12VC-AC2 Regulated AC Lighting - TT500 & RMK2/4 Based Kits

Thank you for purchasing from Rex's. This lighting kit provides fully regulated AC power for very basic lighting systems found on competition machines. It replaces the un-regulated TT500 generator that blows bulbs and provides regulated AC power for 'marker lighting'. The kit can fitted to TT500 & XT500 standard stators or to our electronic ignition kits that use the billet stator p/n 'MR2' (RMK2 & 4 kits).

The majority of the output is AC for direct style lighting (35 to 45 watt headlamp), the charge condenser supplied with the kit must be connected to the regulator to allow the system to run without a battery and without blowing bulbs when the engine is revved. DC power (up to 1 amp) is also available for horns etc. For DC power connect between the earth circuit and the free slot on the red wire at the regulator. Note the system is for bikes with very simple wiring where the primary use is off road or competition, it is not intended for road use and can't power indicators, LED lights, accessories or sat-navs.

The kit comes with an 'expert' rating and we recommend you read this guide fully before starting work, you may need to get help from a motorcycle electrician. The person fitting the kit must have extremely good wiring skills and be able to read wiring diagrams to correctly connect to output to the bike's wiring. The generator is a precision part requiring a high level of skill and attention to detail to avoid serious damage being caused when fitting parts to it.

Technical support is only available via e-mail: tech@rexs-speedshop.com

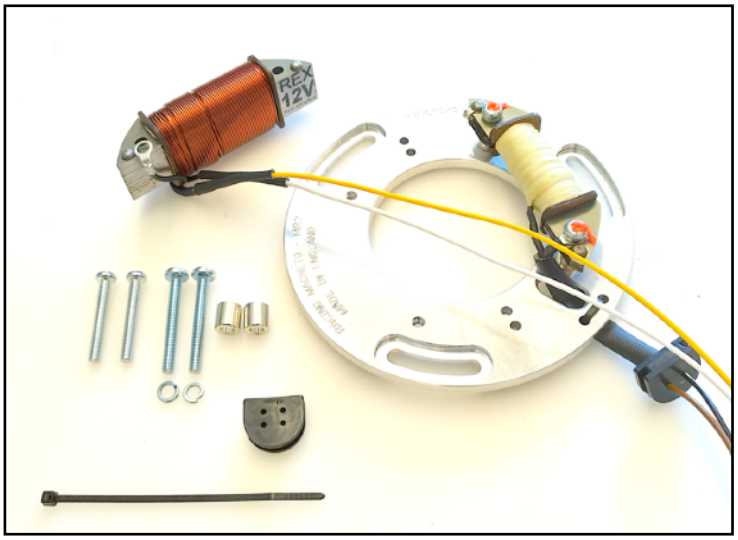
Included in the kit:
Lighting coil LC-1.
Coil to MR2 stator fitting hardware
New generator case sealing grommet
Wire & terminal kit
Voltage regulator
Charge condenser

Fitting the kit.

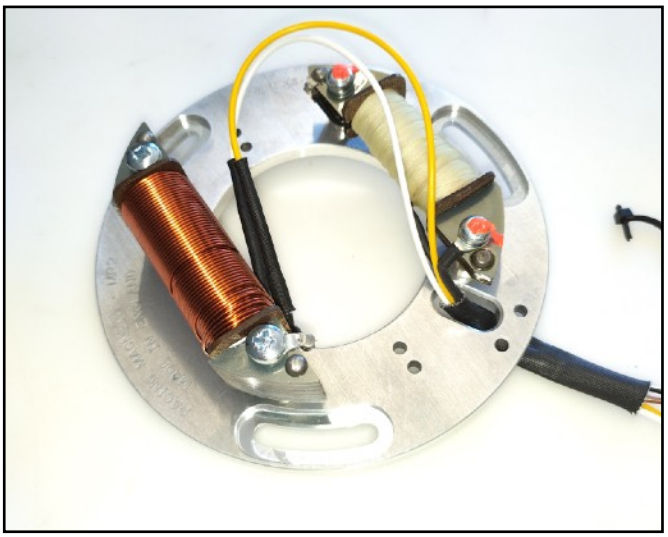
1. If you are adding this kit to a stator start by mounting the lighting coil to the stator plate. If the stator has been supplied with the coil pre-fitted skip to **"Wiring the Electrics".**
2. Remove the end plugs and black sleeve. Fit the lighting coil to the stator plate using the supplied hardware. Place the spacers under the lighting coil so it is raised over the stator plate.

