SYVECS LTD

V1.1

GM LT1 / LT4 Plug in kit

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

SYVECS
POWERTRAIN CONTROL

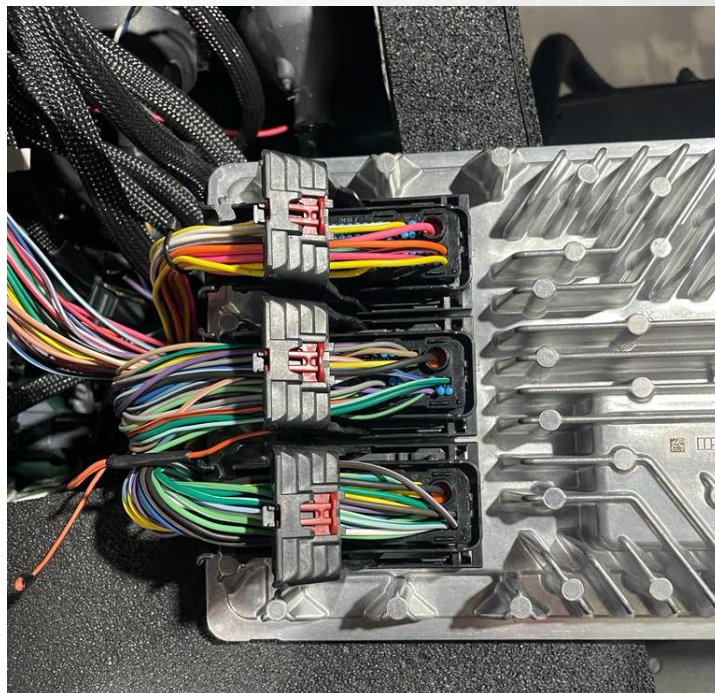## Parts Supplied:

