

TRUCK BUILD-OUT



An Efficient Box-Truck Build-Out

An organized work vehicle can save you a ton of time and effort, and it might even double as a portable workplace

BY GREG BURNET

During the three decades that I've been a carpenter, I've outfitted just about every type of work vehicle imaginable—pickups, vans, and trailers—for getting tools and supplies to and from a job, and I've learned something from each one. But it wasn't until I got serious about organization that my efforts really paid off.

My company specializes in window and door installation and repair, so we have to keep a wide variety of portable power tools and hand tools readily available. We store most of these items in Festool stackable interlocking cases called Systainers (read more about modular tool organizers in *JLC* Sep/13). These

modular boxes are the key to our organization system, so we've designed and outfitted a box truck to accommodate the many Systainers that hold the equipment we need to access in our everyday work.

START WITH THE TRUCK

A couple of years ago we purchased a Ford E350 1-ton cutaway van chassis, with a 12-foot box and a roll-up rear door on the back (photo, above). We chose a single rear-wheel (SRW) model because it is about a foot and a half narrower than the dual rear-wheel version, which makes it easier to navigate the

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cramped urban areas that we frequently work in. We also opted for the lower floor height, for easier loading and unloading, although doing so meant having to work around the wheel wells on the interior. The box measures about 78 inches wide and 76 inches high, which gives it around 490 cubic feet of space. This may seem like a lot of room, but it quickly gets eaten up if everything inside is not well organized.

The walls of the truck box are made of ½-inch fiberglass-reinforced plywood (FRP) panels that attach to steel channels at the top, bottom, and corners. But the walls of the box have no additional intermediate structure, so aside from the wood floor, there isn't much to fasten anything to on the inside. To deal with this issue, we began by attaching steel hat channel to the walls using construction adhesive and ¾-inch wafer-head screws. The

channel runs horizontally to permit easy fishing of wires if we choose to add electrical circuits to the truck in the future. We then attached a single layer of ¾-inch AC plywood to the hat channel, which gave us a solid surface for attaching our storage casework (1).

BUILDING THE STORAGE CABINETS

Once the sidewalls of the truck box were lined, we were ready to build the cabinet carcasses for the interior. I spent a good deal of time laying out and refining the placement and arrangement of everything that we needed to fit into the truck. I'd sketched all of the cabinet components beforehand, so we made quick work of the carcasses, which were just open boxes made of ¾-inch birch plywood. We prefabricated the carcasses in the shop with



simple butt joints that we glued, pinned, and screwed together, although we pocket-screwed some of the partitions to facilitate their relocation if our needs change in the future. We skinned the backs of the carcasses with ¼-inch luan plywood to give them some racking resistance.

On both sides of the box, the storage cases rest on banks of drawers, which provide enough elevation for the casework to clear the wheel wells and the fuel-filler pipe cover (2). The drawers slide into their plywood carcasses without the benefit of guides (so far they seem to operate fine without them), and are secured with barrel bolts to prevent them from opening during transit. We use these drawers for various consumables such as garbage bags, visqueen, flashing tape, and fasteners. We also keep various power-tool accessories in them.

OUTFITTING THE PASSENGER SIDE

The drawer bases on the passenger side are 24 inches deep, but the storage carcasses on top are just 13 inches deep (3). This depth is enough to accommodate the Systainers, with extra room at the front for our “high-tech” securing system—lengths of ½-inch electrical conduit that slip into holes drilled in the top and bottom of each carcass to prevent the cabinet contents from falling out if we take a turn too sharply (4). The storage cases attach to the wider drawer base along the inside edge, leaving a space behind for sheet-goods storage.

We completed the sheet-goods rack with a shelf that sits 50 inches above the drawer base supported by a cleat on the wall of the truck box and vertical strips attached to the backs of the storage cases (5). The rack amounts to nothing more than a hollow box,



about 50 inches high by 10 inches wide by 9 feet deep. It's open on the end facing the roll-up door of the truck, which facilitates the loading and unloading of plywood, MDF, and other sheet goods. And the floor of the rack is at just about the perfect height for you to slide sheets into while you're standing outside (8). The shelf above cantilevers beyond the side of the rack to accommodate larger Systainers, and we added a fiddle rail around the shelf to keep everything in place during transportation (7).

