

Modifications of the 6 Volt / 12 Volt electrical equipment of the Enduros to 12 Volt equipment.

The Morini enduros Kanguro X, X1 and X2 as well as the Camel 500 and the Camel 501 X2 have a composite electrical equipment installation with 6 volts and 12 volts quotas. All electrical devices with the exception of the headlights (low and high) operate with 6 volts coming from the dynamo over a corresponding regulator and a small battery. The headlights work with a second circle of the dynamo which is an alternating voltage. This one is due to the dimensioning of the individual components limited to 12 volts. The 6 volt- / 12 volt-regulator built-in in the above mentioned models is in

reality only a 6 volt-regulator, the 12 volt part of the regulator is only a connection between dynamo and headlight. It is not clear to me why such a combination was chosen. Perhaps it was simply a question of the space for the necessary battery, especially in the first models. But at least with the Kanguro X2 and the Camel 501 X2 with the battery under the left blank faceplate of the fuel tank there is enough space for a small 12 volt battery (12V/3Ah) which suffices completely. The reorganization to complete 12 volt electrical equipment is thus possible. In the following I want to describe what has to be done.

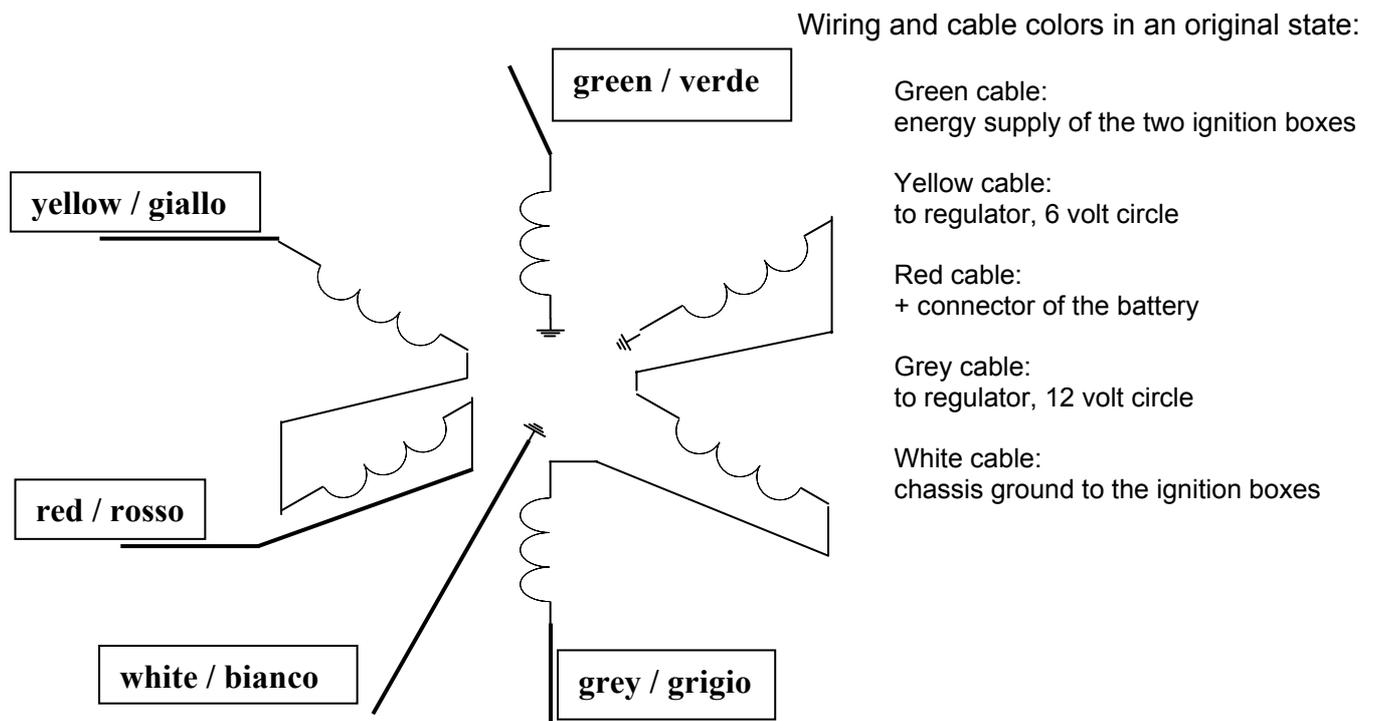
First the simple measures (changes)

