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# 30831

## Ford 3G Alternator Connection Kit



This kit contains all of the components needed in order to connect a Ford 3G Alternator. This kit should contain the following:

- (1) 7' Red 6 gauge charge wire
- (1) 8' Black/Red ground wire
- (2) Pre-installed connectors (a 3 pin connector and 1 pin connector)
- (1) Bag kit containing (150 amp in-line fuse, 1 fuse holder, 2 screws, 6 large un-insulated ring terminals, 4 smaller insulated ring terminals, 4 splices, 4 pieces of heat shrink & 15 zip ties)

Painless recommends that you, the installer, read through all of the following instructions before any actual installation is done. Doing so will give you insight into what this install entails and the function of each wire.

- **If you are installing a used alternator, Painless recommends you have it tested before installation.**
- **If you are installing this alternator into a vehicle with an Ammeter, DISCONNECT THE AMMETER.** The output of this alternator exceeds the capabilities of the ammeter and could result in a fire. The wires going to the ammeter will need to be reconnected together as these wires usually supply voltage to the fuse block.
- Begin the installation by **DISCONNECTING THE BATTERY FROM THE VEHICLE.** Connections to the Alternator and connections made during the installation of this kit deal with direct battery power, this step cannot be skipped.

If the 3G Alternator is already installed on the vehicle, it may need to be removed in order to make the appropriate connections.

- Connect the 3 pin connector and the single pin connector into their proper locations on back side of the Alternator.
- Locate the Black/Red wire with the pre-installed ring terminal. This wire will connect to the “Ground” lug on the Alternator ensuring the unit is properly grounded.

Once connected to the Alternator, route the Black/Red wire to a clean chassis ground source or to the “-” side of the battery. Cut this wire to length and install an appropriate ring terminal, one of the terminals with the blue heat shrinkable sheathing, found in the parts kit.

This wire can now be connected to the ground source or to the “-” side of the battery.

- Slide the rubber boot found in the parts kit over one end of the large red charge wire. The end of the boot may need to be removed to fit over the large gauge charge wire.



- With the boot installed, crimp a large gauge ring terminal to the charge wire.

Connect this wire to the “B+”, aka Output, stud on the Alternator.

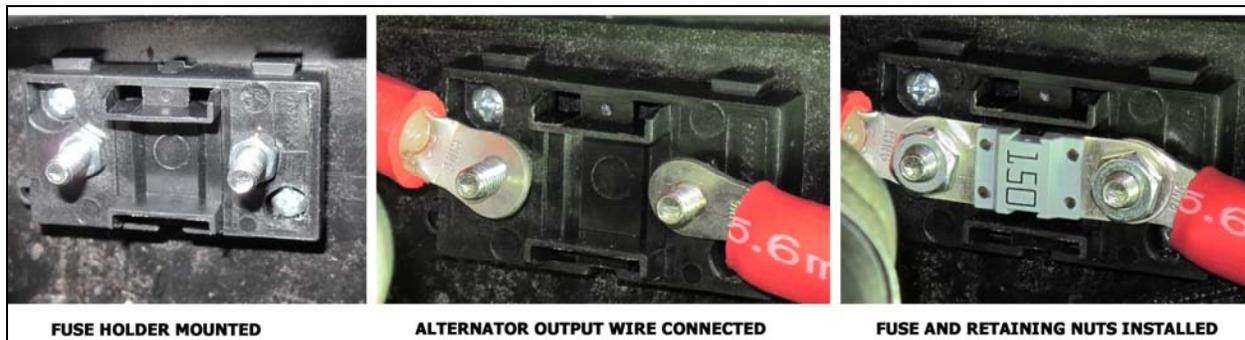
Once the nut on this stud has been tightened, the boot can now be slid up the wire to cover the nut and ring terminal installed on the Alternator.

At this point all connections have been made to the Alternator itself. If the Alternator was removed from the engine brackets to allow access to the connections, it may now be re-installed on the engine.

- Find a suitable location close to the battery to mount the supplied fuse holder using the 2 screws provided. A drill with a 3/32” or .100” bit will be required in order to drill holes for the mounting screws
- Route the large Red 6 gauge charge wire from the output side of the Alternator to one side of the fuse holder. Zip tie the charge wire to mounting points along its routing path to ensure you have the correct length of wire before any cutting is done.

Once your length has been established, cut the charge wire to length. The length of wire cut from the charge wire will be used to connect the supplied fuse to the “+” side of the vehicle’s battery (Painless does not recommended connecting this charge wire to the Battery side of the starter solenoid).

Connection to both sides of the fuse holder will be made using the large ring terminals with the small #10 hole provided with the kit. These will be the ring terminals with the small holes. The heat shrink supplied with this kit is intended to cover the crimped end of each of these two ring terminals as seen below.



