



I'm 76 years old and I've been farming with these old tractors all my life and even if they're a little rough I still get my crops in like everyone else. The photo shows a 1958 Deere 720 diesel, a 1950's-era Minneapolis Moline G1000, and a 1941 Farmall M. All the tractors have been modified or repowered to run like new.

Deere 720 - I overhauled the engine on the Deere 720 about 15 years ago after the pistons and cylinders wore out. I hired a machine shop to rebore the cylinders and install a set of .050 oversize pistons and rings. We paid about \$400 to have the engine rebored and it has run like a clock ever since.

Minneapolis Moline G1000 - It was factory-equipped with an LP gas engine. I bought the tractor in 1975 from a salvage yard together with a Detroit 6-cyl. diesel engine out of a GM semi tractor. The tractor's original frame wasn't wide enough for the engine so I and my son built a wider frame out of 6-in. channel iron and replaced the narrow front wheels with the wide front axle and wheels off another Minneapolis Moline. We also lengthened the driveshaft 17 in. The 6-cyl. diesel had too much power for the original clutch so they installed a new heavy duty "double clutch" that we made by using a truck pressure plate and two Minneapolis Moline driver discs. The bolts on the diesel engine wouldn't match up with the original flywheel housing so we used 1/2-in. steel to make a new adapter plate. We also built new motor mounts.

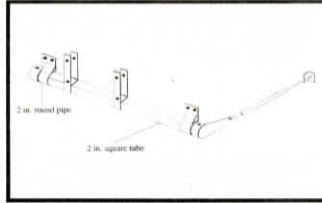
This tractor is my pride and joy. I paid \$2,500 for it and spent another \$2,500 to rebuild it. It hasn't failed me yet. At one time we used it to compete in tractor pulls. It has about 225 hp and really opens up fast. I have to use dual wheels in the field in order to keep the tires from spinning. I use it to pull a 9-shank anhydrous ammonia applicator, 22-ft. plowing disk, and 15-ft. 3-pt. chisel plow. The engine purrs right along under heavy load without smoking. The tractor's original engine was designed to run at about 1,400 to 1,500 rpm's, but the diesel engine tops out at 2,500 rpm's. However, I never run the throttle wide open in the field. I generally run it about two thirds open or about 1,500 rpm's. It uses about 5 gal. of fuel per hour when pulling hard. Despite all the power, I haven't had any problems with the 2-speed transmission in over 15 years. When the engine is opened up it really howls. A muffler off an old semi-tractor helps keep the noise down. It's fairly quiet in high range. However, I never use it in low range because it's too noisy.

I mounted two truck air cleaners end to end to make sure the engine gets enough air and also mounted a 50-gal. aluminum fuel tank on the side of the tractor. About 80% of the fuel in the tank is recirculated through the engine to keep it cool. I always keep the tank at least half full in order to provide maximum cooling capacity. The original radiator was too small so we replaced it with a bigger one off an old Massey Ferguson combine. The original grille wouldn't fit so I left the front of the tractor open. I plan to use a couple of hamermill screens to make a new grille. I also mounted a bigger pulley on the engine crankshaft in order to speed up the fan.

Farmall M - It was originally equipped with a 6-volt ignition system and battery. However, I had trouble starting it in the winter so we replaced the 6-volt battery with a 12-volt one and added a 12-volt coil and ballast. We also removed the magneto and replaced

it with a distributor. It really starts good now. The 12-volt battery really whirled the starter around. It only goes around about twice before it starts up. I've only had to rebuild the starter once in 25 years. The 6-volt starter actually has more zip than a 12-volt starter would have because it gets twice as much voltage as it needs. (Lester Neymeyer, Rt. 1, Aplington, Iowa 50604 Ph 515 847-2835)

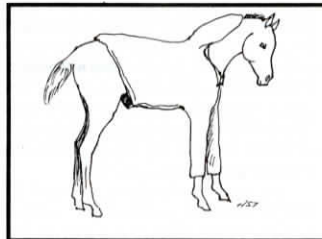
The endgates on livestock trucks are often hard to lift because they're so heavy. We solved the problem by building a spring-loaded endgate lifter that bolts onto the back



and sides of the truck. It lets me raise or lower the endgate using only one hand.

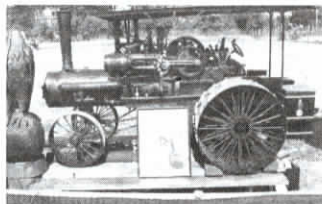
The lifter consists of a 2-in. sq. steel tube that rides inside a pair of 2-in. dia. round pipe "hinges". A 1-ft. long spring mounts on a short steel arm that's attached to one end of the tube. The spring bolts onto the side of the truck and is equipped with a threaded bolt that's used to adjust spring tension. To open the endgate, you put your toe under the ramp and flip the gate up until it's waist high, then raise the gate the rest of the way by hand. The pipe hinges are welded to a pair of flat steel plates that bolt onto the endgate. Brackets are used to bolt the square tube to the drop gate, allowing it to be slid over sideways if the truck is backed up to a chute.

