



Danchuk

ALTERNATOR CONVERSION

Tech Article

From Newsletter 14.3 - 3rd Quarter of 2008

CHANGE YOUR GENERATOR TO AN ALTERNATOR

Our Tech Article this issue of the Danchuk Update answers a question that we get from our customers almost every day. "How hard is it to change a stock generator to an alternator?" It sounds intimidating, but it really isn't. With a couple of hand tools you can do the job in an afternoon. We will be using American Autowire's conversion harnesses and one of the new Powermaster alternators that look like, and bolt in place of, your original generator. The "PowerGen" alternators make the conversion almost as straight forward as changing out the existing generator. They work for both V-8 and 6 cylinder applications, plus it looks stock when you are done. We will also cover the use of a Delco alternator, as this is the most common alternator used in this conversion.

Let's face it, an alternator that puts out 70 amps or more compared to your 35 amp generator system will charge your battery better, keep your headlights brighter and allow you to run all those neat accessories that generators just don't have the juice for, like a nice stereo or A/C. So follow along as we show you how easy and clean this conversion can be....

Tools You Will Need:

- Small Flat Blade Screwdriver
- Medium Flat Blade Screwdriver
- Phillips Screwdriver
- 3/8" Ratchet
- 1/2" and 9/16" Socket
- 7/16", 1/2" and 9/16" Open End and Box Wrenches
- 1/4" and 5/16" Allen Wrenches
- Diagonal Dikes
- Electrical Tape

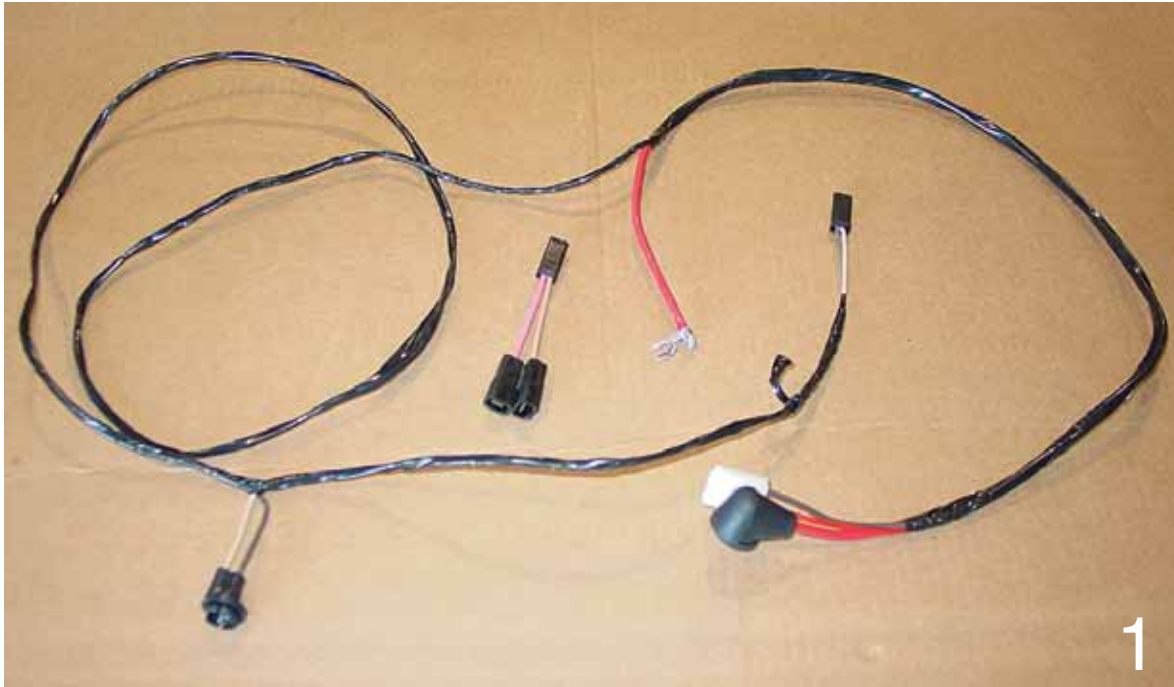
NOTE: Both the PowerGen and Delco 10SI alternators are internally regulated and this conversion assumes the use of an internally regulated alternator. '55 and '56 are the same

and will use a Danchuk #403 (1) wiring harness. 57's are basically the same as 55-56 with subtle differences. We will highlight those differences in a section for 57 following 55-56. We used a Danchuk #410 wiring harness for our 57 conversion. Also, there are two different lengths of generators that were used on these cars. You will need to use the corresponding length "PowerGen" alternator or change your brackets. If you do not have brackets they are available under Danchuk #1206 for a 7" bracket and #1205 for a 6" bracket. The original adjustment bracket is Danchuk #1299 for V-8's. Mounting kits are available under Danchuk #13533 and 13565. All three years can utilize the Powermaster "PowerGen" alternator using the original generator brackets.

