

**Please read before installing!**

**1. If you have a Translator, the switches inside the Translator box must be set correctly to work with this chip! (If you don't have a Translator, you can skip this step.)** The "MAF BASE" must be set for your MAF sensor (the settings should be listed on the back of the Translator cover), "MAF WOT" should be set to "0". The four small on/off switches should be ON, ON, ON, OFF. If you have a Translator+, the spark adjustments will work as normal.

If, after driving around, the BLM's are a little low or high, you can adjust the "MAF BASE" setting to compensate. There is a lean setting and a rich setting. If the BLM's are high (more than 10 numbers higher than 128), use the rich setting. If the BLM's are low (more than 10 numbers lower than 128), use the lean setting. That should bring it closer to 128 after driving around a while.

2. Before installing the chip, disconnect the power to the ECM by unplugging the orange wire with the black connector by the battery. This resets the ECM's memory so it can re-learn with the new chip.

3. Carefully insert the new chip. Sometimes you may have to squeeze the sides of the chip slightly for it to fit into the socket. The chip will only go in one way. The notch on one end of the chip should be the same direction as the notch in the ECM socket.

4. Reconnect the ECM power wire.

5. Turn the key on. The "Service Engine Soon" light should come on and stay on. If, after installing the new chip and turning the key on, the "Service Engine Soon" light flashes on and off rapidly, do not start the car. Try to re-insert the chip, checking for bent pins. Also, check the ECM chip socket for any pins that are bent in too far, possibly making poor contact with the chip. The ECM socket pins can be carefully bent back out with a pin or needle. If the SES light still flashes, then the chip may be defective, or damaged during shipment, and will need to be replaced. Some post offices are using X-ray equipment that has damaged chips in the past.

6. The very first time you start the car with a new chip, the idle may flare up to around 2000rpm. This is common, as the ECM has lost track of the idle air control motor's position. Simply turn the car off and wait about 5 seconds, then restart. The idle should return to normal.

7. Set the fuel pressure to 43psi, vacuum line off, to begin with and tune from there. Some cars may need to have the fuel pressure higher or lower to run its best. (For Siemens 83# injectors only, start at about 46psi line off.) Always start with the boost low and work your way up.

8. The car may need to be warmed up and driven around for the ECM to re-learn, in order for it to run it's best. Once the car is warmed up (160°F), most of the learning can be done in about 15 minutes of city driving.

**This product is intended for off-road use. TurboTweak cannot be held responsible for any damage resulting from the use of this product.**

## Programmable Features

There are 3 areas of this chip that can be adjusted by the user: WOT fuel (all gears), WOT timing for 1<sup>st</sup>/2<sup>nd</sup> gear, and WOT timing for 3<sup>rd</sup>/4<sup>th</sup> gear. You do not have to adjust these, but it offers you a way of fine-tuning the chip for your car. You will need a scantool that can display BLM and LV8. Scanmaster, Turbolink, Directscan, OTC, should all work fine.

### WOT Fuel Adjustment

Normally, the BLM will lock to 128 at wide-open throttle once boost passes about 12psi. This feature allows you to adjust the BLM value higher or lower than 128 in order to make the fuel mixture richer or leaner at WOT. The adjustment range is +/- 10%. 116 is -10%, 140 is +10%.

You can see where this is currently set by turning the key on/engine off, setting your selected parameter to 0 (see below on how to select a parameter), and looking at BLM on your scantool, *or* cell 12 (bottom row, 1<sup>st</sup> cell) on Directscan.

### WOT Timing, 1<sup>st</sup>/2<sup>nd</sup> Gear Adjustment

This setting will add or subtract from the default timing in 1<sup>st</sup> and 2<sup>nd</sup> gear at WOT. It is normally at 128, which means no change. When the number is raised, each number equals .35 degrees. So if you raise the number to 131, you have added about 1 degree of timing. The max is 140, which is an additional 4.2 degrees. The min is 125, which subtracts 1 degree.

You can see where this is currently set by turning the key on/engine off, setting your selected parameter to 1 (see below on how to select a parameter), and looking at BLM on your scantool, *or* cell 13 (bottom row, 2<sup>nd</sup> cell) on Directscan.

BLM cells on Directscan			
0	1	2	3
4	5	6	7
8	9	10	11
12	13	14	15

### WOT Timing, 3<sup>rd</sup>/4<sup>th</sup> Gear Adjustment

This setting will add or subtract from the default timing in 3<sup>rd</sup> and 4<sup>th</sup> gear at WOT. It is normally at 128, which means no change. When the number is raised, each number equals .35 degrees. So if you raise the number to 131, you have added about 1 degree of timing. The max is 140, which is an additional 4.2 degrees. The min is 125, which subtracts 1 degree.

You can see where this is currently set by turning the key on/engine off, setting your selected parameter to 2 (see below on how to select a parameter), and looking at BLM on your scantool, *or* cell 14 (bottom row, 3<sup>rd</sup> cell) on Directscan.

### Adjustment Procedure

To adjust, you will need a scantool and the ability to temporarily unplug the airtemp (MAT) sensor by the air filter. You could also install a switch to disconnect the airtemp sensor easier.

#### To select a parameter:

1. With key on/engine off, LV8 on your scantool will now show which parameter you will be adjusting.
2. Turn the A/C on. LV8 will cycle from 0 to 2.
  - 0 – WOT Fuel (when you turn the key on, “0” is the default)
  - 1 – WOT timing, 1<sup>st</sup>/2<sup>nd</sup> gear
  - 2 – WOT timing, 3<sup>rd</sup>/4<sup>th</sup> gear
3. Turn off the A/C when you are at the setting you would like to adjust. Make sure it stops at the parameter you want.
4. DO NOT turn the key off.

#### To adjust the parameter you selected:

5. Unplug the airtemp sensor (MAT) by the air filter. This turns on “program mode”.
6. Monitor your selected parameter on the scantool by looking at BLM.
7. Turn on the A/C. This will start incrementing your selected parameter about once per second. It will increment until it hits the high limit, then it will start over from the lower limit.
8. When you reach the value you want, turn the A/C back off.
9. Plug the airtemp sensor back in.
10. You're done!

### Notes:

No programming will take place unless the airtemp sensor is unplugged. So don't worry if you leave the A/C on, you won't accidentally program anything.

If you're A/C is not charged, the programming may not work. You can “jump out” out the A/C pressure switch plug located on the A/C accumulator for programming to operate properly.

There may be a stored malfunction code (code 23) because the airtemp sensor was unplugged, but this is ok. It should not turn on the SES light, and will not affect anything. Don't try to reset the ecm to get rid of the code, or you will lose your settings.

If the battery or ecm is disconnected, the memory will be erased and your settings will be lost (they will return to 128). I recommend periodically looking at the saved values to make sure they have been retained.

Feel free to contact me with any questions!