Syvecs LTD

V1.3

Audi TTRS / RS3 MK2

Only CEPA Engines

This document is intended for use by a technical audience and describes a number of procedures that are potentially hazardous. Installations should be carried out by competent persons only.

Syvecs and the author accept no liability for any damage caused by the incorrect installation or configuration of the equipment.

Please Note that due to frequent firmware changes certain windows might not be the same as the manual illustrates. If so please contact the Syvecs Tech Team for Assistance.

Support@Syvecs.com

Contents:

This Kit is Designed for the CEPA and CEPB Engines only

The kit comes with the following:

1 x Syvecs S7Plus

1 x GDI12 Driver

1 x Wiring Adaptor

Installation

1.)   Remove the Negative Terminal from the battery on the Vehicle

2.)   Remove the OEM Engine control modules found in the engine bay under the Window Panel

3.)   Remove the OEM Ecu Holder which is held in place with 2xM6 nuts

4.)   Replace with the Syvecs kit

Specific Software Options

Model Type

Supports both the DSG and Manual Trans

I/O Config – Pin Assignments – Car Code 3

0 = DSG
1 = Manual

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DSG TCM Logging

The Syvecs kit allows logging of the Clutch pressures from the DSG Gearbox. To enable this Set I/O Config – Pin Assignments - Car Code1 = 1

IMPORTANT – WHEN DOING GEAR RELEARNS OR COMMUNICATIONS WITH THE DSG ECU VIA VAGCOM SET THIS CARCODE1 = 0

Injector Size is set in Fuel Consumption – Injector Consumption Scaling for MPG Gauge

Injector Size / 60 = ml/s value

OEM DI Injectors are set in the Base map @ 15ml/s
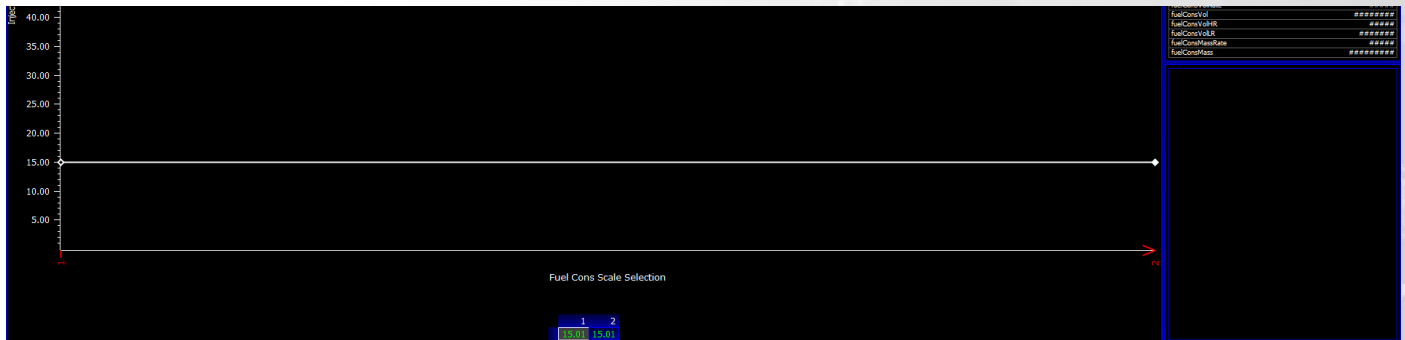
FAQ and Help

Q) Do you control the OEM Intake Flaps

A) Yes, This is set in Output Functions – Fan6 (Intake Flap), Its controlled Based on RPM vs Manifold Pressure

Q) Do you control the OEM Exhaust Valves

A) Yes, This is set in Output Functions – Fan7 (Exhaust Flap Control), Its controlled Based on Load vs Calibration Position

Q) How is the Electronic Blow of Valve controlled

A) This is found in Output Functions – Fan5 (Turbo Recirc) , Its controlled via Throttle Angle, Manifold Presure and RPM

Q) Can I install different in tank pump?

A) Yes, the Syvecs communicates with the OEM Fuel Pump Ecu to allow PWM Control of the Pump so it can be adjusted to suit your new pump. This is found in Output

Function – Basic PWM 2 – (Intake Fuel Pump)

Q) What of the original features will no longer work?

