

Cat D5 Repowered To Make Great Ag Tractor

By C.F. Marley, Contributing Editor

Mike Zimmerman and his son Ammon transformed a D5C Cat crawler into a 16-speed "Deere/Cat" for use on their central Missouri farm. Mike bought a 1995 D5 and repowered it with a rebuilt 6-cylinder, 6.8 liter Power Tech engine and a rebuilt Deere 7000 16-speed Power Quad transmission.

"Ammon did the work in my shop," says Mike. "He put it all together, and it didn't cost us any more than a Deere 7000 Series tractor in the same condition."

The Zimmermans, who also run a farm equipment dealership, often buy agriculture Cats in the Pacific Northwest, but they wanted more traction and versatility for their own use. Three extremely wet years had demonstrated how wheeled tractors cause compaction that damages their alfalfa.

"We could really see the damage during those wet years so we decided to build our own tracked tractor," says Mike.

Ammon started out by stripping the engine and 3-speed power shift off the Cat's chassis. After taking lots of measurements and calculating where the engine and transmission needed to be, Ammon lengthened the frame by 24 in. He welded Deere engine mounts to the Cat frame and welded a center plate into position between the chassis sides. It would form the main support for attaching the Power Quad transmission.

"We cut that plate with a water jet machine so there would be no warp like you get with a plasma cutter or torch," says Ammon. "It was a 1-in. thick plate, and we welded it oil tight because it forms one end of an oil bath with the end of the chassis where the Cat transmission had connected to the drive pinion."

The Deere pinion shaft had to mate with the Cat pinion shaft. Ammon's solution was a floating coupler. He ground the teeth off the Deere pinion and pressed splines in place to match the coupler, welding them secure. The splined coupler is free floating in the oil bath. If either shaft breaks, it can be easily replaced.

"If the transmission ever fails, we can get a remanufactured transmission and replace its pinion with mine," says Ammon.

One reason Mike had picked the transmission he did was for the independent pto drive. To take advantage of it, Ammon mounted a pto from a 2150 White Farm tractor. Mated to the Power Quad transmission, it gives the Deere/Cat hydraulically engaged, 540 and 1,000-rpm pto speeds.

"The Deere Power Quad has its own transmission pump to supply the tractor's 4-WD and pto," says Mike. "We were able to use

it to run the pto and the Cat steering valve."

The cable from the old Cat power shift lever to the left of the seat hooked right up to the Deere transmission. However, Ammon had to fabricate a new H-pattern steel housing and linkage for the four ranges, which he mounted to the right of the seat. He used a shift lever from a Deere 7000 series tractor.

The Deere engine's injection pump was the same brand as the one the Cat engine used, so the throttle cable simply hooked right up with no modifications. Ammon also had to fabricate a housing for a pto lever and the hydraulic control lever.

One negative aspect of the Cat D5 for the Zimmermans was that it did not have oscillating track frames. They knew oscillating track was needed for a smooth ride on rough fields. Ammon took pivot shafts and bearings from a 953 Cat track loader and welded them to the Cat's rear end and track frame. The oil-filled pivot shafts now provide oscillation.

"We further smoothed the ride by taking an equalizer spring from an older D5 Cat. We then removed one leaf spring and replaced the original cross member on our D5," Ammon says. "I modified the cage that holds the spring and bolted it direct to the bottom of the D5 chassis using the same bolt pattern as the original cross member."

With the nuts and bolts of the transformation finished, Ammon built a new, longer hood and new fenders to finish the job. Everything was sandblasted and repainted.

Since finishing the rebuild, the Zimmermans have put more than 235 hours on the Deere/Cat. The only real change has been to replace the oil-to-water cooler from the Cat with an air-to-oil transmission cooler. Everything else has worked fine.

"It cost about 2/3 what a similar-sized, new wheeled tractor would, and it does twice the work with less compaction," says Ammon. "We really like it for hauling manure in the winter. It glides over the frozen ground and, with the Power Quad, it shifts nicely on the go."

Mike Zimmerman and his sons like the Deere/Cat so well, Ammon is now working on a second tracked tractor using components from a 6410 Deere wheeled tractor with a 4.5L, 4-cylinder Power Tech engine. He will also be using the 3-pt. hitch and the pto unit from the 6410. Everything will be mounted on a D3C crawler.

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He Fitted Tractor Seat With Handmade Backrest

"I added a homemade backrest support to the seat on my Deere 5000 series tractor. It really improves the comfort level," says Chad Travis, Drasco, Ark.

Travis got the idea last year after he replaced the factory seat on his 1990's Deere 5000 series tractor.

"I wasn't happy with the way the new seat fit and wanted more back support. However, I didn't want to spend a lot of money for a high dollar replacement. So I made a padded backrest and attached it to the top of the seat."

The backrest support measures 10 in. wide by 12 in. high. To build it he welded lengths of 1/2-in. dia. metal rod on back of the seat's frame. He bolted a pair of angle irons onto a piece of 3/4-in. thick plywood and then welded the angle irons to the rods. Then he installed foam rubber over the plywood and covered it with a piece of green leather

upholstery off a discarded recliner chair, tucking the material in on back and using tacks to attach the leather to the plywood.

"It didn't cost much to make and provides a lot of support. I was surprised how much difference it made," says Travis. "The backrest is high enough that it reaches a little below my shoulders and provides a lot of support."

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To improve the comfort level, Chad Travis made a padded backrest and attached it to the top of the seat on his Deere 5000 series tractor.



When the Zimmermans first drove their newly modified "Deere-Cat" out of the shop, they were amazed at how nice it handled and how smoothly it shifted.



A new H-pattern steel housing and linkage was fabricated for the Deere transmission and mounted next to the seat (above left). Ammon started out by stripping the engine and 3-speed transmission off the Cat's chassis. Tractor is powered by a 6-cyl., 6.8-liter Deere Power Tech engine.