Of course all bulbs and monitoring lights must be exchanged to 12 volt parts. Their performance of them can remain the same. The horn also should be changed actually but to my experience you can use the 6 volt horn and operate it with 12 volts as long as you do not use it for a longer time. The regulator must be changed to a 12 volt version. It remains to your preference whether

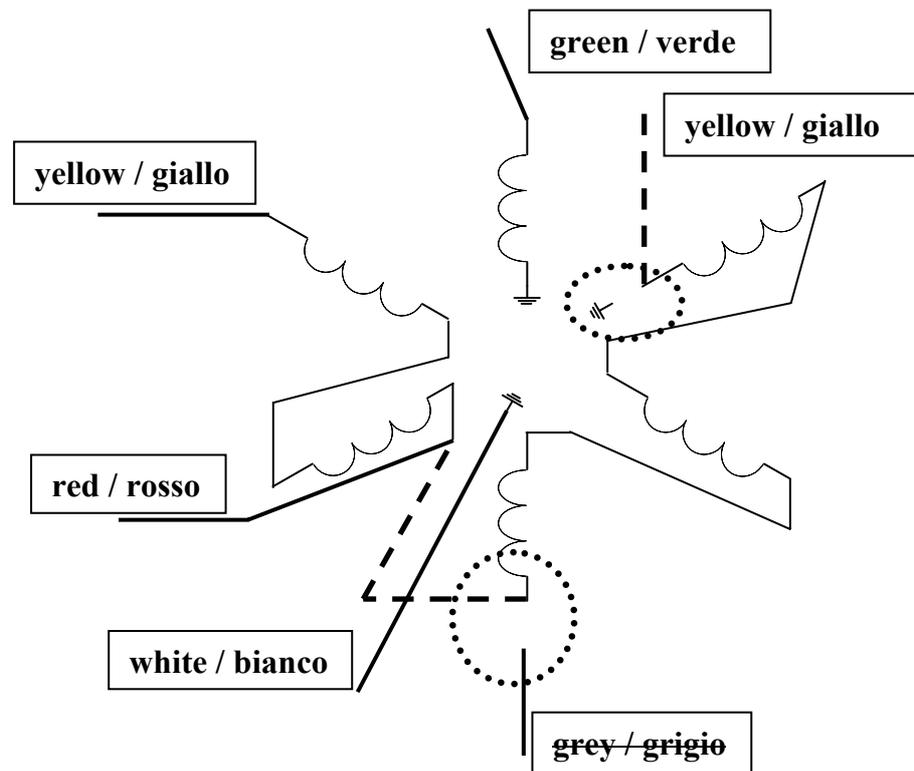
you take an original Ducati Electronica part or a regulator from another manufacturer. The electrical performance of the Enduros is a little improved compared to the one of the street bikes due to the fact that Enduros with their considerable shorter transmissions drive on a higher engine speed. I have already mentioned the battery.

Rebuild of the engine dynamo

You do not have to change the original dynamo. It can be rebuilt by simple modifications. You need soldering equipment and if you like to a new electrical (yellow) wire.



modified Enduro dynamo:



The following steps are necessary for the reorganisation

1. Divide the grey cable from the coil. You do not need it anymore or you can use it according to step 4 instead of a new yellow cable
2. the free end of the coil must be connected to the neighbor coil where the red cable is soldered on, see dotted line in the drawing
3. Chassis ground connection of the coil next to the ignition coil must be cut off.
4. A new yellow cable or (see step 1) the free grey cable must be soldered to the free end of the coil. This yellow (or grey) cable is the new second cable needed for the 12 volt regulator. If you use a yellow cable the cable colors correspond to the ones of the street bikes and you can connect them accordingly.

Of course the new soldering points should be isolated with a corresponding varnish or a two component adhesive. If you use an adhesive you can also strengthen and safeguard the points in one step. Mounting the dynamo to the engine you have to take care that the cables do not get into contact with the rotating pole wheel. The altered dynamo can now be connected to the new regulator and the ignition circle analog to the street bikes. Depending on the type of regulator you use you need the red cable from

the dynamo or not. If you do not need it please isolate the free end. The last step is now to connect the headlights to the electric circle. You have to search the cable of the power supply of the light switch and connect it to the new 12 volt circle. Unfortunately there are different light switches with different colors for this task. Please look individually at your bike which one is the right one.

In the meantime this modification is working in several bikes.

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