

Versatile Self-Propelled Sprayer Made From Old Combine

Raymond and Larry Durner never used a commercial-built pull-type or self-propelled sprayer that they really liked. And the father-son team were never satisfied with results when they had their chemicals custom-applied.

So last year the Durners built a self-propelled sprayer out of a mid-1970's International combine. It's packed with more versatility than any commercial rig they ever tried.

"We sprayed about 3,000 acres, mostly wheat stubble, with it last season and nearly all the systems we built into it worked perfectly," says Raymond Durner of Bartley, Neb.

The Durners bought an 815 combine for \$3,500 and stripped it down to the frame. They reinforced the frame with heavy angle iron.

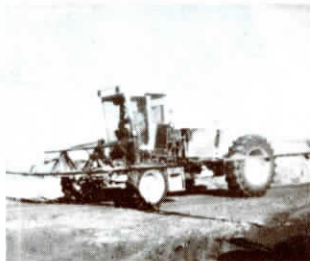
They reversed direction of the combine, turning everything around including the cab, which mounts on Deere cab mounts. Likewise, they pulled the engine off the top of the combine and mounted it sideways on the frame behind the cab.

The men widened the sprayer's front adjustable axle to 120 in. to match their 30 in. rows. They did so by welding pieces of another 815 axle onto the axle, which originally adjusted to only 96 in. wide.

The sprayer's front tires are 13.6 by 26 in. and came off an old Deere combine. Rear tires are 20.8 by 38 in. off a 7150 IH tractor. They're bigger than the original combine tires. "We wanted to increase road speed up to 16 or 17 mph from 12 or 13 mph and to improve handling," Durner explains. "It steers perfectly on the road, just like a pickup."

The combine's original hydraulics drive all systems on the sprayer except for the Hi Pro spray pump. That runs off the combine's hydraulic reel drive to permit variable pump speed instead of having to run it at only one speed as with most commercial rigs.

Five-section shop-built booms have a stationary 12-ft. wide center section with two 10 ft. hydraulically folding wings on each side. Each section has separate shut offs. Nozzles have 3-way selectors to permit applying 10, 15 or 30 gpa.



A Raven 750 monitor system controls application rates.

The sprayer has three tanks. The main tank, for applying herbicides or liquid N, is a rear-mounted 750-gal. Tyler Patriot tank. A 16-gal. and 8-gal. tank mount on the right side of the sprayer to hold chemicals that the Durners can direct inject into the boom for treating specific weeds in small areas of the field. The injection system is off-the-shelf.

The sprayer is fitted with a Smucker foam marker system, a fresh water boom flush-out system with 75-gal. water tank, and a rear-mounted 10-gal. tank that holds fresh water to wash hands.

Altogether, the sprayer cost the Durners about \$16,000 to build.

There are still a couple of minor bugs to work out of the sprayer, they say.

They plan to put gauge wheels on the inside 10-ft. boom sections to stop bounce on rough terrain. And they plan to turn the radiator shroud backward so not as much chemical gets pulled into it.

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Bale Roller Fits Over End Of Spear

Here's a nifty idea for rolling or unrolling round bales.

R.E. Vaughn, Jr., Huntsville, Ala., made a 2-wheel "unroller" that fits over the tip of his 3-pt. mounted bale spear. "When I make a hundred or more bales, it often rains before I get them all into the barn and if they get a wet spot on the bottom, mold will grow there if I don't turn them up into the sun to dry off. I can roll over a hundred bales in a short time with these wheels. It takes only a minute to slide the wheels on over the spear and tighten down the bolt. I've used this idea for the past four year."

Vaughn notes that you can also use the spear-mounted bale wheels to unroll bales on the ground for feeding.

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Front End Loaders Made From Old Implement, Auto Parts

"We're in the commercial trucking business and we needed an efficient, cost-effective way to load large round bales," says Fred Burdett, Lundar, Manitoba. "Instead of paying \$40,000 for a new tractor and loader, we did a few creative things with old combine, tractor, truck and car parts to build heavy-duty loaders for less than \$6,000 - including the two commercial loaders we bought for them."

They're extremely efficient because the weight of the loader is on the drive axle," he explains. "Even lifting up to 3,600 lbs., they're more stable than a lot of commercial front end loaders."

The first loader Burdett and his son, Rick, built is based on a 1952 Farmall H tractor powered by a 250 cu. in. straight 6-cyl. engine out of an old Ford car.

They cut the tractor apart crossways just ahead of the transmission housing and turned the differential over to reverse direction of travel. Turning the differential required cutting 10-in. pieces off the rear finger shifters and welding three 10-in long by 3/4-in. wide by 3/8-in thick pieces of high grade steel on the front shifters so the tractor would shift properly. "We had to take the belt pulley off the transmission and put an 8-in. by 20-in steel plate on where the pulley had been, then build a shifting turret out of 2 1/2-in. dia. pipe welded into a hole in the plate to do that," Burdett notes.

After changing direction of travel, the Burdetts bolted a section of White Freightliner truck frame to the tractor's frame, from just in front of the transmission to where the loader attaches, extending the machine's frame by 8 ft.

The Ford car engine, together with a 3-speed automatic transmission, was then mounted in the engine compartment. A steering axle off an old Case 1010 combine was mounted out ahead of the engine.

Key to success of the loader is that the car engine's transmission is coupled with the tractor's 5-speed, giving it 15 gears, in-

cluding a 1/4 mph "creeper" gear and road gear of up to 26 mph.

An EZ-On loader mounts over the drive axle, which has the original 12.0 by 36-in. tractor tires. With the loader mounted higher than it'd be on many front loaders, the machine can lift bales up to 12-ft. high, Burdett says.

"We've moved at least 20,000, 1,000 to 2,400-lb. bales since we built this rig five years ago and it still runs like a charm," he says.

The other loader the men built uses the drives, transmission, hydrostatic motor and pump off a 1978 815 International combine.

The combine drive axle was narrowed up 7 in. to make it more maneuverable and so it could be loaded on an 8-ft., 6-in. wide trailer.

They shortened the combine's frame up to 12 ft. and reinforced it with steel off the White Freightliner's truck frame.

They then mounted a 120 Continental 6-cyl. engine out of an asphalt packer in the rear. The engine direct couples to the combine's hydrostatic pump to drive the machine. The engine is covered by the hood and grille off an International WD9 tractor.

Forward and reverse gears on the loader are foot-controlled and it has a heated cab off an old tractor. It moves at speeds from a slow crawl up to about 15 mph.

It's fitted with a Du-All loader that can lift bales almost 12-ft. high.

Both loaders have mountings for interchangeable bale forks and grapple hooks.

"We've got orders to build five or six of them. We've even had people beg us to name our price for these. We hope to start building the others as soon as time permits," says Burdett.

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