

## Combine “Claw” Makes Beater Clean-Out Easy

After many frustrating times spent cleaning out the beater on his Deere 9000 series combine, Dallas Bryan decided to find a solution. The problem was that when green grass or weeds got past the cylinder, it would wrap tight around the beater until it couldn't turn.

“I could spend up to three to four hours each time trying to unwrap a plugged combine,” says Bryan. “With the Beater Claw, I can turn the beater backward until it unplugs and it only takes a few minutes.”

Bryan used combine cab time to figure out a solution. He designed the Beater Claw to fit over the beater pulley. A 1 7/8-in. nut welded on the Claw lets Bryan turn it with a socket or wrench. Reversing the beater pulley loosens the belt tightener on the beater pulley belt drive, letting it turn free. Once the material has unwound from the beater, the cylinder can clean it out.

Dallas says the Beater Claw worked so well for him that he had a laser cut model built. He started producing the units for sale to other frustrated 9000 Series owners. As the word got out, orders began coming in.

“I sold out after one article ran,” he says.

At \$250 each, the Beater Claw is a nice sideline with a personal benefit for Dallas. He is still farming and still using one himself.

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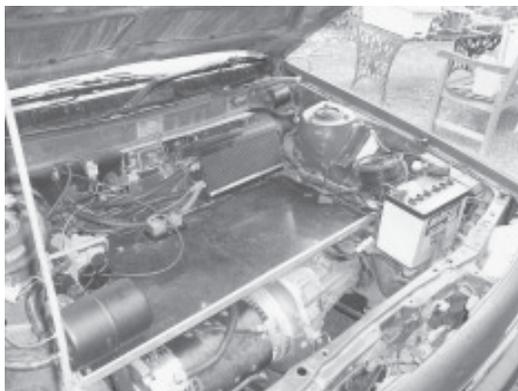
**Beater Claw fits over combine's beater pulley. A 1 7/8-in. nut welded on the Claw lets you turn it with a socket or wrench.**



**“The Claw lets you turn the beater backward until it unplugs. It only takes a few minutes,” says inventor Dallas Bryan.**

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**Grant Burke converted a Toyota Camry wagon into an electric vehicle. In place of the original engine he installed an Advanced DC FBI-4001 Series Wound motor.**



## Electric Car “Floats On The Road”

Australian tinkerer Grant Burke wanted a different kind of electric vehicle. Instead of a lightweight shell, he opted for a Toyota Camry wagon, which at nearly 2,800 lbs. was generally considered too heavy by most electric car creators.

Not knowing much about converting cars to electric power, he went to Les Puklowski, an expert with the Australian Electric Vehicle Association. In Australia, electric conversions require an engineer's certificate. The engineer reviews the plan and advises on structural changes to the car before conversion starts.

Puklowski started by essentially gutting the car. The five seater was turned into a two seater, and by the time the conversion was complete, it had gained nearly 900 lbs. In place of the original engine, Puklowski installed an Advanced DC FBI-4001 Series Wound motor with a Curtis 72-120V, 550A controller. The lost seat area was filled with 20 Trojan T-105 6V lead acid batteries. The charger is a Zivan 120V - 18A, NG3 with switch mode. The DC/DC converter is a 120V to 13.8V Statronics.

“The conversion was completed last fall,” Burke told FARM SHOW. “My first trip with it was to a field day for electric cars with about 1,000 people in attendance. Since then



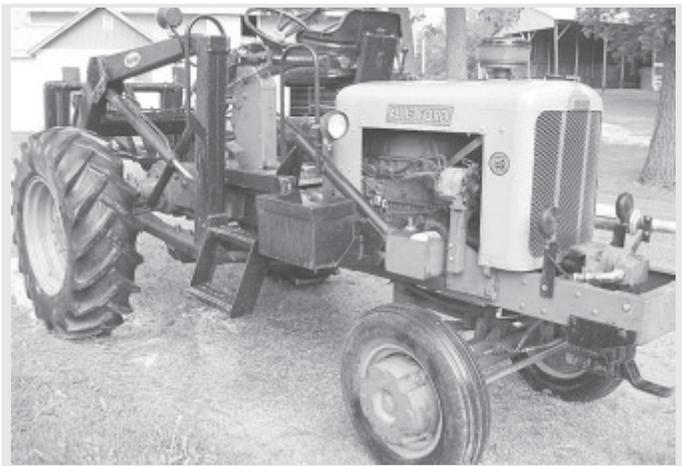
**He removed the back seats and installed 20 Trojan T-105 6V lead acid batteries.**

I've put on about 600 miles, generally around town on short trips. Driving it is like floating on the road.”

Burke reports that a 20-mile trip requires about 2 3/4 hours to fully recharge from a 10-amp/240V outlet. If parking someplace for an extended period, the lead acid batteries also rebuild any lost charge.

The conversion cost for the Camry came to about \$13,000 (U.S.). Burke says he's now looking at adding solar panels to his roof and hood with the idea of on-board recharging.

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**Robert Johnson uses a rear-mount loader on a reversed Allis Chalmers WD tractor.**

## Three-Way “Reversed” Loader Built For Bales

There are lots of ways to move big round bales, but Robert Johnson likes his way best. He uses a rear-mount loader on a reversed WD Allis. It has a special bale fork that gives him an extra two feet of clearance and a pressure gauge on the lift cylinder that gives him bale weight within 25 lbs. Best of all, the whole thing cost him only \$5,700.

“You wouldn't believe the difference between a front-end and rear-mount loader,” says Johnson. “The rear-mount takes so much less room and turns so much sharper. It's almost like a skid steer.”

When Johnson bought the Allis from a neighbor in 2003 for \$1,200, it had already been reversed. It had a good loader, but the engine was shot. The same neighbor had a 1957 potato harvester with a 223 Ford industrial power unit. Johnson bought it too. It came complete with radiator, hood, clutch, transmission and a front shaft to drive a hydraulic pump.

“I rebuilt the engine completely that winter,” says Johnson. “Every moving part was new. A local machine shop did some work on the engine block. When it came back it, was painted Ford blue, so I stuck with those colors as I rebuilt the tractor. I now call it an Allis-Ford.”

Johnson pulled everything out of the Allis, leaving only the drive wheels, final drive and transmission. He lengthened the frame 30 in. to make room for the rebuilt engine and connected the Ford transmission to the WD driveshaft with a chain coupler.

He attached a short steering axle from a 92 Massey Ferguson combine for an even tighter pivot. The front axle pedestal mount and orbit unit are from a 410 Massey Ferguson combine, and the fuel tank was from a 770 Oliver.

“The Ford transmission had a clutch that I use to put it in gear,” says Johnson. “I added a second foot pedal for the WD oil clutch that I use for loader work.”

While the loader worked great for most uses, loading bales on a trailer was a problem. The large drive wheels didn't allow him to get close enough to the trailer. While he knew he could buy a special bale fork for about \$700, he decided to build one himself.

It consists of a double frame of 4 by 4-in. steel tubing about 4 ft. high and about 54 in. wide. The outside fixed frame attaches to the loader arms. The inside frame, to which the actual bale tines are attached, is about 46 in. wide with a 3 1/2-in. inside diameter pipe welded to the top of the sides of the frame.

To hinge the two frames, Johnson inserted a steel pipe with a 3-in. inside diameter inside the larger pipe and welded it to the tops



**Special bale fork provides an extra 2 ft. of clearance. A pressure gauge on the lift cylinder shows bale weight within 25 lbs.**



**“It turns much sharper than a front-end loader,” says Johnson.**

of the uprights of the fixed frame.

“I put a couple of grease zerks on it and also had to shim the pipes so they would fit tight,” explains Johnson. “I used some heavy sheet metal and tacked it inside.”

A cross bar about 18 in. from the bottom of the inside frame reinforces it and serves as a mount for the arm of a hydraulic cylinder mounted to the cross bar of the loader. When the cylinder is extended, the bottom of the inside frame with the bale tines on it swings away from the fixed frame, extending the reach of the loader up to 2 ft. When the cylinder is drawn back, the inside frame nests within the fixed frame.

“The tines of the bale fork are also hinged,” says Johnson. “Extending the third cylinder also lets me keep the tines parallel with the ground when I slip them under the bale instead of digging into the ground.”

Johnson's final modification of the loader was to install a pressure gauge on the lift cylinder line near the controls. “I weighed a couple of bales and calibrated their weights with the readings on the gauge when I lifted them,” he says. “Based on the pressure reading, I can estimate bale weight to within 25 lbs. of actual.”

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