

# Electric Drive Kit Boosts Planter Accuracy

If you're thinking about converting your ground-driven planter to hydraulic drive, or are in the market for a new planter, you'll be interested in this new electric planter drive kit.

The kit contains a 4-row control board that mounts on the planter's drawbar; a weatherproof harness using Deutsch connectors; and 4 electric motors. Each motor controls one row and replaces the chain and sprockets originally used to drive the seed plate. Each motor is controlled by a micro-processor-based drive system, which results in more precise seed placement, says Graham Equipment, Wray, Colo.

The system can be installed on both new and used planters of all brands, and interfaces with any of the major GPS guidance systems. It works with both single and twin-row planters.

"It replaces the need for both ground and hydraulic drive systems, and results in more planting accuracy and less maintenance, while also allowing for individual row shutoffs," says inventor Toby Graham. "It's much more accurate than ground and hydraulic drive systems. Our closed loop algorithm monitors the speed of each motor 1,000 times per second and adjusts accordingly. It allows our drives to be dead accurate and respond to population rate changes at a blink of the eye."

Less maintenance is another big advantage,

says Graham, as the system completely eliminates the need for chains, sprockets and bearings. It also isn't as cumbersome or maintenance intensive as hydraulic drive systems. The system also interfaces with individual row shutoffs on any GPS guidance system, "which makes it ideal for planting on odd-shaped fields and center pivot fields," says Graham.

No-till farmers will like using a planter equipped with electric drive row units, says Graham. "Heavy trash can knock chains off their sprockets, but that isn't a problem with electric drive."

Graham says he came up with the idea because he wanted to use variable rate populations with his Monosem twin row planter. "I needed a way to change the timing between the paired rows in real time. Then I decided to expand the idea so it could be used with other planters. Last spring we installed electric drive kits on six different planters — five single row and one twin row — covering more than 5,000 acres. They worked great."

An electric drive planter isn't an entirely new idea, says Graham. "Back in the early 1970's a major manufacturer came out with an electric motor drive system for its planters. However, they were way ahead of their time because back then the technology hadn't been developed to accurately control electric motors."

Graham plans to soon offer a cab-mounted



Electric motors are used to drive planter's seed plates. Each motor is controlled by a microprocessor-based drive system, which results in more precise seed placement.

touchscreen monitor for farmers who don't have a GPS guidance system. "A monitor in the tractor will wirelessly communicate with the control board on the planter, eliminating the need for a wiring harness," he says.

The motors are powered by the tractor's battery. "Depending on the row count of your planter and your tractor's alternator, you may need to add a hydraulically-driven alternator on the planter," says Graham.

The electric planter drive kit sells for \$949

per row plus S&H before Dec. 30, 2011; \$999 per row plus S&H after Dec. 30. "That price may seem expensive, but it's about \$250 per row cheaper than installing a hydraulic drive system with row clutches and is a lot more accurate," notes Graham.

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Moving big rocks is no problem for the heavy-built GrappleHoe that quick-taches to your skid loader or front-end loader.

## Heavy-Built GrappleHoe Handles Multiple Jobs

Dig a trench. Grab a heap of scrap iron. Move large round bales. You can do it all with the new GrappleHoe that quick-taches to your skidsteer or front-end loader.

As equipment operators, Arnold and Kenny Kleinsasser of Laporte, Minn., know what they need in a piece of equipment. "Skidloaders are getting bigger with higher horsepower, and we knew there was a demand for a heavy-duty grapple hoe," Arnold Kleinsasser says. "We designed an all-purpose tool for heavy-duty grapple work."

Similar equipment is available for occasional use. The Kleinsassers built their GrappleHoe for continuous commercial and industrial use, yet affordable for the property owner at about \$3,750.

The heavy-duty, large-capacity 18 by 24-in. bucket has a hardened cutting edge and can dig up to 8-ft. deep. The bucket holds more dirt than usual because of the special design on the heavy-duty retractable mechanical thumb on the grapple, which also easily handles logs, stumps, rocks, demolition scrap and hay bales.

The Kleinsassers assemble the GrappleHoe with continuous welding and extra heavy quick-tach plates.

"I recommend a minimum of 50 hp for the GrappleHoe but it's designed to withstand and hold up to the punishment of an 80 to 100+ hp skidloader," Kleinsasser says. It also works on front loaders with quick-tach brackets.

Other features include stress-proof rods and bushings with grease points, 3-in., 3,000-psi welded hydraulic cylinder with 4,000-psi hydraulic hose, and a durable powder coat finish.

Contractors like it because they only need one piece of equipment, Kleinsasser says. Property owners find plenty of uses for it and don't have to hire someone for small projects like trenching.

"What our GrappleHoe owners appreciate most about our unit is the independence they gain by owning a GrappleHoe," Kleinsasser says.

The Kleinsassers have some Minnesota dealers and would like to hear from other distributors interested in handling the EquipAll GrappleHoe.

Contact: FARM SHOW Followup, Kleinsasser Bros, 43237 Cass Line Rd., Laporte, Minn. 56461 (ph 218 251-6268; www.grapplehoe.com).

## Fork Grapple Provides Fingertip Control

Paumco Products makes "fingertip grip" grapples for loader forks. The company's made-in-the-U.S.A. high-quality tools are tested on the family farm.

Designed to slip onto a set of loader forks set close together, the Fork Grapple's steel-ridged teeth grab and hold tight to almost anything.

"If you have fork attachments for your compact tractor or skid steer loader, you can use the grapples with them," says Chad Paumen, Paumco Products. "We burn wood, and the grapples let us bring a log or section of log to the woodpile and hold it off the ground while we cut it up. Then we can use the grapple to pick up the log chunks and set them on the splitter. Later, we can haul the splits to storage."

Logs or chunks of log aren't going anywhere once they've been grabbed. The 3,000-psi cylinder clamps down with 7,000 lbs. of force. The grapple is fabricated from 1/2-in. high-strength, grade 50 steel plate. It's narrow, at only 19 in. wide.



Fork Grapple is designed to slip onto a set of loader forks set close together.

"Most wood stoves take a 21-in. log, so we wanted operators to be able to cut a log section down to a little more than 19-in.," says Paumen. "The narrow design also makes it easy to slip into a brush pile and pick it up."

The Fork Grapple sells for \$899.99.

Contact: FARM SHOW Followup, Paumco Products, Inc., 500 Congress St. West, Maple Lake, Minn. 55358 (ph 320 963-3868; toll free 866 554-7455; www.paumco.com).

## How To Check Your Spark Plug's Spark

Generally, if you can't get a lawn mower to start, the first thing you do is check the plug for a spark. But when you pull the cord to start the mower, even if there's a spark you can't always see it from where you're standing.

Rod Mattison came up with an easy way to check the spark using a short length of electrical cord with a plug at one end and 2 alligator clips at the other.

"I cut the cord off an old lamp about 10 in. up from the plug end, separated the 2 wires in the cord, and attached an alligator clip to each one. I remove the spark plug from the mower and attach one of the clips to the spark plug and the other clip to the mower's handle to serve as a ground. I squeeze the prongs on the plug together about as wide as the

gap in the spark plug. When I pull the cord the spark jumps between the prongs and is clearly visible or I can hear it snap. It works a lot better than taking the wire off the spark plug and trying to get close to the plug.

"I've used this idea for years and it works. It'll work on any engine with a spark including the engines on bigger tractors. But the tool's real niche is its use on small engines, push mowers and riding mowers. As long as the coil is working you'll get a spark every time the distributor lines up with the spark plug wire."

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