
Syvecs LTD

V1.2

BMW E46 M3

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.

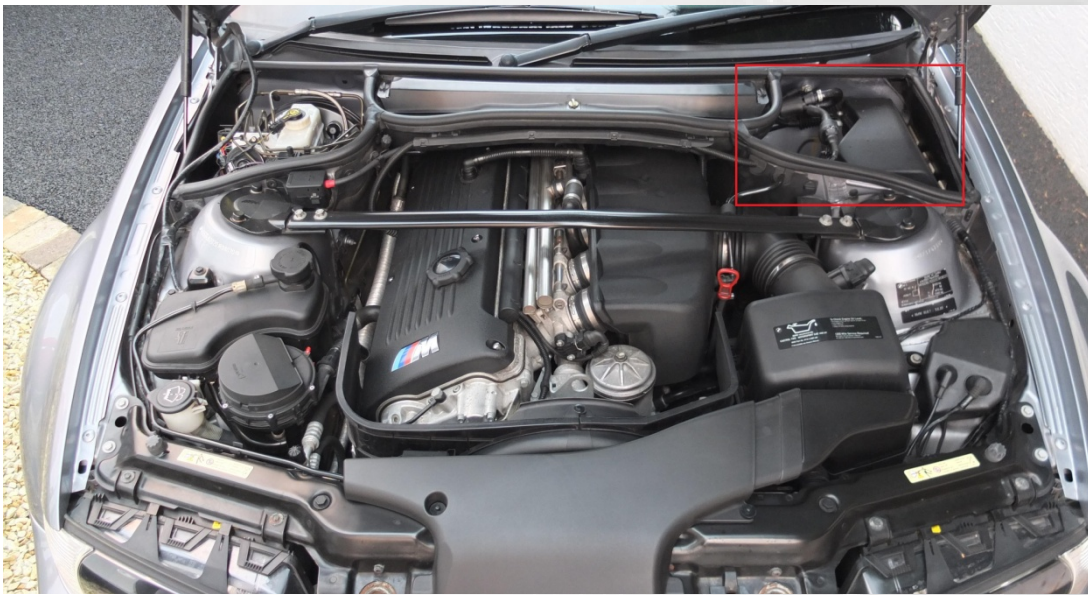
Please Note that due to frequent firmware changes certain windows might not be the same as the manual illustrates. If so please contact the Syvecs Tech Team for Assistance.

Support@Syvecs.com

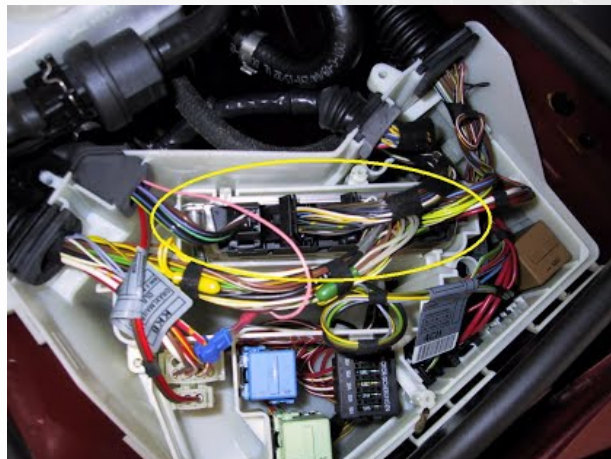


Installation

- 1.) Remove the Negative Terminal from the battery on the Vehicle
- 2.) Remove the DME/Fuse Box cover found in the engine bay as shown below in red



- 3.) You will then find the engine DME with 5 connectors coming out of it. Unplug these and remove the OEM DME



4.) Replace the OEM Computer with the Syvecs ECU



E46 M3 Kit FAQ and Help

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 any BMW Tools, the Tools wont connect to the engine ecu now. You will need to see error and clear in Scal

Q) Does Traction control still function and can we turn it off

A) Yes, the Syvecs traction control is a big improvement over the OEM Strategy and Input Slave AN20 is linked to the OEM ESP Switch so can be assigned to Traction Switch in Pin Assignments

Q) If Injectors are changed does the MPG Gauge read correctly

A) You can adjust the Fuel Consumption amount in Scal – Fuel Consumption – Injector Consumption Scaling. (Injector Size / 60)

Q) How do we change Calibrations switch positions on the kit

A) The best way is to purchase a Calibration Rotary Switch from your nearest dealer or from Syvecs direct to allow map changing

Q) I am wanting to Turbo Charge the Engine how do i trim the Ignition and Fueling for this?

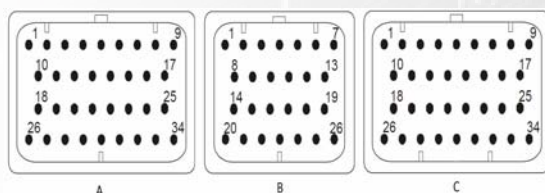
A) Because the Base map is designed for a Stock engine based on Alpha N tuning its really simple to add addition fueling for a Turbo or remove Ignition. You need to add a Map Sensor on the engine and wire into a Spare input. Then under Run-Mode Fueling - Corrections - Simple Manifold Pressure Multiplier.. adds addition fueling based on Map Signal.... Same goes for trimming Ignition timing under under Run-Mode Ignition - Corrections - Simple Manifold Pressure adder.

Q) Can we wire in Wideband Lambda's as the engine doesn't have these from the factory.