A) All original features will function properly

Q) Can you change Calibration Switch Position from inside the car

A) As not all the RS3/TTRS come with Cruise control we made the Sport Button act as a Cal Up Switch as default which gets reset back to 1 with key off and on. It will

also turn on the sport mode output via the Fan8 (SPORTMODE) table, Even Numbers mean sport mode is on but this way allows calibrators to have adjustable maps via

OEM buttons.
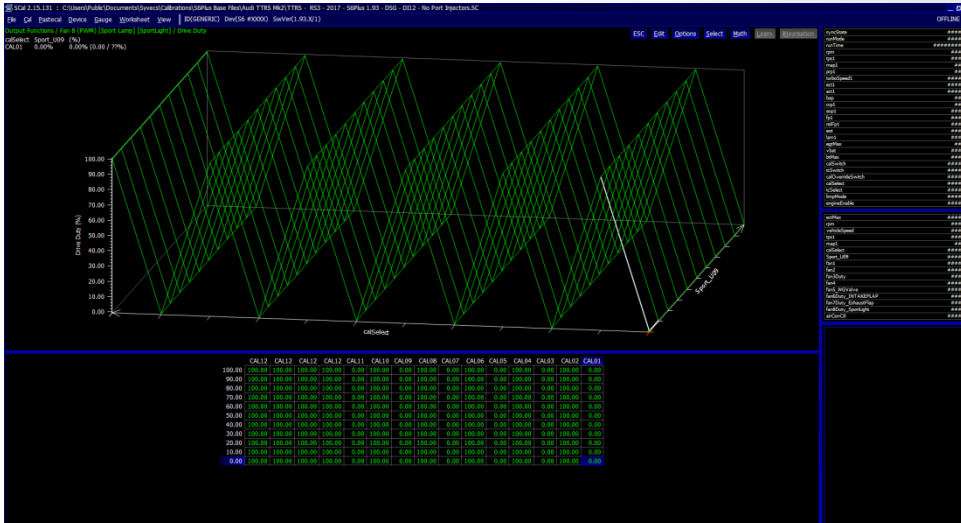
If you have cruise control option then SlaveAN26 will output different voltages for Up, Down and Cancel button. These can be used for Cal Up and Down assignments

but it will require changes to the Fan8 (Sport Mode) table, Support@Syvecs.com can help with this

Q) Can we use the OBD port still to Log, Read Codes and Clear them on other ecus on the car like ABS?

A) Yes via the Use on VagCom - https://www.ross-tech.com/vag-com/

Q) How do I adjust the Port Injector Sizing

First set the Secondary Injector Opening times in RunMode Fueling – Corrections

After you need to set the Secondary multipler difference between the DI and Port under Run mode fueling – Correction – Secondary Multipler

OEM DI Injectors flow around 650cc.. So do 650 / (Port Injectors cc) to give a good starting point on Secondary multiplier

Ensure that the Secondary Injection Opening Time values are correct from your manufacture.

After Start the engine up and monitor the Lambda1 Value and FuelMltCll1 Value. Now go to Injector Split1 and increase the values up to 50% in the area and around

that the tracer is showing the engine is current at.

As the Ports start to blend in and you have the Split at 50% you need to be monitoring the Lambda1 and FuelmltCll1. If the values are different compared to before

when split was at 0% then adjust the Secondary multiplier live until they are the same with the split present.. Once that is good, set the Split back to 0%,

When the OEM DI Injectors now reach their limit the Syvecs ecu will automatically bring the ports in to maintain the desired fuel requirements, If you wish to bring the

port injectors in sooner then set the split table as required.

Email Support@syvecs.co.uk for a base map to suit your setup.

