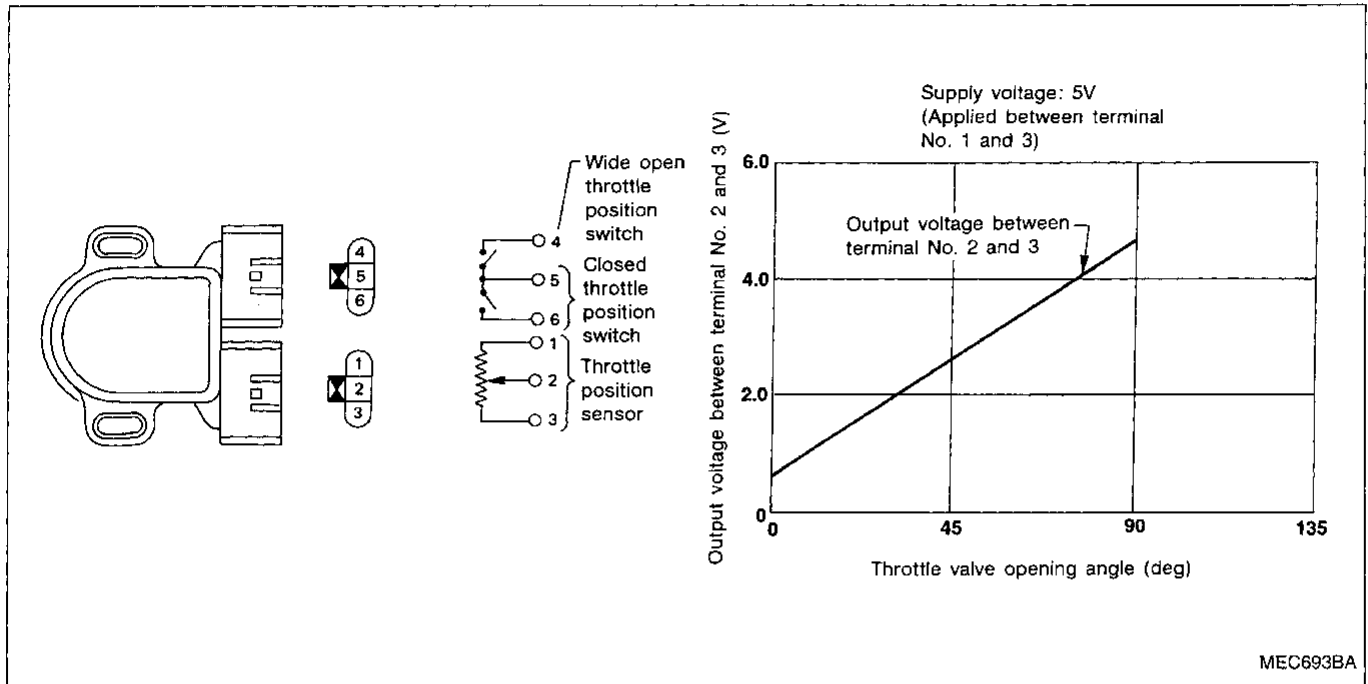


Throttle Position Sensor (DTC: 0403)

The throttle position sensor responds to the accelerator pedal movement. This sensor is a kind of potentiometer which transforms the throttle position into output voltage, and emits the voltage signal to the ECM. In addition, the sensor detects the opening and closing speed of the throttle valve and feeds the voltage signal to the ECM.

Idle position of the throttle valve is determined by the ECM receiving the signal from the throttle position sensor. This one controls engine operation such as fuel cut. In addition, a "Wide open and closed throttle position switch" is built into the throttle position sensor unit.



Diagnostic Trouble Code No.	Malfunction is detected when ...	Check Items (Possible Cause)
P0120 0403	<ul style="list-style-type: none"> An excessively low or high voltage from the sensor is sent to ECM. Rationally incorrect voltage is sent to ECM compared with the signals from mass air flow sensor, crankshaft position sensor (POS) and IACV-AAC valve. 	<ul style="list-style-type: none"> Harness or connectors (The sensor circuit is open or shorted.) Throttle position sensor

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TROUBLE DIAGNOSIS FOR DTC P0120

Throttle Position Sensor (DTC: 0403) (Cont'd)

OVERALL FUNCTION CHECK

Use this procedure to check the overall function of the throttle position sensor circuit. During this check, a DTC might not be confirmed.

