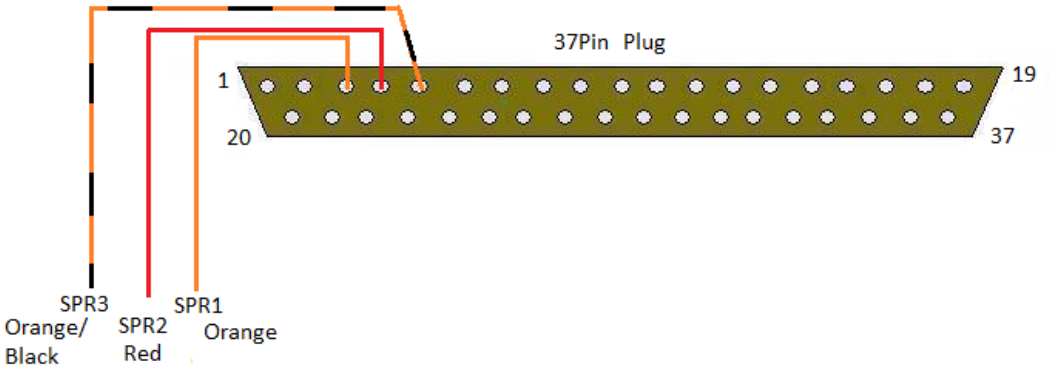
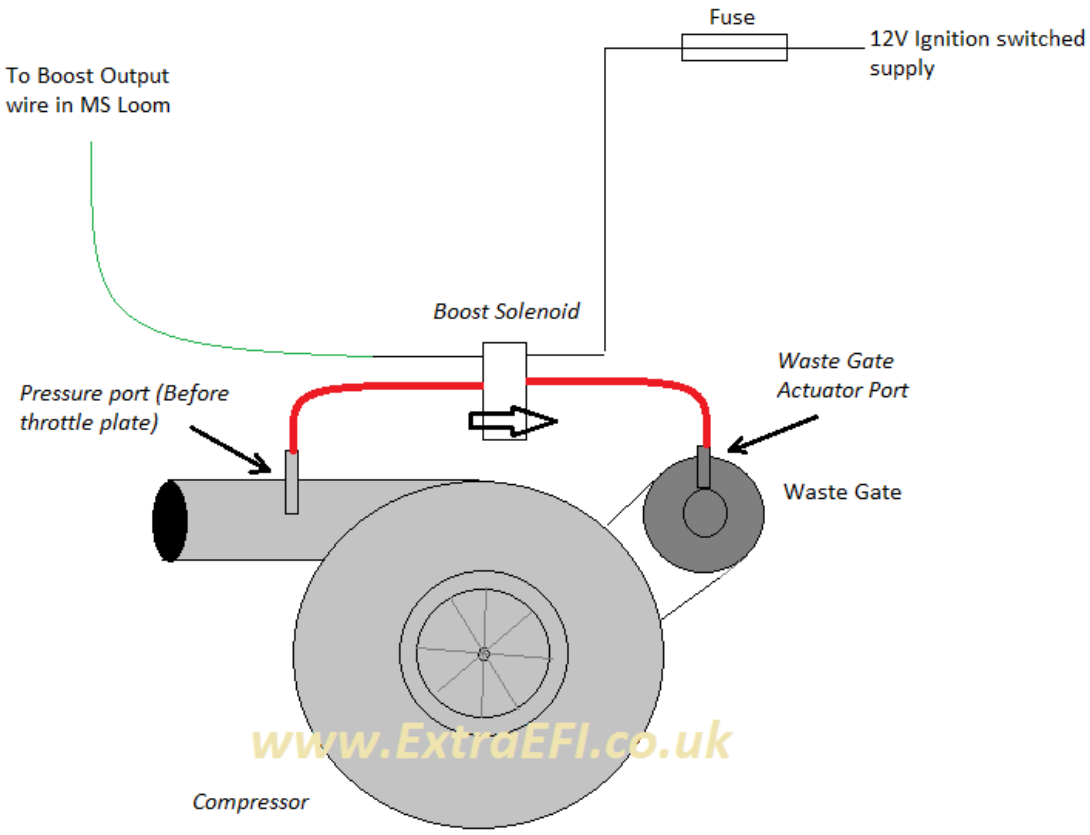
Boost Control

Pins 3-6 (SPR1-4) are used for any options you may have asked for when ordering your ExtraEFI MegaSquirt ECU.

