



TECH

GAUGES FOR THE AGES

Installing Gauges on a Custom Dash

BY RYAN MANSON

As I've discussed in prior issues, one of my projects that I've taken on over the past year or so is fellow staffer Eric Geisert's California Hauler Willys pickup. While a bit of a fringe element for many of us more traditional hauler aficionados, it has brought with it a fair share of tech stories that cross the board when it comes to typical things we all run across when building a truck. Steering and suspension items, engine placement, seat mounts; these are all things we run across when screwing together old trucks. And while the majority of our projects already

have those boundaries sent in stone from the factory, those of us building truly custom vehicles encounter these problems without ready-made answers. That's exactly where we find ourselves this month with the Hauler.

The Willys body came with a dash, ready to drop between the A-pillars, only without any way to mount the thing. I sorted that out relatively quickly by adding a crossmember under the dash, drilled and tapped to 1/4x20-inch that allowed the ends of the dash to be held secure. I then fabbed a gusset plate to support the center of the dash and we were off to the races. Once the dash was in place, I was then able to mount the

steering column, which allowed us to get rolling with the next phase; gauges and switches.

Since we were working with a basically flat dash and weren't tied down to using a stock cluster of any kind, we decided to go with an old standby when it comes to hot rod gauges; Mooneyes. Offering everything from single gauges to sets of three "engine management" setups to five and six gauge complete dash combos, Mooneyes has the truck and hot rod market sealed up with their timeless logo emblazoned on brand-new Classic Instruments-constructed gauges. We took a ride down to their shop

continued on page 58 ▶



We'll be using a five-gauge white face set of Mooneyes gauges made by Classic Instruments for the Willys. The set features a 3 3/8-inch electronic speedo/tach combo while the other four gauges are 2 1/8-inch and monitor fuel level, water temperature, volts, and oil pressure.



With the gauges roughly laid out and the center of the dash marked, it's time to start laying out where the actual gauges will end up.



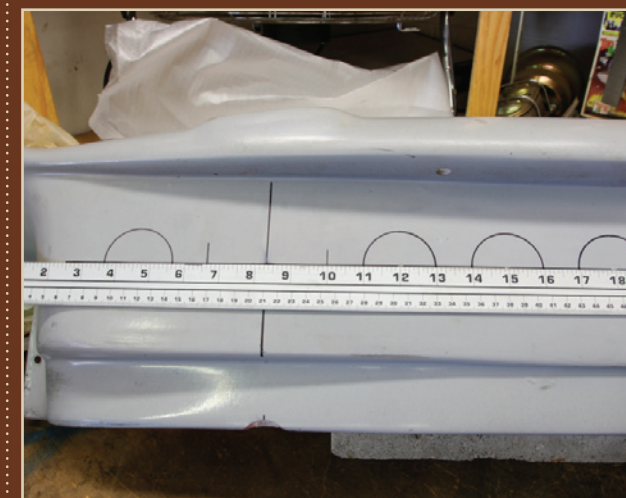
One of the tricks we used in figuring out how we wanted to layout our gauges was to scan the faces and print them out. Once cut out, we taped them in various layouts to find the one we liked the best.



Since the speedo/tach gauge will be centered over the column, we'll start there. The dash already had a small relief made to clear the column so finding the center was pretty easy.

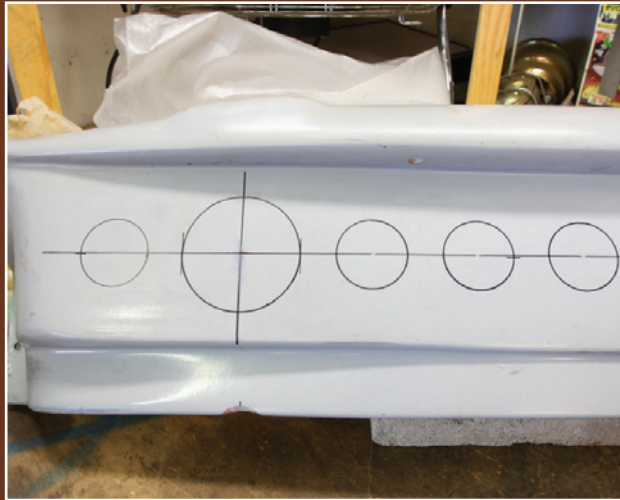


We opted to center the speedo/tach combo over the column with the fuel gauge on the left and the trio of engine vital gauges on the right.



