

CAB MOUNTS HIGH FOR GOOD VISIBILITY

“State-Of-The-Art” Self-Propelled Grain Cart

After seeing a self-propelled grain cart on the cover of a recent issue of FARM SHOW (Vol. 19, No. 2), an alert reader contacted us about another self-propelled grain hauler built by a retired custom harvester in Washington State.

The big capacity cart uses a different approach than the one featured in our previous issue, but the reasons for building it were the same.

“I wanted to maximize harvest efficiency by building a rig with more speed and maneuverability than pull-type carts,” says Ben Grant. “This rig unloads 750 bu. of grain in 4 to 4 1/2 minutes. When empty, it’ll do 18 mph in road gear.”

Custom cutter James Rumble put about 400 hours on the cart hauling soft white wheat last season.

“This rig does nearly twice as much work as any pull-type cart I’ve ever used,” he says. “It easily kept up with two Deere 8820’s with 24-ft. heads and one 8820 with a 22-ft. head in 125 to 154-bu. wheat as long as I didn’t have to go much farther than the outside edge of the irrigation circle.”

“The maneuverability is fabulous. It spins as tight a circle as a combine because the wheelbase is only 24 in. longer than an 8820.”

“Another big advantage is that you’re sitting up as high as you’d be in a combine, a lot higher than you are in any tractor pulling a cart. That allows you to see down into the trucks when unloading so

you know if grain’s peaking or if you’re running any over the opposite side.”

Grant built the grain hauler around a 750-bu. J&M pull-type grain cart because it has an auger that folds back parallel across the front of the tank. That made it perfect for tucking behind a cab.

Grant used parts from two combines to build the cart’s power plant.

It’s powered by a Perkins 540 cu. in. V-8 diesel out of a Massey 760 combine that mounts on the grain cart’s tongue as far ahead of the tank as possible to help distribute weight between the front and rear. The engine rides only about 24 in. off the ground.

Final drives and front axle out of a Deere 8820 combine mount under the rear of the cart. He used the Deere components because they were the heaviest he could find in order to handle the weight of the cart - over 60,000 lbs. loaded. The grain cart’s original wheels fit the Deere drive perfectly.

The cart’s variable speed transmission came out of the Massey combine.

The engine’s drive pulleys power two hydraulic pumps. One supplies power to the wheels and the other to the cart’s 16-in. dia. auger system.

In order to drive the cart’s auger at factory recommended speeds - 800 to 850 rpm’s - Grant installed a gear reduction box between the engine output shaft and hydrostatic pump. A sensor installed on the drive line tells the operator how fast the auger is



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running. Metal stops on the auger control lever prevent accidentally throwing the auger into reverse or running it above recommended speeds.

Grant used the complete A-frame and axle assembly off the 8820 to steer the machine. He turned the axle assembly around and mounted it on a framework built around the front end of the cart’s tongue. The front tires came off the 8820.

The cab off the Massey 760 mounts above and just ahead of the engine. “It’s positioned exactly as high as a combine,” Grant notes. “All you have to do is glance to your left to see where you’re dumping because the auger mounts so far forward.”

Final touches on the machine include a 100-gal. diesel fuel tank off the 8820,

mounted on the rear axle and under the grain tank. It helps distribute weight and permits operating two days without refueling. Also, a trailer hitch mounts on the cart’s rear frame to allow towing a header or pickup behind the cart.

Grant says there really isn’t anything he’d do much differently if he ever built another one.

“If you were building this out of all new parts, it would be expensive because it’s got the two hydrostatic drives,” he says. “As it was, we spent a total of about \$40,000.”

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Big-Capacity, Quick-Dump Grass Hauler

“The commercial grass cart we had wouldn’t hold all the grass from our 1-acre lawn in one load. And it was hard to unload because you had to fork everything out manually and detach the blower tube from the cart,” says Ben Grant, of Pasco, Wash.

So, in 1988, he built a big capacity grass cart out of Massey Ferguson combine parts that holds twice as much grass as most commercial carts and dumps hydraulically.

“It holds around 1,500 lbs. of grass and dumps completely in about two minutes,” Grant says. “What makes it unique is that the blower tube mounts permanently in a frame on front of the cart. You never have to detach it to dump.”

The cart is 3 ft. wide by 5 1/2 ft. long by 4 ft. tall. Its frame is made out of 1-in. sq. tubing covered by galvanized sheet metal. A store-bought blower shell and impeller, with drive mechanism that Grant made so he could run it off a tractor pto, blows grass into the cart.

The cart’s single mid-mounted axle is fitted with two combine header cart wheels set just 30 in. apart to permit turning the mower 90° without colliding with the cart.

The cart is raised 60° to dump with a hydraulic cylinder, pump and 1-gal. reservoir from an old Massey 510 combine. They mount underneath the frame, and are powered by an electric starter and pulley off an old Ford F-250 pickup con-



nected to a 92-amp combine battery.

A Ford pickup alternator mounted on the pto-powered blower keeps the battery charged. A hydraulic valve, originally used to operate the reel on a Massey 760 combine, is used as a master control valve on the front of the cart.

When dumped, the top of the cart opens hydraulically with a cylinder, also off the MF 510. A back door opens manually and secures against the side of the cart. When lowered, the front end of the cart fits flush with the blower tube outlet.

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