John Bipes replaced the drawbar on his 1940 Deere B tractor with a home-built, hydraulically adjustable, 3-pt. mounted hitch and drawbar.

"The drawbar can be lowered to ground level or raised 3 ft. high, which makes it easy to drag logs and to lift heavy trailer tongues," says Bipes.

Deere "B" Fitted With Powerful 3-Pt. Hitch/Drawbar

"It's amazing what my little 20 hp, 70-year-old tractor can do," says John Bipes, Mankato, Minn., who replaced the drawbar on his 1940 Deere B tractor with a home-built, hydraulically adjustable, 3-pt. mounted hitch and drawbar.

"The drawbar can be lowered to ground level or raised 3 ft. high, which makes it easy to drag logs and to lift heavy trailer tongues," says Bipes. "If I want I can use the unit like a conventional 3-pt. hitch by pulling two clip pins to remove the drawbar, and then adding a top cylinder."

A 3 by 8-in. hydraulic cylinder mounted to one side raises or lowers the entire hitch. A 2 by 10-in. cylinder (not installed when the drawbar is used alone) serves as the hitch's top link, and allows any 3-pt. mounted implements to be tilted forward or back.

The 3 by 8-in. lift cylinder pushes against a 1 ¾-in. dia. steel lever that's welded perpendicularly to one end of an identical 1 ¾-in. dia. horizontal steel torsion bar that also provides the main pivot action for a pair of triangle-shaped lift arms.

"In effect, the cylinder acts on two upper arms that lift the two lower arms, and form a parallel linkage. Both upper and lower arms are always parallel to each other as they move up or down," says Bipes.

A pair of linear gear racks, with their teeth held meshed together by clamps with screws and Tee-handles, transmit vertical motion from the upper to the lower arms. "If I want, I can loosen the clamps on the gear racks in order to unmate the teeth. Then I can adjust the distance between the upper and lower arms and thereby offset the 3-pt. implement's height on one or both sides."

The entire unit is built to stand up to 2,500 psi hydraulic pressure, which applies up to 9 tons of torque to the 1 ¾-in. horizontal torsion bar at 4,000 lbs. of drawbar lift. "The pressure is more than enough to lift the front wheels, so I shouldn't have to worry about anything busting the lift actuator mechanism," says Bipes.

"By using the cylinder to force the drawbar to the ground, I can actually lift the tractor's rear wheels off the ground and put on tire chains. However, I learned the hard way that it's safer to place a block under only one side of the hitch and lift only one rear tractor tire at a time.

"I even use the drawbar to crush old scrap metal before I haul it to a scrap yard. One time I used the drawbar to lift the end of my pickup to work on the brakes."

He has a log lifting attachment for the drawbar that'll pick up tree trunks of up to 1,500 lbs. with no problem.

The tractor didn't have any hydraulics, so Bipes welded up brackets to bolt on a hydraulic pump and valve. He used a piece of 2-in. sq. pipe to make a vertical-mounted reservoir and mounted an inexpensive spin-on auto oil filter, model PF-47, on the inside top of the pipe where it's protected from flying tire chains.

"I machined metric threads into a pipe nipple and welded it on to the top side of the pipe," says Bipes. "Oil from the hydraulic pump circulates continuously through the filter, into the perimeter and out through the center like on a car engine, before it goes back into the reservoir. A huge pipe nipple and mating cast iron cap, spun on hand-tight, serves as the hydraulic oil filler hole. A pair of slots – made by milling away a small stretch of the cap's internal pipe threads on each side – effectively creates two inverted U-shaped breathers ventilating the reservoir when the cap is on."

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Bipes welded up brackets to bolt on a hydraulic pump and valve.

A log lifting attachment for the drawbar can pick up tree trunks of up to 1,500 lbs. with no problem.

Riding Mower Powers Pull-Behind Deck

When they needed a big pull-behind mower to cut their 8-acre lawn, Brian and John Ricker, Eustis, Maine, went to their shop and started cutting up their Mastercut riding mower.

They rebuilt it into a low-cost mower that they pull behind their Kubota utility vehicle. The riding mower's engine, hood and dash mount on top of the 60-in. deck they made out of 5/16-in. thick steel plate.

"It's a low-cost, built-tough mower," says Brian. "The deck has a 4-ft. long tongue equipped with a pintle hitch, and my Kubota utility vehicle has a ball hitch both on front and back so if I want I can also push the mower deck on front.

"Most of the stuff that I used to build it either came off the mower or I already had it. I reused all the pulleys and belts that I could and spent only about $200. Commercial pull-behind mowers sell for at least $1,500."

The 1980's Mastercut riding mower had a 12 hp gas engine and a 42-in., two-blade deck. They mounted the original pulleys and driveshafts on the new deck and added a third blade to increase cutting width to 60 in.

The deck has 10-in. high wheels on back and smaller caster wheels on front. A pair of 1-in. dia. spindles serve as the rear axle. Back-to-back metal plates at each corner on all four wheels are used to adjust deck height. Ricker simply pulls out two bolts and adjusts one of the plates up or down.

An idler pulley off the original mower deck is used to engage the belts.

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Brian and John Ricker rebuilt their Mastercut riding mower into a low-cost, pull-behind mower to cut their 8-acre lawn. Riding mower's engine, hood and dash mount on top of a home-built, 60-in. deck.