We decided to space the gauges out 1-inch from each other and laid this out using a ruler and a circle template.

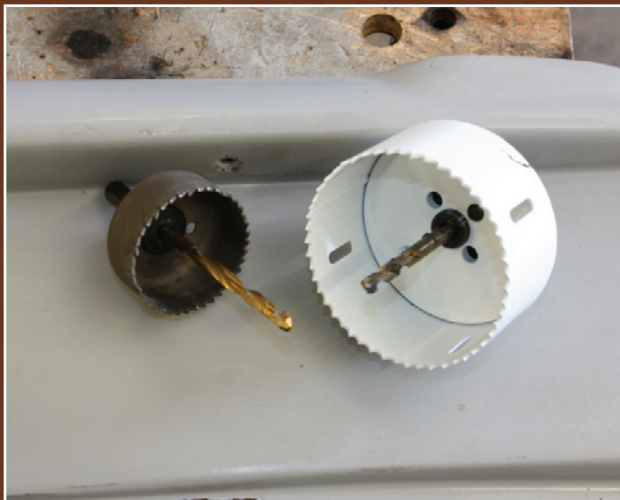
◀ Gauges for the Ages ▶



Here are the five holes, traced out to give the eye a rough idea of where the gauges will end up. We like the spacing so onwards we go.



Once the holes were drilled, a file was used to deburr all the edges; fiberglass splinters are not fun!



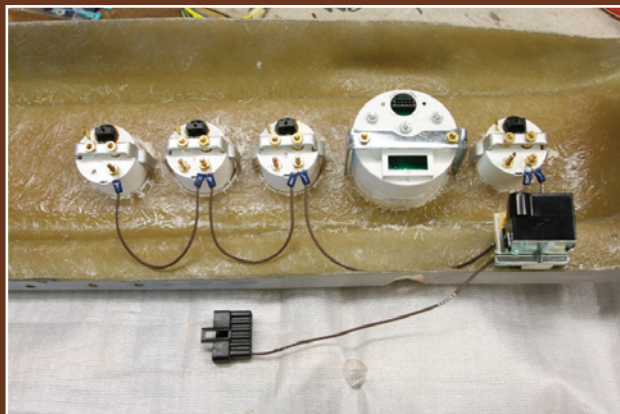
Cutting the holes in the dash will require two hole saws; a 2 1/8-inch and a 3 1/8-inch.



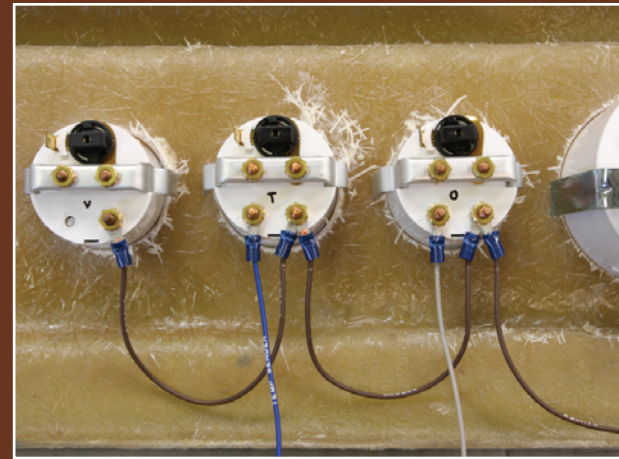
Our Ron Francis Wiring kit included their Synergy Series headlight switch which includes the four different colored accent rings; black, tan, red, and blue.



