These two pages describe the process used to convert from a Prestolite Alternator to a Toyota Alternator on a Lycoming O-360 Boss Mount wide deck. The unit described puts out an approximate 60 amps continuous duty. (we're not done testing it yet)

The common units being sold today for these conversions do not usually have the correct internal fan installed. They are also g accurately for continuous duty. We recently tested one of the "60 amp" units purchased from Vans Aircraft. At about 40 amps th exceeded 200deg C.

We found that this unit would directly use the stock steel boss mount Lycoming bracket and can be used as is. The only thing is hotter, and you can't adjust the voltage output.

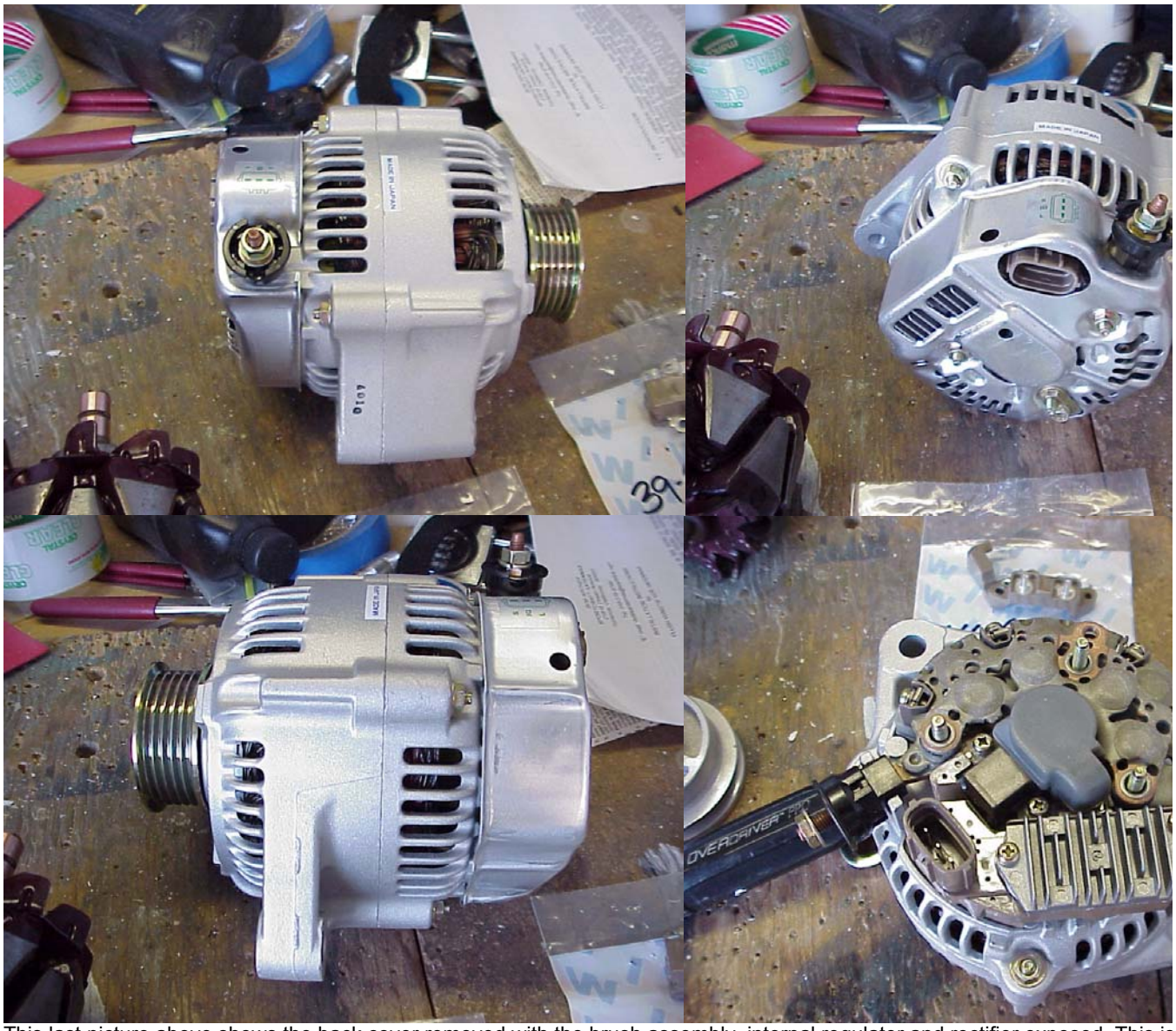
So in this installation I chose to modify several things. I replaced the internal regulator and brush assembly to use an external a And I put a different rotor in it so that the attached centrifugal fans would function at maximum capacity. Most automotive engin of airmotive.

