

“Made It Myself” Truck Bed Has It All

Henry Daugherty turned a worn-out pickup truck bed into a rugged flat bed equipped with a crane, storage and more. It has a rebuilt cab and an 80 by 108-in. treated lumber bed with internal 1 3/4 by 3 3/4-in. (I.D) stake pockets. The stake pockets are used to hold side and backend boards, as well as a portable vise.

“I do excavating, trucking, snow removal, and equipment sales,” says Daugherty. “The factory bed on the pickup was rusted out. I disposed of it and built a replacement. It has hand grabs and tie-down rails, as well as bump posts on the headboard for holding pipe, ladders, and other long material.”

Daugherty added cargo lights, under body tool storage, and a 1/2-ton crane with a 5-ft. reach boom powered by a 12-volt electric winch.

“I added a grab bar on the side of the crane and a ladder under the bed so I can climb onto the bed easily,” says Daugherty. “I also installed a 6,000-watt inverter in the cab behind the passenger seat to provide 115-volt AC power to power outlets on the side of the bed.”

For added longevity, Daugherty added two coats of used motor oil to the surface of the 2 by 6-in. floorboard bed. The sideboards are treated 1 by 6-in. decking. The headboard is 2 by 4-in. tubing.

“I built the bed for my own use and didn’t keep track of materials or labor,” says



Daugherty’s truck has a crane, inverter, outlets, and a vise.

Daugherty. “If I did it over, the only change I would make is to go with standard 2 by 4-in. stake pockets.”

He says he is not interested in going into the custom truck bed business, at least in the short term. “I am building a retirement shop and will probably be busy with it for the next 2 years,” says Daugherty.

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Welding table has metal storage below, a cut-off saw and is 10-ft. long.

Shop Welding Tables Also Organize Metal

Kurt Madsen, Theodore, Saskatchewan was tired of storing metal for projects in barrels. “It seemed like I could never find the right piece of metal when I needed it. Leftover pieces went into a barrel and got buried. I often ended up grabbing a new piece when I could not find a scrap that I needed,” says Madsen.

He came up with the idea of building a metal rack for storage and putting a welding table on top. The two tables are made from 36 by 96-in. 3/8-in. steel plate. Madsen mounted a cut-off saw between the two tables. “The tables make it easy to slide metal on top for cutting,” says Madsen.

He built the tables 4 years ago and the design has proven to be a good one. The front of the table has 3 different size slots: 36, 24 and 12 in. apart. The rack under the

table holds 10-ft. lengths. Madsen cuts 20-ft. pieces in half to fit in the table.

Madsen spent about \$1,000 on his tables using all new materials. Build time was about 20 hrs., with much of that time spent figuring out the best layout. “Like anything, it would take half the time to build another one,” says Madsen.

“I painted them to match the rest of the benches in the shop. If I were to do it again, I would put a few more dividers on the front to keep small pieces from falling sideways. I thought about adding wheels to move it around but the metal would be too much weight.”

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Diagnose And Troubleshoot Your Own Tractors

By Jim Ruen, Contributing Editor

“We offer diagnostic solutions for commercial vehicles, agricultural vehicles, off-highway (construction) equipment, and marine equipment,” says Isidro Flores, Cojali USA. “We started in Spain 20 years ago and are now active in 115 countries. Our diagnostics are used by owner/operators, fleet managers and repair shops, including some OEM service technicians.”

Based in Spain, the company brings knowledge from diagnostic systems in Europe and elsewhere to the U.S. and Canada. Now you can bypass corporate firewalls on fault codes and other information needed to fix electronic control unit-based systems.

Some North American OEMs continue to resist Right to Repair laws. Fault code information or the diagnostic tools needed to find and troubleshoot faults is not available to users in the U.S. and Canada. However, these same companies have been required to share or sell access to this information elsewhere.

“We have been able to take advantage of multiple communication protocols to talk to a vehicle’s electronic control unit (ECU) and develop our own language,” says Christian Palomanes, Ag Diagnostic Sales, Cojali. “In some cases, we have been able to use experience from working with European and Asian vehicles.”

As a result, Cojali can provide electronic sensor information and access for more than 80 brands of tractors and other agricultural equipment.

“Our customers can do complete diagnostics of error codes, actuation of components and calibrations, parameter settings, and system scans,” says Flores.

All an operator needs are a laptop and a Jaltest kit specific to the preferred market segment. Each kit consists of cables, a Jaltest Link interface module and the designated system software.

From set up to utilization, use of the kit is extremely intuitive, and diagnostic information is easily accessed. Once the software is installed on the laptop, the operator selects the brand and model. The rest is easy.

“The screen displays all the different control modules on that specific model, where the ECU is located, and which pin connector cable is required,” says Palomanes.

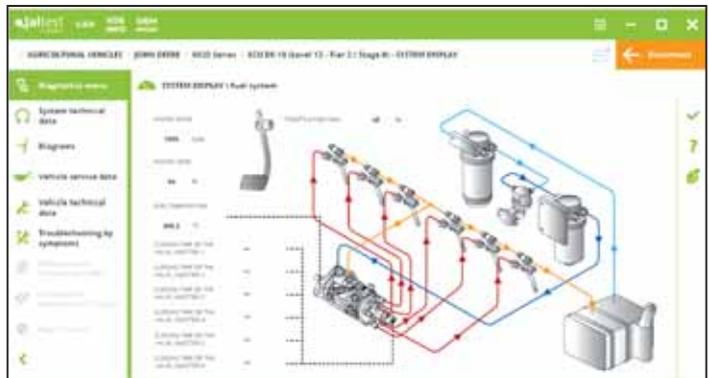
At that point, the operator can view any recorded fault codes, troubleshoot them, fix and clear the fault code. “Troubleshooting is a step-by-step guide to fixing the fault code,” explains Palomanes. “It takes the operator through schematics to images hyperlinked to detailed points.”

He adds that troubleshooting and accessing vehicle technical data does require internet connection. Throughout the process, the system makes it easy to grab images of the screen. Using the internet connection, these images, as well as any reports generated, can be uploaded to the cloud or to co-workers/employers or designated others, such as fleet managers.

The diagnostic system may be as effective at avoiding faults as it is at fixing them. Engine load profile provides useful information about the life of the tractor, rpm’s, compression, miles, and hours it has run.

“While running the engine, you can check all the specifications, such as engine and crankshaft speeds, or look at operating pressure, temperature, volumes, and time,” says Palomanes. “Data can be displayed in multiple ways from schematics to graphic images. You can see on the screen how the fuel system works and actuate components like the fuel pump and alter the fuel supply to different cylinders.”

Palomanes adds that staying on top of new components and models is a challenge.



Software shows model specific information for finding and clearing fault codes.

The company releases 3 software updates each year to update Jaltest users to new innovations in the market.

“It can take us from 6 to 9 mos. to analyze material needed on a new model,” he says.

Palomanes notes that some OEM dealerships use the Jaltest system to complement their own OEM licensed diagnostics. “CNH dealers have access to only one diagnostic unit under their OEM system,” he explains. “Our tool allows them to cover a wider range of vehicles and systems. A single license can be used on up to 3 different laptops and be taken to the field.”

Another benefit comes with brands that use an engine from a second brand and a transmission or other system from a third brand. “Dealers may have diagnostics for the engine, but not for the transmission,” says Palomanes. “They come to us, because we have both.”

The Jaltest system consists of hardware, software and a use license. Initial setup for



Some OEM dealerships use the Jaltest system to complement their own systems.

AGV diagnostics is around \$3,900 for all 3 components. Pricing for other units vary, and reduced pricing is available when purchasing multiple packages.

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