



Rodocker used the axles and suspension system from a White semi and a 455 cu. in. engine from a junked Oldsmobile Toronado to build his machine.

LOADS FOUR BALES ON-THE-GO AT 15 MPH

SP "Turnaround" Round Bale Mover

By Bill Gergen, Associate Editor

Nebraska rancher Wayne Rodocker wanted to do a better job of moving round bales off his irrigated hay fields than he was able to do with a conventional front-end loader. So he decided to build his own four-bale, self-propelled "turnaround" bale loader, complete with an operator turntable that can be rotated 180 degrees allowing him to drive the bale mover in either direction.

"It makes an ideal bale hauler because I can load bales fast. I can pick up four bales at a time without stopping and go up to 15 mph in the field," says Rodocker.

He used 4 by 10-in. sq. tubing to build the chassis and frame and 3 by 7-in. sq. tubing to build the front loader arms which are equipped with two bale spears. Two bale spears are also mounted at the rear. Each spear is controlled by its own hydraulic cylinder so it can be tipped up or down independently. The axles and suspension system are from a White semi truck and the 455 cu. in., 8-cyl. engine (mounted behind the loader arms) is from an Oldsmobile Toronado. The hydrostatic transmission was taken from a junked International 914 combine. There's also a 4-speed transmission from a 1964 1-ton Chevrolet pickup. The loader end of the bale mover is equipped with 48-in. high, 31-in. wide tubeless flotation tires and the engine end has 10.00 by 20 truck tires.

"Conventional front-end loaders are too slow and round bales are hard on them," says Rodocker. "Saving time is especially important on irrigated hay because I want to get bales off the field as quick as possible so I can irrigate again. In the past it took me two hours to load 28 bales on two semi trailers with a front-end loader, but it takes only a half hour with the bale mover. Another advantage is that the flotation tires soften the ride and don't damage hay as much as regular tractor tires. They also provide a smoother ride. Springs and shocks under the front truck tires help keep the frame and loader from twisting. The short 16-ft. wheelbase lets me turn sharp and the 10 ft. width keeps the bale mover totally stable even when the loader is carrying two 1,500-lb. bales 10 ft. above the ground."

Rodocker built the bale mover to go in either direction so that he can load bales

without having to turn his head to look back all the time. The seat, steering wheel, hydraulic levers, and foot pedals are all mounted on a rotating turntable that he cut from 3/8-in. steel plate. "I spear the first bale with one loader arm and tip the bale up at a 45 degree angle so that it's about 1 ft. off the ground, then I spear a second bale with the other arm. Then I flip a lever to rotate the turntable so that the engine is in front of me. I spear two more bales, then I rotate the turntable back to the original position for the drive to the edge of the field.

"The reason I installed the 4-speed transmission along with the hydrostatic transmission was because it provides a neutral gear for towing the bale mover behind a loaded semi trailer on the highway. In the field I put the transmission in second gear and run the engine at 1/4 throttle. I can go up to 30 mph in second gear and up to 60 mph in third gear. I use the hydraulic levers to control the loader, spears, and turntable. I use my left hand to steer and my right hand to operate the levers. I use my left foot to control the hydrostatic transmission. The left foot pedal has a 'rocker panel' so I can use my toe to go forward and my heel to back up. My right foot controls the gas pedal."

The loader arms are raised and lowered by 3-in. dia. cylinders and the spears are controlled by 4 by 16-in. cylinders. A flow valve equalizes oil flow to each loader cylinder to keep the loader from twisting.

Rodocker mounted the hydrostatic transmission on the engine bell housing and mounted a hydraulic motor on the 4-speed transmission. Two hydraulic lines connect the pump and motor. An 8-in. long driveline runs from the 4-speed transmission to the rear end.

A 40-gal. tank mounts on each side of the bale mover. The tanks were salvaged from Deere 55 combines. One carries hydraulic oil and the other holds gas. The air ride seat is from a KW semi tractor truck. The radiator is cooled by two electric fans.

Rodocker spent about \$5,000 to build the bale mover.

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Before building his high-speed, smooth-running tractor, Crown pulled his two-rake hitch with a conventional 2-WD tractor, which he thought was too slow.

PULLS 18-FT. RAKE AT SPEEDS UP TO 15 MPH

Home-Built Tractor Speeds Hay Raking

"There wasn't anything on the market that would do the job," says Ontario farmer Doug Crown, of St. Anns who built his own high speed tractor that'll pull an 18-ft. wide hay rake at speeds up to 15 mph.

Crown used parts from a 1969 Chevrolet Impala car, Cockshutt self-propelled combine, and Massey 30 tractor to build the 2-WD tractor. It's powered by the car's 150 hp, 6-cylinder engine and has the car's coil spring suspension system and front wheels and axle. The rear drive wheels and axle were salvaged from the combine. The tractor has two transmissions - the car's 3-speed automatic transmission and the tractor's 4-speed transmission, providing 12 different speeds.

Crown got the idea after building a hitch assembly that lets him hook two 9-ft. finger wheel rakes together. "It works great. My neighbor and I used it last year to rake almost 1,500 acres with no problems," says Crown. "I can rake up to 20 acres per hour. A single rake pulled by a conventional tractor can do only two to three acres per hour. I had been pulling the 18-ft. rake with a conventional 2-WD tractor, but I couldn't go more than 6 mph because the ride was too rough. The car's suspension system on my new tractor keeps me from bouncing in the seat even at high speeds.

"Another advantage is that I can leave the rake on my home-built tractor all through the growing season. My home-built 6-ft. wide rake hitch assembly was hard to hook up because it's so wide. If I wasn't on perfectly level land I had to jack up one side of the hitch assembly until it lined up with the tractor's 3-pt. hitch.

"The car's 150 hp, 230 cu. in. engine is very fuel efficient. One time I raked 300 acres of hay and used only 30 gal. of gas. I've also used the tractor to pull my 3-pt. grain drill. It worked great last year because we had a wet spring and the tractor is light enough that it floats on wet soil. However,

it doesn't have enough weight or power for tillage work."

The tractor has the car's power steering, brakes, and radiator as well as the tilt steering wheel off an old Oldsmobile car. The hood, dash, 10-gal. gas tank, and grille are off the Massey tractor.

Crown used 2 by 5-in. rectangular steel tubing to build part of the tractor's frame, then cut 3 ft. off the front frame of the car and welded it on one end. He welded the combine's front drive axle on the other end. He widened out the front part of the hood and grill to make room for the radiator and left the rear part narrow where it covers the gas tank. He used 1 1/4-in. sq. steel tubing and 1/16-in. thick sheet metal to build the rear fenders and checkerplate steel to build the operator's platform.

Crown mounted the combine's 4-speed manual transmission behind the car's automatic transmission to gear it down to a 3:1 ratio. A foot-long drive shaft extends from the manual transmission to the rear end. "I can go from a crawl to 40 mph on the highway," says Crown. "I keep both transmissions in second gear when raking. On the road, I put the manual transmission in third or fourth gear and the automatic transmission in drive."

He used 2 by 4-in. sq. steel tubing to build the 3-pt. hitch and 4 by 4-in. sq. tubing to build the hitch assembly. Each rake 3-pt. mounts to the hitch assembly which is raised or lowered by a pair of hydraulic cylinders salvaged from the combine. The cylinders are powered by a hydraulic pump (also salvaged from the combine) that's belt-driven off the engine's front crankshaft.

Crown spent \$1,500 to build the tractor and \$700 to build the 3-pt. hitch and rake hitch assembly.

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Crown used heavy 4 by 4-in. sq. tubing to build his 18-ft. wide two-rake hitch.