SPLIT SECOND

MAF Conversion Kit for M635csi Using PSC1

Installation Instructions

Parts Included:

- Split Second PSC1-004
- Split Second ARM1
- MAF Sensor and mounting screws
- Wiring Harness
- EGO1 and weld nut

Parts installation:

1) Remove the air filter housing and air flow meter.

2) Disassemble the air flow meter from the air filter housing.

3) Cut a 3.625 inch circular opening in the side of the air filter housing to fit the MAF inlet (flange side). Use the template provided.

4) Drill four 0.25 inch mounting holes in the air filter housing that mate with the MAF flange holes. Use the template provided.

5) Attach the MAF sensor to the air filter housing with the four bolts. Insert the bolts from the inside of the air filter box so that the nuts are visible on the outside of the assembly. Use Loctite to secure the nuts.

6) Install the air filter housing/MAF assembly. Due to the light weight of the assembly, the diagnostic connector bracket is not needed for support.

7) Position the wiring harness so the connector can mate with the MAF sensor.

8) Route the harness along the firewall under the plastic wiring cover and pass it through the grommet on the passenger side into the area below the DME. The DME is the Motronic control unit just above the glove box. To access the DME, open the glove box and lower the black vinyl cover at the top of the glove box area. The DME is the silver box with the large connector along its left hand side. Push a piece of heavy gauge solid wire through the grommet in the firewall from the inside of the car. Tape the wiring harness and the loose orange wire to the solid wire. Spray some WD-40 on the end of the bundle to make it easier to pull through.

9) Determine a suitable location for the PSC1. Popular spots are under the dash left of the steering column, along the right side of the center console or the roof of the glove box compartment.

10) Mount the PSC1.

11) Thread the wires from the PSC1 to the open area to the left of the DME above the glove box.

12) Determine a suitable location for the ARM1. Popular spots are on the steering column or below the fan speed control in the center console.

13) Mount the ARM1 with the velcro provided. Note that one of the screws on the bottom of the ARM1 is tied to +12V. Be sure those screws do not contact chassis ground.

14) Thread the wires from the ARM1 to the open area to the left of the DME above the glove box. Thread the **ORANGE** and **BROWN** wires through the firewall grommet to the engine bay.

15) Drill a hole in the exhaust located between the catalytic converter and the collector of the exhaust manifold that is 7/8" in diameter. You may need to enlarge the hole with a die grinder the fit the weld nut provided in the kit. Weld the nut into the exhaust. Screw the EGO1 into the nut.

Wiring Instructions:

☞ **WARNING!** Disconnect the negative terminal of the battery before connecting the **RED** and **BLACK** leads.

Be sure you know the anti-theft radio code before disconnecting the battery.

Use solder and heat shrink for the best possible electrical connections. Crimp connectors are provided for convenience.

1) Remove the excess wire jacket so that the PSC1, ARM1 and harness wires can be accessed next to the DME. Secure the end of the wire jacket with heat shrink tubing or a zip tie so it does not fray.

2) Crimp the **BLACK** wires from the PSC1 and ARM1 together on one side of a butt splice connector. Crimp a 1 foot length of left over **BLACK** wire and the harness **BLACK** wire together on the other side of the butt connector. Tie the loose **BLACK** wire to the **GRAY/BROWN** AFM ground wire on DME pin 6.

3) Crimp the **RED** wires from the PSC1 and ARM1 together on one side of a butt splice connector. Crimp a 1 foot length of left over **RED** wire and the harness **RED** wire together on the other side of the butt connector. Unwrap the tape around the bundle of wire leading to the DME. Tie the loose **RED** wire to the **RED/BLUE** wire in the DME harness leading to pin 35 using an instant splice connector. This will provide a switched +12V.

4) Connect the **YELLOW/BLACK** wire to the **BLACK** wire leading to the DME connector pin 1 using an instant splice connector. This wire provides the tachometer input to the PSC1. Be sure to connect to the standard diameter **BLACK** wire. The larger diameter **BLACK** wires are shielded wires for other signals.

5) Connect the **VIOLET** wire to the **GRAY/WHITE** wire leading to the DME connector pin 9 using an instant splice connector. This wire provides the air flow input to the DME. **NOTE: If the stock air flow meter is reconnected, the VIOLET and GRAY wires must be disconnected using in-line connectors in the PSC1 wiring harness.**

6) Connect the **GRAY** wire to the **GRAY/ VIOLET** wire leading to the DME connector pin 22 using an instant splice connector. This wire provides the temp signal to the DME. The **GRAY** wire has an in-line connector for the same reason as the **VIOLET** wire. As an alternative, you can use the IAT1 instead of the PSC1 **GRAY** wire. This will provide improved cold start performance.

7) Thread the **WHITE** wire from the ARM1 to the area beneath the ash tray. Connect the **WHITE** wire to the wire that provides the +12V for the ash tray light using an instant splice connector. This wire will go to +12V when the headlights are turned on and cause the ARM1 to dim at night.

8) Connect the **GREEN** wires in the MAF harness to the **GREEN** wire on the PSC1 using a butt splice connector.

9) Connect the **BROWN** wire on the MAF harness to the **BLACK** wire on the PSC1.

10) Locate the oxygen sensor. The sensor has two **WHITE** wires one **BLACK** and a **GRAY**. Connect the **ORANGE** wire from the ARM1 to the **BLACK** of the EGO1 using a butt splice connector. Connect the **BROWN** wire of the ARM1 to the GRAY wire of the EGO1 using a butt splice connector.

11) The EGO1 sensor will need switched 12V and a ground connected to the **WHITE** wires for its internal heater. A common location for that power and ground would be the **RED** and **BLACK** wires connected to the PSC1.

12) Reconnect the negative terminal of the battery.

13) Plug the harness connector into the MAF sensor.

14) Program the fuel curve in map table A using the Split Second R4 software. Refer to the R4 data sheet for programming information.

If you have any difficulty with installation, please call us at (949)863-1359 for assistance. We hope you enjoy the precise, filtered operation of your new PSC1 air/fuel ratio calibrator and increased horsepower of your M635csi.

THANK YOU FOR CHOOSING SPLIT SECOND