

# SYVECS LTD

V1.1



## Suzuki Jimny 4th Gen Plug in Ecu

Designed to work with the 4th Generation Suzuki Jimny 2018+

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)

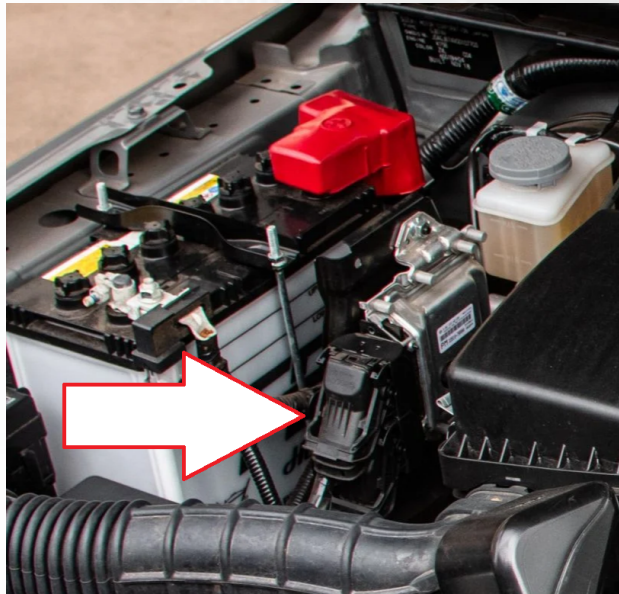
## Parts Supplied

- Syvecs Suzuki Jimny Plug in ECU
- 26Way Connector with Ethernet / Lambda Loom
- NTK Lambda
- 4Bar Map Sensor
- Air Charge Sensor

NOTE: Boost solenoid can be wired to external 26way connector for forced induction

## Installation

- 1 Remove the Negative Terminal from the battery on the Vehicle to be extra safe with electrical components, this is found in the engine bay at the front.
- 2 Unplug the OEM Engine Ecu connectors as shown below.



- 3 Unbolt the Factory Engine ECU and remove from the engine bay.
- 4 The Original can then be put to one side as no longer needed.





5 Replace the Factory engine control unit then with the Syvecs Plug in unit as shown below, secure on the original bracket



6 Plug in the 26Way connector into the front of the Jimny Plug in ECU, this will allow for connection to the ECU via ethernet.

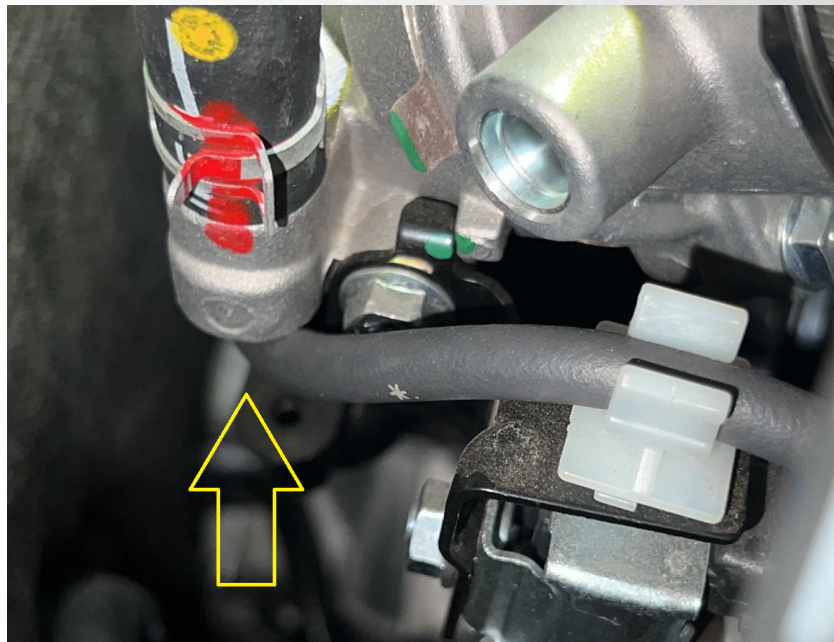




- 7 Remove the OEM Lambda Sensor and replace with the NTK Lambda supplied. Important! make sure the sensor is mounted vertically. Connect the Lambda Loom from the 26Way connector into the NTK lambda.



