

DTC	51	Switch Condition Signal Circuit
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— CIRCUIT DESCRIPTION —

Park/Neutral Position Switch Signal

The ECM uses the signals from the Park/neutral position switch to determine whether the transmission is in park or neutral, or in some other positions.

Air conditioning Switch Signal

The ECM uses the output from the air conditioning switch to determine whether or not the air conditioning is operating so that it can increase the idling speed of the engine if necessary.

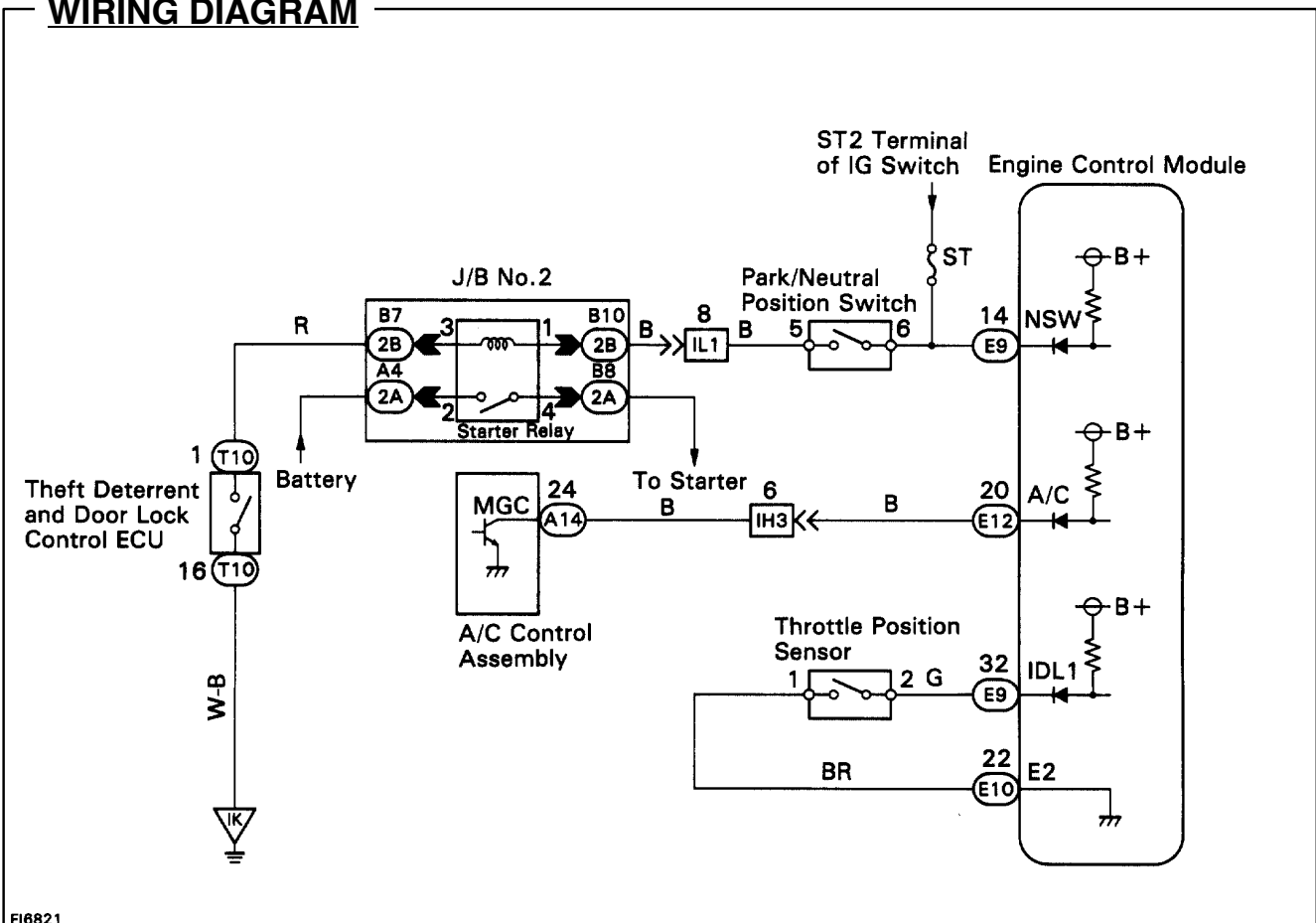
Throttle Position Sensor IDL Signal

The IDL contacts are mounted in the throttle position sensor, and detects the idle condition.

