

Alternator installation instructions



Step 1a: Read through these instructions before starting your conversion project.

Step #1 Disconnect the battery! Always do this step!

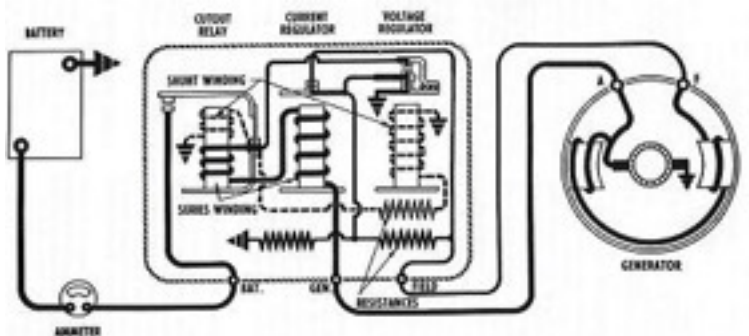
Step #2 Locate the mechanical voltage regulator usually located on the firewall, remove the Gen and FLD wires, these wires connect to the generator and don't need them. Tape these 2 wires back with electrical tape in case you or the next person wants to re-install a generator.

Step #3 Remove the 2 wires from the generator, these 2 leads go to the old voltage regulator, tape these back, you will not need these either.

Step #4 Remove the old generator and bracket and install the new bracket provided along with the new alternator using the hardware included in kit. Each Bracket comes with it's own installation instructions.

Note: The alternator has a built in regulator and does not require any external voltage regulator.

Hint: You can keep the old mechanical regulator on the firewall to connect the output of the alternator to the Batt terminal. This will generally keep everything working in the vehicles same as before. See image to the right how your electrical system is wired with a generator.



Step #5 After you have installed the alternator and bracket, reinstall the belt and tighten where there is some slack about 1" to 1 1/2", No need to over tighten your belt or you will put extra stress on the water pump and alternator bearings. Just tight enough to prevent slipping.

Note you may need to buy a longer or shorter belt as the alternator set up may be different on some engines.

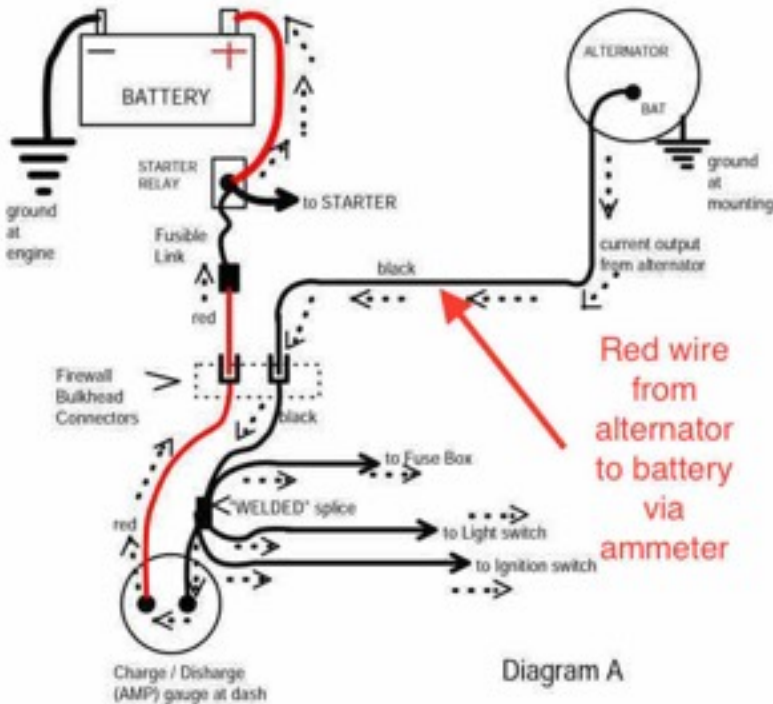


Step #6 Locate the DA plug and snap into the connector on the back of alternator. The connector sometimes is located under a black dust cover. On a 10Si alternator connect the short red wire from the plug to the output side of the alternator 10/32 stud then take the (long white, brown or yellow wire) and connect to the + side of the coil. If you are using a coil with external ballast resistor connect this wire to the battery side or key switch side of the resistor or directly to the key switch itself (switched side). See diagram typical

Alternator installation instructions

CS130

Plug



This wiring configuration will excite the alternator to start charging when the engine is running at low RPM's. See image to left.

