

## Tips & Tricks for Old Car Wiring Connectors:

In comparison to today's vehicles, the electrical systems in a '64 to '72 Chevelle are "Stone-Age"! Everything was electro-mechanical, no digital signals or processors, everything was 12V based and "milli-volts/amps" wasn't in the vocabulary.

Our only saving grace is that the copper still works. It will still conduct, and the terminals used were pretty much bullet-proof (physically speaking), so that leaves... the "mechanical" connections.

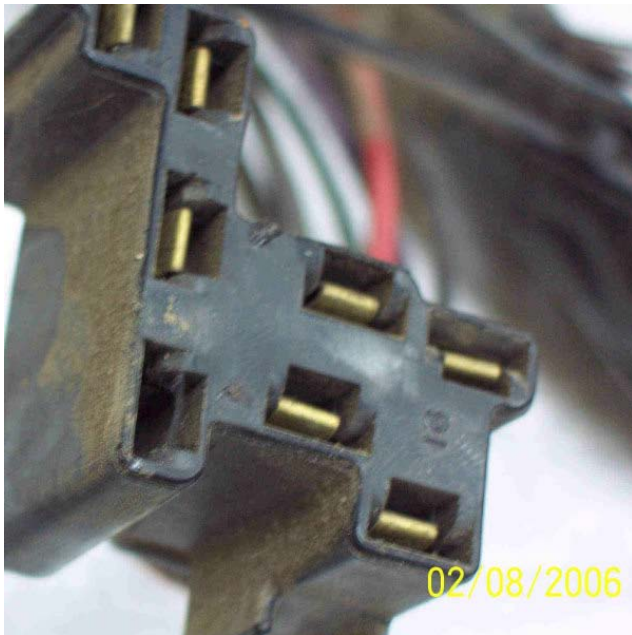
### Mechanical Connections:

About 90% of the electrical connections in our cars are of the "Male to Female" type, the remaining 10% are either ring/fork terminal under a screw, or contact "butt" type.

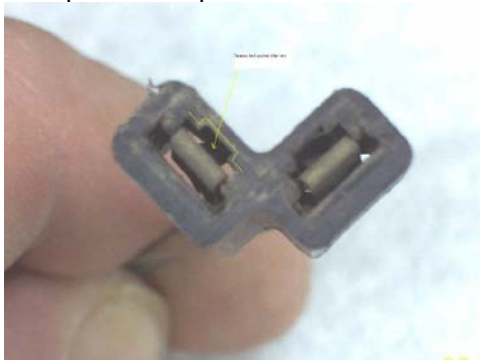
### Connector Tips & Fixes:

These connections consist of a molded housing with Female terminals pushing into a mating Male block or device with prongs. The built-in friction/interference fit of the Female terminals grips the prongs and makes the electrical connection. Enter 35 years, billions of vibrations, and corrosion. Corrosion & oxidation will crawl into/under the contact area and decrease the area of good contact, and *increase* the resistance of the circuit. The lack of physical friction or "grip" of a terminal can also cause problems (and they never "gripped" too well in the 1<sup>st</sup> place!).

Many times a few simple maintenance "tricks" can rejuvenate a flaky or intermittent circuit. If you've gone as far as to dig this deep into troubleshooting, the following steps can ensure a good "worry-free" connection down the road. How many times has "wiggling" a connector made something work??



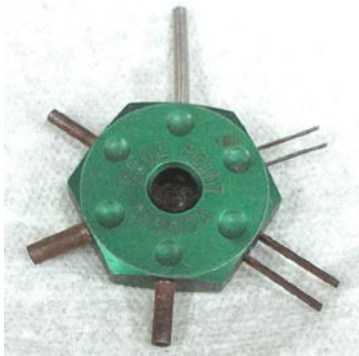
This is a typical headlight switch connector. Note that each terminal point is a rectangle, with a raised 2<sup>nd</sup> rectangle "bump" on each port.



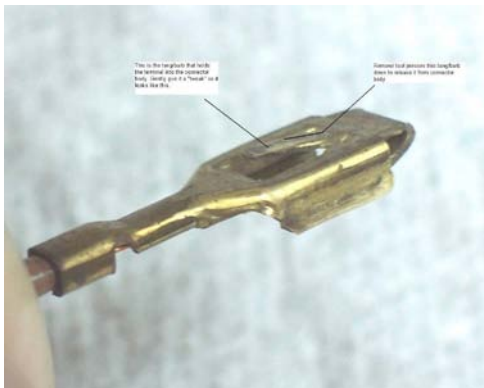
This is a typical turn signal flasher connector. Same type of terminals as #1.

