

# Anything Goes With Crossover Riders

Since motorizing his 1896 Deere planter (Vol. 37, No. 6), Julius Cross has been busy. "I just use what I find, or people give me," says Cross.

He has created a fleet of crossover bikes and motorcycles. Here's a roundup of a few of his creations.



## Honda 350 Lawn Mower

Cross removed the motor and cut the frame on a Honda 350 just behind the motor mounts. After chopping off an old mower's front end, he overlaid the frames on an old riding lawn mower. He slipped an 18-hp. Kohler under the 350's fuel tank.

"I switched the large pulley on the Kohler for a small one, and it really goes," says Cross. "I can do 40 to 50 mph with it."



## Predator Schwinn

Cross' Schwinn bike has a top speed of around 50 mph, thanks to the 6 1/2-hp. Predator motor mounted to a plate welded to the V-bar on the bike.

"I put a sprocket on the motor and ran a chain to the big sprocket on the bike," says Cross. "It's scary driving at 50 with those skinny tires."



## Honda Dream Machine

When Cross married a 1965 Honda Dream to an old Montgomery Wards walk-behind with a 3-hp. Wisconsin engine, he got more than he bargained for. With the tractor tires and a 3-pulley transmission, the Dream Machine can go anywhere.

"It sounds like an old putt-putt, but I drove it through 2 1/2-ft. deep mud," says Cross. "It sat covered up under a tree for several years. I cleaned the points, gassed it up, and took it down the road."



## Dad's Bike

Cross inherited his love for hybrid bikes from his dad, who cut the rear wheel off an old girl's bike. He replaced it with a rear wheel from an old gang mower salvaged from a golf course. He installed a 160cc motor and a small gas tank hanging from the bike seat.

"It has a centrifugal clutch built into it with a horn button on the handlebar that kills the motor," says Cross. "A metal band runs from a brake on the wheel to the bike pedals."

The bike sat for years until Cross' dad gave it to him. "I got it running," he says. "It had

a twist grip for the throttle, but now I just get the throttle on the motor, pull the rope and go. At full throttle, it does 50 mph easily."



## Honda Hillbilly Lawn Mower

When a neighbor offered Cross a self-propelled walk-behind mower, he added, "You can't drive this one home."

Cross immediately went home and came back with a bike, minus the rear wheel. He welded the two frames together and mounted the mower's disengage control to the bike frame behind the handlebars.

"I drove it home," says Cross. "When my neighbor saw me cutting my lawn with it, he called it my Honda Hillbilly Mower."



## Stretched Out 3-Wheeler

Weld the front end of an old shop-built electric motorcycle to the front end of a Craftsman garden tractor, and you have a stretched-out 3-wheeler. Cross retained the yellow fenders he originally fabricated for

the motorcycle, the seat, and the foot pegs. A cable stretches from the cycle clutch back to the garden tractor's clutch.

"I have the throttle on the handlebars and a blowtorch in place of headlights. It puts out a 2 1/2-ft. flame."



## Electric Drive Cultivator

Every planter needs a cultivator to follow when the crop emerges, so it was only natural for Cross to motorize one. Cross' son bought the cultivator as a birthday gift, and the next day he went to work on it.

"I removed the rear wheels on a 3-wheel Yamaha with air shocks on the front wheel," says Cross. "I welded the back of the motorcycle frame to the cultivator and welded a huge sprocket to one of the wheels."

Cross was pleasantly surprised when the wheel slipped off in preparation for adding the sprocket. The cultivator sat in a farmer's field for decades, but it was still well-greased.

"I mounted a 48V electric motor with a small sprocket above the sprocket on the wheel, and it was ready to go," says Cross.

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# Tech Kits Automate Existing Tractors

By Bruce Derksen, Contributing Editor



Sabanto is creating add-on hardware and software to retrofit tractors, adding automation features.

"We manufacture an aftermarket retrofit kit to add automation and autonomy to existing tractors," says Kyle Dooley, COO of Sabanto, an Illinois-based AgTech company. "It's a mix of hardware and software."

The technology is currently focused on tasks such as mowing, tillage, seeding, weeding, cultivation and rototilling.

"In theory, the system is universal, but the tricky part is integrating it into a machine," Dooley says. "At this point, we're primarily working on Kubota M5 tractors and will be releasing it for the Fendt 700 series soon."

He explains the Sabanto system consists of two parts, the hardware on the machine that enables autonomy and the "real" product which is the cloud-based mission control platform for communication, mission planning, and monitoring while in use.

Most of the hardware, including lidar, cameras and sensors, is available off the shelf. The hardware Sabanto develops is an integration module, the cellular communication to and from the machine, plus the GPS infrastructure for navigation and location.

"Our proprietary hardware is where the magic happens," Dooley says. "We're aggregating all the sensing from the machine

into the controller, and then the controller is also the input and output between the system and the tractor."

Sabanto's headquarters are located in Illinois, where they develop their software and user interface. Vehicle integration is done at an Iowa location.

Numerous dealers are taking orders on a limited basis to match the compatibility of the products they're currently working with. A small number of commercial units are already being used with Sabanto keeping a watchful eye out for any issues.

Dooley urges customers to contact their local dealer for pricing but the kit and an ongoing subscription to maintain the latest software package and updates come in around the same dollar value as a well-optioned pickup truck.

A group of nine AgTech solution providers covers most of the arable acres in North America and can provide kit installations at work sites or dealer locations.

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