



The Frieds' sprayer is powered by a 400 cu. in. short block V-8 engine that's been souped up to 220 hp.

Shop-Built High-Clearance 4-WD Sprayer As "Good As New"

"It rivals any comparably sized commercial rig on the market but was considerably easier on our budget," says Harley Fried who, along with his brother Melvin, built a big high-clearance 4-WD sprayer for use on cereal grains and peas.

The Vegreville, Alberta, farmers used parts off four junked combines to complete the sprayer which is equipped with a shop-built 80-ft. boom and a 1,000-gal. tank.

It's powered by a 1978 400 cu. in. small block Chevrolet V-8 engine, souped up to 220 hp with high compression pistons and heavy-duty R.V. camshaft and retrofitted with the governor off an 860 Massey combine. That's to maintain the constant 2,600 rpm's required for field spraying.

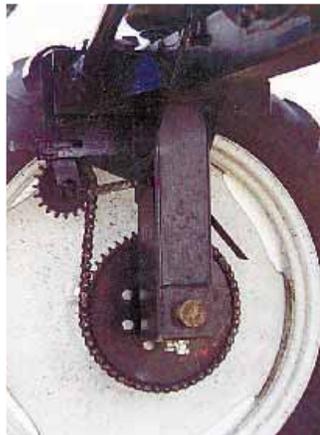
The Frieds built the frame out of 3 by 6-in., 1/4-in. thick tubing and its wheel legs out of 6 in. sq., 1/4-in. thick tubing. They used axles off a 914 International combine and 18.4 by 38-in. wheels off a White 4-WD tractor. They cut the wheels down to fit the 12.5 by 38-in. tires they use on the sprayer.

Wheels are fitted with a commercial air spring and load leveling valve, providing four-wheel independent suspension with 4 to 5 in. vertical travel per wheel.

Power to wheels is supplied by a 24 Series Sundstrand hydrostatic pump off a 9700 White combine. It drives front and rear-mounted 23 Series Sundstrand motors off a 555 Cockshutt combine. The motors are coupled to two small military surplus 5:1 differentials, which transmit power through driveshafts to #80 heavy-duty roller chains and final drive sprockets off a 914 International combine.

A power steering pump off an 800 Massey combine and two cylinders off the 9700 White are used to turn the rig. The entire front end turns on two 30-in. dia., 1/4 in. thick plates with a plastic wear plate sandwiched between. The power steering pump also powers the sprayer's chemical pump.

Oil for the hydrostatic systems is carried by the reservoir off the 860 Massey combine, and the Frieds designed a special valve that allows them to operate the hydrostatic motors in either parallel (split between front and back) or series (together). This offers two-speed drive, with field speeds of up to 12 mph and road speeds of 24 mph.



Sundstrand motors and military surplus differentials supply power to driveshafts.

The sprayer's cooling system consists of the radiator and oil cooler off the 555 Cockshutt combine. Its cab, containing a home-built monitor-control console, came off the 9700 White.

The boom, which is equipped with nozzles spaced 20-in. apart, can be lowered or raised from 20 to 70 in. off the ground. It mounts on a special hinge that provides lateral support but still allows it to flex. Each end is also fitted with a 3.5 by 12-in. "outrigger" wheel to prevent ends from riding too low and damaging either the boom or the crop.

The Frieds built their sprayer last winter. They used it last season on 5,000 acres of wheat, barley, canola and peas to broadcast post-emerge and pre-harvest herbicides.

"It performed beyond our highest expectations," says Harley. "It has plenty of power and uses only 3 or 4 gal. of fuel per hour."

"Some commercial units may ride smoother. But we have no complaints, especially since we built our sprayer for just \$22,000, only a fraction of what a similar commercial rig would cost."

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"Shuttle auger" is designed to hydraulically roll hopper down and under grain trailer hopper.

"Shuttle Auger" Great For Tandem Axle Grain Hauler

"When we bought a 26-ft. tandem axle hopper grain trailer, we needed a way to unload it at many different farms and bin sites," say Ron & Keith Henggeler, Schuyler, Neb., who came up with a handy "shuttle auger" that's designed to hydraulically roll the hopper down and under a grain trailer hopper.

It requires a tractor with two hydraulic circuits to operate. One circuit runs the orbit motor on the 8-in. auger and the other operates the cylinder that moves the hopper in and out under the trailer, riding on two small wheels that attach to the corners of the hopper.

You can use the hopper on any surface - no concrete pad needed. You just drive up in front of the retracted auger and then activate the auger to roll it down under the trailer. All it needs is 14 in. of ground clearance.

"We also use the shuttle auger to unload straight trucks and our 400 bu. auger wagon. No need to back up to auger," say the Henggelers.

To transport, an implement jack raises the hitch to any height and hooks up with two pins. It can be pulled at highway speed behind any pickup or truck.



Auger raises up for transport. Note light for night work.

For long harvest days, the Henggelers mounted a mercury vapor light on the auger for use at night. The 8-in. auger easily keeps an 8-in. transfer auger filled to capacity. The shuttle auger could also be built with 10-in. augers.

The Henggelers are looking for a manufacturer.

Contact: FARM SHOW Followup, Ron & Keith Henggeler, Rt. 1, Box 116, Schuyler, Neb. 68661 (ph 402 352-5654).



Marker flags attached to the end of drive shaft let Beckmeyer tell at a glance whether drill is still working.

Flags Tell If Grain Drill's Working

After Roland Beckmeyer of Hoyleton, Ill., had to replant much of a field of no-till wheat because he didn't notice when trash caused the drive chain on his Tye drill to jump off the sprocket, he came up with a nifty way to tell at a glance if the drill is still working.

Beckmeyer simply attached two bright orange SCS marker flags to one end of the

drive shaft. Now a quick glance at the end of the drill tells him if it's still planting. If the flags stop, he knows there's trouble.

Contact: FARM SHOW Followup, Roland Beckmeyer, Hoyleton, Ill. (ph 618 667-6089).