

Home-Built Tracked Vehicle

You won't find another tracked vehicle like the one built by Larry Brown of Chaska, Minn.

The 4-WD rig is powered by a Wisconsin 2-cyl., 15 hp gas engine off a Ditch Witch. It also has the Ditch Witch's 3-speed transmission and clutch. The 6-ft. long, 12-in. wide rubber tracks were made from 13 by 38 rear tractor tires. The tracks ride over 13-in. Ford Pinto tires and are held in place by metal prongs bolted to the outside edges of the rubber.

The rig measures 5 1/2 ft. wide and has a frame made from 2 by 2 1/2-in. sq. tubing.

Both axles are the rear axles off a pair of rear wheel drive Ford Pintos. The axle on front faces backward so that the wheels turn in the same direction. The engine's 3-speed transmission is hooked up to a 4-speed Warner synchromesh transmission. The transmission chain-drives a shaft that drives both rear ends.

The rear axle is welded solid, but the front axle can be slid backward whenever Brown wants to remove the wheels (The shaft that connects the two axles telescopes).

"We have a lot of fun with it, although it does ride pretty rough. I call it my Wilder Beast, but my daughter calls it our 'shake and

bump' machine," says Brown. "With the two transmissions I have 12 forward speeds and one reverse, and because of the synchromesh 4-speed transmission I can shift on-the-go. With both transmissions in low gear it has plenty of power and will pull a 2-bottom plow. I built a wagon to pull behind it.

"I steer with individual brakes on each side. Each brake acts on a master cylinder off a 1960 Chevy car. I equipped an old electrical box which mounts in front of the driver with a light switch, amp meter, and starter switch. I also added a tractor muffler next to the engine."



"We have a lot of fun with it, although it does ride pretty rough," says Larry Brown about his home-built tracked vehicle.

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Half-Breed Oil Field Engine Powers Allis WC Tractor

You won't find another tractor anywhere like the one put together by Jim Hunter of Carey, Ohio, who mounted a Thomas "half-breed" oil field engine on a stretched-out 1936 Allis-Chalmers WC tractor. The engine runs on liquid propane. The tractor has a big 4-ft. dia. flywheel on one side and a water cylinder fitted with two big tubes on front. The seat was replaced with a metal deck on which the driver stands.

"I take it to shows and county fairs, where it draws a lot of attention," says Hunter. "It has a big 4-in. dia. exhaust stack on front so whenever I start it up it really barks."

The story begins 20 years ago when Hunter got the engine from a family relative in West Virginia. He didn't have a trailer to set the engine on, but he did have the Allis Chalmers tractor with a blown engine. So he removed the engine, lengthened the frame by 40 in., and set the oil field engine in there. Then he shoved the tractor back in the corner of a barn where it sat until 1 1/2 years ago when they started working on it.

The "half breed" engine was made by Oil City Boiler Works and was designed so it can be powered by either steam or liquid propane gas via a conversion kit. Hunter's uncle found

the engine in West Virginia, where it was originally equipped with a boiler and used as a steam engine and used to drive an oil drilling rig. Once they got the first well drilled and producing natural gas, they converted it to run on natural gas, which of course was free.

The engine's big flywheel, originally used to belt-drive an oil drilling rig, now is used to belt-drive the tractor's original belt pulley. A 5 hp Briggs & Stratton engine, mounted on the deck, is used to start the engine. The engine belt-drives a hydraulic pump, which drives a hydraulic motor which chain-drives the tractor's original transmission to spin the tractor pulley which in turn turns the engine over to start it. (Both the pump and the motor came off an old combine). Once the engine is started, Hunter shuts off the Briggs and Stratton engine and uses the oil field engine to belt-drive the tractor using the same belt.

The oil field engine is water-cooled. Hot water comes out the top of the cylinder on front of the tractor and gets cooled as it runs up under the hood through two long copper tubes with fins. From there the water goes into the tractor's original gas tank.