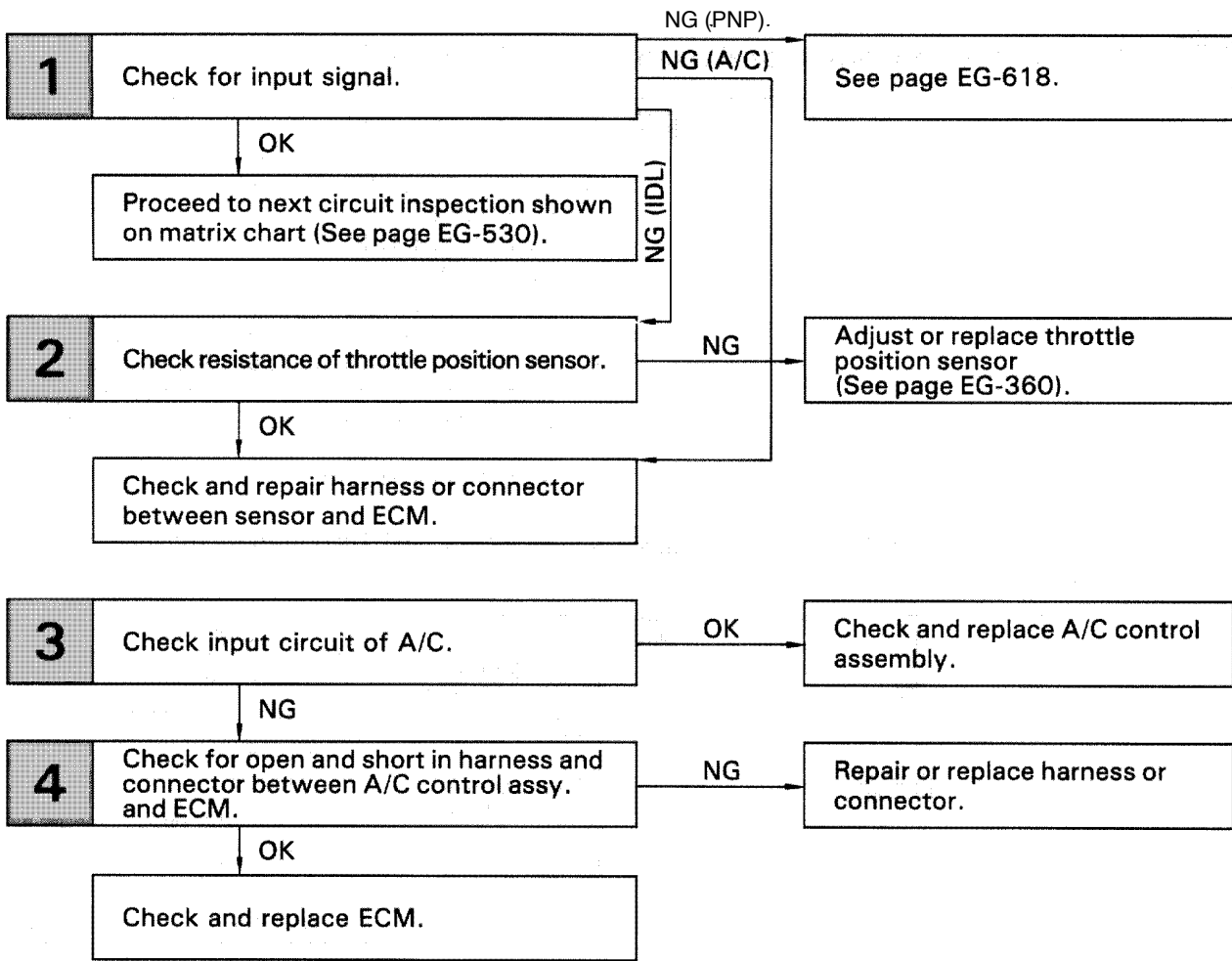
DTC No.	DTC Detecting Condition	Trouble Area
51	(1) 3 sec. or more after engine starts with closed throttle position switch OFF (IDL1). (2) Park/neutral position switch OFF (Shift position in "R", "D", "2" or "1" position). (3) A/C switch ON.	<ul style="list-style-type: none"> •Throttle position sensor IDL circuit. •Accelerator pedal and cable. •Park/neutral position switch circuit. •A/C switch circuit •ECM

HINT: In this circuit, diagnosis can only be made in the test mode.

