

the no. 7 spark plug looked like every 600 miles or so. I wasn't driving the pickup much at the time, so replacing the plug that often wasn't a big problem.

"But last year I started driving the pickup a lot more and replacing the plug became more of a job. One day when the engine was a quart low I decided to dump in an entire quart of Marvel Mystery Oil. I soon noticed the engine started to run better and better. After about 600 miles I removed the plug and it looked clean as a whistle. However, no one could explain why. Not only did the plug quit fouling, but the engine stopped using oil.

"I told my local Chevy dealer what had happened and he asked if the plug I was removing happened to be from the number 7 cylinder. I was flabbergasted, because yes, it was. Then he led me into his shop and showed me the intake manifold gasket for a small block Chevy V-8. He pointed out an imprint in the gasket between the no. 7 and 8 cylinders and said that was where the EGR valve had been mounted, and that it was a weak spot where a lot of small block V-8's leaked oil. He said built-up oil deposits cause oil to well up over that spot, and then the no. 7 cylinder inhales it."



Gary Oberg, Arlington, Wash.: "Most forklifts have a hole burned into the end of one or both forks for lifting with a chain. That works okay, but if the lifted item needs to be rotated it can be a problem.



"To allow heavy loads to be rotated, carefully cut apart a chain binder, keeping the ball and socket-hook assembly. Weld one end of a short length of chain onto it and weld a 1/2 grade 5 or grade 8 bolt to the chain's other end. Then run the top end of the assembly up through the hole in the fork and insert the bolt, which will allow the entire assembly to swivel."

Joe Roberts, Malta, Ohio: "Here's an easy way to avoid accidentally cross threading when installing a new spark plug. I tried this idea when I replaced the plugs on my 1990 Chevrolet S10 4-WD pickup equipped with a 4.3-liter gas engine.

"Start with a 12-in. long gas line hose - the kind with embedded reinforcing string in the rubber to stiffen the hose. Make a cut in one end of the hose the same length as the porcelain on the plug. Then insert the plug into the hose and wrap a rubber band around it. I use the kind of blue rubber band used by grocery stores to secure farm-raised vegetables such as broccoli.

"Insert the plug and hose into the hole and then rotate the hose until the plug is threaded all the way in. If the plug starts to cross thread, the hose will turn but the spark plug won't so you won't cause any major damage. Then back off and start over until the plug is threaded properly."



Bayard E. Young, Elkwood, Va.: "After several years of use the coulters and double disc openers on my Tye 3-pt. mounted, 10-ft. no-till grain drill became wobbly due to worn-out sealed bearings, a problem that was caused by a lack of grease. Replacing the bearings was a big job, and I decided that I was only going to do it once.

"So instead of installing new bearings, I decided to drill and tap in new grease zerk fittings. That way I can grease the bearings any time I want. It was a lot of work, because with the disc openers I had to first remove the rivets from the caps. However, now the sealed bearings on this drill will stay greased forever."

David Marihart, Dumont, Minn.: "Recently I needed to read the part numbers on a truck's carburetor, but the numbers were so small that I couldn't make them out, even with a magnifying glass and flashlight. So I used a digital camera to take a photo of the carburetor and downloaded it to my computer. By using the zoom feature on the computer, the numbers became as clear as day. Not only did the computer magnify the photo, but somehow it enhances everything which makes the numbers easier to read. I've also used this method on tractors and other machines to read serial numbers that are painted over or all scratched up."



Rick Plunkett, Albany, Ky.: "When the air filter on my 2-year-old Toro 5060 zero-turn riding mower got dirty, I replaced it with a much bigger filter designed for a 20-gal. shop vac that I already had. The original filter was only about 4 in. long and a new one would have cost \$37, which I thought was ridiculous. A shop vac filter has much more capacity, and costs only about \$10. I think the same idea would work on any mower brand or model.

