gives the engine about 15 more horsepower. The kit included a redesigned muffler to reduce backpressure which allows the engine to work easier. One problem with the tractor is that it turns with some difficulty on hard uphill corners. The outside track has to speed up and the inside one has to slow down. When I turn I have to rock the steering wheel back and forth, allowing it to make a new track for itself. I think it would turn easier if the inside track could come to a complete stop or if the outside track didn't speed up so much.

"When I turn I have to rock the steering wheel back and forth."

Case-IH is working on a tractor equipped with rubber tracks on each corner which would make turning much easier.

"Last fall was very dry for a while so I waited for rain before seeding. However, when it did start raining it kept on raining. By the time I could get in the field the soil was freezing at night. The slick soil made traction difficult, and drills had a hard time penetrating the frozen ground. I was barely able to get my seeding done before the ground froze up hard. If I would have had to use my steel-tracked D5 98J, I wouldn't have been able to finish seeding. The Challenger's undercarriage doesn't collect dirt and mud because there's no place for dirt to build up. On the D5 98J I would have had to get off every so often to dig mud out of the tracks to keep the idlers turning. Also, with the Challenger I was able to plant consistently faster than I ever could with the D5 98J. I often went 10 to 12 mph while pulling a 36-ft. disc drill - about twice the average normal speed for the D5 98J. The Challenger has 10 forward gears as opposed to six for the D5 98J.

"If money was no object, I'd definitely buy another Challenger. However, I'm not very happy with the territorial rights that Caterpillar has given to Western States Equipment Co. All the outlets in our area are controlled by the company. It keeps Challenger prices artificially high and I know it has cost Caterpillar some sales."

• Darrell Daum, Murdo, S. Dak., bought a Challenger 65 in October, 1987 that now has 4,500 hours. "I'm generally satisfied with it. We use it to pull a 42-ft. chisel plow, 30-ft. Noble undercutter, and 40-ft. grain drill. Over the years the company made about $30,000 worth of improvements on our tractor, updating it to a 1990 model. I had some problems turning with the implement in the ground because of weak steering hydraulics. The tracks have been set farther apart on new models for improved turning. They're also wider so they don't dig up quite as much soil on turns and provide more flotation. I don't make very tight turns so I don't dig up too much of a furrow.

"Doing primary tillage my Challenger burns 10 to 11 gal. of fuel per hour but only 5 gal. when pulling a drill. At first I had some problems with the bogie and idler wheels. However, the company took care of the problem by mounting heavier bearings on the front idler wheels and beefing up the rear idlers. I had to replace one of the tracks because the guide locks were falling out. The company paid for most of the repair work. The other track is original, but the guide locks are falling out on it now so I'll have to replace it. The original track still has quite a bit of wear left on it. We also had problems with the steering oil leaking into the transmission. We're still losing a little oil and I'm not sure where it's going. The engine was modified for more power and better fuel economy. The company is trying to get us to trade up, but I don't know if we'd get our money's worth from a new tractor. The resale value on Challengers is pretty good, but prices on the new models almost knock you over."

• Martin Jorgensen, Ideal, S. Dak., recently traded in his Challenger 65, which he bought in September, 1987, for a new 285 hp model 65C. His son Bryan drives it most of the time. "The old 65 had 4,500 hours on it and held up fine for the most part. We traded it because the tracks were almost completely worn out and because we wanted the improved features offered on new models, including a better brake system and 36-in. wide tracks for easier turning and better flotation. The wider tracks don't mound up as much soil when turning on headlands. That's important because we farm 100% no-till. We use it to pull a 36-ft. grain drill that we plan to replace with a larger air drill. We mount 500-gal. liquid fertilizer tanks on home-built mounting brackets at the rear of the tractor when we plant. We also use it to pull a Brent 800-bu. grain cart mounted on a VFS50 rubber-tracked undercarriage. The same undercarriage can also be used to mount an 18-ton apron-type manure spreader. It weighs 62,000 lbs. fully loaded but power is no problem.

"The company spent $75,000 to $80,000 over two years to modify our tractor, but it didn't cost us any money. We had some brake problems last year on our original 65. The calipers rusted up and the entire brake system had to be replaced. We also had problems with the hydraulic oil heating up so we had to install an oil cooler. They're standard on the new models. The fuel effiency on our old Challenger is more than

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competitive with conventional 4-WD tractors. We get 8 to 10 gal. per hour. Our new tractor has only about 50 hours. Cat designs its engines tight and to run more efficiently once everything is broken in so we won't check it for fuel efficiency until it gets about 1,000 hours.

"I've heard that the company is coming out with a smaller Challenger equipped with a better cab, transmission, and hydraulic system. In 3 to 4 years they'll probably put those features on all their larger models. I wish they'd do it sooner. The row crop model doesn't interest me except that it competes with the front wheel assist tractor market and could be used with a loader on my feedlots.

