

MAF TRANSLATOR

**For Buick GN, T-Type
Pontiac Turbo Trans-Am**

Installation

The MAF Translator and Translator Plus are easy to install. The MAF Translator is a simple plug-in, while the Translator Plus requires connection of the Spark signals into the vehicle's electrical harness. Having the factory service manual is a great help in installing these devices.

Test fit all connections described below before selecting a mounting location for the unit. A variety of extension harnesses are available to allow mounting the unit almost anywhere. When mounting the unit under the vehicle's hood, select a location away from sources of heat and water splash/drainage.

Be sure to route all wires away from injector, spark plug and coil wires to avoid interference.

Connecting the MAF signals:

- Locate the MAF (Mass Air Flow) sensor. It is in the path of incoming engine air between the air filter and **the** throttle body.
- Unplug the factor harness connector, bend the lock tab out slightly and gently unplug.
- In the case of a sensor retrofit, replace the factory sensor with the new one.
- Plug the MAF Sensor pigtail of the Translator into the MAF
- Plug the Vehicle harness into the MAF Harness Pigtail of the translator. In case of certain sensor retrofit cases an adapter harness may be necessary.

LT1, LS1, and Late-model vehicles

CAUTION, the connector from the Translator to the Vehicle harness is NOT KEYED and can be inadvertently reversed. Reversing the connector will damage the MAF. Double and Triple check the connection. The Pink wires must line up. The Yellow wire in the harness must line up with the Green wire from the translator. The connector pin letters will not match. BE SURE TO CHECK AND RECHECK TI-HS CONNECTION.

CAUTION, the MAF signal connector from the translator may be difficult to engage in the vehicle harness connector. This is due to misalignment of the connector pins. If the connectors will not push together with moderate force inspect/correct the pin centering in the MAF signal output connector.

CAUTION, the vehicle harness connector pins may have corroded or aged. Intermittent connections will cause unpredictable results. Please inspect, clean, and/or re-tension the connector pins during the installation process.

Connecting the Spark signals (Translator Plus only):

- Locate the EST signal wire. On GM vehicles this wire is almost always white and runs from the ECM/PCM to the coil/module. This wire controls the firing of the ignition coil and thus the spark advance timing. This wire must be cut and spliced unless a plug-and-play adapter has been purchased.
- If a Plug-and-Play adapter has been purchased, install it according to it's instructions. Otherwise cut the EST wire with enough slack to be able to strip and crimp (or solder) on the Spark pigtail. The white wire of the pigtail goes to the wire that connects to the ECM/PCM. The Gray wire goes to the wire that connects to the Coil/Module. Before crimping or soldering the connections slide a piece of shrink tubing over the end of the pigtail wires.

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Crimp or twist & solder the pigtail wires to the cut ends of the vehicle harness and cover with the shrink tubing. Heat the shrink tubing with a heat gun or a match/lighter (CAREFULLY!) to seal the splices. If 'shrink splices' have been supplied, be sure to heat shrink the ends of the splices after crimping the connections.

- Plug the Spark pigtail from the Translator Plus into the Vehicle Pigtail or the Plug-and-Play adapter. Put the Spark signal jumper plug in a safe place. In case of removal of the Translator Plus from the vehicle it can be plugged into the vehicle pigtail to reconnect the EST signal.

DESCRIPTION

The MAF Translator (MAFT) and Translator Plus (T+) units are small devices intended to allow the vehicle owner to adjust the fuel delivery and spark advance (T+) of the engine. This is accomplished by intercepting the controlling signals going to and from the PCM (Powertrain Control Module). By modifying these signals the rate of fuel delivery and amount of spark advance is directly adjusted. These adjustments are not accomplished by indirect means. For example, MAFT and T+ adjust spark advance by modifying the spark control signal (EST) and not manipulating coolant or intake air temperature signals. For this reason, the warm-up driveability is not affected.

The user adjustments are inside the unit. With the exception of MAF BASE in a retrofit application, the controls adjust in a logical manner. Zero is the 'no change' position with clockwise rotation increasing spark advance and fuel delivery (richer); and counter-clockwise rotation reduces spark advance and fuel delivery (leaner).

The MODE switch is a 4 position 'DIP' switch used to set the basic application information

Switch	Comment
1	On=6 cylinders Off--8 cylinders
2	On = Old style ECM (Turbo V6, TPI V8) Off = New style PCM (LTI,LS1,SC3800,Truck)
3	On = Output signal limited (blocks DTC Code 102 on OBDII vehicles) Should also be set to ON for GN / retrofit vehicles that are NOT running extender chips
4	ON = 85 mm MAF on cars that were originally equipped with 3.5"MAF 'Late model' vehicles

Use a small screwdriver or similar instrument to gently set the switches. The warranty does not cover 'Gorilla Damage'. Note: the switches are only checked once at Key-On.

The MAF BASE adjustment is for selecting the basic airflow characteristics of the MAF sensor in relation to the vehicle/engine configuration. It can be used to compensate for non-stock size injectors, modified or transplanted MAF sensors, or other basic fuel delivery offsets. The adjustment has effect over the entire airflow range.

Base	Style MAF with Old ECM (Turbo V6)	New Style MAF & PCM
0	3.5" LT1 /LS1 MAF sensor	No change
1	3.5" LT1 /LS1 MAF sensor	richer at idle
2	3.5" LT1 /LS1 MAF sensor	leaner at idle

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3	3" Caprice/Impala MAF sensor	No change	15% Rich
4	3" Caprice/Impala MAF sensor	richer at idle	20% Rich
5	3" Caprice/Impala MAF sensor	leaner at idle	25% Rich
6	85mm Plastic MAF	No change	50% Lean
7	85mm Plastic MAF	richer at idle	45% Lean
8	85mm Plastic MAF	leaner at idle	40% Lean
9		Not Used	35% Lean
A		Not Used	30% Lean
B		Not Used	25% Lean
C		Not Used	20% Lean
D		Not Used	15% Lean
E		Not Used	10% Lean
F		Not Used	5% Lean

The MAF WOT adjustment is for adjusting the fuel delivery under wide-open throttle conditions. The fuel delivery correction is only applied during WOT conditions in order to prevent the ECM/PCM from compensating for the change.

MAF WOT	
0	No change
1	2% Rich
2	4% Rich
3	6% Rich
4	8% Rich
5	10% Rich
6	12% Rich
7	14% Rich
8	Not Used
9	14% Lean
A	12% Lean
B	10% Lean
C	8% Lean
D	6% Lean
E	4% Lean
F	2% Lean

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The SPARK BASE adjustment is for making adjustments to the spark advance, the change is constant over the entire RPM range.

SPARK BASE	
0	No change
1	2Degrees Advanced
2	4Degrees Advanced
3	6Degrees Advanced
4	8Degrees Advanced
5	10Degrees Advanced
6	12Degrees Advanced
7	14Degrees Advanced
8	Not Used
9	14Degrees Retarded
A	12Degrees Retarded
B	10Degrees Retarded
C	8Degrees Retarded
D	6Degrees Retarded
E	4Degrees Retarded
F	2Degrees Retarded