch connector.
- (b) Check the resistance.

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Standard Resistance

Ignition Switch Positions	Tester Connections	Specified Conditions
LOCK	All Terminals	10 kΩ or higher
ACC	2-4	Below 1 Ω
ON	1-4, 1-6, 2-4, 3-4, 5-6	Below 1 Ω
START	1-4, 3-4, 5-6, 5-7	Below 1 Ω

- (c) Reconnect the ignition switch connector.

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REPLACE IGNITION OR STARTER SWITCH ASSEMBLY (GO TO STEP 5 AFTER REPLACEMENT)

OK

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5 READ DATA LIST (STARTER SIGNAL)

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the ignition switch to ON and turn the tester ON.
- (c) Select the following menu items: DIAGNOSIS / ENHANCED OBD II / DATA LIST / PRIMARY / STARTER SIG.
- (d) Check the value displayed on the tester when the ignition switch is turned to the ON and START positions.

Result

Ignition Switch Positions	STARTER SIG
ON	OFF
START	ON

OK

SYSTEM OK

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REPAIR OR REPLACE HARNESS OR CONNECTOR