

The logo for Syvecs LTD features a stylized, grey, abstract shape resembling a large 'S' or a curved arrow. Overlaid on this shape is the text 'Syvecs LTD' in a black, sans-serif font. The text is positioned between two horizontal black lines: one above 'Syvecs' and one below 'LTD'.

Syvecs LTD

V1.2

# Audi RS3 / TTRS 8V2

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](mailto:Support@Syvecs.com)



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Designed for use with the DAZA Engines Only

### **Content**

The kit includes:

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 next to the battery



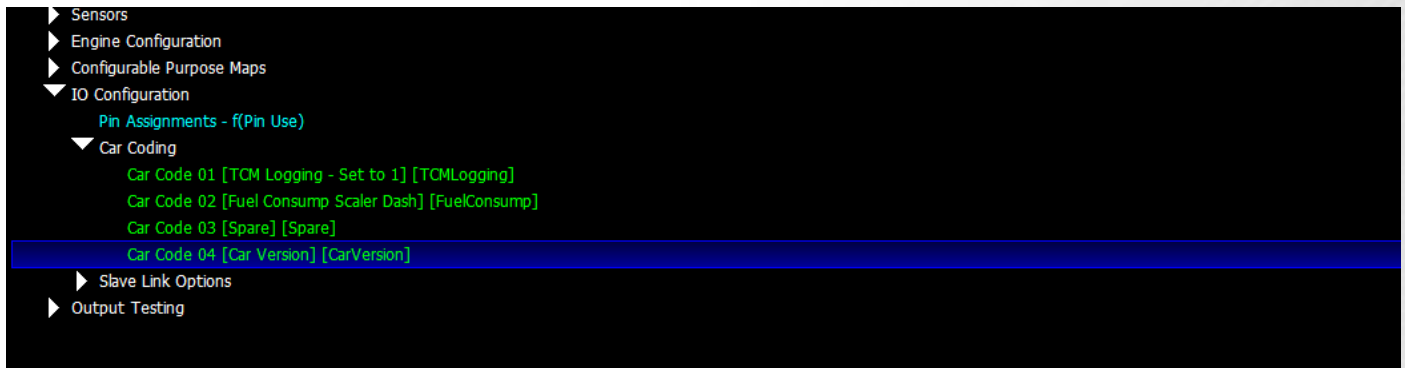
- 3.) Remove the OEM Ecu Holder which is held in place with 2xM6 nuts

- 4.) Replace with the Syvecs kit

## Specific Software Options

Due to the number of Cars that the DAZA Engine is fitted to, an ECU Coding setup needs adjusting in Scal to suit the model of your VAG Group Car.

This is found at the bottom under I/O Configuration



### Car Code 4 Values

0 = RS3  
1 = TTRS  
2 = RS3 China  
3 = RS3 USA

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### DSG TCM Logging

The Syvecs kit allows logging of the Clutch pressures from the DSG Gearbox. To enable this Set Car Code1 = 1

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

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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 @ 18ml/s



## FAQ and Help

### Q) Do you control the OEM Intake Flaps

A) Yes, This is set in Output Functions – Fan7 (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 – Fan8 (Exhaust Flap Control), Its controlled Based on Load vs DriveMode so you can open only in Dynamics mode

### Q) Do you control the Exhaust Cam Lift Solenoids

A) Yes, This is adjustable in Output Function – Variable Cam Control

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Q) How is the OEM Coolant Switch Pump Controlled

A) This is found in Output Functions – Fan2 (Coolant Switch Pump), Its controlled Based on Engine speed and Coolant Temp

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 Pressure 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 now now work?

A) Only the Autostart-stop function,

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

A) Do you support the Auto Shift Functions for Manual mode?

Q) Yes, Upshift Only...this was added in May 2020 code update.

You can set the Change Light to run Strategy without Pin in the i/o config - Pin assignments. Then set the Change light RPM points under output functions to toggle the Upshift.

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

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

OEM DI Injectors flow around 820cc.. So do 820/ (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](mailto:Support@syvecs.co.uk) for a base map to suit your setup.