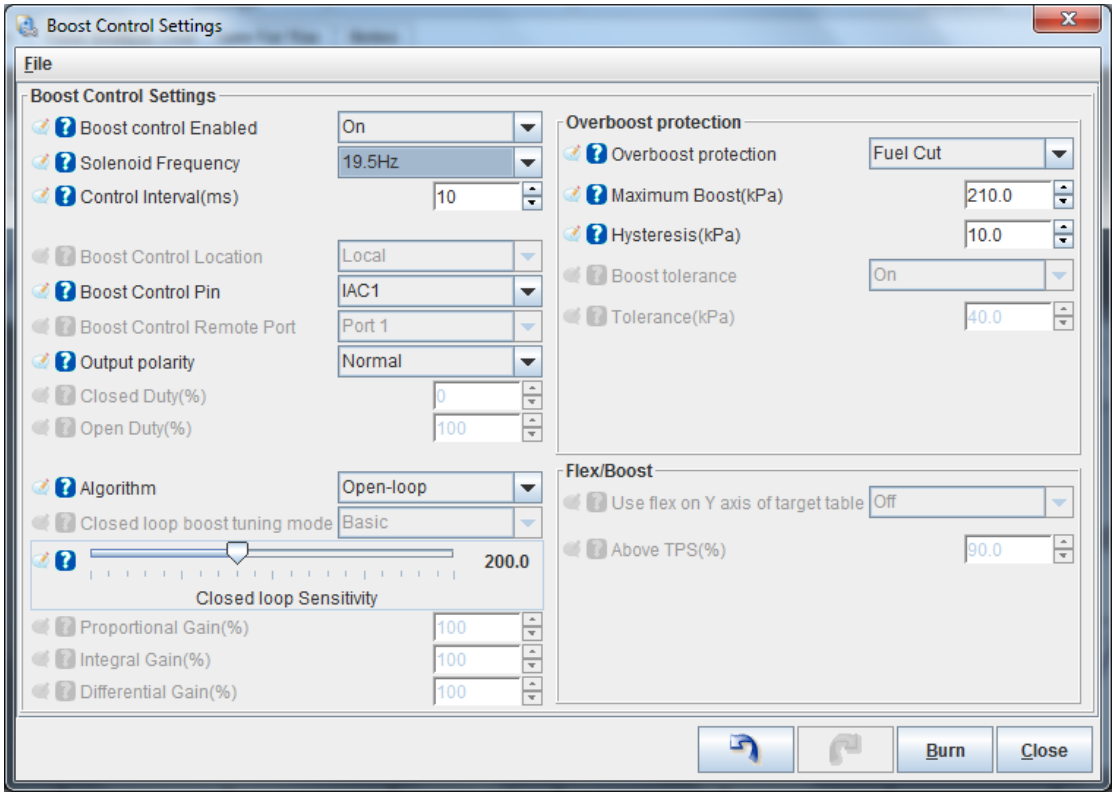




The waste gate is used to leak pressure away from the inlet so as to maintain a smooth increase or maximum level of boost. The Boost Solenoid controls the amount of leakage by limiting the pressure the Waste Gate Actuator sees. To do this it switches

on and off very quickly (PWM), so the pressure fed to the gate is reduced. Generally if the Solenoid is off the boost pressure will get straight to the actuator, so it leaks a lot of boost away. As the solenoid actuates this reduces the boost pressure seen by the waste gate, and less boost is leaked away, therefore more goes into the inlet.

MS2Extra



The **Solenoid Frequency** is the pulse width that is used to control the solenoid, this will need to be experimented with to get your system to react best to the controller.

The **Control Interval** is how often the ECU will look at the boost pressure and adjust the setpoint in mSecs.

Boost Control Pin is the output port that's used by the ECU to control the boost. See the sticker on the bottom of the ExtraEFI ECU or the loom for details. (PnP ECUs use PA0, this is available on the db15 loom supplied with the ECU)

The **Output Polarity** is for setting the valve so it operates the right way, generally as PWM Increases the Boost Increases, so "Normal" for that way round.