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Picture 1

As we mentioned earlier, a conversion that uses the Powermaster “Power Gen” alternator is a bolt-in using the existing brackets. For conversions that will utilize a Delco 10SI (Lester 7127) or similar alternator there are a vast number of different brackets depending on your situation. For this article, we are assuming that your classic has the V-8 engine running stock heads. We are using the Bill’s Hot Rod alternator bracket (Danchuk #12550) as it works with our early pre-69 heads that have no mounting holes in the ends. This bracket uses intake manifold and water pump bolts to attach and makes for a very clean installation. Please note that our car also utilizes an aftermarket manifold and valve covers. This bracket will not work if you are using an intake manifold with the oil filler tube in the front. Our customer service department will be able to recommend an alternate bracket set up if you are using an intake with the filler tube in front and wish to use the Delco 10SI alternator. Also, if your classic has a 6-cylinder engine, you will need to use the Danchuk #14224 alternator conversion bracket kit if you want to use the Delco 10SI alternator.



For 1955-56 Cars....

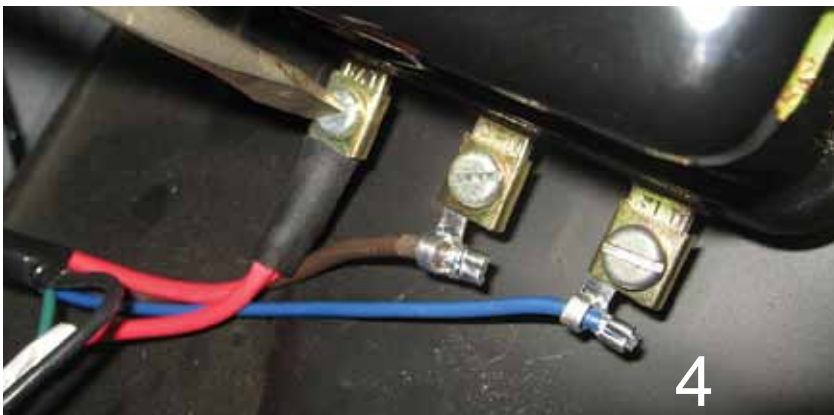
1) The first step in doing this conversion, or any work on the electrical system for that matter, is to disconnect the negative battery cable from the battery. Lay the cable aside and make sure it cannot contact any terminals on the battery. Now is a good time to check your battery for a full charge. If it is not fully charged put it on the charger. A low battery can cause other parts of the charging system to appear defective.



Picture 3

2) Using your 7/16" open-end wrench, disconnect the brown and blue wires from the generator.

(3) Trace the blue wire and one of the brown wires down to the voltage regulator and disconnect them using your medium flat blade screwdriver. (4-5)

