

Controller/Rectifier

For Moto Guzzi and BMW / Various earlier models with Bosch 3-phase alternator.

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|-----------------------------|-----------------------------|-------------------------------|
| (DE) Regler/Gleichrichter | (ES) Regulator/Rectificador | (IT) Regolatore/Raddrizzatore |
| (PL) Regulator/Prostownik | (DA) Regulator/Ensretter | (CS) Regulator/Ensretter |
| (NL) Regelaar/Gelijkrichter | (FR) Régulateur/Redresseur | |

Installation

- Carefully unplug all connectors from existing wiring harness. This part may replace more than one part in some cases (separate regulator and rectifier modules).
- Unscrew mounting bolts from defective regulator rectifier. Be sure to retain the bolts.
- Place new part into position and fasten with previously removed bolts.
- Proceed with electrical connections. Identify each wire in your bike's harness and connect to corresponding regulator wire as per scheme in figure 1. Make sure you leave the battery connection for the end.
- Once all other connections are done, adjust the eyelet terminals to battery leads. Pay special attention to polarity and make sure you have tighten the bolts properly.
- Finally, arrange the wires, making sure there are no exposed connections.
- Isolate all joints and use some tie wraps to secure harness to frame.

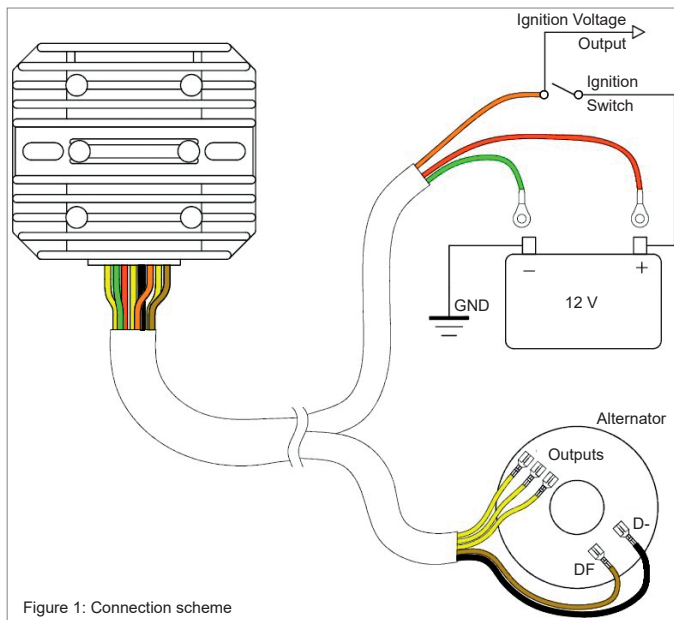


Figure 1: Connection scheme

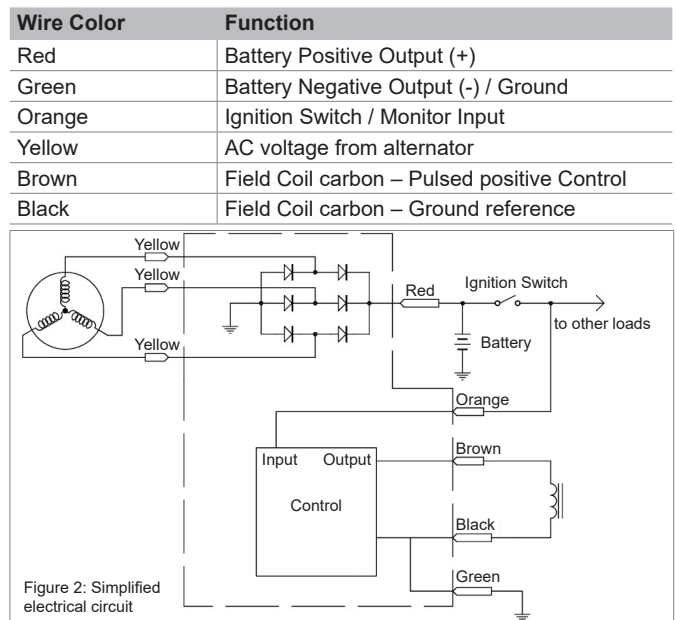


Figure 2: Simplified electrical circuit

Alternator Integrity Inspection

Before running the bike, use a multimeter [set to lowest resistance (Ω) range] to check the following:

- Stator coils test open circuit (O.L.) between any yellow wire and ground.
- Rotor field coil resistance is between 3 and 4.5 ohms. If any not met, then you must have the alternator repaired before proceed.

Test Charging System Operation

- Attach a multimeter [set to DC voltage, 0 - 20V range] to battery leads.
- Check battery is charged (reading between 12.1 and 12.7 Vdc).
- Start the engine, keep track of the voltage reading all the time.
- Rev up to 3500 rpm. The voltage reading should be between 14.2 and 14.7 Vdc.
- Turn on / off the headlamp and check voltage remains within range.
- Release the throttle. With engine idling, battery voltage should not be lower than 13.8 Vdc.
- If at any condition the voltage trips over 15V, then stop the engine immediately.

Troubleshooting

Battery is not charging:

- Re-check harness connection.
- With ignition set to ON, test voltage on carbon leads (more than 11 Vdc).
- Check for faulty alternator.

Battery is overcharging:

- Check proper connection of orange wire to ignition voltage. With engine running, this wire should have the same voltage than positive battery lead (+/- 0.5 V)..
- If overcharging takes place in certain load conditions (i.e when lights are ON), please check faulty connections at ignition wiring line (melted connectors, rusted terminals, etc.)