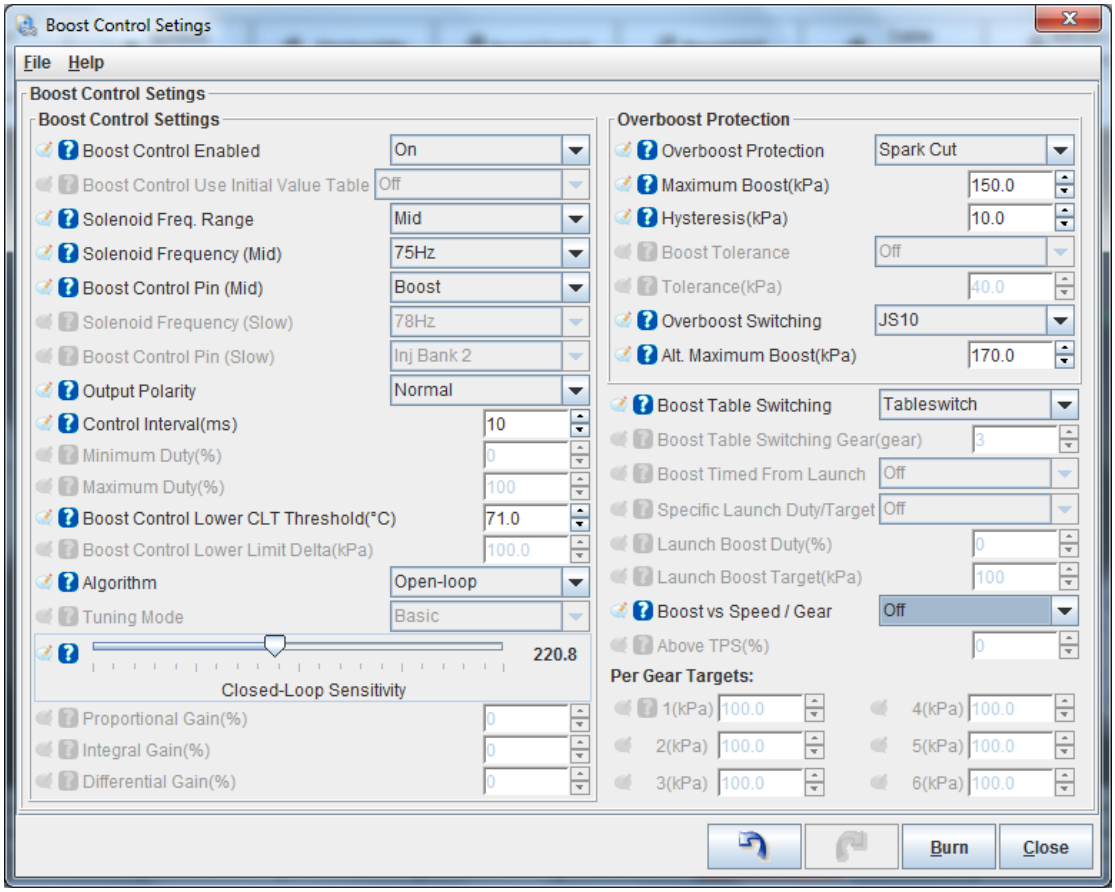
Algorithm –
Open Loop means the output is directly mappable in the Boost Control Duty Table
Closed Loop means it uses the mappable Boost Control Target Table values to fine tune the PWM output in order to maintain the desired boost level. The level at which

it corrects can be “**Basic**” using the slider to set how sensitive the correction is, or “ **Advanced**” uses the **PID** seeking method:

The **Proportional Gain** is how hard it seeks the target.

Differential Gain means how it will react to sudden changes, it's roughly a predictive term, but for best results it probably has to be kept to a small value. Tune proportional first, leave differential for later

MS3



The MS3 settings are similar to the MS2-Extra settings, but with the ability to switch in another “Over Boost” set point and switch boost target tables.
If a VSS is wired into the ECU then it is also possible to run different boost levels within each gear.