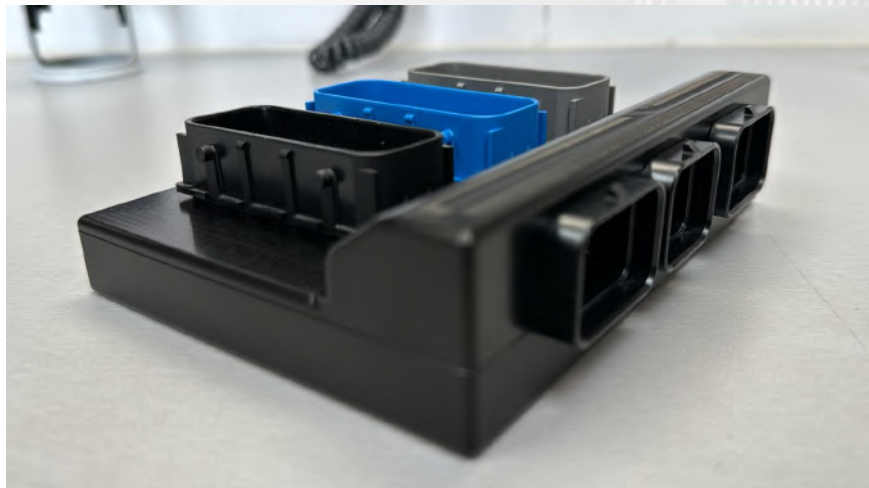Syvecs S7Plus ECU

LT1 Loom Adaptor

Syvecs GDI12

Installation

1 Remove the Negative Terminal from the battery on the Vehicle to be extra safe with electrical components.
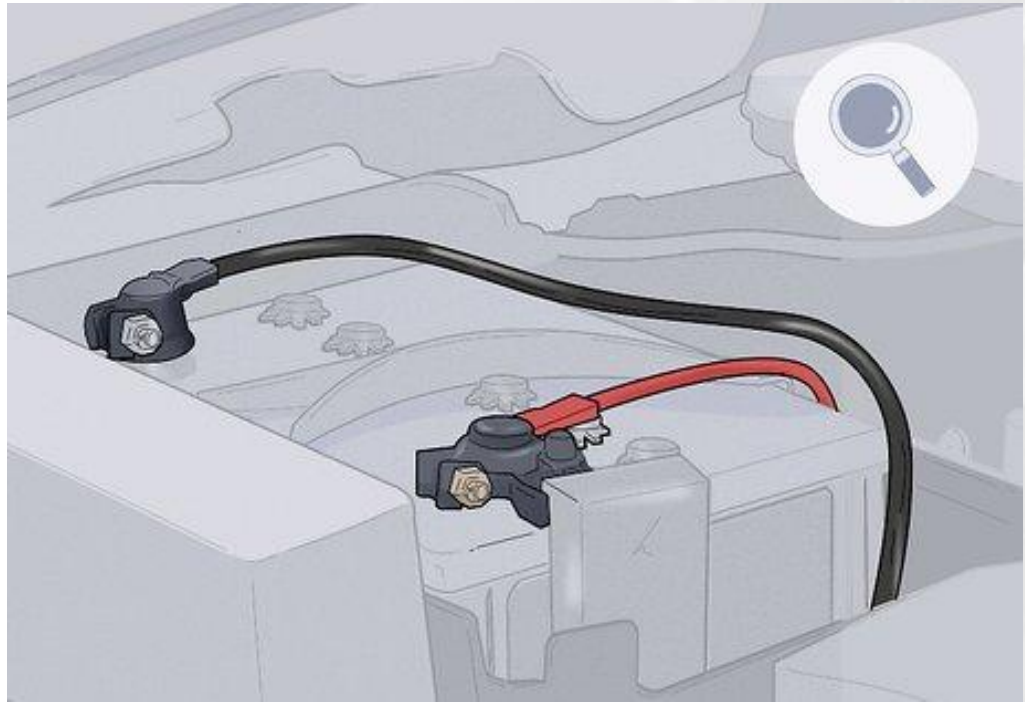

2 Unplug the 3 connectors on the OEM ECU

3 Plug in the Syvecs Adaptor Board to the OEM Harness

4 Plug in the Adaptor harness from Syvecs and pay attention to the labels on the connectors to which is connected to the ecu

5 Reconnect the battery

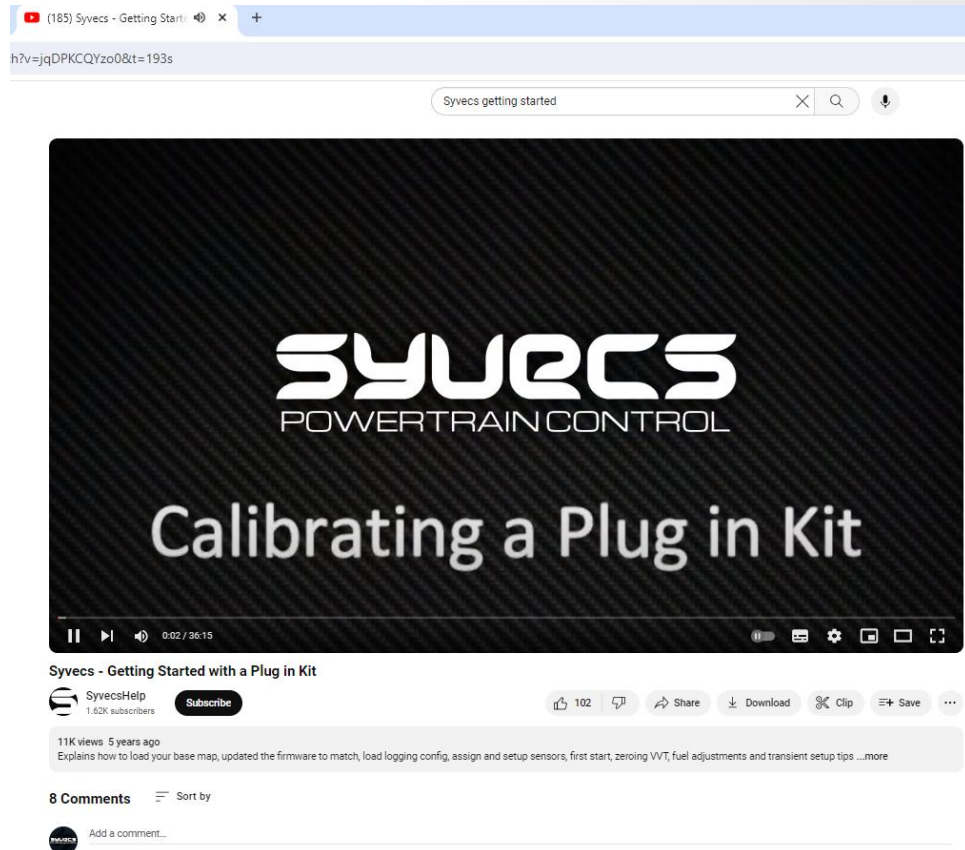6 Plug in the ethernet cable to the adaptor harness and then the laptop