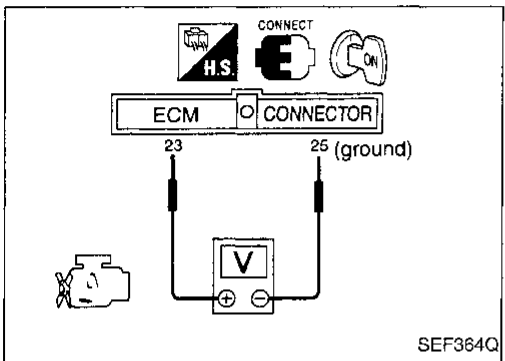
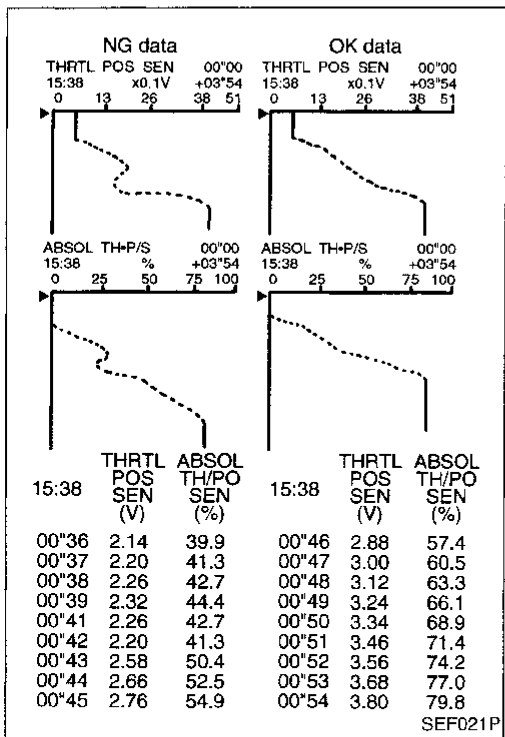
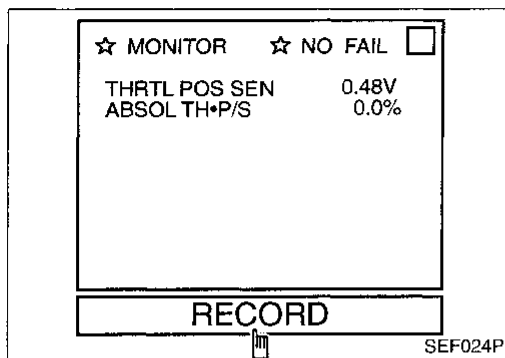


- 1) Start engine and warm it up sufficiently.
- 2) Turn ignition switch "OFF" and wait at least 5 seconds.
- 3) Turn ignition switch "ON".
- 4) Select "MANU TRIG" and "HI SPEED" in "DATA MONITOR" mode with CONSULT.
- 5) Select "THRTL POS SEN" and "ABSOL TH•P/S" in "DATA MONITOR" mode with CONSULT.
- 6) Press RECORD on CONSULT SCREEN at the same time accelerator pedal is depressed.
- 7) Print out the recorded data and check the following:
 - The voltage when accelerator pedal fully released is approximately 0.35 - 0.65V.
 - The voltage rise is linear in response to accelerator pedal depression.
 - The voltage when accelerator pedal fully depressed is approximately 4V.

OR






- 1) Start engine and warm it up sufficiently.
- 2) Turn ignition switch "OFF" and wait at least 5 seconds.
- 3) Turn ignition switch "ON".
- 4) Check the voltage between ECM terminal ②③ and ②⑤ (ground) and check the following:
 - The voltage when accelerator pedal fully released is approximately 0.35 - 0.65V.
 - The voltage rise is linear in response to accelerator pedal depression.
 - The voltage when accelerator pedal fully depressed is approximately 4V.

