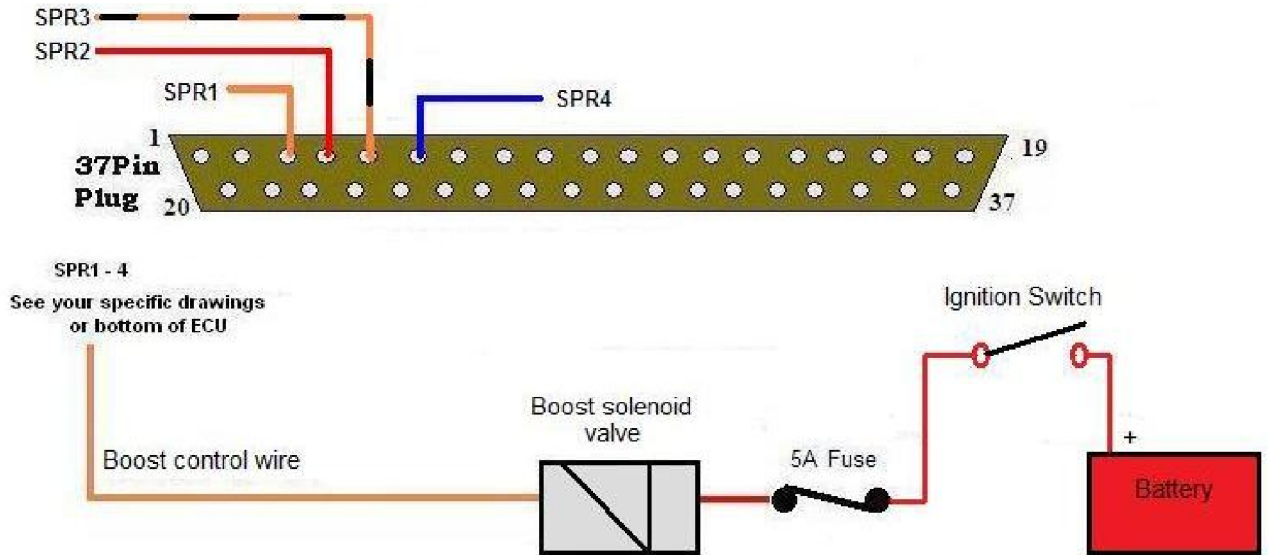




## Boost Control



This system is used to control the boost pressure from a turbo via a fast acting valve on the waste gate, but it is still **EXPERIMENTAL** and must be used with **caution!**  
*Please note: A TPS is needed for this function to work.*

In **MS1-Extra** set **X4 (JS2)** function in the **Codebase** and **Outputs** function settings to **Boost**.

In **MS2-Extra** goto **Advance – Boost Control** and set **Boost Enable ON**, then set the **Boost Control Pin** to the pad used (see under the ECU for this)  
*Note: For MS2, if you don't use the Fidle output then all the ExtraEFI ECUs can set the Fidle output as Boost because all my ECUs have a high powered output for Fidle.*

### Closed Loop Table

Boost kpa target 1						
tps%	kpa					
100	140	140	240	250	250	250
95	140	140	200	200	200	200
85	140	140	170	180	180	190
75	130	130	150	150	150	170
65	100	100	100	100	100	100
21	100	100	100	100	100	100
RPM						
	1000	2000	4000	5000	6000	8000

## Open Loop Table

Boost duty target
✕

File
Tools

tps%	duty					
100	70	75	85	85	95	95
95	70	75	80	85	90	90
90	70	75	75	80	85	85
85	55	60	70	70	70	70
75	35	35	45	45	45	45
30	20	20	40	40	40	40

RPM

2000	4000	5000	6000	7000	8000
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Boost Controller Parameters
✕

Solenoid PWM Rate 39.0 Hz

Controller Update (ms) 20

Proportional Gain (%) 49.8

Differential Gain (%) 9.8

Increase Voltage = Increase boost

Switch Boost Target Tables when  
 NDS on or JP1 pin6 low Dont Switch^^

Closed loop kpa limit (kPa) 255

This is the difference between target boost level and actual. If greater than this limit then goes open loop and uses duty cycle from table

Note. 0% duty = low boost, 100% = full boost

Typical ambient pressure (kPa) 0

F1
Fetch From ECU
Burn To ECU
Close

The **Solenoid PWM rate** 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 **Controller Update** is how often the ECU will look at the boost pressure and adjust the setpoint in mSecs.

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

The **Increase Voltage** is for setting the valve so it operates the right way, generally as PWM Increases the Boost Increases.

**Switch Boost Target** Tables can be used when the Table Switching circuit is installed (see [HERE](#)) this simply switches between 2 target KPa tables.

**Closed Loop KPa limit** is the amount of boost difference allowed between the 6x6

**Target KPa table** and the actual boost value (MAP). E.G. if this is set to 50KPa then as long as the target was within 50KPa of the actual MAP KPa the ECU will continue to run closed loop (i.e. adjusting the PWM to try to get to the target value). Once the difference goes over 50KPa then the 6x6 **Target KPa table** is ignored and the 6x6

**Boost Duty Cycle Table** is used to calculate the PWM rate.