

He Made His Own Custom-Built Vise

As a metal crafter and blacksmith who needs excellent tools in his shop, Alexandre Bigunas was continually frustrated with his old bench vise that could no longer hold objects tightly. Rather than buy a new one, which might not be tough enough for his needs, Bigunas decided to build his own.

His new vise has a 1/2-in. thick carbon steel circular base that he cut out with his Sumig gas torch. He honed the rough edges with his hand and bench grinders, and bolted it to his metal workbench.

Bigunas made the slide from 1/2-in. thick carbon steel tubing that glides back and forth through a channel opening that he made from 1/2-in. steel plate welded to the top of the base. He inserted thin metal wafers around the slide as he welded the channel together to avoid pinching.

Bigunas made the screw from a 3/4-in. thick shaft and welded a 2-in. anchor nut to the base at the opposite end of the slide. He trimmed the radius edges of the nut flat on two sides so it could be welded securely in the U channel and still allow the slide and screw to glide freely.

Bigunas made jaws for both sides of the vise from 1/2-in. thick by 2-in. dia. pipe, tracing the angular outline with chalk before cutting with his Sumig torch. Metal spacers and magnets held the jaws in place as he welded them with gusset supports to the main vise frame.

The anvil was made from solid XS300 metal and welded to the base of the stationary jaw, providing more structural support for the vise. He made the free-sliding handle from 1/2-in. metal stock and welded bolts on both ends to keep it from sliding through the hole in the screw shaft.

He says his new vise is built stronger than anything he could've purchased.



Bigunas traced an outline for the vise's jaws on 2-in. dia., 1/2-in. thick tubing, then cut out the pieces.



Metal spacers and magnets held jaws in place as he welded them to main vise frame.



Anvil welded to base of stationary jaw provides additional structural support for vise.

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Easy-To-Store Portable Lift

Anyone who does a lot of maintenance work on cars and trucks in their shop will like this new QuickJack portable car lift that eliminates the need for conventional jacks and stands. The electric-hydraulic lift raises and lowers your vehicle with the push of a button, lifting all 4 wheels off the floor at the same time. It collapses to a 3-in. overall height for storage.

The QuickJack features a completely open-center design that doesn't block the vehicle's undercarriage, a rapid 30-second lift up to 21 in., and heavy-duty lift capacities up to 7,000 lbs., says the company. The system includes 2 lift frames, one for each side of the vehicle, and an electric-hydraulic power unit operated by a remote control. The power unit attaches to both frames using quick-connect fittings. A mechanical safety locking bar that works automatically is built into both frames to keep the vehicle suspended.

The lift assembly includes the electric-hydraulic power unit, hoses, lift blocks, and quick-connect fittings.

The frames mount on urethane wheels, making it easy to roll them across a floor.

Three models are available with weight capacities of 3,500, 5,000, and 7,000 lbs. The 3,500-lb. model sells on Amazon for \$1,333.99, including shipping.

You can watch the QuickJack being installed and activated at www.farmshow.com.

Contact: FARM SHOW Followup, Quickjack, 250 Dove Court, Santa Paula, Calif. 93060 (ph 888 262-3880; www.quickjack.com/smarter).



Electric-hydraulic portable car lift uses 2 frames to lift all 4 wheels off floor at the same time, and is operated by a remote control.



Lift assembly includes the electric-hydraulic power unit, hoses, lift blocks, and quick-connect hose fittings.



U-shaped splitter valve hooks up to an air compressor, allowing Greff to activate and deactivate his semi trailer air brakes from anywhere around the trailer.

Air Compressor Used To Activate Truck Air Brakes

"When working on semi trailer air brakes, it's difficult to diagnose problems by yourself. You have to walk back and forth from the tractor to activate and deactivate the brakes. Also, with the tractor engine running it was difficult to hear any air leaks," says Lucas Greff, Mott, N. Dak.

"I solved the problem by using the air compressor in my shop, or the one on my service truck, and coming up with a simple valve system with a couple of 50-ft. hoses. It lets me activate and deactivate the brakes from anywhere around the trailer, without having to hook up the truck to it. When used in the shop, it also provides for silent activation which helps in diagnosing issues."

He bought several brass fittings, a pair of ball valves, and an air coupler, hooking them all together to make a U-shaped splitter that hooks up to the compressor. Hoses hook up to the splitter and run to a pair of couplers that he attached to the "gladhand" interlocking hose coupler that was already on front of the trailer. The hoses supply pressurized air from the compressor to the brakes on the trailer.

"I just park the trailer in my shop or in the field, and then turn the valves on to activate the brakes and listen for leaks," says Greff. "If I want to I can 'feather' the valves to slowly activate the brakes. It works equally well on the trailer's service and emergency brakes."

"My total cost was only about \$25."



Hoses connect splitter valve to a pair of couplers attached to trailer's "gladhand" interlocking hose coupler.



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Trailer Jack "Roller Stand"

"I built this infinitely adjustable roller stand out of round stock and square tubing. I use it with my bandsaw when handling long material. A trailer jack makes it easy to adjust the height," says Lee Johnson, Richburg, S.C.

Johnson uses the roller stand in his shop, along with a couple other ones that he built. When spaced 6 ft. apart, they provide a sliding surface for moving long objects into the saw.

The roller stand's base is made from an old 20-in. disk coupler. Johnson welded a length of 1/2-in. round stock vertically onto the coupler and then slid 1-in. square tubing over it, welding the tubing to the jack. At the top of the stand, a 12-in. long conveyor roller with spring-loaded ends spins freely on a 13-in. horizontal steel bracket made from 1/2-in. wide, 3/16-in. thick metal. The bracket has a short vertical piece at each end with a hole drilled into it, where the spring-loaded ends fit through. A welded-on, triangle-shaped metal gusset reinforces the bracket.

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Johnson built several of these home-built trailer jack "roller stands", which he uses with his band saw to handle long material.