

<b>DTC</b>	<b>P0606</b>	<b>ECM / PCM Processor</b>
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**MONITOR DESCRIPTION**

The ECM continuously monitors its own internal circuits. This self-checking ensures that the ECM is functioning properly.

The 2 CPUs, main and sub, inside the ECM perform continuous mutual monitoring. If the outputs from the 2 CPUs differ or deviate from the standard levels, the ECM determines that the internal circuits are malfunctioning. The ECM then illuminates the MIL and set the DTCs.

DTC No.	DTC Detection Condition	Trouble Area
P0606	ECM internal error (1 trip detection logic)	ECM

**MONITOR STRATEGY**

Related DTCs	P0606: ECM CPU malfunction
Required Sensors/Components (Main)	ECM
Required Sensors/Components (Related)	-
Frequency of Operation	Continuous
Duration	Within 1 second
MIL Operation	Immediate
Sequence of Operation	None

**MONITOR STRATEGY**

Monitor runs whenever following DTCs not present	
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**TYPICAL MALFUNCTION THRESHOLDS**

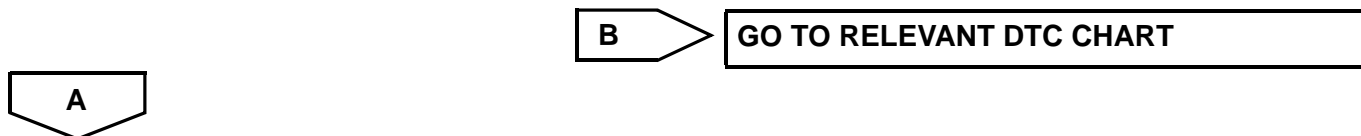
RAM	RAM check failure
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<b>1</b>	<b>CHECK OTHER DTC OUTPUT (IN ADDITION P0606)</b>
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- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the ignition switch ON and turn the tester ON.
- (c) Enter the following menus: DIAGNOSIS / ENHANCED OBD II / DTC INFO / CURRENT CODES.
- (d) Read DTCs.

**Result**

Display (DTC Output)	Proceed to
P0606	A
P0606 and other DTCs	B



<b>REPLACE ECM</b>
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**DTC****P0617****Starter Relay Circuit High****MONITOR DESCRIPTION**

While the engine 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 20 km/h (12.4 mph) for over 20 seconds.

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

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

**MONITOR STRATEGY**

Related DTCs	P0617: Starter signal
Required Sensors/Components (Main)	ST relay, Park/Neutral position 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

