



Rex's Speed Shop

Robertsbridge - England

XT125/250/500 12 Volt Conversion

Skill Rating:



Thank you for purchasing our XT 12 volt conversion kit. This guide covers covers all 6V XT500 models (p/n 12VC-XT500) and XT125/200 1982 & 83 & XT250 1980–83 (p/n 12VC–XT250). Using 12 instead of 6 volts, plus an efficient full wave rectifier, means that more of the generator's output is available for lighting with less power lost in the electrical system. With our 12 volt system you will notice that indicators become more reliable, the headlamp is noticeably brighter (even when using the same wattage bulb) and the battery is no longer boiled when the lights are off.

The kit is a “plug and play” add-on with no modification to the generator or wiring needed. There are only minor differences in detail between the models when fitting these kits, for example positioning of the parts on the bike, in all cases the principle is the same: remove the separate rectifier and single wire voltage regulator then plug in the new combined regulator/rectifier to these connections. Next replace the battery & bulbs etc and thats it - all done!

Now included with this kit are the terminals for the rectifier and regulator connections on your wiring loom. Often it's the case these have been replaced with different terminals or are in poor condition. The correct type is in the kit so there is no delay in fitting, simply replace incorrect or missing connectors and plug in!

To make your job even easier we offer additional ‘accessory packs’ with 12 volt battery, bulbs, indicator relay & horn. These are available to purchase from our website P/Ns: ACC-Pack1, ACC-Pack2 & ACC-Pack3.

There are no changes needed to the ignition, which remains as standard in all cases.

The XT500 version is 100% compatible with all our XT500 electronic ignition kits

Some Tips Before You Begin!

- The fuse is not changed. Use the same rating as the 6 volt system.
- Use either a Motobatt MB3U 12 volt battery or a battery eliminator (order number BE1 or BE2).
- Indicators can be glass bulbs or LEDs. You will need both an electronic relay and a tweak kit with LED indicators.
- In the rear lamp position you should use a normal glass bulb (12V, 5/21W).
- Use either a 35/35W or a 45/45W glass bulb for the headlamp. Halogen or normal bulbs can be used.
- Never attempt to use only the DC output to power all electrical loads, this leads to a burn out of the lighting coil and regulator.
- Not suitable for use with heated grips or clothing.

Technical support is via e-mail only. Should you need help please e-mail:

tech@rexs-speedshop.com

Please note our telephone sales staff are not technicians.

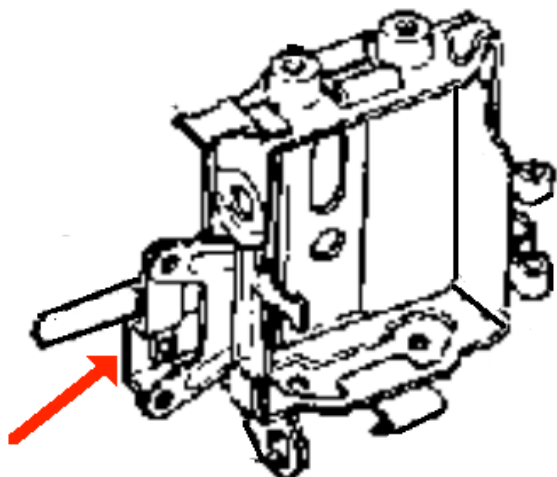
If you need an answer quickly, e-mail the tech team directly!

Please provide photos where possible.

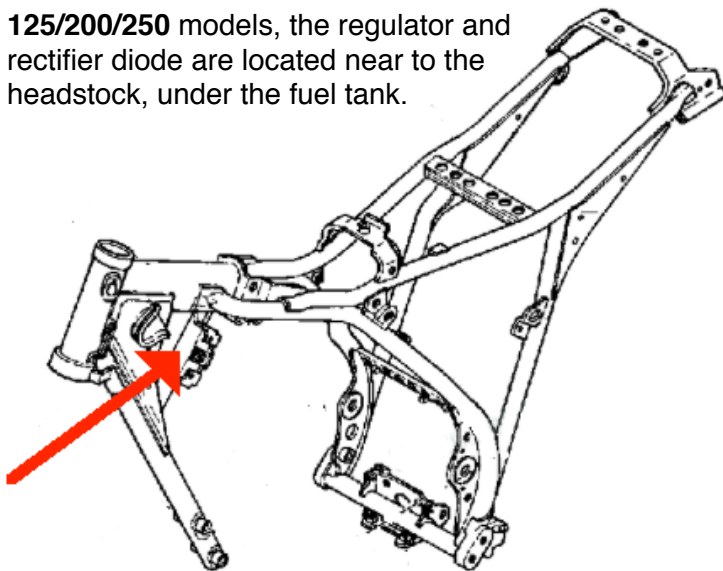
Fitting Guide

1. Locate and remove the 6 volt regulator and the small black rectifier. The regulator has a single yellow wire (sometimes yellow & white). The rectifier has two wires, one red and one white (some 250 models white is replaced with green/white).

XT500 models, the regulator & rectifier diode are under the left side panel mounted on the battery carrier.



125/200/250 models, the regulator and rectifier diode are located near to the headstock, under the fuel tank.



