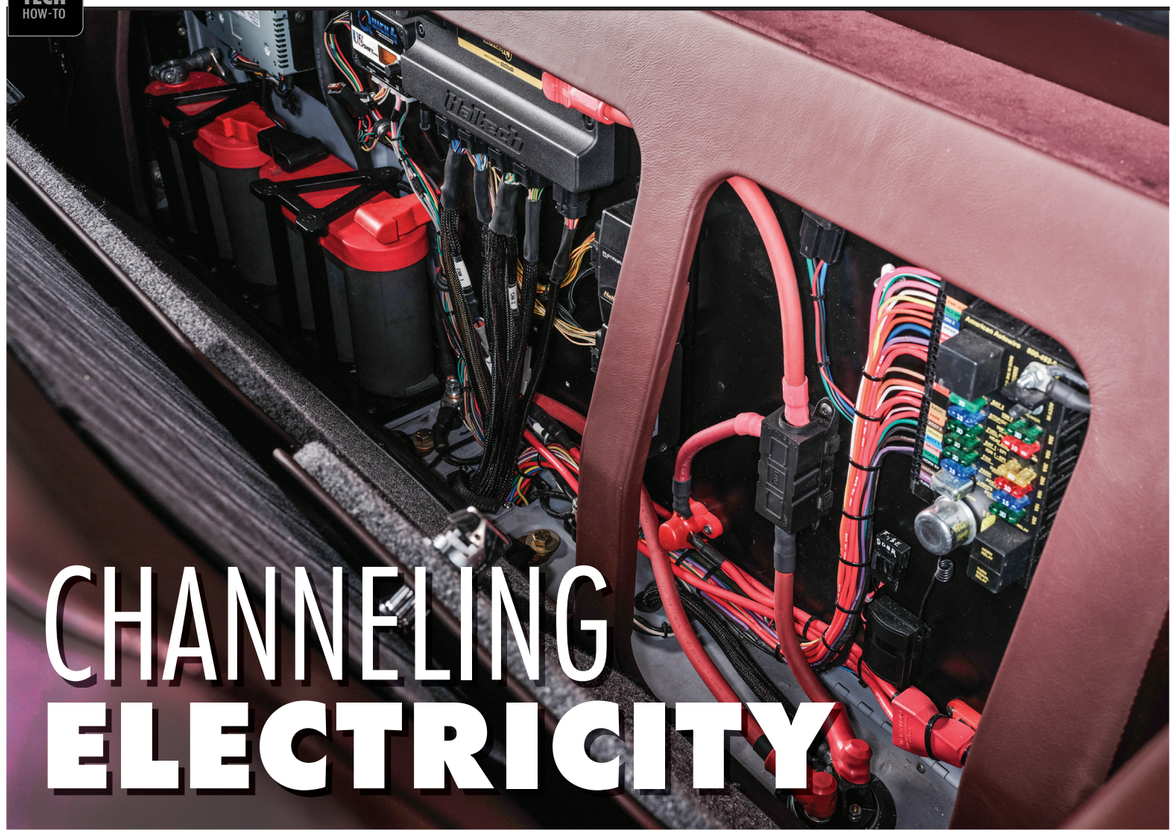


CHANNELING ELECTRICITY

FABRICATING A FLOOR CHANNEL TO CLEANLY ROUTE WIRES THROUGH YOUR INTERIOR

WORDS AND PHOTOS: **BRIAN LIMBERG**

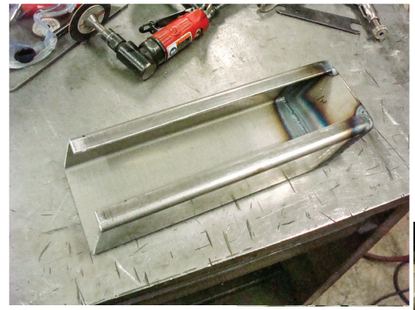
When you step back and think about it, most custom car and truck projects are a series of challenges to overcome. So much of the build process is about generating solutions, like how to achieve the stance you want, fit the engine or exhaust in the chassis or, in the case of this article, route the wiring in a clean and accessible way.

