Syvecs LTD

V1.1

MQB Evo S7D ECU

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

Overview

The Syvecs MQB Evo Plug-and-Play ECU Kit is a fully integrated engine management solution developed for MQB Evo–based vehicles, including the MK8 Golf R, equipped with the DSFE engine.

This kit is designed to connect directly to the factory wiring loom using a true plug-and-play interface, allowing the Syvecs ECU to integrate seamlessly with the vehicle without any cutting, splicing, or permanent modification. Once installed, the system unlocks a significantly higher level of engine and vehicle control while retaining all standard OEM functionality.

The result is a motorsport-grade ECU solution that overcomes the increasing limitations of factory ECUs on MQB Evo platforms, while maintaining OEM drivability and system integration.

Supported Platforms (Engine Dependent)

MQB Evo vehicles using the DSFE engine architecture, including (but not limited to):

Volkswagen Golf R (MK8)

Other MQB Evo–based VAG models fitted with DSFE or closely related variants

(Exact compatibility depends on engine code, ECU configuration, and vehicle specification)

Contents:

The kit comes with the following

: 1 x Syvecs S7D ECU

1 x 26 Way Accessory connector

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 and replace with S7D Plug in

4.) Plug in supplied 26Way accessories connector loom

MQB Evo Specific Software Options

Due to the number of Cars that the MQB 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

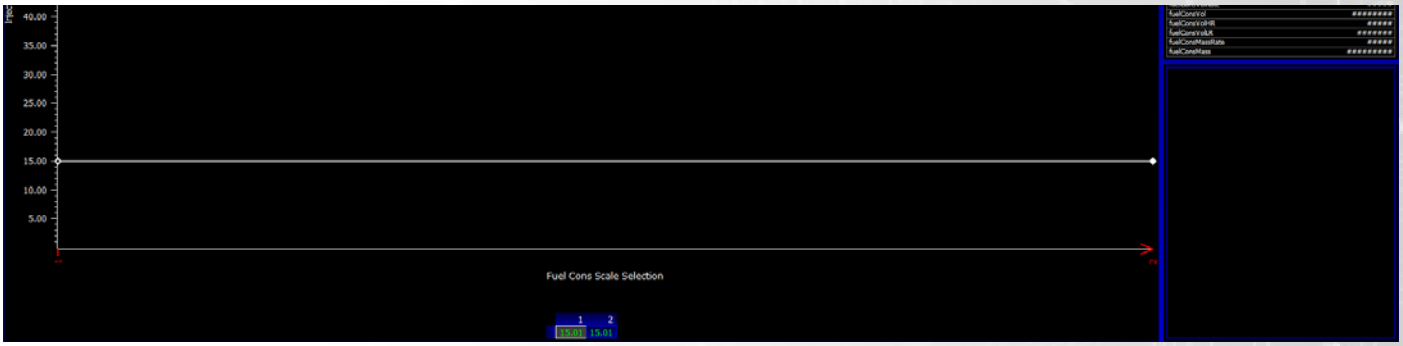
Car Coding4 Values

Golf Mk8 DSG – 0

Injector Size is set in Fuel Consumption – Injector Consumption Scaling for Torque Control

Injector Size / 60 = ml/s value

OEM DI Injectors are set in the Base map @ 16ml/s



MQB Kit 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

IntakeFlapP_U01 is Position sensor 100% is Closed, 0% is Open

Q) Do you control the Exhaust Cam Lift Solenoids

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

Q) How is the Piston Cooling Oil Valves controlled?

A) This is found in Output Functions – Fan4 (Oil Cooling), Its controlled Based on Load

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) Does the Different Drive Modes from the Car comes into Scal

A) DriveMode Comes in on Slave AN22 - Comfort = 10%, Normal = 20%, Race = 30%, TC Off = 50%

Q) How is the Electric Wastegate controlled on the OEM Golf 7 Turbo

A) Boost control is on Supercharger Bypass Strategy, (SBV = 0 is WG Shut, SBV = 100 is WG Open) . If changing to External WG need to change to Custom Can - Transmit content Frame 2 Slot 2 to WGTarget1

Q) How is the Electric Thermostat Controlled

A) This is Controlable in Output Function – Fan8 (Coolant Flow Control) - Coolant Thermostat Position (CTP) at 0% means Thermostat is Open Fully, 100% means Closed Fully

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 – Fuel Pump - Fuel Pump PWM 1 Control

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

A) All original features will function properly

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

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.