7 Contact Support@Syvecs.com for base calibration
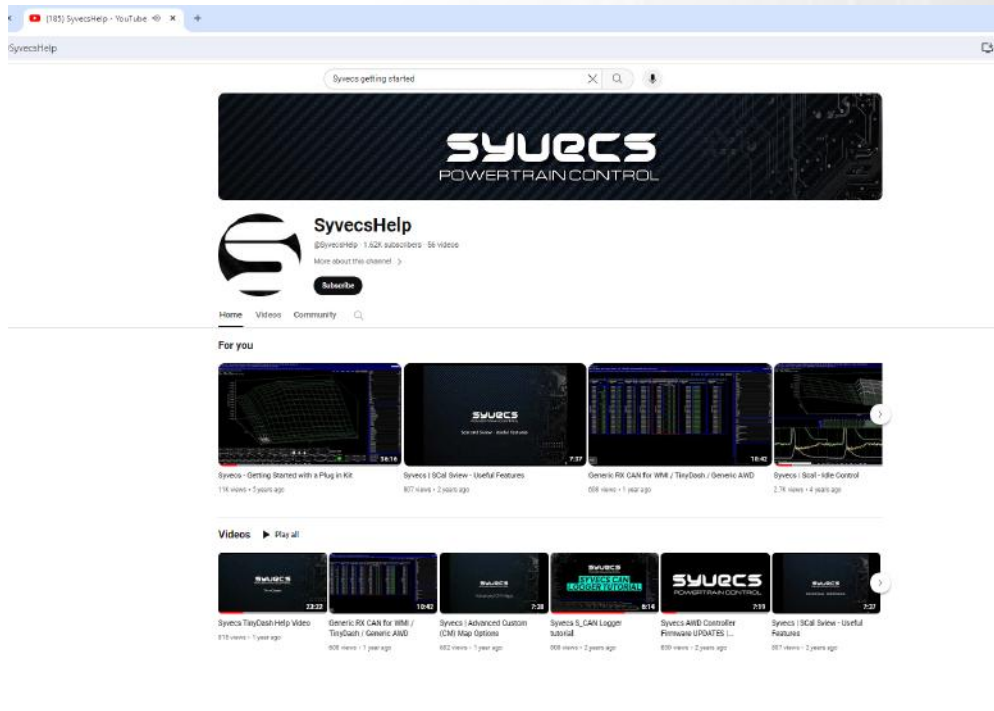
Support / Training

Dealer Support can be obtained from Support@Syvecs.com
End Users Support from Syvecs Forum

A getting started help video is found here for plug in kits
https://www.youtube.com/watch?v=jqDPKCQYzo0&t=1498s

More Syvecs Help videos can be found on our YouTube Page
www.youtube.com/SyvecsHelp

