

High-Pressure Washer Made From Chevy Engine Oil Pump

"I was surprised to discover that an automotive oil pump could produce this much water pressure," says Terry Braun, Churchbridge, Sask., who made his own high-pressure washer using an oil pump off a 1970's Chevy small block V-8 engine.

"With a 4-hp. Briggs & Stratton motor turning the pump at 1,200 rpm's, it'll produce 4 gal. a minute through a 1/8-in. spray nozzle at more than 1,000 psi. Pressure might even go as high as 1,500 psi with a larger motor," says Braun.

The oil pump simply bolts back onto the rear main bearing cap as it was originally attached inside the engine. The bearing cap is then bolted solid to a piece of angle iron.

"Then I welded a 5-in. V-belt pulley to the original pump driveshaft, which rotates on an idler bearing. I cut off the oil

pump intake screen, replacing it with a garden hose coupler. We run water directly into the pump at about 60 psi. I tapped a 3-in. length of pipe onto the outlet side of the pump where the pressure hose attaches," says Braun.

He put a 2-in. pulley on the gas motor and ran a belt from it to the 5-in. pulley on the pump.

"When I first put it together I worried about lubrication but after many hours of use that hasn't been a problem. It works well for all types of cleaning jobs. Works especially well with hot water and soap," notes Braun, adding that many different combinations of oil pumps and drive motors would probably work.

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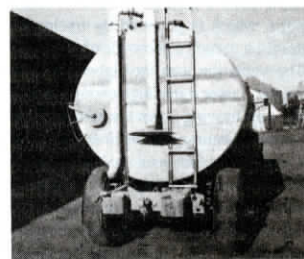


3,500-Gal. Spreader Built From 6-WD Army Truck

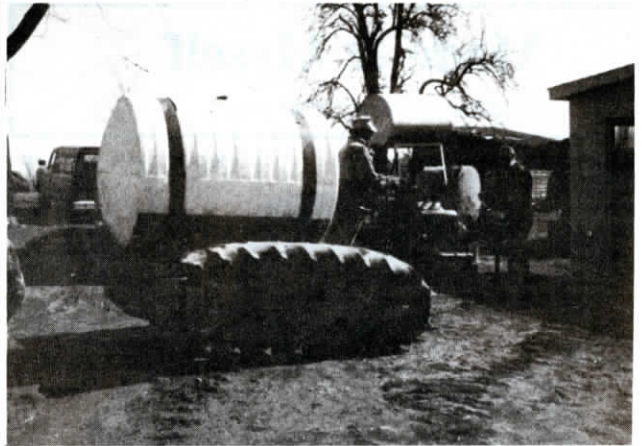
"It cost only about \$3,000 to build," says Ken Woolston, Sutherland, Iowa, who built a 3,500-gal. manure spreader out of an old 6-WD Army truck.

Woolston bought the surplus truck for \$200. It had just 9,000 miles on it because it had been used by the forestry service as a fire truck. He lengthened the frame 4 ft. and installed a rear "tag" axle taken from another Army truck.

He cut a 4,000-gal. fuel tank in half lengthwise, lowered the top half part way down inside the bottom half, and then welded the two halves back together,



reducing capacity to 3,500 gal. and lowering the center of gravity. He mounted a



Rubber-Tracked "Mud Buggy"

"We use it mostly to haul wood or maple syrup from our woods, but it could be used for a lot of different jobs. It has excellent traction," says Paul Miller who, along with his father Maurice, built a rubber-belted, self-propelled "mud buggy" equipped with 5-ft. long rubber tracks made from 18.4 by 38 tractor tires.

Miller's "mud buggy" is powered by a 4-cyl. Wisconsin gas engine that's bolted to the front of a frame made from an old 2 1/2-ton International truck. A 500-gal. poly tank mounts behind the engine and operator platform. The rig's 3-speed transmission was salvaged from a Chevrolet Vega car.

The rubber tracks wrap around three sets of axles that are fitted with 16.5-in. tires. Miller used drive axles from a pair of GM 3/4-ton pickups for the front and rear axles and took the center axle out of an old Ford Mustang car. The rear axle powers the tracks while the front axle slides back and forth so Miller can tighten the tracks. The center axle sits 2 to 3 in. lower than the other two axles so it acts as a pivot point for the rubber tracks. To make the tracks Miller used a chainsaw to cut off the tractor tire sidewalls, then stretched the tread over the wheels.

"The rubber tracks go through the muddiest ground without getting stuck.

would get stuck all the time in the spring.

"We used old tractor tires with worn-down lugs because raised lugs would give a rough ride, especially on hard frozen ground. I made sure that all the tires are in good shape because changing a flat tire would be quite a job. I'd have to slide the front axle back so that I could loosen the tracks, then remove the tire.

"I steer by using the brakes which are controlled by a pair of master cylinders off an old car. I pull one lever to turn left and another lever to turn right. When one side is braked, the differential takes over and powers the track on the opposite side.

"The engine belt-drives a jackshaft which chain-drives the transmission. It's geared down at a 3:1 ratio. An automatic transmission would work better because we wouldn't have to stop and shift, which bogs the engine down when it's pulling a loaded tank in muddy ground."

Miller uses a 1 1/2-ton come-along to bogs the engine down when it's pulling a loaded tank in muddy ground."

Miller uses a 1 1/2-ton come-along to pull the front axle forward to tighten the tracks on each side, then uses U-bolts to lock the axle in place on the frame.

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hydraulic pump (salvaged from a Redi-Mix truck) on the engine crankshaft and a hydraulic motor on the front bumper to drive the manure pump which mounts just behind the driver's side of the cab.

Manure is sucked into a fill tube by the pump and pushed through PVC pipe to a 30-in. sq. fill door on top of the back end of the tank. To unload manure, a curved pipe at the top of the tank swings from the fill pipe to the unloading pipe that runs down to a spreader nozzle that blows manure out in a 20-ft. pattern. A hydraulic cylinder moves the pipe back and forth as needed from the fill pipe to the unloading pipe.

"I've used it to haul 1/2 million gal. of liquid manure," says Woolston, noting that a similar sized commercial tank spreader would cost at least \$50,000. "I can travel up to 40 mph down the road. The original tires on the Army truck were narrow and left deep tracks in the field. I removed them and installed 14-in. radial flotation tires off a used Redi-Mix truck. It really rides smooth. I had been renting a pull-type liquid manure spreader that

had the same capacity as my Army truck spreader. The problem was that I had to pay \$350 per day and I live 45 min. away from where I rented it.

"The pump fills the tank from a pit in 10 min. at 350 gpm and unloads it in the field in 5 min. at 700 gpm. An 8-spool hydraulic valve is mounted beside the pump. I can operate the pump and valves from outside the cab or from the driver's seat. I use the same pump to load and unload the tank. To unload, I close the valve that sucked manure from the pit and open another valve that lets the pump send manure up through a pipe inside the tank and out the back pipe."

Woolston mounted a sight gauge at the back of the tank by connecting a steel "pointer" to a float inside the tank. When the pointer is all the way up, the tank is empty.

He installed a hydraulic cylinder on each side of the truck frame to lift the tag axle hydraulically.

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