

Fabric Chain Stronger Than Steel

The world's strongest fiber is being used to make DoNova textile chain, a fabric chain that floats on water. The specially woven fabric is stronger than steel and up to 85 percent lighter. It can be used anywhere chain would be used.

"Dyneema fiber is an ultra-high molecular weight polyethylene that we weave into a web. Each link is made out of 8 to 10 plies," explains Ralph Abato, Doleco USA. "Instead of a circle, each link is a Mobius strip. Run a finger along the inside of a link, and it becomes the outside. This effectively spreads the load across all the fibers."

DoNova textile chain with a breaking strength of 44,000 lbs. gives it a working load limit of 22,000 lbs. when used for tie-downs, a 2:1 factor. When used for lifting a sling or towing, a 5:1 design factor is used, giving it an 8,800-lb. working load limit.

In addition to being easier on the person working with it, the textile chain is resistant to corrosive chemicals. It is also 15 percent more resistant to abrasion than steel and is nonconductive.

The soft and flexible chain is ideal for delicate loads and sensitive surfaces. Abato notes that new uses are constantly being found.

"Our customers have found many new applications for the DoNova chain," he says. "It is now being used in the fishing industry where they would use steel chain, but the steel doesn't float like ours does."

Textile chain lengths of more than 60 ft. can be handled by one person. Conventional binders and other steel chain components can be used to shorten or work with the textile chain. However, the company has used



DoNova textile chain is made from a specially woven fabric that's stronger than steel and up to 85 percent lighter.

Dyneema fiber to make a DoRa ratcheting load binder. It's 25 percent shorter than a standard load binder, but can extend twice as far. It eliminates the need to detach and reattach chains when tensioning cargo and fits into tighter spaces.

A widened hook support has also been developed for the textile chain. A special lashing strap can be used as a tensioning element, and a Doleco head sling secures loads without fastening points.

Abato acknowledges that the company's textile fabric chain is 4 to 5 times the cost of high-grade steel chains.

"Making it is a much more labor intensive process with new technologies," he says. "However, if I had to use steel chain all day long, I would make the investment."

Contact: FARM SHOW Followup, Doleco USA, 400 Oser Ave., Suite 1650, Hauppauge, N.Y. 11788 (ph 203 440-1940; sales@doleco-usa.com; www.doleco-usa.com).

Nifty Way To Store Hitch Pins

"Keeping track of hitch pins and lynch pins on our property, with 3 tractors and a Deere Gator, used to be almost impossible. Even when left in wagon hitches or on a 3-pt. hitch, the pins always seemed to magically disappear," says Doug Johnson, Aberdeen, Wash., who came up with a simple solution.

"I found a 5-in. aluminum carabiner at Tractor Supply for \$2 and installed an eye bolt on my tractor's front-end loader post, as shown. That was 6 mos. ago, and I haven't lost a single lynch pin or hitch pin since," he says.

"I could have installed the carabiner on back of the tractor's rollbar and accomplished the same thing, but since I often swap my loader bucket and forks back and forth, the loader post is more convenient."

Contact: FARM SHOW Followup, Doug Johnson, 6608 Olympic Hwy., Aberdeen, Wash. 98520 (ph 360 616-1690; ddjohnson@pugwerks.com).



Johnson stores hitch and lynch pins on a 5-in. aluminum carabiner that's secured by an eye bolt installed on his tractor's loader post.

He Adapted 20-Volt Batteries To 18-Volt Tools

Kent MacDougal, Yonges Island, S. Car.:

"About 10 years ago I bought four 18-volt tools from Porter Cable — a reciprocating saw, drill, circular saw, and flashlight — along with 2 NiCad batteries and a charger. I used the reciprocating saw and drill more than the circular saw and the flashlight. However, the batteries on those tools died, and I missed them. Then I bought a 20-volt lithium battery package from Porter Cable, which included a drill and an impact driver with 2 batteries and a charger. But I still missed my old 18-volt tools.

"Because of changes made by Porter Cable, their 18-volt and 20-volt batteries are not interchangeable. The 18-volt battery plugs into the tool with four tabs (all negative) and one slot (positive), while the 20-volt battery has four slots (three negative and one positive). Both batteries have a spring-loaded latch that secures it to the tool.

"I took apart one of the old 18-volt batteries and soldered leads to the battery's positive and negative contacts. I separated the battery case by removing 6 screws, and then pulled out the batteries and cut them free. They were attached to the 4-tab, 1-slot plug. I soldered 6-in. long jumper wires to the positive and the main negative, and crimped on electrical blade connectors. Then I glued the one-slot plug into the top half of the battery case.

