

Closed loop engine control module automatically injects propane as needed into diesel fuel system, such as when pulling a load uphill.



## Propane Injection Boosts Pickup Power

Need more power and torque from your diesel engine when the going gets tough? Diesel Propane Injection (DPI) may be the answer. It's a closed loop ECM (engine control module) that injects propane as needed into a diesel fuel system, such as when pulling a load uphill.

Introducing the propane creates more power and torque. It works like the addition of nitrous oxide in a regular gas engine, explains a company spokesman.

The system was created by MSD, a company known for performance and racing components and is marketed by a subsidiary called Superchips. DPI systems are programmed for each application, so no customization of the existing fuel system is needed, no jets drilled or external adjustments required. GM DuraMax, Ford Powerstroke

or Dodge Cummins each require a specific kit designed for that engine.

Kits come with detailed instructions, but the company recommends taking them to a certified dealer, especially to have the propane tank installed. Installation should take no more than an afternoon.

The closed loop ECM can be programmed to kick in at a certain rpm or boost pressure, but is never always on or always off unless disabled by manually flipping the switch on the system. The system also logs engine parameters for monitoring system performance.

A DPI system for a 2003 Chevy CK3500 Duramax 6.6LB7 sells for \$1,040.

Contact: FARM SHOW Followup, Superchips, Inc., 1790 E. Airport Blvd., Sanford, Fla. 32773 (ph 407 585-7000; fax 407 585-1900; www.superchips.com).

## He Makes His Own Metal Replacement Parts

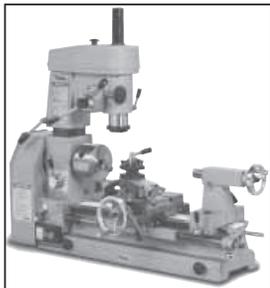
Not everyone has the skill or the patience to make their own metal replacement parts for older equipment. But for those who do, a 3-in-1 "Smithy" from Smithy Tools may be just the ticket.

"I've used my Smithy for some tough jobs," says John Fell, San Jose, Calif. "A while back I lost a pin out of a Massey 300 dozer. It was about 2 1/2 in. diameter and about 12 in. long. I cut a piece out of an old bus axle and made the pin on the Smithy. To buy a pin for an old tractor like that would have cost me a fortune."

A much tougher project for Fell was a smashed steering gear on a Ford tractor. When the dealer couldn't find a replacement, Fell took the broken pieces out and chucked them into the lathe using centers on the lathe to line the parts up. He then covered the lathe and other machine parts with wet sacking and a leather welding apron and arc welded the pieces back together. After taking the piece out of the lathe, he ground away the broken metal leaving him with a straight shaft. He then built it up using arc welding, getting it roughly back to its original shape.

"I put it back in the lathe and used the Smithy surface grinder to get it back to its exact original size and shape," says Fell. "The people at the New Holland dealership said they couldn't have done it."

Starting at just under \$1,000 for the Midas 1220, a Smithy 3-in-1 can pay for itself quickly. The combination machine lets an operator shape faces with mirror quality finishes with the mill, cut holes with precision with the drill, and turn cylinders with the lathe. As Fell found, the lathe also works for lining up broken parts.



The 3-in-1 "Smithy" combines a mill, drill, and lathe in one machine.

Fell has a top-of-the-line Granite model. Prices run as high as \$3,999 for the Granite 1340-1. According to Michelle Rowe, Smith spokesperson, the Granite line is their best selling and contains features such as a quick change gearbox, cam lock spindle and a 1 1/2 hp variable speed motor. However, even the economy line Midas can machine to within 0.0001-in. tolerance.

"I bought my Smithy to replace a lathe with a burned up motor," says Fell. "Instead of buying a new motor and a lathe attachment, I bought the Smithy. It isn't intended for big production runs, and you have to be patient and take small and medium cuts, but my machine has paid for itself over and over again."

Contact: FARM SHOW Followup, John Fell, Eagle Mountain Ranch, 5550 Felter Rd., San Jose, Calif. 95132 (ph 408 258-5851); or Smithy Co., 170 Aprill Drive, P.O. Box 1517, Ann Arbor, Mich. 48106 (ph 800 476-4849; sales@smithy.com; www.smithy.com).

## Free-Spin Hub Kits Beef Up Front Axles

Owners of Dodge and Ford 4-WD trucks can beef up their front ends, improve mileage, and reduce road vibration by reworking factory front axle assemblies.