- 8 The 4bar Map sensor needs to connect to a vacuum source on the intake manifold



- 9 Forced induction applications can wire in the supplied air temp also on the charge pipe into the engine, if not turbo then the OEM air sensor in the intake air pipe can be used.



10 Re-Connect Battery Terminals.

11 Run the Ethernet cable into the Cabin bay and connect to a laptop to allow communications with the Ecu.

12 Download the SSuite Software from the Syvecs Forum

<http://www.syvecs.com/forum/viewtopic.php?t=122>



**Re: LATEST CONFIGURATION(Mapping) SOFTWARE**  
by **Ryan.g** » Thu Mar 16, 2023 8:12 am

The Below Link is for the **LATEST** Syvecs PC Software with USB Support

Version 332 - Right Click - Save AS

[http://www.syvecs.com/downloads/SyvecsS ... -04-18.exe](http://www.syvecs.com/downloads/SyvecsS...-04-18.exe)

Install the SSuite package onto your computer and 6 Programs will appear:

- SCal - Used to adjust the maps in the ECU (Calibrate it)
- SCfg - Used to setup the datalogging (Configure which channels and events to log, and how frequently)
- SData - Used to read datalogs from the ECU
- SView - Used to view and interpret datalogs
- SMon - Used to monitor live ECU parameters
- SMsg - Used to monitor ECU status and debug messages
- SDash - Used to Setup D5 Dash
- SPdu - Used to Setup Power Distribution Modules \*Coming soon\*

Manual can be found here

[http://www.syvecs.com/downloads/Syvecs\\_Manual\\_V1.1.pdf](http://www.syvecs.com/downloads/Syvecs_Manual_V1.1.pdf)

13 Open the Scal Software and follow the getting start help video on our SyvecsHelp Youtube Page

<https://www.youtube.com/Syvecshelp>



**SYVECS**  
POWERTRAIN CONTROL

# Calibrating a Plug in Kit

0:02 / 9:15

Syvecs - Getting Started with a Plug in Kit

SyvecsHelp  
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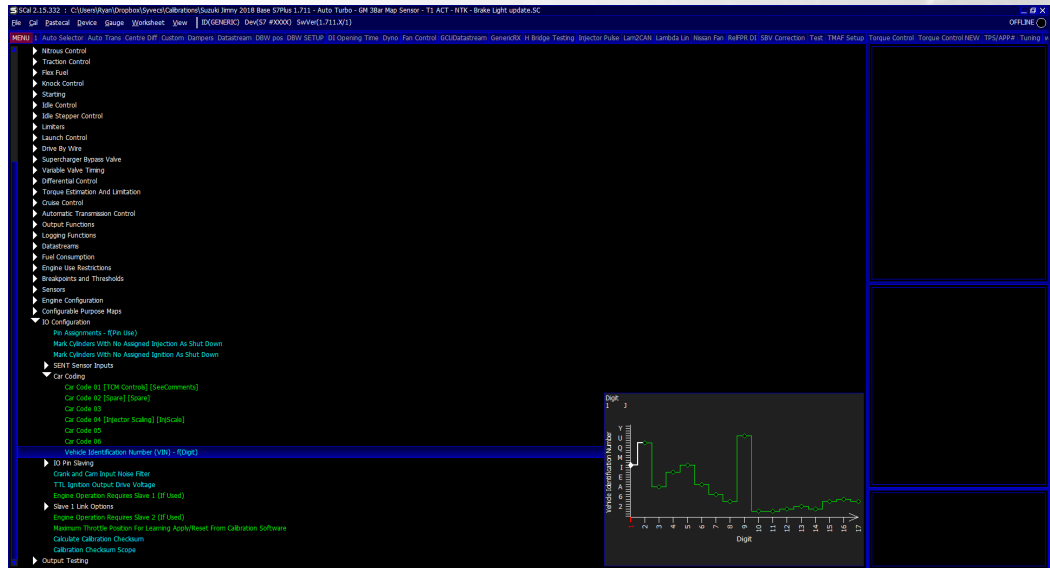
Explains how to load your base map, updated the firmware to match, load logging config, assign and setup sensors, first start, zeroing VVT, fuel adjustments and transient setup tips ...more

