Rex's Speed Shop

Robertsbridge - England

RMK8 & 9 Stator Kit Fitting: 12V Conversion Section

System Philosophy

We have designed our 12 volt conversion part of the electronic ignition be a simple plug-in modification without changes to the bike's original wiring. Our systems are extremely popular as there are no complicated wiring diagrams to follow and excellent results are easy to obtain with very little electrical knowledge.

While we have taken care to make installation as simple as possible some pre 1977 DT models can have several charging system variations within each model. To avoid problems it is essential the person doing the work thoroughly checks what charging components are actually fitted. Ballast resistors and voltage regulators, some factory fitted, others added under a service bulletin must be found and removed. Previous owners often added these parts to stop bulbs blowing - these maybe found mounted in unusual locations. A 12V conversion will not work correctly with these parts fitted.

Connectors found not as expected on the bike's wiring loom are also extremely common. This can be due to market variations or a connector that was replaced at some point. The terminals at the rectifier and regulator are often changed due to corrosion. So that fitting is easy and straight forward we now include an opposite set of rectifier and regulator terminals in all 12 volt RMK electronic ignition kits.

Before Installing your new 12V conversion: Important Warnings and Cautions

-To avoid damaging electrical parts, electrical fires or injury ensure the battery is disconnected and removed from the machine while converting the electrical system.

-Ensure all 6 volt parts are replaced with 12 volt parts before applying 12 volts to the system.

-Serious damage to your motorcycle can result if you apply 12 volts to a 6 volt battery. Batteries can explode or leak acid if the wrong voltage is applied to them. Battery acid is highly corrosive and toxic. The only battery technology that must be used is lead acid (wet, sealed, gel or AGM). To reduce the possibility of injury and/or damage to equipment use AGM. Under no circumstance should lithium batteries be used.

-This kit is intended to convert the charging system from 6 to 12 volts. By fitting this equipment installer assumes all responsibility and liability in ensuring that the lighting system, lamps, bulbs reflectors and associated controls and equipment comply with local vehicle lighting laws and safety regulations.

-A battery eliminator can be used but is not recommended for road machines. With the engine at idle lighting may not be bright. With the engine off the headlamp and other AC lights will not work. This could leave you invisible to other road users at night.

Fitting Guide

This guide assumes that the stator is already fitted to the engine, refer to the relevant RMK ignition kit guide for stator/ignition fitting.

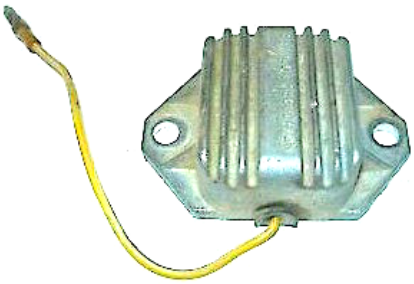
Remove and discard the 6 volt battery, bulbs, horn & indicator relay. Replace these items with 12 volts versions. The bike's shop manual will help you if you need it.

The 2 wire indicator relay we supply works normally - even where a three wire unit was fitted to the bike

Do not connect the 12 volt battery at this stage.

Technical Team E-mail: tech@rexs-speedshop.com

Identifying Regulators & Ballast Resistors



OEM regulators

Replacement regulator

Ballast resistor

You must check in and around the headlamp, headstock and battery area for any of the above 6V components, if found they should be removed. Yamaha tried many different charging system configurations pre 1977 and it is now difficult to predict (on some models) what is fitted. It is also common to find one of these devices fitted by an owner in an attempt to stop bulb blowing. In this case these parts are often found mounted in unexpected areas.

-Once you have removed the regulator/ballast resistor, next locate the rectifier at the headstock, this has a red and a white wire. Mount the new 12 volt combined regulator/rectifier to the rectifier mounting, as shown, under the top frame tube. Ensure the wiring loom is plugged in to the unit.

-The white and red wires from the new regulator/rectifier connect to the wires that went to the rectifier.

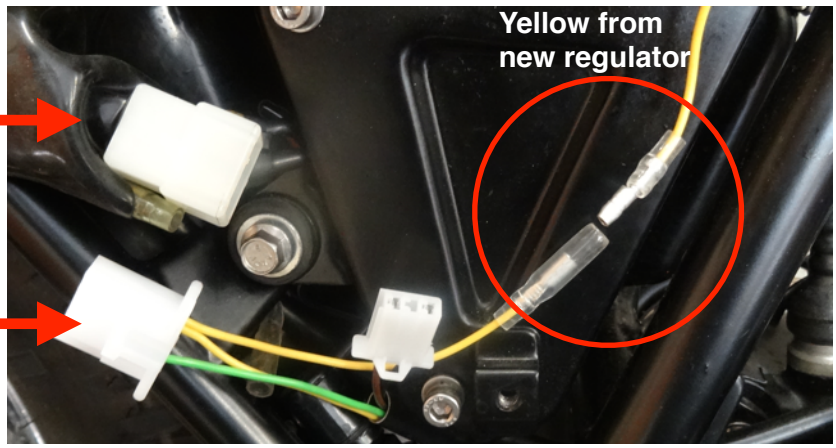
-Route the long yellow wire down to the where the stator connects. Secure it away from the exhaust.

