STARTER SIGNAL CIRCUIT

CIRCUIT DESCRIPTION

HINT:

Refer to cranking holding function circuit on page 05–227.

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).

WIRING DIAGRAM

Refer to DTC P0617 on page 05–155.

INSPECTION PROCEDURE

HINT:

This 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 05–33.

When using hand–held tester:

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

(a) Select the item "DIAGNOSIS / OBD/MOBD / DATA LIST / ALL / STARTER SIG" and read its value displayed on the hand–held tester.

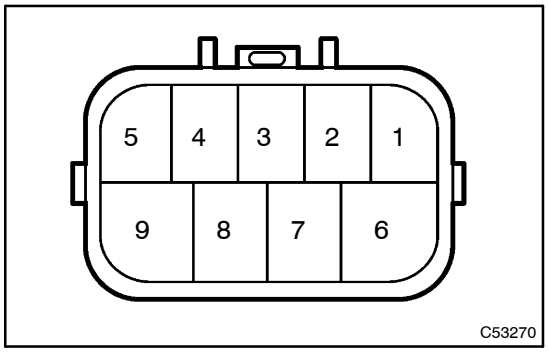
Standard:

Ignition Switch Position	ON	START
STARTER SIG	OFF	ON

OK → **CHECK AND REPLACE ECM (See page 01–35)**

NG

2 INSPECT PARK/NEUTRAL POSITION SWITCH ASSY



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

(b) Check for 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	3 – except 7	
3	3 – except 4	
2, L	3 – except 8	

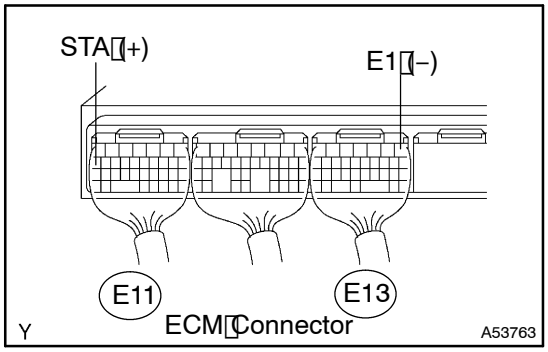
NG → **REPLACE PARK/NEUTRAL POSITION SWITCH ASSY (THEN CHECK FOR CRANKING HOLDING FUNCTION CIRCUIT) (See page 05–227)**

OK

CHECK FOR CRANKING HOLDING FUNCTION CIRCUIT (See page 05–227)

When not using hand–held tester:

1 INSPECT ECM (STA VOLTAGE)



(a) During the engine cranking, measure the voltage between the terminals of the E11 and E13 ECM connectors.

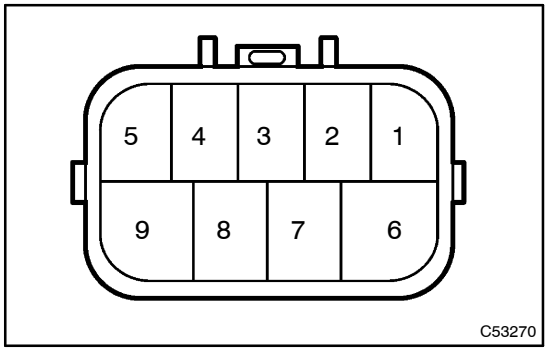
Standard:

Symbols (Terminal No.)	Condition	Specified condition
STA (E11–17) – E1 (E13–1)	Ignition switch ON	Below 0.5 V
	Cranking	9 to 14 V

OK → **CHECK AND REPLACE ECM (See page 01–35)**

NG

2 INSPECT PARK/NEUTRAL POSITION SWITCH ASSY



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

(b) Check for 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	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 05–227)**

OK

CHECK FOR CRANKING HOLDING FUNCTION CIRCUIT (See page 05–227)