by Garfield Karpiak

The Ultimate Work Trailer

This custom-made rig stores tools and supplies, hauls material, and serves as a workstation

Like many small contractors, I do extremely varied work. One week I may remodel a bathroom, the next construct a deck, and the one after that build out an attic room. With so much variety, I never know what I'll need from job to job — and I despise having to drop everything and run for hardware, tools, or supplies.

I used to do the "tools in the back of the truck" routine, but it severely limited my ability to carry material. As my tool inventory increased and my back complained, I realized I needed something better. I looked at enclosed trailers, but they ran $5,000 and up for a quality unit. Even at that price, they needed to be "built out" inside, and their storage capacity was limited by the need for a pathway.

So I hit the drafting board and started working on a design of my own. I wanted a tool storage and transportation system that would free up my truck for material handling and nonwork use, make it easy to set up on site, and keep my tools as secure as possible. If the trailer also helped me work, that would be a bonus.

After several months and numerous revisions, I had my design. It took a few more months to source items, find a fabricator for the custom

Figure 1. A metal bifold gate covers the trailer's front compartment (right); it has hinges at the top (below) and is secured with deadbolts at the side and pins at the bottom. Folding up the gate provides unimpeded access to a compressor and shop vac (bottom). The heavy-gauge screening lets in supply and cooling air when the compressor is running.

parts, and actually construct the "gdboss," which is what my wife named the trailer (it's a play on my company's name, gdcarpenter).

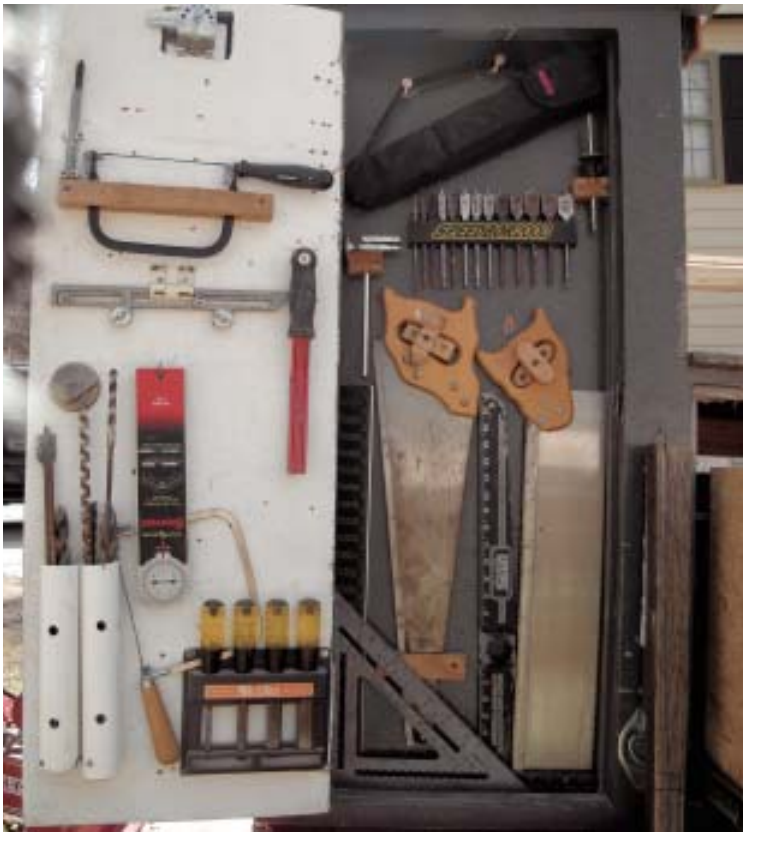
Landscape Trailer

The storage unit sits on a 6-foot-by-12-foot flatbed trailer — the kind many landscapers use. I paid $1,050 for it at a Texas Bragg trailer outlet in nearby Burlington, N.C. The model I bought came with 4-inch drop axles rated at 3,000 pounds. The trailer was already low to the ground and got even lower when I began adding weight, so I upgraded the axles to a 5,200-pound set with electric brakes. This cost an additional $1,100; it would have been cheaper to have ordered the heavier axles in the first place.

