

## Installation instructions for Tonti relay solution – V7 Sport

1. Route the wiring such that the bank of four relays is positioned behind the battery. The sheathing should be routed toward the front of the motorcycle.
  - a. The bundle of wires with green and green/black wires should be routed to the headlight bucket.
  - b. The remaining sheath of wires should be routed near the coils/horn.
2. Connect all black wires with ring terminals to ground.
  - a. In the rear of the battery tray area, the three black wires should be grounded to one of the bolts that secures the rear fender to the frame.
  - b. In the front of the battery tray area, the single black wire should be grounded to the battery negative terminal.
  - c. Near the horns, the single black wire should be grounded to an existing frame grounding point.
3. Coil
  - a. Identify the existing blue/black wire in the main harness that connects to the positive terminal of one of the coils. Disconnect that wire from the coil and plug it into the blue/black wire with the two-way female spade connector (on some early versions I used white wire, but the connection is the same).
  - b. Connect the other blue/black wire back to the coil positive terminal (on some early versions I used white wire, but the connection is the same).
4. Horn
  - a. Disconnect the existing wires to the horn.
  - b. Identify the black wire amongst the wires disconnected from the horn. Plug it into the black wire with the two-way female spade connector.
  - c. Connect the provided brown and black wiring to the horns.
5. Headlight
  - a. Route the wiring to the headlight bucket.
  - b. Connect wires at the back of the headlight bucket.
    - i. Ground wires
      1. Unplug the black wire from the back of the headlight shell. This wire will no longer be used.
      2. Plug the new black wire into the back of the headlight shell into the same position.
    - ii. High beam wires
      1. Unplug the green/black wire from the back of the headlight shell. Plug it into the new green/black wire with the two-way female spade connector.
      2. Plug the new green/black wire into the back of the headlight shell into the same position.
    - iii. Low beam wires

1. Unplug the green wire from the back of the headlight shell. Plug it into the new green wire with the two-way female spade connector.
    2. Plug the new green wire into the back of the headlight shell into the same position.
  - c. Connect wires inside the headlight bucket.
    - i. Moto Guzzi did not use the same color of wires on either side of the headlight bucket. Here are the connections you need to make:
      1. Ground:
        - a. Blue inside headlight bucket
        - b. Black outside headlight bucket
      2. High beam:
        - a. Black inside headlight bucket
        - b. Green/black outside headlight bucket
      3. Low beam:
        - a. White inside headlight bucket
        - b. Green outside headlight bucket
      4. Parking light (may or may not be used):
        - a. Red inside headlight bucket
        - b. Yellow outside headlight bucket
6. At the fuse box:
  - a. Remove the white/black wire from position 6 on the fused side of the fuse box. There are two white/black wires plugged into position 6. Remove the wire that is routed all the way to the dash. The other white/black wire is routed to the electric petcock and it should remain in place.
  - b. Plug the white/black wire you just removed into position 2 on the fused side of the fuse box. The white/black wire will now share the same position as the green wire.
  - c. This repositioning is required to ensure that the charging system does not keep energizing the relay for the ignition coils after the ignition key switch is turned off.
7. Connect all red wires with ring terminals to the battery positive terminal.

## Notes

1. I mostly chose to use the same colors for the same functions as Moto Guzzi.
  - a. Horn = Brown
  - b. Coil = Blue/black (on some early versions I used white)
  - c. Headlight high beam = Green/black
  - d. Headlight low beam = Green
2. From left to right, the bank of relays is organized in the following order.
  - a. Horn
  - b. Coil
  - c. Headlight high beam
  - d. Headlight low beam

3. The relays simply plug in to each receptacle. You may remove them to mount the relay or to replace them, should the need ever arise. You may need to wiggle them a bit as you remove them.
4. The relays are standard automotive micro relays. Replacements may be purchased directly from me or from any auto parts store.
  - a. I chose to fit 5 pin relays, but I do not use terminal 87a. A 4 pin replacement relay would work just fine.
  - b. I chose 20/35 amp relays. The 20 amp circuit covers terminal 87a (which I do not use). Hence, 35 amp is the sizing I chose for all circuits. This is way more than ample for the devices in use.