# AIR/FUEL RATIO MONITOR #6593 INSTRUCTIONS

• General Information: These instructions are for installation of the Edelbrock Air/Fuel Ratio Monitor, an electronic device that measures oxygen content of exhaust gas to determine Air/Fuel ratio. Please study these instructions carefully before installing your A/F Ratio Monitor. If you have any questions or problems, do not hesitate to call our Technical Hotline at: 1-800-416-8628.

• KIT CONTENTS:
1—Air/Fuel Monitor
1—O2 Sensor Assembly
1—Weld Bung for Exhaust Pipe
2—Velcro Mounting Strips
1—Rubber Grommet, 5/16"
1—Warranty Card

Before starting the actual installation, please verify kit contents and familiarize yourself with the kit components while reading the instructions.

INSTALLATION

1. The exhaust weld bung should be welded to a 3/4-inch hole in the exhaust system located as close as practical to the exhaust manifold/header coupling flange. Your local muffler shop should be able to perform this task at a reasonable cost. Be sure to allow clearance for the sensor and it's wire harness.

2. Screw the O2 sensor assembly into the weld bung using a 7/8" wrench. A small amount of anti-seize compound is on the threads of the sensor. Should this be wiped off, we recommend replacing the compound.

3. Disconnect the battery prior to any electrical work. Always disconnect the ground terminal first to reduce the possibility of shorting a wrench from the +12V side of the battery to ground.

4. Select a mounting location for the Air/Fuel Ratio Monitor display that may be viewed easily, but in reach of the supplied harness. Install the Air/Fuel display using the supplied velcro strips.

5. Locate a place in the firewall to feed the three wires through to the engine compartment. Usually there are existing through holes that may be used. A rubber grommet is provided and should be used if required.

NOTE: Use care in routing wires near or around hot exhaust components. Shorting the O2 sensor signal to ground may permanently damage the sensor.

6. Insert the three-pin Weather Pack connector pins into the supplied connector body. Refer to Figure 1.

7. Route the wires to the mating connector attached to the O2 sensor and plug the cable together.
NOTE: To prevent catastrophic failure of unit, avoid routing wires near spark plug wires. Be especially careful to avoid running wires parallel to plug wires. Allow even more clearance with high energy ignitions.

8. Locate and connect the Red wire to a source of +12 volt power that is on when the engine is running.

9. Connect the Black wire to the rear of a cylinder head or a manifold bolt. Make sure the bolt hole is free of paint or other non-conducting material.
DO NOT USE VEHICLE SHEET METAL AS A SYSTEM GROUND.

10. Re-connect the battery (positive terminal first), and start the engine.

11. The Air/Fuel Ratio Monitor is now ready for use. Indications will begin after the exhaust temperature has reached about 600 ° F (about 60 seconds).

• USING THE AIR/FUEL RATIO MONITOR

You can use the A/F Monitor to properly adjust all of your carburetion circuits including idle, cruise, and power. The seven indicator lights on your A/F Monitor include (from left to right) two yellow, four green, and one red light. These span a range of Air/Fuel ratios from 12:1 to 15:1. The stoichiometric (chemically ideal) ratio is 14.6:1, and this is usually a very good ratio to strive for during cruise and mild acceleration. Wide Open Throttle (WOT) typically requires a richer mixture, usually around 12 or 13:1. 15:1 ratios and higher are on the verge of lean misfire, and may result in pinging and excessive heat buildup. After initial warm-up (about 60 seconds), the A/F Monitor will begin to give accurate readings. Notice that the very rapid response time of the monitor will often produce a quickly changing pattern of indicator light movement. This indicates that the actual A/F ratio is unstable, which is not uncommon. Bear in mind that it is always necessary to ensure that your engine is in proper operating condition in order to achieve best results. Factors such as ignition timing, spark plug condition, plug wire condition, compression, and manifold vacuum will all influence the efficiency of your engine and must be checked to verify that they are not the source of unusual readings.

The changes that you make to your carburetor's circuit will depend upon the make and model of carb that you are using. Most aftermarket and early original equipment carbs have adjustable idle mixture screws, and it is a simple matter to achieve the proper idle mixture using your Air/Fuel Ratio Monitor. If you are using the Edelbrock Performer Series carburetor, it is possible to make changes to the cruise and power modes separately; see your carburetor Owner's Manual for calibration charts and other information.

**CAUTION:** Do not look at the monitor any longer than necessary during Wide Open Throttle operation, especially in high performance vehicles. Have someone ride with you and observe the monitor while you watch the road.

• TROUBLE-SHOOTING

1. Racing fuel or fuel that has a high lead content will cause premature failure of the oxygen sensor.

2. A long warm up period is a symptom of a cold exhaust sensor.

3. A high level of hydrocarbons in the exhaust may be caused by oil leaking past the valve guides. This will cause an artificially rich mixture indication. On certain engines this may be observed on long down hill conditions where manifold vacuum is high.

4. The Air/Fuel Ratio Monitor display may be tested using a standard AA flashlight battery. Un-plug the Weather Pack connector and connect the positive (+) terminal of the battery to the “B” terminal of the display end of the wire harness and the negative (-) terminal of the battery to the “A” wire of the display end of the wire harness. This will cause all of the lights to come on.

• Please complete and mail your warranty card. Be sure to write the catalog number of this product in the “Part #___” space.

• THANK YOU.
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Air/Fuel Ratio Monitor #6593
Lights will illuminate from right to left. The illuminated light farthest to the left indicates the air/fuel ratio.