The following part numbers are Lester part numbers, which is the numbering system used for many aftermarket parts.

#13754 Toyota Camry LE 1997-on 90 amp alternator
#1493-91CCW Honda 91 mm rotor with fans and aft bearing
#46-82200 Terminal Block, used on some Chrysler models
#39-8201 Brush holder

The pulley I used was the stock Prestolite pulley used on most Lycomings
PU-672.
This had to be modified via a lathe, removing most of the aft extended boss portion and some of the front extended boss portio

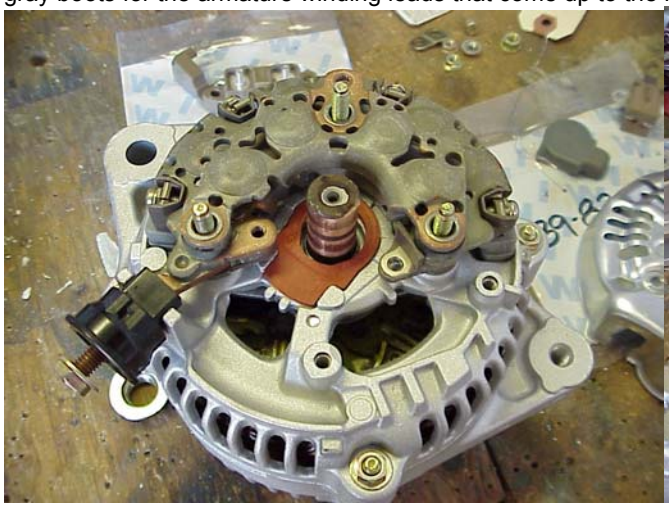
The first few photos show the parts and the new alternator.



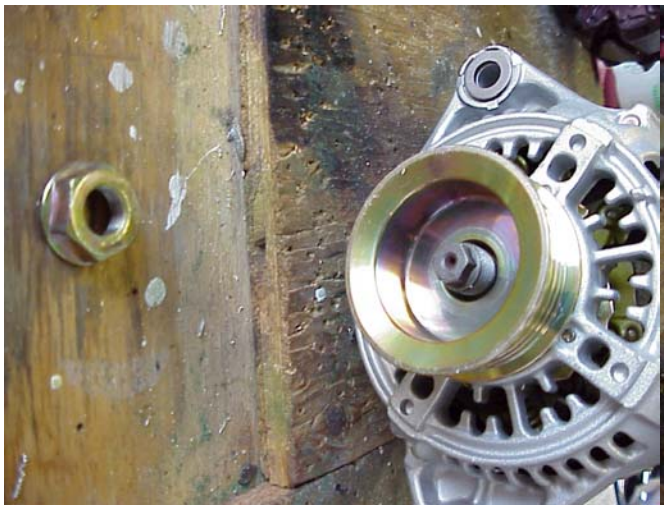
This last picture above shows the back cover removed with the brush assembly, internal regulator and rectifier exposed. This is removing the three nuts and one ground lug on the back cover. Note: the area of the back cover below that has two square hol internal regulator will need to be modified to allow the terminal posts to come out there.

These next two show the rubber boot removed from the brush holder and the brush assembly with the internal regulator. The rc
kept with the new brushes but it doesn't slide into them like the old one. It gets trapped between the lower and upper rubber bo
cover.

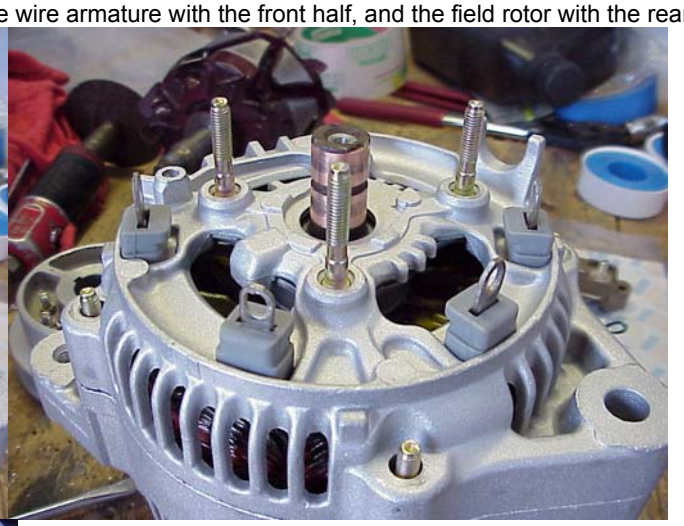
This shows the back without the brushes and regulator. Note the red rubber boot that you don't want to forget to reinstall like I c
gray boots for the armature winding leads that come up to the rectifier. These are also easy to forget.



