Computerized Engine Controls

DATSUN/NISSAN ELECTRONICALLY CONTROLLED CARBURETOR

Sentra M.P.G.

DESCRIPTION

The electronically controlled carburetor improves driveability while reducing emissions. The system components include: control unit, water temperature sensor, exhaust gas sensor, throttle valve switch, ignition coil, clutch switch, neutral switch, and engine revolution switch.

OPERATION

The electronic control unit, which incorporates a microprocessor, receives impulses from various sensors and switches. It controls the air/fuel ratio, fuel shut-off system, catalyst warm-up system and exhaust air induction system.

TESTING

SYSTEM CHECK

1) Visually check clamps at all air intake components and vacuum hoses for leakage. Check air cleaner and fuel filters for clogging. Start engine and warm to normal operating temperature.

2) Check for leaks at dipstick, anti-backfire valve and air induction hoses, intake manifold and EGR valve gaskets, valve cover and oil filter cap. Check operation of EGR valve seat, air induction control valve and anti-backfire valve.

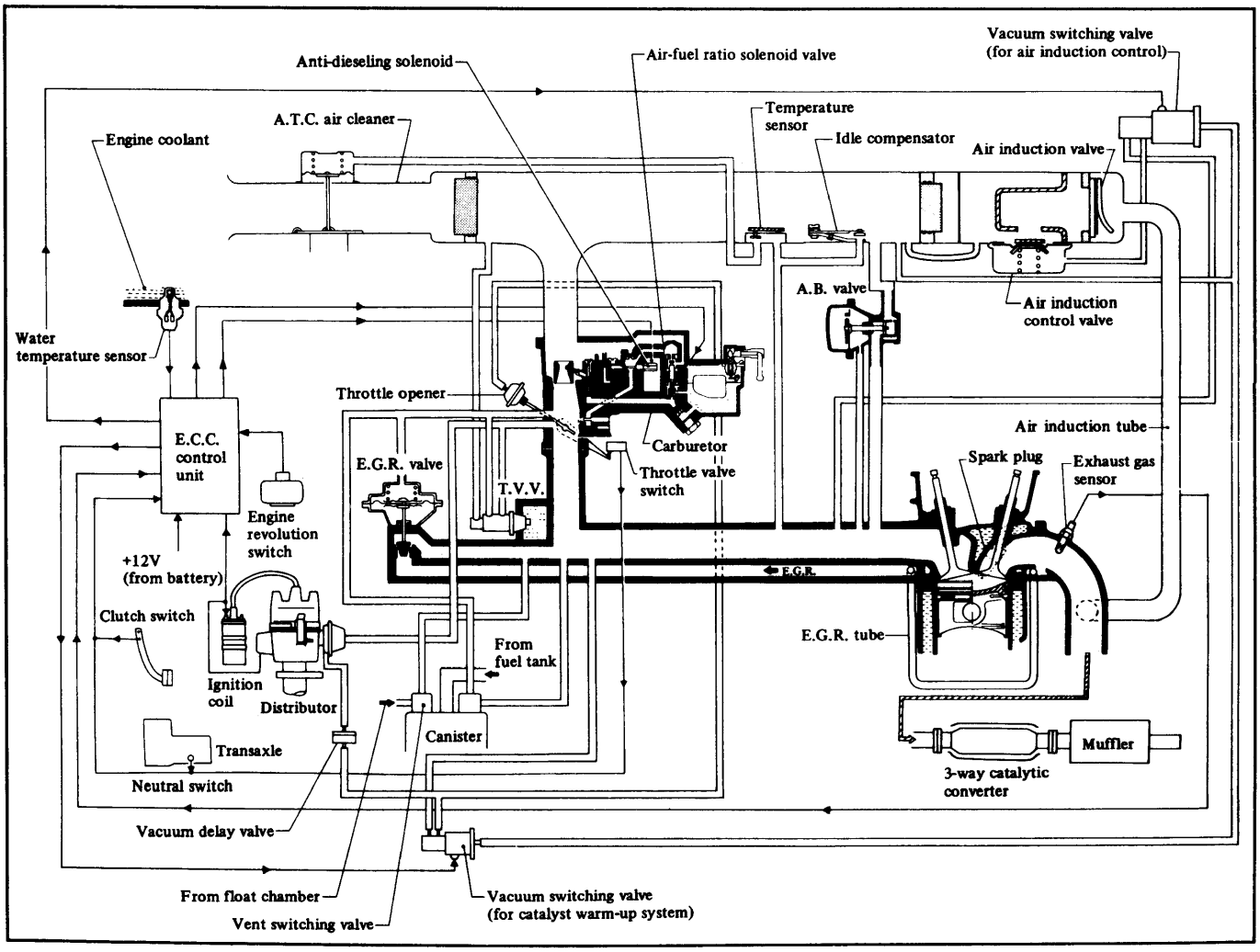
3) Check fuel lines for leaks. With engine idling, check that fuel level centers on mark on carburetor sight glass. Ensure ignition system voltage, ignition timing, idle RPM and mixture are to specifications. *See "Datsun Tune-Up Service Procedure" article in this section.*

4) Turn engine off. Disconnect ECC harness connector. Turn ignition switch "ON". Check that ECC alarm lamp (located on instrument panel) is on. If not replace bulb.

5) Start engine. Check that alarm lamp turns off. Run engine at 2000 RPM for approximately 5 minutes. If alarm lamp is still off, testing is complete. If alarm lamp is on, connect ECC harness connector.

6) If light stays on and momentarily flashes off, turn ignition switch "OFF". Using ohmmeter, check that resistance of air/fuel ratio solenoid is 30-50 ohms and anti-dieseling, catalyst warm-up and air induction vacuum switching solenoids is 25-45 ohms.

Fig. 1: Datsun Sentra M.P.G. Electronically Controlled Carburetor (ECC) Schematic



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DATSUN/NISSAN ELECTRONICALLY CONTROLLED CARBURETOR (Cont.)

7) If any solenoid is not within specification, replace it. Disconnect 10-pin connector from ECC control unit. Turn ignition switch on. Using voltmeter, check that there is 12-14 volts between terminals F, G, I, J and ground. If not, repair or replace harness. If okay, replace control unit.

8) If light stays off and momentarily flashes on, turn ignition switch "OFF". Check that each harness connector is connected securely. Disconnect ECC 20-pin connector from control unit.

9) Disconnect exhaust gas sensor harness connector. Using jumper wire, connect terminal for exhaust gas sensor to ground. Check for continuity between terminal No. 2 of ECC 20-pin connector and ground.

10) If continuity exists, replace exhaust gas sensor. If not, repair or replace ECC harness. If lamp still momentarily flashes on, remove water temperature sensor. Immerse sensor end and thermometer into container of water.

11) With water temperature below 68°F (20°C), check that resistance is 2100-2900 ohms. Heat water to 122°F (50°C). Check that resistance is 680-1000 ohms. If okay, repair or replace ECC harness. If not, replace water temperature sensor.

FUEL SHUT-OFF SYSTEM

1) Turn ignition switch "OFF". Disconnect ECC 20-pin connector. Check that there is continuity between terminal 5 and ground with clutch engaged. If not, replace clutch switch.

2) Check that there is continuity between terminal 4 and ground with transmission in neutral. If not, replace neutral switch.

Fig. 2: Datsun Sentra M.P.G. Electronically Controlled Carburetor (ECC) Wiring Diagram