Tin Man's Garage, or TMG, specializes in high-quality builds on unique vintage cars and trucks. The build process for most vehicles typically involves replacing original floors with new sheet metal. The shop has used different methods for running wiring from the front to the rear of a vehicle, tailoring the approach based on the needs of the build. This is one of those small details that can be easy to overlook, but when you are in the final stages of assembly and there are one or two fat 1-inch diameter wire looms that need to be hidden under the carpet, you'll likely be thinking about it and wish you had devised a solution earlier.

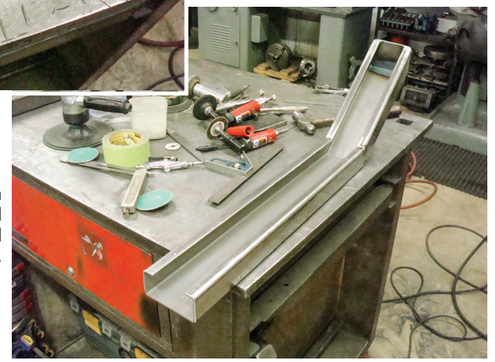
For this '61 Ford unibody pickup, the entire floor didn't need to be replaced because the truck was fairly rust free. It did, however, require a solution to route the wiring from the firewall to behind the bench seat, where we planned to mount the Haltech engine management system, American Autowire fuse panel, ground distribution blocks, batteries, and cables – basically, the "brains" of the vehicle. The wire channel needed to go through a main crossmember under the floor and there were no rocker panels to run the wiring through. The varying heights of the OEM floor and the frame rail height were two major obstacles that needed solutions. We decided to utilize 2x4x1/8-inch rectangular tubing to create a channel for the wiring to run through under the floor. This method seemed to check all the boxes needed for volume and necessary clearances. Follow along as we go through the steps to fabricate this unique channel to run wiring from front to rear, without big lumps in the carpet.

(Lead photo) The wiring, batteries, and engine management systems on John Lamb's '61 Ford F100 were all mounted at the back of the cab, behind the seat, and covered by custom interior panels. This arrangement required running a lot of wires through the cab, so we built a custom metal channel in the floor to route them. This article will detail how that channel was fabricated.

The first step was to lay out the cut areas on the floor where the channel would run. We determined a path that made sense and marked everything with straight lines with a 4-inch width measurement. Care was taken to not cut everything out in one session to maintain the body's structural integrity. Instead, the sections were strategically cut out and installed individually to limit the chances of body movement.



The channel was cut with a slot on the top with a 3-inch pneumatic cutoff wheel. The end with the angled cap welded on matches the angle of the toe board to the firewall. The end cap eventually had a hole drilled through it to allow wiring to pass through into the engine compartment.



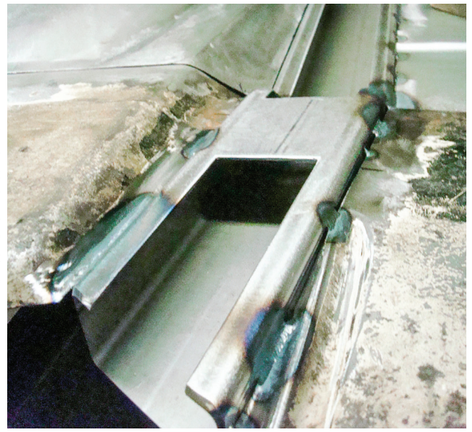
The floor pan channel was then bench welded to the toe board channel and the welds sanded smooth.

The front portion of the assembly was then slid in the floor opening and tig welded in place. Caution was used when cutting these openings to insure the tightest gap possible. Tight metal fitment means less heat and a smaller filler rod, which in turn typically equals less distortion and movement.