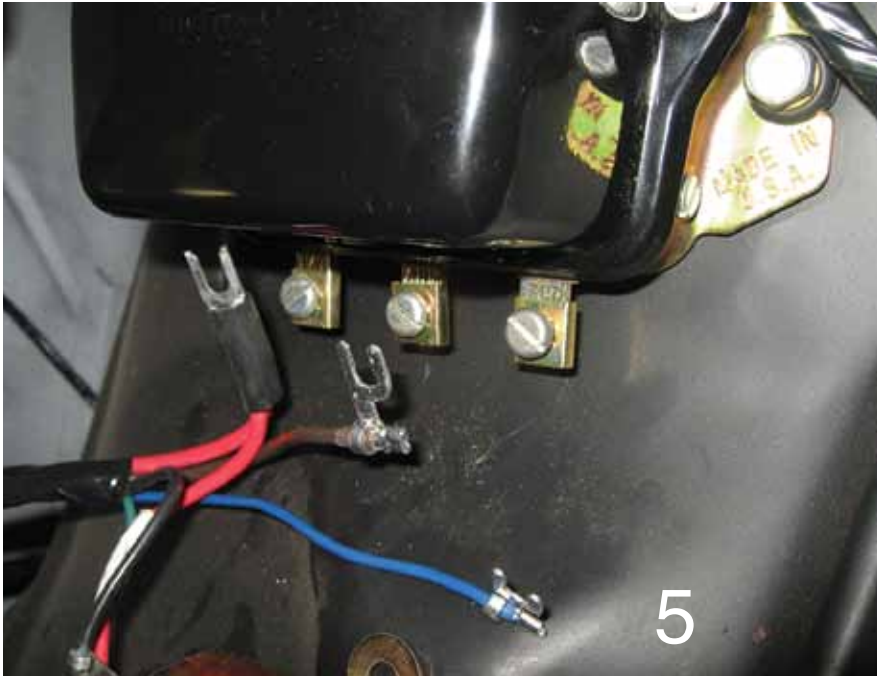


Picture 4

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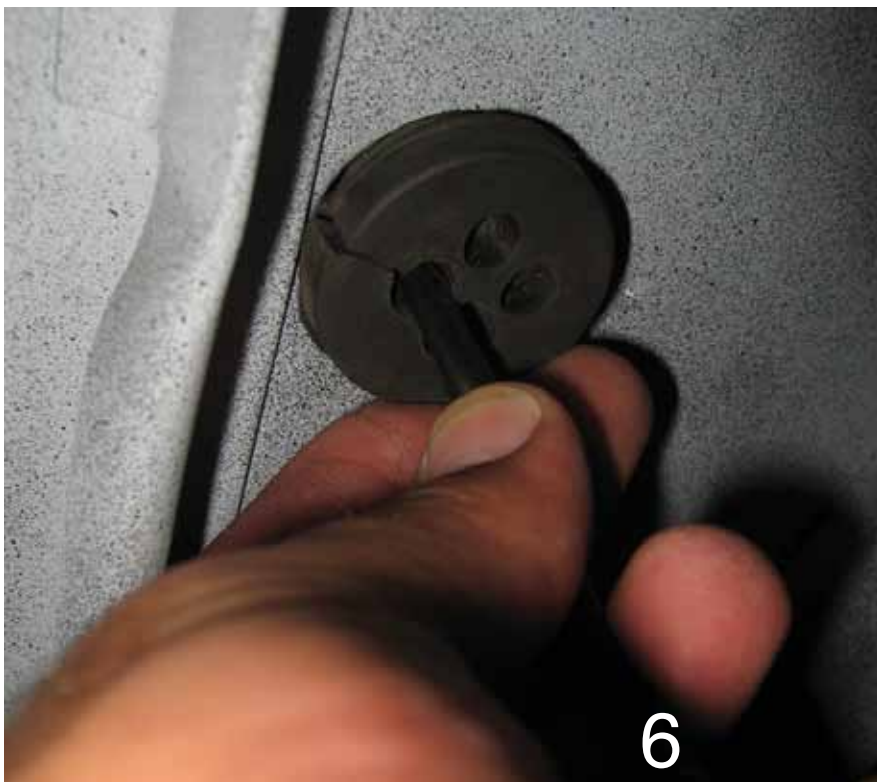
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Picture 5

Next, trace the brown wire through the firewall into the interior under the dash. (6) Follow it until it runs into the generator light socket. Disconnect the brown wire from the generator light socket. There will be two wires on the generator light socket. (7) Follow the remaining wire to the IGN-1 post on the ignition switch and disconnect it from the switch. (8-9)



Picture 6

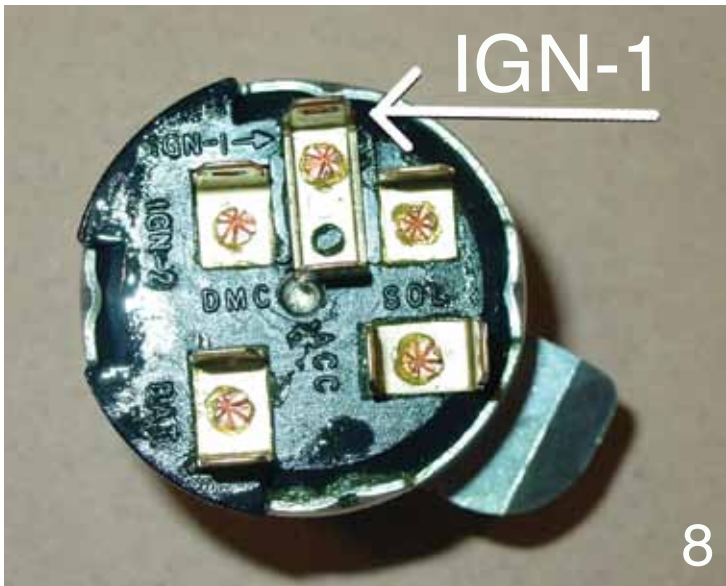
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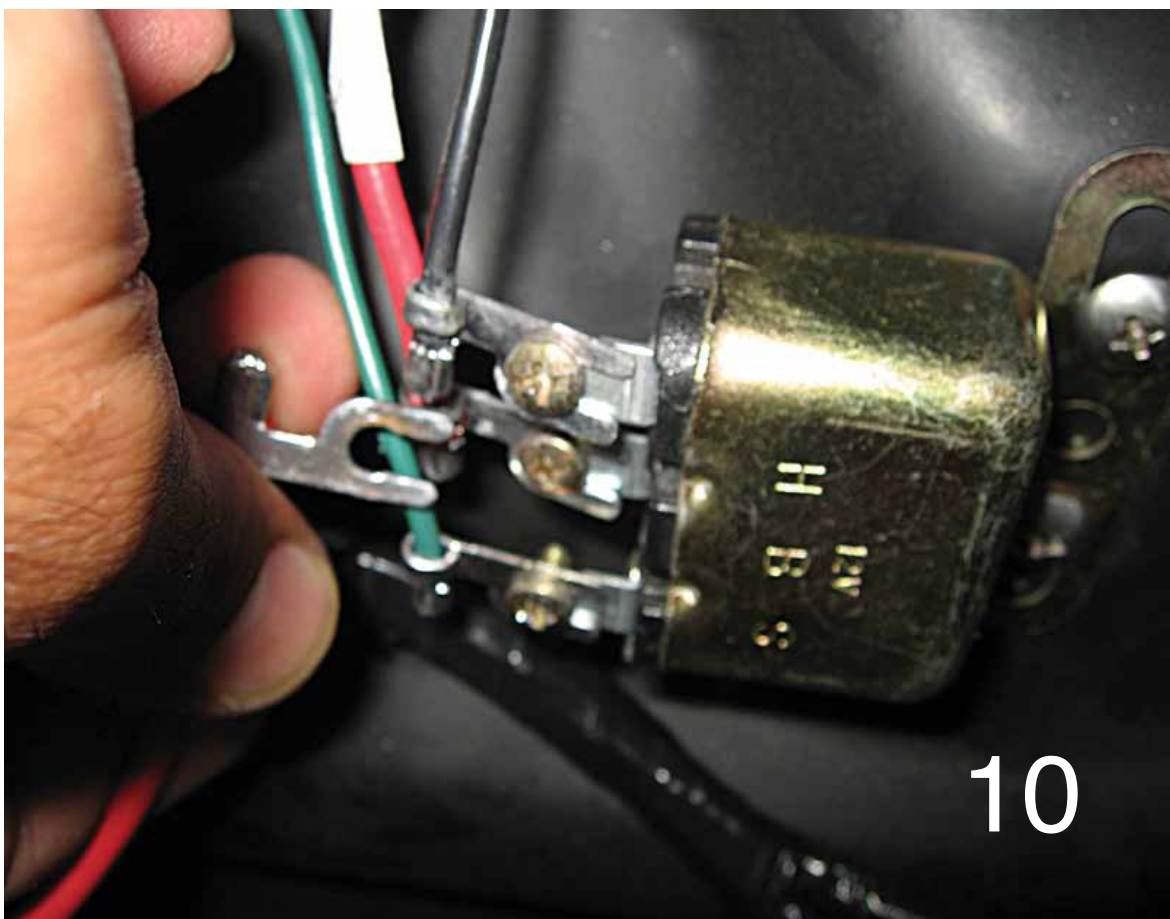
Picture 7