8 Comments | Sort by

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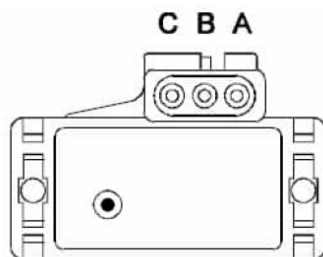
14 After connecting to the ECU and loading a base calibration from Support@Syvecs.com you need to enter the vehicle VIN Number into the SCAL Software.

After entering the VIN number, Device - Program the ECU

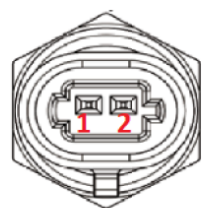
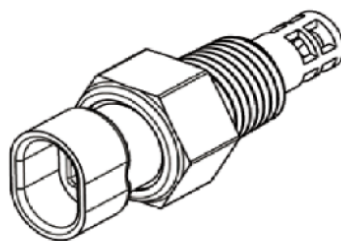


**Force induction applications** – The Suzuki Jimny Base map are based on a speed density setup meaning they use a Manifold Pressure and Air Charge Temp sensor for load calculations. We recommend users wire in an External Map sensor (GM 3bar / Syvecs 4Bar is setup in Base Map) to Pin 16 on the 26 Way connector and an External Air Temp sensor to Pin 15. See Example wiring

below



Gnd - Connect to Pin20 on Syvecs 26 Conn  
Sig - Connect to Pin16 on Syvecs 26 Conn  
5V - Connect to Pin17 on Syvecs 26 Conn



1 - Connect to Pin20 on Syvecs 26 Conn  
2 - Connect to Pin15 on Syvecs 26 Conn



# Calibration Switching



The Cruise Control buttons are used for the Cruise Strategy but also map switching. When the engine is running the Tacho will show the position on the RPM gauge when changing calibration position. Example: Cal1 = 1000rpm, Cal2 = 2000rpm

+ RES = Cal Up / Cruise Speed Up

- SET = Cal Down / Cruise Speed Down

CANCEL = Cal Override / Rolling Antilag / Overboost Button

CRUISE = Cruise On Switch, Activates cruise Control



## Traction Control

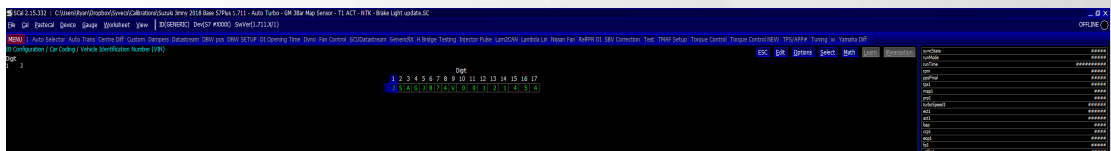
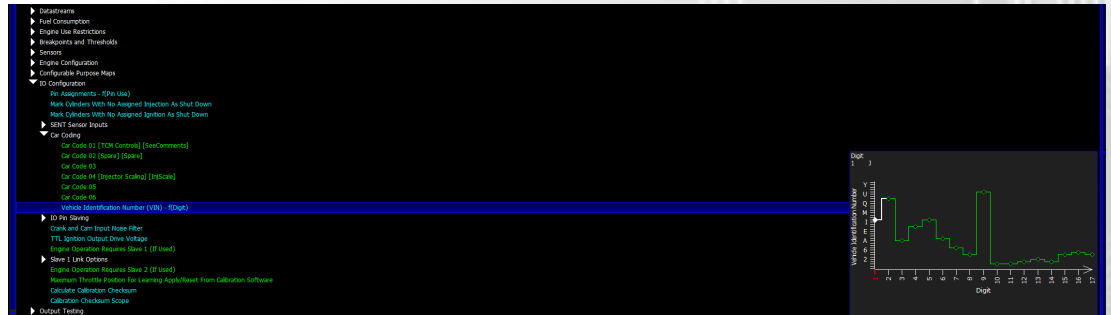
The OEM traction button will change the TCSelect item in Scal when Expert mode is enabled. This will as standard in the base map cause the Syvecs Traction control strategy to be disabled. Calibrators can change this under Calibration Switches - Traction Control - Traction Control Gain Tuning.

