

If you're looking for new ways to add to your bottom line, take a look at the money-making ideas featured here and on the next page.

If you've found or heard about a new income-boosting idea, we'd like to hear about it. Send details to: **FARM SHOW Magazine, P.O. Box 1029, Lakeville, Minn. 55044 (ph 800-834-9665) or email us at: editor@farmshow.com.**

CFIS can work on the oldest cast iron pumps like this one from IH.



## Diesel Pumps And Injectors, Old And New

Central Fuel Injection Service (CFIS) Company has a big advantage in servicing its diesel engine customers, notes Erik Schroeter. "My dad saw the value in not throwing anything out."

The 56-year-old company has not only

the expertise and the parts but also the tools to service diesels old and new. In a 2013 article (Vol. 37, No. 3) Schroeter told FARM SHOW that the company had the largest supply of injector pumps and nozzle cores in the world, all inventoried by name and serial number.

That hasn't changed.

As a result, the company's reputation has grown. It increasingly attracts individual customers fixing older tractors, but also other diesel repair shops in the U.S and internationally.

"A lot of other shops don't have the resources to work on older engines," Schroeter explains. "They can work on common rail and modern-day diesels, but only see an old-style, cast-iron pump made in the 1940's or 1950's by the OEM once every 10 years. What may be a 2-hr. job for us turns into 40 hrs. for them. It's more cost-effective for them to send it to us. We work on pumps like those for shops around the world."

That's not to say CFIS doesn't work on newer pumps too. They are certified to work on virtually all major brands of injection pumps, nozzles and turbos.

Regardless of age or brand, CFIS follows the same template. "We tear down the injectors and the injector pump, clean it up and replace needed parts," says Schroeter. "Then we put it on the stand and make sure it's producing the right amount of fuel, at the right time, at the throttle setting and that the governor is working correctly to keep engine rpm's where the operator wants it."

It's the availability of the appropriate test stand that can determine whether a pump can be worked on or must be sent to CFIS. Not only does the company have old ports, cores and other parts, but they also have test stands for old equipment.

"We accumulated a lot of test stand setups over the years," says Schroeter. "It just makes sense for other shops to send their more challenging work to us."

If parts aren't easily available, CFIS finds ways to source them. In some cases, they will have the parts rebuilt.

"We may have to order 5 years worth of parts," says Schroeter. "You have to think outside the box. Increasingly, it's harder to get anything."

Schroeter is already planning for the next change in the industry. He suspects that as the supply chain moves forward, suppliers are going to consolidate and focus more than ever on newer models.

"As companies like Bosch run into constraints on components, they will focus on products built in the past 15 years, not the past 50," predicts Schroeter. "We are working diligently to find alternative suppliers who can make these older parts. Then we will warehouse them, so we have them when a customer needs one."

Another change that Schroeter notes is underway is the tendency for OEMs to simply replace, not repair a pump. "Deere may have a pump on the shelf when a pump under warranty comes in, and they will just replace it," he says. "They may tell the dealer to send in the core, but they will just destroy it."

Had that been the case when Schroeter's father started CFIS in 1964, he couldn't have saved the parts that are now keeping old diesels running. CFIS is doing what it can to ensure old diesels continue to run.

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## Teens Start Hay Business With Rebuilt Equipment

Ryan and Kellen Riedlinger are making hay with rebuilt equipment. The two teenagers have rebuilt tractors, balers, a swather, and most recently, a DARF 917 rake. They have bought, rebuilt, sold, and upgraded with bigger, better equipment. Every piece purchased gets the same treatment.

"When we get anything, we gut it, tear it apart, replace anything that needs it, and paint it. As a final touch, we add LED lights," says Ryan, an electrical engineering student at Montana State University, Bozeman. "We fix everything from the transmission on a tractor to the radio, air conditioning and seat."

The process has paid off repeatedly for the two hay baling entrepreneurs. Ryan was 12 and Kellen 10 when they started their hay baling business using their dad's equipment.

"My dad insisted we set it up as a business with a bank account and incorporating as an LLC," recalls Ryan. "We started out baling for a few neighbors and grew it from there. Last year we leased or crop-shared 400 acres of hay ground, which we cut, baled, bundled and stored. We sold around 15,000 bales in 21-bale bundles. We also did custom baling for around 30 customers."

They quickly outgrew their dad's tractor and baler, adding a 4630 Deere and a Massey Ferguson 1840 baler, as well as two additional 30 Series Deeres, which they upgraded, resold and replaced with bigger, more efficient tractors.

Other purchases have included pickups, trailers, a swather and more. Their first baler came from Lar Voss (Vol. 45, No 2) via a posting on Craigslist. The brothers got more than they bargained for, getting a mentor in addition to the baler.

"Lar has been fantastic. He helped us



Riedlinger brothers purchased and fixed-up their own equipment in their hay business.

rebuild the baler," says Ryan. "He's shown us new tools, helped and advised us. In return, we've helped him on projects, and I do a lot of welding for him."

The brothers found another mentor when their 4230 developed transmission problems. They hired Jim Marcum, an independent mechanic, to do a rebuild. Part of the deal was that he allowed them to help.

"We removed the cab ourselves, and Jim split the tractor and pulled the transmission," says Ryan. "Since then, he's done several more transmissions for us, and we continue to learn. We've worked on injectors, valve timing and spacing, steering systems, and even air conditioning. He's taught us a lot."

The repair work is done in a shop built about 4 years ago on the family farm. While their dad covered the cost of the structure, Ryan did all the conduit bending, wire pulling and light hanging.

"If a breaker isn't performing, I know what's wrong," he says.

Tools for the shop have been a joint acquisition between father and sons, except for major items, including welders, plasma cutter, magnetic drill and compressor.

"Our business bought the heavy stuff we need to do the equipment upgrades we do," says Ryan. "Everything we buy is selected to be more efficient, require less time, and do a better job."

In the case of the DARF rake, Ryan notes that new ones sell for \$37,000 plus. The brothers paid \$4,250 for theirs earlier this year, and the price reflects its condition. There were cracks in the frame. Paint was peeling and parts were rusting. Rake wheel shafts and spokes were bent, and bearings needed to be repacked when not replaced completely.

The brothers straightened wheel shafts in a hydraulic press, with care to avoid damaging the machined surface. Bent spokes on six of the rake wheels were sandwiched between two heavy steel plates. Tightening connecting bolts between the plates brought the spokes back into line.

In two cases, rake wheel shafts had been welded out of line with the mounting. They were cut off and rewelded by Ryan. Cracks were repaired and reinforced with plates welded over the repair for added strength.

They added hydraulic cylinders and a

multifunction electric over hydraulic valve bank. The latter reduced multiple sets of hydraulic hoses to the tractor with a single set. This required Ryan to design and construct a control box that mounts to the tractor to control rake functions.

As always, old paint was stripped away. A coat of Corrosal was applied to neutralize rust and oxidation before parts were repainted.

"Our dad and Lar assisted in the restoration," says Ryan. "We spent about \$7,500 on parts and upgrades like the hydraulic valve bank and control box. Based on auction values for a rake in this condition, we estimate it would sell for around \$24,000 or \$25,000, which would leave around \$12,500 for our labor and profit."

However, the rake is not for sale. The brothers intend to keep making hay in the field and on their financial spreadsheet. Upgrading and maintaining their previously owned equipment is a big part of that equation.

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Riedlingers have "sweat-equipment" in their equipment and use it to keep making hay.