A			
	DESCRIPTION	CONNECTOR A	
	PART NUMBER	4-1437290-0	
	NOTES:	34 Way - Key1	

Syvecs Description	*Syvecs Pinout*	*Function*	
PWR CTR OUT	A1	MAIN RELAY OUTPUT	**Main Relay**
H-Bridge1 / SlaveOut1	A2	H-Bridge1	DBW
H-Bridge2 / SlaveOut2	A3	H-Bridge2	DBW
H-Bridge3 / SlaveOut3	A4	H-Bridge3	ADDITIONAL COOLANT PUMP RELAY
H-Bridge4 / SlaveOut4	A5	H-Bridge4	FAN
H-Bridge5 / SlaveOut5	A6	H-Bridge5	SPARE OUTPUT
H-Bridge6 / SlaveOut6	A7	H-Bridge6	VALVE FOR OIL PRESSURE CONTROL
H-Bridge7 / SlaveOut7	A8	H-Bridge7	SPORT LAMP
H-Bridge8 / SlaveOut8	A9	H-Bridge8	FUEL PUMP
FUEL1	A10	INJECTOR or PWM OUTPUT	PRIMARY INJECTOR 1
FUEL2	A11	INJECTOR or PWM OUTPUT	PRIMARY INJECTOR 2
FUEL3	A12	INJECTOR or PWM OUTPUT	PRIMARY INJECTOR 3
FUEL4	A13	INJECTOR or PWM OUTPUT	PRIMARY INJECTOR 4
FUEL5	A14	INJECTOR or PWM OUTPUT	PRIMARY INJECTOR 5
FUEL6	A15	INJECTOR or PWM OUTPUT	PORT INJECTOR 1
FUEL7	A16	INJECTOR or PWM OUTPUT	PORT INJECTOR 2
FUEL8	A17	INJECTOR or PWM OUTPUT	PORT INJECTOR 3
PWM1 / *FUEL9	A18	PWM OUTPUT	PORT INJECTOR 4
PWM2 / *FUEL10	A19	PWM OUTPUT	PORT INJECTOR 5
PWM3 / *FUEL11	A20	PWM OUTPUT	INTAKE MANIFOLD FLAP
PWM4 / *FUEL12	A21	PWM OUTPUT	WASTEGATE SOLENOID
PWM5 / *FUEL13	A22	PWM OUTPUT	TURBO RECIRC
PWM6 / * FUEL14	A23	PWM OUTPUT	EXHAUST FLAP
PWM7 / * FUEL15	A24	PWM OUTPUT	VVT1 INT
PWM8 / *FUEL16	A25	PWM OUTPUT	VVT1 EX
IGN1	A26	CYL 1 IGNITION OUTPUT	IGN1
IGN2	A27	CYL 2 IGNITION OUTPUT	IGN2
IGN3	A28	CYL 3 IGNITION OUTPUT	IGN3
IGN4	A29	CYL 4 IGNITION OUTPUT	IGN4
IGN5	A30	CYL 5 IGNITION OUTPUT	IGN5
IGN6	A31	CYL 6 IGNITION OUTPUT	DI Pump
PWRGND	A32	POWER GROUND	PwrGnd
PWRGND	A33	POWER GROUND	PwrGNd
PWRGND	A34	POWER GROUND	PwrGNd

B		DESCRIPTION	CONNECTOR B	
		PART NUMBER	3-1437290-7	
		NOTES:	26 Way - Key1	
PWRGND	B1	POWER GROUND	PWRGROUND	
CAN2L	B2			
CAN2H	B3			
KNOCK	B4	KNOCK		
KNOCK 2	B5	KNOCK 2		
PVBAT	B6	CONSTANT 12V		
IVBAT	B7	12v	12v	
LAM1A	B8	Lamv / LamD1+/ LamLun1	Pin6 on LSU4.9 Connector	
LAM1B	B9	Lami / LamD1- /LamIP1	Pin1 on LSU4.9 Connector	
LAM1C	B10	LamLIA1	Pin5 on LSU4.9 Connector	
LAM1D	B11	LamGND / LamLVM1	Pin2 on LSU4.9 Connector	
LAM1HEATER	B12	LAMBDA HEATER	Pin3 on LSU4.9 Connector	
IVBAT	B13	12V		
LAM2A	B14	Lamv / LamD1+/ LamLun1	Pin6 on LSU4.9 Connector	
LAM2B	B15	Lami / LamD1- /LamIP1	Pin1 on LSU4.9 Connector	
LAM2C	B16	LamLIA1	Pin5 on LSU4.9 Connector	
LAM2D	B17	LamGND / LamLVM1	Pin2 on LSU4.9 Connector	
LAM2HEATER	B18	LAMBDA HEATER	Pin3 on LSU4.9 Connector	
IVBAT	B19	12V		
KLINE	B20	Kline		
RS232RX	B21	RS232RX		
RS232TX	B22	RS232TX		
LANRX-	B23	Cat5 Pin2		
LANRX+	B24	Cat5 Pin1		
LANTX-	B25	Cat5 Pin6		
LANTX+	B26	Cat5 Pin3		

