DTC	P0617	STARTER RELAY CIRCUIT HIGH

CIRCUIT DESCRIPTION

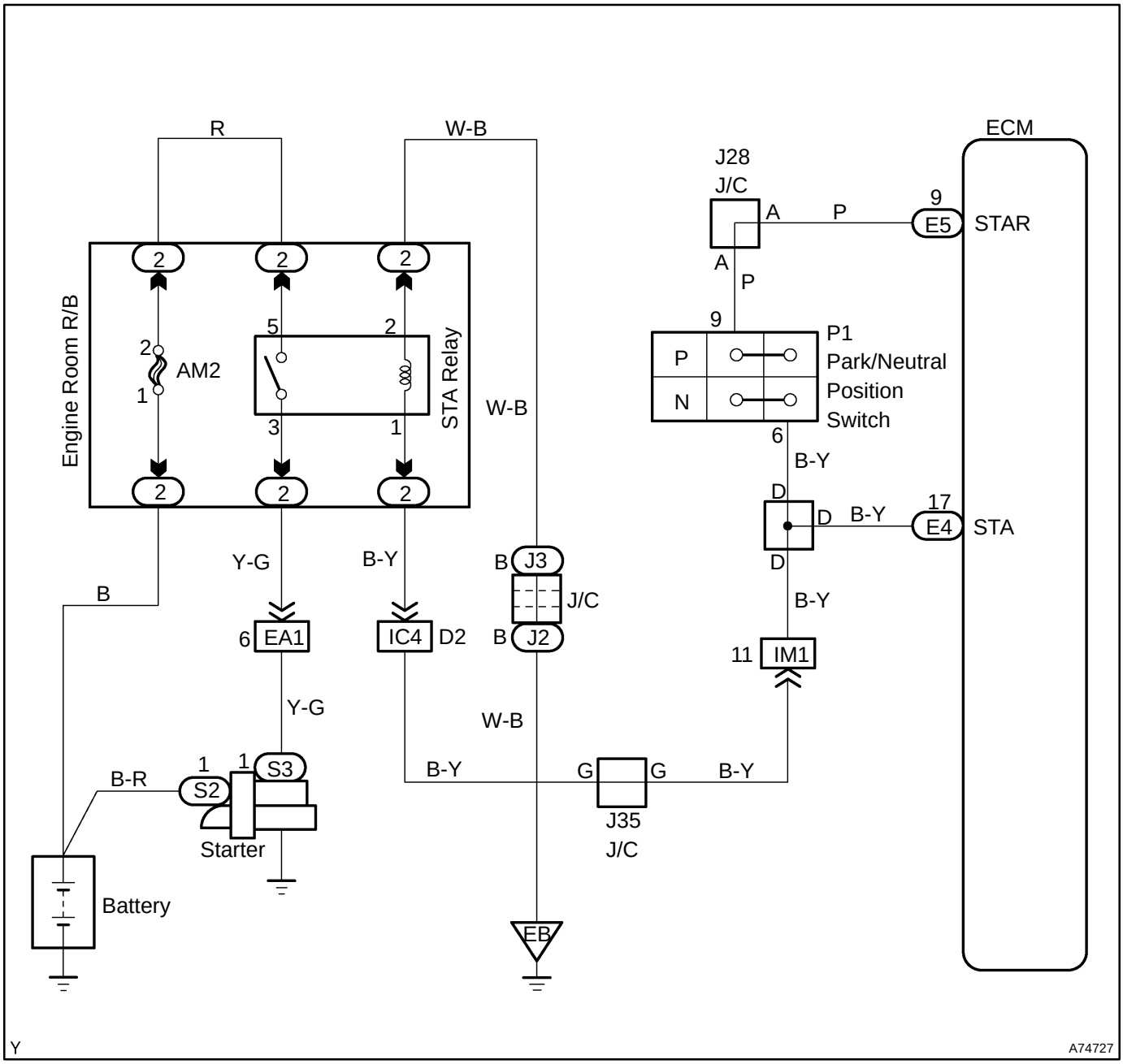
HINT:

Refer to cranking holding function circuit on page 05-207 .

While the engine is being cranked, current flows from terminal STAR of the ECM to the starter relay coil and also current flows to terminal STA of the ECM (STA signal).

DTC No.	DTC Detection Condition	Trouble Area
P0617	When all conditions (a), (b) and (c) are satisfied with battery (+B) voltage 10.5 V or more for 20 sec. (a) Vehicle speed ≧ 20 km/h (12 mph) (b) Engine revolution ≧ 1,000 rpm (c) STA signal ON	• Short in Park/neutral position switch circuit • Park/neutral position switch • Cranking holding function circuit • ECM

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:

- This DTC chart is based on the premise that the engine is cranked normally. If the engine is not cranked, proceed to the problem symptoms table on page 05-29 .
- Read freeze frame data using the hand−held tester or the OBD II scan tool, as 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.

