



Precision Trac “tool carrier” puts the implement between the front and rear axles for more precise control.



Farmer-inventor Ned Meier says he can maintain accuracy to within 1 in. at speeds up to 6 mph.

“Built From Scratch” Tillage Machine

Instead of driving a tractor with an implement behind that sways right and left, Ned Meier figured putting the implement between the front and back axles would give him the precise control he needed for ridge till farming. The Grand Island, Nebraska, farmer used his engineering education, more than 30 years of experience as a farmer, and help from others to build the Precision Trac.

It's not a tractor, Meier says. It's a tool carrier that he's used for two seasons, planting and cultivating corn.

“It takes GPS technology and puts it to the ground,” Meier says. “I want to maintain ±1-in. accuracy at 4 1/2 to 6 mph.”

He explains that while GPS keeps a tractor on course, rear-mounted equipment

moves side to side, often leaving uneven distances between rows, making cultivating difficult.

His 225 hp, 20,000 lb., all-hydraulic, all-wheel Precision Trac stays on course. The cab and steering are on the rear axle. Implements are locked in place on toolbars between the axles. Having the implements in front of him is an added bonus, Meier says, as he can detect problems right away.

Features of the Precision Trac include:

- + Three modes of electronic steering: front wheel steer for driving down rows; front and rear wheel steer in the same direction for crab steer mode, used especially for mounting 3 pt. hitch attachments; and front and rear wheel steer in opposite directions for circle

steering to turn the machine at the ends of rows. Each wheel is individually controlled; there are no tie rods.

- + With a tread width of 12 ft. and a wheel base 19 1/2 ft. long, two pieces of equipment can be mounted on the tool bars. Meier uses a row cleaner in front of the corn planter, for example. By adding a 1,000-gal. tank of fertilizer, he can do three jobs in one pass.

- + The 225 hp diesel engine drives three hydraulic pumps: one to power the front wheels, one for the back wheels and the other to power everything else.

Meier shopped farm shows for parts for his Precision Trac. He used a Parker IQAN electronic system to control the hydraulics, for example.

“I've had a lot of help. I didn't build this myself,” Meier says. “I built the thing for my own use. The thing we've done is make the equipment and vehicle one unit. If you can control the vehicle, then you can control the equipment. This vehicle has an application in any situation where precision control of any implement is beneficial.”

Some people have expressed interest in buying a Precision Trac. Meier says he has a friend with a manufacturing firm who may be interested in producing them.

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“No Sweat” Way To Make Compost

The new portable Micro-Bin Compost System from O₂Compost lets air do all the work when making compost. Instead of frequently turning the compost, O₂Compost uses a blower and a system of air tubes to turn animal waste and plant material into nutrient-rich compost.

John Moon, founder, O₂Compost, originally developed the new compost system for horse farms. He wanted to make it easier for people to “process” manure before spreading it back on the land. “Direct application of raw manure to pastures frequently results in an endless cycle of parasites, pathogens and invasive weeds that impact the health of livestock.”

The answer, he says, is rapid composting of manure and bedding. While his company also designs and promotes large-scale aerated compost systems, the Micro-Bin is ideal for smaller farms.

While composting is increasingly common, it can be time consuming. Not done right, it can just be a mess. Most compost methods require a careful balance of carbon and green materials, whether grass, manure or table scraps. They also require attention

and frequent turning. Passive composting can avoid the turning, but requires long-term storage of materials. Moon's system makes composting fast, easy and compact with minimal labor.

“The Micro-Bin Compost system uses 4 by 4-ft. plywood panels assembled in either a 2 1/2 cu. yd. square shape or a 6 cu. yd. hexagonal shape,” explains Moon. “Once they've been filled, fresh air is blown in by an electric blower. The oxygen stimulates the micro-organisms and produces high temperatures that destroy the fly larvae, weed seeds, and harmful bacteria.”

The Micro-Bin is designed to be portable, easily dismantled or picked up and moved once composting is completed. Priced at \$675, including shipping and handling, the kit contains easily shipped components. It consists of a 1/4 hp, 110-volt blower, a rubber connector fitting, cycle timer, temperature probe, gate valve assembly, training manual and a manifold kit with pre-cut pipe and fittings. A list of materials that can be purchased locally is also included. Moon estimates their cost at less than \$120.

Once the bin and manifold kit are as-



Portable Micro-Bin Compost System uses a blower and a system of air tubes to convert animal waste and plant material into nutrient-rich compost without stirring.

sembled and the bin is filled, the blower is turned on and composting begins. Within 21 to 30 days, the primary phase with intense heat is complete. At that point, the bin and manifold assembly can be easily disassembled and moved to a new location while the compost goes through a curing phase.

“Most people have two or three bins with one being filled as part of the daily chores and the others in the composting/curing process,” explains Moon. “Curing is most often done outside of the box. You can also stockpile material off to the side and then fill it in

one shot.”

When using multiple bins close together, air can be split between two bins. If one bin is composting rapidly and the other has nearly completed the cycle, a higher percentage of air can be directed to the more active bin. Regardless of how many bins or how they are arranged, the results are the same, suggests Moon.

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Motorcycle-Mounted Bike Carrier

Mark Scotch, Madison, Wis., gets a lot of second looks as he makes his way down the highway, hauling his 29-in. mountain bike across the back of his motorcycle. He made his own basic mounting system, then bought a single bike rack that's normally used to mount bikes on cars.

Mark works as a representative for a company in the paper manufacturing business and travels all over the Midwest. He makes many trips of 1,000 miles or more.

“I like to race mountain bikes, and my motorcycle-mounted bike carrier gives me a chance to ride while I'm away on business,”

says Mark. “I had been hauling my bike on a Jeep, but I prefer the motorcycle because it's more fuel efficient and is also more fun to ride. My bike-racing friend Al Potter helped me build it.”

Mark says the bike carrier has been trouble-free, except that at slow speeds it makes the motorcycle a little wobbly. It also affects mileage. When operating the motorcycle alone he averages 50 mpg; with the bike it drops to about 40 mpg.

“It's an unusual sight. A lot of people take photos of it when they first see it,” says Scotch. “I've seen other people haul bikes

on back of their motorcycles, but the bikes are always in-line. To make room for the bike they have to remove the storage trunk from on back of the motorcycle, then mount the bike rack in line on top of the platform that supports the trunk. There's no room for a passenger, and they have to remove the bike's front wheel. By carrying the bike sideways I can leave the trunk on all the time.”

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Mark Scotch hauls his 29-in. mountain bike on back of his motorcycle.