

Articulated "Belly Blade" Mounts On Pickup

How the heck did you ever figure that out?

That's the question Gerald Manszewski often hears when people first see the home-built, articulated "belly blade" he mounted under his 4-WD pickup. The blade can be automatically angled from side to side and also tipped up and down to change the angle at which it enters the ground.

The Lowell, Mich., man mounted the blade under his 1987 Chevrolet 2500 3/4-ton pickup. The blade measures 10 ft. long and 10 in. high and was made from a length of 30-in. dia. gas line casing. A 6-in. high reversible cutting edge bolts to the bottom of the blade.

Manszewski built his own articulation point, which consists of a 2 1/2-in. dia. steel pin through an upper and lower steel plate. The lower plate is attached to the top of the blade and slides onto the upper plate. To change the blade angle, a pair of hydraulic cylinders are used to push or pull on the lower plate. Two more cylinders raise and lower the blade. Power is supplied by a hydraulic pump, which mounts under the hood and is belt-driven off the engine.

The pickup rides on 33-in. high, 12-in. tires. Manszewski raised the pickup another 6 in. in order to make room for the articulation point and the blade.

"It really does a good job. I use it all the time in my custom grading business, both to scrape roads and driveways and to push snow

off roads," says Manszewski. "I spent a total of about \$1,000 for the hydraulic pump, cylinders and control valve. I got the idea when I saw a belly-mounted articulated blade on a 5-ton truck that was operated by our county's highway department. Building it was a real challenge. It took me two weeks to get it to work just right.

"I often use the belly blade with a front mount snowplow. I built a heavy duty custom frame for the front mount because my pickup is so high.

"Sometimes there are big chuckholes on the roads I work on, but when I'm done grading it looks like someone had just put fresh gravel over everything. A big advantage of a belly-mounted blade is that I have a better view of the blade below me than I would with a front mount plow. I usually angle the blade so the driver's side of the blade is up front. When the blade is at its maximum 35 degree angle, the ends are even with the tires on both sides so that the blade doesn't stick out too far to one side."

Manszewski uses a switch in the cab to engage the pump, and a control valve to control the angle of the blade as well as to raise it up and down.

"Because the hydraulic pump is belt-driven off the engine, I can hear whenever the engine lugs down and get a good feel for how far I'm digging down. I have better control of the blade than I would with an electric-



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operated blade and can apply as much down pressure on the blade as I want. I often move up to 6 or 8 in. of gravel at a time."

The blade is secured to the plate it's mounted on at five different places to provide maximum support. "If I hit a solid object such as a tree stump, I'll know right away - it gives me quite a jolt," says Manszewski. "I bent the pickup frame twice when I accidentally hit stuff that I couldn't see. Finally I installed shear pins on the cylinders that raise and lower the blade."

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Using remanufactured 6-cyl. Cummins turbocharged, 855 cu. in. diesel engines, Ambrose Metzger and his son Mark converted their 1979 Case-IH 4586 and 4786 tractors from 300 to 400 hp.



Father-Son Team Became On-Farm Repower Experts

By Jan Shellhouse

Ambrose Metzger and his son Mark of rural Shelby, Ohio, converted their 1979 Case-IH 4586 and 4786 tractors from 300 to 400 hp, using remanufactured 6-cyl. Cummins turbocharged, 855 cu. in. diesel engines. They learned so much doing their own tractors that they decided to get into the business.

The original V-8 engines had become too expensive to operate because of high maintenance costs.

They contacted Costello Diesel in Fairbanks, Iowa for help. Getting the 6-cyl. turbo-engine to fit required 14 more inches at the front part of the tractor frame to make room for the hydraulic pump. The repower job included changing the wiring harness, which is Mark's job. They also changed the clutch, fan belt assembly, bell housing, pressure plate, and flywheel.

Some metal pieces for the frame extension were fabricated by Sautter Bros. Fabricating Shop in Galion, Ohio. The pto adapter came out of a garbage packer truck.

They made several trips to salvage yards for specific items. They were pleased to find

that the Cummins engine bell housing fit perfectly in place of the V-8 engine.

To cover the bigger engines, they custom make sheet metal to fit so the tractors still look "factory-built".

If the parts they need are available, it takes the team of two about a steady month of work to finish a typical repower. They've completed four tractor repower conversions so far.

The Metzgers say the Cummins 6-cyl. diesel works great, provides 2,000 rpm's, is quieter, and runs smoother than the original screaming V-8 engines.

Mark is in charge of painting the tractors. First he sands the tractor, then applies a coat of primer and then a clear coat. The next coat is a finish paint and then he adds the decals. He also waxes his tractors and equipment. "It helps to seal the finish," he says. "When the tractor is finished it looks brand new."

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"It saves hay and also results in cleaner feed, which reduces veterinarian bills," says Sam Pavlik about his new solar-powered horse feeder.

Solar-Powered Horse Feeder Controls Access To Hay

"It saves a lot of hay and lets you keep horses on a regular feeding schedule whether you're home or not. It also results in cleaner feed which reduces veterinarian bills," says Sam Pavlik, Prescott, Mich., about his new solar-powered horse feeder.

An automatic timer allows you to control when horses have access to feed. The 12-volt timer, powered by a deep cell battery and DC motor, opens and closes the sliding doors on three sides, up to eight times a day.

Built from steel and poly, the patent pending Hay Saver measures 8 ft. wide by 7 ft. deep and 7 ft. high on front, sloping down to 6 ft. high on back.

The unit has a floor made from 1/8-in. thick, 10-ga. steel. The sliding panels are cable-driven and it takes about seven seconds to slide them to one side, so horses have plenty of time to get their heads out. When the doors are closed, livestock have no access to the hay. "Because the unit is totally enclosed, you don't have to worry about the weather or contamination from urine or manure. Hay waste is greatly reduced, and health is improved because the horse doesn't have to eat off the ground, reducing the risk of sand colic and other illness," says Pavlik, who notes that he used to feed 80 to 90 round bales a year and have a mountain of hay to clean



Double doors on one side of feeder swing out for easy loading.

up in the spring. Now he goes through just 40 to 50 bales. "There's so little waste that by the time a bale is gone, you can put what's left over into a 5-gal. bucket."

Double doors on one side of the feeder swing out for easy loading. Pavlik has also developed a device that fits into a receiver hitch that lets you roll a bale out of a pickup into the feeder without the need for a tractor.

The feeder is on skids so it can be towed to various locations.

Sells for \$4,500 plus S&H.

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