2. Remove both the regulator and the rectifier from the bike.

3. Fit the new combined regulator/rectifier unit to the bracket where the old regulator was fitted. Place the black wire, with the ring terminal, under the bolt. Make sure a good ground connection to the frame is made. If the frame has been powder coated or painted, a poor connection will result. If the 12 volt system over—charges the battery, a poor earth at this point is the likely cause.

4. Connect the wires from the new 12 volt unit to the wires that were previously connected to the 6 volt regulator and the 6 volt rectifier. The new connectors will match a standard loom – wire colours will match too. Note: older bikes may have faded wire colours, a red may have faded to pink for example.

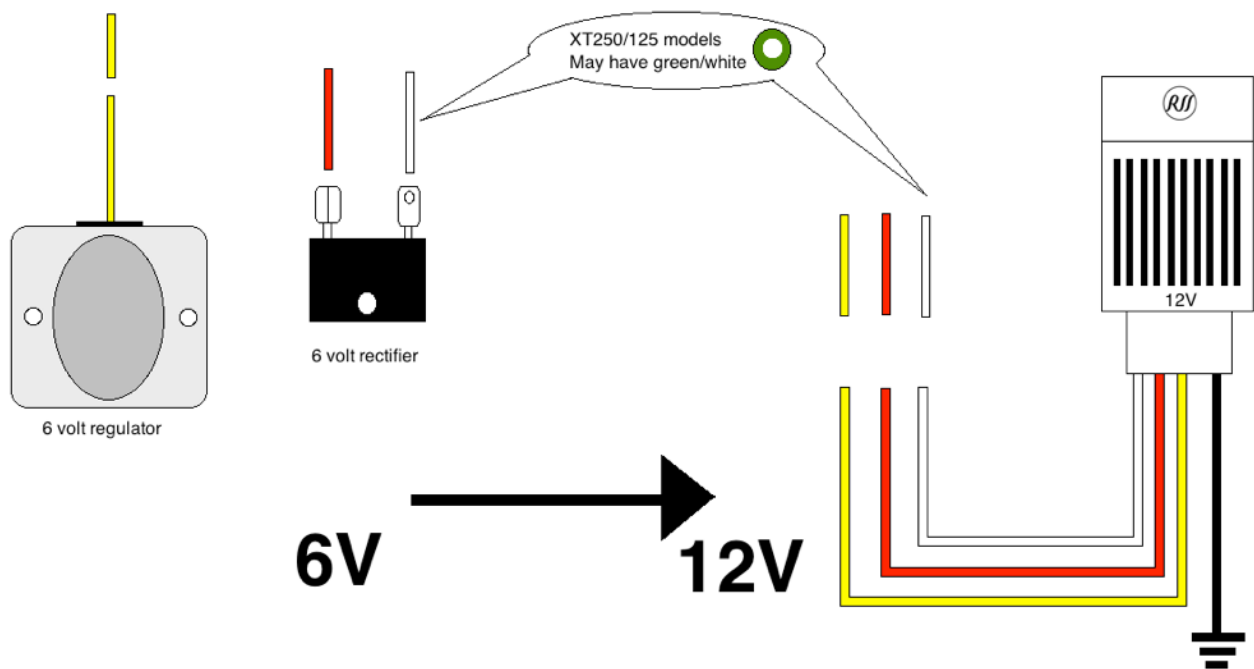
5. Replace the 6 volt battery, bulbs, indicator relay & horn with 12 volt items. We recommend you replace the battery with a motobatt MB3U

Serious injury and/or damage 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. We recommend only AGM or sealed lead/acid batteries, to reduce the possibility of injury and/or damage to equipment.

6. Check that all the wiring is safe and secure and does not interfere with other controls. Check the system is charging, measure the battery voltage, at 2,500 RPM it should read between 13.8 and 14.7 volts regardless of whether the headlamp is on or off.

When using a battery eliminator charging voltages are slightly higher as an eliminator does not draw power like a battery does when it's being charged. 15 volts is not unusual.

Wiring Guide



Trouble shooting - Quick fix version.

Lights not working or working in the wrong sense or when another switch is used.

Check connections in the headlamp. The shop manual is used for troubleshooting as there has been no change in the wiring.

Charging High. Above 15V

Check earthing. The earth is as important as the feed wire. If the earth is poor the regular 'dials up' its output as it sees the system voltage as low. The 'engine to wiring loom' earth is very important, it maybe necessary to add a jumper between the engine case and the main grounding point on the frame.

Charging low

Check rear light, is the brake and tail light operating correctly. The brake light being stuck on or wired as the rear position light will cause a drop in voltage. Check also for other incorrect loads on the system such as a 55/60 watt headlamp bulb.

AC voltage seems wrong

Measuring the AC is not accurate as it approximates the DC voltage at the battery. This is the normal situation for this system. If bulbs do not blow and the DC is within limits, the AC is OK.

LED Indicators

If all four indicators come on at once you need a 'tweaker' kit available separately (p/n: ITK1). Incorrect flash rate will need an electronic relay to fix (p/n: IR-E12V).

You must not use:

- LED bulbs (LEDS are OK for the indicators only)
- HID 'projector' bulbs
- Lithium-ion batteries,
- Battery eliminators other than our BE1 or BE2.

A full, in-depth troubleshooting guide is available from the Technical Support page of our website.