## Auto Shift

The Syvecs 8V2 has the ability to automatically control the shift point in Manual Mode by replicating an Up Paddle Request, this is done via the

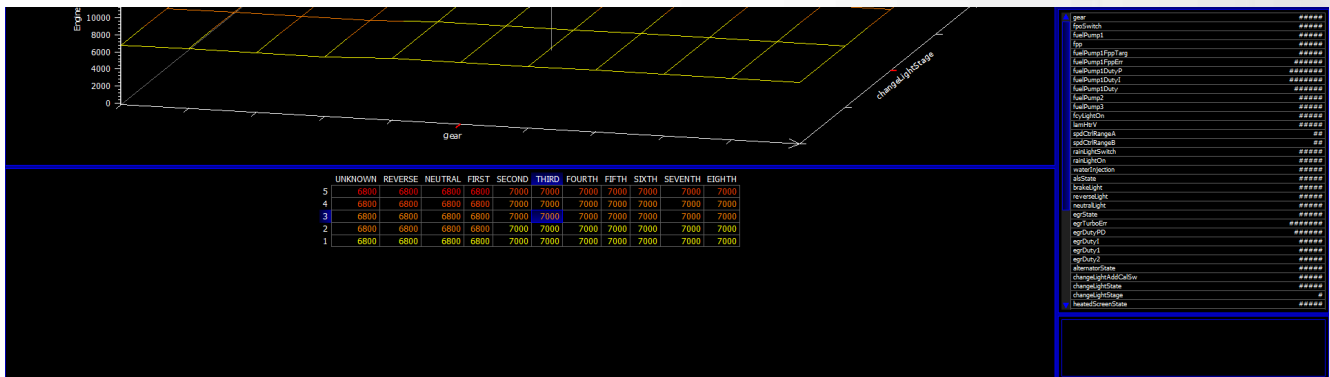
Change Light Strategy which is found in Output Functions - Change Light. Uses will need to first set the Change Light strategy to RUN STRATEGY

WITHOUT PIN in the Pin Assignments.

A) Inputs : Vss	NOT CONNECTED	pin1	*****
B) Outputs : Air Con Control	NOT CONNECTED	pin2	*****
B) Outputs : Alternator Control	NOT CONNECTED	pin3	*****
B) Outputs : Auto Start	NOT CONNECTED	pin4	*****
B) Outputs : Auto Start Armed	NOT CONNECTED	pin5	*****
B) Outputs : Auto Trans Accumulator Pressure Control	NOT CONNECTED	pin6	*****
B) Outputs : Auto Trans Line Pressure Control	NOT CONNECTED	pin7	*****
B) Outputs : Auto Trans Lockup Clutch Pressure Control	NOT CONNECTED	pin8	*****
B) Outputs : Auto Trans Low Ratio Control	NOT CONNECTED	pin9	*****
B) Outputs : Auto Trans Manual Mode Indicator	NOT CONNECTED	pin10	*****
B) Outputs : Auto Trans Shift Control 1	NOT CONNECTED	pin11	*****
B) Outputs : Auto Trans Shift Control 2	NOT CONNECTED	pin12	*****
B) Outputs : Auto Trans Shift Control 3	NOT CONNECTED	pin13	*****
B) Outputs : Auto Trans Shift Control 4	NOT CONNECTED	pin14	*****
B) Outputs : Auto Trans Shift Control 5	NOT CONNECTED	pin15	*****
B) Outputs : Auto Trans Shift Control 6	NOT CONNECTED	pin16	*****
B) Outputs : Auto Trans Shift Control 7	NOT CONNECTED	pin17	*****
B) Outputs : Auto Trans Shift Control 8	NOT CONNECTED	pin18	*****
B) Outputs : Basic PWM 01 (Brake by Wire 1)	NOT CONNECTED	pin19	*****
B) Outputs : Basic PWM 02 (Brake by Wire 2)	NOT CONNECTED	pin20	*****
B) Outputs : Brake Light	NOT CONNECTED	pin21	*****
B) Outputs : Canister Purge	NOT CONNECTED	pin22	*****
B) Outputs : Change Light (Stage 1)	RUN STRATEGY WITHOUT PIN :	pin23	*****
B) Outputs : Change Light (Stage 2)	NOT CONNECTED	pin24	*****
B) Outputs : Change Light (Stage 3)	NOT CONNECTED	pin25	*****
B) Outputs : Change Light (Stage 4)	NOT CONNECTED	pin26	*****
B) Outputs : Closed-Loop PWM 01 (TBA)	NOT CONNECTED	pin27	*****
B) Outputs : Clutch Control (Closed Loop Position)	NOT CONNECTED	pin28	*****
B) Outputs : Clutch Control (Open Loop On/Off)	NOT CONNECTED	pin29	*****
B) Outputs : Differential Pressure Control (Centre)	NOT CONNECTED	pin30	*****