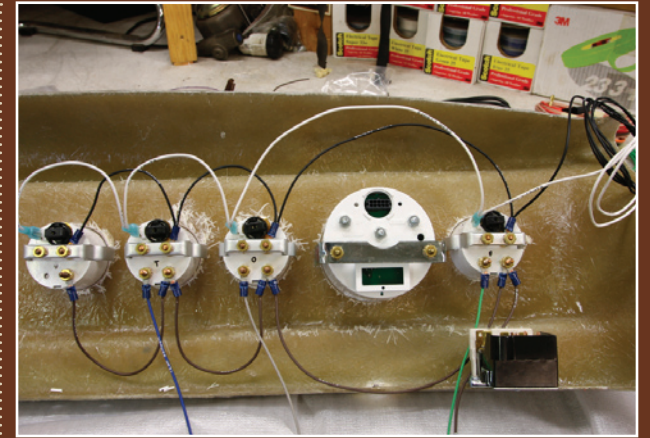
Since the dash wasn't flat enough to fit properly on our drill press table, we opted to drill the holes freehand using a drill.



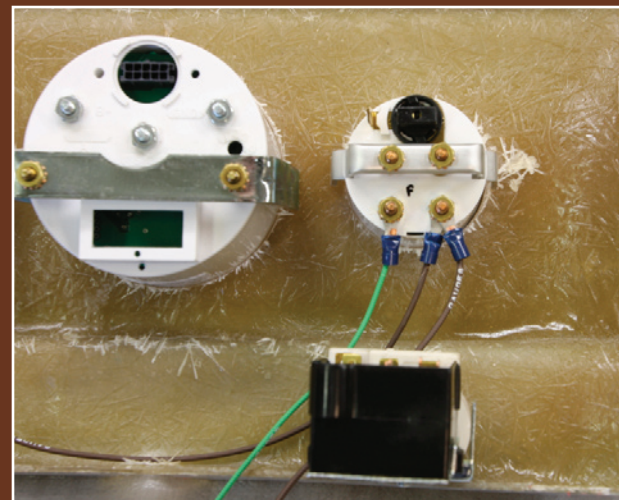
A 7/16-inch hole was drilled for the headlight switch and it was installed, along with the gauges and then it was time to start wiring up the panel. The first step is to wire up the switched positive power wire labeled brown in the Ron Francis Wiring kit. The gauges are wired in a loop configuration starting at the fuel level gauge. The connector at the bottom will attach to the brown lead off the fuse panel.



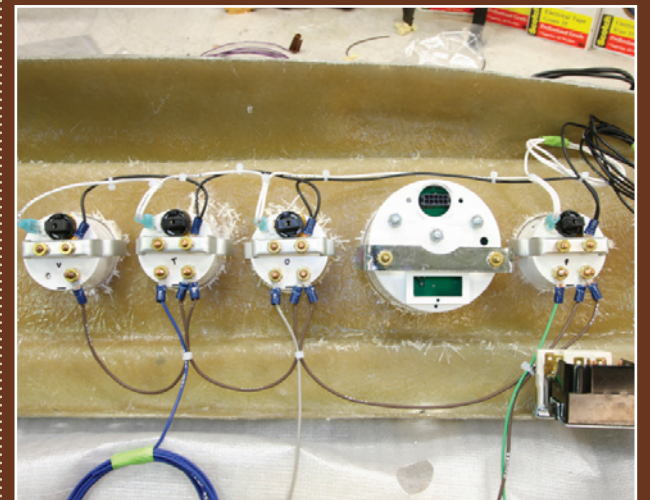
The next step is to wire the water temp (blue) and oil pressure (grey) leads to the respective gauges. These will run through the firewall to their respective sending units. Both gauges are electrical as opposed to mechanical units.



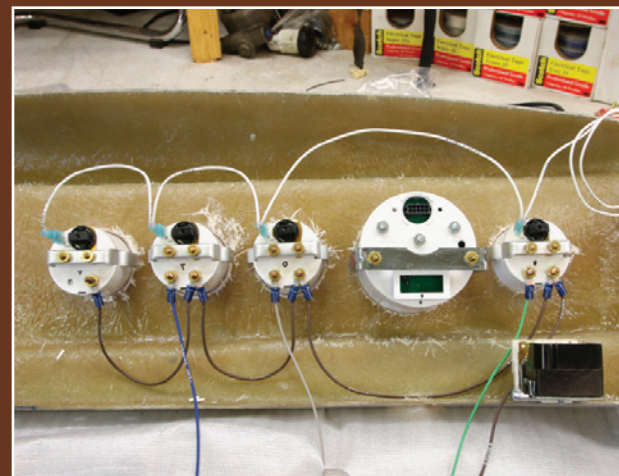
Lastly, each gauge is loop wired to a black wire that will be connected to a solid ground connection. Since our Willys body is fiberglass, ensuring a good ground connection is very important and will be addressed when the rest of the car is wired. For now, the ground extension is wound up and tucked away at right.



