MaxxECU

engine management

MaxxECU Plugin
General instructions - English

Important information!
(must be read before installation)

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1 - Introduction

This manual covers general Plugin installation and should only be seen as a complement to the MaxxECU Handbook.
MaxxECU Handbook and Plugin Engine Specifics must be read!

Text marked with "blue" in this manual are references to the PC software MTune.
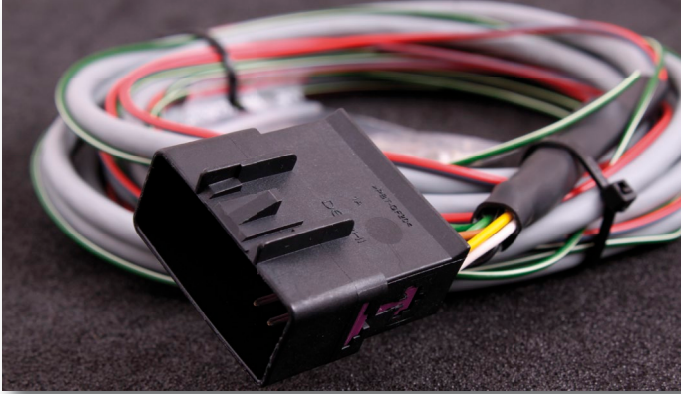Internal references to sections or pictures are highlighted in **bold text**.

Fig 1b - Wiring harness with pre-mounted connectors used for extra input/output.

Fig 1c - Pneumatic hose and fittings.
Used to connect MaxxECUs internal MAP-sensor to engine inlet manifold. If vehicle equipped with air flow meters, the MAP-sensor replaces it.


Fig 1d - Exhaust gas temperature sensor (EGT) can be used with MaxxECU Plugin directly.
Optional and not included!

Fig 1e - Pressure sensors can be connected to MaxxECU analog voltage input (0-5V).
Optional and not included!

Fig 1f - External MAP-sensor can be used on analog input (0-5V) if internal (400kPa) is to small for ex. high boost applications (over 3bar boost) or back-pressure measuring. Optional and not included!
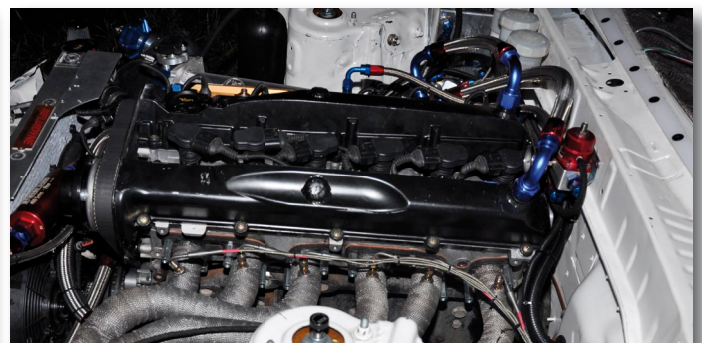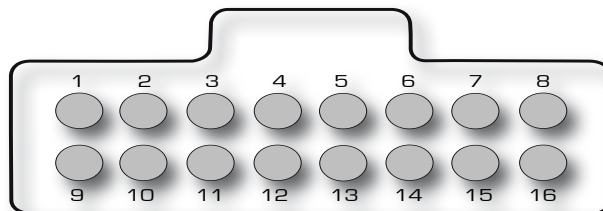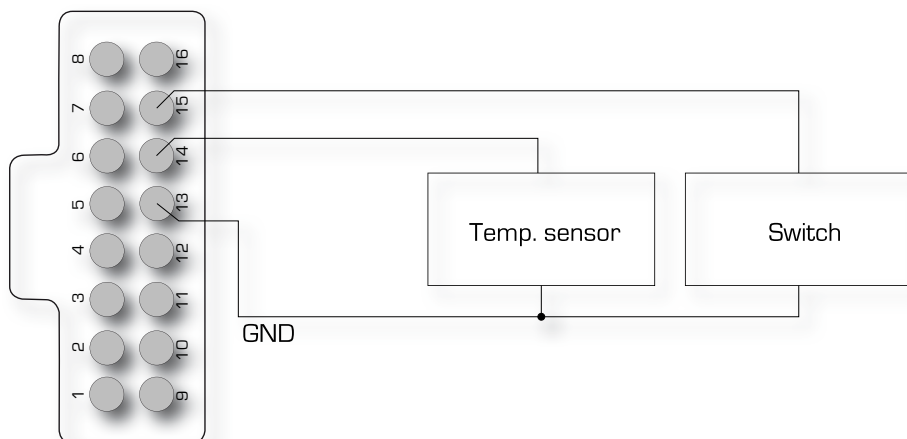

