

## How To Fix Leaking Deere FWA Hydraulic Motors

"A lot of the front wheel assist (FWA) hydraulic motors on older 20, 30 and 40 series Deere tractors are leaking now, and many people don't know where to go to get them repaired," says Roger Gutschmidt of Gackle, N. Dak. "I was in the same boat, but stumbled onto a company that specializes in rebuilding them. This place does phenomenal work."

Gutschmidt restores his own tractors, and the first time he dealt with leaking hydraulic motors, he learned the hard way what not to do. He first took them to his local Deere dealership, where they replaced some seals... but when he got them back, the motors still leaked.

"Usually what's wrong is that they leak oil out of the relief valve, but you can't just go and replace the valve because it doesn't solve the problem. I found this place - Hydro Service in Roland, Iowa - where their specialty is machining these motors and checking the tolerances of the rotating assembly, which

totally eliminates the problem."

"Sundstrand manufactured these motors. Sundstrand also makes many of the hydrostatic units on rear wheel assist combines," he explains. "If the motors are engaged for long periods, they almost all leak."

Before Gutschmidt sent his two motors to Hydro Service, they advised him to insure them.

"These motors are quite valuable because they don't make them any more," he points out.

When he phoned the company less than a week later to check on the job, he was told the motors were already on the way back to him. The charge at the time was \$240 per motor.

He was so happy with the results that he wrote the company the following letter:

"I installed the FWA motors that you reconditioned in my tractor today. Everything looked real good. I then took the tractor to



Gutschmidt bought this Deere 4630 tractor last spring. "A lot of front wheel assist hydraulic motors on older 20, 30 and 40 series Deere tractors are leaking. I found a company that specializes in rebuilding them - Hydro Service in Roland, Iowa."

the field and tested the FWA. I had a leveler hooked to the tractor. I drove till the leveler was completely full of dirt and the tractor just sat there and spun, then I put the FWA in gear and it just 'walked' out of there. They worked perfect. I'm so happy I found out about you guys. Your service is excellent. You will be highly recommended by me to fellow FWA owners. I wrote the check out

with a smile on my face. Thanks again for the good work and fast service."

Contact: FARM SHOW Followup, Gutschmidt Manufacturing, LLC, Roger Gutschmidt, 6651 Hwy. 56, Gackle, N. Dak. 58442 (ph 701 698-2310; shopdoc@drtel.net) or Hydro Service, 202 N. Main Street, Roland, Iowa 50236 (ph 515 388-4096).

## Push Button Grease Pit Cover Up

Grease pits are handy, but dangerous if left open. Pulling heavy covers off a pit long enough to work both ends of a truck is a pain. When Bill Dorwin's son Jeff built a new shop for servicing their over-the-road tractors, he asked his dad for ideas for a push button cover.

"When he came off the road in the middle of the night with a tractor that needed servicing, he wanted to hit a button to uncover the pit, open the petcock and let the hot oil drain while he went to bed," says Dorwin. "I just had to figure out how it would work."

What he settled on was a kind of giant garage door opener that moves 10 4-ft. cover sections of 1/4-in. thick deck plate back and forth across the top of the grease pit. For starters, the oil pit was made twice as long as needed at 5 ft. deep, 4 ft. wide, and 40 ft. long. There's also a 3-ft. deep, 43-ft. extension where the deck plate covers retract.

A gearbox installed where the two pits meet drives no. 80 roller chain through a 2-in. channel iron box filled with oil. Midway down the length of the channel, the chain connects at the midpoint of the working pit covers.

"I figured if we connected at the front or back, the plates would buckle when pushed,"

says Dorwin. "This way only half the plates are pushed, while the other half are pulled, whether opening or closing."

To move the plates smoothly under the storage cover, Dorwin mounted rollers under the first and last plates. This allows them to smoothly roll up and down the 4-in. incline to cover or uncover the working pit. Sweeps also mounted at both end plates sweep the track, keeping debris off and ensuring a smooth action.

The plates themselves rest on track along the side of the pit. A second set of tracks runs slightly beneath the cover track. It supports a 30-gal. drain tank on rollers. It can be moved from one end of the working pit to the other, enabling draining of engine, rear end or transmission fluids as needed and without moving the vehicle being serviced.

"The oil pan has wings on the top that can be flipped up to help catch fluids coming from either side of the pan," notes Dorwin. "At the end of the pit, we have a pump under the entrance steps. When the oil pan is full, we simply wheel it down to the pump and empty it into a waste oil storage tank. In the winter, we burn the waste oil to heat the shop."

The service pit covers are reinforced with gussets to allow light trucks or skid steer-



Auto pit cover can be opened or closed by simply pushing a button. Because the pit can be closed, dangerous fumes cannot settle into pit between uses.



Door opener moves 10 4-ft. cover sections of 1/4-in. thick deck plate back and forth across top of pit. When rolling oil pan is full, Dorwin moves it to the end of the pit to dump.

sized equipment to be driven over them.

"It only takes 45 seconds to uncover the working pit with the opener," says Dorwin. "Thanks to the pit, we can drop the oil, grease and service a truck in about 20 minutes."

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## Self-Contained Hydraulic Cylinders

Electrohydraulic Actuators (EHA's) are slick substitutes for hydraulic cylinders for many applications. Because they run off the electrical system, they help avoid overloading existing hydraulics. The EHA contains pump, reservoir double acting cylinder, relief and check valves...everything needed in a self-contained unit.

Common applications are as lifts for mower decks, attachments for ATV's, and latches and lifts on farm and industrial machinery. Linear actuators can do much the same job as hydraulic cylinders, but tend to be slower and not as powerful. The only problem is finding the EHA you want.

"EHA's are custom designed for the application. We work with OEMs," says Vicki Stephens, Oildyne Division, Parker Hannifin. "Our new compact EHA is built to order with

minimum orders of 500. It's unlikely a distributor would be willing to stock some if he didn't carry the equipment for which it was designed."

Are they worth finding? A look at Oildyne's new Parker Compact EHA shows why one might want to look. It's available in three bore sizes, with strokes of up to 8-in. and speeds of 5.1 in./sec. The unit can produce a force of up to 5,000 lbs. Compare that with a linear actuator available online at Northern Equipment. It offered an 11 13/16-in. stroke, 1,350-lb. force and a travel speed of about 1/3-in./sec.

While Stephens says confidentiality agreements with customers prevent her from saying who's using a Parker EHA, they're available in parts departments. If you think one would be useful, the best bet is to go to a

major equipment supplier. FARM SHOW checked with local Deere and New Holland parts departments. Both had EHA's on their books and available.

Once desired length of stroke, lift and available space have been identified, visit the parts department and ask what's available. Of course, if you're looking for 500 or more, talk to Stephens.

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Self-contained electrohydraulic actuators run off the electrical system and have a self-contained reservoir.

