DTC P0617 STARTER RELAY CIRCUIT HIGH

MONITOR DESCRIPTION

While the engine is being cranked, the battery positive voltage is applied to terminal STA of the ECM. If the ECM detects the starter control signal (STA) while the vehicle is driving, it will conclude that there is a fault in the starter control circuit. The ECM will turn on the MIL and a DTC is set.

DTC No.	DTC Detection Condition	Trouble Area
P0617	When conditions (a), (b) and (c) are met when the battery (+B) voltage 10.5 V or more is applied to ECM for 20 sec: (a) Vehicle speed greater than 12 mph (20 km/h) (b) Engine revolution greater than 1,000 rpm (c) STA signal ON	• Short in Park/Neutral position switch circuit • Park/Neutral position switch (A/T) • Clutch start switch (M/T) • ECM

MONITOR STRATEGY

Related DTCs	P0617	Starter signal error
Required sensors/components	Main sensors	Starter signal
	Related sensors	Vehicle speed sensor, engine speed sensor
Frequency of operation	Continuous	
Duration	20 sec	
MIL operation	Immediately	
Sequence of operation	None	

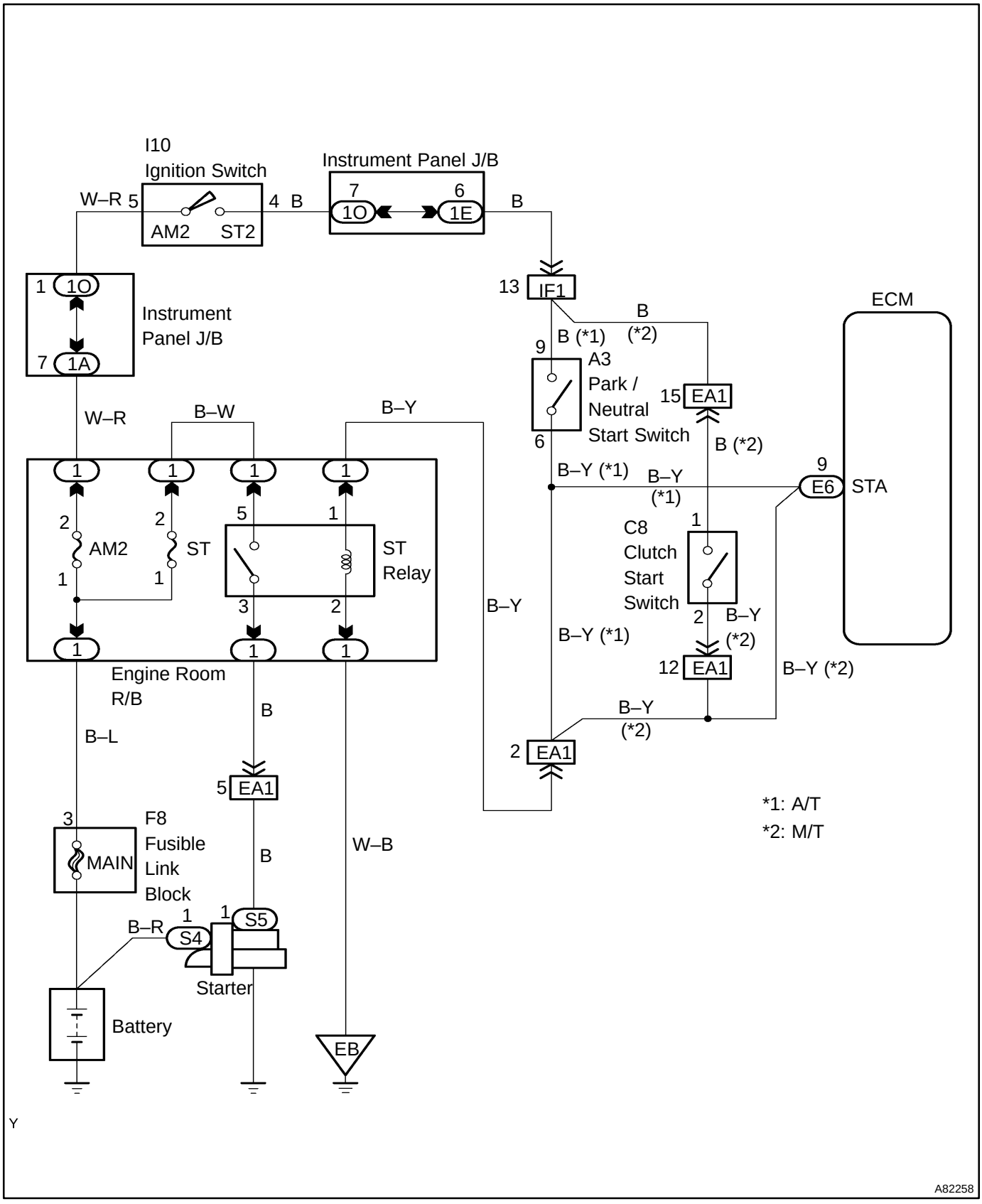
TYPICAL ENABLING CONDITIONS

Item	Specification	
	Minimum	Maximum
The monitor will run whenever the following DTCs are not present	See ”List of Disable a Monitor” table (On page 05–24)	
Battery voltage	10.5 V	–
Vehicle speed	12.4 mph (20 km/h)	–
Engine speed	1,000 rpm	–

TYPICAL MALFUNCTION THRESHOLDS

Detection Criteria	Threshold
Starer signal	ON (at ”more than 12.4 mph (20 km/h) and more than 1,000 rpm”)

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:

- This DTC chart is on the premise that the engine is cranked normally. If the engine is not cranked, proceed to the problem symptoms table on page 05–42.
- Read freeze frame data using the hand–held tester or the OBD II scan tool. Freeze frame data records the engine conditions when a malfunction is detected. When troubleshooting, it is useful for determining whether the vehicle was running or stopped, the engine was warmed up or not, the air–fuel ratio was lean or rich, etc. at the time of the malfunction.