WIRING DIAGRAM

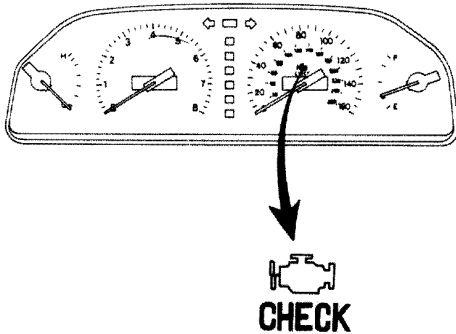


DIAGNOSTIC CHART



INSPECTION PROCEDURE

1 Check output condition of diagnostic trouble code 51.



- P** Setting the test mode.
1. Turn ignition switch OFF.
 2. Using SST, connect terminals T2 and E1 of DLC1 or 2.
SST 09843-18020
 3. Turn ignition switch ON.
(For checking terminal IDL1, disconnect vacuum hose from the throttle body, then apply vacuum to throttle opener (See page EG-360).
(For checking terminal A/C, start the engine.)
 4. Using SST, connect terminals TE1 and E1 of DLC1 or 2.
SST 09843-18020

C Check if code "51" is output by the malfunction indicator lamp.

OK	Condition	Code
Park/Neutral Position Switch (PNP)	P or N position	Normal*
	R, D, 2 or L position	51*
Throttle Position Sensor (IDL1)	Accelerator pedal released	Normal*
	Accelerator pedal depressed	51*
A/C Switch (A/C)	A/C SW ON	51
	A/C SW OFF	Normal

*: Before the STA signal is input (ST is not ON), diagnostic trouble code 43 is also output.

Hint Diagnostic trouble code 42 is output with vehicle speed 5 km/h (3 mph) or below.

OK

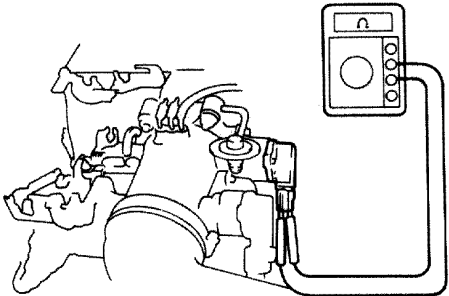
NG

ILD1 Go to step 2. PNP Go to page EG-618.
A/C Go to step3.

Proceed to next circuit inspection shown on matrix chart (See page EG-530).

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2 Check throttle position sensor.



P 1. Disconnect throttle position sensor connector.
2. Apply vacuum to throttle opener (See page EG-360).

C Measure resistance between terminals 2 (IDL1) and 1 (E2) of throttle position sensor connector.

OK

Throttle Valve	Resistance
Fully closed	Less than 0.5 kΩ
Opened	1 MΩ or higher

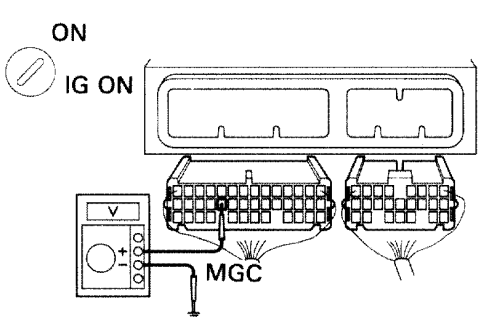
FI6839

OK

NG Adjust or replace throttle position sensor (See page EG-360).

Check and replace harness or connector between engine control module and throttle position sensor.

3 Disconnect A/C control assembly connector, check voltage between terminal A 14-24(MGC) of A/C control assembly connector and body ground.



