



You can use different size culverts to turn different size tires, says Westerlund.

4-WD TRACTOR PULLS TIRE THROUGH CONCRETE CULVERT

He Uses Giant Culvert To Turn Tires Inside Out

"It's a simple, low-cost way to turn tractor tires into feedbunks," says a Minnesota farmer who uses his 4-WD Versatile tractor and a big piece of concrete culvert to turn tractor tires inside out.

Norman Westerlund uses a chain saw to cut off the bead on one side of tire and to cut four slits in the bead on the other side. He then places the side of the tire without a bead against one end of the 42-in. dia., 8-ft. long culvert. A 30-in. wheel rim is set against the beaded side of the tire, held in place by four 2-ft. chains with grab hooks that are inserted into the slits on the bead. A large eye-hook is bolted to the middle of the rim. Westerlund attaches a chain to the I-hook and uses his Versatile to pull the rim and tire through

the culvert. The wheel rim forces the beaded side of the tire through first, turning the tire completely inside out by the time it reaches the other end of the culvert.

"It works good and doesn't cost much to set up," says Westerlund, who has a beef cow-calf operation. "We got the idea because we didn't want to spend the money to have someone else do the job for us. A local tire turning operation wanted \$20 to \$25 apiece to turn tires into feedbunks. We needed 15 tires turned so we decided to save that money. We already had some culverts around that we'd bought for drainage ditches. We set one end of the culvert up on a wood block to make it easier to center the tire on the culvert. It takes quite a bit of power to pull the tires through. The key is to pull steady. We can turn about six tires an hour. The tires pull easiest when the weather is warm, but we've had no trouble turning them at temperatures down to 40 degrees.

"The culvert should be 6 to 8 in. bigger in diameter than the tire bead. We've turned 18.4 by 30, 34, and 38 tires. We use a 48-in. culvert to turn 38-in. tires because it takes less power than using the 42-in. culvert. The 30-in. wheel rim we use is off an old Farmall F-12 tractor. However, any size rim could be used as long as it fits inside the culvert. The rim is necessary to keep the tire round as it's pulled through the culvert. We tried pulling tires without the rim, but one side of the tire tended to pull ahead of the other which kept the entire tire from turning inside out. We use a D7 Caterpillar with dozer blade to keep the culvert from sliding as the tire is pulled through."

Contact: FARM SHOW Followup, Norman Westerlund, Glen Rt., Box 202, Aitkin, Minn. 56431 (ph 612 684-2358).



Tire flips inside out as it's pulled into culvert by 4-WD tractor.



Hoppe shortened up this Allis Chalmers WC and powers it with a 3-hp. Ideal upright antique gas engine, which chain-drives the tractor's transmission.

DEERE B, ALLIS-CHALMERS WC SHORTENED UP AND "REPOWERED"

Snub-Nose Tractors

When you go a farm show, there's a good chance you'll see antique tractors and old gas engines. But have you ever seen them combined into a single rig?

Arnold Hoppe, Milona, Minn., "recycles" old tractors by repowering them with antique 1-cylinder gas engines made in the late 1910's and 1920's. So far he has repowered a Deere "B" and an Allis-Chalmers WC tractor. The tractors have a striking appearance because after removing the original engine, he cuts 43 in. off the front part of the tractor frame, then bolts an antique gas engine in place. He mounted a 3 hp Deere engine on the Deere tractor and a 3 hp Ideal upright engine on the Allis-Chalmers. The antique engine on the Deere tractor belt-drives the tractor's clutch while the engine on the Allis-Chalmers tractor chain-drives the transmission.

Hoppe takes the tractors to farm shows, threshing reunions, and parades. He also enters them in antique "slow tractor" races, where he often "wins" the race by driving as slow as a fifth or sixth of a mile per hour.

"They're quite a conversation piece. I get a lot of compliments on them," says Hoppe, who built the tractors a year ago. "The tractors are so short that I look like I'm driving a kid's toy tractor. The 'hit-and-miss' engines make a lot of noise, but they let me drive slow around shows so I can stop and visit with people. I mounted an ambulance siren on the Allis-Chalmers tractor that's powered by the tractor's battery. People stop and turn their heads whenever I turn on the siren. I salvaged a big brass bell from an old train and plan to mount it on the other tractor.

