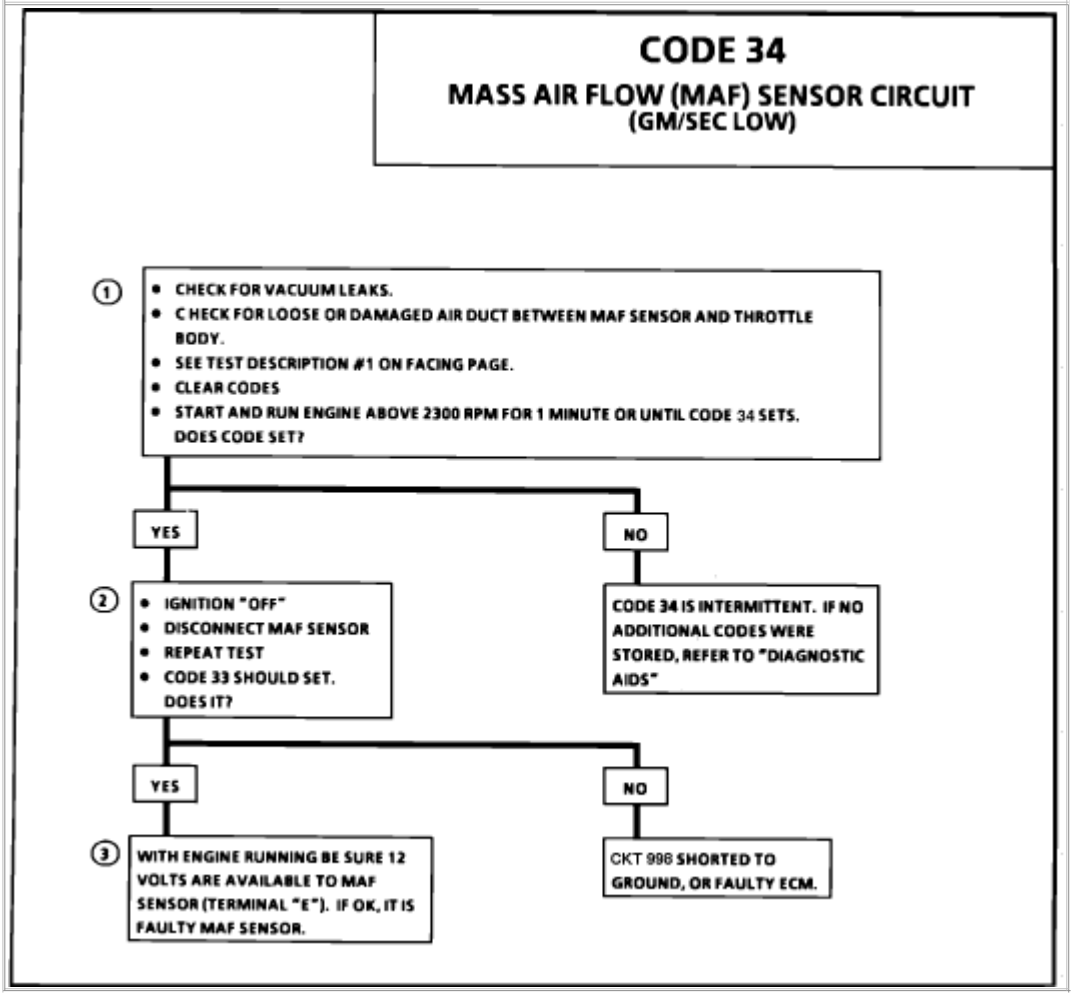
1989 Chevrolet Corvette V8-350 5.7L

Code 34

Notes

Code 34 Chart



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Code 34 Wiring Diagram

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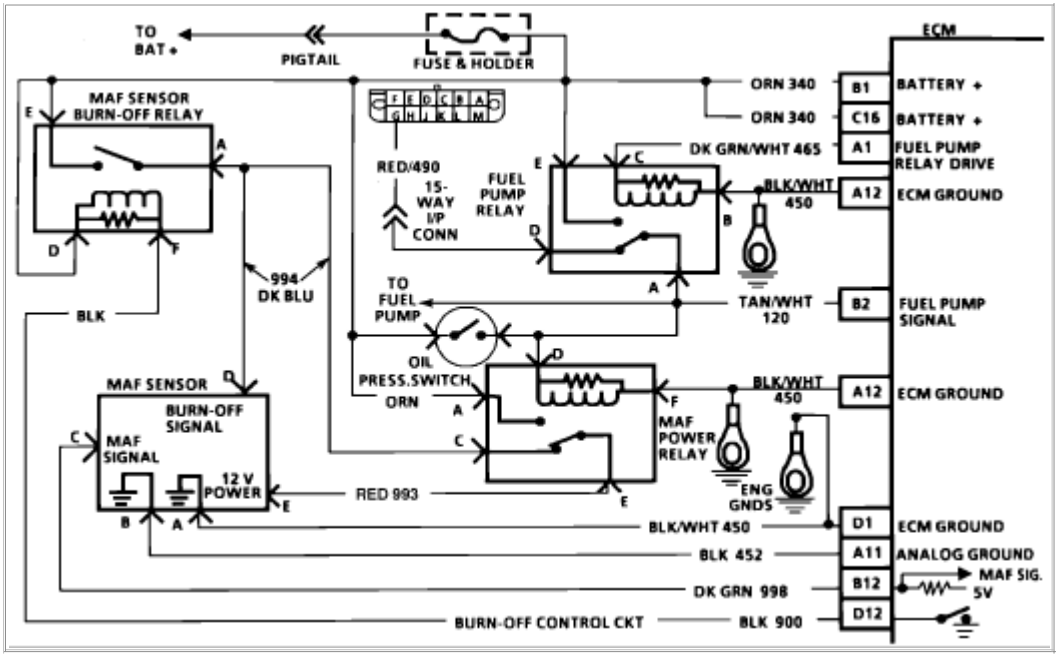

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CIRCUIT DESCRIPTION:

The Mass Air Flow (MAF) sensor measures the amount of air which passes through it. The Electronic Control Module (ECM) uses this information to determine the operating condition of the engine, to control fuel delivery. The oil pressure switch or the ECM, through control of the fuel pump relay, will provide 12 volts for the MAF power relay which provides the 12 volts needed by the MAF sensor. The ECM provides a current limiting 5 volts on the signal line (CKT 998). The MAF sensor then changes the signal by dropping the voltage so that with low air flow the ECM sees a low voltage and a high air flow will cause the ECM to see near the 5 volts supply.

NOTE: Because of all the possible color code combinations used on electrical wiring diagrams, always refer to ECM **CONNECTOR IDENTIFICATION** under **ELECTRICAL AND ELECTRONIC WIRING DIAGRAMS** for correct color code identification of circuit.

TEST DESCRIPTION: Numbers below refer to circled numbers on the diagnostic chart.

Code 34 indicates ECM has seen low air flow less than 2.5 gm/sec. (low voltage) for one second when:

- Engine is first started

OR

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- RPM above 600
- Throttle Position Sensor (TPS) above 6%. To obtain 6%, the engine has to be running at about 2300 rpm in neutral.

1. A Code 34 may be caused by an engine that exhibits a low, rough, unstable or incorrect idle problem. If this condition exists, disconnect the MAF sensor. If the unstable idle still exists, refer to **DIAGNOSIS BY SYMPTOM/ROUGH, UNSTABLE, INCORRECT IDLE OR STALLING.** If the idle improved with the sensor disconnected, replace it.
2. This test will determine if the conditions still exist to set a code or if the problem is intermittent.
3. With the MAF sensor disconnected, the ECM should see a high signal voltage and set a Code 33. If a Code 34 resets then the wiring or the ECM is at fault.

DIAGNOSTIC AIDS:

A low, rough or unstable idle could result in a Code 34. Also be sure air ducts are tight and not cracked. Check CKT 998 for short to ground. Refer to **TESTING PROCEDURES/DIAGNOSIS BY SYMPTOM/INTERMITTENTS** .

