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# SYVECS LTD

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V1.1

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## Canam 2021-23 Plug in 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](mailto:Support@Syvecs.com)

## Installation

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

2 Remove the drivers seat to gain access to the Engine ECU, followed by the ECU Cover shown below which requires the 6 pull tabs removing.

See Evoms help video here - <https://youtu.be/-wXrTPnBx5k>



3 Remove the OEM ECU Cover and unscrew the Fuse Box from the OEM cover as this will be screwed into the new Syvecs ECU Cover.

Unbolt the Factory Engine ECU bracket by removing the 2 hex bolts either side of the bracket, highlighted below.



4 The Factory ECU can then be unplugged from the OEM harness and removed



5 Bolt the Syvecs ECU in the supplied Alu cover and mount the fuse box on the new cover also. The Fuse box gets fitted 90 degrees compared to the OEM Cover.



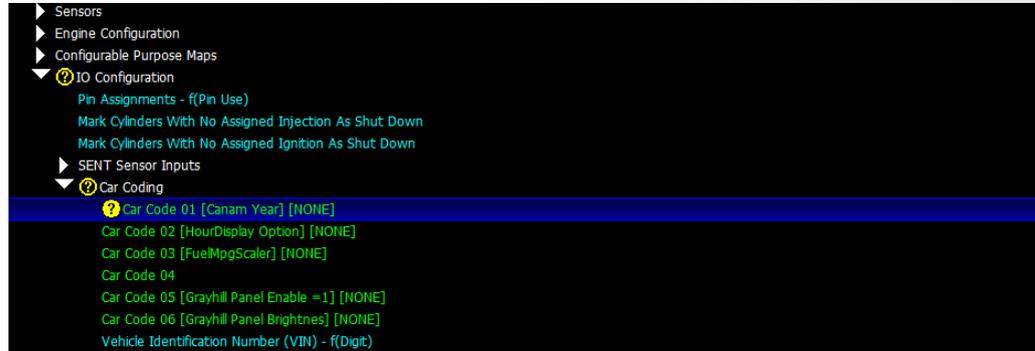
6 Plug in the 26Way connector into the back of the Syvecs Canam Ecu and then mount back the cover in the OEM Location as shown below.



7 Final step is to load the base calibration into the Syvecs ECU which can be requested from support@syvecs.com and setup the module coding for the vehicle.

First enter the model year in

I/O Configuration - CarCode1| Sets the Model year



8 Next step in entering the model options which are sent in a CAN message to the other modules in the vehicle, if not set correct you will get a suspension or DPS warning light.

The Vin Number area of Scal is **NOT** for entering the actual VIN number but a coding setup for model options.



Digit 7 - Sets the Region | 0 = USA , 1 = Asia/GCC

Digit 13 - Sets Suspension Setup | 8 = Smart Shox 0 =Non Smart Shox

Example:

2 Seat USA XRS model with Standard Shocks



# Calibration Switching

The Canam plug in kit allows for multiple options when it comes to Cal/Map switching. The base file provided will come with the following cal select modes. As default this will change the following maps but calibrator to choose many change based on Cal Select

## Eco - Cal Select - 8

DBW Target Map 2 for Eco  
IDLE Target Map 2 for Eco

## Sport - Cal Select - 1

DBW Target Map 1 for Sport  
IDLE Target Map 1 for Sport

## External KeyPad

The Canam plug in kit allows for external Keypads to be connected on the spare CANBus - CAN3, this can be found on the external 26way connector . The Keypads need to be programmed to run at 500kb and Run CanOpen - Grayhill Panel - 3k208-2RN3AG is suitable but please not it will require custom programming. Speak to Support@syvecs.com

In Scal Calibration software at the bottom is i/o Configuration - CarCoding

CarCode5 = 2 - Enable Grayhill Panels on CAN3 (C26/C27) at 500kb

CarCode6 = Change the Panel brightness levels 0-100

### Syvecs pin assignments for each button:

- > XCan Receive C09 - Button 1 (Latch)
- > XCan Receive C10 - Button 2 Momentary
- > XCan Receive C11 - Button 3 Momentary
- > XCan Receive C12 - Button 4 Momentary
- > XCan Receive C13 - Button 5 Momentary
- > XCan Receive C14 - Button 6 (Latch)
- > XCan Receive C15 - Button 7 Momentary (Latch)
- > XCan Receive C16 - Button 8 (Latch)

### Grayhill Panel Pinout



# Custom Features

The original dash board can be setup to display the standard Hour counter but can also be setup to display either Air/Fuel Ratio or Boost in PSI.



This is done by changing I/O Configuration - Car Coding - CarCode2

- 0 = Run Hours
- 1 = Boost PSI
- 2 = Air Fuel Ratio



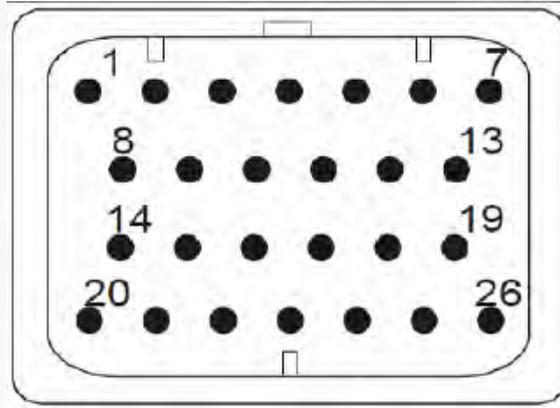
If setting up as Run Hours then the accumulated hour is stored in the ECU and not the dash. To match up the hours used to the OEM ecu you can adjust the hour offset in the below calibration.



## Additional I/O – 26Way Header

The Syvecs Canam 2021+ ECU has an additional I/O connector at the back of the Ecu.

Pinouts are below:



|    |              |                     |
|----|--------------|---------------------|
| 1  | GND          |                     |
| 2  | HBR5         |                     |
| 3  | HBR6         |                     |
| 4  | Fuel8        |                     |
| 5  | Fuel7        |                     |
| 6  | Fuel6        |                     |
| 7  | Vbat         |                     |
| 8  | Lam1Htr      |                     |
| 9  | Lam1A        |                     |
| 10 | Lam1B        |                     |
| 11 | Lam1D        |                     |
| 12 | RS232RX      |                     |
| 13 | RS232TX      |                     |
| 14 | AN12         |                     |
| 15 | AN13         |                     |
| 16 | HBR3         |                     |
| 17 | 5V           |                     |
| 18 | EGT- / CAN3L | - (Default is CAN3) |
| 19 | EGT+ / CAN3H |                     |
| 20 | AN GROUND    |                     |
| 21 | CAN2H        |                     |
| 22 | CAN2L        |                     |
| 23 | LANRX-       |                     |
| 24 | LANRX+       |                     |
| 25 | LANTX-       |                     |
| 26 | LANTX+       |                     |

## Support / Training

Dealer Support can be obtained from [Support@Syvecs.com](mailto: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](http://www.youtube.com/SyvecsHelp)