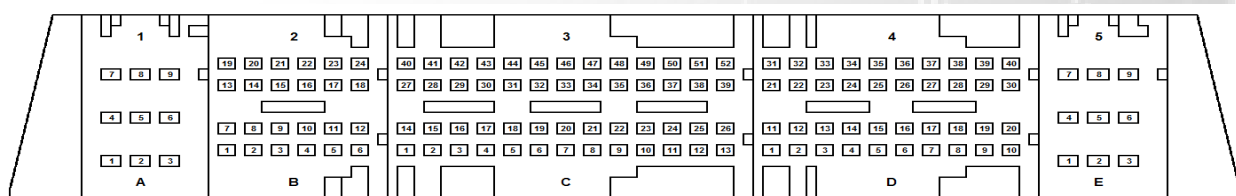
A) Yes, the kit is setup to allow 2 x LSU4.9 Sensors to be fitted or 2 x NTK Sensors. Sensor type needs to be stated at ordering

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

S6Plus / S7Plus Headers



BMW E46 Header



A	DESCRIPTION		
	PART NUMBER		
	NOTES:		

<i>Syvecs Description</i>	<i>Syvecs Pinout</i>	<i>E46 Pinout Pinout</i>	<i>E46 Notes</i>
PWR CTR OUT	A1	B23	Throttle and Main Relay
H-Bridge1 / SlaveOut1	A2	A2	DBW
H-Bridge2 / SlaveOut2	A3	A9	DBW
H-Bridge3 / SlaveOut3	A4	C4	VANOS INLET ADV
H-Bridge4 / SlaveOut4	A5	C50	VANOS INLET RTD
H-Bridge5 / SlaveOut5	A6	C44	VANOS EXH ADV
H-Bridge6 / SlaveOut6	A7	C43	VANOS EXH RTD
H-Bridge7 / SlaveOut7	A8		
H-Bridge8 / SlaveOut8	A9		
FUEL1	A10	C33	Primary Injector 1
FUEL2	A11	C34	Primary Injector 2
FUEL3	A12	C35	Primary Injector 3
FUEL4	A13	C36	Primary Injector 4
FUEL5	A14	C37	Primary Injector 5
FUEL6	A15	C38	Primary Injector 6
FUEL7	A16	C47	IDLE OPEN
FUEL8	A17	C46	IDLE CLOSE
PWM1 /*FUEL9	A18	B11, D10	Fuel Pump
PWM2 /*FUEL10	A19	D4	FAN
PWM3 /*FUEL11	A20	D17	Tacho
PWM4 /*FUEL12	A21		Secondary Injector 5 Or Spare Ouput
PWM5	A22		Secondary Injector 6 Or Spare Ouput
PWM6	A23	D16	Sport LED (Added in V5 Loom)
PWM7	A24	C42	EVAP
PWM8	A25	D29	A/C CLUTCH
IGN1	A26	E1	CYL 1 IGNITION OUTPUT

IGN2	A27	E2	CYL 2 IGNITION OUTPUT
IGN3	A28	E3	CYL 3 IGNITION OUTPUT
IGN4	A29	E9	CYL 4 IGNITION OUTPUT
IGN5	A30	E6	CYL 5 IGNITION OUTPUT
IGN6	A31	E7	CYL 6 IGNITION OUTPUT
PWRGND	A32	A6	PwrGnd
PWRGND	A33	D5	PwrGNd
PWRGND	A34	A5	PwrGNd

B	DESCRIPTION		
	PART NUMBER		
	NOTES:		

PWRGND	B1	A4	PWRGROUND
CAN2L	B2		
CAN2H	B3		
KNOCK	B4	C29	
KNOCK 2	B5	C31	
PVBAT	B6	A7	
IVBAT	B7	A8	
LAM1A	B8		
LAM1B	B9		
LAM1C	B10		
LAM1D	B11		
LAM1HEATER	B12		
IVBAT	B13	A1	
LAM2A	B14		
LAM2B	B15		
LAM2C	B16		
LAM2D	B17		
LAM2HEATER	B18		
IVBAT	B19		
KLINE	B20		
RS232RX	B21		
RS232TX	B22		
LANRX-	B23	Orange/White	
LANRX+	B24	White/Orange	
LANTX-	B25	Green/White	
LANTX+	B26	White/Green	

C	DESCRIPTION		
	PART NUMBER		
	NOTES:		
KNOCKGND	C1		
ANGND	C2	C17, C20, C21, C25	
ANGND	C3	D7, D12, D38	
ANGND	C4		
5V OUT	C5	C7, C14,	
5V OUT	C6	D9, D14	
5V OUT	C7		
CAN L	C8	D37	
CAN H	C9	D36	
AN01	C10	D21	Oil Level Temp
AN02	C11	C8	Crank Position Sensor
AN03	C12	C23	TPS 1A
AN04	C13	C10	TPS 1B
AN05	C14	C5	Cam Position Sensor
AN06	C15		
AN07	C16	C2	Cam2 EX Position Sensor
AN08	C17		
AN09	C18	External Loom	MAP Absolute Sensor
AN10	C19	D8	PPS1
AN11	C20	D13	PPS2
AN12	C21	D24	Brake Switch
AN13	C22	B10	EGT
AN14	C23	C22	Air Charge Temp
AN15	C24	C24	Coolant Temp
AN16	C25	D39	Coolant Charge Temp (M3)
EGT1-	C26		
EGT1+	C27		
PWR CTR IN	C28	D26	Ignition Switch
AN S1 / Slave An01	C29	D27	MFL Conn (Added in V5 Loom)
AN S2 / Slave An02	C30	D15	Sport Sw (Added in V5 Loom)
AN S3 / Slave An03	C31	C39	Oil level/Temp
AN S4 / Slave An04	C32	C26	OIL PRESSURE SW
AN S5 / Slave An05	C33	B20	CLUTCH SW
AN S6 / Slave An06	C34	C1	MAF

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