-The earth terminal must go under the main wiring loom earth bolt. Often this is at the HT coil or rectifier mount point.

Plug in the new stator wire plugs in to the original wiring loom.
Do not be alarmed if there is a different number of wires in the new stator plug or if they are slightly different colours, we have designed out kit to work on all of the different variations Yamaha created.

Original stator connection

From new stator



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Final steps
Check your connections. Fit and connect the specified 12V battery or eliminator. Start the engine if it is safe to do so and measure the battery voltage with the engine running at 2,500-5,000 RPM and the lights on. If your meter is not the 'auto ranging' type, set your meter to 20 volts DC.

Correct reading: 14.5V +/- 0.75V at 2,500 - 5,000 RPM

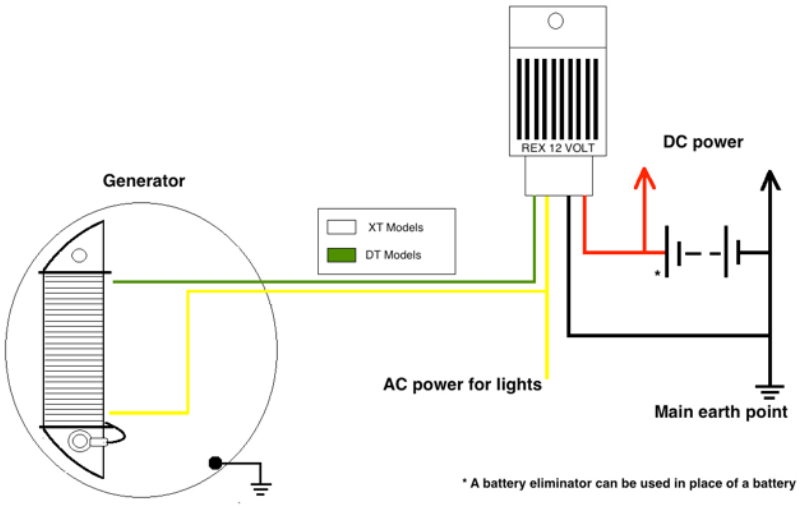
This system design dictates a very wide tolerance on the charging rate as it is based on AC power regulated to supply the largest load, IE the headlamp, the DC section is secondary.

If the voltage is in the specified range the system is working normally.

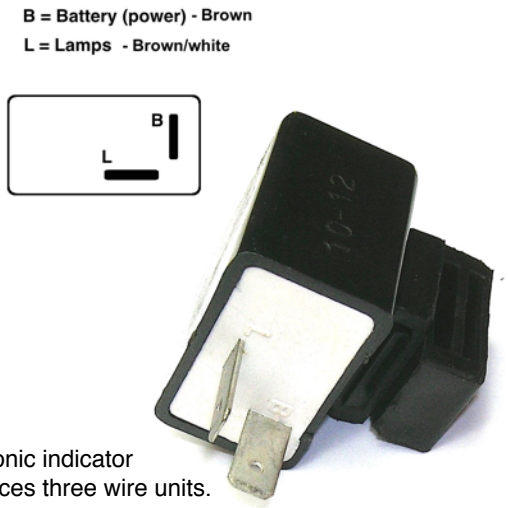
The engine must be running for the headlamp to work as the headlamp is supplied by AC power!

Recommended Batteries. Lead acid, wet, sealed, gel or AGM are the only types of battery to be used.	Original: 6N4B-2B or 6N6-4 - Replace with p/n DT12V-Batt. Original: 6N6-3B - Replace with Motobatt MB3U
Battery eliminator option	BE1
Recommended headlamp wattage	35 or 45 watts - standard filament type bulb
Replacement regulator	P/N: RR12V-1
Lighting coil	LC-3 (85 Watts)
Fuse	**10-15 Amps - The standard fuse can be used**
Trouble shooting. Please refer to the "Standard 12v Conversion - System Checks" document for information on testing this system. It is listed under "12 Volt Conversions" and is free to download from the Tech Support page of our website.	
Low voltage with lights "Off"	Ballast resistor left in circuit. Often found connected to the ignition switch via a yellow and green wire. Disconnect and remove.
Low voltage with lights "On" or "Off"	6 volt regulator and/or ballast resistor left connected. Locate and remove.

Wiring diagram



Indicator Relay Connections



Our electronic indicator relay replaces three wire units.

It will also work correctly with LED indicators

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