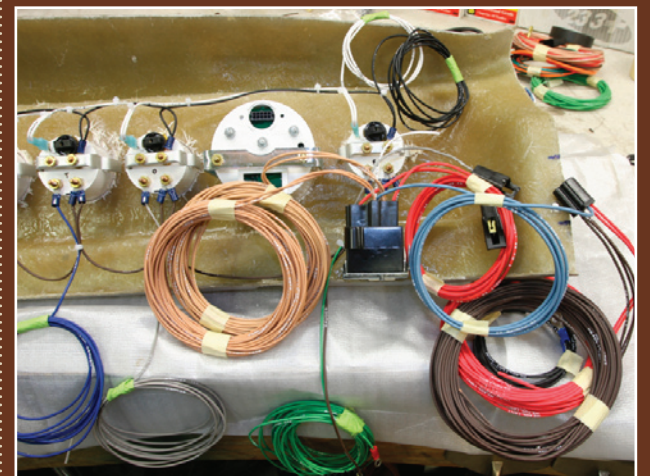
The fuel level gauge is connected to the fuel level sending unit in the gas tank via the light green wire in the kit.



A couple of zip ties keeps the wiring harness nice and clean behind the dash.



To illuminate the gauge panel, all the gauges are looped wired via a white wire to correspond to the correct wire on the headlight switch wiring harness to be connected later.



Here's a shot of the headlight switch harness plugged into the headlight switch. This will supply power to all the lights, both exterior and interior, at a later date.

◀ Gauges for the Ages ▶

■ *continued from page 54*
in Santa Fe Springs recently to see what the latest and greatest was that they had to offer and were pleasantly surprised when main man Bob Kreizel brought out this five gauge set with a combo speedo/tach setup. Available in both black and white face, we managed to snag the first set off the production line for the Willys and decided to give you guys the first peek.

The set consists of all electronic gauges (so no more leaky oil pressure lines on that nice carpet!) with the aforementioned speedo/tach combo rolled into one 3 $\frac{3}{8}$ -inch gauge. Of course the sending units are included for the fuel level, water temperature, oil pressure, and voltmeter gauges so there's no need to mix and match the old with the new. Coupled with the Ron Francis Wiring harness that we'll be installing in a later installment, their kit allowed us to wire up and

install the dash before the rest of the system, making for easy completion at a later date.

Take a peek at the install and remember that if those dummy lights on that stock gauge panel just ain't making the grade, it's easy to install a couple of accessory gauges to really keep an eye on things, and they look the business too! **CCT**

SOURCES

CLASSIC INSTRUMENTS

(800) 575-0461

www.classicinstruments.com

MOONEYES

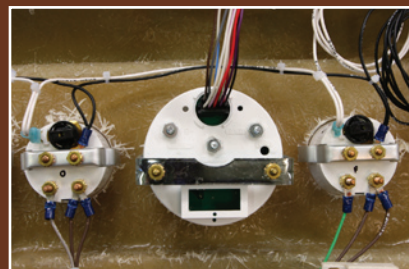
(800) 547-5422

www.mooneyesusa.com

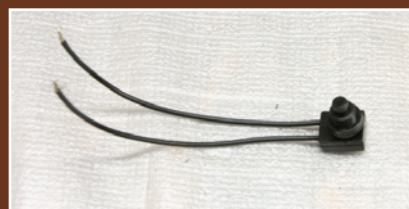
RON FRANCIS WIRING

(800) 292-1940

www.ronfrancis.com



The speedo/tach will be wired separately from the rest of the cluster using the provided 10-pin connector from Classic Instruments. This connector provides everything from 12-volt switched power to tach and speedo signal to illumination, turn signal and high beam indicators, all in one connection.



This push button is wired into the aforementioned harness and is used to calibrate the speedo.

Here's the front of the dash with the gauges and headlight switch installed.



From the driver's perspective, the speedo/tach gauge is nice and centered with the steering wheel, while the rest of the gauges are balanced on either side, making for a clean dash.