2 - ECU Location and installation

Please see separate document - Engine Specifics

3 - Extra 16-pin connector
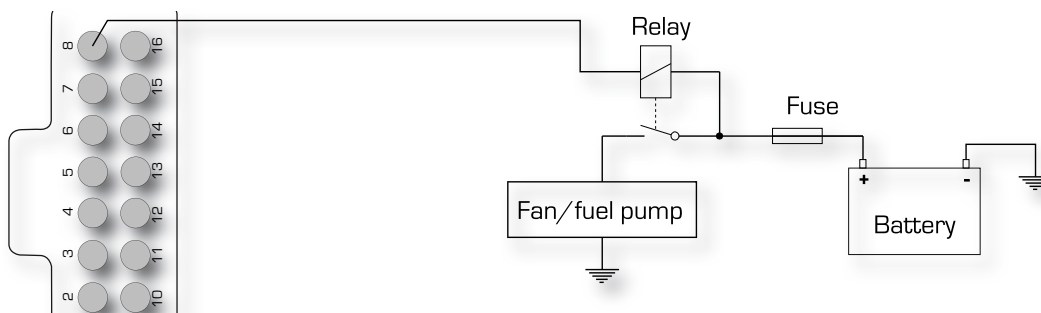
Please see separate document - Engine Specifics

3.1 - Wiring examples

GND

Temp. sensor

Switch

3.2 - Larger fuel pumps?
MaxxECU Plugin uses stock fuel pump/controller.
If using bigger fuel pump(s) you might consider controlling them from one of Maxx-
ECUs flexible outputs (GPO or INJ) and the below wiring is an example.

Relay

Fuse

Fan/fuel pump

Battery
+   -

**Remeber: The above is just examples, please check separate document - Engine Specifics
regarding which inputs/outputs are available on your Plugin!**

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3.4 - Wideband lambda sensor

New and modern vehicles are equipped with factory mounted wideband sensors (MaxxECU uses stock sensors and sensor is not then included).
Older cars do not have wideband sensors mounted from factory (MaxxECU package includes a Bosch LSU wideband sensor to be mounted. Please see separate document - Engine Specifics

3.4.1 - MaxxECU Wideband wiring (recommended)
Use the supplied cable which has premounted wires in the 16-pin connector.

Fig 3.4.1a - Bosch LSU connector. Not included if vehicle have factory mounted wideband sensor(s).

Fig 3.4.1b - Bosch wideband sensor. Not included if vehicle have factory mounted wideband sensor(s).

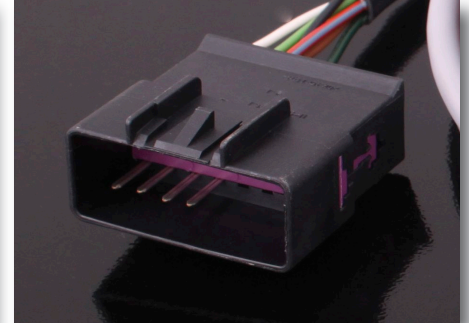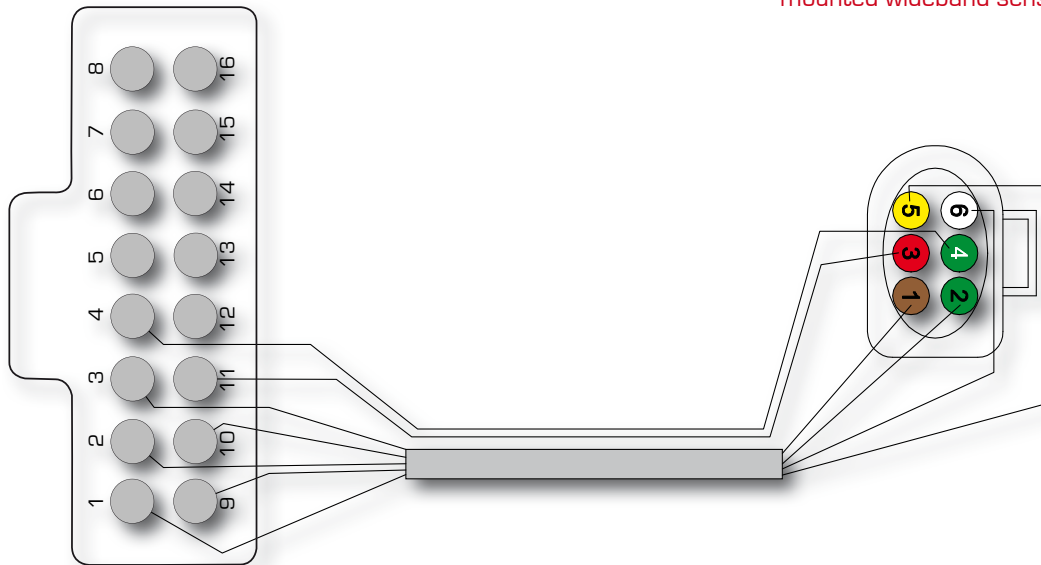

Fig 3.4.1c - Extra wiring harness. Extra 16-pin connector with premounted cables for lambda. Lambda wires is not pre-mounted if vehicle have factory mounted wideband sensor(s).

3.4.2 - Connection of external lambda electronics.
MaxxECU has the possibility to take use of 0-5V lambda sensor signal outputs (Innovate, AIM, techedge, Zeitronix electronics).

Please remove premounted pins in 16-pin connector which is used with internal wideband controller only.