1	READ VALUE OF HAND–HELD TESTER OR OBD II SCAN TOOL(STARTER SIGNAL)

(a) Connect the hand–held tester or the OBD II scan tool to the DLC3.
(b) Turn the ignition switch ON and push the hand–held tester or the OBD II scan tool main switch ON.
(c) Select the item ”DIAGNOSIS / ENHANCED OBD II / DATA LIST / ALL / STARTER SIG” and read the value displayed the hand–held tester or the OBD II scan tool.

Result:

Ignition switch position	ON	START
STA Signal	OFF	ON

OK → **REPLACE ECM (See page 10–17)**

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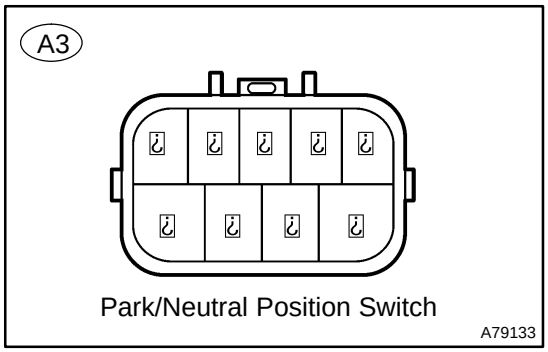
2	INSPECT PARK/NEUTRAL POSITION SWITCH OR CLUTCH START SWITCH

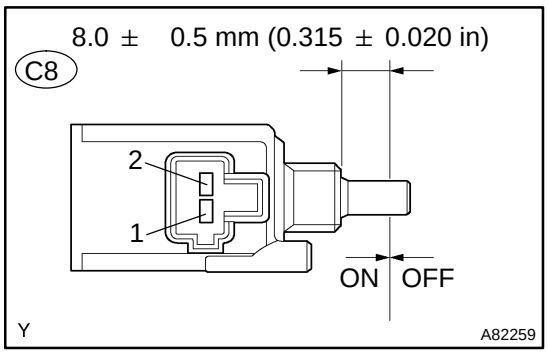


(a) Inspect the park/neutral position switch. (A/T)
(1) Disconnect the A3 park/neutral position switch connector.
(2) Measure the resistance between each terminal shown below when the shift lever is moved to each range.

Standard:

Shift Range	Tester Connection	Specified Condition
P	1 – 3, 6 – 9	Below 1 Ω
R	2 – 3	
N	3 – 5, 6 – 9	
D	3 – 7	
2	3 – 4	
L	3 – 8	

(3) Reconnect the park/neutral position switch connector.



(b) Inspect the clutch start switch. (M/T)
(1) Disconnect the C8 clutch start switch connector.
(2) Measure the resistance between terminals when the switch ON and OFF.

Standard:

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

(3) Reconnect the clutch start switch connector.

NG → **REPLACE PARK/NEUTRAL POSITION SWITCH OR CLUTCH START SWITCH (GO TO NEXT STEP 3 AFTER THE REPLACEMENT)**

OK

3 READ VALUE OF HAND–HELD TESTER OR OBD II SCAN TOOL(STARTER SIGNAL)

(a) Connect the hand–held tester or the OBD II scan tool to the DLC3.
(b) Turn the ignition switch ON and push the hand–held tester or the OBD II scan tool main switch ON.
(c) Select the item ”DIAGNOSIS / ENHANCED OBD II / DATA LIST / ALL / STARTER SIG” and read the value displayed the hand–held tester or the OBD II scan tool.

Result:

Ignition Switch Position	ON	START
STA Signal	OFF	ON

OK → **SYSTEM OK**

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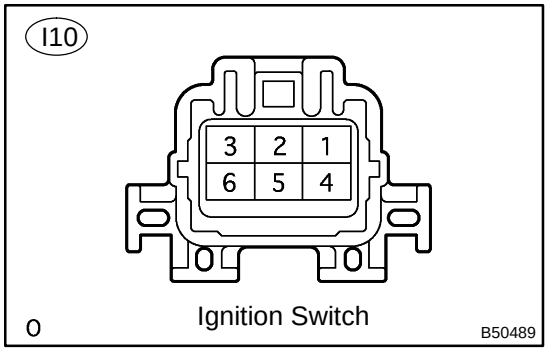
4 INSPECT IGNITION OR STARTER SWITCH ASSY



(a) Measure the resistance between the connector terminals shown in the chart below.

Switch Position	Tester Connection	Specified Condition
LOCK	All Terminals	10 kΩ or higher
ACC	1–3	Below 1 Ω
ON	1–2, 1–3, 2–3, 5–6	Below 1 Ω
START	4–5, 4–6, 5–6, 1–2	Below 1 Ω

NG → **REPLACE IGNITION OR STARTER SWITCH ASSY**

OK

5	READ VALUE OF HAND–HELD TESTER OR OBD II SCAN TOOL(STARTER SIGNAL)

(a) Connect the hand–held tester or the OBD II scan tool to the DLC3.
(b) Turn the ignition switch ON and push the hand–held tester or the OBD II scan tool main switch ON.
(c) Select the item ”DIAGNOSIS / ENHANCED OBD II / DATA LIST / ALL / STARTER SIG” and read the value displayed the hand–held tester or the OBD II scan tool.

Result:

Ignition Switch Position	ON	START
STA Signal	OFF	ON

OK → **SYSTEM OK**

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REPAIR OR REPLACE HARNESS AND CONNECTOR