Shop crane extends throughout shop and out shop door when needed.

Knuckle Boom Crane Adapted To His Shop Floor

When Stephen Garver began considering installing a shop crane, he decided he could adapt a knuckle boom crane that would normally be mounted on a truck.

After finding one for sale on eBay, he set out to calculate the base size and weight he would need for his shop floor.

The crane itself weighed 7,500 lbs. and after some searching for expert advice, a Memphis engineer cautioned him that "wider is better than deeper" and helped him decide on an 8 by 8 by 6-ft. concrete base.

"I had a contractor come in and cut a hole in the floor," says Garver. "Then we dug it out, put in rebar and poured the concrete. It mushroomed out a little under the floor which made it 17 yards of cement, or 70,000 lbs."

Garver fashioned an adapter and the base that went into the floor. A tow truck brought the crane inside the shop and set it on a 14-stud structure on 10-in. I-beams.

He installed a 30-hp. electric motor, converter box, 2,500-lb. pressure rated 12-gal. hydraulic pump, and a 40-gal. oil reservoir tank. After some frustration getting the motor to run the crane properly, he added a separate 20-hp. motor, then wired the two together which converted the three phases to single-phase and provided all the required power.

Garver says he has used the crane to pick up a Detroit 60 engine and 13-speed transmission weighing over 6,000 lbs. in one lift.

"It's very handy and maneuverable," he says. "It extends to reach throughout my entire shop and 20 ft. out the shop door.

Garver says he has used the crane to pick up a Detroit 60 engine and 13-speed transmission weighing over 6,000 lbs. in one lift.

Maintenance is minimal because it's indoors and out of the elements. I just grease it and change the oil."

He estimates he spent around $15,000 on the project including the crane, concrete and electrical components. In time, he'd like to add remote control operation to the crane.

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BBQ Grill Gets Second Life As Shop Storage

Tony Bunniss repurposed a BBQ grill into a movable shop table/storage unit.

"When my old BBQ grill died, and it was not feasible to fix it, I bought a new one but couldn't throw the old one away," says Bunniss.

Instead, he put the grill to use for organizing small parts in his shop for future repair projects. "This 'BBQ storage system' has made it possible to organize some small parts in Black and Decker boxes on the top and store repair parts for some of my other projects on the shelves below," explains Bunniss.

To modify the grill, Bunniss took the grill body off the frame and made a particleboard tabletop, screwing it onto the old framework. He also mounted two shelves below the tabletop and then painted the unit.

"I've had these boxes piled up around the shop, and it was a pain to go through the whole stack to find what I needed. The table

Bunniss converted an old grill into a shop storage system for nuts and bolts and other small parts.

is great because I can just gaze across the top and pick up one box instead of many."

Each bin holds an assortment of supplies, including small screws for tech repairs.

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Karkau got 350 8-ft. and 12-ft. pallet rack cross members from an old warehouse for $400. As a bonus, the price included 100 sheets of 3/4 and 1/2-in. plywood, which he used for divider walls and adding a second floor to his building.

He Used Pallet Racking To Frame A Building

"I built a large storage shed using pallet racks for the framework after seeing a much smaller shed built the same way at a local hardware store," says Michigan idea man Scott Karkau. "My father-in-law, who'd built a lot of things from scrap materials on his farm, didn't think it would work, but he was really impressed when it was finished, even though it took nearly two years."

The 80 by 100-ft. structure is 26-ft. tall with 18-ft. side walls. The main building is 50 by 100 ft. with a 30-ft. lean-to. A 50-ft. square loft forms a second story above two sections of the shop.

Karkau is a truck driver with very little framing or construction experience, but he says, "I'm full of ideas and a hoarder who scavenges all types of things, so gathering materials for my shed was a year-long adventure. I got 350 8-ft. and 12-ft. pallet rack cross members from an old warehouse for $400. As a bonus, the price included 100 sheets of 3/4 and 1/2-in. plywood, which I used for divider walls and adding a second floor to my building. I paid $3,000 for 25 used 50-ft. trusses and three 14-ft. by 14-ft. steel doors. Another $200 got me 120 used engineered trusses. Three sides of my barn are covered with insulated 2 1/2-in. thick siding that I got for $300."

To round out his materials list Karkau purchased 30 new 18-ft. rack uprights, 27 engineered floor trusses, pole barn steel roofing and vinyl siding. The concrete flooring for half the shed and driveway approaches were his most expensive outlay at nearly $18,000.

Karkau used the pallet racks to frame the walls and provide support for the roof. The bases are bolted to 4-ft. deep concrete footings with uprights reinforced by cross members on the top, middle and bottom. He hired a crane and operator for five hours to set the trusses."

With all materials and construction labor included, Karkau says his insulated 80-ft. by 100-ft. building cost him about $9 per sq. ft. to build. That's less than half the $20 per sq. ft. a neighbor paid for his custom-built 50-ft. by 100-ft. shed with all new materials.

Karkau insulated ceilings in the loft, two shop areas and half of the main building with 285 sheets of 4-ft. by 8-ft. by 3-in. thick panels salvaged at no cost from a local Sam's club. The building has 30 windows of various sizes and shapes that Karkau bought on clearance for about $1,600.

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Simple Fix For Tubes In Tubeless Tires

FARM SHOW contributor Tony Bunniss has developed a method to keep tubes inflated when used in tubeless tires.

When Bunniss worked at a John Deere Lawn and Garden dealership, he noticed that many customers came in with tires and wheels modified to have a tube inside because people were tired of their tubeless tires losing air so often.

As the air went out of the tube, it would pull the valve stem into the wheel where he couldn't reach it to inflate or deflate. Lawn and garden wheels and tires are especially prone to this problem because they are only used seasonally.

"Tubeless tires are fine on lawn and garden equipment when the tire is new and the rim is clean," explains Bunniss. "However, that equipment sits around for a long time. It needs to be moved every so often, or a leak will develop. The older the tire gets, the more often it needs air."

After repeatedly having the valve stem problem, Bunniss came up with a simple solution.

"After I install a new tube and inflate it, I just attach a hog ring to the valve stem, preventing it from ever being sucked into the wheel," he explains. "Before I attach the

"I just install a hog ring on the valve stem, preventing it from ever being sucked into the wheel," Bunniss explains.

hog ring, I grind off the sharp points so that I don't puncture the stem while installing it."

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