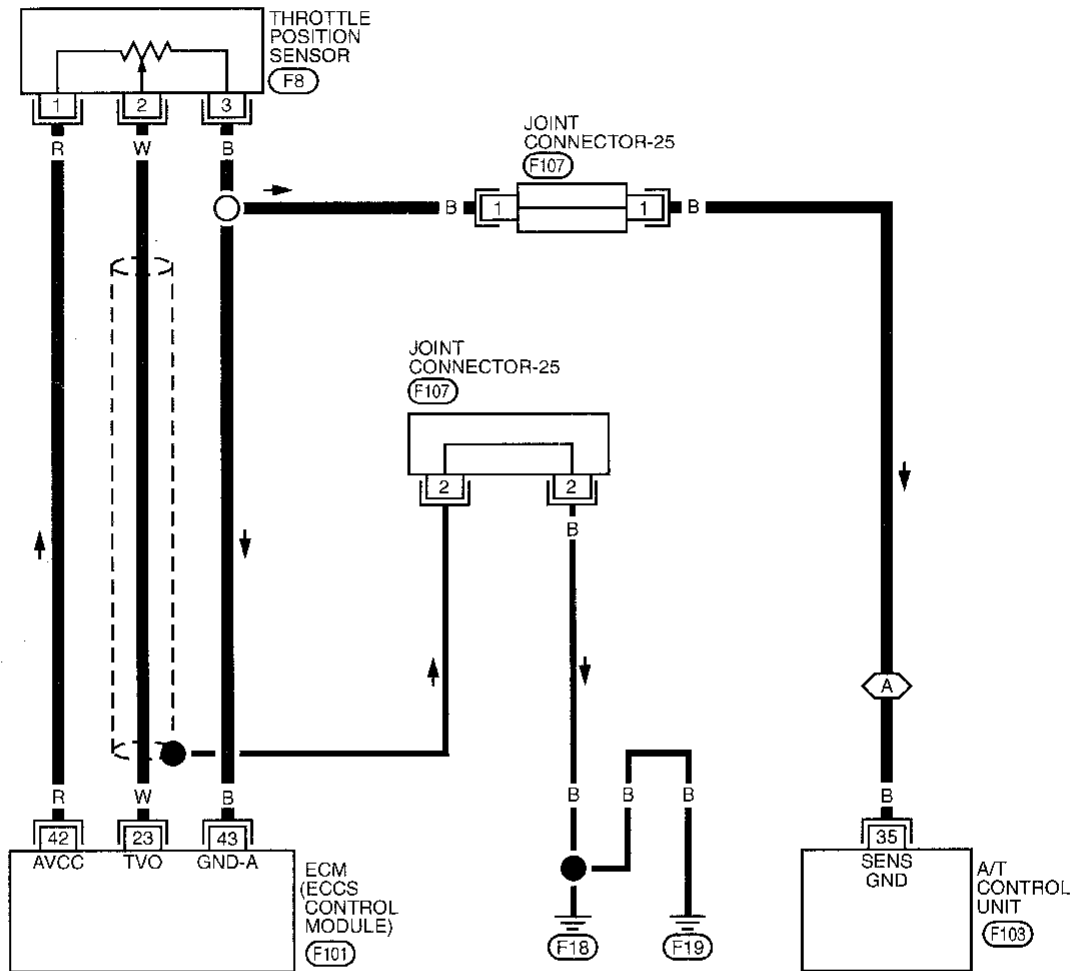


TROUBLE DIAGNOSIS FOR DTC P0120

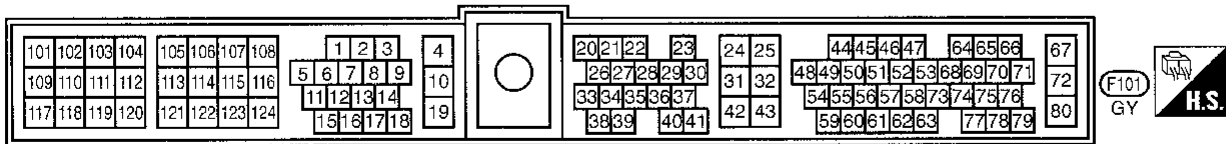
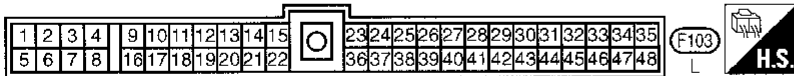
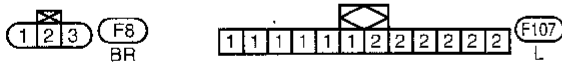
Throttle Position Sensor (DTC: 0403) (Cont'd)

EC-TPS-01

-  : Detectable line for DTC
-  : Non-detectable line for DTC
-  : A/T models

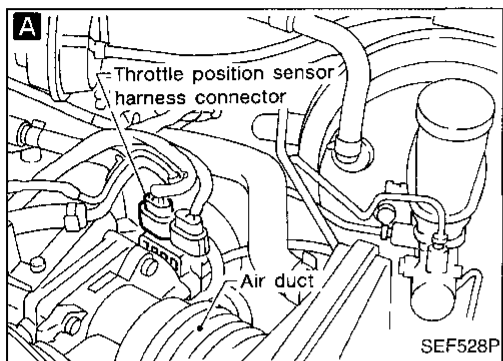


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TROUBLE DIAGNOSIS FOR DTC P0120

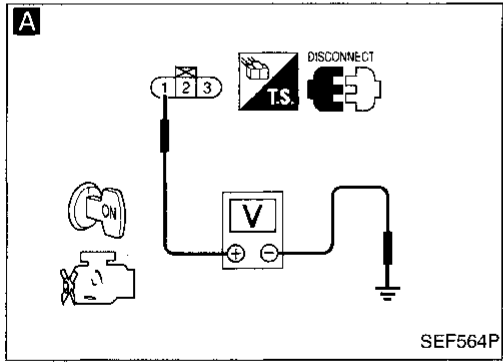
Throttle Position Sensor (DTC: 0403) (Cont'd) DIAGNOSTIC PROCEDURE



