Building A Big One-Piece Door Saved Lots Of Dollars

Kin Purvis is a South Carolina do-it-yourselfer who isn't afraid to tackle big projects. When he needed a door for the 50-ft. wide opening on his airplane hangar, he and his friend, Ted Parker, built it themselves. Says Purvis, "I saw hangars with split doors folding up and out or up and in, but that style wouldn't work for my building. Besides, they cost several thousand dollars. I needed a one-piece door that would provide more clearance for the plane to get in."

After getting some ideas from a home-made door they saw in Virginia, Purvis and his friend drew up their own plans. They built the framework for the 12-ft. high by 50-ft. wide door on the floor of the hangar, using 2-in. square tubing. The "grid" they developed consisted of 10 by 4-ft. sections. Diagonal reinforcing pieces of 1/2-in. rod were welded into several sections. When the frame was done they covered the outside with the same metal siding used on the sides and back of the hangar.

Purvis and Parker also built the track and opener for the door. "We stood the door up and mounted rails like those on a barn door across the top. The hinged ends were loose so the door could easily lift from the vertical to a horizontal position.

Raising and lowering the door is done with a winch that is normally used to raise and lower feeders in a large poultry barn. The winch is mounted to the ceiling of the building on a reinforced plank. Purvis uses a 1/2-in. Milwaukee power drill connected to an 8-ft. long handle to operate it. He used another brand drill at first, but found the Milwaukee had more torque. The door is lifted by 1/4-in. cables connected to loops on the frame about 4 ft. from the bottom. The cables roll on and off the spool under the winch as the 600-lb. door is opened and closed. Purvis says the cable powers in and out without overlapping or tangling because they installed a center divider on the spool.

After completing the project, Purvis and his friend learned that the single winch system wouldn't raise the door when it was fully closed. To solve that problem they made a hand turning winch that lifts the door from straight vertical to about 10 to 15 degrees horizontal. When the door is closed, the small winch also locks it in place. Says Purvis, "We break it open using the small winch with the hand crank, then turn it over to the power winch, and that raises the door fully open in about a minute."

The big door project took about a week to complete and Purvis says it probably cost about $700, less than a third what a bi-fold with a power opener would cost. A large part of Purvis's cost was buying the winch and the high torque Milwaukee Magnum drill, which has more than enough power to operate the winch. Purvis also installed 20-lb. counter weights on each end of the door lift so there's less power needed to raise it.

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Kin Purvis needed a door for the 50-ft. wide opening on his airplane hangar, so he and his friend built a one-piece unit that provides plenty of clearance.

A power winch, mounted on the ceiling and operated by a high-torque Milwaukee drill, is used to raise and lower the door.

When hive's clear frames fill with honey, you open a valve to drain it out the bottom into jars.

"On Top" Honey Flows Out Bottom Of Hive

The Flow™ Hive is a new way to harvest honey. When its clear frames fill with honey, you open a valve to drain it out the bottom into jars. Besides saving about 90 percent on labor, the bees are happy. No need for smoke or opening the hive and stressing them out to extract honey.

It looks too good to be true, but it really does work, says John Gates, a former British Columbia Ministry of Agriculture employee and a beekeeper for 40 years who breeds and sells bees.

Gates admits he was skeptical when he was contacted by Australian inventors Stuart and Cedar Anderson to be one of many bee experts to test the frames.

Seven of the clear, durable, BPA-free, food-grade plastic frames fit in standard N.A. bee boxes, which hold 10 wooden frames.

"I put them on top of two brood chambers, and the bees took to them right away. They produced 40 lbs. of honey in about two weeks," Gates says. Each frame drained in about 20 min.

He explains the Flow Hive didn't arrive until late in the season around late July. Typically, that time of year is dry and less honey is produced. But last year was a good year, and he was impressed with how well it worked and the honey itself.

"I was impressed with the taste of the honey. It was like comb honey," he says. "It was crystal clear in the jars."

Gates speculates that the honey is clear because no air bubbles are added from spinning - a standard method of harvesting honey.

"I've never seen anything like this before," he says. "For small time beekeepers it should be a good beekeeping tool."

Flow Hive will make harvesting honey easier, he emphasizes, but there are still many other skills and tasks needed for caring for bees – feeding, monitoring for disease, properly wintering them, etc.

The father and son inventors have added information about beekeeping to their Flow Hive website to educate potential customers so they are aware that beekeeping is more than just setting up a hive and turning the tap.

Currently, the Andersons are ramping up production to respond to the flood of pre-orders they have received since putting Flow Hive on IndieGoGo for crowd funding. Their goal was $70,000, but in early April, they had more than $8.5 million in pledges and orders with estimated delivery dates of December 2015. Cost for a complete hive (six frames) is $600 (plus $88 shipping to N.A.) Other less expensive options from $280 to $460 are also available for people who want to purchase fewer frames and modify Langstroth bee boxes as Gates did.

Contact: FARM SHOW Followup, Flow Hive, Stuart and Cedar Anderson, Northern Rivers, Australia (www.honeyflow.com).

Cut Steel Anywhere With Portable Torch

Designed for short-term cutting, Petrogen's oxy-gasoline backpack cutting torch weighs just 45 lbs. The new, compact, multi-fuel Portable Cutting System (PCS) has a 2-quart fuel tank and a refillable 23-cu. ft. oxygen bottle.

"This unit is designed for guys who have a limited amount of cutting to do," says J.J. Fierro, Petrogen. "We think it should be perfect for farms and home workshops."

The PCS carries enough oxygen for about 20 to 25 min. of cutting 1/4-in. steel or 5 min. cutting 4-in. steel. Equipped with a piggyback valve, the bottle reloads fast if a larger supply is available. The 2-quart fuel tank is designed to hold 1 1/2 quarts with space for pressurization. The fuel supply is enough for about 45 min. of cutting."

The multi-fuel torch works with standard gasoline, white gas, camping fuel and stabilizer additive fuels. The PCS produces the same hot flame and cutting ability as larger, earlier models.

"It can make a precision cut through thin steel, slice through 20 layers of rusted plate, or cut through 14-in. thick steel," says Fierro. "The flame carries heat into the cut, slicing through layers, jumps air gaps and punches deep holes in seconds."

The oxy-gasoline flame cuts steel 4 times faster than acetylene torches. It has a 100 percent oxidizing flame and vapor 4 times heavier than acetylene. Because the steel is completely oxidized, there is no molten steel to create a spark hazard.

Petrogen torches can cut through manganese steel dipper tooth shanks in less than a minute, through 10-gauge steel at 51 in. per min., and through railroad rail in 40 sec. It quickly cuts a fast clean bevel through cement-coated pipe in a single pass, cuts 1-in. mild steel plate at 22 in. per minute, and bores a straight hole through 10-in. armor plate in 50 seconds, all without pre heating.

Prices start at $2,725 with a full system available for $3,200. In addition to the refiller pigtail, oxygen bottle and fuel tank, components include a 20-in./90-degree torch with 3 cutting tips and 20-ft. fuel and oxygen hoses. The system also includes quick oxygen disconnects, oxygen flashback arrestor and oxygen regulator with a heavy-duty igniter. There is a carry case, spare parts kit and tool kit with adjustable wrench. Safety glasses, welding gloves and reference and training materials are included.

Multi-fuel portable torch comes with a 2-quart fuel tank and a refillable 23-cu. ft. oxygen bottle.

"The spare parts kit includes enough extras such as O-rings to last 3 years," says Fierro. "It also includes an extra mixer, a part most likely to be damaged if the torch is incorrectly run. Some of the parts may never be needed, depending on the operator, but they are there."

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