Picture 8



Picture 9



Picture 10

3) Disconnect the remaining heavy red wire from the voltage regulator and locate the horn relay. Connect the red wire from the voltage regulator to the "B" terminal on the horn relay along with the existing red wire. (10) You will now have two red wires that connect to the "B" terminal of the horn relay. (11)

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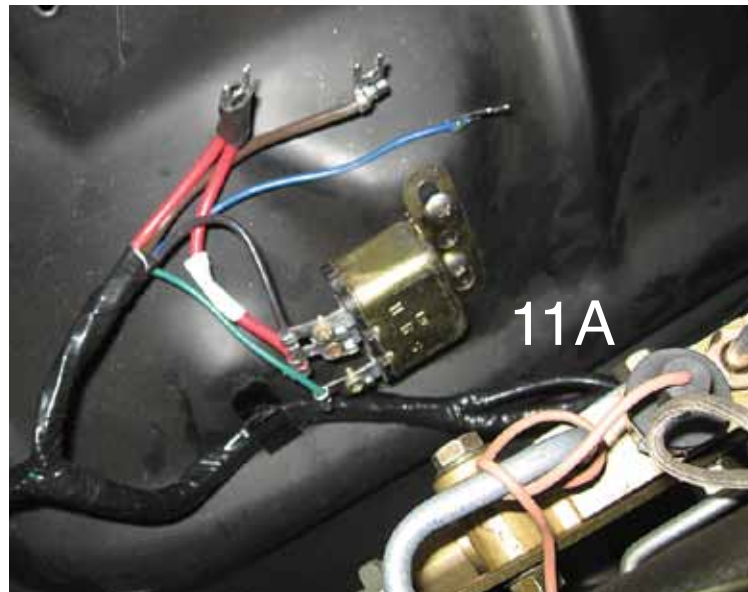
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Picture 11

4) The brown and blue wires can now be removed from the harness, as they are no longer needed. Using a pair of diagonal dikes, snip and remove these wires and tape them off with electrical tape. (11A)



Picture 11 A

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5) Using your 9/16" open end wrench and your 3/8" ratchet and 9/16" socket, remove the original generator from the car. (12-13-14) With your 3/8" ratchet and 3/8" socket remove the voltage regulator from the inner fenderwell. (15)