Hand-held tester:

1 READ VALUE OF HAND-HELD TESTER(STA SIGNAL)

(a) Select the item ”DIAGNOSIS/ENHANCED OBD II/DATA LIST/ALL/STARTER SIG” and read its value displayed on the hand-held tester.

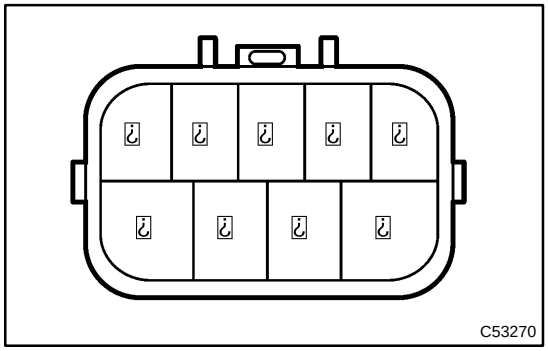
Standard:

Ignition Switch Position	ON	START
STARTER SIG	OFF	ON

OK → **CHECK FOR INTERMITTENT PROBLEMS (See page 05-5)**

NG

2 INSPECT PARK/NEUTRAL POSITION SWITCH ASSY



(a) Disconnect the park/neutral position switch connector.

(b) Check continuity between each terminal shown below when the shift lever is moved to each range.

Standard:

Shift range	Terminal No.	Specified condition
P	1 ⇔ except 3 6 ⇔ except 9	No continuity
R	2 ⇔ except 3	
N	3 ⇔ except 5 6 ⇔ except 9	
D, 4	3 ⇔ except 7	
3	3 ⇔ except 4	
2, L	3 ⇔ except 8	

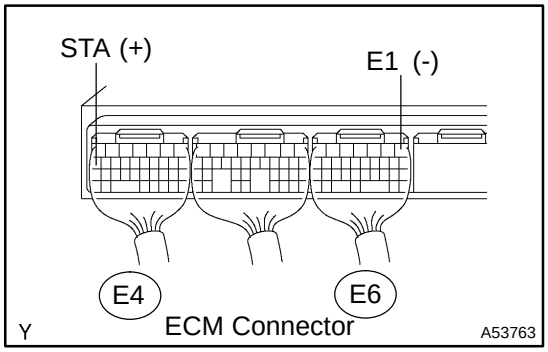
NG → **REPLACE PARK/NEUTRAL POSITION SWITCH ASSY (THEN CHECK FOR CRANKING HOLDING FUNCTION CIRCUIT) (See page 05-207)**

OK

CHECK FOR CRANKING HOLDING FUNCTION CIRCUIT (See page 05-207)

OBD II scan tool (excluding hand-held tester):

1 INSPECT ECM(STA VOLTAGE)



(a) During the engine cranking, measure the voltage between the terminals of the E4 and E6 ECM connectors.

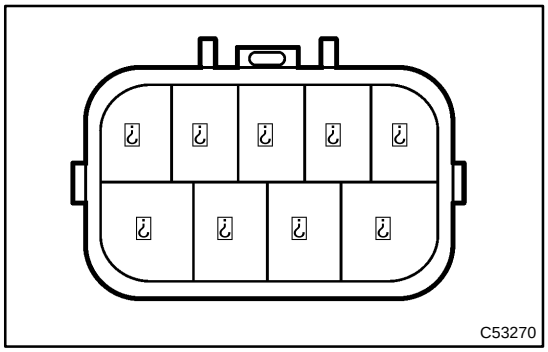
Standard:

Symbols (Terminal No.)	Condition	Specified condition
STA (E4-17) ⇔ E1 (E6-1)	Ignition switch ON	Below 0.5 V
	Cranking	9 - 14 V

OK → **CHECK FOR INTERMITTENT PROBLEMS (See page 05-5)**

NG

2 INSPECT PARK/NEUTRAL POSITION SWITCH ASSY



(a) Disconnect the park/neutral position switch connector.

(b) Check continuity between each terminal shown below when the shift lever is moved to each range.

Standard:

Shift range	Terminal No.	Specified condition
P	1 ⇔ except 3 6 ⇔ except 9	No continuity
R	2 ⇔ except 3	
N	3 ⇔ except 5 6 ⇔ except 9	
D, 4	3 ⇔ except 7	
3	3 ⇔ except 4	
2, L	3 ⇔ except 8	

NG → **REPLACE PARK/NEUTRAL POSITION SWITCH ASSY (THEN CHECK FOR CRANKING HOLDING FUNCTION CIRCUIT) (See page 05-207)**

OK

CHECK FOR CRANKING HOLDING FUNCTION CIRCUIT (See page 05-207)