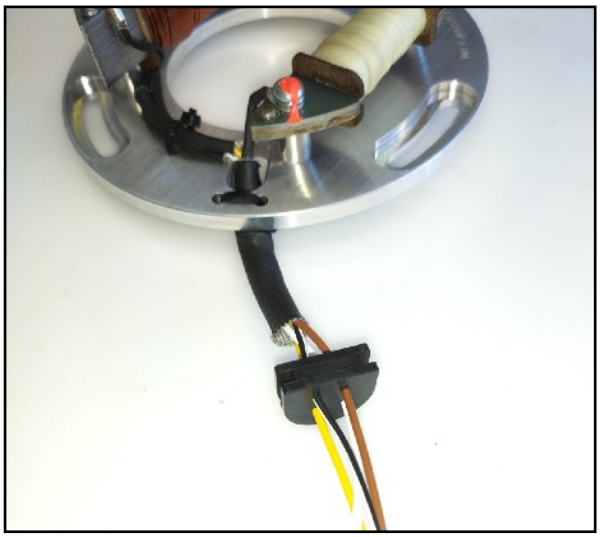
Standard Yamaha Stators
The longer 40mm screws & spacers are required when fitting to our MR2 billet stator.

Use shorter 35mm screws, without the spacers when fitting to a standard Yamaha stator.

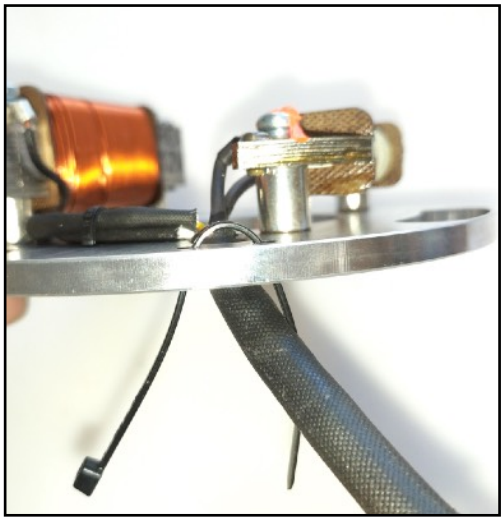


3. Remove the original generator case sealing grommet and combine the lighting wires in to the loom. Note these must go through the sleeve so they do not rub on the stator. Replace the cable tie and ensure the wiring is as close and flat to the stator as possible where it passes through it. Fit the new grommet.

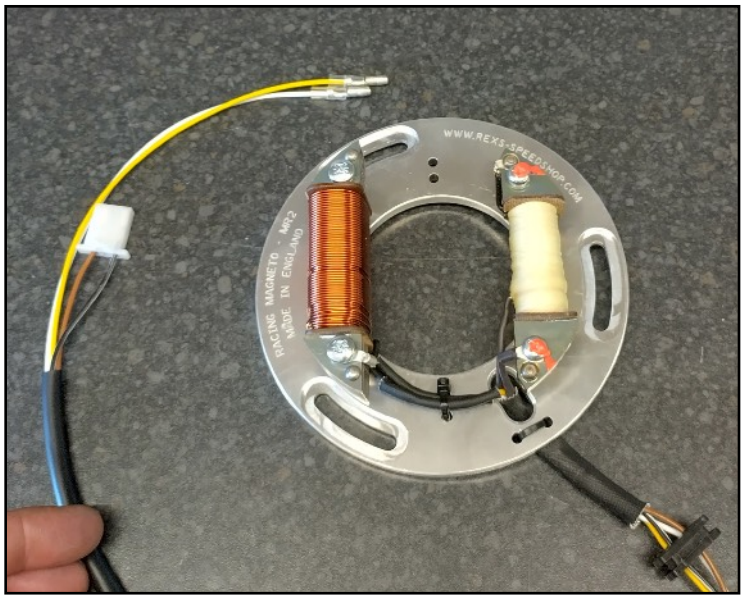




4. Combine the wires to the loom. It is important to ensure the cable tie is fitted with the lock on the rear of the stator. Fit male bullets as shown to the lighting wires. Replace the CDi connector (new one supplied). Ensure the wires match across the connector. Compare to the CDi connector!



