



Document/File name TTT802_Emerald_K3.docx	Document Type External	Revision 1
First Revision, Sign and Date Bln 2010-04-20	Updated Revision, Sign and Date	Document Status and Sign Approved Lan
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Adjust Settings in the Emerald K3 according to this information...

Setup Activation conditions and Engine control settings as on the picture below:

EMR Full throttle gear shift

Activation conditions:

- Flat shift enabled:
- Clutch input: DOWN
- Throttle position at or above: 0 %
- Engine speed at or above: 0 RPM
- Re-activate delay: 0 mS

Engine control settings:

- Retard ignition to: 0,0 *BTDC
- Power cut type: Continuous
- Minimum engine speed: 0 RPM

Power cut table

Selected Gear	Cut time (Secs)
1	0.50
2	0.50
3	0.50
4	0.50
5	0.50
6	0.50
7	0.50
8	0.50

Induction type:

Note: Both Engine speed at or above & Minimum engine speed is now controlled by the TTT802. The “Retard ignition to” setting might needs some adjustment. You can retard as far as -30 degrees BTDC (30 degrees ATDC).

Note: The Power cut table is not used because we set the “Power cut type” to Continuous.



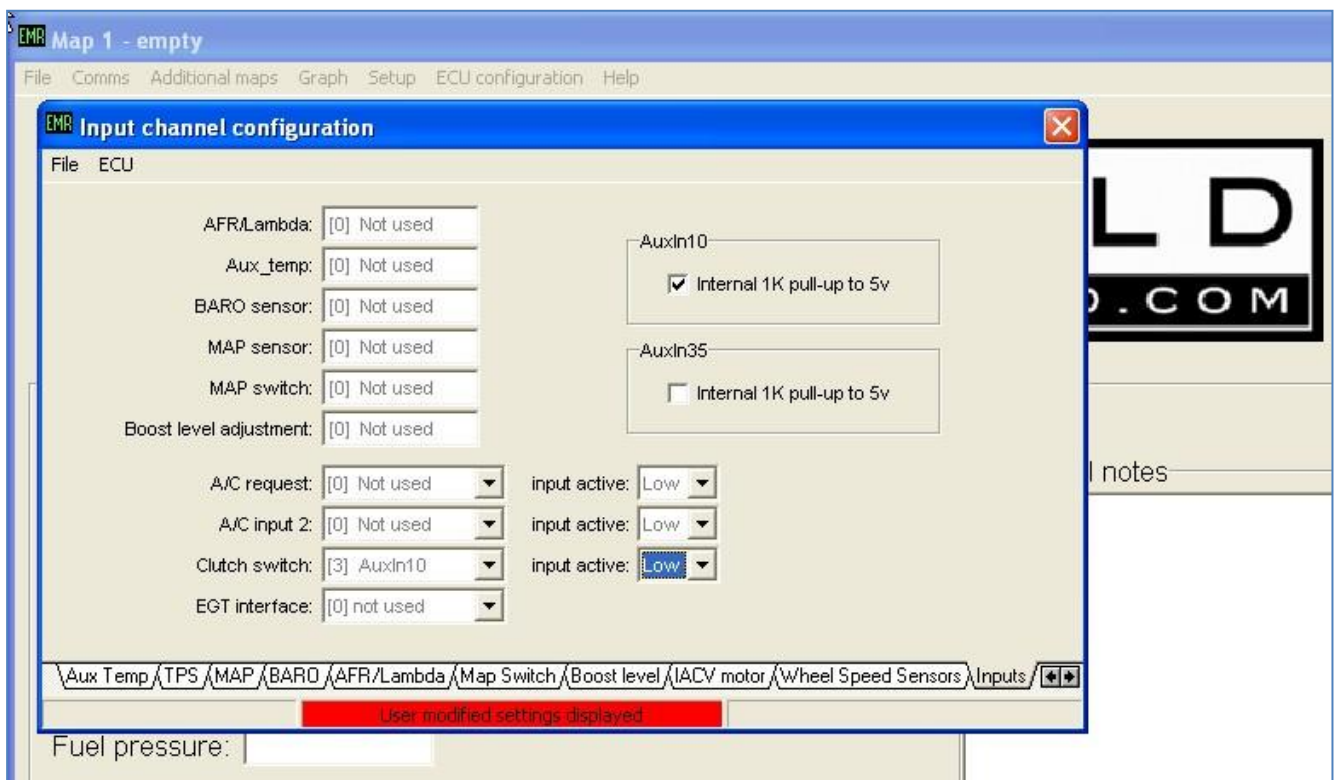
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Setup Input channel configuration:

Select Clutch switch = AuxIn10. (The clutch switch is our flatshift function input)

Set input active = Low.

Mark box Internal 1K pull-up to 5v.



