
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

Parts Supplied:

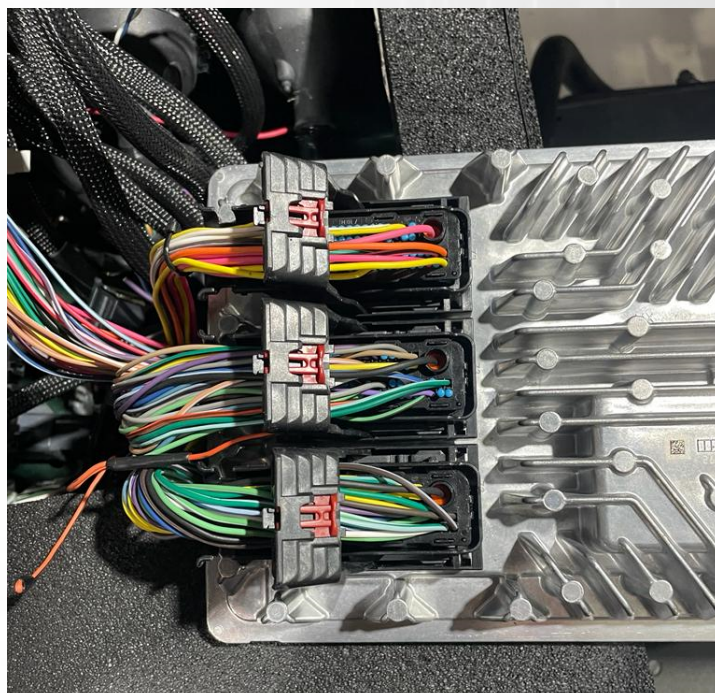
Syvecs S7D ECU
LT1/4 Loom Adapter
2x NTK Lambdas

Installation

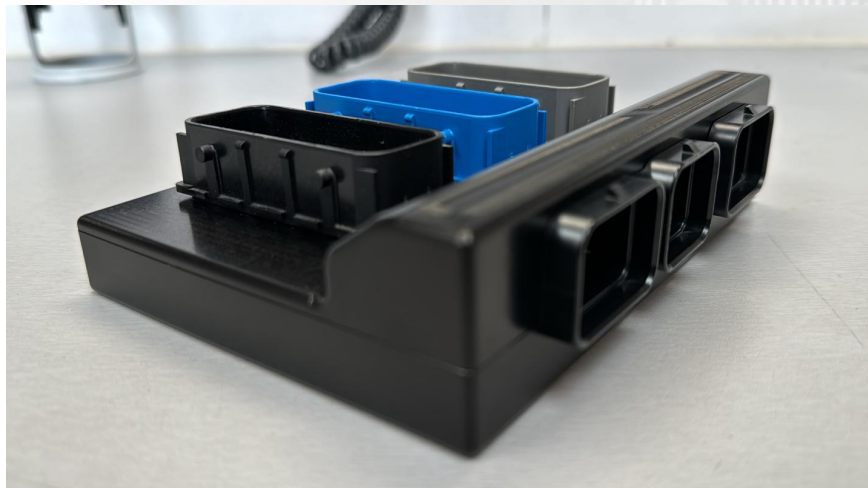
1 Remove the Negative Terminal from the battery on the Vehicle to be extra safe with electrical components.



