

Converting to 12 -Volts

~ Paul Moroni

Today I am going convert my Massey Harris 30 from 6-volt to 12-volt because I am tired of replacing voltage regulators and turning on the headlights and watching the amp gauge going to discharge.

I bought a Denso 35-amp alternator that only needs to be connected to a battery wire, but I also ran a wire from the regulator plug on the back to the coil positive terminal. Now when I turn on the tractor, it will energize the alternator. The problem with the one wire function is the motor does not spin fast enough to energize the regulator. This alternator will mount onto the factory generator bracket without any modification, but I didn't like the swing of the belt adjustment, so I cut off the ear closest to the fan on the old generator mount. I made it protrude out further with the same shape as the original mounting tab. This allowed the mounting bolt hole on the bottom to be the same distance as the beginning of the adjusting slotted bar on the top. The trick to a good belt adjustment is the bottom hole must be at 35 minutes past 12 o'clock and the top adjuster bolt must start at 5 minutes past 12 o'clock to get a good swing of the pulley to tighten the belt.

Next was to replace the wire going to the amp gauge with a 10-gauge wire. This runs from the back of the starter button to the negative side of the amp gauge, and then from the positive side of the gauge to the alternator.

It was then time to replace the coil with a new 12-volt coil with a built-in resistor to protect the points in the distributor. I also made sure that the ignition switch wire went to the positive side of the coil and the negative went to the points. If it had an old external resister, I would have had to remove it. This will now be a negative ground system.

I had to install a new 12-volt battery. I used a group 24F battery that is close to the same size as the 6-volt battery and the old battery bracket would still work to hold it down. It's important that the battery is held in place so that it will not bounce around and short out and cause a fire. It will also extend the life of the battery. I also made sure the battery cables were connected negative to ground and positive to the switch.

Next step was to replace the headlights and dashboard light with new 12-volt ones. I did cheat a little on that part because I had some 4001 bulbs that were headlights from a car. The problem is that the spades on the back are a large size, so I soldered the wire to the spades. Let's face, it I will never have to replace them.

When I start the tractor now, it turns over to start new without any hesitation; and the amp gauge goes up to 15 amps and stays there with the headlight on, just in case I need them.

I did order a pulley that would take a 5/8 wide belt. I also removed the alternator and painted it black to hide it ... so that the tractor correct people might not notice it (Arthur J).

Parts List:

Alternator \$38.00 https://www.ebay.com/itm/Alternator-FOR-Chevy-Mini-Denso-Street-Rod-Race-1-Wire-400-52062-87-92-35AMP/202450499200?ssPageName=STRK%3AMEBIDX%3AIT&_trksid=p2057872.m2749.l2649

Wire \$12.00 https://www.amazon.com/gp/product/B00INVF40E/ref=ppx_yo_dt_b_asin_title_o00_s00?ie=UTF8&psc=1

Coil \$10.00 https://www.amazon.com/gp/product/B00809W952/ref=ppx_yo_dt_b_asin_title_o00_s00?ie=UTF8&psc=1

Battery \$50.00 <https://www.walmart.com/ip/ValuePower-Lead-Acid-Automotive-Battery-Group-24F/129111643>

Bulbs \$ 16.00 <https://www.ebay.com/itm/Westinghouse-High-Beam-4001-Headlight-Bulb/183852683414?epid=1422064495&hash=item2ace795096:g:VLwAAOSwuW9dCa2r>

Pulley \$20.00 https://www.ebay.com/itm/Pulley-Belt-Alternator-1-V-Groove-0-59-15mm-ID-3-76-2mm-OD-Fits-Denso/232697068357?ssPageName=STRK%3AMEBIDX%3AIT&_trksid=p2057872.m2749.l2649

Belt Dayco belt L543