Picture 12



Picture 13



Picture 14



Picture 15

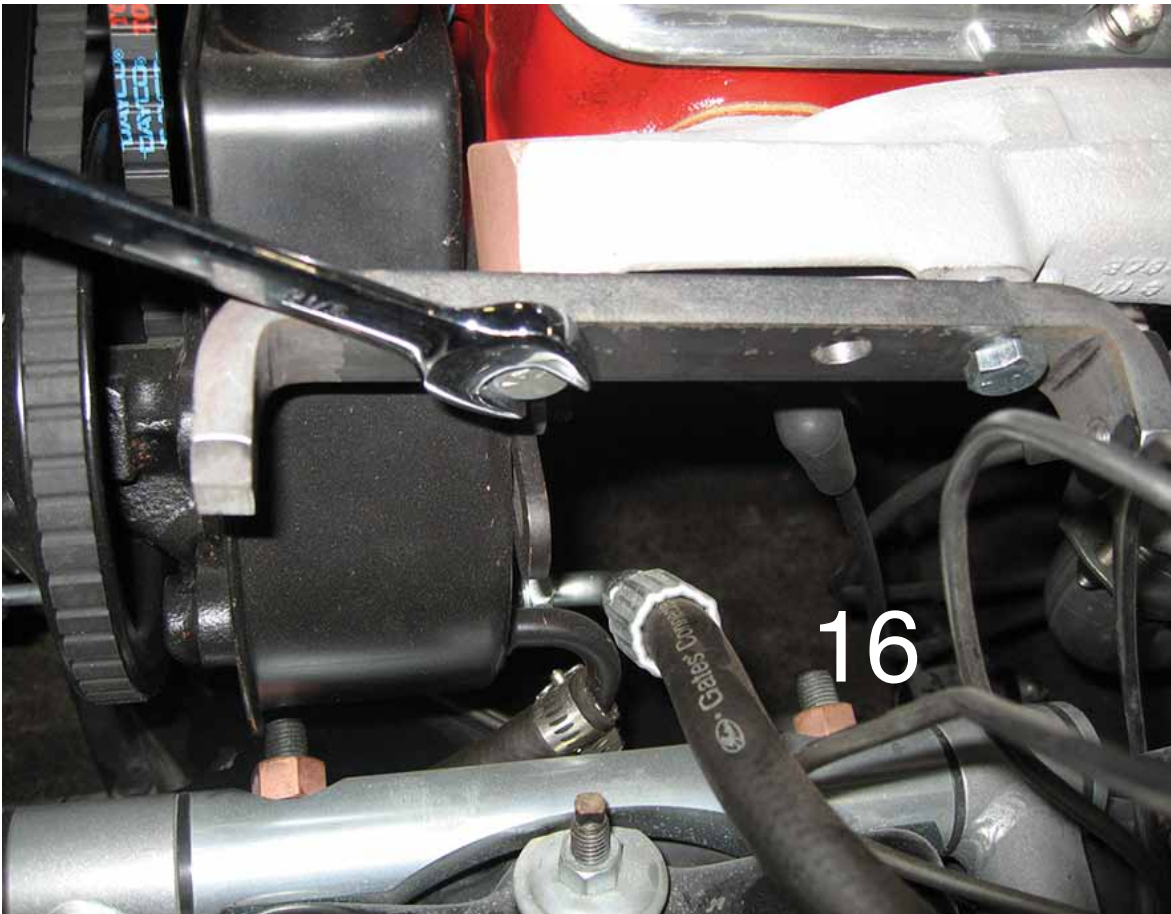
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6) If you are using a Powermaster "Power Gen" alternator install the new alternator in place of the old generator. If you are using a Delco 10SI alternator use your 3/8" ratchet and 9/16" socket to remove the existing brackets for the generator from the exhaust manifold. (16) With your 3/8" ratchet and 1/2" socket remove the generator adjustment bracket. Install your alternator brackets of choice according to the manufacturers recommendation.



Picture 16

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Now we can begin to install the #403 conversion wiring harness.

7) Plug the white connector with the brown and red wires into the alternator; the plug is indexed so you can only install it one way. (17-18) Connect the large 10ga wire with the protective boot to the battery post on the alternator and tighten with your 7/16" open end wrench. Push the protective boot over the terminal. (19)



Picture 17



Picture 18



Picture 19

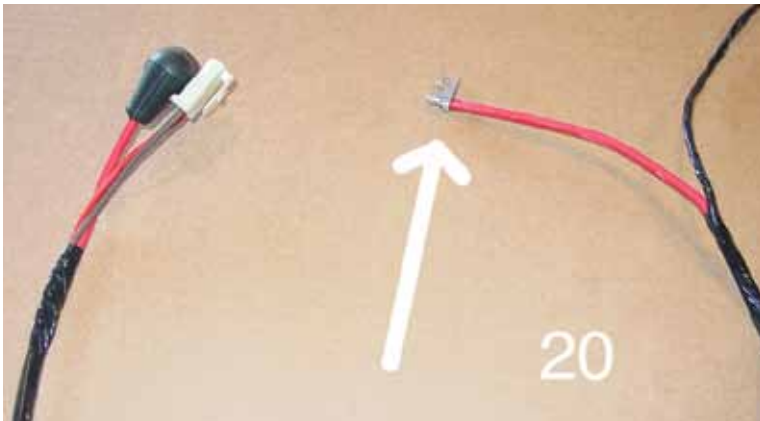
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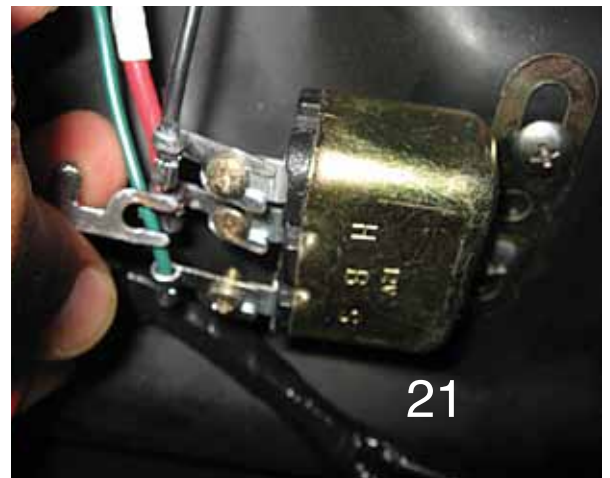


