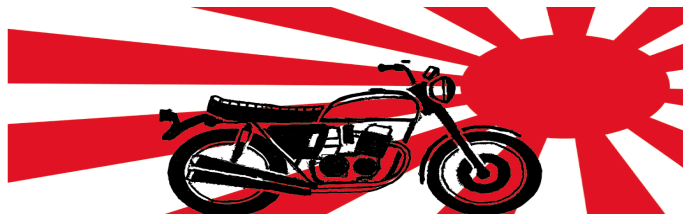


TAI to LS2 Coil Adapter Module

Installation Manual

Rae-San

1/12/2019



Rae-San LS2 Coil Adaptor Module

Intro

Congratulations on your purchase of the Rae-San LS2 Coil Adaptor, you obviously require some serious spark for your application.

What

The Rae-San LS2 adaptor module is primarily a logic level shifter that takes the 12V active low signal normally used to drive the 12V coils directly – and converts this into the required 5V signal to drive LS2 style electronic coils.

The dwell and ignition timing are still determined by the existing ignition controller, so there is no change to the timing, just stronger spark.

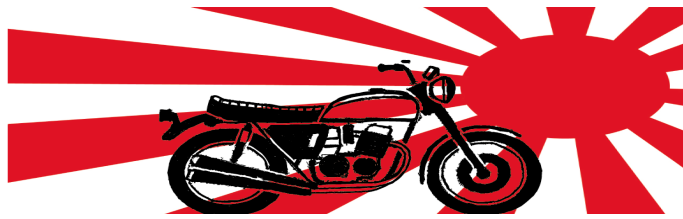
LS2 coils look like these – there are a couple of styles available both from Ford and GM and aftermarket.

Mounting kits and brackets are available in modular and complete assemblies from sources on the internet if desired.

Importantly – the LS2 coil Adaptor is able to be used with all 12V based coil systems **except points based systems**:

Points based systems have very limited dwell control – and can stop in a position where the coil is left energized – the LS2 coils are designed to be operated on a roughly 4-6ms dwell, and if the dwell is too long they will stop the dwell and fire immediately to protect themselves.

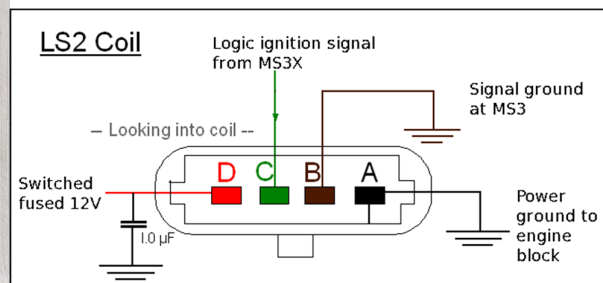
The LS2 adaptor does not require a Rae-San ignition – it is compatible with the OEM and aftermarket ignitions.

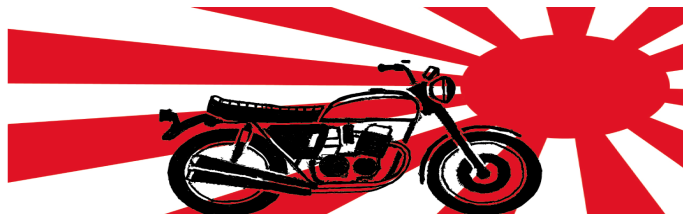


LS2 Coils and Brackets

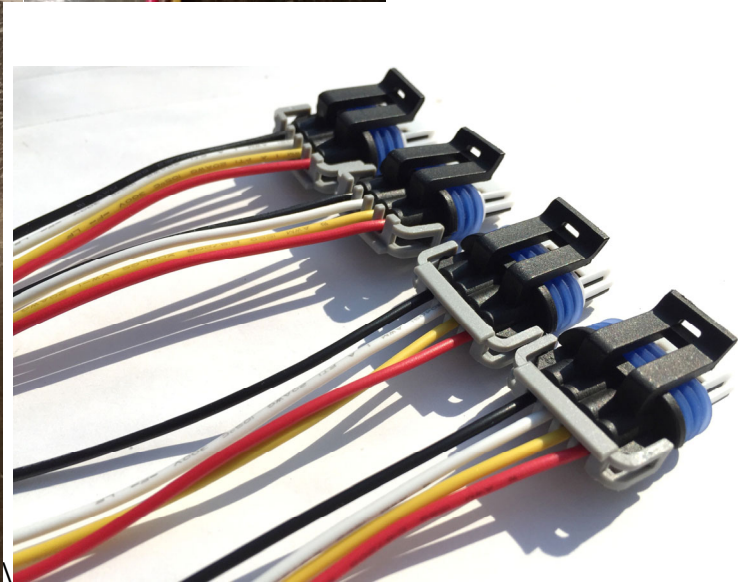
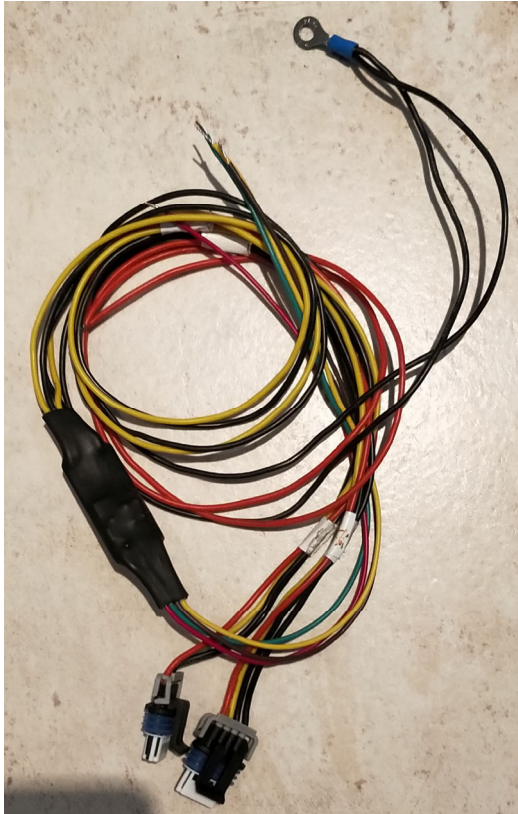