**\*\*\* WARNING\*\*\*** Only remove ONE TERMINAL AT A TIME, CLEAN IT, AND REPLACE IT BEFORE MOVING TO THE NEXT ONE!!!! It's too easy to get confused, and if you're doing this under the dash, it's just that much more difficult!

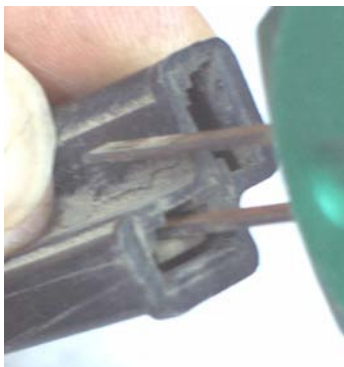
**\*\*\* Another Warning\*\*\*** The brass used in these connectors is hardened. Many times when releasing the terminal from the connector the retaining "tang" (see picture 4) will get bent down. BE VERY CAREFUL bending this "tang" back up into place it can/will break off! Be gentle!



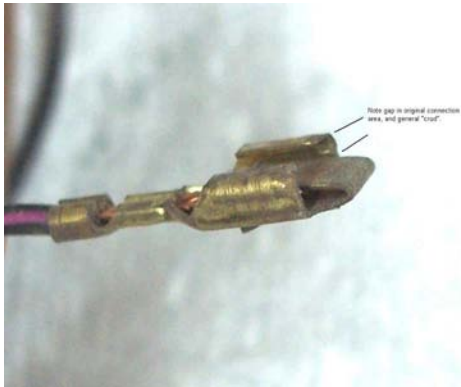
This is a Snap-On connector removal tool. It has both straight and tubular hardened "bits" that will slide into a connector, and depress the locking "barbs" on a terminal – releasing it from the connector body. Most of the terminals on our cars will release with the straight prongs. Some "shade-tree" ingenuity with an old mini screwdriver and a grinder will make a suitable tool.



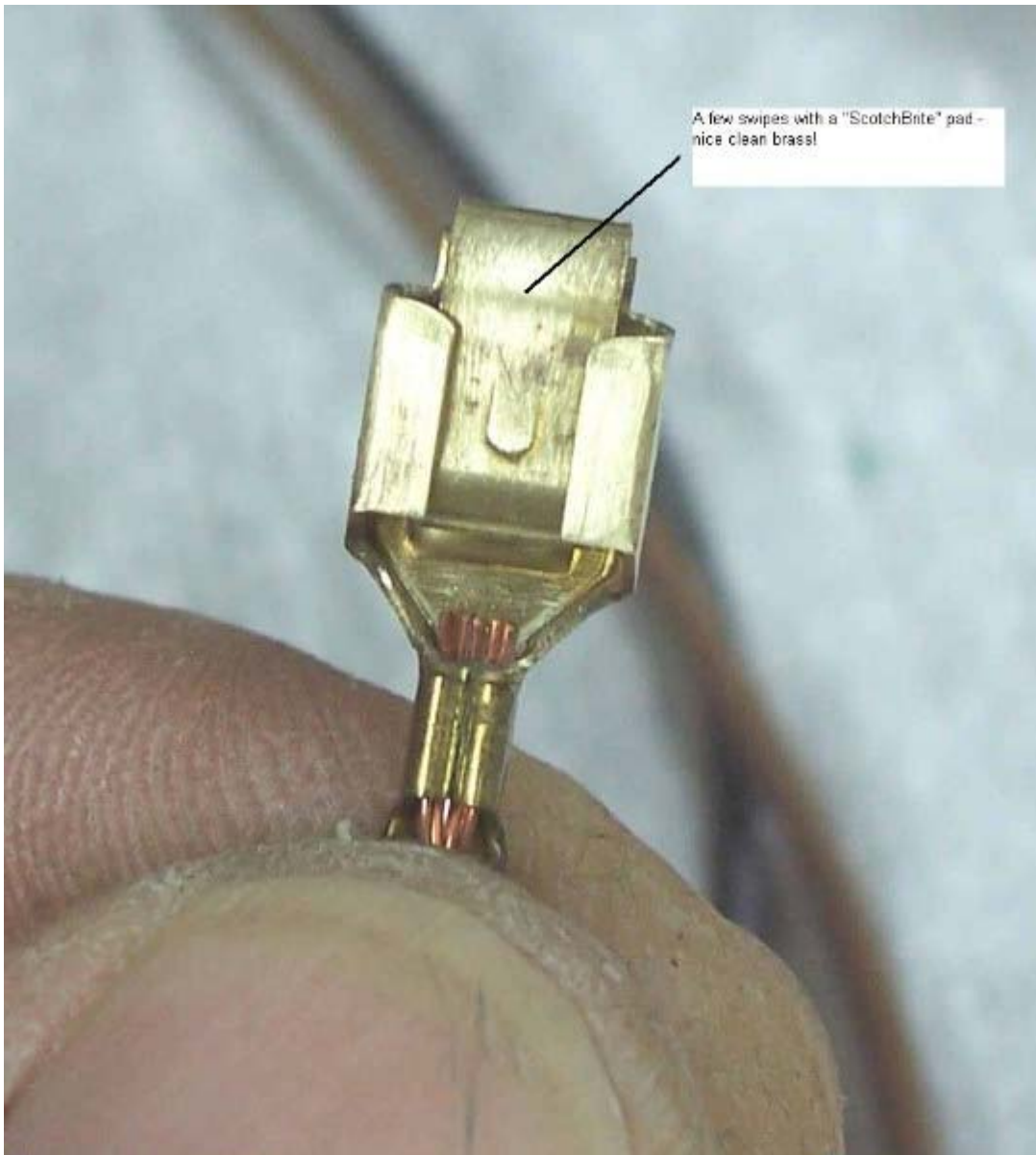
This is a terminal removed from the connector body. Note the "tang" that the tool depresses to release it from the connector. This is what you're trying to release.