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1989 Chevrolet Corvette V8-350 5.7L

Code 43

Notes

Code 43 Chart

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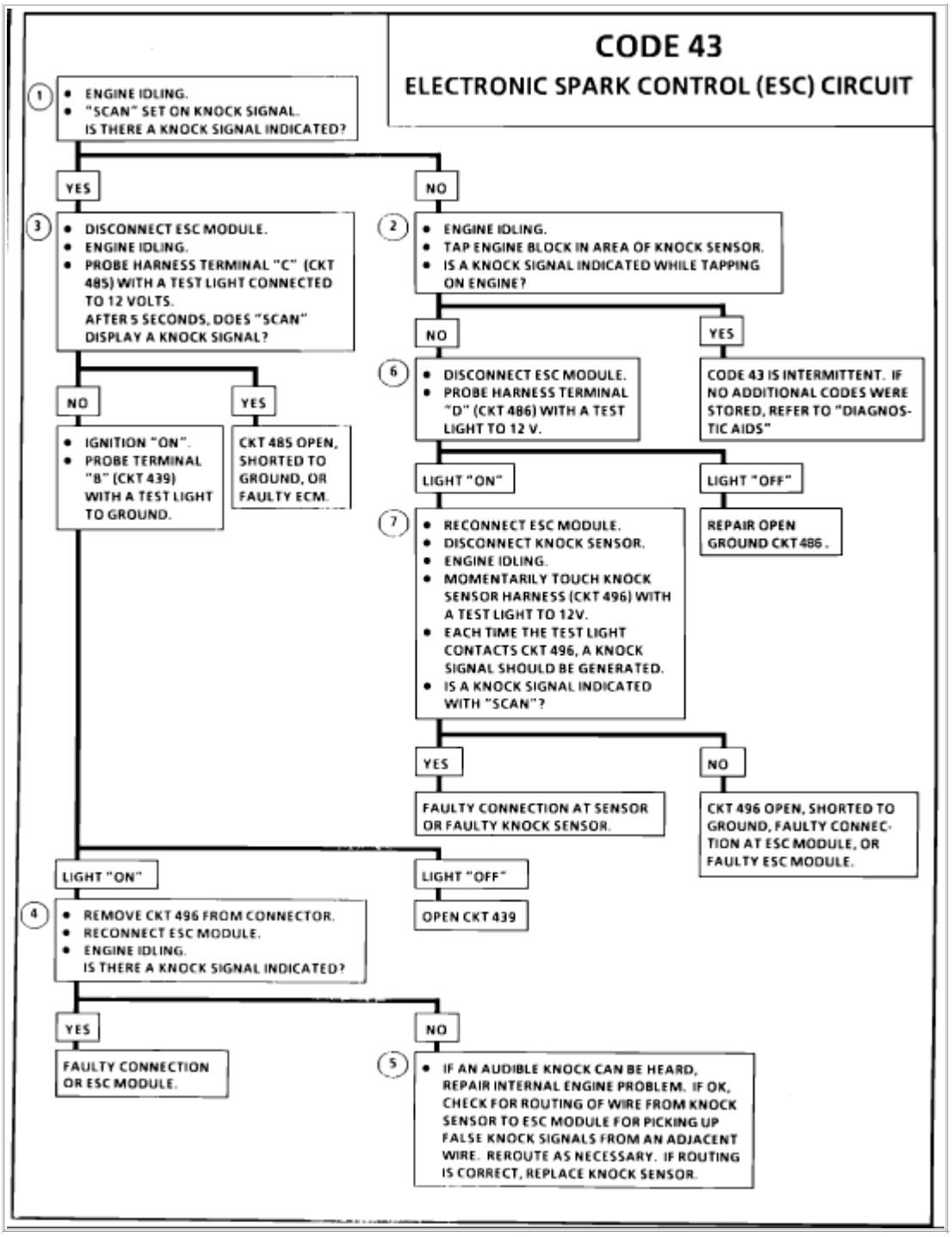

