3-Wheeled, Diesel Motor "Trike"

"After reading your article on Mike Corse's diesel-powered motorcycle (Vol. 27, No. 5), I thought your readers might be interested in my home-built, 3-wheeled cycle fitted with three seats. It's powered by a 5.9-liter, Dodge Cummins turbocharged diesel engine," says Delmer Owens, Guymon, Okla.

The 3-wheeler measures a whopping 18 ft. long and rides on three pickup tires. It has a 5-ft. long handle. The Cummins engine and 5-speed transmission came out of a 1991 Dodge pickup and mount ahead of the driver. The transmission connects to the drive shaft and rear axle out of a Ford 1/2-ton pickup. Owens used high carbon 2 3/8-in. steel tubing to build a triangulated frame that supports the engine and runs back to the rear axle. There are three seats, including a double wide one on back.

"There are a lot of 5.9-liter Cummins diesel engines out there that have outlived the Dodge pickups they were originally mounted in," says Owens. "My wife and I often drive the trike to motorcycle rallies. We belong to the Christian Motorcycle Association, and my trike gets us the attention we need to minister the gospel of Christ.

"I chose the 5.9-liter Cummins diesel because it has a lot of torque - more than 400 ft. lbs. Also, it uses only one third as much fuel as a V-8 gas engine of the same torque. I mounted a 5-gal. propane tank on back. By flipping a switch, I can inject propane into the engine to improve fuel efficiency."

The machine is equipped with a unique cooling system that circulates water through the bottom two tubes between the engine and the radiator off a Dodge 1-ton pickup, which mounts on back of the machine. Coolant comes out of the engine and goes in one tube back to the radiator, then runs through the other tube back to the engine. "The entire bottom side of the frame radiates heat," notes Owens.

To support the weight of the engine, Owens built a "springer" front end that includes two chrome coil springs and one air bag. There are also two air bags on back.

The original pickup axle had a 3:54 rear end. Owens used a Ford 9-in. 3.00 rear axle to slow the engine down to make it run more efficiently. "I don't know the top speed because I've never had it over 90 mph. It tracks really nice on a smooth road.

"I mounted the radiator on back of the trike because it was too big to go on front. The radiator is 36 in. tall and mounts at a 40 degree angle. I built a frame around it to help it scoop air in. There are a couple of fans next to the radiator that automatically go on whenever the engine gets too hot. However, the radiator does such a good job that even on a 100 degree day I can let the engine idle and the fans won't even turn on. With the radiator laid over at a 40 degree angle, the heat goes up and creates its own vortec which draws so much air in that the fans aren't needed."

Two up-front chrome springs and two air bags support the 5.9-liter Cummins diesel engine. Both the engine and transmission came out of a 1991 Dodge pickup.

According to Owens, the rig gets 27 1/2 mpg on the highway without the propane injection system and 30 mpg with it.

The propane injection system is activated by flipping a switch on the dash. "I designed a ram air scoop that rams air into the engine and filters it at the same time. There's an injector on the uphill side of the air filter that injects a tiny amount of propane. A 5-gal. tank of propane will last 12 hours whenever I'm on the highway. I built several fail-safe devices into the system. For example, both the ignition key and the oil pressure switch have to be on or the injection system won't work."

Owens says he's willing to custom build similar trikes for others. "The cost will depend on how much you want to put into it. I got a good deal on the engine and transmission and paid only $2,500 for both. I probably have a total of $8,000 in parts and figure my labor cost at about $10,000."

"Trike" carries four people comfortably while still getting 27 1/2 mpg.

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"It's easy to hook up and we spent only about $1,500 to build it," says Lonnie Nichols about his home-built, quick-tach rear end loader.

Quick-Tach Rear Loader Raises Up To 21 Ft. High

"It takes only about two minutes to hook up and will lift loads up to 21 ft. high," says Lonnie Nichols, Copeland, Kansas, about his home-built, quick tach rear-end loader.

Nichols mounts the loader on back of his Deere 8300 front-wheel assist tractor. The loader has a 7-ft. wide bucket supported by a pair of long hinged arms. The arms are built out of heavy steel beams and the bucket out of thick steel plate. The arms are designed to attach to the tractor's quick hitch adapters and can be mounted on two different settings - a low setting for digging dirt, and a higher setting for lifting objects up high.

"We use it for a variety of miscellaneous work. When we built our shop we used it to raise the rafters," says Nichols, who built the loader four years ago. "The operator has to turn back all the time, so it's not the most comfortable loader if you have to do a lot of work. But it's easy to hook up and we spent only about $1,500 to build it. Commercial front-end loaders of comparable capacity sell for $11,000 or more so we saved a lot of money."

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Wooden "B" Sounds Like Real Thing

"It looks and sounds like the real thing," says Tom Houska, Mahnomen, Minn., about the 2/3-scale Deere B tractor his cousin Delbert Radtke made entirely out of wood.

After Radtke passed away, the tractor was given to Houska with the understanding he would have to restore it and keep it running. It sits in Houska's front yard where passersby can see it.

The tractor's rear wheels are made from three different sets of 1 by 3's, nailed together in an overlapping style to look like the tractor has lugs. Each front wheel was made by gluing together two semi circle-shaped pieces. The rear axle was made from a 2 by 4. The body and fenders are made from plywood while the muffler is a length of dowel rod.

An electric motor, hidden from view under the driver's platform, is used to make the tractor sound like it has an engine. The motor belt-drives a big pulley that in turn belt-drives a flywheel. A pair of small bolts contact a length of 3/4-in. dia. plastic pipe that's nailed onto a 2 by 4. As the bolts contact the pipe they make a firing sound.

A single bottom plow is hooked on behind the tractor.

"It sounds so realistic that it fools a lot of older farmers who still own real Deere B tractors," says Houska. "One farmer who heard my tractor running thought it had a real engine, with sparkplugs and all. But there is no engine - all you see is a small electric cord between the rear wheels that runs to an electrical outlet. The electric motor turns the flywheel so fast that its rear fenders vibrate," he notes.

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