Note. In this example we use AuxIn10 as the flatshift input. It is also possible to use AuxIn35.



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Wire connections.

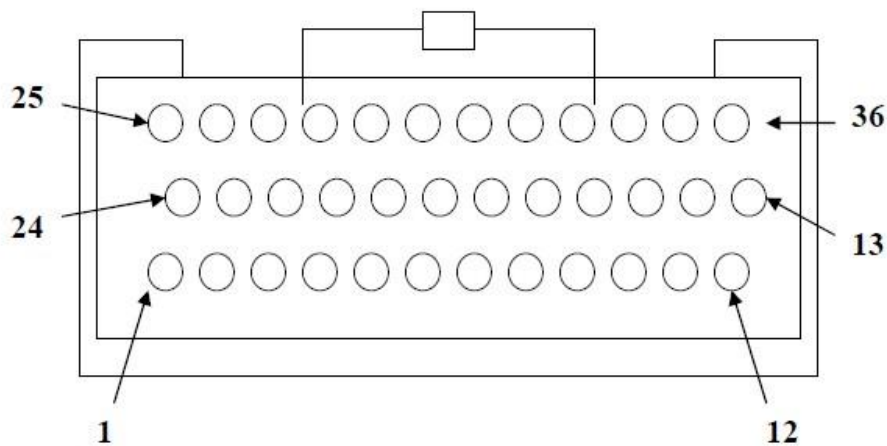
Use extension cable (TTT Part # 12-650-6) to interface the Emerald K3 with the TTT802 cable harness (TTT Part # 12-630-8).

Red – Cut Open Collector – connect to Emerald K3 AuxIn10 / Pin 10

Blue – Cut Gnd – connect to Emerald K3 ECU Earth / Pin 29

White – Ign pulse – connect to Emerald K3 Tacho output signal / Pin 12

Black - Gnd Ign pulse – connect to Emerald K3 ECU Earth / Pin 29



Rear view of connector
(wire side)



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Document and Product Description

Interfacing Emerald K3 to TTT802 Gearshift Controller

Pin no.	Connection	Comments
1	Injector driver 4 / AuxOut1	Injector driver 4 or user assigned output
2	IACV2 / AuxOut2	IACV stepper motor channel 2 or user assigned output
3	IACV1 / IACV-PWM / AuxOut3	IACV stepper motor channel 1, IACV pwm control or user assigned output
4	Ignition driver 3 / Main Relay Control	Ignition driver 3 or main relay control output according to ECU configuration
5	Ignition driver 2 / AuxOut5	Ignition driver 2 or user assigned output
6	Cooling fan relay control	Output switches to earth to activate relay & fan
7	Oxygen sensor signal input	0-1v input from narrow band sensor
8	Throttle pot signal input	0-5v input from throttle position sensor
9	+5v sensor supply	5v output, 100mA max supply for sensors such as TPS, MAP, etc
10	AuxIn10	User assigned 0-5v input. An internally switched pull-up resistor can be enabled on this input.
11	Ignition sense input	+12v supply via ignition switch
12	Tacho output signal	0-12v pulsed output
13	Immobilisor/EGT digital input	Digital input from a Lucas 5AS immobilisor or VAG EGT sensor interface
14	+8v sensor supply	+8v supply for external sensors
15	Cam phase or custom input	Cam sensor input (if required)
16	Air temperature signal input	NTC temperature sensor input
17	Injector driver 5 / Ignition driver 4 / AuxOut17	Injector driver 5, Ignition driver 4 or user assigned output according to ECU configuration
18	Oxygen sensor signal earth	
19	Shift-light driver / AuxOut19	Shift-light output (switched earth) or user assigned output according to ECU configuration
20	Fuel pump relay driver	Switched earth
21	Injector driver 6 / AuxOut3	Injector driver 6 or user assigned output
22	IACV3 / AuxOut22	IACV stepper motor control or user assigned output
23	Injector driver 2	
24	Injector driver 1	
25	Ignition driver 1	
26	Injector driver 3 / AuxOut26	Injector driver 3 or user assigned output
27	IACV 4 / AuxOut27	IACV stepper motor control or user assigned
28	+12v Ignition supply	Supply from main relay or common with pin 11
29	ECU earth	Good earth (direct to battery)
30	Sensor earth	Common earth for air, coolant & throttle sensors
31	Main trigger signal input	Crank sensor or digital distributor input signal
32	Main trigger sensor earth	Earth return for main/cam trigger sensors
33	Coolant temp signal input	NTC temperature sensor input
34	AuxIn34	User assigned 0-5v input
35	AuxIn35	User assigned 0-5v input. An internally switched pull-up resistor can be enabled on this input for temperature sensors.
36	AuxIn36 / AuxOut36	User configurable input or output pin