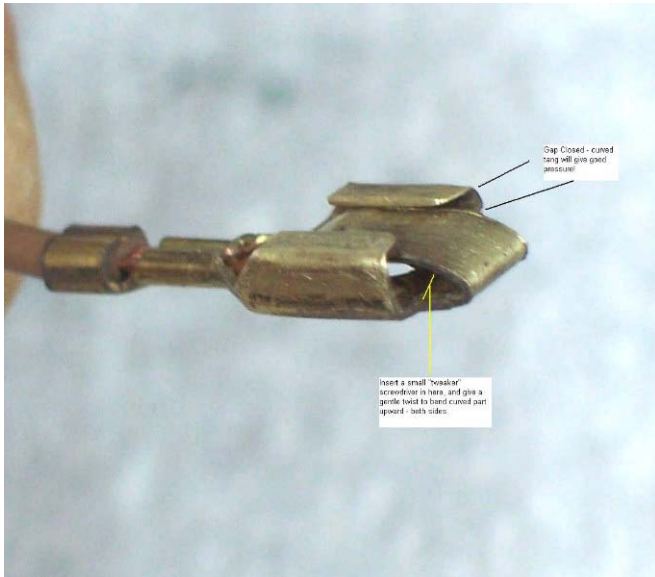
This shows the removal tool pushed into the raised bump on the connector. Note I'm only using one "tang" of the tool. A gentle inward and down pressure on the terminal, and a gentle pull on the wire should release the terminal from the connector!



This is a typical 40 year old terminal just paroled from its connector. Take note of the general CRUD and the GAP between the contact tab and the upper "hook" parts. The next steps will correct these problems.



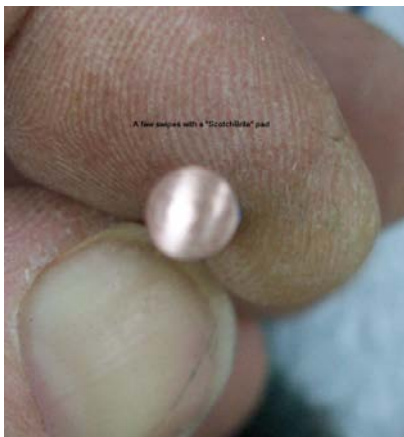
This is after a few rubs with a green "ScotchBrite" pad. The brass is now back to original shiny, and will conduct as new. (Note – the copper conductors after 40 years are still shiny)



Here's the final step. Use your removal tool, and give a GENTLE twist in the area shown. The object is to nearly close the gap between the curved tang and the "hooks" above. This will ensure a tight friction/mechanical grip on the male prong of the mating connector. After cleaning and tweaking the terminal, re-insert it into the connector body and feel for the "click". Verify it is locked in place by gently tugging on the wire. The terminal shouldn't pull out of the connector body.



Here's a typical early dash illumination bulb socket, the connection button after 40 years. Note the dull, oxidized copper.



Same connector after a few rubs with a "Scotchbrite" pad. It only takes about 3 seconds to do this.

As far as the male prongs on a switch or device, do the best you can at cleaning them with an abrasive pad. The object is to get the surface oxidation & corrosion off the brass. A "grip & pull" a few times with a ScotchBrite pad will usually do it. Any cleaning you do will be an improvement over what was there!

The next time you replace a bulb or switch, take a few minutes and do some pro-active maintenance! A new device plugged into a 40 year old connector just might not solve your problem!