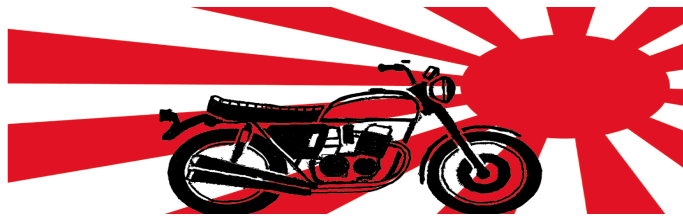
And





And the Adaptor looks like this





Why

LS2 coils – The Good

- Huge Spark
- Dwell time protected – coils are self protecting
- Current limit protected
- Robust
- Separate power lines for the coil charge and discharge
- Readily available performance upgrade on cars

LS2 Coils – The Not So Good

- Higher cost than standard coils
- Need one per cylinder – so mounting space can be an issue
- Different mounting compared to the OEM coils

How

In order to provide the LS2 coils with the power they need, they require a high current path to be wired from the battery and to a nearby solid chassis ground.

This is accommodated in the LS2 adaptor by providing separate wiring to each connector for these paths that should then be wired as directly as possible. The Battery connection should go through a fuse and a relay is preferred to switch the ignition coils power as this avoids any losses or the need to run high currents through any of the bikes existing wiring.

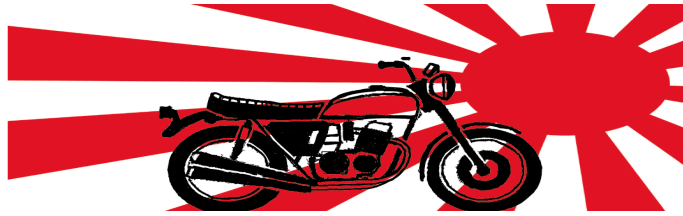
The attached schematics show the basic setup for 4 coil systems. For a 2 coil setup (2 cylinders) the rightmost 2 coils and connectors are just deleted.

The schematic shows both the setup if using a Rae-San TAI ignition controlled – or if using the original or other ignition controller.

As long as the system is designed to normally drive 12V coils by grounding one side - then it can use the LS2 adaptor to convert this to drive the LS2 coils.

General notes.

- The LS2 adaptor is sealed within glue lined heatshrink to provide environmental protection – the components within are mostly surface mount electronics, so the board is quite low profile –
- The LS2 adaptor can be mounted near the coils, but not too close – preferably 3 – 10 inches away, as this helps to keep the wires short and direct.



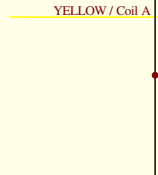
- The coil ground should be securely mounted directly to the frame or engine, close to the coils.

RAE_SAN TAI



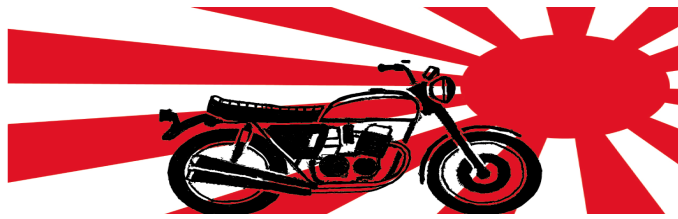
remove oem coils and replace with LS2 coils.
connect yellow and blue to the original coil connections - igniter side of coil
Connect LS2 Module input side power to original Coil power (+12V)
Connect LS2 Module input side Ground to chassis.

plug LS2 Module outputs to the 2 / 4 coils
connect high current 12V from coils to relay
connect high current ground to chassis as near to the LS2 coils as possible (short wires)
connect Relay to power from coils or direct