Body. The trailer body consists of a pressure-treated lumber frame that's lagged together, bolted to the metal trailer, and clad with MDO plywood fastened with glue and nails. I made the drawers and interior panels from AdvanTech, an extra–water-resistant type of OSB, and finished the shell with Hammerite paint (Masterchem Industries, 866/774-6371, www.masterchem.com), an exceptionally tough, quick-drying product with a hammered finish that's so convincing many people think at first glance the box is made from metal.

A 68-inch-high storage area occupies the front of the body; behind it is a 6-foot-by-9½-foot

Figure 2. Inside the front compartment, an extension cord feeds to a GFCI outlet (left). From there, power is fed to a pair of outlets built into the sides of the trailer. Various storage spaces suit different tools: Delicate items have their own shallow niche (below), while larger ones reside in a series of drawers (bottom).



deck with drawer storage underneath. The deck slopes from 48 inches high in front to 42 inches high in back, which helps drain off rain.

Front storage. The forward storage compartment is accessed through a bifold gate, which I had custom-fabricated from angle iron and heavy-gauge screening (**Figure 1, page 2**). Hinged doors weren't an option because they wouldn't clear the frame of the trailer and they'd be in the way when open. The gate folds up and out of the way, giving me full access to the compartment behind it. Closed, it's very secure, thanks to deadbolts on either side, index pins at the bottom, and heavy-duty strap hinges on top.

In the compartment, I store a 25-gallon vertical compressor, a shop vacuum, a retractable air-hose reel, air and vacuum hoses, accessories, and an emergency tarp. The space also houses a Wonder Winder containing 75 feet of 12-gauge extension cord that plugs into a jobsite power source. The cord feeds through a switch to a GFCI outlet for the compressor, and from there runs to duplex receptacles on either side of the trailer (**Figure 2**).

The front compartment is made of metal mesh so that when the gate is locked, the power-supply cord and hose can still run through the bottom gap and the compressor can continue to draw intake air and keep cool. Although secure, the mesh is quite a bit lighter

Figure 3. At the back of the trailer, a 6-foot drawer accommodates long tools — like a 6-foot level — and bins of electrical and plumbing supplies. It's the only drawer without a full extension.

than a solid gate. Rain can get in, but I don't keep anything in this area that would be hurt by a little water.

To make it easier to drain the compressor, I extended the drain through the bottom of the trailer and installed a petcock there.

Hinged-door compartments. On the driver's side of the front compressor area, a door leads to shallow storage designed for delicate tools that would be damaged if allowed to bounce around inside a toolbox. A door on the passenger side leads to a deeper compartment; here I store nail guns, collated nails, air hoses, extension cords, and an extension-ladder standoff.

At the very back of the trailer is a 2-inch-deep, 19-inch-by-26-inch storage area dedicated to storing saw blades.

All doors are 1½ inches thick and have hinges with nonremovable pins, keyed-alike deadbolts, and stainless-steel folding T-handle latches.

Drawer compartments. The trailer also contains seven drawers, which ride on Accuride model 9301 full-extension drawer glides. Rated at 300 pounds, these glides are designed for mobile applications, which means they can withstand vibration and rough usage.

The two forward drawers are the largest. The one on the driver's side holds a 12-inch sliding-compound miter saw mounted to a piece of ¾-inch AdvanTech; grab handles make it easier to lift the saw in and out. The drawer on the other side stores most of my cased equipment: a recip saw, a couple of circular saws, cordless drill/drivers, a jigsaw, an orbital sander, a power planer, an electric stapler, a plunge router, a biscuit joiner, and a pocket-hole jig. I also throw my toolbelt in there at the end of the day.