ECU Pinouts

Syvecs Description	Syvecs S7D Pinout	Function	OEM Function
A	DESCRIPTION	CONNECTOR A	
	PART NUMBER	4-1437290-0	
	NOTES:	34 Way - Key1	
PWR CTR OUT	A1	MAIN RELAY OUTPUT	MAIN RELAY OUTPUT
H-Bridge1	A2	H-Bridge1	H-Bridge1
H-Bridge2	A3	H-Bridge2	H-Bridge2
H-Bridge3	A4	H-Bridge3	H-Bridge3
H-Bridge4	A5	H-Bridge4	H-Bridge4
H-Bridge5	A6	H-Bridge5	H-Bridge5
H-Bridge6	A7	H-Bridge6	H-Bridge6
H-Bridge7	A8	H-Bridge7	H-Bridge7
H-Bridge8	A9	H-Bridge8	H-Bridge8
GDI LS1	A10	Fuel 1 / Low Side GDI 1	Port Injector 1
GDI LS2	A11	Low Side GDI 2	DI Injector 1 -
GDI LS3	A12	Fuel 3 / Low Side GDI 3	Port Injector 2
GDI LS4	A13	Low Side GDI 4	DI Injector 2 -
GDI LS5	A14	Fuel 5 / Low Side GDI 5	Port Injector 3
GDI LS6	A15	Low Side GDI 6	DI Injector 3 -
GDI LS7	A16	Fuel 7 / Low Side GDI 7	Port Injector 4
GDI LS8	A17	Low Side GDI 8	DI Injector 4 -
GDI HS1/2	A18	GDI Hi Side 1-2	DI Injector 1 +
GDI HS3/4	A19	GDI Hi Side 3-4	DI Injector 2 +
GDI Pump 1 HS	A20	GDI Pump 1 Hi Side	GDI Pump HS
GDI HS5/6	A21	GDI Hi Side 5-6	DI Injector 3 +
GDI HS7/8	A22	GDI Hi Side 7-8	DI Injector 4+
GDI Pump 2 HS	A23	GDI Pump 2 Hi Side	NC
Fuel 15	A24	Fuel15 Output	PWM OUTPUT
Fuel16	A25	Fuel16 Output	PWM OUTPUT
IGN1	A26	CYL 1 IGNITION OUTPUT	CYL 1 IGNITION OUTPUT
IGN2	A27	CYL 2 IGNITION OUTPUT	CYL 2 IGNITION OUTPUT
IGN3	A28	CYL 3 IGNITION OUTPUT	CYL 3 IGNITION OUTPUT
IGN4	A29	CYL 4 IGNITION OUTPUT	CYL 4 IGNITION OUTPUT
GDI Pump LS 1	A30	CYL 5 IGNITION OUTPUT	DI Pump Low
IGN6	A31	CYL 6 IGNITION OUTPUT	Tacho Sync
PWRGND	A32	POWER GROUND	POWER GROUND
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	POWER GROUND
CAN2 L	B2	Can 2	K - TYPE THERMO
CAN2 H	B3	Can 2	K - TYPE THERMO
KNOCK 1	B4	KNOCK 1	KNOCK
KNOCK 2	B5	KNOCK 2	KNOCK 2
PVBAT	B6	CONSTANT 12V	CONSTANT 12V
IVBAT	B7	12v	12v
LAM1A	B8	Lamv / LamD1+/ LamLun1	Lamv / LamD1+/ LamLun1
LAM1B	B9	Lami / LamD1- /LamIP1	Lami / LamD1- /LamIP1
LAM1C	B10	LamLIA1	UNI-POLAR INPUTS
LAM1D	B11	LamGND / LamLVM1	LamGND / LamLVM1
LAM1HEATER	B12	LAMBDA HEATER	LAMBDA HEATER
IVBAT	B13	12V	12V
LAM2A	B14	Lamv / LamD1+/ LamLun1	Lamv / LamD1+/ LamLun1
LAM2B	B15	Lami / LamD1- /LamIP1	Lami / LamD1- /LamIP1
LAM2C	B16	LamLIA1	LamLIA1
LAM2D	B17	LamGND / LamLVM1	LamGND / LamLVM1
LAM2HEATER	B18	LAMBDA HEATER	Slave Out 10
IVBAT	B19	12V	12V
KLINE	B20	KLINE	Kline
RS232RX	B21	RS232RX	RS232RX
RS232TX	B22	RS232TX	RS232TX
LANRX-	B23	Cat5 Pin2	Cat5 Pin2
LANRX+	B24	Cat5 Pin1	Cat5 Pin1
LANTX-	B25	Cat5 Pin6	Cat5 Pin6
LANTX+	B26	Cat5 Pin3	Cat5 Pin3

