

## Knotter Expert Rebuilds Small Balers

Business is booming for Nelson Horning who works on small square balers, supplying needed parts and often totally rebuilding knotters or even entire machines. While he specializes in Deere baler parts and rebuilds (Vol. 36, No. 6), a shortage of qualified repair people is an all-brands problem.

“Every machinery dealer sold small square balers 30 to 40 years ago and would have a good baler mechanic,” says Horning. “As fewer small balers were sold and older mechanics retired, it didn’t pay for dealers to train new mechanics. Many areas now have very poor repair service. That’s part of the reason demand for rebuilt balers is growing.”

This year Horning has already rebuilt around 100 Deere small square balers. These include some he bought and rebuilt for resale, as well as others customers brought to his shop located between Buffalo and Rochester, N.Y. While most of his balers go to farmers in the Northeast, he has shipped them as far as Texas and California.

“We had one customer bring his baler from Wisconsin to have it rebuilt,” says Horning. “Time for a total rebuild depends on the work needed, but we usually have a 2-day turn around (plus shipping) on rebuilt knotters.”

The average total rebuild for a customer can run as much as \$5,000. Knotter rebuilds alone can run \$500 to \$600 per side. Horning

notes new Deere balers running from \$20,000 to \$35,000 or more.

“We have a 5-page checklist with more than 160 inspection points,” he says. “We also have our own test bench where we can operate knotters and identify problems. When we’re finished, we make sure each part is working right. If it’s a total rebuild, we run straw through the baler to see for ourselves that everything is working as it should.”

With nearly 30 years of experience repairing Deere balers, Horning has a pretty good idea how the parts should work and which parts of balers are most likely to wear out. As balers age, potential problems increase. This is especially true of knotters.

“When we started, there were parts we never paid attention to, but now we take every knocker apart, clean it and inspect it,” says Horning, noting that many of the balers he works on are 50 years old or older.

In addition to the knocker and full baler rebuilds, parts remain a big part of Horning’s business. He has shipped parts to more than 40 states and several Canadian provinces. Horning says there are very few parts he can’t get for models dating back to the 1970’s. Prior to that, there are some parts he doesn’t have, and he carries nothing for balers before the 1950’s.

“We can still get quite a few parts made or



**Finger Lakes Equipment rebuilds small square balers, often totally rebuilding the knotters or even the entire machine.**

make them ourselves if they are not available or too expensive from Deere,” says Horning. “Whenever we see a weak link part, we try to build a better version that will last longer.”

One example is the tucker finger assembly. While Deere made an improvement on the 8 series being built today, Horning has improved tucker fingers made for baler models dating back to the mid 1960’s.

“The old design would wear, and the tucker fingers had a lot of slop,” says Horning. “With the newer design, it lasts longer and is more accurate.”

Baler owners too far away to tap into

Horning’s expertise personally can order parts from his free parts catalog. He also has put his experience down in writing in “Finger Lakes Equipment Service Tips for John Deere Small Square Balers.” It covers every Deere baler from the 14T to the entire 300 Series. The \$20 booklet includes 50 time and money-saving tips, from preventing broken knotters to twine holder and plungerhead adjustments to knocker rebuilding for those prepared to do it themselves.

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## They Specialize In Electro Hydraulics For Farming

Terzo Power Systems’ electric hydraulic components are ready for the coming explosion in electric vehicles in agriculture. The company’s electric hydraulic pumps, electric hydraulic power units, and electric hydraulic steering units are nearly ready to go, moving from prototype stage to commercial production in the 4th quarter this year.

“Our systems are designed for use by OEMs, as well as for retrofit when converting to electric or hydraulic components,” says Rich DiGirolamo, Terzo Power Systems. “Totally integrated systems like ours are very new to the market.”

Terzo will be offering electric hydraulic power units in an array of sizes including 1 1/2, 2 1/2, 10 and 30 kW. Applications are varied from large to small.

“We’re looking at all different kinds of vehicles from Class 5 on down, and high voltage to low voltage solutions,” says DiGirolamo. “Our goal is to offer an integrated solution.”