2 Unplug the 3 connectors on the OEM ECU



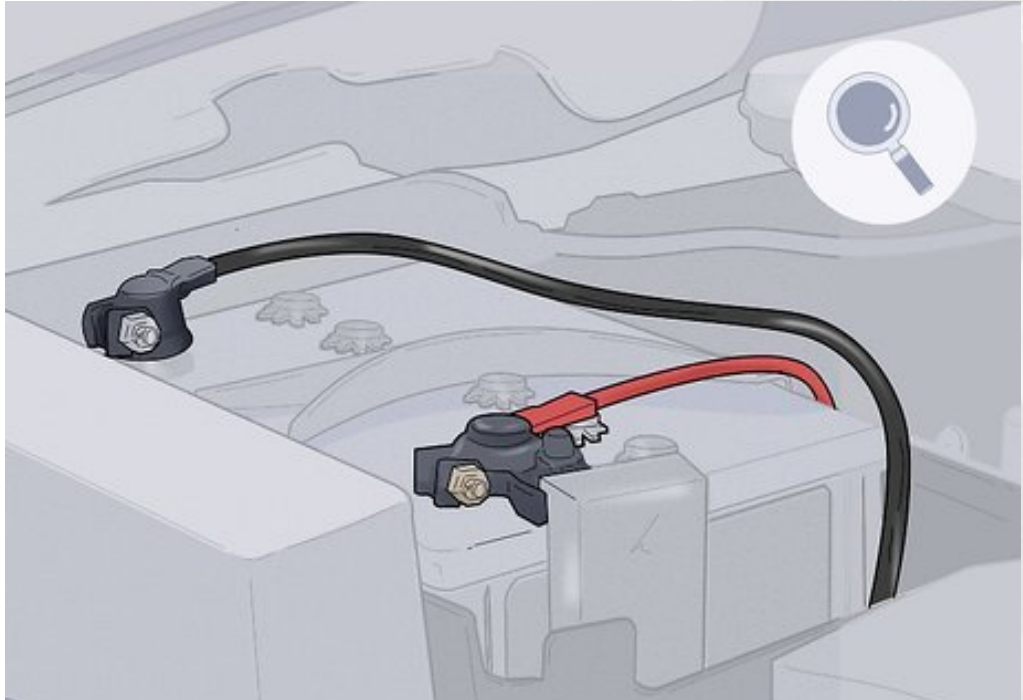
3 Plug in the Syvecs Adaptor Board to the OEM Harness