"The biggest advantage of the Challenger is reduced soil compaction and less slippage which makes it much cheaper to operate than conventional 4-WD tractors. There's no comparison. Our Challenger costs us $8.40 per hour to operate, not counting labor and fuel, which is about half as expensive as a 4-WD tractor. We farm no-till, so reduced soil compaction is very important. We've seen a yield increase of 8 to 20%. We paid $122,000 for the new 65C but it's worth the money. A Deere 8660 with about the same horsepower sells for $15,000 more. Resale value is good, too. We got $53,000 for our old one and paid $90,000 for the old model when it was new which is one reason why our operating cost per hour was so low.

"The company is coming out with new retrofit tracks. I wish them luck because the undercarriage doesn't have enough strength in the main frame. It takes a lot of iron to withstand the forces exerted by tracks. The track concept is catching on rapidly, and I look forward to more companies entering the market. Our dealer sold five more 85C's within 1 1/2 months from the time we bought our 65C."

• Duane King, Kingland Farms, Tiffin, Ohio, is the owner of a 360 hp Challenger 85C equipped with 35-in. wide tracks. "We field tested a model 75 a year ago last fall and really liked it. Our 85C has about 500 hours. We use it to apply preplant anhydrous ammonia on 1,600 acres of corn. We made a carrier for a 1,000-gal. tank that mounts on front of the tractor (see sidebar). It eliminates compaction on freshly worked ground. We also use it to pull a 7-shank, 16-ft. DMI chisel plow, and 32-ft. field cultivator.

"We're generally satisfied with it and especially like the fuel efficiency. We tested it against a Deere 8640 4-WD tractor by splitting a field in two and having each tractor work half the field. The 85C used only about two thirds as much fuel as the 8640.

"We bought it mainly to reduce soil compaction. Sometimes we're forced to work wet ground in the spring, and the big tires on conventional 4-WD tractors cause a lot of compaction. We had a dry fall so we don't know how much the tracks reduced compaction. We considered buying a new 4-WD tractor. However, we've noticed that

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Front-Mount Anhydrous Carrier

"It eliminates tracks behind our field cultivator, allowing us to work the ground once and then plant," says Duane King, Kingland Farms, Tiffin, Ohio, about his home-built carrier that pushes a 1,000-gal. anhydrous ammonia tank ahead of his Challenger 85C tractor. Anhydrous is delivered from the tank to the back row of shanks on a 32-ft. Wilrich field cultivator that's equipped with a 5-bar flexible harrow. Trailing behind is a Brillion cultipacker hooked up to a long hitch on back of the field cultivator.

A pair of 24.5 by 32 caster wheels mount on front of the carrier, which pivots on a 3-in. dia. steel pin at the front of the tractor. King uses a pickup or tractor to pull an anhydrous trailer up steel ramps and onto the carrier's 8-ft. wide platform. The ramp folds up and a chain is wrapped around the axle to secure the trailer to the carrier. A rope is used to tie the trailer hitch up out of the way.

"It increases yields because we're able to plant into a loose, deep seedbed," says King, who used the carrier for the first time last spring. "We preplant apply all our anhydrous on corn ground, and in the past if we didn't work the soil again after applying anhydrous, it was hard to get a uniform stand because of the tracks.

"It turns short thanks to the caster wheels, pivot point, and the long hitch on the culti-packer. The company doesn't recommend this idea because of all the extra weight it puts on the front of the tractor. Gross weight of the anhydrous tank and trailer is about 8,000 lbs. However, the caster wheels support about half that weight so the tractor has to carry only about two tons.

A radar-controlled monitoring system automatically adjusted the anhydrous flow rate to compensate for changes in tractor speed.

To build the front carrier, I used 4 by 10 and 4 by 8 sq. steel tubing and fitted it with tractor wheels I got from my brother, who had used them for tractor pulling. I got most of the steel at salvage prices. My total cost to build the carrier was less than $1,000. It even has lights on it for night work. The platform rides only 8 in. off the ground - if it touches the ground it rides along like a sled.

"We got the idea after building another carrier for our Deere 8630 a few years ago. It carried a pair of 550-gal. liquid fertilizer tanks, one on each side of the carrier. The tractor pulled a danish tine field cultivator with rolling baskets, followed by a 3-drill folding hitch that I built with a 24-ft. drill in front with an 18-ft. drill trailing behind on both sides. We were able to build that carrier with a single caster wheel because it operates on smooth ground, whereas the anhydrous carrier is used on rough chisel plowed ground. When full, the two liquid fertilizer tanks weighed about 12,000 lbs., but most of the weight was on the wheel so the tractor had no problem pushing it. I also used the carrier with a 24-row corn planter.

"I was able to finish a field and fold all three drills without having to stop. Now I use a Deere 35-ft. folding drill to plant soybeans."

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