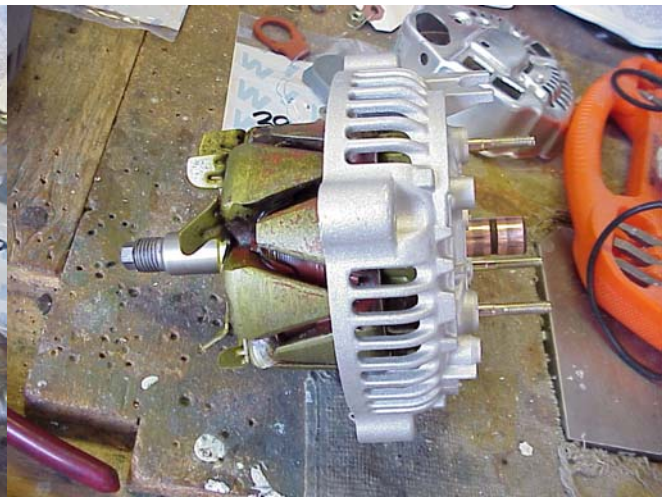
This shows the pulley nut and pulley removed. Its a 22mm and I used and 1/2" air gun to knock it loose.




In these images the 4 case nuts are removed as well as the four screws holding the rectifier leads in place.
The next one shows the rectifier removed.
Remove the gray boots and the case will then split leaving the wire armature with the front half, and the field rotor with the rear

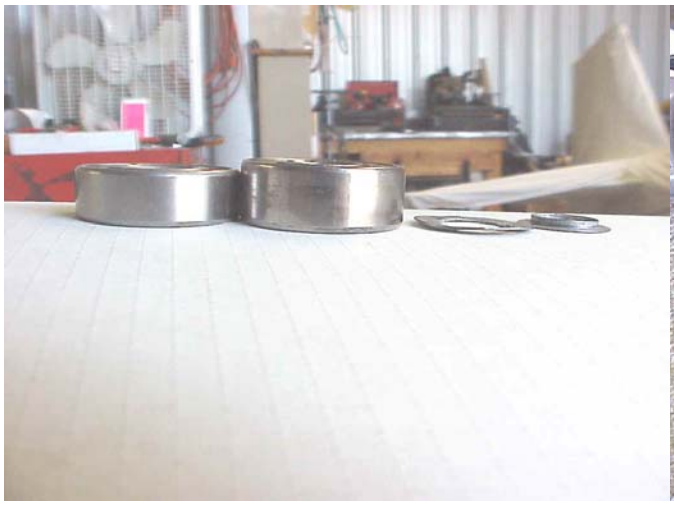


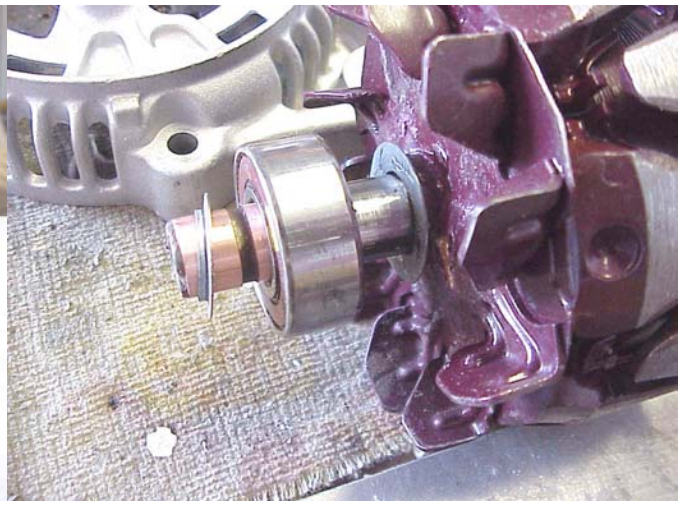


The old rotor may be gently tapped out of the rear case by supporting it at the split line and using a small center punch on the r
rotor shaft.

These next images show the backside of Honda rotor (left) next to the Toyota rotor (right). As you can see the Honda rotor has
correctly for centrifugally moving the air from the front and rear inlets to the side outlets. Other than the fans they are identical.


These below show the rear rotor bearing I found on each rotor. The one off the Toyota was deeper so I used it, but it wasn't nec
This bearing is only supported radially in the rear case. Rotor depth is set by the front bearing.
This allows for the rotor and case to expand differently as they warm up.
I don't recommend changing this bearing unless you have a fairly specialized bearing puller to get that sucker off.





Continue with Reassembly

return to: SDCCD, Miramar, Aviation