

Redekop SCU mounted on a Case combine.



Combine-Mounted Weed Seed Controller

The Seed Control Unit (SCU) from Redekop Manufacturing (Vol. 44, No. 4) is now available for use with most major brands. The company has also expanded its marketing with distributors in Europe and the U.S., as well as Canada, Australia, New Zealand and South Africa.

“A large part of our effort in recent years has been adapting the SCU to more brands,” says Trevor Thiessen, Redekop Manufacturing. “Each version is slightly different. At the same time, we are fine-tuning the design to improve durability and serviceability.”

Another area getting a lot of attention from the company is partnering with weed science researchers at major universities.

“We are working with a research group of 35 different universities,” says Thiessen. “We had our SCU units on 15 or 16 of their farms this past cropping season. We’re seeing

control of pigweed and ragweed with high rates of efficacy.”

One of the challenges with harvester-mounted weed seed control is that not all the weed seeds go through the combine. However, SCUs can still have an impact, as each year’s use reduces the weed seed bank in the field, notes Thiessen.

“Iowa State University research shows that combines harvest about 2/3 of the water hemp seed in a field, and the SCU kills 90 to 95 percent of it,” explains Thiessen.

Visit Redekop’s website to locate the nearest dealer. Thiessen says pricing is around \$70,000 (USD).

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Rawls used a Harbor Freight 6-hp. engine and IH 404 clutch to rebuild his Cub Cadet.

“Bear Cub” Has Power To Spare

William Rawls repowered a discarded Cub Cadet and added bigger-tractor hydraulics front and back. The little 6-hp. engine can push and pull as needed, and it has plenty of lift.

“In low gear, it pushes dirt like a bulldozer,” says Rawls. “It’ll really dig in second gear. People used to call me Bear, so I call it the ‘Bear Cub.’”

The old Cub had been sitting in the trees when Rawls decided to fix it up. It had some rainwater in it, so he took it apart, checked all the gears and bearings and flushed the transmission.

“The transmission and the rear end on the Cubs are made out of good stuff,” says Rawls. “I wanted to make use of them.”

The motor was shot, so he replaced it with a 6-hp. engine from Harbor Freight. He had to turn it backward to match the drive with the Cub. He also mounted a centrifugal clutch salvaged from an IH 404 on the front of the engine.

“I made a jackshaft to run from the drive on the front of the engine to the transmission behind it. It is about 2 ft. long and runs under the engine with a universal joint connecting it to the transmission.”

Rawls mounted the engine to an aluminum plate and put it on stilts bolted to the frame to provide room for the driveshaft. He mounted a pulley to the driveshaft just a little smaller than the large pulley on the centrifugal clutch and connected them with a belt. A lever on the left side of the Cub brakes the centrifugal clutch.

“When I want to change gears, I just pull back on the brake lever,” says Rawls.

Initially, he had planned to add a power steering hydraulic pump to the Cub, but opted instead for a hydraulic pump, also salvaged from the 404. That required he extend the driveshaft on the engine to mount a small pulley.

“I machined the pulley and a keyway on it, fit it together on the shaft and tightened it up,” recalls Rawls. “It ran within perhaps 10/1000s of true, which was enough for me.”

The pump was overkill, and he knew he had to gear it down. He used an 8-in. pulley on the pump and connected the two with a belt.

“The pump has more pressure and flow than the engine can handle,” says Rawls. “Even with gearing it down, it sometimes kills the engine.”



Froelich and his gas-powered traction engine are featured at the museum.

Museum Celebrates Froelich, Founder Of The Modern Tractor

The birth of what would eventually become the John Deere tractor took place in 1892. John Froelich invented the first gasoline-powered traction engine that could be driven forward and backward.

While they didn’t use the word tractor yet, that’s what it became. Froelich had been frustrated with the challenges of the steam engines he used while threshing and decided they could do better.

He chose gasoline, and that first engine would be a hit. Froelich and a group of investors started the Waterloo Gasoline Traction Engine Company in 1893, intending to produce the first tractors.

Froelich was the company’s first president. The Waterloo Gasoline Traction Engine Company initially built four tractors. Farmers bought the first two but returned them because they didn’t understand how they worked.

At that point, the company changed direction by building just stationary engines. While this generated income, it wasn’t Froelich’s or the company’s desire. Their true desire was still to focus on building “traction engines.”

Due to a financial depression in 1895, Froelich left the company after he lost his investment in the organization. The business then reorganized into the Waterloo Gasoline Engine Company.

The company continued working on traction engines, even after Froelich left. It designed the Waterloo Boy model R in 1914, followed by the N. The success of both got the attention of John Deere.

Deere bought the Waterloo Gasoline Engine Company for \$2.5 million in 1918, which, in today’s economy, is about \$40 million. The sad part of the story is Froelich, despite inventing the tractor engine, didn’t see a single penny from that sale or make any money off his invention.

The pump came with two 1 1/2-in. cylinders and a valve set with a diverter. He mounted one cylinder in the middle of the tractor to raise and lower a front blade. The other cylinder was mounted in the back to raise and lower a homemade set of 3-pt. arms.

“I added a third cylinder on the back, so there was a cylinder on each lift arm,” says Rawls.

The final touch for the hydraulics system was a reservoir. He fabricated it out of 1/8-in. steel and put a filter and hoses on it. He mounted it over the pump at the front of the tractor and added a relief valve to the system.

“When I let off the lever, it recirculates back to the tank,” says Rawls.

The hydraulics let him push dirt with a blade from a Deere 110 and use a landscape rake on the rear. The diverter lets him switch back and forth between the two.

The placement of the carburetor on the left side of the engine and the fuel tank on the right required a change to the hood. Rawls made it out of sheet metal.

John Froelich received 14 patents throughout his lifetime. Seven of those are directly connected to his Froelich tractor.

Nonetheless, John Froelich is someone who “changed agricultural history,” according to Denise Schutte, Executive Director and Curator of the Froelich Tractor Museum. That was history worth preserving.

“People in our community got together and formed the Froelich Foundation for the Preservation of Farm Tractor History,” she says. “This was in September 1986.”

The Froelich Foundation operates the Froelich Tractor and 1890’s Village Museum 8 miles west of McGregor. The museum contains many artifacts and a lot of information about Froelich’s first tractor and what life was like in the late 19th century.

“As far as we know, there are no original Froelich tractors left anywhere,” Schutte says. “But we do have a 1/2-scale replica of the Froelich tractor in our museum built by a couple of local fellows.”

The museum also has a replica of a Froelich tractor built at about 2/3 scale of the original. The museum staff gets this replica out for a local celebration called “Fall-Der-All” Days during the last full weekend of September.

It’s a 2-day festival that includes a full line-up of all types of tractors and hit-and-miss engines, kids’ activities, and a kids’ pedal pull. It’s a great time to see old-time demonstrations and tour the seven historical buildings in the 1890’s village.

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Hydraulic pump and drive pulley with centrifugal clutch and belt drive to driveshaft.

“I also replaced the old Cub seat with a larger seat to accommodate me better,” says Rawls. “I hinged it to flip forward, which let me add a small toolbox under it. It’s been a really handy tractor. I can push up roots and fill in with soil with the rake.”

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