I built several of them in the 1970's until many farmers started using fifth wheel trailers instead of trucks to haul livestock. That spoiled my plan to market them. But some stockmen still use big trucks to haul livestock. I'd put together plans for anyone interested. (Eldon Kerns, Kerns Shop, 529 W. Nesbitt, Goldendale, Wash. 98620 ph 509 773-5351)

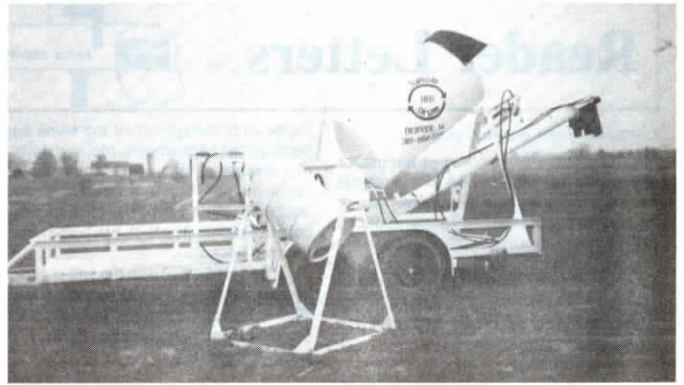


You can keep a young foal or calf warm even in wet, cool weather by fitting them with a zippered sweatshirt as an overcoat. Just put the animal's front legs into the sleeves and slip the sweatshirt under its stomach. If the sweatshirt has a hood, you can use it to cover the top of the animal's neck. It covers most of the body, keeping off the chill and moisture. Works great for short periods of time. (Heather Smith Thomas, Salmon, Idaho)

My 1914 Case steam tractor is built exactly to 1/4 scale, identical in every detail to the original model. I used certified drawings of



the original tractor to build the 5-ft. long, 30-in. high tractor over a 2 1/2-year period. It has a steam-powered boiler that operates



We were very disappointed to see a story in the last issue of FARM SHOW (Vol. 18, No. 6) about the drum-style seed mixer built by a Nebraska farmer. We'd like to inform you and your readers that "Tumble Drum" is the registered trademark name for our line of mixers built in Denver, Iowa, and which were previously featured in FARM SHOW (Vol. 16, No. 1). Anyone who infringes on our trademark or patents is subject to prosecution.

We make Tumble Drum mixers for a variety of industries and in a wide variety of sizes. Our smaller mixers come in 30, 55 and 100-gal. sizes that hold approximately 75, 150, and 400 lbs. respectively. They're great for accurate mixing of various feed elements and supplements. No other mixer even comes close to the efficiency and performance of this design. It lets you thoroughly mix all types of ingredients no matter how different they are in weight and density. The self-contained, hydraulic or electric-driven tanks can be custom-built to almost any size. A 30-gal. mixer sells for



\$200, an 85-gal. model for \$450, and a 100-gal. model for \$550.

We've had tremendous interest in our mixers from many diverse industries and have had demand for big trailer-mounted tanks that hold hundreds of gallons. People are fast realizing that this new system is the world's fastest, most accurate mixing system. I urge your readers to contact us for more information about these innovative mixers. (Gordon Dorn, Tumble Drum Industries, 2162 250th St., Denver, Iowa 50622 ph 319 984-5374)

at 100 lbs. of pressure and water tanks on back that supply water to the boiler.

I've taken it to antique tractor or thresher shows all over North America. It draws a lot of attention. There was more to building it than meets the eye. We based it on a kit that cost \$6,500, but we had to add on or substitute for a lot of parts in the kit because they weren't built the way they should be or the quality of material was sub-par. We didn't use the kit's boiler because we felt it couldn't be certified. We had to do a lot of cutting, welding, drilling, and rolling of steel to make the wheels. The gears weren't cut out so we had to mill out blanks for them. There's a lot of cast steel in the tractor, which weighs 650 lbs.

The original tractor had about 65 hp and was called a 'plow engine' because it was equipped with extension wheel rims, a canopy that allowed field work in all kinds of weather, and a duplex water pump. The 4-in. wide extension wheel rims bolted onto the rear wheels and provided more surface area for improved traction in soft ground. The standard engine was equipped with an injector that added water to the boiler. However, it also robbed steam pressure which could cause the engine to slow down or even stop. The company came out with the duplex pump in 1914 for improved reliability. It gave the operator the option of using either the injector or the pump. The pump is gear-driven off the output shaft that goes to the wheels and is controlled by a valve. As the operator was plowing he could look through a sight glass and use the valve to add the amount of water needed.

The boiler plate is riveted together just like the original one. When the tractor was built, welding was in its infancy so the boiler was riveted together. We made a curved steel plate and tacked it to the side of the boiler, then added the rivets.

The tractor's pulley can produce about 3 hp. At shows I sometimes use the pulley to belt-drive a 1914 12-volt DC generator or a water pump. The generator mounts on a

stand in front of the tractor and powers a string of vintage lights mounted on a stringer between two poles. The lights prove that the generator is producing power.

I also built a replica of a horse-drawn water wagon used in the old days to replenish the tractor's water tanks. It can hold two adults with no problem. The wagon was often pulled behind the tractor as it went from farm to farm. (Wally Biernacki, 856 Marinet Crescent, Pickering, Ontario, Canada L1W 2M1 ph 905 839-4510)

We never have to get off the tractor to hitch up a wagon or implements thanks to our patented quick-hitch. It consists of a receiver unit that mounts on a tractor drawbar or on a pickup bumper or back end of a forage



chopper. It has angled plates that direct the wagon tongue into the hitch, which is inset at center.

Trailer tongues are held up with a spring and chain so there's never a need to lift heavy tongues. A spring-loaded pin is held in a "cocked" position so that when the tongue slides into position, it hits a trigger so the pin releases and hooks up instantly. To unhook, you just pull a trip cable to pull out the pin.

There's two size hitches - a smaller one for the tractor and a larger one for choppers. When mounted on the back of a chopper, a

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