Terzo’s Hydrapulse steering unit is an

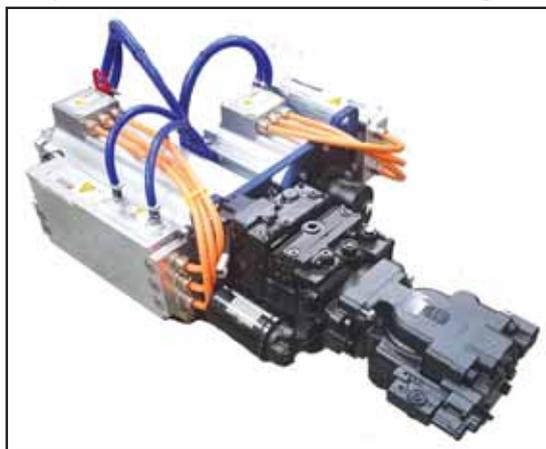
example of such a solution. The electric hydraulic steering pump includes motor, controller and closed-loop feedback designed for mobile steering assist and e-steering applications. It is available with and without cooling reservoirs.

Integration of this nature is important in both hybrid and electrical equipment. Without its own motor and controller, there is no steering if the engine is shut down.

Terzo Power Systems expects initial hybridization and acceptance of electric hydraulics in agriculture to be in specialty crop equipment, such as tree shakers. Their constant stop-start as they move from tree to tree is well suited to hybrid equipment.

The 500 or more specialty equipment makers in California each make from 50 to 500 machines a year. These smaller OEMs are quick to adapt new technology, but less likely to develop components themselves.

DiGirolamo notes that as ag equipment automates, electro hydraulics will make it easier and smoother. In the meantime, he expects to see hybridization of ag equipment



**Terzo Power Systems’s electric hydraulic pumps, power units, and steering units are scheduled to go into commercial production this fall.**

grow.

“As we move into commercial production, we have prototypes available for sale,” says Terzo. “In a few months we will have our commercial units ready to go.”

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## Fast, Accurate New Way To Measure Grain Loss

With margins tight there may never have been a more important time to keep your combine working efficiently, and S.I. Distributing says that the new Bushel Plus Grain Loss management system lets you check grain loss more quickly and accurately than anything else on the market.

“What used to be a 20-min. process now takes just 5 min.,” says Tim Hoehn, S.I. Distributing, Spencerville, Ohio. “It comes as a kit and was developed in Canada, where it is revolutionizing the checking-for-harvest-loss process there. We recently became the exclusive U.S. distributor.

“The kit can be used on soybeans and small grain such as wheat, oats, barley, canola and rice, as well as corn. Farmers using the system have reported savings anywhere from 2 to 10 percent.”

The kit comes with a drop pan carrier, narrow drop pan, wide drop pan, battery-powered air separator with charger (optional), weigh scale, and a downloadable

app.

The drop pan attaches magnetically underneath the carrier, and the carrier attaches magnetically under the combine. The pan is dropped remotely while harvesting and collects a sample of chaff and straw from the back of the combine. The sample is dropped into the air separator and cleaned, and the remaining grain is then weighed on the scale. The downloadable app is used to quantify your bu. per acre grain loss, and you can then make adjustments to the combine to reduce loss.

“The carrier serves as a cover for the drop pan so the pan always stays clean, which results in an accurate sample,” says Hoehn. “The pan drops only about one foot to the ground so it always lands flat on the ground, which doesn’t always happen when you try throwing a drop pan under a combine. Then you can use the air separator to quickly clean the sample, and the weigh scale and app to



**Drop pan attaches magnetically under combine and is dropped remotely while harvesting to collect a sample of chaff and straw. Sample is cleaned in an air separator and the remaining grain weighed on a scale. A downloadable app shows bu. per acre grain loss.**

determine the bu. per acre loss. The drop pan is available in different sizes, but the 40-in. long pan is a good choice for corn and soybean growers.”

Three different kits are available. The flagship BP 40-in. system sells for \$1,550 plus S&H; the 60-in. BP kit sells for \$1,700; and the mini 20-in. BP mini kit sells for

\$1,225. The air separator accessory sells for \$650 plus S&H.

You can watch a video of the Bushel Plus Grain Loss system in action on the company’s website.

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