## VIN Number

The VIN Number needs to be entered in the Scal software when fitting the Plug in ECU to keep other control systems and OBD2 Diagnostics working.

This can be done by connection to the Jimny ECU via Ethernet and opening the Scal Calibration Software.

Then head to I/O Configuration - Car Coding - Vehicle Identification Number



# Wastegate Control

The Syvecs Jimny plug in has full closed loop wastegate control setup in the base calibrations. Help video can be found here:

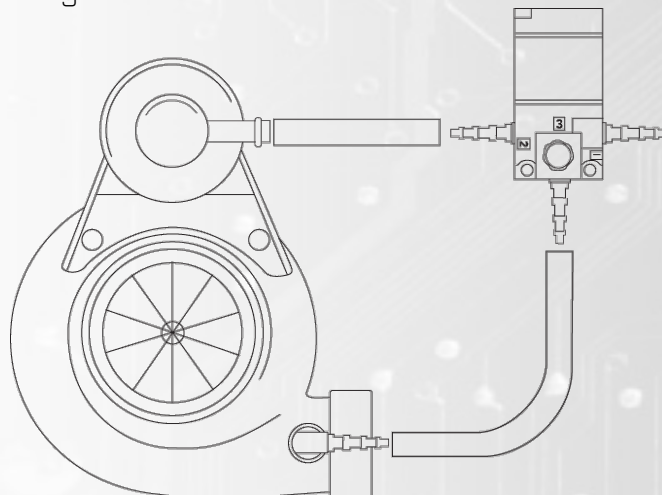
<https://www.youtube.com/watch?v=tESyeOl3C8s>

First wire the boost solenoid to the 26Way header on the front of the ECU.

## Wastegate Solenoid

Solenoid Pin 1 - Syvecs 26w Pin 5 - PWM (Fuel14)

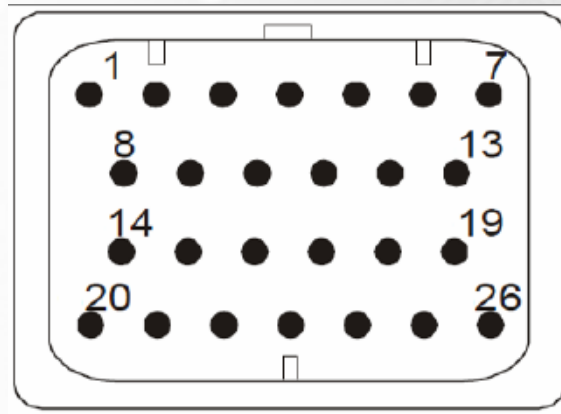
Solenoid Pin 2 - Syvecs 26w Pin 7 - 12v





## Additional I/O – 26Way Header

The Syvecs Suzuki Jimny ECU has an additional I/O connector at the back of the Ecu.



1. Ground
2. Fuel6 Output
3. Fuel5 Output
4. Fuel13 Output
5. Fuel14 Output - Wastegate Solenoid
6. Fuel16 Output
7. Vbat – 12v Supply to power ECU on bench or 12V Out for NTK Lambda Heater(Yellow Wire)
8. Fuel8 Output
9. Lam1v – Grey Wire on L2H2 NTK Lambda
10. Lam1i – White wire on L2H2 NTK Lambda
11. LamGnd – Black wire on L2H2 NTK Lambda
12. RS232RX
13. RS232TX
14. Not Connected
15. AN13 – Air Charge Temp Input
16. AN3 – Map Sensor Input
17. 5V Regulated Output
18. EGT1 –
19. EGT1 +
20. anGnd – Sensor Ground
21. CAN2H
22. CAN2L
23. LanRX- Orange/White
24. LanRX+ White/Orange
25. LanTX- Green/White
26. LanTX+ White/Green