"I cut a piece of Lexan into a large circle to make a base for the filter, and cut a smaller hole in the middle to fit the air intake. To protect the filter I wrapped a section of metal gutter guard around it and secured it with plastic zip strips. I then installed a fine mesh metal screen over the carburetor intake and screwed the filter down on top of it.

"I used the lid off an aluminum cooking pan as a cover for the filter. I removed the handle and ran a long screw up through the filter's base and out through the pan lid, then put a plastic nut on it.

"I installed the big filter about a year ago and really like how it turned out. Whenever it gets dirty I just use a garden hose to clean it. I kept the original filter in case I ever decide to sell the mower."



Bolt-on kit is designed to repair a broken rear axle housing on Deere 4000 series tractors. The problem happens when the pin hole for the 3-pt. lift arm breaks out of the axle housing.



Broken Rear Axle Repair

Weaver's Compact Tractor in Shippensburg, Penn., specializes in parts for Ford, New Holland, and Deere compact diesel tractors. The company recently introduced its latest idea - a bolt-on kit to repair a broken rear axle housing on Deere 4000 series tractors.

The problem happens when the pin hole for the tractor's 3-pt. lift arm breaks out of the rear axle housing. "You just bolt the kit onto the housing using existing holes and go," says Jim Weaver. "There's no need to replace the expensive rear axle housing and

have the tractor spend hours of downtime in a shop for repairs. Just install the kit and hook up the existing 3-pt. lift arm and your tractor is ready to go back to work."

The kit is available for Deere 4200, 4300, 4400, 4210, 4310, and 4410 Deere models. It sells for \$299 plus S&H.

Contact: FARM SHOW Followup, Weaver's Compact Tractor, 22 Fish Hatchery Rd., Shippensburg, Penn. 17257 (ph 866 950-1050; fax 717 530-9705).

Small Adjustment Brings Big Improvement To Deere Combines

Randy West found that just moving the fan a tiny amount on Deere S Series combines had a huge impact on how well it cleaned grain. After developing a replacement fan bracket for the 8 S series combines he manages, he started selling them through his other business, Harvest Solutions.

"I make improvements to combines out of necessity," says West, who did custom harvesting for 30 years. "I found that others had the same problems I was having."

The fan brackets are only the latest in a series of his improvements. They move the fan down and to the rear, reducing the cut-off point from 1 in. to 1/4 in. That's all that is needed to make the fan more efficient and eliminate dead spots.

"The cleaning fan is the same for the S Series Deere combines as for the 70 Series with its smaller shoe area," explains West. "The way it comes from the factory, it is not efficient for the 24 percent larger chaffer and a sieve that is only 15 percent larger on the S Series."

West advises checking the chaffer and sieve for dead spots at the end of the season by looking at wear patterns. Replacing the factory-installed brackets is fairly simple. "The same belt is used, and fan speed isn't affected. However, it can be more difficult on the drive side."

He warns that the drive sheave and bearing have to be pulled off. The bearing can be a problem, and he advises simply cutting it off.

"If you use heat, you may ruin it, and it's not a bad idea to replace the bearing anyway," says West. "After you replace the bracket, you pull the bearing off the other side and replace that bracket, too."

The brackets are priced at \$145 for a pair. Another of his simple solutions is a \$40 clean grain gearbox seal that protects a \$2,000 gearbox by covering an exposed seal. For a full list, check out the Harvest Solutions website.



Replacement fan bracket for Deere S Series combines moves the fan down and to the rear, making it work more efficiently.



West credits his combine mentors like Ray Stuckle of Idaho, Bill Schwerin and Edie Maughn, and later Dan Hurt and Mike Ellison with Precision Ag Parts, for his decision to make improvements on his own combines.

"I was talking to Mike about problems and options to fix them, and he said, 'you don't you figure it out and test it,'" says West. "Don't just accept what Deere offers us."

West says sharing the solutions with others has been fun. "I get to talk to people all over the country and have even shipped some parts to Australia."

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