"I built them because my 4-year-old son asked me to build a small tractor for him. I have a collection of 80 or 90 antique gas engines as well as a collection of antique tractors. I don't have to shorten up the tractors, but it makes them look unusual. At shows I tell people that I always want to collect more antique tractors, but I don't have any more room for them in my shed. Shortening up the tractors is a way to get more of them in the shed.

"The antique engines have a gas tank on the bottom and a 2-gal. water hopper to keep the engine cool. They run a lot slower than

the tractors' original engines. They run at 200 to 450 rpm's compared to 1,200 to 1,500 rpm's on the original engines. The Deere gas engine is connected directly to the flywheel on the crankshaft which slows the tractor down even more. On the Allis-Chalmers tractor, I mounted a small sprocket on the end of the crankshaft on the gas engine and a bigger sprocket on the end of the input shaft to the transmission to help slow the tractor down.

"I start both tractors by turning the flywheel on the gas engines. The Deere gas engine doesn't have a clutch because I didn't need one, but the Ideal gas engine has a clutch. Both tractors have four forward gears and one reverse gear, and both go at about the same speed. I'm working on repowering another Allis-Chalmers WC tractor with a 2-cyl. left-handed LeRoy engine. I also plan to repower an International F-12 tractor."

On the Deere tractor, Hoppe removed the radiator, hood, gas tank, and engine, removing the pistons and rods but leaving the crankshaft on. The crankshaft runs cross-ways with the clutch mounted on the opposite side of the tractor from the flywheel. A belt runs off the pulley on the gas engine to the flywheel. He bolted a steel plate over the opening where the original engine had been mounted in order to keep dirt out of the crankshaft. He also shortened up the steering shaft and hooked up the linkage to the throttle, brakes, and pto.

He did the same on the Allis-Chalmers tractor except that a chain runs from the clutch on the gas engine to the input shaft on the transmission. Hoppe uses an alternator off an old car to charge the tractor's battery because the Ideal gas engine doesn't have a magneto on it. The alternator is belt-driven by the gas engine Hoppe bought the Allis-Chalmers stripped down to only the chassis and rear end for \$15. He bought the complete Deere tractor for \$200. "I sold the Deere's engine block, manifold, and pistons for more than I paid for the entire tractor," notes Hoppe.

For more information, contact: FARM SHOW Followup, Arnold Hoppe, 7181 Co. Rd. 14 N.E., Milona, Minn. 56354 (ph 218 943-6311).

Vol. 17, No. 5, 1993

Publisher and

Editorial Director - Harold M. Johnson

Editor - Mark Newhall

Associate Editor - Bill Gergen

Office Manager - Joan C. Johnson

FARM SHOW is published bimonthly for \$13.95 per year (\$16.95 in Canada and foreign countries) by Farm Show Publishing Inc., P.O. Box 1029, 20088 Kenwood Trail, Lakeville, Minn. 55044. POSTMASTER: Send address changes to FARM SHOW, Box 1029, Lakeville, Minn. 55044 (ph 612 469-5572; fax 612 469-5575). Single copy price is \$3.00. Publication No. 470870.

FARM SHOW does not accept advertising and focuses exclusively on new products and product evaluations.

FARM SHOW does not charge for new products or services featured in the magazine. Anyone with a new product or service of interest to farmers - whether inventor, manufacturer, marketer, distributor or whatever - is invited to contact FARM SHOW regarding possible publication.

AS A SERVICE TO READERS,

Farm Show publishes newsworthy products and ideas. Because of possible variance in the quality and condition of materials and workmanship, Farm Show cannot assume responsibility for proper application of techniques, or proper and safe functioning of manufactured or reader-built projects resulting from information published in this magazine. Farm Show attempts to verify product claims in editorial reports and adheres to rigid standards. However, the publisher assumes no liability for accuracy and validity of claims.

Printed in U.S.A. All rights reserved, including the right of reproduction, in whole or in part, without written permission.

Sept.-Oct., 1993