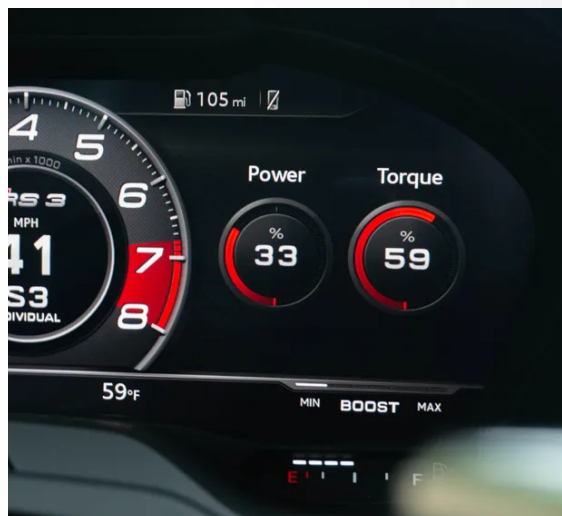
Then Adjust in Output Functions - Change Light the Shift RPM Desired for Manual Mode. This will allow the up paddle to be replicated at the

desired RPM.



## Ethanol Content Display

The Ethanol content will be displayed on the Horsepower gauge when changing calibration using the Cruise Lever



<b>A</b>	<b>DESCRIPTION</b>	CONNECTOR A	
	PART NUMBER	4-1437290-0	
	NOTES:	34 Way - Key1	

<i>Syvecs Description</i>	<i>Syvecs Pinout</i>	<i>Function</i>	
PWR CTR OUT	A1	MAIN RELAY OUTPUT	<b>Main Relay</b>
<b>H-Bridge1</b> / SlaveOut1	A2	H-Bridge1	DBW +
<b>H-Bridge2</b> / SlaveOut2	A3	H-Bridge2	DBW -
<b>H-Bridge3</b> / SlaveOut3	A4	H-Bridge3	WG Solenoid
<b>H-Bridge4</b> / SlaveOut4	A5	H-Bridge4	Evap
<b>H-Bridge5</b> / SlaveOut5	A6	H-Bridge5	DI Pump Signal to DI12
<b>H-Bridge6</b> / SlaveOut6	A7	H-Bridge6	Starter Relay
<b>H-Bridge7</b> / SlaveOut7	A8	H-Bridge7	Intake Manifold Flap (N316)
<b>H-Bridge8</b> / SlaveOut8	A9	H-Bridge8	Coolant Switch 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 (N532)
FUEL7	A16	INJECTOR or PWM OUTPUT	Port Injector 2 (N533)
FUEL8	A17	INJECTOR or PWM OUTPUT	Port Injector 3 (N534)
FUEL9	A18	INJECTOR or PWM OUTPUT	Port Injector 4 (N535)
FUEL10	A19	INJECTOR or PWM OUTPUT	Port Injector 5 (N536)
FUEL11	A20	INJECTOR or PWM OUTPUT	Fuel Pump PWM
FUEL12	A21	INJECTOR or PWM OUTPUT	Cooling Fan PWM
FUEL13	A22	INJECTOR or PWM OUTPUT	Turbo Recirc (N249)
FUEL14	A23	INJECTOR or PWM OUTPUT	Exhaust Cam Solenoids B
FUEL15	A24	INJECTOR or PWM OUTPUT	VVT1 Int (N205)
FUEL16	A25	INJECTOR or PWM OUTPUT	VVT1 Ex (N316)
IGN1	A26	CYL 1 IGNITION OUTPUT	IGN1 (N70)
IGN2	A27	CYL 2 IGNITION OUTPUT	IGN2 (N127)
IGN3	A28	CYL 3 IGNITION OUTPUT	IGN3 (N291)
IGN4	A29	CYL 4 IGNITION OUTPUT	IGN4 (N292)
IGN5	A30	CYL 5 IGNITION OUTPUT	IGN5 (N292)
IGN6	A31	CYL 6 IGNITION OUTPUT	Tacho Sync
PWRGND	A32	POWER GROUND	PwrGnd
PWRGND	A33	POWER GROUND	PwrGNd
PWRGND	A34	POWER GROUND	PwrGNd