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Code 43 Wiring Diagram

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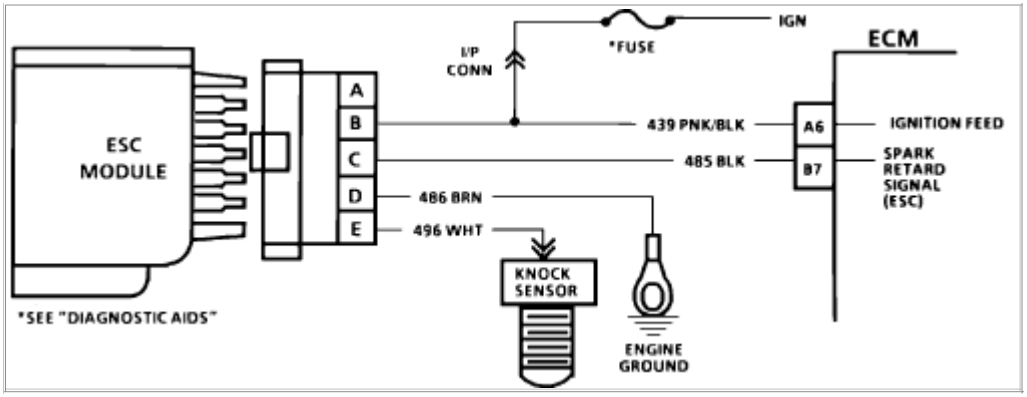

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CIRCUIT DESCRIPTION:

Electronic Spark Control (ESC) is accomplished with a module that sends a voltage signal to the Electronic Control Module (ECM). As the knock sensor detects engine knock, the voltage from the ESC module to the ECM drops, and this signals the ECM to retard timing. The ECM will retard the timing, when knock is detected and rpm is above about 900 rpm. Code 43 means the ECM has seen low voltage at CKT 485 terminal "B7" for longer than 5 seconds with the engine running or the system has failed the functional check. This system performs a functional check once per start up to check the ESC system. To perform this test, the ECM will advance the spark when coolant is above 95C and at a high load condition (near Wide Open Throttle (WOT)). The ECM then checks the signal at "B7" to see if a knock is detected. The functional check is performed once per start up and, if knock is detected when coolant is below 95~C (194~F), the test has passed and the functional check will not be run. If the functional check fails "Service Engine Soon" (SES) light will remain "ON" until ignition is turned "OFF," or until a knock signal is detected.

NOTE: Because of all the possible color code combinations used on electrical wiring diagrams, always refer to ECM **CONNECTOR IDENTIFICATION** under **ELECTRICAL AND ELECTRONIC WIRING DIAGRAMS** for correct color code identification of circuit.

TEST DESCRIPTION: Numbers below refer to circled numbers on the diagnostic chart.

1. If the conditions for a Code 43 are present, the "Scan" will always display "yes." There should not be a knock at idle unless an internal engine problem or a system problem exists.
2. This test will determine if the system is functioning at this time. Usually, a knock signal can be generated by tapping on the right exhaust manifold. If no knock signal is generated, try tapping on the block close to the area of the sensor.
3. Because Code 43 sets when the signal voltage on CKT 485 remains low, this test should cause the signal on CKT 485 to go high, The 12 volts

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signal should be seen by the ECM as "no knock," if the ECM and wiring are OK.
4. This test will determine if the knock signal is being detected on CKT 496, or if the ESC module is at fault.
5. If CKT 496 is routed to close to secondary ignition wires, the ESC module may see the interference as a knock signal.
6. This checks the ground circuit to the module. An open ground will cause the voltage on CKT 485 to be about 12 volts, which would cause the Code 43 functional test to fail.
7. Contacting CKT 496 with a test light to 12 volts should generate a knock signal. This will determine if the ESC module is operating correctly.

DIAGNOSTIC AIDS:

Code 43 can be caused by a faulty connection at the knock sensor at the ESC module or at the ECM. Also, check CKT 485 for possible open or short to ground. Refer to **TESTING PROCEDURES/DIAGNOSIS BY SYMPTOM/INTERMITTENTS.**

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