

Converting a 1940 Cadillac from 6V to 12V

I just recently successfully completed such a conversion. Total cost was about \$300 including the new 12V battery. This included changing the turn flasher for 12V, new 12V lighting everywhere, new 12V coil, , stepdown resistor for gauges, etc. Not necessarily trying to promote this supplier, but I bought most of my stuff from an online vendor www.KansasSelectProducts.com 785-823-2390. They have the coils, alternator, and even the wide-V belt pulley to be compatible with the stock pulleys. You can go here to see the invoice and list of parts: <http://www.auldridge.org/images/cadillacalternator.pdf>

After completion, the alternator sits nicely where the generator was originally positioned, and all systems are functioning well under 12V (based on other forum postings, I've elected to stay with the original 6V starter and starter relay/solenoid.. so far they are working great, and boy does that starter ever spin the engine over!)

I had to fabricate my own mounts for the alternator, but it was pretty simple. On the driver-side mount, I bought a \$10 generic, flat, slotted alternator adjustment/mounting arm from a local parts house, and cut off most of the length. I then determined the proper position for the alternator to line up the belts, and cut a brass spacer that distance. The alternator WILL have to be positioned about 3/4" or so in FRONT of the original generator mount to line up.

For the passenger side mount, I fabricated an "H"-shape mount which straddles the alternator ears, as well as the stock generator mount below. I designed the bracket to fit very snug on either side of the alternator ear, but then left additional width at the engine-attach side, again so I could use brass spacers on either side to provide one-time adjustment to get all the pulleys lined up.

(The beauty of using spacers on each mount is: if the pulleys don't line up, just replace the spacers with different widths).

To determine belt length, I cut the original belt, then positioned the alternator about mid-way in its adjustment travel, wrapped the old belt around the pulleys, and measured the distance between the two open ends, adding that to the straightline length of the old belt. The length I ordered using this method was dead on!

I've found several nice sources of the wider belts, at about half the price of the Cadillac-specialists.

First, go to the Goodyear "Gatorback" belt application site to determine the part number for the desired length of your belt:
<http://www.goodyearrep.com/productsdetail.aspx?id=11752>.

Then go to a retailer who supplies these belts. I've found two good sources:

http://www.coolparts.com/products/Gatorback_V_Belts-87428-0.html (less expensive)

and

<http://www.finditparts.com>

Wiring is pretty simple, and a rudimentary wiring diagram comes with the alternator.

Please remember that you are switching from positive to negative ground, so the ammeter will read in reverse (reading discharge when the system is actually charging).. this is easily corrected by just reversing the connections on the back of the ammeter posts. However, be aware that there is a limit to the amount of current these old ammeters can pass through. If you add on air conditioning and an electric cooling fan (as I am doing), the amount of current passing through the ammeter will heat it up like a \$2 pistol, and possibly burn some wires. Accordingly, I routed all of my planned added components (air conditioning and electric fan) directly from the alternator to the fuse buss, bypassing the ammeter altogether)

I also added a fusible link in the alternator power wire to guard against a disastrous main power buss short, and am added a relay-controlled main fuse block, triggered by a single wire from the ignition switch, to reduce the load coming through the ignition switch, and to simplify the under-dash rat's nest of wires. I'll be using separate relays for the Hi and Lo beam headlights, Fog Lights, A/C system, and Electric cooling fan.