

Electric Starter Hidden On Farmall F-12

Kirk Unzelman's F-12 Farmall was great to take to antique tractor shows, but tough to start with its crank. With the help of a friend, Mike Intlekofer, he added an electric starter. Their goal was to keep the starting system hidden as much as possible so it would not be noticeable at a medium distance, such as in a parade.

"We decided to mount the starter motor inside the frame rails, mounting the ring gear on the transmission shaft and mounting the battery inside the left rear wheel," says Intlekofer. "It needed to be sized right to fit. We found a 1974 Pinto starter motor and flywheel at a junkyard."

The first step was to drive the ring gear off the flywheel. Holding the starter motor and ring gear in various positions, they decided the best location for the ring gear would be behind the yoke of the flexible joint that mounts on the transmission input shaft.

They machined an aluminum disk to fit the ring gear, adding a central hole to clear the shaft nut, two holes to bolt to the flexible joint, and a circular groove to clear the oil seal boss on the gearbox.

"We used a rotary table on a small mill to machine the groove into the disk," explains Intlekofer. "Then we heated the ring gear and pressed it onto the disk."

The disk was mounted on the driveshaft by bolting it behind one of the yokes of the flexible joint. A spacer was placed on each bolt between the yoke and the disk.

The starter motor was positioned for proper engagement by fabricating two brackets to

hold it inside the frame rail. The brackets and motor were mounted on the right hand side of the frame rail, adjusted for clearance and bolted tight. The solenoid was mounted to the left frame rail.

"We used a curved channel iron to cover the ring gear and formed sheet metal shrouds to cover the aluminum disk and the transmission shaft for appearance sake," says Intlekofer.

The last step was to form a battery tray using strap and angle iron. It mounts just ahead of the left axle, next to the brake drum. The starter switch was mounted on the left side of the tractor so it can be started when standing beside the engine.

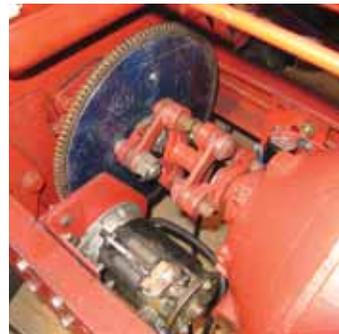
"This lets us operate the throttle, choke, and starter button conveniently," adds Intlekofer. "Starting is quick, reliable and easy. Several coats of primer and paint finished the job. We not only had an easy starter, but we also had a good looker."

Unzelman and Intlekofer first described the starter project in the March/April 2010 issue of Red Power magazine. They have put together an information packet with 14 pages of dimensioned drawings and photos describing the project in detail. They'll send it out for a fee of \$10 to cover copy and mailing costs.

Contact: FARM SHOW Followup, Mike Intlekofer, 4472 119th Ave. S.E., Bellevue, Wash. 98006 (ph 425 641-8471; mikeintle@comcast.net) or Kirk Unzelman, 4635 130th Ave. S.E., Bellevue, Wash. 98006.



Kirk Unzelman's Farmall F-12 was hard to crank-start, so he added an electric starter.



He kept the starting system hidden as much as possible. Starter motor mounts inside tractor's frame rails, covered by a curved shield.

Deere Crawler Expert Sells Hard-To-Find Parts

Lavoy Wilcox has talked to a lot of guys who've bought an antique Deere crawler tractor that looked good, but then found out later that it needed a bunch of expensive parts. The parts dealer calls them "drive by shootings".

"I've seen guys spend \$5,000 for a crawler with a new paint job without looking at the undercarriage," he says. "You can fix a bad engine for less than you can replace an undercarriage. Many undercarriage parts are not available from Deere."

When Wilcox and his brother first restored a Deere crawler, he quickly discovered how hard it was to find parts. When he did find a supplier, he often had to buy 10 parts to get one. To get rid of the extra parts, he started advertising, and before he knew it, he had a part-time business going.

Today it has grown into a full-time business that leaves little time for restoration. He carries a long list of new parts, as well as parts from around 100 salvaged crawlers.

"A clutch kit can require 15 to 20 parts alone," explains Wilcox. "I also carry drivetrains, engine parts, gauges, wiring harnesses and radiators."

Wilcox also buys crawlers for resale. He replaces all fluids and does basic maintenance to get them running well. Reselling them, he says, is no problem as he often has a waiting list.

Wilcox has shipped tracked tractors as far as Australia. He says those most in demand are B.O. Lindeman crawlers. Starting in 1931, the company modified Deere tractors, mostly orchard series, into crawlers. Deere bought the company in 1947.

"Some of the early crawlers were one of a kind and are very rare," says Wilcox. "Some exceedingly rare ones have sold for more than \$100,000. Common models sell for \$3,500 to \$10,000."

Wilcox says Deere made between 50,000 and 55,000 of the yellow and green agricultural crawlers before stopping production in 1965. However, a newer model continued to be sold in construction yellow. Wilcox, however, doesn't stock parts for models past the early 1970's.

"I stick with the small stuff, 60 hp and under," he explains.

While many of his customers are collec-

tors, they're often still working machines. For example, Wilcox recently updated a Deere crawler for a pineapple plantation in Hawaii.

"They wanted it converted to electronic ignition and 12-volt electric with a 3-pt. hitch installed," he recalls. "They needed it to start and run 12 hours a day. They said there was no modern equivalent to it."

In fact, Wilcox says most of his customers do use their crawlers, restored or not, for at least limited work. One reason may be that there are still plenty of Deere crawlers available at a reasonable price. In fact, he says, parts are worth more than an assembled crawler.

"You couldn't build one from scratch," he says. "Even the parts from Deere that aren't obsolete are often too expensive to justify.



Lavoy Wilcox operates a full-time business selling hard-to-find parts for Deere crawler tractors.

What I can do for \$500 would cost \$2,000 or more from Deere."

Contact: FARM SHOW Followup, JD Crawlers, 7716 70th St. S., Horace, N. Dak. 58047 (ph 701 361-1006; postmaster@earthlink.net; www.jdcrawlers.com;)

Nifty Way To Cut Circles With A Cutting Torch

"My friend Roland Paul, who passed away a few years ago, came up with a nifty attachment for my acetylene cutting torch. It lets me flame-cut neat circles up to 3 ft. in diameter," says Willard Pearson, Angora, Minn., who recently sent FARM SHOW photos of the attachment.

It consists of pieces of 1/4-in. ready rod and a large cable clamp that fits over the barrel of the torch. He drilled and tapped a 1/4-in. hole in the bottom of the clamp. Then he put a lock nut on the ready rod so he can lock it into a horizontal position with the torch. The rods

are bent into S shapes, with the end ground to a point.

The small one works great for rounding off plates like hitch irons and other plates. You can cut the rod to any length for different size circles.

To set the diameter of the circle, Pearson loosens the clamp and slides it anywhere along the torch tubes. He positions the torch on a center punch mark on a steel plate.

"The ready rod works like a pencil point and lifts the cutting head off the metal I'm cutting. It also locates the torch. As a result,



Attachment lets Roland Paul use his acetylene cutting torch to flame-cut neat circles up to 3 ft. in diameter.

I can cut a much more accurate hole – within 1/16 in. – than if I tried to follow a line visually," says Paul.

Contact: FARM SHOW Followup, Willard Pearson, 1306 Samuelson Rd., Angora, Minn. 55703 (ph 218 666-5483).