ECU Pinouts

C	DESCRIPTION	CONNECTOR C	
	PART NUMBER	4-1437290-1	
	NOTES:	34 Way - Key2	
KNOCKGND	C1	KNOCKGND	KNOCKGND
ANGND	C2	SENSOR GND	SENSOR GND
ANGND	C3	SENSOR GND	SENSOR GND
ANGND	C4	SENSOR GND	SENSOR GND
5V OUT	C5	5V OUT	5V OUT
5V OUT	C6	5V OUT	5V OUT
5V OUT	C7	5V OUT	5V OUT
CAN1 L	C8	Can 1 Low	Can Low
CAN1 H	C9	Can 1 High	Can High
AN01	C10	BI-POLAR INPUTS	BI-POLAR INPUTS
AN02	C11	BI-POLAR INPUTS	BI-POLAR INPUTS
AN03	C12	BI-POLAR INPUTS	BI-POLAR INPUTS
AN04	C13	BI-POLAR INPUTS	BI-POLAR INPUTS
AN05	C14	UNI-POLAR INPUTS	UNI-POLAR INPUTS
AN06	C15	UNI-POLAR INPUTS	UNI-POLAR INPUTS
AN07	C16	UNI-POLAR INPUTS	UNI-POLAR INPUTS
AN08	C17	UNI-POLAR INPUTS	UNI-POLAR INPUTS
AN09	C18	VOLT-INPUTS	VOLT-INPUTS
AN10	C19	VOLT-INPUTS	VOLT-INPUTS
AN11	C20	VOLT-INPUTS	VOLT-INPUTS
AN12	C21	VOLT-INPUTS	VOLT-INPUTS
AN13	C22	RESISTIVE INPUTS	RESISTIVE INPUTS
AN14	C23	RESISTIVE INPUTS	RESISTIVE INPUTS
AN15	C24	RESISTIVE INPUTS	RESISTIVE INPUTS
AN16	C25	RESISTIVE INPUTS	RESISTIVE INPUTS
EGT1-	C26	EGT1 -	
EGT1+	C27	EGT1 +	
PWR CTR IN	C28	MAIN RELAY INPUT SW	MAIN RELAY INPUT SW
AN S1	C29	UNI-POLAR INPUTS	UNI-POLAR INPUTS
AN S2	C30	UNI-POLAR INPUTS	UNI-POLAR INPUTS
AN S3	C31	UNI-POLAR INPUTS	UNI-POLAR INPUTS
AN S4	C32	UNI-POLAR INPUTS	UNI-POLAR INPUTS
AN S5	C33	UNI-POLAR INPUTS	UNI-POLAR INPUTS
AN S6	C34	UNI-POLAR INPUTS	UNI-POLAR INPUTS

D	DESCRIPTION	CONNECTOR D	
	PART NUMBER	3-1437290-8	
	NOTES:	26 Way - Key2	
DVBAT1	D1	GDI Power Supply	
DVBAT2	D2	GDI Power Supply	
DVBAT3	D3	GDI Power Supply	
DVBAT4	D4	GDI Power Supply	
FUEL9	D5	PWM / FUEL OUTPUT	PWM OUTPUT
FUEL10	D6	PWM / FUEL OUTPUT	PWM OUTPUT
FUEL11	D7	PWM / FUEL OUTPUT	PWM OUTPUT
FUEL12	D8	PWM / FUEL OUTPUT	PWM OUTPUT
FUEL13	D9	PWM / FUEL OUTPUT	PWM OUTPUT
FUEL14	D10	PWM / FUEL OUTPUT	PWM OUTPUT
LSO1	D11	PWM OUTPUT	PWM OUTPUT
LSO2	D12	PWM OUTPUT	PWM OUTPUT
LSO3	D13	PWM OUTPUT	PWM OUTPUT
LSO4	D14	PWM OUTPUT	PWM OUTPUT
LSO5	D15	PWM OUTPUT	PWM OUTPUT
LSO6	D16	PWM OUTPUT	PWM OUTPUT
EGT2-	D17	EGT2 -	PWM OUTPUT
EGT2+	D18	EGT2 +	
NC	D19	NC	
NC	D20	NC	
NC	D21	NC	
NC	D22	NC	
CAN3L	D23	CAN3L	CANFD LOW
CAN3H	D24	CAN3H	CANFD HIGH
PWRGND	D25	POWER GROUND	
PWRGND	D26	POWER GROUND	

Accessory Connector

ACC	DESCRIPTION	
	PART NUMBER	3-1437290-7
	NOTES:	26 Way - Key1
B1	Ground	
B2	HBR3	
B3	HBR4	
B4	HBR5	
B5	Fuel15	
B6	Fuel16	
B7	12v	
B8	LAMHtr2	
B9	CAN2L	Spare CAN
B10	CAN2H	Spare CAN
B11	RS232RX	
B12	RS232TX	
B13	LAM2A	Spare Input - S1AN10
B14	CAN3L	K-Type EGT
B15	CAN3H	K-Type EGT
B16	Lam2C	Spare Input - S1AN11
B17	EGT1-	
B18	EGT1+	
B19	AN15	Spare Input
B20	S1AN04	Spare Input
B21	ANGround	Sensor Ground
B22	5v	5v Output for Sensors
B23	LANRX-	Ethernet
B24	LANRX+	Ethernet
B25	LANTX-	Ethernet
B26	LANTX+	Ethernet