P 1. Remove air conditioning control assembly.
2. Disconnect air conditioning control assembly connector.
3. Turn ignition switch ON.

C Measure voltage between terminal A14-24 (MGC) of air conditioning control assembly connector and body ground.

OK Voltage: 9 – 14 V

BE6653
NO6291

NG

OK Check and replace A/C control assembly.

4 Check for open and short in harness and connector between engine control module and A/C control assembly (See page IN-34).

OK

NG Repair or replace harness or connector.

Check and replace engine control module.

Park/Neutral Position Switch Circuit

CIRCUIT DESCRIPTION

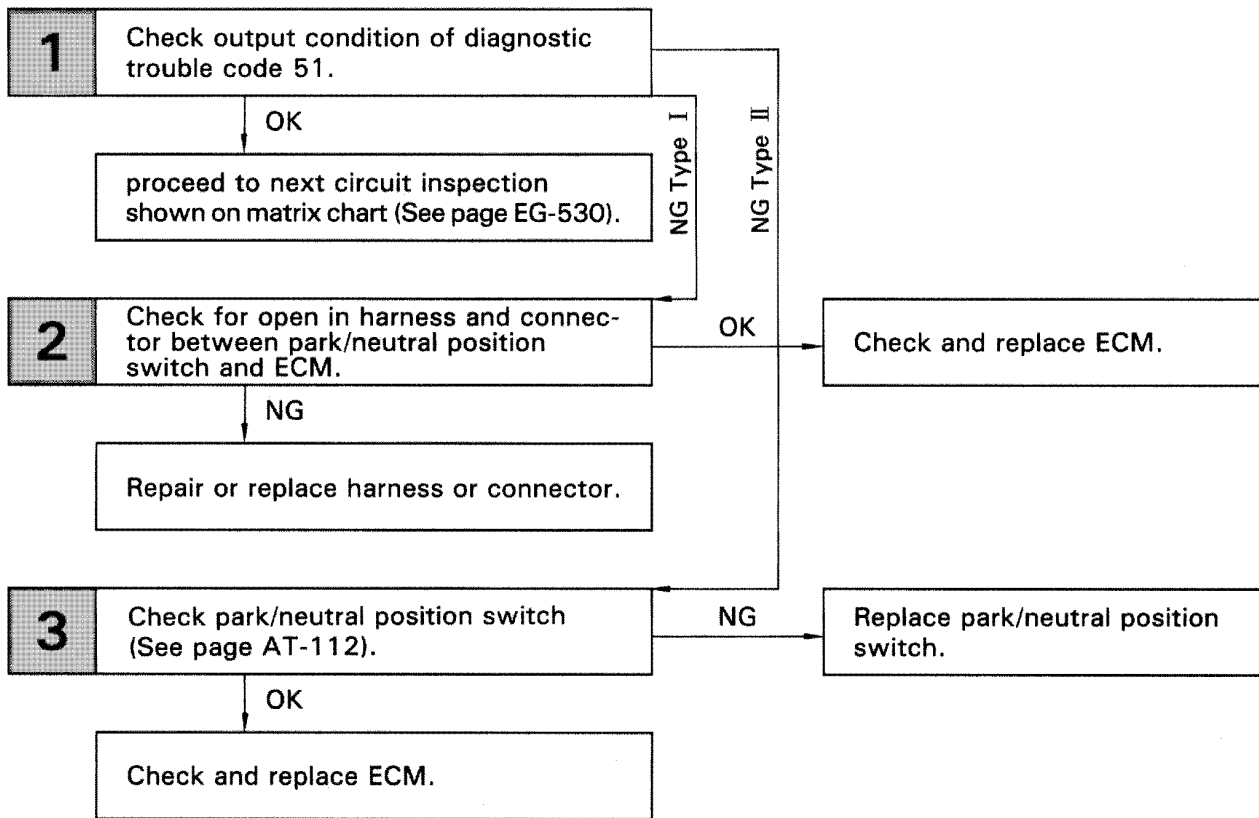
The park/neutral position switch goes on when the shift lever is in the N or P shift position. When it goes on the terminal NSW of the ECM is grounded to body ground via the starter relay and theft deterrent ECU, thus the terminal NSW voltage becomes 0 V. When the shift lever is in the D, 2, L or R position, the park/neutral position switch goes off, so the voltage of ECM terminal NSW becomes battery positive voltage, the voltage of the ECM internal power source.

