SPLIT SECOND

MAF Conversion Kit For E28 535i, E24 635i, E23 735i

Installation Instructions

☞ **WARNING!** Not designed to work with 1987 vehicles built before 09/86

Parts Included:

- Split Second ARC2
- Split Second ARM1
- MAF Sensor
- MAF Reducer
- Wiring Harness

Parts installation:

1) Remove the air flow meter and bracket.

2) Attach the MAF Reducer to MAF Sensor.

3) Install the MAF assembly in place of the air flow meter.

4) Due to the light weight of the MAF assembly, the bracket is not needed for support.

5) Route the harness along the firewall 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 bundle of wires to the solid wire. Spray some WD-40 on the end of the bundle to make it easier to pull through.

6) Determine a suitable location for the ARC2. 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.

7) Mount the ARC2 with the two L brackets that are provided.

8) Thread the wires from the ARC2 to the open area to the left of the DME above the glove box.

9) Determine a suitable location for the ARM1. Popular spots are on the steering column or in the glove box.

10) 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.

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

Wiring Instructions:

For the highest reliability, use solder connections. Crimp connectors are provided for your convenience.

☞ **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.

1) Remove the excess wire jacket so that the ARC2, 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 ARC2 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 chassis ground using a ring crimp connector and an existing sheet metal screw.

3) Connect the **BROWN** wire from the ARM1 to one of the **BLACK** wires using an instant splice connector.

4) Crimp the **RED** wires from the ARC2 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 on the** DME harness using an instant splice connector. This will provide a switched +12V.

5) Connect the **WHITE** wires from the ARC2 and ARM1 together using an instant splice connector so that one of the wires terminates inside the connector and the other has a long loose portion extending from the connector. Thread the loose **WHITE** wire to the area beneath the ash tray. Connect the **WHITE** wire to the **GRAY/RED** wire leading to the ash tray light using an instant splice connector. When the headlights are turned on, this wire provides the +12V for the ash tray light. This voltage causes the panel illumination of the ARC2 and ARM1 to dim.

6) Connect the **YELLOW** wire to the **BROWN/BLUE** wire in the bundle leading to the DME connector using an instant splice connector. This wire provides the TPS input to the ARC2. At idle this wire is at 0V. When the accelerator pedal is depressed, the voltage on this wire goes to 5V.

7) Connect the **VIOLET** wire to the **GRAY/YELLOW** wire at the DME 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 the in-line connectors in the ARC2 wiring harness.**

8) Connect the **GRAY** wire to the **GRAY/ VIOLET** wire at the DME 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.

9) Connect the **BROWN and GREEN** wires in the harness to their respective colored unattached wires from the ARC2 using butt splice connectors.

10) Locate the connector for the oxygen sensor. It is a three wire connector located along the side of the engine. The connector has two **WHITE** wires and one **BLACK**. Connect the **ORANGE** wire from the ARM1 to the **BLACK** wire on the side of the connector that leads to the DME using an instant splice connector.

11) Reconnect the negative terminal of the battery.

12) Plug the harness connector into the MAF sensor.

13) Begin with the following settings on the ARC2 and fine tune per the ARC2 data sheet:

LOW:	-2%	(1 click to the left of zero)
MID:	+16%	(8 clicks to the right of zero)
HIGH:	-6%	(3 clicks to the left of zero)
ACCEL	+4%	(4 clicks up from zero)

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 ARC2 air/fuel ratio calibrator and increased horsepower of your E28 535i, E24 635i, E23 735i.

THANK YOU FOR CHOOSING SPLIT SECOND

2/2/2008