Brian Karg uses this 40-ton dump cart to haul sugar beets from his harvester to waiting trucks. It can empty its cargo in only about one minute.

"Crop Chaser" Dump Cart Handles It All

Michigan farmer Brian Karg says that his need for better crop handling efficiency was the reason he spent several years designing his "Crop Chaser" dump cart before building a prototype in 2017.

"Our farming operation is all about efficiency, and when we went to a self-propelled beet harvester, one cart couldn't keep up with the machine. Two carts could handle a decent flow of beets, however they were often waiting to dump on the same truck, and it was challenging to control topping off truck loads without spilling. The 40-ton cart we built can receive an entire truckload from the harvester in about a minute, drive to the truck at the end of a field and unload in a minute, then get back to the harvester by the time the machine's is getting full. Scales on the cart insure the proper amount for each truckload and prevent hauling excess beets back to the harvester. It's peak efficiency for our operation and nobody's waiting."

Karg's Crop Chaser uses an 8 by 20-in. tube frame reinforced by an extensive X brace frame to lift the 2,200 cu. ft. box without deflection. The frame is supported by a Camso track system that puts under 13 psi of pressure on the soil when loaded. The lift system uses a 7-in. bore master cylinder and a slave cylinder to evenly lift up to 80,000 lbs. of cargo. The tip cylinders are 6 by 72-in. and can be mounted in 3 different locations. The top position can be used to dump the box faster with lighter crops and the bottom position is used when working with loads that weigh more than 34 tons. The cart can dump off either side by switching the tongue to the other end of the frame and switching the tracks.

Karg says they used the prototype for 3 years without any problems, pulling it with a Deere 8320R. It's now the only cart their farm uses to harvest sugar beets, edible beans, wheat and corn. Word got around about the cart and it drew the attention of Riverview LLP, a dairy operation in Minnesota, which asked for a cart just like it to haul chopped forage. Karg and his manufacturer, MTW industries from Mount Pleasant, Mich., built the first production model that Riverview tested in Arizona for their spring wheat silage harvest. They were so impressed that they ordered 4 more. All 5 carts were used in Minnesota for corn silage, then for sugar beets, beans and corn.

Karg says other key features make the cart unique and efficient. The huge box is divided with a strong center support, and the loading side is low enough so beets and other crops don't have a long drop that causes bruising. Controlled dumping is achieved in part by the patented large adjustable baffle inside the tank and four chain conveyors on the sidewall. The baffle extends the length of the box to hold the load while the chain conveyors move material out.

"The baffle and chain conveyors are really the keys to efficient and controlled unloading," Karg says. "As the cart driver pulls ahead, the chain conveyors deliver only enough crop to fill empty space in the truck. The baffle and chain conveyor work together to prevent overfilling, because the crop stalls out even though the conveyor is still running."

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Amity Technology Acquires Karg Crop Chaser Carts

Since the successful trial runs of his Crop Chaser carts in the 2020 growing season, Michigan farmer and inventor Brian Karg has sold his design to Amity Technology, who will build and market the product. Amity is a worldwide leader in the pull-type sugar beet harvesting equipment industry.

The company's lineup will include the CC1000 single tank model, which is very similar to Karg's prototypes. They'll also produce the CC2000, a double tank model that functions similar to a high-rise dump cart. It has two tanks and a large tracked undercarriage. Scales are standard on both models.

Both models can be ordered with a left or right side dump system. The modular design of the carts allows the dump side to be flipped to the opposite side if needed.

Double tanks on dump cart can be unloaded individually.

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Ray Swenson built this self-propelled grain auger, equipped with a 91-ft. long swing-away auger, out of an old Dodge 4-WD pickup.

Self-Propelled Grain Auger Built From Pickup

Ray Swenson raises foundation, registered and certified wheat and also operates a certified seed cleaning operation, so he moves a lot grain into bins with big augers. He says his self-propelled grain auger - built out of an old Dodge 4-WD pickup - makes the job a lot easier.

He uses the rig to move and operate a 91-ft. long, 13-in. dia. Westfield swing away auger, which is bolted to a big steel frame welded to the pickup's frame.

"I built it 3 years ago and we use it all year long. It eliminates the need to hook up a tractor to an auger and almost makes loading bins a fun job," says Swenson. "I can move quickly from bin to bin and place the auger into position with no problem. With no tractor in the way, the swing away auger has a full 360 degree range for convenience in positioning the truck for dumping."

Since Swenson raises certified seed, he has to reverse the auger for cleaning between seed lots. "Most tractors don't have a reversing pto, but with my self-propelled auger I can just shift the pickup's automatic transmission into reverse to reverse the auger flighting."

He started with a 1992 Dodge W250 4-WD pickup equipped with a Cummins diesel engine and automatic transmission. He stripped the pickup down to the front wheels and axle, engine, transmission, and frame which he welded to another frame off a Melroe chisel plow. A pair of caster wheels off an Oliver chisel plow support the bottom end of the auger.

He removed the pickup's rear axle and uses the driveshaft to power a 5-speed transmission off an old Ford truck. The transmission shaft-drives a gearbox (off a Steiger Bearcat tractor) that's mounted on back of the rig. The gearbox is equipped with a forward facing pto shaft with the correct rotation to power the auger.

"The auger is fastened to a hitch, and the pto attached as it would be on a tractor and with the usual hydraulic hoses and so forth. That way I can replace the auger if needed," says Swenson.

"On this Dodge pickup model the front axle is engaged manually, so I disengage the front axle and shift the 5-speed transmission into gear to power the auger as if I'm in 2-WD. To operate the auger I put the 5-speed transmission in second gear, which runs the auger at just the right speed. To move the rig, I shift the transmission into neutral and engage the front axle."

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"I can move quickly from bin to bin and place the auger into position. It almost makes loading bins a fun job," says Swenson.

Easy-To-Make Concrete Novelties

"The concrete company I worked at had extra mix left over from a job a few years ago, and I came up with the idea of using it for a small novelty in the shape of a state. That's how this whole thing started," says retiree Ken Vieths. "The first form I made needed some work, so I refined the process and now use aluminum, and that makes the edges really crisp."

Vieths has done 6 different states using templates that he makes from a large atlas. He uses extra strength 5,000-lb. cement mix and reinforces it with wire so the edges of the 2-in. thick novelties are very durable and don't crack. He creates the stone look finish on top by placing a rubber mat on the wet concrete and rolling it.

"I made a few of them and there was interest from some friends, so I made a few more," says Vieths. "I'm retired and don't need the work, but I do have a couple hardware stores and a small shop in a nearby town selling them for me. I've probably done a hundred or so in a few years."

Ken Vieths uses templates made from a large atlas to form concrete novelties in the shape of states.

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