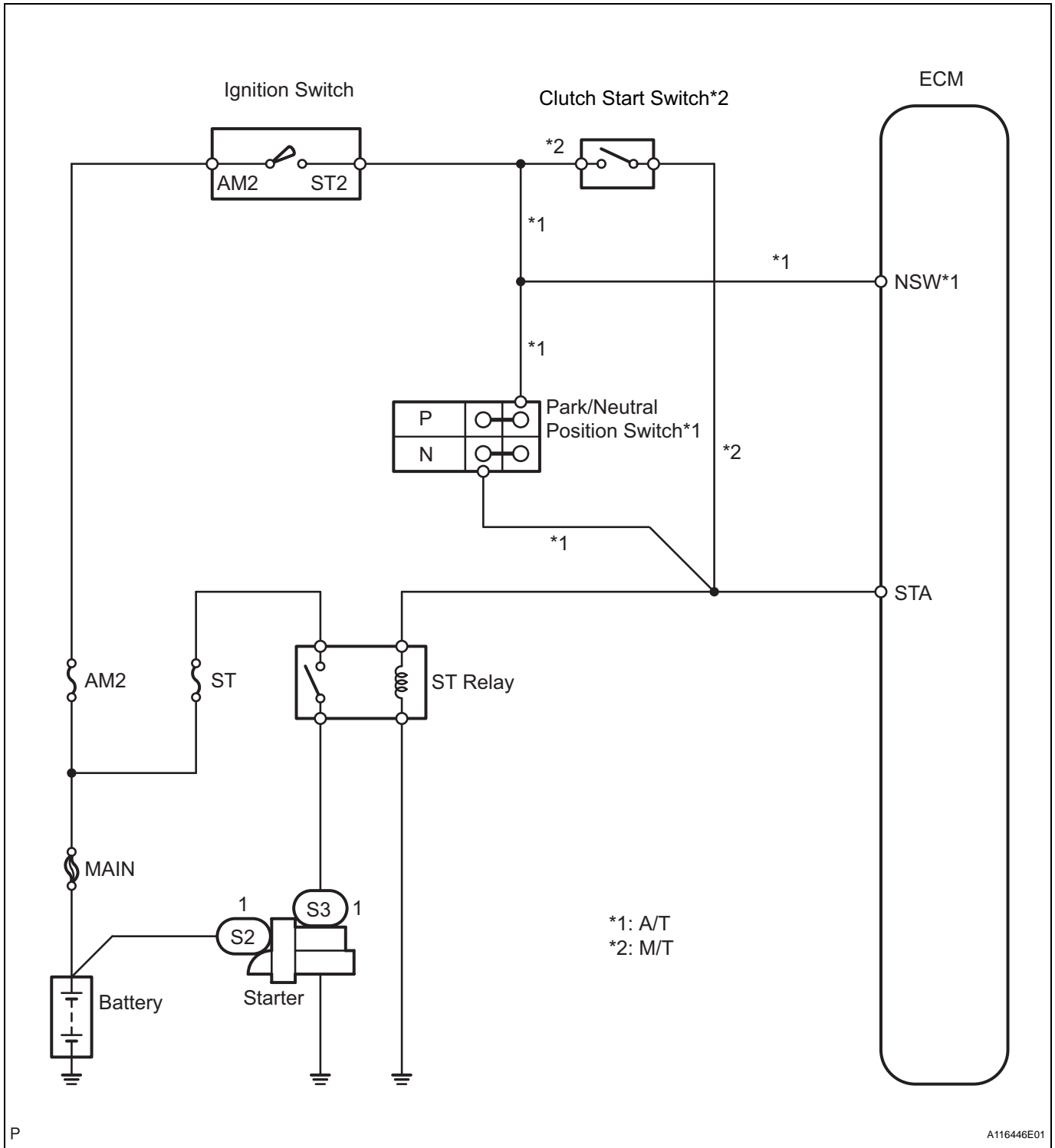
**TYPICAL ENABLING CONDITIONS**

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

**TYPICAL MALFUNCTION THRESHOLDS**

Starter signal	ON
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WIRING DIAGRAM



ES

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 on page ES-28.
- Read freeze frame data using the intelligent tester. Freeze frame data records 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 VALUE OF INTELLIGENT TESTER (STARTER SIGNAL)**

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the ignition switch ON and turn the tester ON.
- (c) Enter the following menus: 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.

OK

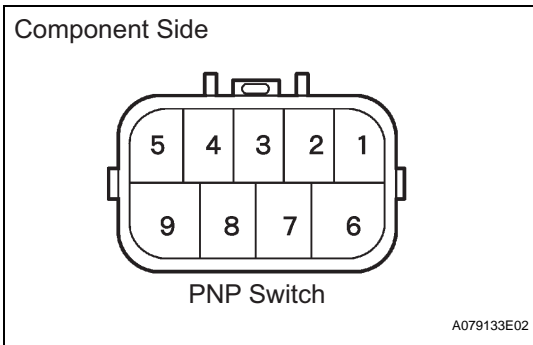
Ignition Switch Position	STARTER SIG
ON	OFF
START	ON

ES

OK → **CHECK FOR INTERMITTENT PROBLEMS**

NG

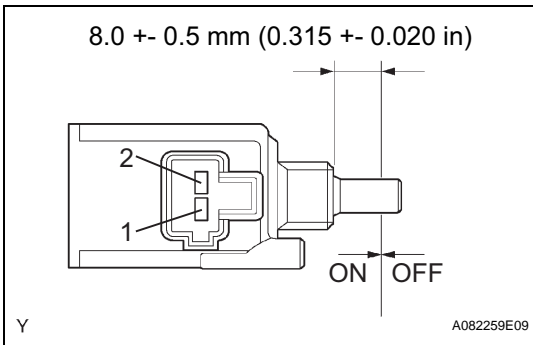
**2 INSPECT PARK/NEUTRAL POSITION SWITCH OR CLUTCH START SWITCH**



- (a) Inspect the Park/Neutral Position (PNP) switch (for A/T models).
  - (1) Disconnect the A3 PNP switch connector.
  - (2) Measure the resistance when the transmission gear selector lever is moved to each position.

**Standard resistance**

Gear Selector Lever Position	Tester Connection	Specified Condition
P	1 - 3, 6 - 9	Below 1 Ω
N	3 - 5, 6 - 9	Below 1 Ω



- (b) Inspect the clutch start switch (for M/T models).
  - (1) Disconnect the C5 clutch start switch connector.
  - (2) Measure the resistance when the clutch start switch is ON and OFF.

**Standard resistance**

Ignition Switch Position	Tester Connection	Specified Condition
ON (pushed)	1 - 2	Below 1 Ω
OFF (free)	1 - 2	10 kΩ or higher

NG → **REPLACE PARK/NEUTRAL POSITION SWITCH OR CLUTCH START SWITCH (GO TO NEXT STEP AFTER REPLACEMENT)**

OK

**3 READ VALUE OF INTELLIGENT TESTER (STARTER SIGNAL)**

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the ignition switch ON and turn the tester ON.

- (c) Enter the following menus: 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.

OK

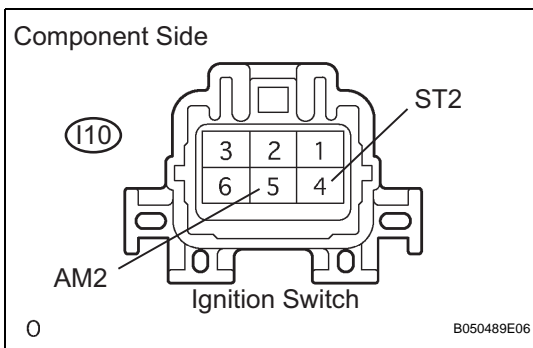
Ignition Switch Position	STARTER SIG
ON	OFF
START	ON

OK → SYSTEM OK

NG

ES

**4 INSPECT IGNITION SWITCH ASSEMBLY**



- (a) Disconnect the I10 ignition switch connector.
- (b) Measure the resistance of the ignition switch.

Switch Position	Tester Connection	Specified Condition
LOCK	All Terminals	10 kΩ or higher
START	ST2 (4) - AM2 (5)	Below 1 Ω

NG → REPLACE IGNITION SWITCH ASSEMBLY (GO TO NEXT STEP AFTER REPLACEMENT)

NG

**5 READ VALUE OF INTELLIGENT TESTER (STARTER SIGNAL)**

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the ignition switch ON and turn the tester ON.
- (c) Enter the following menus: 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.

OK

Ignition Switch Position	STARTER SIG
ON	OFF
START	ON

OK → SYSTEM OK

NG

REPAIR OR REPLACE HARNESS OR CONNECTOR