Pinouts

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

Syvecs Description	Syvecs Pinout	Function	Car Note
PWR CTR OUT	A1	MAIN RELAY OUTPUT	Main Relay
H-Bridge1	A2	H-Bridge1	DBW +
H-Bridge2	A3	H-Bridge2	DBW -
H-Bridge3	A4	H-Bridge3	Charge Indicator Control
H-Bridge4	A5	H-Bridge4	Engine Speed output
H-Bridge5	A6	H-Bridge5	Fuel Pump Relay
H-Bridge6	A7	H-Bridge6	Coolant Pump on C7 Corvette
H-Bridge7	A8	H-Bridge7	Oil Pump Command
H-Bridge8	A9	H-Bridge8	VVT Intake
FUEL1	A10	INJECTOR or PWM OUTPUT	Injector1
FUEL2	A11	INJECTOR or PWM OUTPUT	Injector2
FUEL3	A12	INJECTOR or PWM OUTPUT	Injector3
FUEL4	A13	INJECTOR or PWM OUTPUT	Injector4
FUEL5	A14	INJECTOR or PWM OUTPUT	Injector5
FUEL6	A15	INJECTOR or PWM OUTPUT	Injector6
FUEL7	A16	INJECTOR or PWM OUTPUT	Injector7
FUEL8	A17	INJECTOR or PWM OUTPUT	Injector8
FUEL9	A18	PWM OUTPUT	Cel Light
FUEL10	A19	PWM OUTPUT	Fan Control 2
FUEL11	A20	PWM OUTPUT	Speedo
FUEL12	A21	PWM OUTPUT	Evap2 / Fuel Pump PWM
FUEL13	A22	PWM OUTPUT	Ran Fan Speed
FUEL14	A23	PWM OUTPUT	AC Clutch
FUEL15	A24	PWM OUTPUT	Starter Enabled
FUEL16	A25	PWM OUTPUT	Evap Purge
IGN1	A26	CYL 1 IGNITION OUTPUT	Ignition 1 & 6
IGN2	A27	CYL 2 IGNITION OUTPUT	Ignition 2 & 3
IGN3	A28	CYL 3 IGNITION OUTPUT	Ignition 4 & 7
IGN4	A29	CYL 4 IGNITION OUTPUT	Ignition 5 & 8
IGN5	A30	CYL 5 IGNITION OUTPUT	Supercharger Bypass
IGN6	A31	CYL 6 IGNITION OUTPUT	Di Pump Signal
PWRGND	A32	POWER GROUND	Connected to engine loom ground
PWRGND	A33	POWER GROUND	Connected to engine loom ground
PWRGND	A34	POWER GROUND	Connected to engine loom ground

B		DESCRIPTION	CONNECTOR B	
		PART NUMBER	3-1437290-7	
		NOTES:	26 Way - Key1	

PWRGND	B1	POWER GROUND	
CAN L	B2	Can 2	
CAN H	B3	Can 2	
KNOCK 1	B4	KNOCK 1	Odd bank
KNOCK 2	B5	KNOCK 2	Even bank
PVBAT	B6	CONSTANT 12V	NOT NEEDED
IVBAT	B7	12v	12v
LAM1A	B8	Lamv / LamD1+/ LamLun1	Grey NTK
LAM1B	B9	Lami / LamD1- /LamIP1	White NTK
LAM1C	B10	LamLIA1	
LAM1D	B11	LamGND / LamLVM1	Black NTK
LAM1HEATER	B12	LAMBDA HEATER	Blue NTK
IVBAT	B13	12V	Alternator on / Starter Relay Coil
LAM2A	B14	Lamv / LamD1+/ LamLun1	Grey NTK
LAM2B	B15	Lami / LamD1- /LamIP1	White NTK
LAM2C	B16	LamLIA1	
LAM2D	B17	LamGND / LamLVM1	Black NTK
LAM2HEATER	B18	LAMBDA HEATER	Blue NTK
IVBAT	B19	12V	ECU Power
KLINE	B20		
RS232RX	B21	RS232RX	
RS232TX	B22	RS232TX	
LANRX-	B23	Cat5 Pin2	
LANRX+	B24	Cat5 Pin1	
LANTX-	B25	Cat5 Pin6	
LANTX+	B26	Cat5 Pin3	

