



Low-cost trailer was built out of a 15-passenger Ford 1-ton van. "It's a great size and I can haul almost anything with it," says Roger Gutschmidt.

Enclosed Trailer Built From Passenger Van

Though he didn't build it himself, Roger Gutschmidt of Gackle, N. Dak., loves his trailer made out of a 15-passenger Ford 1-ton van.

"I bought it just the way it is for \$600. It's such a good idea that I might build another one myself," he says.

The seats were stripped out and the body of the cab cut off right behind the driver's seat. The previous owner bent the front frame pieces into a point, welded on a ball hitch and a jack, and extended the wiring for the lights.

They closed the trailer up front by welding on a large plate of steel, which they painted to match the rest of the trailer.

"I really like that it has 2 sets of doors – on the back and the side. This makes loading and unloading much more convenient and there's better access to the stuff loaded inside," he explains. "This cargo van is 12 ft. long and 4 ft. wide – it's a great size and you can haul almost anything with it."

Gutschmidt didn't like the bolt holes that were still in the floor from the seats, so he closed them with bolts dropped down from the top, and nuts on the bottom. He also added "hold downs" on the inside walls for tying tarp straps to secure items.

"I have the keys for the doors so I can lock it up, which is nice," he says. "When



Trailer has two sets of doors – on the back and side - for convenient loading and unloading.

I bought it, it had never been used, so I had to register it and get a vehicle identification number. I welded that number onto the inside of the frame. It's permanent and impossible to remove because the location isn't accessible with a grinder.

"I've had so many compliments on that trailer, I can't even begin to tell you," he says.

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High-Performance Fuel Pump

There are a lot of uses for speed-controllable, brushless DC motor fuel pumps.

"We've been on the market for three years and are popular with muscle car owners," says Brian Paitz, Fuelab. "Some owners take a 700 hp or 1,000 hp Mustang and run it on the street during the week and at the track on the weekend."

The pumps operate at a higher efficiency and lower current draw than other pumps, says Paitz, adding that a compact 2 1/2-lb. unit can support up to 1,800 hp.

He says the pump also works well with diesel performance rigs where it can be used as a lift pump for main injector pumps. He explains that with a lot of in-line pumps low sulfur diesel can cause problems with brushes.

"Our pump is a way to get around fuel compatibility," explains Paitz. "The same is true with methanol or E85. Our lower flow rate model supports up to 1,000 hp and our larger ones up to 1,800 hp."

He points out that with methanol, the fuel system needs to be able to handle twice what pumps are rated for due to fluid weight.

"Compatibility with alternative fuels is an issue for many pumps," says Paitz.

Because there are no brushes to wear out, the motor can run its high-efficiency, positive displacement pump under a wide range of conditions. The rpm's of the motor can be varied to change the speed and flow of the pump. The low mass rotor reacts quickly with



Speed-controllable, brushless DC motor fuel pumps operate at a higher efficiency and lower current draw than other pumps.

changes in speed and flow.

"A traditional pump would run at full speed at a stoplight," explains Paitz. "Ours allows you to run it on the street or at the drag strip at a full or reduced setting."

Paitz explains that Fuelab's pumps can be set with automatic speed change or with a manual flip of a switch. The company website offers multiple ways to wire the unit, depending on operator preference.

The five Fuelab pumps range in price from \$420 to \$722. They offer flow rates of up to 200 gph and operating pressures of up to 125 psi.

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Steel "Velcro" consists of hooks and loops just like conventional Velcro, but is strong enough to hold machinery or building materials together.

Steel "Velcro" May Change How Things Are Made

A new invention developed by German scientists may change the way many large objects are built and held together.

"Metaklett," or "steel Velcro" consists of hooks and loops just like conventional Velcro, but is much more heavy-duty. Made of spring steel alloy, it's strong enough to hold machinery or building materials together, thanks to co-inventor, Dr. Christoph Hein.

Metaklett is resistant to high temperatures, withstanding heat of 1400° F or more. It can also endure the power of strong chemical solutions. The strength of Metaklett is 7,310 lbs/sq. ft. when tensile force is applied parallel to the surface of the fastener. When force is applied perpendicular to the surface, the strength is still impressive at 1,460 lbs/sq. ft.

The main innovation of Metaklett is that it has enough muscle to support huge objects and, at the same time, withstand severe environmental conditions. Like its conventional cousin, it can also be opened and closed by simply peeling or pressing.

"Strength is definitely not Metaklett's only advantage; temperature and creeping resistance are also significant. For example, if you mount a granite plate to a facade, it should stay there for eternity. Unlike plastic Velcro,

Metaklett doesn't 'creep'," says Josef Mair, a research associate at Germany's Technical University of Munich.

Metaklett was developed as a joint effort between the university and two German companies: Reinz (who produces car parts and had the initial idea to create a Velcro from steel) and Holz (produces tools used in the manufacture of the Metaklett).

Metaklett is not yet on the market, but has great potential, especially in the field of construction.

"People who are interested can order a sample through Reinz," Mair says. "If there is enough demand, the product will most likely become available."

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Windshield Washer Fluid Heater

Anyone who has ever sat in the cold waiting for an icy windshield to thaw will appreciate the washer fluid heater from A&L Systems of Redford, Mich.

Locally invented and patented, the heater comes with brackets to mount it vertically to a fender or firewall. It hooks into the line that goes from the reservoir to the washer nozzles. Positive and negative wires connect to the battery. When the engine starts and the voltage level hits 13 volts, the unit activates and starts heating.

"It's thermostat-controlled to kick on at 133 degrees and off at 140 degrees," says Art Lake, A&L president. Warm washer fluid lasts for about three seconds every time the washer is turned on. Another shot of heated fluid is available within 10 to 20 seconds.

"There is an amperage draw to heat it, but once it's heated it uses very little amperage," Lake says. "It's very simple, useful, and easy to install."

The heating units keep windshields cleaner while driving in slushy, snowy conditions, but the warm solvent is helpful year round. It cleans bugs and road oil a lot faster, Lake says. Windshield blades also work better with the warm fluid.

"We have quite a few trucking companies, as well as owner operators, municipalities and



Windshield washer fluid heater keeps windshields cleaner while driving in slushy, snowy conditions.

individuals using our system already," Lake says.

At \$99.95 the units are inexpensive enough to be installed in any vehicle. They are available through dealers across the country and through A&L's website. Dealer inquiries are welcome.

Contact: FARM SHOW Followup, A&L Systems, 25415 Glendale Ave., Redford, Mich. 48239 (ph 800 592-5253; www.a-and-lsystems.com).