

HOT ROD

 PRINT THIS

Powered by  Clickability



Ooooohweeee Batman! A bad wiring job is not only scary-looking, it's downright dangerous. With all the complete wiring kits available today, there is no reason to have a wiring job that looks like this. Disconnect the battery and cut this mess out!



This roadster needed some help, so Painless Wiring's 12-circuit wiring harness (part No. 10102, list price \$275) was called into action. The kit comes complete with a fuse block, prebundled wire, plenty of wire ties and connectors, and more.

Get Wired

The basics of wiring your street rod

By Will Handzel

Photography: Will Handzel

This is a classic scenario: Joe S. Rodder takes his budget roadster down to the local wiring guy to have a new wiring harness installed, and the quote is for 40 hours of labor! After catching his breath, all our pal Joe can think is, what could possibly take so long? The truth is that nice wiring jobs, the kind that help a car run all day and look good sitting still, take time.

Even if Joe started with one of the fine kits on the market today, such as the Painless Wiring kit shown here, he would find that the job takes at least 40 hours. It takes a lot of work to install a wiring harness, work that most people never see. Details like where the fuse block is placed in the car, how it's mounted, how the wires are run, how the connectors are installed and more all contribute to how the final product looks and works. To learn all this and more, we went to Fred's Wiring in Ontario, California, where Fred Ingle and his crew tore into wiring one nameless yet rusty roadster.

YOU WANT A QUALITY WIRING JOB

While most of the wiring is covered by upholstery or panels, the cleaner it's laid out, the less chance there is of problems showing up later. Even if problems do appear, the chances of finding them are better with a clean installation.

Electrical gremlins are probably one of the most frustrating automotive problems, so the time spent wiring your car correctly will keep you on the road, instead of on the side of the road with a flashlight in your hand.

Most rodders struggle with where to start wiring a car. If you've never wired a car, it is hard to picture where to place the fuse block. Usually, the best place is under the dash on the firewall. This makes the fuse block easily accessible and simplifies running the wires to the rest of the car. Velcro, fasteners and welded-on brackets are commonly used to mount the fuse block, but Fred's used fiberglass-reinforced epoxy to glue a fuse-block bracket to the firewall. This eliminates any unsightly holes or welding damage, yet provides a permanent mount for the block.

Once the fuse block is mounted, running the wires to their respective areas is the next task. The Painless Wiring kit comes with the wires prebundled, but Fred's recommended using bundles of eight wires or less, so some of the bundles were redone to reduce the number of wires.

The wires were located in the car to minimize their exposure to extreme heat and wear, both of which could cause a short. Fred's also used small adhesive-backed wire anchors for holding wires to vertical surfaces. The adhesive was scraped off and epoxy was used to mount the anchors permanently. These pieces are available at electrical supply houses for less



You must provide the tools to complete the job.

Clockwise from the top left are a test light, a zip-tie cutter, a wire stripper, a butane torch for shrink tubing, a solderless-connector crimper and wire anchor. All these tools are available at electrical outlet stores, each in the \$20-\$30 range.



Fred's wanted to put the fuse block under the dash on the firewall, so the Painless Wiring-provided fuse-block bracket was modified by welding two threaded bungs to it. Then it was glued to the irregular surface of the firewall with a big glob of fiberglass-reinforced epoxy (Mar Glass). Two little pieces of tape were placed over the back of the threaded bungs so epoxy wouldn't get in the threads. The fuse-

than a dollar each. As the wiring was placed in the car, zip ties were used every few inches to hold the wires neatly together. Fred's used a zip-tie gun to get even tension and clean cuts on all the ties. The gun is a \$25 tool that will get a lot of use once you realize how nice the results look with wire ties.

All the wiring bundles were run through the car to their proper locations before any cutting and crimping started. This was because it was inevitable that some wires would have to be rerouted around obstacles that arose during the job. Always make sure everything is in its place before cutting, since this will prevent the dreaded splicing of wire later.