Note which way the cable tie fits.
The lock must go to the opposite side to the windings on the stator

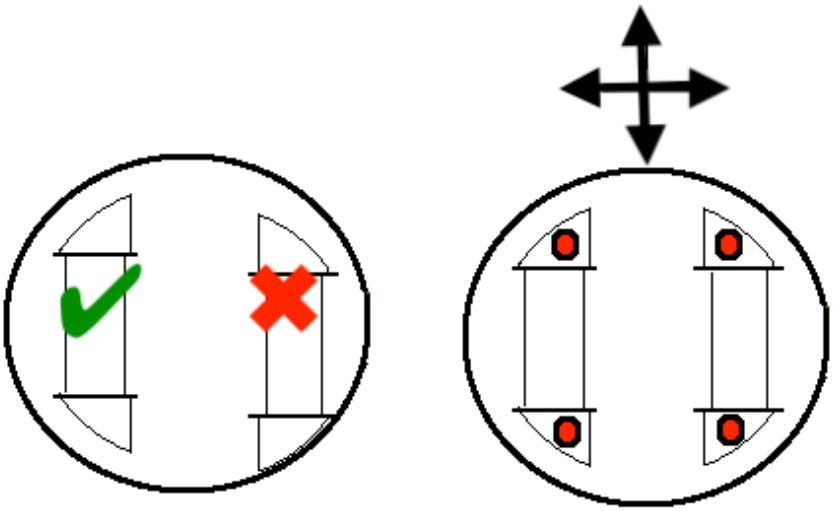


On a standard Yamaha stators route the new wires in the same fashion. Use a drop of epoxy resin to adhere the wires on the wire guides if required.

5. WARNING. Danger of severe engine damage and injury!!
Refit the stator and rotor. Ensure the lighting coil and CDi source coils have 0.3 to 1.0mm of clearance to the rotor. Make sure the gaps are equal at both ends.

If there is ANY contact with the rotor, no matter how slight, extensive damage will occur. Even a slight contact with the rotor will cause the winding to over heat and burn out. In severe cases magnets or the windings can be torn free resulting in parts being damaged beyond repair or possible injury to the rider.

Adjust clearance by slightly loosening the retaining screws (in red) so its possible to manipulate the winding to achieve equal clearance at each of its ends. This is tricky as the magnets will pull the winding towards them. Often it is best to remove the flywheel, make an adjustment the refit the flywheel and recheck. Failing to do this correctly will cause extensive damage that will not be repaired under warranty.



Use spring washers under the screw head and thread locking compound on the threads to avoid the screws becoming loose.

Injury or damage to parts may occur if these screws come loose when the engine is running.

Warning: Your warranty is void where windings overheat, touch the rotor or fasteners come loose. Final assembly is YOUR responsibility!

Wiring the Electrics

Although designed to be simple and rugged, high standards of wiring are essential for this system to work reliably. This requires motorcycle type connectors and the correct crimp forming tools.

The new wires from the generator connect: YELLOW to YELLOW. WHITE to GREEN/WHITE on the regulator/rectifier loom.

Mount the regulator rectifier and charge condenser securely. The case does not need to be earthed. The charge condenser must always be connected when the engine its running. The RR unit will fail if it becomes disconnected.

The lights feed from the YELLOW (B) and earth from the BLACK (A). We use double connectors at the regulator rectifier for simple connection. On TT500 connect the Red/White to the YELLOW (B).