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

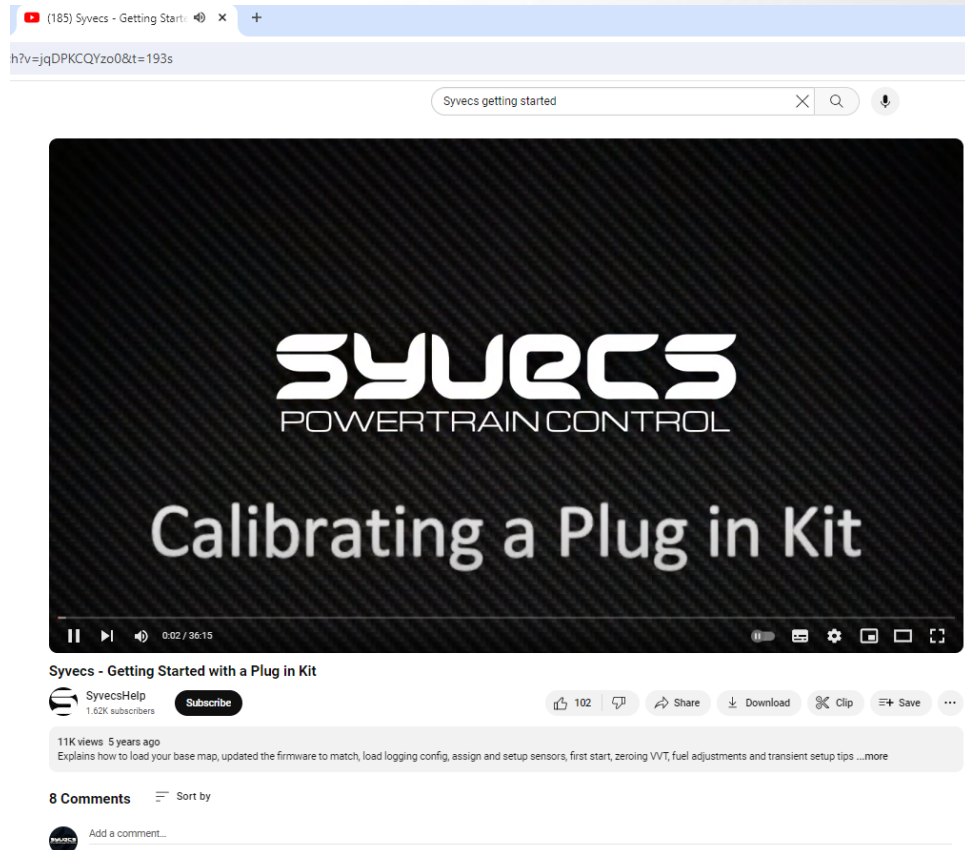
Support / Training

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

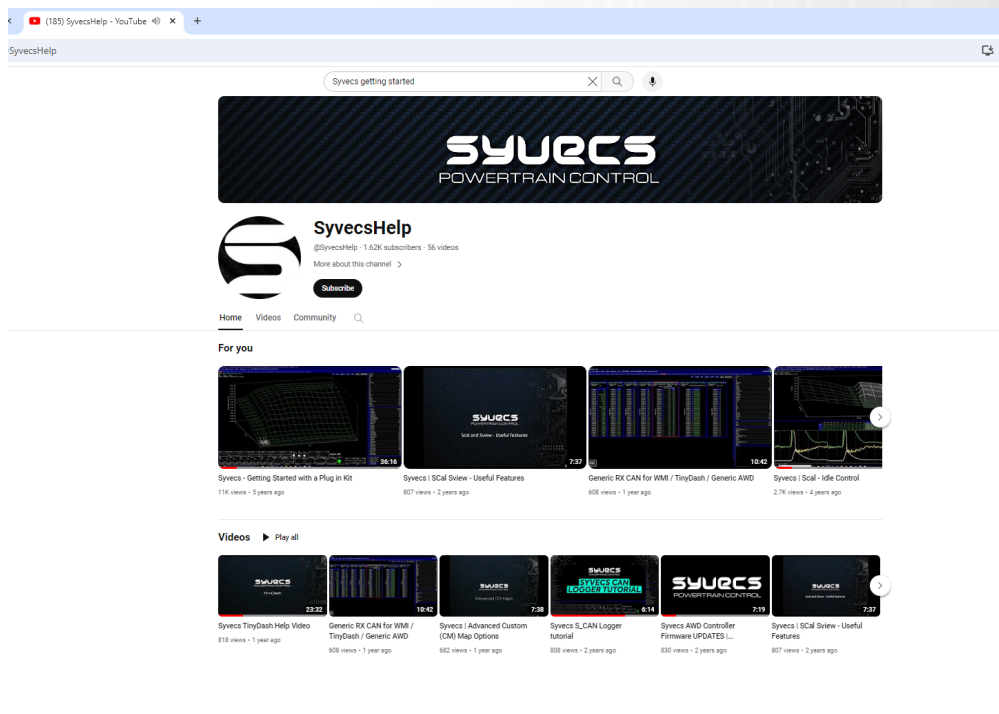
<https://www.youtube.com/watch?v=jqDPKCQYzo0&t=1498s>



The screenshot shows a YouTube video player interface. The video title is "Syvecs - Getting Started with a Plug in Kit". The channel name is "SyvecsHelp" with 1.62K subscribers. The video has 11K views and was uploaded 5 years ago. The description states: "Explains how to load your base map, updated the firmware to match, load logging config, assign and setup sensors, first start, zeroing VVT, fuel adjustments and transient setup tips ...more". There are 8 comments and a "Sort by" dropdown menu. The video player controls show a progress bar at 0:02 / 36:15.

More Syvecs Help videos can be found on our YouTube Page

www.youtube.com/SyvecsHelp



The screenshot shows the YouTube channel page for "SyvecsHelp". The channel banner features the Syvecs logo and the text "POWERTRAIN CONTROL". The channel name is "SyvecsHelp" with 1.62K subscribers and 56 videos. Below the channel information, there is a "For you" section with four video thumbnails: "Syvecs - Getting Started with a Plug in Kit" (11K views, 5 years ago), "Syvecs | SCal Sview - Useful Features" (807 views, 2 years ago), "Generic RX CAN for WM / TinyDash / Generic AWD" (608 views, 1 year ago), and "Syvecs | SCal - Idle Control" (2.7K views, 4 years ago). Below this, there is a "Videos" section with a "Play all" button and a row of six video thumbnails: "Syvecs TinyDash Help Video" (818 views, 1 year ago), "Generic RX CAN for WM / TinyDash / Generic AWD" (508 views, 1 year ago), "Syvecs | Advanced Custom (CM) Map Options" (582 views, 1 year ago), "Syvecs S_CAN Logger tutorial" (908 views, 2 years ago), "Syvecs AWD Controller Firmware UPDATES L..." (830 views, 2 years ago), and "Syvecs | SCal Sview - Useful Features" (807 views, 2 years ago).