We closed in the sheet-goods rack below the shelf with OSB and created a home for our sheet-metal brake on top of the storage cabinets. Although it's technically a portable piece of equipment, we secured the brake to the cabinets using three U-bolts. We make a fair amount of flashing in the course of installing windows and doors, and having a brake in the truck lets us make the flashing right on

site instead of having to run back to the shop (8). On the wall behind the brake, we mounted a rack for caulking and sealants.

STORAGE ON THE DRIVER'S SIDE

The carcasses on the driver's side—both the drawer bases and the storage cases—are 20 inches deep to permit storage of larger items, such as the compressor, shop vac, and table saw (9). We also created a large cubby on this side for a stack of Systainers mounted to a dolly (10). These contain the tools we use most often: a cordless drill and impact driver—usually the first things we need at a job. Keeping the Systainers on wheels means that all we have to do to roll onto a job is to grab the dolly and then put any additional Systainers we need for the project onto the stack—a process that takes just a minute or two.



Next to the cabinets on the driver's side we left room for a metal mechanics toolbox. We took the wheels off the box and secured it to the truck box (11). The toolbox has drawers of varying depths, all of which are mounted on ball-bearing drawer glides. The metal-framed cabinet and drawers take up less space than anything we could have made out of wood, and the metal toolbox was less expensive as well. The trade-off, of course, is less flexibility in terms of design and customization, but the box seems to work fine for holding a variety of bits, blades, jigs, and other supplies. Plus, a locking feature on the box keeps the drawers from opening during transit.

We built a miter-saw station above the cabinets on the driver's side (12). Having the saw inside the truck allows us to do our cutting in a sheltered area out of the weather and keeps dust in the truck, minimizing cleanup as well as disruption to our clients' homes. The

saw is mounted to a piece of plywood and secured to the cabinets below via two hold-down clamps. A quick flip of the clamps and the whole assembly can be removed for use outside the truck. Outfeed wings built into either side of the saw offer continuous stock support, while a repetitive stop system makes for fast, accurate cuts. A series of Mini Systainers are stored under the wings. These house a marking kit, clamps, and other miscellaneous small items.

TALLER STUFF UP FRONT

Directly behind the front wall of the box, we built two large vertical cabinets. The one on the driver's side was left open—we store dust poles, levels, and other long objects here (13). We keep everything in place during transit using lengths of chain hooked to either side of the cabinet. On the passenger side, we took a different



approach, carefully laying out the cabinet to accommodate specific bulky equipment that can be a challenge to store (14). These items include step and folding ladders, a pair of work tables, the stand for our portable table saw, and a handful of moving blankets and drop cloths. Partitions for this cabinet are ladder frames that we made in the shop (15) and then pocket-screwed in place. If we should ever need to change the configuration of the cabinet, we would simply back out the screws, move the partition to its new location, and drive the screws back in.

Other than the custom cabinets for the Systainers and the work stations, we tried to make use of every available surface for hooks and holders for items such as extension cords and pneumatic hoses (16). I also mounted the holsters for our heavy-duty caulking guns on the rear face of the cabinets. I even added a dry-erase board at

the end of one of the cabinets so we can jot down notes about any items that we need for the job (17).

Often at the end of the day, we find that we need to carry lots of stuff from the jobsite back to the shop. Having a place for all of our tools and equipment leaves the aisle in the middle of the box open for any of those items. I estimate that the build-out cost about \$700 to \$800 in materials and probably 30 to 40 hours of labor. But with the time and effort that being organized saves, this build-out probably paid for itself in just one week.

Greg Burnet runs Chicago Window and Door Solutions, a carpentry contracting company in Chicago that specializes in door and window installations. Burnet is also a veteran presenter at JLC Live and The Remodeling Show.