8) Connect the red wire in the conversion wiring harness to the "B" post on the horn relay. (20-21)

9) Run the remainder of the conversion harness through the firewall and under the dash. (22-23)



Picture 20



Picture 21



Picture 22

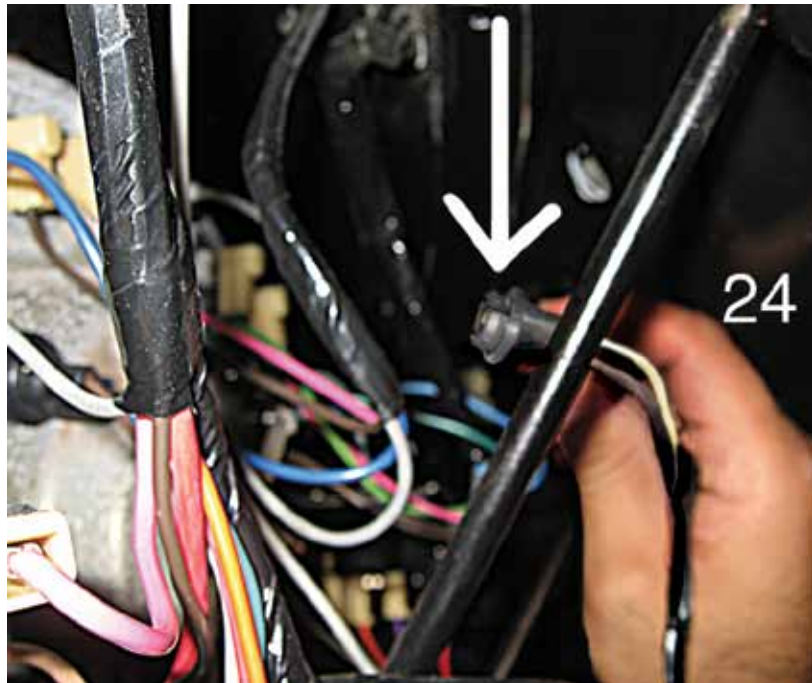


Picture 23

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Picture 24

Remove the original generator light socket from the cluster and plug the new socket in its place. (24)

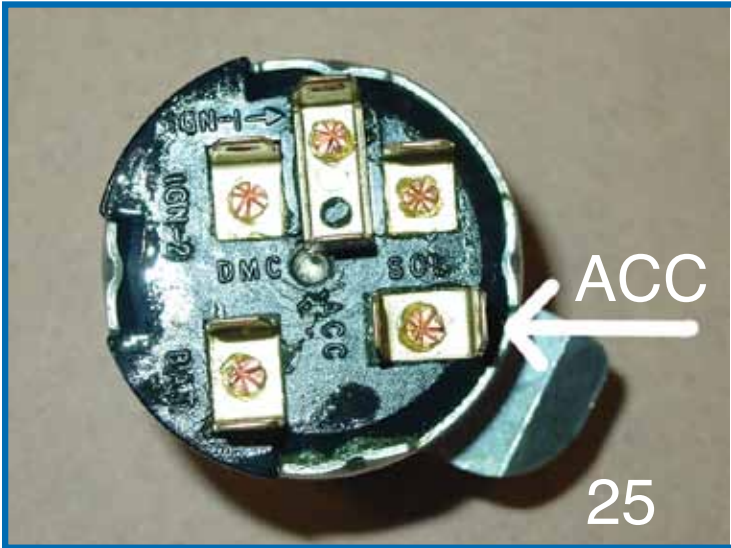
10) Find the accessory post on the ignition switch. (25-26) There should be one pink wire connected to it and there should be one empty terminal. Plug the remaining wire from the conversion harness onto the extra terminal on the ignition switch. If you do not have an extra terminal on the ignition switch, you will need to use the jumper wire with the pink and brown wires that is provided with the conversion harness. (27) Unplug the pink wire from the switch and plug the pink wire from the switch into the connector on the jumper harness with the pink wire. (28) Then, plug the conversion harness into the remaining connector on the jumper harness (29) and plug the jumper harness into the back of the ignition switch on the accessory post.

11) Check your work to be sure there are no loose connections and reinstall your battery terminal on the battery. That's it!!!!