C		DESCRIPTION	CONNECTOR C	
		PART NUMBER	4-1437290-1	
		NOTES:	34 Way - Key2	

KNOCKGND	C1	KNOCKGND	
ANGND	C2	SENSOR GND	
ANGND	C3	SENSOR GND	
ANGND	C4	SENSOR GND	
5V OUT	C5	5V OUT	
5V OUT	C6	5V OUT	
5V OUT	C7	5V OUT	
CAN L	C8	Can Low	POWERTRAIN CAN
CAN H	C9	Can High	POWERTRAIN CAN
AN01	C10	BI-POLAR INPUTS	DI PRESSURE
AN02	C11	BI-POLAR INPUTS	MAP SENSOR
AN03	C12	CHARGE PRESSURE	
AN04	C13	BI-POLAR INPUTS	BRAKE
AN05	C14	UNI-POLAR INPUTS	VVT1IN
AN06	C15	UNI-POLAR INPUTS	VVT1EX
AN07	C16	UNI-POLAR INPUTS	CRANK SENSOR
AN08	C17	UNI-POLAR INPUTS	CLUTCH POSITION
AN09	C18	VOLT-INPUTS	TPS1A
AN10	C19	VOLT-INPUTS	TPS1B
AN11	C20	VOLT-INPUTS	PPSA
AN12	C21	VOLT-INPUTS	PPSB
AN13	C22	RESISTIVE INPUTS	INTAKE AIR TEMP
AN14	C23	RESISTIVE INPUTS	INTAKE TEMP 2
AN15	C24	RESISTIVE INPUTS	COOLANT TEMP
AN16	C25	RESISTIVE INPUTS	
EGT1-	C26	EGT1 -	
EGT1+	C27	EGT1 +	
PWR CTR IN	C28	MAIN RELAY INPUT SW	12V IGNITION
AN S1 / Slave An01	C29	UNI-POLAR INPUTS	
AN S2 / Slave An02	C30	UNI-POLAR INPUTS	
AN S3 / Slave An03	C31	UNI-POLAR INPUTS	SPORT MODE
AN S4 / Slave An04	C32	UNI-POLAR INPUTS	EXHAUST GAS TEMP
AN S5 / Slave An05	C33	UNI-POLAR INPUTS	LOW FUEL PRESURE
AN S6 / Slave An06	C34	UNI-POLAR INPUTS	INTAKE FLAP POT

Di12

Pin	Name	LENGTH Metre	Notes
1	LS1	0.5	Injector 1 -
2	LS2	0.5	Injector 5 -
3	LS3	0.5	
4	LS4	0.5	
5	LS5	0.5	Injector 2 -
6	LS6	0.5	Injector 3 -
7	LS12	0.5	
8	LS11	0.5	
9	LS10	0.5	
10	LS9	0.5	
11	LS8	0.5	
12	LS7	0.5	Injector 4 -
13	Input 1	0.5	Injector 1 Signal
14	Input 2	0.5	Injector 5 Signal
15	Input 3	0.5	
16	Input 4	0.5	
17	Input 5	0.5	Injector 2 Signal
18	KLINE	0.5	
19	Input 11	0.5	
20	Input 10	0.5	
21	Input 9	0.5	
22	Input 8	0.5	
23	Input 7	0.5	Injector 4 Signal
24	VBAT1	0.5	12V
25	HS123	0.5	Injector 1, 5, Positive
26	PWRGND	0.5	GROUND
27	HS34	0.5	
28	HS456	0.5	Injector 2, 3 Positive
29	Input 6	0.5	Injector 3 Signal
30	Input 12	0.5	
31	HSABC	0.5	
32	HS9A	0.5	
33	PWRGND	0.5	GROUND
34	HS789	0.5	Injector 4 Positive
35	VBAT2	0.5	12V