<b>B</b>	<b>DESCRIPTION</b>	CONNECTOR B	
	PART NUMBER	3-1437290-7	
	NOTES:	26 Way - Key1	

PWRGND	B1	POWER GROUND	PWRGROUND
CAN2L	B2		
CAN2H	B3		
KNOCK	B4	KNOCK	Knock +



KNOCK 2	B5	KNOCK 2	
PVBAT	B6	CONSTANT 12V	
IVBAT	B7	12v	12v for Exhaust Solenoid Valves
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	
LAM2B	B15	Lami / LamD1- / LamIP1	
LAM2C	B16	LamLIA1	Fuel Pressure Low Side - SENT
LAM2D	B17	LamGND / LamLVM1	
LAM2HEATER	B18	Slave Out 10	Exhaust Flap Control PWM
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	

<b>C</b>	<b>DESCRIPTION</b>	<b>CONNECTOR C</b>	
	PART NUMBER	4-1437290-1	
	NOTES:	34 Way - Key2	

KNOCKGND	C1	KNOCKGND	Knock -
ANGND	C2	SENSOR GND	<b>Tested</b>
ANGND	C3	SENSOR GND	<b>Tested</b>
ANGND	C4	SENSOR GND	
5V OUT	C5	5V OUT	<b>Tested</b>
5V OUT	C6	5V OUT	<b>Tested</b>
5V OUT	C7	5V OUT	
CAN L	C8	Can Low	Powertrain Can
CAN H	C9	Can High	Powertrain Can
AN01	C10	BI-POLAR INPUTS	Start Request
AN02	C11	BI-POLAR INPUTS	Di Pressure
AN03	C12	BI-POLAR INPUTS	Intake Pos Flap
AN04	C13	BI-POLAR INPUTS	
AN05	C14	UNI-POLAR INPUTS	VVT1In Pos
AN06	C15	UNI-POLAR INPUTS	VVT1Ex Pos
AN07	C16	UNI-POLAR INPUTS	Crank Sensor
AN08	C17	UNI-POLAR INPUTS	Brake Lt Sw
AN09	C18	VOLT-INPUTS	TPS1A
AN10	C19	VOLT-INPUTS	TPS1B
AN11	C20	VOLT-INPUTS	PPSA
AN12	C21	VOLT-INPUTS	PPSB
AN13	C22	RESISTIVE INPUTS	Coolant Temp (G62)
AN14	C23	RESISTIVE INPUTS	Intake Air Temp
AN15	C24	RESISTIVE INPUTS	

AN16	C25	RESISTIVE INPUTS	
EGT1-	C26	EGT1 -	
EGT1+	C27	EGT1 +	
PWR CTR IN	C28	MAIN RELAY INPUT SW	Key On sig (15)
AN S1 / Slave An01	C29	UNI-POLAR INPUTS	Oil Level / Temp
AN S2 / Slave An02	C30	UNI-POLAR INPUTS	Oil Pressure Sensor - SENT
AN S3 / Slave An03	C31	UNI-POLAR INPUTS	SENT MAP
AN S4 / Slave An04	C32	UNI-POLAR INPUTS	SENT ACT
AN S5 / Slave An05	C33	UNI-POLAR INPUTS	
AN S6 / Slave An06	C34	UNI-POLAR INPUTS	InterMediate Shaft Speed
Pin	Name	LENGTH Metre	Notes
1	LS1	0.5	Injector 1 -
2	LS2	0.5	
3	LS3	0.5	Injector 5 -
4	LS4	0.5	
5	LS5	0.5	
6	LS6	0.5	Injector 4 -
7	LS12	0.5	
8	LS11	0.5	Injector 2 -
9	LS10	0.5	DI Pump Low Signal
10	LS9	0.5	
11	LS8	0.5	
12	LS7	0.5	Injector 3 -
13	Input 1	0.5	Injector 1 Signal
14	Input 2	0.5	
15	Input 3	0.5	Injector 5 Signal
16	Input 4	0.5	
17	Input 5	0.5	
18	KLINE	0.5	
19	Input 11	0.5	Injector 2 Signal
20	Input 10	0.5	DI Pump Signal
21	Input 9	0.5	
22	Input 8	0.5	
23	Input 7	0.5	Injector 3 Signal
24	VBAT1	0.5	12V
25	HS1,2	0.5	Injector 1 +
26	PWRGND	0.5	GROUND
27	HS3,4	0.5	Injector 5 +
28	HS5,6	0.5	Injector 4 +
29	Input 6	0.5	Injector 4 Signal
30	Input 12	0.5	
31	HS11,12	0.5	Injector 2 +
32	HS9,10	0.5	DI Pump High Side
33	PWRGND	0.5	GROUND
34	HS7,8	0.5	Injector 3+
35	VBAT2	0.5	12V