Hunter mounted a Thomas "half-breed" oil field engine on a stretched-out 1936 Allis WC tractor. Note big 4-ft. dia. flywheel on one side and water cylinder on front.

The tractor has a hot tube ignition system. A 3/4-in. dia. nickel-plated tube on the end of the water cylinder is welded shut at the top. A torch heats part of the tube red hot. Every time the piston goes forward it shoves the fuel mix up into the tube, and when the fuel mix hits the hot spot on the tube, the engine fires.

Hunter also set up a system for spark plug ignition as an alternative to hot tube ignition. It makes use of a Ford Model T spark plug and buzz box ignition. "The tractor runs a lot smoother on hot tube ignition, which is why

usually use that, but it's cheaper to run on spark plug ignition because you're not burning propane just to keep the tube red hot.

"I spent a lot of long evenings trying to figure everything out," says Hunter. "I push a lever to tighten the belt in order to start the oil field engine, and I stand on another lever to engage the belt which makes the tractor go forward. The tractor moves too slow to run it in parades."

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Cal Zeerip made this miniature replica of an unstyled 1938 Deere B. "I tried to make it look as close to the real tractor as I could," says Zeerip.



Garden Tractor Converted Into Mini Unstyled Deere B

Cal Zeerip was restoring a 1938 Deere B unstyled tractor when he found a 1968 Deere 140 garden tractor that had caught on fire. He decided to also make a miniature replica of the B using the garden tractor's frame.

"I tried to make it look as close to an unstyled B as I could. I had a lot of fun building it," says Zeerip, of Holland, Mich.

He replaced the original rear tires with bigger 8.00 by 16 ones off a small Kubota tractor. He removed the original front wheels and installed 6-in. high, narrow front wheels. He made a tricycle-type steering system by lengthening the steering shaft and installing a vertical spindle with a shaft in it. The tractor still has its original steering box and steering gear, as well as the original Kohler 14 hp engine, hydrostatic transmission, rear axle,

and rear end. The seat came off a real unstyled B tractor as is the air cleaner. He made the muffler from metal tubing.

The tractor's frame is original. He installed a new fiberglass hood designed for a Deere 140, cutting 4 in. off the front end.

The tractor has its original hydrostatic control lever. The throttle is off an unstyled B, as are the brake pedals.

"When I take it to shows, people often ask me where I bought the parts I needed to do the job. They're surprised when I tell them I had to make most of them," says Zeerip.

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Miniature Deere 2418 articulated tractor is powered by an 18 hp, 2-cyl. LUC gas engine off an old Deere A12 combine.

Mini Articulated Deere Tractor

Last winter Jim Borg of Waverly, Minn., built a miniature Deere 2418 articulated tractor equipped with dual wheels all the way around. The tractor is powered by an 18 hp, 2-cyl. LUC gas engine off an old Deere A12 combine, and its 4-speed transmission is off an old Ford pickup. The wheels and axles also came from the pickup, with each axle shortened by 18 in. Inside the cab there's a cast iron seat from an old Deere tractor.

"I grew up with the old 2-cylinder tractors and always liked the sound they made. But I also like the looks of the newer tractors," says Borg. "I drive it in parades at antique tractor shows and people smile when they hear the putt-putt sound of a 2-cylinder coming from a newer-looking tractor. I didn't use plans to build the tractor to scale, but just pieced it

together as I went along."

He used sheet metal to build the body, mounting the combine's 6-gal. gas tank under the hood. The 5.70 by 15 dual wheels are off a self-propelled swather. He used sheet metal and tubing to build the muffler and masonite to build the cab. The windows are made from glass and tip out at the bottom.

The articulation point consists of a big hinge pin and two lengths of tubing that allow the tractor's body to pivot sideways.

"I call it my 2418 because it has an 18 hp engine and I built it in 2004," says Borg. "It has a top speed of 21 or 22 mph. By removing two screws I can remove the entire hood."

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