If the shift lever is moved from the N position to the D position, this signal is used for air-fuel ratio correction and for idle speed control (estimated control) etc.

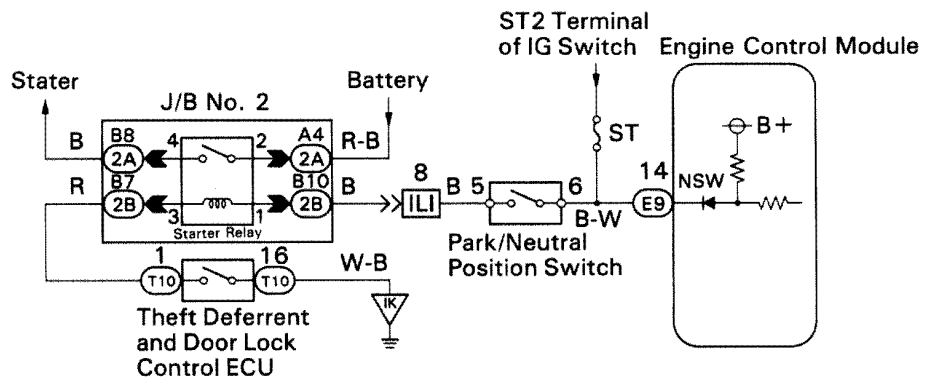
When the park/neutral position switch is off, code "51" is output in the test mode diagnosis. (This is not abnormal.)

DIAGNOSTIC CHART

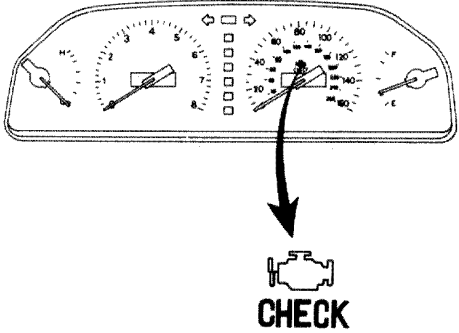
HINT: This diagnosis chart is based on the premise that the engine is cranked normally. If the engine is not cranked, proceed to the matrix chart of problem symptoms on page EG-530.



WIRING DIAGRAM



INSPECTION PROCEDURE

1	Check output condition of diagnostic trouble code 51.															
	<p>P</p> <ol style="list-style-type: none"> 1. Using SST, connect terminals TE1 and E1 of DLC2. SST09843-18020 2. Turn ignition switch ON. 3. Crank the engine. 4. Using SST, connect terminals TE1 and E1 of DLC2. SST 098430-18020 <p>C Check if diagnostic trouble code “51” is output when the shift lever is in the P and D shift positions.</p> <p>RESULT:</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">Shift position</th> <th colspan="3">Result</th> </tr> <tr> <th>OK</th> <th>NG Type I</th> <th>NG Type II</th> </tr> </thead> <tbody> <tr> <td>“P”</td> <td>Normal Code</td> <td>Code 51</td> <td>Normal Code</td> </tr> <tr> <td>“D”</td> <td>Code 51</td> <td>Code 51</td> <td>Normal Code</td> </tr> </tbody> </table>	Shift position	Result			OK	NG Type I	NG Type II	“P”	Normal Code	Code 51	Normal Code	“D”	Code 51	Code 51	Normal Code
Shift position	Result															
	OK	NG Type I	NG Type II													
“P”	Normal Code	Code 51	Normal Code													
“D”	Code 51	Code 51	Normal Code													

F16834

OK

NG
Type I

Go to step 2.

NG
Type II

Go to step 3.

Proceed to next circuit inspection shown on matrix chart (See page [EG-530](#)).

2 Check for open in harness and connector between engine control module and park/neutral position switch (See page [IN-34](#)).

NG

OK

Check and replace engine control module.

Repair or replace harness or connector.

3 Check park/neutral position switch (See page [AT-112](#)).

OK

NG

Replace park/neutral position switch.

Check and replace engine control module.