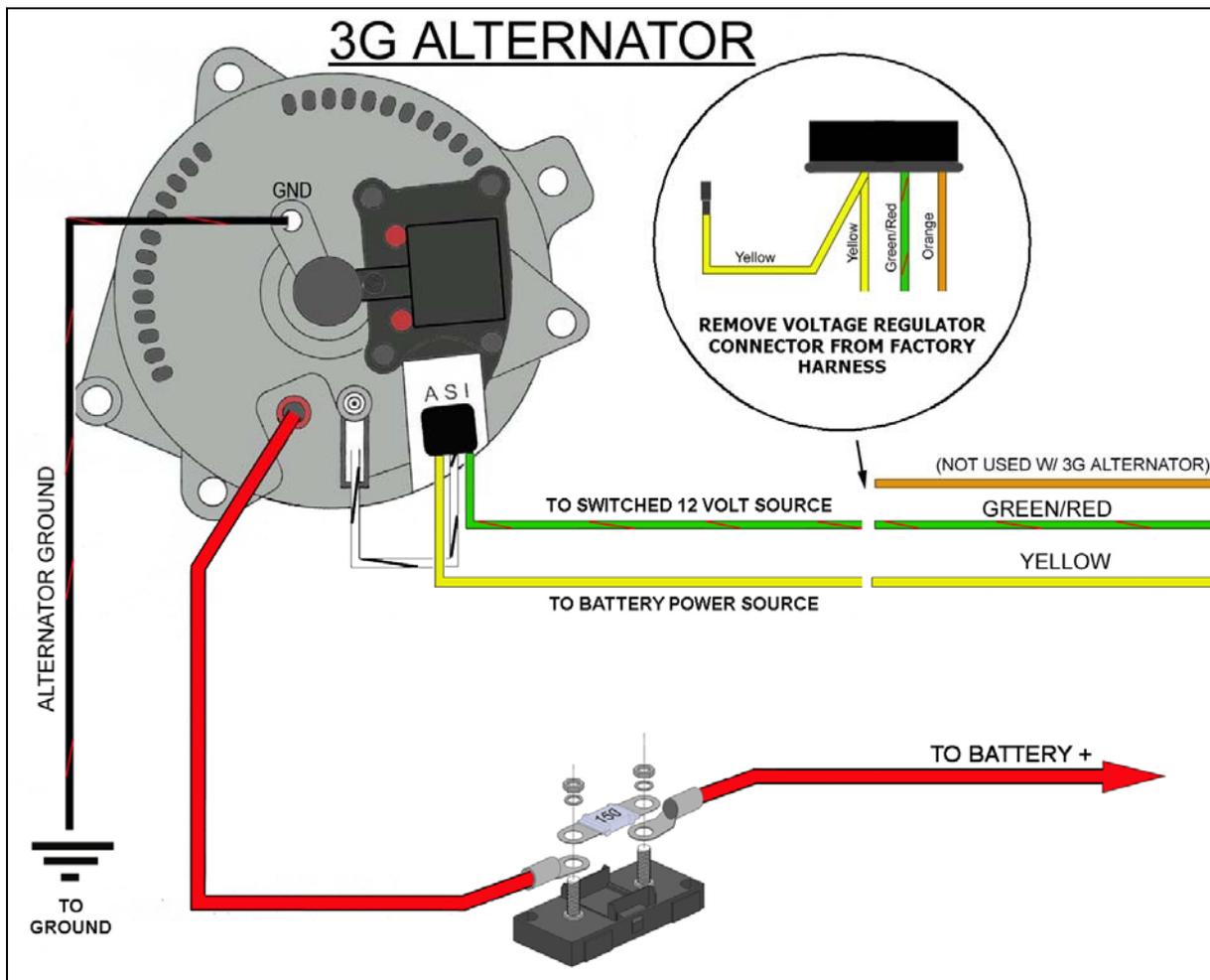
- Once the ring terminals are installed onto both studs of the fuse holder the fuse can be installed and everything can be tightened down with the 2 retaining nuts provided with the fuse holder. Once everything is tightened, the cover can be reinstalled. Depending on how your crimp flares the ring terminal, the cover may or may not need slight cutting in order to snap into place.

- The Yellow/White wire coming from the 3 pin connector will need to be connected to a constant power source, as indicated by the print on the wire. This source will have battery power at all times.

This wire will need to be routed to the constant power source, cut to length, and connected using a splice found in the parts kit. This splice is heat shrinkable, meaning after it is crimped, heat can be applied to seal the splice. If your vehicle originally came with an external voltage regulator, there will be a suitable constant battery power source at the voltage regulator connector. In most cases, it will be a Yellow wire.

- The Green/Red wire from the 3 pin connector will need to be connected to a switched power source, as indicated by the print on the wire.. This power source will only have power when the ignition is in the “run” position.

This wire will need to be routed to the switched power source, cut to length, and connected using a splice found in the parts kit. This splice is also heat shrinkable. If your vehicle originally came with an external voltage regulator, there will be a suitable switched power source at the voltage regulator connector. In most cases, it will be a Green/Red wire.



At this point all connections have been made, re-connect the vehicle's battery.

Start the vehicle, and either using the vehicles existing voltage gauge or a hand held volt meter, ensure the vehicle is charging. You will get a reading of about 14v if everything is working properly. Any readings of around 12V or below, the vehicle is not charging, double check all of your connections.

## **Painless Performance Limited Warranty and Return Policy**

Chassis harnesses and fuel injection harnesses are covered under a lifetime warranty. All other products manufactured and/or sold by Painless Performance are warranted to the original purchaser to be free from defects in material and workmanship under normal use. Painless Performance will repair or replace defective products without charge during the first 12 months from the purchase date. No products will be considered for warranty without a copy of the purchase receipt showing the sellers name, address and date of purchase. You must return the product to the dealer you purchased it from to initiate warranty procedures.