

Propane Valve Boosts MPG, HP

By injecting a little propane into diesel engines you get faster speeds, more power, and a cleaner burn, says Craig Ridgeway, RMR Pro-Diesel Technology. Ridgeway says his Propane Enhancer, a patented progressive fuel valve, is catching on fast. He's installed the system on turbo-powered semis, field tractors and even pickups.

"The secret to using propane is to deliver the right amount at the right time," says Ridgeway, who has been burning propane in diesel engines since he was a kid on the family farm. "If you deliver too much or not enough, you lose fuel efficiency."

Ridgeway's valves are activated by the engine's turbo boost pressure. He offers a single-stage valve for use with boost pressure under 30 lbs. and a two-stage valve for pressure of 30 lbs. and more. As the boost pressure increases, more vapor propane is fed into the air intake, giving the engine only the amount of propane needed to maximize efficiency.

Ridgeway explains that equalized injection into all cylinders is vital. If too much propane goes into the first cylinders in line, it can damage them because they won't get enough lubricating diesel.

Each installation of the valve is specific to that particular engine. Ridgeway takes into

account tire size, transmission, rear end gearing and whether the engine operates under heavy or light loads.

"We have an advanced dynamometer in our shop that gives us an accurate reading of engine usage and exact settings for our system," explains Ridgeway. "If you can't come to us, we provide a suggested setting based on our records of installation on the same engine in a similar situation. Once installed, it can be fine tuned to get the optimum flow."

Ridgeway has installed propane valve on more than 700 engines over the past four years with zero engine failures due to propane. RMR promotes an increase of one to three miles per gallon on over the road diesels. Ridgeway says he likes to be conservative in promises. His results, as well as customer reported results, point to much higher returns.

"I've raised my mileage pulling trailers by 6 mpg," he says. "Overall, my Duramax Dodge has gone from 14 to 16 mpg to 25 to 32 mpg."

Ridgeway has also installed his propane units on field tractors and bulldozers. He reports his 8640 Deere burned 16 gph pulling his 30-ft. chisel plow. Injecting only 1 1/2 to 2 gal. of propane per hour dropped diesel use to 9.2 gph. The increased power also let him



Propane Enhancer injects a little propane into diesel engines for faster speeds, more power, and a cleaner burn in tractors and trucks.

double ground speed. "I put a system on a D4 Cat, and it boosted output from its rated 57 horsepower to 120 when using propane," says Ridgeway. "I've put mega hours on it pushing twice as much dirt as it used to do on diesel alone."

He says the propane simply helps burn diesel fuel more efficiently. Typically, he explains, only about 75 percent of diesel used is burned. With the propane injected, efficiency jumps to 98 percent.

"That's where we get our increased power," says Ridgeway. "We turn that wasted fuel into energy."

Burning the diesel more completely reduces carbon buildup in an engine for longer engine life. It also cleans up the exhaust.

"We had a customer from Utah take his truck in for the mandatory state inspection



for particulate emissions," relates Ridgeway. "With our propane valve installed, his truck dropped from 11 percent particulates to zero."

Ridgeway says he can literally see the difference on his 8640 Deere. "When I am burning straight diesel, I can see the shadow of the exhaust on the ground," he says. "When I turn on the propane, the shadow goes away."

Ridgeway charges \$2,995 for a valve and tank system installed. "When you put a pencil to it, you'll be surprised how quickly it pays for itself in fuel savings and extra power," he says.

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Clamps Simplify Fence Setup, Repair

With her three patent-pending clamps, Renae Becker can easily reconfigure and repair the horse corrals on her California ranch.

"The whole idea is to make do with what you already have," she explains. "We really wanted the flexibility to change our corrals around. We searched everywhere to find a fence clamp that would securely attach a perpendicular intersection but there was no such product available. With the help of my friend, who's in the fabrication industry, we created 90 Proof Clamps."

"The rail (clamp) is used to connect two corral panels by attaching the horizontal rail of one panel to the horizontal rail of the second," Becker explains. "The purpose is to allow the user to build their stalls or paddocks any size they need without having to rely on the dimensions of the vertical posts that make up the frame of the panel. Typically, a 24-ft. panel is supported by three vertical posts, every 8 ft. Therefore, there was no way to split the corral in even halves - until now."

The pole clamp has a figure-8 twist that allows the connection of vertical and horizontal pipes. The versatile T-clamp offers an alternative to repair broken pipes as well as a variety of other uses such as adding pipes to the top of the corral for extra reinforcement.

"The T-clamp will withstand more than 1,200 lbs. of pressure and you don't have to hire a welder to install," Becker says. "The clamps also make it simple to fix broken pipes."

Carriage bolts and nuts secure the clamps. At \$9 to \$14 the clamps are also affordable.

Becker, an avid horse rider who takes trips across the Mojave Desert and Death Valley, has been using the clamps on corrals for her 6 horses for nearly two years. She sells them through her website and about 50 businesses in the West.

"We haven't had any returns. The comment I get from everybody is 'Why I didn't think of that?'" says Becker.



Pole clamp has a figure-8 twist that allows the connection of vertical and horizontal pipes.



Clamp is used to connect two corral panels by attaching the horizontal rail of one panel to the horizontal rail of the second.



This clamp was used to repair a pipe joint that had rusted away.

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New Tools To Keep Engine Fluids Clean

These new sealed containers have been used in the oil drilling industry and other industrial markets for several years to handle petroleum products. They're now being introduced to agricultural markets by Genoa Business Forms (GBF).

"I grew up on a farm and recall using open cans to transfer oil from a barrel to a tractor," says Rex Young, GBF. "A little dust or a bit of rust didn't seem to matter. Those days are over with the engines being introduced these days. Contaminate levels have to be next to nothing on Tier 3 and Tier 4 engines."

The "iCan" containers are designed with tightly sealed ports for filling and discharging liquids safely, quickly and cleanly. The containers are made of high-density polyethylene. They come in 2, 5 and 10-liter sizes.

Pour lids use twist-open nozzles and light-switch style breather vents for easy pouring. There are three different nozzle sizes for different pouring rates. Extension hoses and hand pumps are also available.

Industry research indicates that lube oil contamination accounts for 70 to 80 percent of all engine failure and wear. While the iCan design can help reduce or prevent contamination, they also help with another common problem - misuse.

"Each container lid comes with color coded tags and clear plastic tag holders," says Young.



Sealed containers are designed with tightly sealed ports for filling and discharging liquids cleanly. There are three different nozzle sizes for different pouring rates.

iCan containers range in price from \$8.99 to \$19.99. Pour lids equipped with a quick-fill port and a twist-open nozzle are priced at \$27.99. Pump lids with a quick-fill port and a threaded accessory port range from \$13.99. They are designed to work with the hand pump, which is priced at \$39.99. All units are available as components or in a sample kit for \$199.99 (a 10 percent discount). The kit contains all three container sizes, lids, extra extension hoses and identification pouches.

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