Another large drawer sits at the right rear of the trailer; it holds a portable table saw, a large Dremel kit, a short stepladder, and a supply of various caulks.

The trailer also contains three small side drawers, about 6 inches tall, that carry items likely to get lost in a larger space: smaller tools — a belt sander, a palm sander, a right-angle grinder — and their accessories and supplies; fasteners, glues, tapes, wood putties; and such miscellaneous tools as staplers, drill bits and drivers, and pry bars.

The final storage area is a long drawer that pulls out from the back (**Figure 3**). It's 30 inches wide, 12 inches deep, and more than 72 inches long. I use it to store bins containing electrical and plumbing supplies, more miscellaneous tools, and longer items like a 6-foot level. Since a 5-foot slide was the longest I could get, this is the

Figure 4. Removable shelf brackets hold a miter saw (left); folding shelf brackets serve as stock supports (below). Brackets attached to the rear of the trailer put a table saw at just the right height for the deck to be used as an outfeed table (bottom).

only drawer that doesn't have a full extension.

One of the few problems I have had with the trailer as originally built was the tendency for the rear doors and drawer to leak — mostly, I think, because the deck drains to the back. I have since weather-stripped these openings, and leaks are no longer a problem.

Locking mechanism. The seven drawers have the same stainless-steel T-handles as the compartment doors. I didn't put locks on the drawer fronts because I didn't want to deal with an excessive number of deadbolts every day. Instead, I secure all but the long rear drawer with an internal locking mechanism that I designed and had fabricated.

Accessed through a lockable door at the back of the trailer, this mechanism consists of a square steel tube with L-bolts welded to it that runs down the center of the trailer below the deck. Since the tube is bolted on through elongated holes, it can slide from front to back. When the tube slides forward, the L-bolts slip through eyebolts on the back of each drawer (two per drawer); the drawers can't be opened unless I retract the L-bolts by pulling back on the tube.

For additional security, there's a way to padlock the tube in the locked position.

Figure 5. The author had truck ladder racks altered to fit his rig.

I lock the rear drawer by reaching through the access door and operating a vertically mounted slide bolt.

Work Setup

When I'm working outside, the trailer functions as a workstation. Two folding shelf brackets, available through Rockler (800/279-4441, www.rockler.com) and rated at 750-pound capacity per pair, slip onto the side of the trailer and provide support for a miter saw (**Figure 4, page 5**). Since there isn't room to fold them down over the fender below, I made them removable by enlarging the mounting holes into keyhole slots that fit over bolts in the side of the trailer. Similar — but permanently attached — brackets serve as stock supports for long material.

At the rear of the trailer, a pair of folding shelf brackets support the table saw; they're positioned so that the saw's top aligns with the deck of the trailer. This arrangement allows me to rip material that's up to 10 feet long, with the deck functioning as an outfeed table. When the trailer's ladder racks are in place, I can rip material that's slightly more than 16 inches wide; for wider rips, I loosen a couple of bolts and remove the racks.

Ladders and Material

The ladder racks were designed for a truck, so to make them fit the trailer I got a metalworker to alter the upper mounting brackets (**Figure 5**). Rated for a 250-pound load, the racks can be adjusted for height and width of load. I keep them high so I don't bump my head on them.

Fully equipped, the entire rig weighs a little more than 4,000 pounds; thanks to the 5,200-pound axles, I can still haul another 1,000 pounds or so on the bed. Eight 1,200-pound-rated rope rings (four on each side) let me secure the load with tiedown straps without blocking any drawers.

I have had my trailer now for more than three years. It has withstood the rigors of hard work and rough handling and has helped me be more productive. Its solid construction and unique locking mechanism keep my tools secure enough that I can leave everything overnight at most job sites. And it accommodates all of my equipment so neatly I never lose time searching for stray items.

Excluding my labor, it cost $6,000 to build.

***Garfield Karpiak** is a supervisor with Holman LLC in Westport, Conn.*