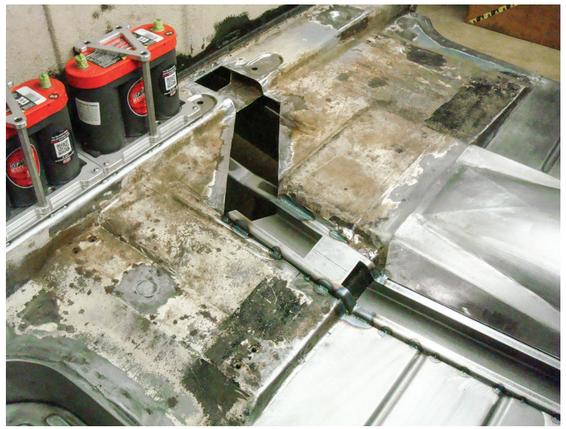
The top of the channel is slightly above the floor; this height was intentionally left proud to clear the top of the frame rail. Knowing that, adding sound deadening material and jute padding to the floor at the upholstery stage will build up the floor pan height, and the carpet will cover both surfaces for a seamless look.

After the front channel was tacked in place, the section through the factory floor brace was configured. Notice the rear section of the floor has not been removed at this point and the front section is tack welded in its proper location.

A small section was miter cut to kick the channel up to the top section. The rectangular tube was left intact in the section where the floor brace runs across.

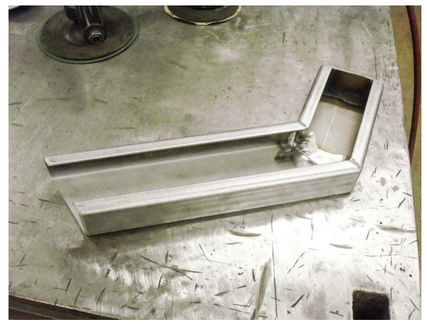


This 1/8-inch heavy wall tubing connects the floor brace from left to right, adding the structure back to the OEM design.



At this point the rear section of floor was cut out and removed. Two 6-volt batteries were mounted behind the bench seat. The height of the frame rail is visible through the opening cut through the floor, as well as the bottom of the rear floor brace, which allows the new wire channel to tie into the original cross for some additional strength.

Although there are erratic elevation changes in the OEM floor pan, notice how the tube neatly snakes through the surface under the seat.

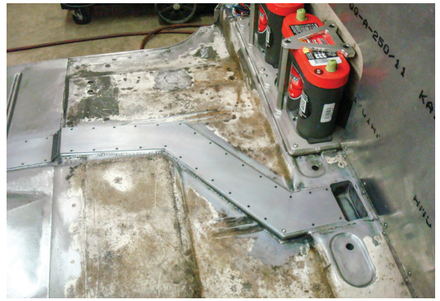


The rear channel assembly is capped like the front where the wires will enter and exit the channel and keep everything watertight.

Cardboard patterns were created and transferred onto 18-gauge cold rolled sheet metal. The sheet metal covers were cut out on the shear for crisp, precise cut lines, and then located and held in place with 1/8-inch clecos. The holes that were drilled for the Clecoes were laid out in a pattern that would eventually be used for 10-32 button-head machine screws to secure the covers.

Mounting flanges are visible before the last panel was installed. The mounting flange was originally left long when cutting out the wire slots.

The sheet metal covers were TIG welded together, and the welds were sanded smooth for a seamless appearance.



Completed installation with all the holes drilled and tapped for machine screws. The rear wire exit location is next to the batteries.

Here, the detailed wiring has been completed before upholstery, with Haltech engine management, an American Autowire fuse panel, and the Optima batteries neatly nestled behind the seat. As seen in the lead photo to this article, push-button hinged panels were fabricated and upholstered by Schober's Hot Rod Interiors for quick and easy access to the brain of the vehicle. The location for all the fuses, computers, wiring, and ground distribution blocks makes roadside trouble shooting much easier if something goes wrong in the future.

SOURCE

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