There is a diode in (long white, brown or yellow wire) That is the lump in the wire. This diode (one way electrical check valve) prevents battery drain when the engine is off and also allows you to turn off the engine, which can be a problem on some older vehicles with just on and off ignition switch without accessory or neutral switch positions.

If you are installing a Delco CS130 alternator the DA plug only has one (long white, brown or wire) This wire connects to the + side of the coil or to your ignition switch or other switched power source same as the 10Si. But, there is no short Red Wire on CS130 plug, that connects to back of alternator like the 10Si alternator has, this connection is internal to the alternator. See CS130 alternator image above.

Note: Alternators were introduced in the late 1960's and designed for engines with faster idle and pulley sizes that turned the alternator faster. If you want your alternator to charge at idle, you need to have this DA plug installed. Without this plug installed, in most cases your alternator regulator will turn off at idle and you run the risk of running your battery down.

Step #7 Take the long red 10AWG wire and connect to the back of the alternator 10/32 stud. This is the same place you connected the red wire from the DA plug on 10Si (unless your alternator is CS series then you will not have this red wire from the DA plug.) Take the other end of the long red wire and connect directly to one terminal of the Ammeter inside the vehicle, cut to size and install ring connector. Take the remaining length of this wire and install the ring

Alternator installation instructions

connectors and attach one side to the opposite side of the ammeter and run the other end to the + side of the battery, or anywhere that leads direct to the + side of the battery like the start solenoid or started.

Note: the alternator output wire must route directly to the + side of the battery and not through any switched connection, the alternator will not operate if not connected direct to the battery or directly through the ammeter to the battery.

If you are changing polarity from positive to negative ground, you will need to reverse the connections on the ammeter, this will ensure the ammeter reads correctly. If connected backwards, nothing bad will happen, the meter will just try to read backwards, just reverse the wires.

Note: you should use the output connection 10AWG wire provided in our kits. Don't use small alternator connection wires as they will not carry the higher current flow alternator can provide.

Step #8 Reconnect battery and ***make sure it is fully charged using a battery charger***, you want to have a fully charged battery when doing the next steps. Note an alternator will not charge a dead battery because alternators take current to excite the field coil to make everything work. The other reason you want a fully charged battery, it is very hard on the internal voltage regulator to charge a low battery.

Step #9 Make sure you have your battery connected negative to ground and the positive to your starter or starter solenoid. This is important as the alternator is wired for negative ground and you may cause damage to the alternator regulator if wired as positive ground.

Note: If Installing a positive grounded alternator then you would connect the output of the alternator to the negative side of the battery, and the frame of the alternator is the positive and goes to ground, everything else remains the same, you are just changing polarity.

Step #10 Install the rest of the parts to complete your conversion, each part comes with it's own set of instructions and not covered here. In case you have not seen or read our 6 volt to 12 volt conversion report you can get it free on our website.

Note: If you are changing from positive to negative ground, make sure you connect the ignition coil correctly. The + side to the ignition switch, - side to the distributor. This is important to ensure correct output voltage to your spark plugs.

Step #11 Start the engine and test alternator output. While engine is at idle, take a volt meter and test the voltage at the output of the alternator, should read 14.1 volts, if you don't have a volt meter take a screw driver or pocket knife and place on the back of the alternator bearing surface, (the round area in the middle of the back of alternator) your alternator is working when you can feel a magnetic pull. If you have connected an ammeter in your vehicle, you can test by turning on your headlights and watching the meter move.

If you do not have 14.1 volts +/- or magnetic pull on the back of alternator, you may have a loose connection or your alternator is not connected directly to the battery. You could also have a bad ground which is a big source of electrical problems in older vehicles.

Alternator installation instructions

The alternator is internally regulated and self-exciting, which means, it will turn on and off when sensing the rotation of the rotor and will keep your battery charged. The regulator is pre-set at 14.1 volts, on a 12 volt alternator and will maintain the battery and accessories on the vehicle. Because all meters are calibrated differently you may see a +/- 0.2v difference in voltage.

If you are installing a 1 wire alternator and not using a DA plug: Follow all the same steps as above except there is no DA plug installed in 1 wire set-up. Keep in mind, 1 wire connections work fine with engines with higher idle speeds for example Ford Y block V8 engines.

CAUTION: Working around rotating belts and pulleys can be very dangerous and can catch hair, clothing, and fingers.

Working around electrical systems can also be dangerous even though the voltage is low and the current is high and you can get injured.

Always! Always disconnect your battery when doing any repairs to the electrical system.

Be safe and enjoy your new electrical system.

Diagram shows typical alternator connection points.

Wiring diagram for Delco Series 10-SI and Series 12-SI alternators