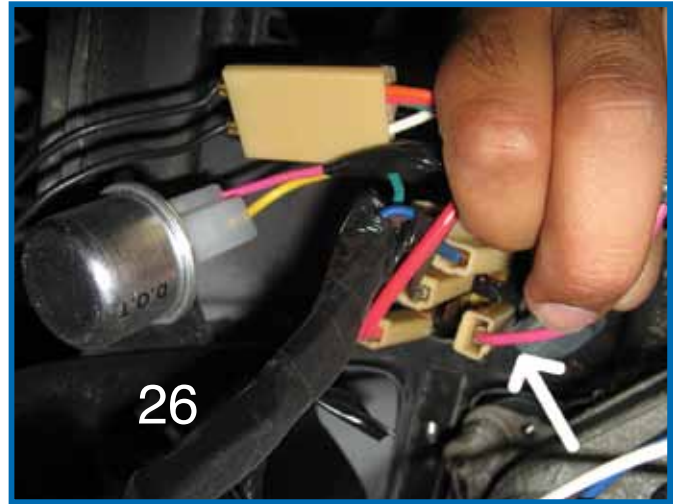
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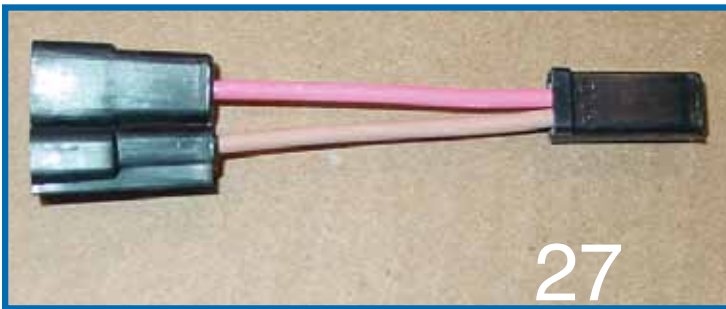
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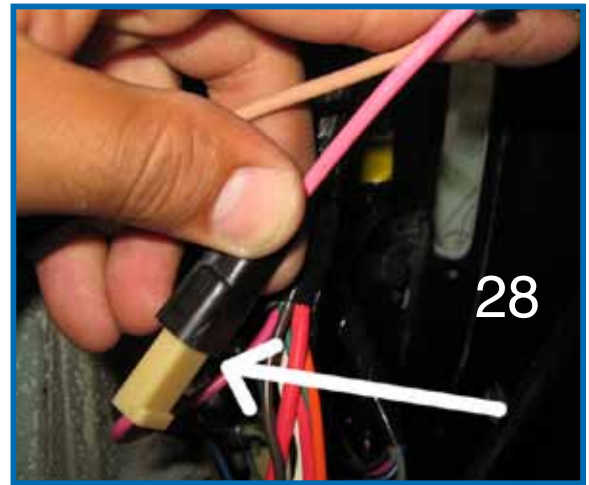
Picture 25



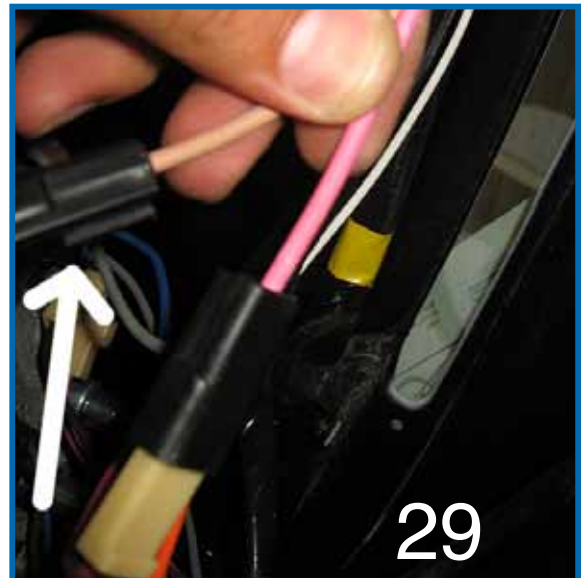
Picture 26



Picture 27



Picture 28



Picture 29

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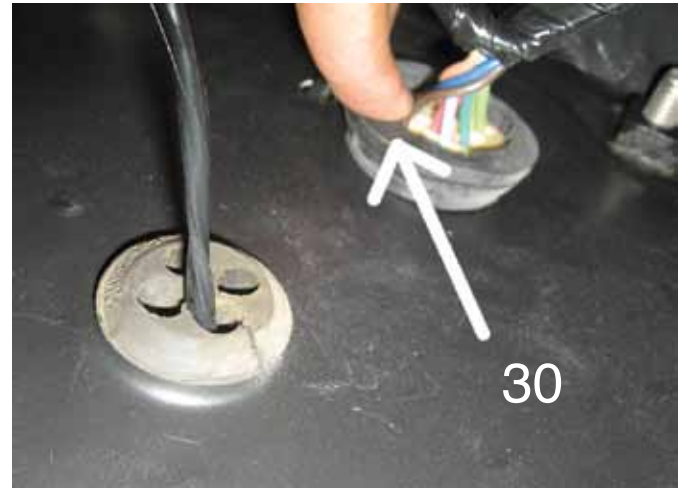
For 1957 Cars.....