After all the bundles were positioned, the wires were cut to length and the Painless Wiring—provided solderless ends crimped on. Having a quality crimping tool makes all the difference when putting solderless ends on wire. If you have el cheapo clamshell-jawed crimping pliers, toss them and spend \$25 to get the proper half-moon-and-cleat crimping pliers shown here. The wire strippers you see here cost another \$25, but like all good tools, once you spend the bucks and use them, you'll never think about the cost again.

For a superclean look, use shrinktubing over the connector and wire mating point. Fred's used solderless connectors without the plastic cover, so all the ends have shrinktubing on them, but it works just as well on the plastic-covered ends.

Finally, a test light is critical to fine-tune the entire system after you think you have finished. Electricity is quite simple: It flows from positive to negative, leaks at the point of least resistance (a short) and makes nice stuff look and smell bad when it shorts. Therefore, you need to work smarter than electricity (which shouldn't be that hard) and make your wiring system as clean and efficient as possible to avoid these problems. All that takes is time and knowledge, both of which you now have!

SOURCES

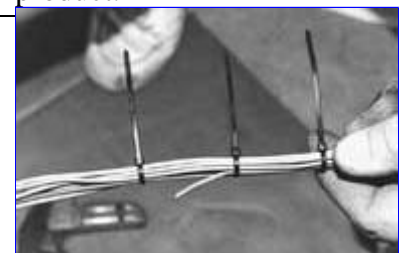
Fred's Custom Wiring
1258 W. Holt Ave.
Ontario, CA 91762
909/986-2231

Perfect Performance Products
9505 Santa Paula Dr.
Fort Worth, TX 76116-5929
800/423-9696

block bolt stands were shortened to account for the height of the bungs so everything bolted on the firewall cleanly.

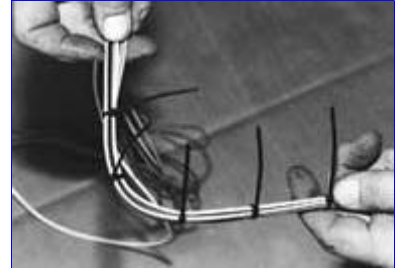


After the fuse block was mounted, the Painless Wiring bundles were separated into smaller bundles for a cleaner look. Fred's placed a zip tie every 2 or 3 inches and maneuvered the wires into a clean bundle as the job progressed. After the first two zip ties were placed on the bundle, a third zip tie was snugly placed between the first two zip ties, next to the zip tie closest to the loose wires. The zip tie next to the loose ends was then slid down the wire, while the wires were manipulated into a clean package. This was done repeatedly throughout the car, which took time but made a beautiful final product.



Whenever a wire came out of the bundle, it required some patience to get the bundle to look good at the next zip tie. Notice how this bundle has gone from eight to seven wires and yet still looks clean at the next zip tie. This took some twisting and turning of

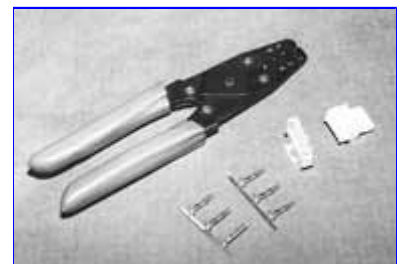
the wires, but that's what makes the difference.



Whenever the wire bundle needed to make a turn, the zip ties were used to "set" the bundle to have it hold any change in direction. The zip ties were placed on the bundle snugly, then the turn was bent into the bundle. Then the zip-tie cutting gun was used to tighten and cut the zip ties evenly. The bundle will hold that shape until the zip ties are cut off.



Properly crimping on the solderless connectors will help ensure that they stay on forever. Always place the connector in the crimping pliers with the formed ends of the connector in the half-moon portion of the crimper. The cleat of the crimper then clamps the wire in the connector solidly without distorting the connector.



Trick Connection

Among the trick stuff that Painless Wiring sells are these O.E.M.-type multipin male and female connectors. If you buy one of the proper crimpers for the connectors, installing them is easy. The trick to crimping these connectors is to cut down the ends of the connector with side cutters. This is done so the connector fits properly in the crimper. If this isn't done, the crimp will be inferior and the wire will eventually come loose. Start with the largest jaws and then crimp in sequence through all the jaws until the crimp is complete.



Find this article at:

<http://www.hotrod.com/techarticles/43178/index.html>