"I used a dremel tool to cut off the bottom half of the battery case, and made sure the case's spring-loaded catch would still engage by form fitting the 20-volt battery to the latch and spring assembly. Then I reattached the spring-loaded latch by screwing it onto the



Kent MacDougal came up with an adapter that lets him use a 20-volt Porter Cable battery on an 18-volt Porter Cable tool.

back of the battery case.

"I used plywood to make a horseshoe-shaped carrier that screws onto the 20-volt battery and slides into the rails on any of my 18-volt Porter Cable tools. I used a box cutter to mortise 4 hexagonal nuts that flush mount into the carrier and JB welded them in place. I attached the negative and positive contacts, slid the 20-volt battery onto the carrier, and inserted machine screws through existing holes in the battery case to put the assembly together.

"To use a 20-volt battery on an 18-volt tool, I just slip the carrier onto the 20-volt battery and then hook up the positive and negative wires to the 18-volt battery.

"While it now takes longer to switch out the batteries, I have all my old tools back, and the extra 2 volts provided by the 20-volt battery makes them sing!

"I can still use 20-volt batteries in 20-volt tools by disassembling the carrier."

"Bumper Toolbox" Built Into Front Of Toyota Pickup

Judge James M. "Jimbo" Stephens recently sent FARM SHOW photos of a handy "bumper toolbox" he built for his new Toyota Tundra pickup.

"When the pickup arrived, I realized the side rail toolboxes on my old pickup couldn't be used due to the new swing-out toolbox design on new Tundras," says Stephens. "The pickup came with a big grille guard, so I decided to replace the center bar on it with a 36-in. long, 7-in. wide piece of toolbar off an old Deere planter. I cut the top off the toolbar and closed up the ends.

"An 8-in. length of 'C' channel purlin made the perfect lid. By mounting it so it flips outward, I was able to use the lid as a work table. It's nice to have my tools right in front of me when working on a project."

Stephens farms part time on 150 acres in northern Louisiana, where he serves as a



James Stephens modified the big grille guard on his new Toyota Tundra pickup to come up with a handy "bumper toolbox".

Judge on the Louisiana Second Circuit Court of Appeals.

Contact: FARM SHOW Followup, Judge James M. "Jimbo" Stephens (jimbo@bayou.com).

Have You Seen This "Fix" For Grain Bin Plug-Ups?

A reader recently asked us if we'd run anything on the idea of using big air compressors to unplug grain bins. The idea surfaced about a year ago in a story by Chris Bennett at AgWeb.com. It's a relatively simple idea for clearing out badly plugged bins without climbing inside.

During a spring blizzard in 2019, a lot of snow got into a bin of stored corn on the farm of Nebraska corn grower Guy Mills. He removed several loads before the wet corn inside plugged up the unloading auger. At about the same time, he saw an employee of a local fertilizer company using a large commercial air compressor to loosen up a

plugged bin and he decided to try it himself.

He learned that to unplug a grain bin you need a lot of air. A typical farm compressor which puts out 50 cfm or so won't get the job done. You need a commercial compressor that puts out 250 cfm. Those can cost up to \$25,000 but Mills says you can usually rent one for about \$50 a day.

To get the job done, you need a piece of 3/4-in. steel pipe the length of your unloading auger, a short piece of 3/4-in. pipe the length of the dia. of your auger tube, and two 3/4-in. elbows. You should also attach a valve to the end of the pipe to control air flow and have a pair of vise grips handy.

To use it, remove the auger and insert the pipe with an elbow and the short piece of pipe attached to the end. Push it all the way in and rotate it back and forth in the sump. Clamp the vise grips on the outside end of the pipe so you know which way the pipe stem is pointing inside the bin.

Corn will fill the sump when you're done blowing. The next step is to pull out the pipe, replace the short piece of pipe with the second elbow to blow corn backward out of the tube. Mills says to be careful because the force is amazing and grain will shoot out 50 ft. or more at high speed.

Then reinsert the auger and you're ready

to unload. If the sump plugs up again, just repeat the process.

Mills noted that in extreme cases where there are crop pillars inside the bin, you can cut a small hole in the side of the bin and insert a pipe to break them up.

The beauty of the idea, said Mills, is that no one has to climb inside the bin and the idea is cheap and easy so anyone can do it. He has contacted some bin manufacturers and asked them to evaluate the process and possibly consider placing permanent airlines in new bin construction.