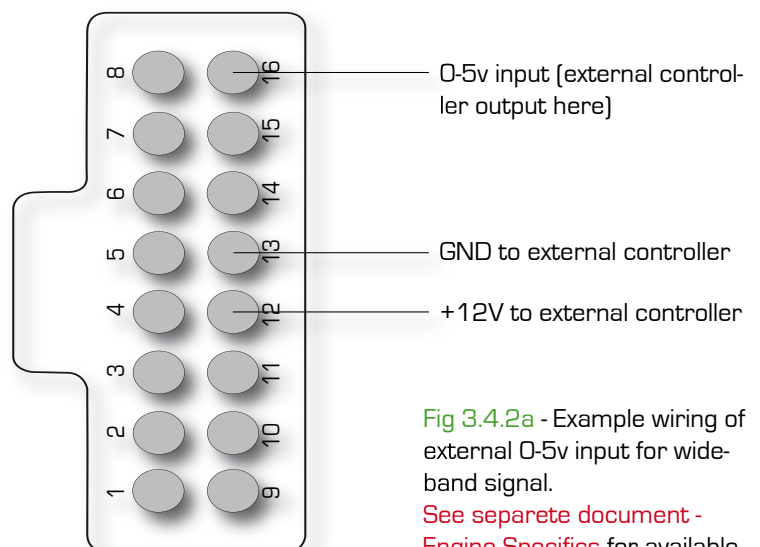Use available 0-5v Input in connector, see separete document - Engine Specifics.

0-5v input (external controller output here)

GND to external controller

+12V to external controller

Fig 3.4.2a - Example wiring of external 0-5v input for wideband signal.
See separete document - Engine Specifics for available inputs.

6.1 - Engine start!

Before attempting to start the engine, please read MaxxECU Handbook to get a tour in MTune PC-software.
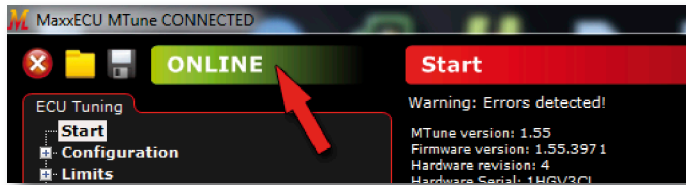

Fig 6.1a - Establish PC communcation with MTune. [**Handbook 4.2.2**].
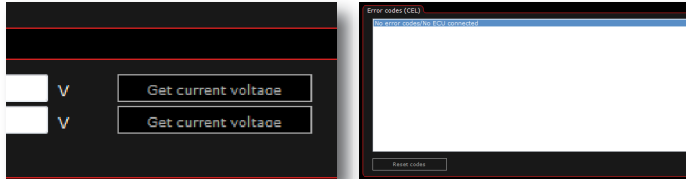

Fig 6.1b - Check all connected sensors

Fig 6.1c - Calibrate Throttle Position Sensor (TPS) [Inputs –> Sensors (CLT,IAT,TPS)]. [**Handbook 5.2.2**] Make sure no fault codes are stored [**Handbook 4.3.3**]
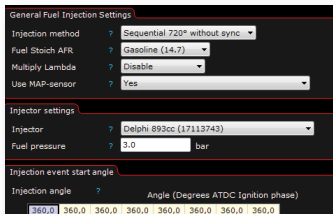

Fig 6.1d - Quick tour in MTune settings

At delivery, MaxxECU has the correct basemap for you vehicle installed.
But be sure to check the below before attempting to start!
The installed basemap is only used for engine startup and transportation to a tuner!

- Dwell settings: Ignition –> Ignition settings.
- Correct ignition system: Ignition –> Ignition settings.
- Correct fuel type and injector selected: Fuel –> Fuel inj general.
- Correction tables: Fuel –> Prime, Fuel –> Fuel start/warmup/ase, Fuel –> Fuel IAT trim.
- Reasonable inputs for engine control: RealTime Data –> Engine Control.
- Correct cylinders, firing order, engine volume: Configuration –> Engine settings.
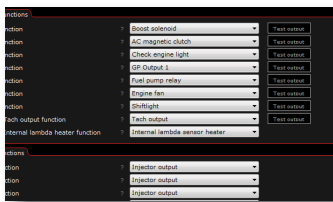- Correct Trigger system: Inputs –> Trigger/Home inputs.

Fig 6.1e - Plugin Triggersystem
See separete document - Engine Specifics

Fig 6.1f - **Crank sensor position from TDC**
Crank sensor position must be specified in MTune for MaxxECU to control fuel and ignition accurate. A timing light must be used to ensure correct ignition timing.

Sensor position: Inputs –> Trigger/Home inputs . "First tooth angle", "Trigger angle".
Lock ignition timing: "Lock ignition to 0 and disable fuel" in "Lock ignition".
Lock ignition timing: Ignition –> Ignition settings –> "Lock ignition angle" and "Lock angle".

Read chapter 5 in MaxxECU Handbook!

7 - Final words

We would like to thank you for your confidence in your choice of motorsport electronics. We have been working extremely hard, and put a lot of effort creating an engine management system like MaxxECU.

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