HIGH CURRENT GROUND

HIGH CURRENT COIL POWER



MOTORCYCLE PRODUCT DISCLAIMER

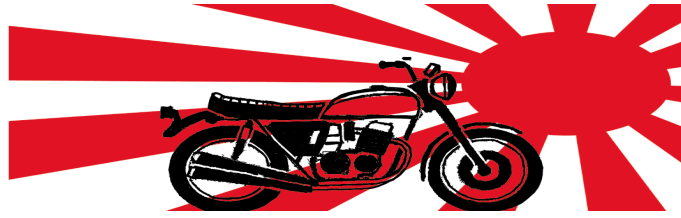
Motorcycling is an inherently dangerous activity, which may result in personal injury and / or death. While Rae-San (and/or Entities Trading as Rae-San) products are designed to offer superior riding comfort and performance, no product can offer complete protection from injury or damage to individuals and property in case of fall, loss of control or otherwise. You should wear appropriate protective equipment, obey all traffic laws, regulations and use good judgment. Never take alcohol or drugs (legal or illegal) before riding. Always inspect your motorcycle before riding, and read your owners manual. You should be familiar with the wide range of foreseeable hazards of motorcycling and decide whether to assume the risks inherent in such activity, which include damage to property, serious injury to you or others and death.

RAE-SAN (AND/OR ENTITIES TRADING AS RAE-SAN) DISCLAIMS ANY RESPONSIBILITY FOR INJURIES OR DAMAGES INCURED WHILE USING ANY OF ITS PRODUCTS. RAE-SAN (AND/OR ENTITIES TRADING AS RAE-SAN) MAKES NO GUARANTEES OR REPRESENTATIONS, EXPRESSED OR IMPLIED, REGARDING MATERIALS AND WORKMANSHIP OR THE FITNESS OF ITS PRODUCTS FOR ANY PARTICULAR PURPOSE, FURTHER RAE-SAN (AND/OR ENTITIES TRADING AS RAE-SAN) MAKES NO GUARANTEES OR REPRESENTATIONS, EXPRESSED OR IMPLIED, REGARDING THE EXTENT TO WHICH ITS PRODUCTS PROTECT INDIVIDUALS OR PROPERTY FROM INJURY OR DEATH OR DAMAGE. RAE-SAN (AND/OR ENTITIES TRADING AS RAE-SAN) DISCLAIMS ANY RESPONSIBILITY FOR INJURIES, DEATH OR DAMAGES DUE TO IMPROPER INSTALLATION OF ITS PRODUCTS. ANY ACTUAL ATTORNEY FEES FOR ANY UNSUCCESSFUL CLAIM AGAINST SELLER TO BE PAID BY PLAINTIFF/COUNTER-CLAIMANT.

Modification of a motorcycle by fitting the devices obtained from Rae-San (and/or entities trading as Rae-San) may void manufacturer's warranty, state and federal laws and render insurance void. It is the responsibility of the motorcycle owner to be familiar with these laws. Fitting of any product from Rae-San (and/or entities trading as Rae-San) constitutes acceptance of the responsibility and consequences of any legal, insurance, or warranty breach by the motorcycle owner. Furthermore fitting of any device constitutes acceptance and agreement to indemnify Rae-San (and/or entities trading as Rae-San) of all damages and liabilities that may arise in the event of accident, misfortune or failure of a device.

12 MONTH LIMITED WARRANTY AND LIABILITY DISCLAIMER

Rae-San (and/or Entities Trading as Rae-San) warrants this product free from defects in material or workmanship for a period of 12 months from the date of purchase, except as noted. The product warranty does not cover damage caused by misuse or abuse; accident; the attachment of any unauthorized accessory; alteration to the product, improper installation, exposure to harsh weather and/or chemicals, lack of proper maintenance, lubrication, or any other conditions that are beyond the control of Rae-San (and/or Entities Trading as Rae-San). Rae-San (and/or Entities Trading as Rae-San) shall not be responsible for any type of incidental, consequential, or special damages. All



implied warranties, including but not limited to those warranties of fitness and merchant accountability, are limited in the total duration to 12 months from the original purchase date. If the warranty occurs within 30 days from the date of purchase, please contact the dealer the product was purchased from. Over 30 days from the date of purchase, please contact Rae-San (and/or Entities Trading as Rae-San) direct at Rae-San@Rae-San.com. Customer must contact Rae-San (and/or Entities Trading as Rae-San) prior to sending warranty product. Claims for lost shipment, damaged shipments, or other problems regarding freight must be made directly to the responsible carrier. Warranty is solely through Rae-San (and/or Entities Trading as Rae-San). Service to our products by anyone other than Rae-San (and/or Entities Trading as Rae-San) authorized installation centers voids warranty. Rae-San (and/or Entities Trading as Rae-San) disclaims any and all liability for consequential or incidental damages. Rae-San (and/or Entities Trading as Rae-San) will not be held responsible for personal damage, bodily harm or any other legal matters.