



To add live pto to his Farmall, Glen Alstad welded a sprocket to engine's crankshaft. It chain-drives a shaft that runs along side of tractor.



Shaft belt-drives a power steering pump that raises or lowers mower. Shaft also connects to a right angle gearbox that drives mower blades.

## “Made It Myself” Live PTO Powers Belly-Mount Mower

When Glen Alstad, Spring Grove, Minn., bought a Farmall B tractor, he decided to add live pto to power a 6-ft. belly mower.

“I use it to mow our nearly 1-acre lawn. It does a great job and has been virtually trouble-free,” says Alstad. “The tractor didn’t have a live pto, 3-pt. hitch or hydraulics. I liked the idea of live pto, because when mowing in small areas I can keep the mower running even when I stop the tractor.”

He welded a sprocket on the engine’s crankshaft, which chain-drives a shaft that runs alongside the tractor. The shaft belt-

drives a power steering pump that raises or lowers the mower. It also runs through the clutch off a Mazda car and then connects to a right angle gearbox. A vertical shaft off the gearbox drives the mower blades and runs through a constant velocity joint mounted on the deck. “The vertical shaft’s angle changes whenever the mower is raised or lowered, which is why the universal joint is needed,” says Alstad.

“I use an emergency lever off an old truck to engage the clutch and start the blades running and a hydraulic valve to raise or

lower the deck. The power steering pump that’s used to raise or lower the deck operates a hydraulic cylinder off an old cultivator, which is hooked to a cable and pulley mechanism.”

He built the 3-blade mower deck from scratch. It’s supported by hinged metal arms that allow the deck to move fully up or down. The constant velocity joint is integrated into a center-mounted pulley on the deck, which belt-drives the outer blades. All three blades ride on the spindle wheel bearings off a Chevy Cavalier.

Alstad has an apple tree with low-hanging branches in his yard and wanted to be able to mow under it without damaging the exhaust pipe on the tractor. To solve the problem he cut a short pipe at a 45 degree angle and welded it back together on top of the hood. Then he welded the exhaust on so that it extends horizontally above the hood.

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## Pickup-Mounted Mobile Scaffold

David Montalbano and his wife Sandra built a 40 by 80-ft., two-story shop with an upstairs apartment. They did much of the work themselves.

“I needed a scaffold wide enough and long enough that my wife would work on it and feel safe,” says Montalbano.

He knew they couldn’t afford the time and hassle of moving scaffolds over the rough ground. His solution was to design a pickup-mounted pin and socket pipe system that lets him add as needed.

“I had previously replaced the truck bed with a headache rack of 2-in. sq. steel tubing,” says Montalbano.

He used the same tubing to replace the front and rear bumpers. With sockets made from 1 1/4-in. pipe mounted to both bumpers and the headache rack, Montalbano had the base for his scaffold.

Uprights of 1-in. pipe on both bumpers were stabilized with a cross member of 8 ft. long, 2-in. square tubes. An 8-ft. long tube was also mounted to the sockets on the headache rack. Angle braces from the tube ends back to the pipes added strength and stability to the scaffold, while tying the scaffold to the headache rack eliminated potential center sway.

To add stability and to deal with uneven terrain, Montalbano added outriggers to the bumpers. He welded lengths of 2-in. pipe with 1 1/2-in. inserts to the ends of the bumpers. Each set of pipes was drilled to accept a removable pin for adjustable heights.

“I welded a piece of chain on each of the bumpers,” explains Montalbano. “They let me use an old hook-style bumper jack to lift the truck and set the outriggers to the appropriate heights to level the scaffold.”

Montalbano used C purlins for scaffold beams, mounting them to sockets on the crossbars. Five 4 by 8-ft., 3/4-in. plywood sheets laid over the C purlins create an 8 by 20-ft. work platform. When it’s time to move to a higher level, the sheets are removed. Pipes with cross rails are inserted in the sockets that secured the C purlins. The C purlins and plywood sheets are then reinstalled at the higher level.

“I built two sets of uprights and cross bars, one at a 3-ft. height and one at a 6-ft. height,” says Montalbano. “With the initial 6-ft. height at the top of the headache rack, we can raise our work level to 9, 12 or 15 ft. of height. The 8-ft. width and 20-ft. length gives us plenty of room for cutting and stacking materials and tools.”



Pickup-mounted pin and socket pipe system lets Montalbano add scaffolding as needed.

Montalbano estimates the entire scaffolding setup cost less than a couple hundred dollars, but saved countless hours of setup and takedown time.

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## Backhoe Digs Out Big Tree Stump

By C. F. Marley, Contributing Editor

Whoever planted that old maple tree 150 years ago had it in exactly the right place in relation to our house, but when the old tree had to go it was in exactly the wrong place for today.

After cutting the tree down we had to get rid of the huge stump that was left. It was more than 5 ft. in diameter and really solid.

The question was: Should we just grind the stump down or dig it out? Digging it out with a backhoe would make a mess, but once the ground was leveled off we’d be able to plant over it.

Lester Hamlin, a local backhoe operator, told us the job would be messy but that he could do it. The ground was wet but he was able to keep the backhoe’s wheels up on a solid nearby lane.

We gave Hamlin the go ahead, and in an hour he had the stump out. After things dry out, we’ll haul in fill dirt and get some grass growing.

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Using a backhoe to dig out tree stump allows ground to be more easily leveled off and reseeded.