INSPECTION START

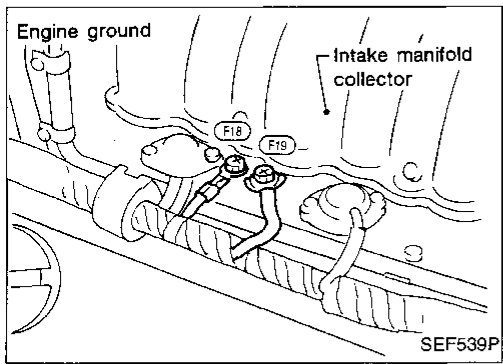
A
CHECK POWER SUPPLY.
1. Turn ignition switch "OFF".
2. Disconnect throttle position sensor harness connector.
3. Turn ignition switch "ON".
4. Check voltage between terminal ① and ground with CONSULT or tester.
Voltage: Approximately 5V

NG → Repair harness or connectors.



B
CHECK GROUND CIRCUIT.
1. Turn ignition switch "OFF".
2. Loosen and retighten ground screw.
3. Check harness continuity between terminal ③ and engine ground.
Continuity should exist.
If OK, check harness for short.

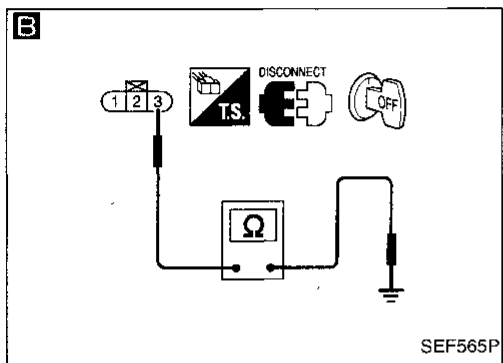
NG → Check the following.
• Joint connector-25
• Harness for open or short between throttle position sensor and ECM
• Harness for open or short between throttle position sensor and A/T control unit
If NG, repair harness or connectors.



C
CHECK INPUT SIGNAL CIRCUIT.
1. Disconnect ECM harness connector.
2. Check harness continuity between ECM terminal ② and terminal ②.
Continuity should exist.
If OK, check harness for short.

NG → Repair harness or connectors.

ADJUST THROTTLE POSITION SENSOR.
Perform "BASIC INSPECTION", EC-70.



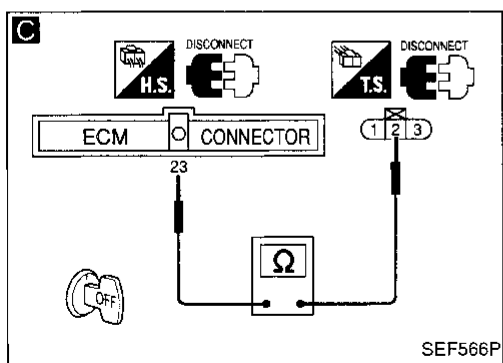
CHECK COMPONENT
(Throttle position sensor).
Refer to "COMPONENT INSPECTION" on next page.

NG → Replace throttle position sensor. To adjust it, perform "BASIC INSPECTION", EC-70.

Disconnect and reconnect harness connectors in the circuit. Then retest.

Trouble is not fixed.

Check ECM pin terminals for damage and check the connection of ECM harness connector.
Reconnect ECM harness connector and retest.

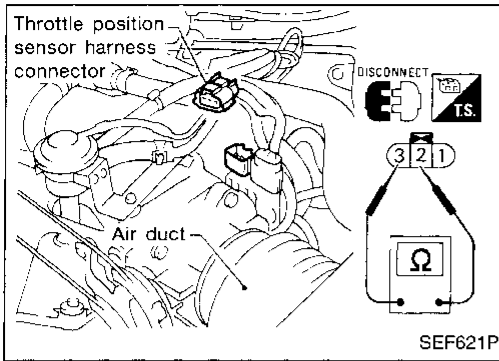


INSPECTION END

TROUBLE DIAGNOSIS FOR DTC P0120

Throttle Position Sensor (DTC: 0403) (Cont'd)

COMPONENT INSPECTION



Throttle position sensor

1. Start engine and warm it up sufficiently.
2. Turn ignition switch "OFF".
3. Disconnect throttle position sensor harness connector.
4. Make sure that resistance between terminals ② and ③ changes when opening throttle valve manually.

Throttle valve conditions	Resistance at 25°C (77°F)
Completely closed	Approximately 0.5 kΩ
Partially open	0.5 - 4.0 kΩ
Completely open	Approximately 4.0 kΩ

If NG, replace throttle position sensor.

To adjust throttle position sensor, perform "BASIC INSPECTION". (See page EC-70.)

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