

# Alternator Swap

## GM Wiring

On the back of the alternator is the battery lead wire. Usually a red insulator but not always, and on the SIDE of the case is a place for a 2 wire plastic plug. The plug leads are parallel with the edge of the case. IF you find an alternator with the 2 wire spades INLINE with the fan, this is the older style WITHOUT the internal regulator. Where this thing plugs in cast on the case below the opening for the plug should be a number 1 and 2 below the respective terminals. Wire #1 goes to the key switch, this wire is HOT with the key in the RUN position, NOT THE START. Wire #2 can be hooked directly to the big battery wire on the back of the case. It is a sense voltage source for the regulator. The idiot light is rather unique. the light is a small dash lamp bulb on a special plug in base. NORMAL lights require a ground and a hot wire. THIS LIGHT IS NOT GROUNDED, instead both leads are insulated from the car body. One side goes to the key switch, where it is fed 12 volts when the key is ON, and the other goes to #1 on the alternator. With the key ON and the engine not running, the light lights up, as there is a voltage difference between the 2 leads. AS the engine is running this wire has 12 volts across its entire length and the lamp goes out, as BOTH LEADS have the same voltage, than the alternator is charging. If the alternator quits charging, then this wire loses its voltage and the light says I AIN'T WORKING, so you know something is wrong. Usually on the GM's the battery wire off the back of the alternator goes to the battery side terminal of the starter solenoid. There is an inline fuse here most often on the originals, consisting of a fusible link. Ditto for the headlights and the rest of the cars wiring needs. If you have an ammeter, make certain that the STARTER DRAW IS NOT PUT ACROSS THE TERMINALS OF THE AMMETER. The location of the ammeter can depend on what you want to know. There are 2 places to put it, which I won't get to here. A normal GM internal regulator alternator can have an output from 45-70 amps depending on several variables. By changing the internal windings and rotor it is possible to get 120-140 amps, but the life is shortened. You can also have a self excited alternator, by changing the regulator and then you have NO little wire plug to worry about, Just the big battery wire. Speaking of which, this battery wire MUST BE 10 gauge minimum and I like to solder the terminals on the end. I don't trust crimp connections. If you have to run this wire a long ways, then the wire MUST BE BIGGER. Delco manuals sometimes call for #1 wire sizes for some alternators and 3/0 for some starters, but you OUGHT TO SEE THE BATTERIES!!!

## Mopar

I know most are going to recommend the one-wire GM setup but I prefer the Mopar unit. If you start with the standard Stude V8 bracket on the exhaust manifold the front lug of the Mopar alternator bolts to the front of the Stude bracket and positions the belt alignment perfectly (assuming you use a single groove pulley). A piece of angle iron with one hole drilled in it is welded to the Stude bracket to make the support for the rear lug of the alternator. The early Mopars ('61-'69) used the same voltage regulator as the alternator equipped Studes. It's a simple two wire hookup. The '70 and later used a solid state regulator with three wires. The regulator can be mounted in the same location as the original Stude and most of the original wires used.