



Johnston pulls a 28-ft. wide disk harrow with a 29-ft. hydraulic-fold roller on back. He built the roller out of a used 15-ft. Deere Culti-Mulcher.

“TREMENDOUS COST SAVINGS”

They Build Their Own Tillage Rigs

“If I can’t buy the tillage equipment I need I either build my own or rebuild existing equipment. The result is tremendous cost savings,” says Leslie Johnston who, along with sons Danny and Doyle, put together three home-built tillage rigs.

The tillage rigs include a 28-ft. wide disk harrow with a 29-ft., hydraulic-fold roller on back; a 27-ft. field cultivator pulling a 500-gal. stainless steel nurse tank; and a 20-ft. drill equipped with a spring tooth cultivator and roller on front.

“We plant 500 to 600 acres of soybeans each year and have used these rigs for 5 years. They each do several jobs in one pass which saves a lot of time and fuel,” says Johnston.

Disk-Roller: He built the roller out of a used 15-ft. Deere Culti-Mulcher. “The roller’s tongue is so heavy I had to make a dolly to support its weight. The dolly hitch attaches to the disk’s front gang and is equipped with crazy wheels that came off a Hi-Boy 4-wheeled sprayer. I used channel iron to build the dolly. Hydraulic hoses run directly from the disk to the cylinders on the roller so that when I turn the disk and roller both raise at the same time. The roller wings fold straight up for transport. The roller breaks up clods without compacting the soil and makes a beautiful seedbed. We sometimes pull it behind the field cultivator.

“We use a 340 hp articulated tractor to pull this combination.”

Field Cultivator & Spray Tank:

Johnston used 3-in. sq. steel tubing to build the 27-ft. field cultivator which is used to incorporate chemicals. A pto-operated pump applies chemicals through a boom mounted on front of the cultivator. A Remlinger 3-bar harrow mounts on back. “A comparable size Deere field cultivator sells for about \$18,000,” says Johnston. “The cultivator has six rows of teeth for excellent trash clearance. Most conventional field cultivators have only four rows of teeth. The 27-in. long vibrating shanks really shake the dirt and mix the soil well. We set the shanks to run about 2 in. deep and go 7 to 8 mph.

“The tank carrier frame is built from 6-



This 20-ft. spring tooth cultivator, roller, and 3-pt. drill all mount on a carrier that hooks up to the tractor drawbar.

in. sq. steel and is strong enough to support a 1,000-gal. tank. It mounts on a pair of dual crazy wheels on back and single solid wheels in front. I used 2 1/2-in. dia. steel pipe to build the tank carrier’s 20-ft. tongue. The tongue is long enough that when I turn, the field cultivator and harrow swing under it without interference. By building the tank carrier myself I saved about 90 percent of the cost of a new commercial rig. I use a Case-IH 1586 2-WD, 225 hp tractor or an Allis-Chalmers 7080 to pull this combination.”

Drill Cultivator Combo: The 20-ft. spring tooth cultivator, roller, and 3-pt. Great Plains drill all mount on a carrier that hooks up to the tractor drawbar. The carrier is supported by a pair of 4-ft. high wheels and an 8-ton axle and spindles off a big fertilizer sprayer. The cultivator is equipped with 15-in. long S-tines that level the soil, wiping out wheel tracks. “I spent about \$7,000 to build the cultivator. A comparable commercial unit would sell for about \$18,000,” notes Johnston.

There are two gauge wheels on front of the cultivator, and the roller itself serves as a gauge wheel for the back of the cultivator. Johnston made the roller by converting a Deere Culti-mulcher originally equipped with two 10-ft. wide sections, one in front of the other. He removed both rollers and mounted them side by side, then used sq. steel tubing and 6 bearings to make an axle. “We use a Case 1370 2-WD tractor equipped with duals wheels to pull this combination,” says Johnston.

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Home-built 27-ft. field cultivator pulls a 500-gal. nurse tank and is used to incorporate chemicals. A Remlinger 3-bar harrow mounts on back of the cultivator.

Add-On Manifold Heater Keeps Deutz Tractor Cab Warm During Winter

When the heater in his Deutz DX 120 tractor cab couldn’t produce enough heat to defrost the windows and keep him warm, Neil Kramer, Jamestown, N. Dak., made his own “manifold heater” that uses a fan already in the cab to draw heat off the engine and deliver it into the cab.

“It adds enough warm air to the original cab heater that it’ll blow 85 to 95 degree air even when the outside temperature is only 0 to 10 degrees. I’ve used it for two years and am well pleased with it,” says Kramer.

The tractor is powered by an air-cooled diesel engine, and heat for the cab is normally produced by the engine oil as it runs through a heater core in the cab. The engine is cooled by a fan on the right side of the engine, with the fan blowing air across the cylinder fins and out the left side where the exhaust manifold is located. “The problem is that when the tractor is run at low engine speeds, the oil doesn’t get warm enough to produce adequate heat,” says Kramer.

He solved the problem by mounting a box on the left side of the engine that catches the warm air. A 4-in. dia. flexible hose runs from the box up to another box that he made to cover the cab’s air filter, which mounts on the hood just ahead of the cab. A fan inside the cab draws the warm air coming off the



Home-built manifold heater uses a fan already in the cab to draw heat off the engine and deliver it into the cab.

engine through the hose and air filter and into the original cab heater.

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Kronberger started with the 6-ft. wide rear axle, wheels and tires out of a Cadillac El Dorado car. He built his own boom and bucket and mounted them on a steel frame.

Home-Built Backhoe Tows Behind Tractor

“I originally built it to dig out four underground gas tanks at my service station. I’m now using it to ditch a quarter mile road into my lake cabin,” says Wayne Kronberger who designed and built a pull-type backhoe that digs more than 10 ft. deep.

Using scrap parts from his repair shop, the Neillsville, Wis., retired farm service man was able to keep the total cost at under \$300.

He started with the 6-ft. wide rear axle, wheels and tires out of a Cadillac El Dorado car. He mounted the components on a 7-ft. long frame built of 1/2-in. thick steel plate.

A 6-ft. long junked forklift cylinder mounts on back along with a 6-ft. boom and 1 by 2-ft. bucket he built of 1/4-in. thick steel plate. Overall reach is 14 ft.

Two 3 by 2-in. hydraulic cylinders operate the boom, while the bucket is controlled by a 3 by 1-in. cylinder.

“A valve connected to a foot pedal swings the boom back and forth,” Kronberger says. “A three-valve hydraulic bank controls the bucket.”

Hydraulic power is provided by a 3 gpm hydraulic pump Kronberger bought new.

He equipped the boom end of the backhoe with a winch and 100 ft. of 3/8-in. dia. steel cable for lifting objects weighing up to 1,000 lbs.

A fiberglass boat seat mounts on the unit for the operator.

Kronberger pulls the rig with his International Cub tractor.

“It works as well, if not better than, many commercial backhoes and yet cost almost nothing to build,” he says.

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