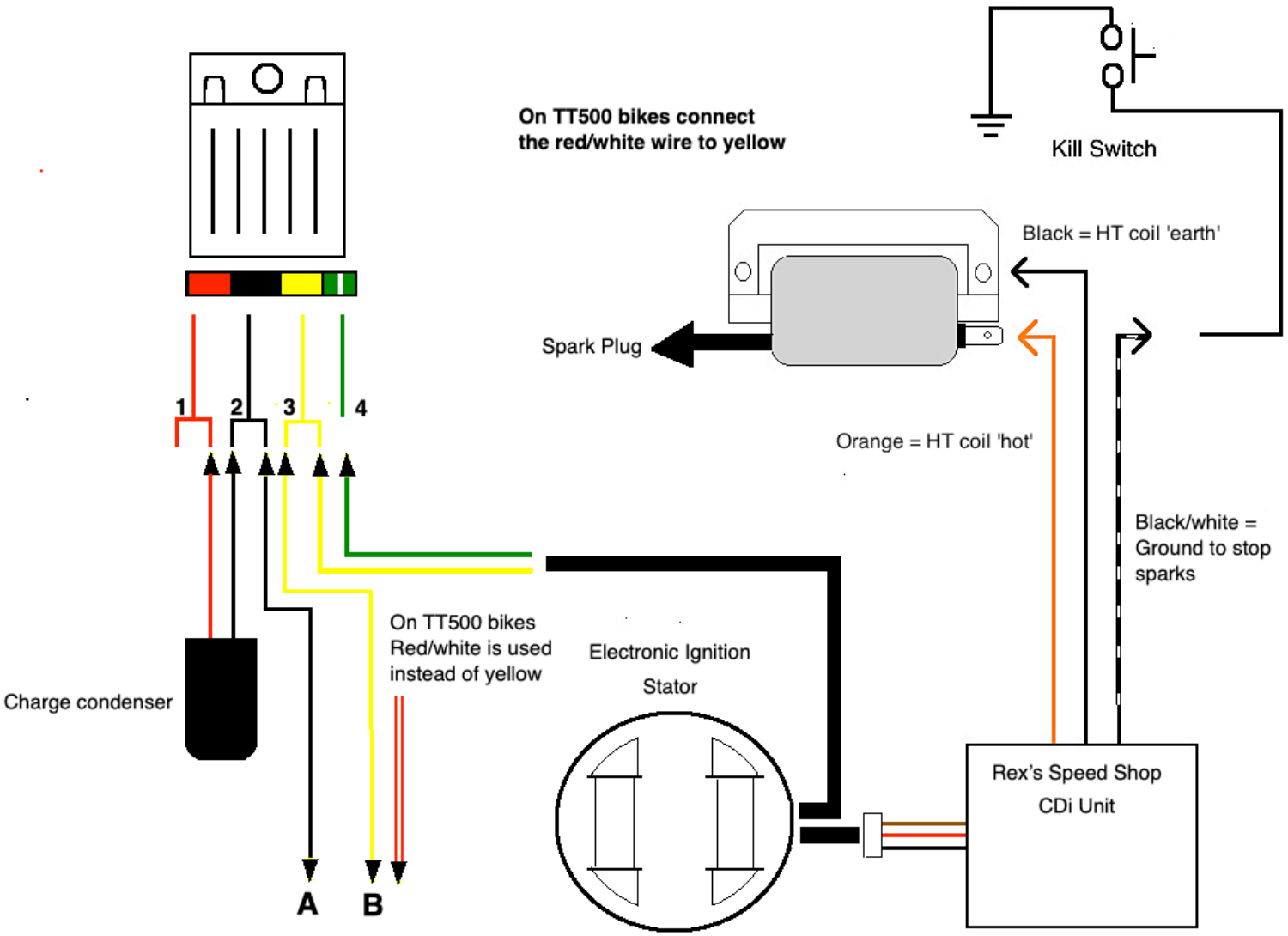
Take the BLACK wire to the HT coil mount point to form the master earth. Use a ring terminal under the coil mounting bolt. From here run a BLACK wire to the earth connector of the headlamp and rear bulb. If the machine already has an earth wire at the bulbs, ensure it connects to the HT coil mount.

Connect the YELLOW to either the light switch, if there is one, or it can also be permanently connected so the lights come on all the time when the engine is running.

Suggested bulbs.

Head lamp: 12volt, 35 to 45 watt.
Rear light: 12 volt 5 watt. It is also possible to feed a 21/5W bulb for brake lights.
Do not use LED lighting with this kit.

Kit Wiring Diagram



Typical generic bike wiring example - (will vary on individual bikes)