Pinouts

Syvecs Description	Syvecs S7D Pinout	Function	J1 – Blue	J2 – Black	J3 – Grey	OEM Function
A	DESCRIPTION	CONNECTOR A				
	PART NUMBER	4-1437290-0				
	NOTES:	34 Way - Key1				
PWR CTR OUT	A1	MAIN RELAY OUTPUT	72			Main Relay
H-Bridge1	A2	H-Bridge1		32		DBW +
H-Bridge2	A3	H-Bridge2		16		DBW -
H-Bridge3	A4	H-Bridge3		53		Charge Indicator Control
H-Bridge4	A5	H-Bridge4		71		Supercharger Bypass
H-Bridge5	A6	H-Bridge5	44			Fuel Pump Relay
H-Bridge6	A7	H-Bridge6	49			Coolant Pump on C7 Corvette
H-Bridge7	A8	H-Bridge7		59		Oil Pump Command
H-Bridge8	A9	H-Bridge8			39	VVT Intake
GDI LS1	A10	Fuel 1 / Low Side GDI 1			52	INJ1
GDI LS2	A11	Low Side GDI 2			47	INJ6
GDI LS3	A12	Fuel 3 / Low Side GDI 3			48	INJ8
GDI LS4	A13	Low Side GDI 4			51	INJ5
GDI LS5	A14	Fuel 5 / Low Side GDI 5			46	INJ2
GDI LS6	A15	Low Side GDI 6			49	INJ3
GDI LS7	A16	Fuel 7 / Low Side GDI 7			50	INJ7
GDI LS8	A17	Low Side GDI 8			45	INJ4
GDI HS1/2	A18	GDI Hi Side 1-2			67,72	INJ1-6
GDI HS3/4	A19	GDI Hi Side 3-4			68,71	INJ5-8
GDI Pump 1 HS	A20	GDI Pump 1 Hi Side				
GDI HS5/6	A21	GDI Hi Side 5-6			66,69	INJ2-3
GDI HS7/8	A22	GDI Hi Side 7-8			65,70	INJ4-7
GDI Pump 2 HS	A23	GDI Pump 2 Hi Side			16	DI PUMP HIGH
GDI Pump 1 LowSide	A24	Fuel15 Output	63			
Fuel16	A25	Fuel16 Output		51		
IGN1	A26	CYL 1 IGNITION OUTPUT			14 & 30	Ignition 1 & 6
IGN2	A27	CYL 2 IGNITION OUTPUT			11 & 27	Ignition 2 & 3
IGN3	A28	CYL 3 IGNITION OUTPUT			12 & 28	Ignition 4 & 7
IGN4	A29	CYL 4 IGNITION OUTPUT			13 & 29	Ignition 5 & 8
IGN5	A30	CYL 5 IGNITION OUTPUT		47		Engine Speed output
IGN6	A31	CYL 6 IGNITION OUTPUT			32	DI PUMP LOW
PWRGND	A32	POWER GROUND		73		PwrGnd
PWRGND	A33	POWER GROUND			73	PwrGnd
PWRGND	A34	POWER GROUND			59	PwrGnd

B	DESCRIPTION	CONNECTOR B				
	PART NUMBER	3-1437290-7				
	NOTES:	26 Way - Key1				
PWRGND	B1	POWER GROUND			15, 31	PWR GND
CAN2 L	B2	Can 2				
CAN2 H	B3	Can 2				
KNOCK 1	B4	KNOCK 1		36		Knock 1
KNOCK 2	B5	KNOCK 2		37		Knock 2
PVBAT	B6	CONSTANT 12V				Constant 12v
IVBAT	B7	12v	62			12v from ECM
LAM1A	B8	Lamv / LamD1+ / LamLun1				NTK Flying Loom
LAM1B	B9	Lami / LamD1- / LamIP1				NTK Flying Loom
LAM1C	B10	LamLIA1				NTK Flying Loom
LAM1D	B11	LamGND / LamLVM1				NTK Flying Loom
LAM1HEATER	B12	LAMBDA HEATER				Heater
IVBAT	B13	12V	67			12v from ECM
LAM2A	B14	Lamv / LamD1+ / LamLun1				NTK Flying Loom
LAM2B	B15	Lami / LamD1- / LamIP1				NTK Flying Loom
LAM2C	B16	LamLIA1				NTK Flying Loom
LAM2D	B17	LamGND / LamLVM1				NTK Flying Loom
LAM2HEATER	B18	LAMBDA HEATER				Heater
IVBAT	B19	12V	73			
KLINE	B20	KLINE				
RS232RX	B21	RS232RX				
RS232TX	B22	RS232TX				
LANRX-	B23	Cat5 Pin2			Orange/White	
LANRX+	B24	Cat5 Pin1			White/Orange	
LANTX-	B25	Cat5 Pin6			Green/White	
LANTX+	B26	Cat5 Pin3			White/Green	