Pinouts

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	Can L	
CAN H	C9	Can High	Can H	
AN01	C10	BI-POLAR INPUTS	Crank	
AN02	C11	BI-POLAR INPUTS	Cam	
AN03	C12	BI-POLAR INPUTS	Brake Switch	
AN04	C13	BI-POLAR INPUTS	Di Fuel Pressure – SENT	
AN05	C14	UNI-POLAR INPUTS	Pre Throttle Pressure	
AN06	C15	UNI-POLAR INPUTS	Generator Control	
AN07	C16	UNI-POLAR INPUTS	Low Fuel Pressure	
AN08	C17	UNI-POLAR INPUTS	Map	
AN09	C18	VOLT-INPUTS	PPS1	
AN10	C19	VOLT-INPUTS	PPS2	
AN11	C20	VOLT-INPUTS	Gear Position X	
AN12	C21	VOLT-INPUTS	Gear Position Y	
AN13	C22	RESISTIVE INPUTS	IAT	
AN14	C23	RESISTIVE INPUTS	ECT	
AN15	C24	RESISTIVE INPUTS	Oil Temp	
AN16	C25	RESISTIVE INPUTS	Fuel Level Pri	
EGT1-	C26	CAN3L	LR DASH	
EGT1+	C27	CAN3H	LR DASH	
PWR CTR IN	C28	MAIN RELAY INPUT SW	Ign Switch	
AN S1	C29	UNI-POLAR INPUTS	Speed	
AN S2	C30	UNI-POLAR INPUTS	Throttle SENT Signal	
AN S3	C31	UNI-POLAR INPUTS	Throttle SENT Signal – SLAVE	
AN S4	C32	UNI-POLAR INPUTS	MAF	
AN S5	C33	UNI-POLAR INPUTS	Oil Pressure	
AN S6	C34	UNI-POLAR INPUTS	AC Pressure	

Syvecs GDI12 Driver Pinout	Name	Pinout	Notes
1	LS1	J3 – 52	Injector 1
2	LS2	J3 – 47	Injector 6
3	LS3		
4	LS4		
5	LS5	J3 – 48	Injector 8
6	LS6	J3 – 51	Injector 5
7	LS12	J3 – 50	Injector 7
8	LS11	J3 – 45	Injector 4
9	LS10		
10	LS9	J3 – 32	DI Pump Low
11	LS8	J3 – 46	Injector 2
12	LS7	J3 – 49	Injector 3
13	Input 1	S7Plus - A10	Injector 1
14	Input 2	S7Plus - A15	Injector 6
15	Input 3		
16	Input 4		
17	Input 5	S7Plus - A17	Injector 8
18	KLINE		
19	Input 11	S7Plus - A13	Injector 4
20	Input 10		
21	Input 9	S7Plus - A31	Di Pump Signal
22	Input 8	S7Plus - A11	Injector 2
23	Input 7	S7Plus - A12	Injector 3
24	VBAT1	J1 – 67	12v
25	HS1,2	J3 – 67, 72	Injector 1, 6
26	PWRGND	J2 – 73	Gnd
27	HS3,4		
28	HS5,6	J3 – 68, 71	Injector 5,8
29	Input 6	S7Plus - A14	Injector 5
30	Input 12	S7Plus - A16	Injector 7
31	HS11,12	J3 – 65, 70	Injector 4, 7
32	HS9, 10	J3 – 16	DI Pump High
33	PWRGND	J3 – 73	Gnd
34	HS7,8	J3 – 66, 69	Injector 2,3
35	VBAT2	J1 – 73	12v