"In the 1990's Dodge and Ford did away with the fixed spindle design bolted to the steering knuckle with replaceable bearings," explains Jim McGean, president, Dynatrac Products. "They went to unitized bearing assemblies, sometimes referred to as live spindle assemblies. Essentially they're non-serviceable units that can cost \$350 to \$500 to replace."

The good thing for the average truck buyer is that the units are sealed and lubed for life. However, McGean explains, if the seals break down, moisture and contamination get in and they begin to fail. This can damage brake parts as well.

For most truck buyers this isn't a problem, allows McGean. "They're building trucks for 75 to 80 percent of their customers who may not use them for anything heavier than hauling trash on Saturday," he says. "That leaves 20 to 25 percent who need a heavier duty truck. That's the market we serve."

Dynatrac has been around for about 18 years and is best known for producing complete custom drive assemblies. The company's new free-spin hub conversion kits fit Ford and Dodge pickups.

The kits include Timken bearings, cromoly spindles, cast nodular wheel hubs, Warn Premium manual locking hubs, and massive 1 1/2-in. dia., 35-spline outer axle shafts, all made in the U.S.

"The bearings require a little more attention from the owner and mechanic, but all mechanics know how to adjust and lubricate wheel bearings," says McGean.

The Dynatrac bearings are held in place by steel cages. "With our bearings, if they start to fail they make noise, and you can drive to where you can get them fixed," says



Dynatrac's free-spin hub conversion kits fit Ford and Dodge pickups.

McGean. "With sealed units, sometimes the only indication is when the ABS light comes on just before they go, and you're completely disabled."

Dynatrac kits for Fords from model years 1999 through 2004 are priced at \$1,795 and \$1,895 for 2005 and newer models. All Dodge kits are priced at \$1,895.

Dodge owners reap the greatest fuel economy, adding 2 to 4 mpg in diesel fuel use. The reason for the improvement is Dodge front wheel drive shafts are constantly spinning, as owners are unable to unlock the hub. The spinning also adds vibration and interferes with steering.

"Dodge has 125 lbs. of steel axle shafts, pinion gears and drive shafts rotating all the time, whether in 2-WD or 4-WD," explains McGean. "With our Free Spin Hub Conversion kits, Dodge owners report a smoother ride with lighter, easier turning."

Ford still has the locking hub. However, McGean points out that the OEM hub often fails. "The locking hubs that come with the Free Spin Hub kits are more reliable and longer lasting," he says.

Contact: FARM SHOW Followup, Dynatrac Products, 7392 Count Circle, Huntington Beach, Calif. 92647 (ph 714 596-4461; sales@dynatrac.com; www.dynatrac.com).

## Easy-To-Use Metal Patch Kit

"You can use it on everything from leaky oil pans or gas tanks to plumbing lines or fittings damaged by freezing," says Ken Pehovic, Coventry Products, Ocqueoc, Mich., about a new metal patching kit that lets you make leak-proof, dependable repairs on thin steel and copper.

It consists of a flexible, 1-in. wide metal mesh that easily forms to any shape, making it easy to repair inside or outside corners, or curves of a metal part, as well as flat surfaces. The mesh can be easily cut with a scissors to fit the area needing repair. High strength 95-5 solder and a premium liquid flux are then applied to the mesh.

The quick, leakproof repair will withstand heat up to 450 degrees, says Pehovic. "If you keep a car or truck long enough, you'll find corrosion and leaks in oil pans, rocker arm covers, fuel tanks, power steering pump reservoirs, cooling system tubing, and other thin materials. Often, these leaks are small and located in spots where the paint or plating finish has worn off and rust has perforated the metal. If the leaking part is still structurally sound and the damage isn't excessive, it's much more economical to repair the part than to buy new."

Heavier castings can also be repaired with the kit, but a propane torch may be required to provide enough heat to complete the repair.

"Copper water lines that freeze usually split



Metal patch kit lets you make leak-proof repairs on thin steel and copper. It consists of a flexible, 1-in. wide metal mesh that easily forms to any shape.

along a short length of the tube. If cutting and replacing the damaged section isn't practical, repairing it with this product is a good alternative. You're repairing it with materials that are compatible with the copper, and the product is lead-free so it's safe to use on potable water systems," he notes.

The kit sells for \$10 plus S&H. Contact: FARM SHOW Followup, Coventry Products, 15012 Balsam Lane, Ocqueoc, Mich. 49759 (ph 989 734-4990; fax 989 734-2794; www.coventryproducts.com).