Pinouts

C		DESCRIPTION	CONNECTOR C			
		PART NUMBER	4-1437290-1			
		NOTES:	34 Way - Key2			
KNOCKGND	C1	KNOCKGND		56, 57		
ANGND	C2	SENSOR GND	8, 20, 22, 26, 30, 53, 68			
ANGND	C3	SENSOR GND		3, 25, 31, 54, 63, 69		
ANGND	C4	SENSOR GND			17, 19, 23, 24, 25, 53	
5V OUT	C5	5V OUT	5, 10, 14, 21, 24, 33			
5V OUT	C6	5V OUT		14, 18, 34, 44, (64 was on C7)		
5V OUT	C7	5V OUT			2, 10, 18, 34	
CAN1 L	C8	Can 1 Low	40			Can L
CAN1 H	C9	Can 1 High	39			Can H
AN01	C10	BI-POLAR INPUTS			26	Crank
AN02	C11	BI-POLAR INPUTS			33	Cam
AN03	C12	BI-POLAR INPUTS	57			Brake Switch
AN04	C13	BI-POLAR INPUTS	2 or 41 (2 is Standard)			Di Fuel Pressure – SENT
AN05	C14	UNI-POLAR INPUTS	4			Pre Throttle Pressure
AN06	C15	UNI-POLAR INPUTS	13			LT4 Air Temp
AN07	C16	UNI-POLAR INPUTS		19		Low Fuel Pressure
AN08	C17	UNI-POLAR INPUTS		43		Map
AN09	C18	VOLT-INPUTS	15			PPS1
AN10	C19	VOLT-INPUTS	34			PPS2
AN11	C20	VOLT-INPUTS		67		Gear Position X
AN12	C21	VOLT-INPUTS		68		Gear Position Y
AN13	C22	RESISTIVE INPUTS		49		IAT
AN14	C23	RESISTIVE INPUTS			8	ECT
AN15	C24	RESISTIVE INPUTS			7	Oil Temp
AN16	C25	RESISTIVE INPUTS	25			Fuel Level Pri
EGT1-	C26	EGT1 -				
EGT1+	C27	EGT1 +				
PWR CTR IN	C28	MAIN RELAY INPUT SW	51			Ign Switch
AN S1	C29	UNI-POLAR INPUTS		8		Speed
AN S2	C30	UNI-POLAR INPUTS		70		Throttle SENT Signal
AN S3	C31	UNI-POLAR INPUTS	NC	NC	NC	Throttle SENT Signal – SLAVE
AN S4	C32	UNI-POLAR INPUTS		52		MAF
AN S5	C33	UNI-POLAR INPUTS			1	Oil Pressure
AN S6	C34	UNI-POLAR INPUTS	6			AC Pressure

INFO:

DI Pressure Signal is available in two places on GM Crate looms and OEM Car looms. As default the Syvecs LT1/4 kit is setup for Pin 2 on the J1 connector. If the DI Pressure is not working on your install then following pin C13 from the S7D C connector back to the adaptor box and move the pin on the Adaptor box from C29 to C26 which will connect S7D to pin J1 - 41.

D		DESCRIPTION	CONNECTOR D			
		PART NUMBER	3-1437290-8			
		NOTES:	26 Way - Key2			
DVBAT1	D1	GDI Power Supply	67			
DVBAT2	D2	GDI Power Supply	67			
DVBAT3	D3	GDI Power Supply	73			
DVBAT4	D4	GDI Power Supply	73			
FUEL9	D5	PWM / FUEL OUTPUT	46			Cel Light
FUEL10	D6	PWM / FUEL OUTPUT	42			Fan Control 2
FUEL11	D7	PWM / FUEL OUTPUT	43			Speedo
FUEL12	D8	PWM / FUEL OUTPUT	66			Evap / Fuel Pump PWM on C7?
FUEL13	D9	PWM / FUEL OUTPUT	59			Ran Fan Speed
FUEL14	D10	PWM / FUEL OUTPUT	32			AC Clutch
LSO1	D11	PWM OUTPUT				
LSO2	D12	PWM OUTPUT				
LSO3	D13	PWM OUTPUT				
LSO4	D14	PWM OUTPUT				
LSO5	D15	PWM OUTPUT				
LSO6	D16	PWM OUTPUT				
EGT2-	D17	EGT2 -				
EGT2+	D18	EGT2 +				
NC	D19	NC				
NC	D20	NC				
NC	D21	NC				
NC	D22	NC				
CAN3L	D23	CAN3L				CAN3L
CAN3H	D24	CAN3H				CAN3H
PWRGND	D25	POWER GROUND		73		POWER GROUND
PWRGND	D26	POWER GROUND			73	POWER GROUND