1) See step 1 in 55-56

2) Using your 7/16" open-end wrench, disconnect the brown, blue and black wires from the generator. Trace one of the brown wires and the blue and black wires down to the voltage regulator and disconnect them using your medium flat blade screwdriver. Trace the remaining brown wire on the generator to the bulkhead connector on the firewall and remove it from the bulkhead connector. (30-31) Note: These terminals are designed with a little hook or tang on one side that locks them into the bulkhead connector. Utilizing a small blade screwdriver or pick along the side of the connector may be necessary to pop the connector out. Replace the wire you just removed with the brown wire and spade terminal that comes in the conversion kit. (32)

3) Locate the horn relay. Disconnect the heavy red wire and terminal connector that connects to the horn relay. Replace this wire with the red wire and terminal in the conversion harness. Then, disconnect the other end of the heavy red wire from the voltage regulator.

4) See step 4 in 55-56



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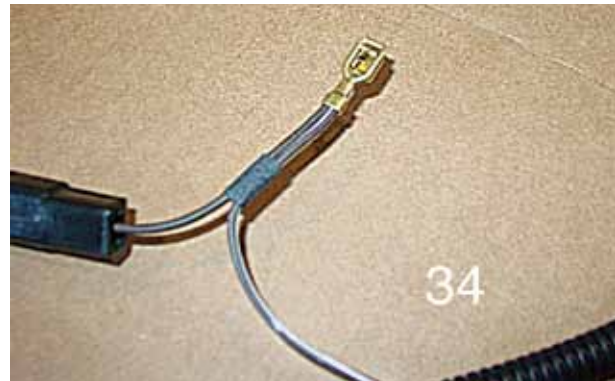
5) Remove the heavy black wire and terminal from the voltage regulator. Trace this wire back to the positive terminal on the battery cable and cut the wire loose at the base of the battery cable terminal. Find the red wire in the conversion harness with the loop terminal and fusible link. (33) Connect this wire to the battery terminal you removed the black wire from by removing the battery terminal bolt nut and sliding the loop over the bolt. Reinstall the bolt. You will tighten when you reinstall the battery terminal on the battery post.



6) See step 5 in 55-56

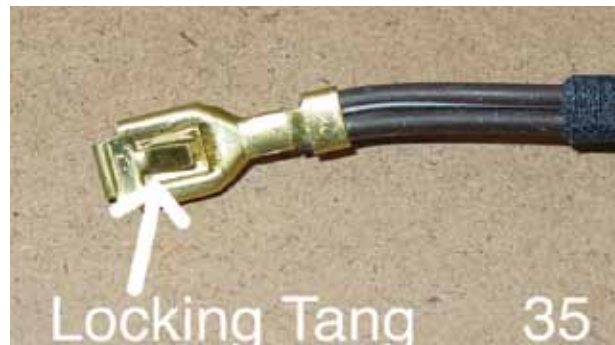
7) See step 6 in 55-56

8) See step 7 in 55-56



Now we move to the underdash portion of this job.

9) Find and remove the brown wire from the bulkhead connector. The procedure is similar to step 2 except this is a female connector that is locked into place by a locking tang on the top. Use a small screwdriver to depress the locking tange that holds it into the connector like you did in step 2. (34-35)



10) Readjust the locking tang so it is sticking up again on the brown wire and insert it into the single female connector on the underdash portion of the conversion harness. (36)



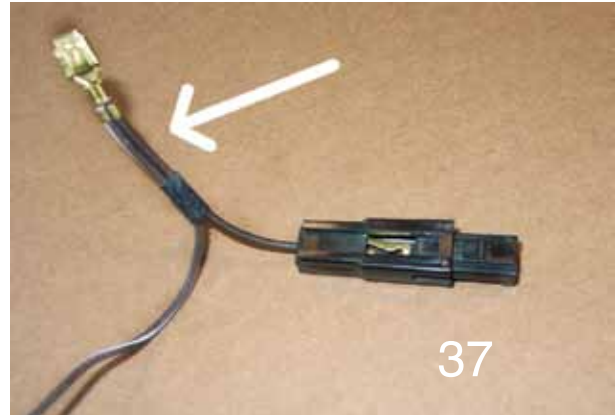
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11) Then, plug the bare female terminal with both the brown and brown and white wires in it into the bulkhead connector at the same spot where you removed the original brown wire. (37)



12) Remove the pink wire that connects to the ACC terminal of the ignition switch and plug it into the female socket with the pink wire on the conversion harness. (38) Plug the male connector with the brown and pink wires to the ACC terminal on the back of the ignition switch where you removed the original pink wire. (39)



13) Check your work to be sure there are no loose connections, reinstall your battery cable



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Notes: