

Made It Myself

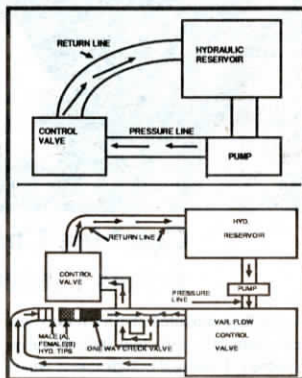
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Low-Cost Way To Convert Combine Reels, Heads To Hydraulic Drive

To harvest lodged corn, Iowa farmer Tom Miller, of Burlington, equipped his model 715 IH combine with a long-fingered gathering reel. When the local dealer told him an add-on kit to drive the reel hydraulically would cost about \$1,200, Miller turned to his farm shop and came up with a \$75 "do it yourself" solution to the problem. "This same low-cost hookup, which has worked without a hitch for two years, could also be used to convert a mechanical drive soybean head to variable speed drive," says Tom.

His system catches or "hijacks" oil from the combine's original hydraulic system and diverts it into a variable speed hydraulic drive motor that runs the gathering reel. "I'm catching the oil and using it before it goes into the main control valve," says Miller.

A variable flow control valve allows speed of the reel's hydraulic motor to be varied from 1/2 to 30 rpm's. "Everything that goes into the extra flow control valve goes back into the main control valve," explains Miller. "All I did was to insert a variable flow control valve into the hydraulic plumbing system that was already on the combine. The add-on plumbing change doesn't add any strain to the sys-

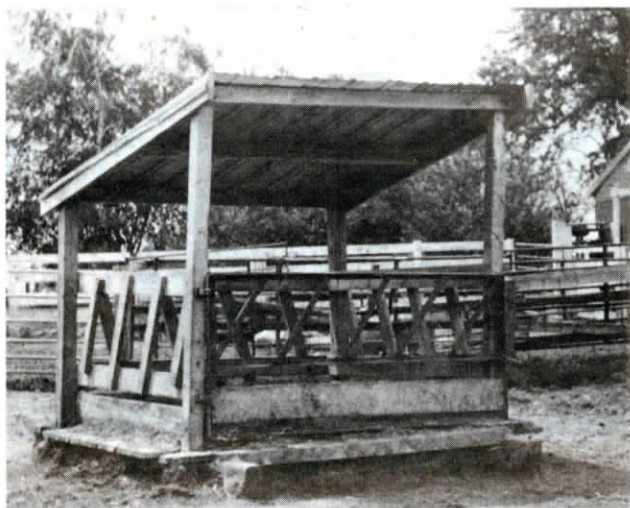


In the combine's original system (top drawing), oil ran from the hydraulic reservoir, through the hyd. pump, to the main control valve, and back to the reservoir.

In the modified system (lower drawing) oil is diverted into a variable flow control valve where it's used to operate the hyd. motor that runs the reel drive, then through the main control valve, and back through the return line to the reservoir. When the hydraulic hose ends are connected, but not being used to operate the hyd. motor, oil passes back to the main flow control valve through the one-way check valve.

tem because maximum relief valve settings aren't changed," says Miller.

Contact: FARM SHOW Follow-up, Tom Miller, Rt. 1, Box 88, Burlington, Iowa (ph 319 752-5074).



Covered Round Bale Feeder

"As far as we know there are no covered round bale feeders on the market. We've used this one for three years and it works great," says Rich Lange, Platteville, Wis. "We built it for calves because they take so long to finish a bale but it'll work just as well for cows or sheep. The 7 by 7-ft. feeder has a treated floor and is built

on two 4 by 6-ft. skids. It has a sloped, sheet metal roof and a swinging gate on one side to make it easy to load a bale.

"We're interested in building these feeders on a custom basis."

Contact: FARM SHOW Followup, Rich Lange, Shady Lane Farm, 1214 Southwest Road, Platteville, Wis. 53818.

Add-On Pto Makes 4-WD's "Ten Times More Useable"

"I couldn't ask for it to work any better," says Bruce Klemm, Whitelaw, Wis., about the pto he added to his 1200 Case 4-WD tractor.

"The Case was a good drawbar puller, but without a pto its use was limited. I decided to try to add one. The transfer case on the tractor had an engine rpm output shaft that turned at engine rotation. Since my machinery is all 540 rpm driven, I wanted 540 pto on the tractor.

"After searching through many tractor publications and spec books, it became apparent that the pto assemblies from Oliver 77's and 88's would be ideal. The Oliver engine ran at 1,700 to 1,800 rpm's. The pto unit is self-contained and flat-surface mounted. It has its own clutch assembly, oil bath gearbox and it reverses rotation so the output at rated engine rpm is 540.

"I pulled a complete pto unit from a salvage tractor. I cut the long input shaft off so only 6 in. were left protruding. I had a machine shop cut two woodruff key slots in the protruding shaft. I then mounted a pillow block bearing on the unit to support the cut-off shaft. I fabricated an adaptor plate to fit the Case tractor and then drilled it so the Oliver pto would bolt to the plate. After bolting the unit in place, it was only necessary to have a local machine shop make up a



driveshaft to go from the engine rpm output of the transfer case to the input shaft of the pto unit.

"Because the 1200 Case tractor runs at 1,900 rpm, the pto unit does not have to run much faster than the speed it was designed for. However, because it was designed for only 75 hp., I make a point of never over-taxing the unit.

"I've used the pto for two years with no problems. It makes the tractor 10 times more useable."

Contact: FARM SHOW Followup, Bruce Klemm, 9008 Meier Rd., Whitelaw, Wis. 54247 (ph 414 732-4592).



"Flush Toilet" Cleans New-Style Dairy Barn

If you understand how a flush toilet works, then you understand one of the major features of George and Peter Van Wychen's innovative dairy barn near Kaukauna, Wis.

Their amazing new barn cleans itself automatically - 24 times a day by flushing recycled water down the aisles: No scraping, no barn cleaner, no pit, no moving parts (except for the pump and a couple of lagoon aerators). The barn is also naturally ventilated; There's not a fan in the place.

Designed by engineering consultant T.J. Tooler, the state-of-the-art structure is equipped with drop vents and ridge vents, operated by simple hand cranks to keep the barn cool in summer and warm in winter - all without the need for fans. An automatic fly control system keeps insects to a minimum. The lack of noisy motors conveyors and other mechanical equipment in the barn helps reduce the stress on cows, the brothers say.

But most of all, it's the unique way of dealing with manure that sets the barn apart from almost every other dairy barn in the Midwest. Peter says the correct term to describe their barn's self-cleaning system is "recycle/flush".

"It works basically the same way your bathroom toilet works," he explains.

The aisles in front of the free stalls are sloped and drop 1.5 in. every 10 ft. There are large pipes embedded in the floor that lead from a silo-like structure outside (which functions like a toilet tank), and which lead to a lagoon out behind the barn. Twenty-four times a day, the system "flushes" automatically completely cleaning the aisles. Aerators in the lagoon allow the system to continually reuse what otherwise would be waste water. There's no smell, and there's no need for adding massive amounts of fresh water.

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