

MASS AIR FLOW (MAF) SENSOR



TROUBLESHOOTING GUIDE*

Troubleshooting

Run a full computer diagnostic to see if the MAF sensor is the issue. Other signs to look for include poor gas mileage, the engine hesitating, and black smoke from the exhaust.

Preliminary Checks (Before Sensor Replacement)

- ✓ Inspect air filter (dirty or oiled filters can contaminate MAF)
- ✓ Check intake ducting for cracks or leaks after the MAF
- ✓ Verify sensor connector is fully seated
- ✓ Look for bent, corroded, or pushed-out terminals
- ✓ Check for aftermarket oiled air filters
- ✓ Confirm no vacuum leaks

Testing

We recommend using a scan tool to look at real-time data and a multimeter to check your vehicle's power supply.

Technicians using a scan tool should look for MAF readings between 2–7 g/s when a vehicle is idle. The reading should increase up to 15–25 g/s when the engine speeds up to 2500 rpm. The technician will graph the data from 1000 to 2250 rpm, which should show a straight line pattern, if the MAF is working properly.

You can use a multimeter set to 20 volts to test each pin on the MAF sensor connector. You should look for a steady 12-volt supply.



Purpose

This guide helps diagnose drivability and performance issues related to the Mass Air Flow (MAF) sensor by identifying symptoms, likely causes, and corrective actions.

Common Symptoms of a Faulty MAF Sensor

- ✓ Check Engine Light
- ✓ Rough idle or stalling
- ✓ Hesitation or surging during acceleration
- ✓ Poor fuel economy
- ✓ Hard stalling
- ✓ Black exhaust smoke
- ✓ Engine runs rich or lean
- ✓ Reduced engine power/limp mode



Common Diagnostic Trouble Codes (DTCs)

Code	Description
P0100	MAF circuit malfunction
P0101	MAF range/performance
P0102	MAF low input
P0103	MAF high input
P0104	MAF intermittent
P0171/P0174	System too lean (often MAF-related)



Root Causes of MAF Failure

- ✓ Dirt or oil contamination
- ✓ Air leaks downstream of MAF
- ✓ Electrical faults
- ✓ Poor grounding
- ✓ Improper cleaning
- ✓ Engine backfires
- ✓ Aftermarket intake modifications



Replacement Guidelines

Replace the MAF sensor if:

- ✓ Air intake system has no leaks
- ✓ Electrical connections and wiring are correct
- ✓ Cleaning does not restore proper readings
- ✓ DTCs return after clearing
- ✓ Live data remains out of specification

**These are general recommendations only from Walker Products. Vehicle requirements vary. Always consult the OEM service manual or a qualified mechanic before performing diagnostics or repairs.*



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