

IN-CAB VIDEO MONITOR LETS YOU CULTIVATE CLOSE WITH LESS FATIGUE

Video Camera Keeps An Eye On Cultivator

"It lets you cultivate within inches of the row without having to look back all the time. Greatly reduces operator fatigue," says Perry Heard, Lubbock, Texas, who designed a video camera system that mounts on a cultivator to help guide it through the field.

The heart of the system is a camera mounted on the cultivator toolbar, just above the crop row. The camera scans a 6-ft. wide area in front of a pair of offset disks. A video screen mounts in the cab and has a pair of black marks on it that represent the discs. The operator simply watches the screen and adjusts the steering to keep the row inside the marks.

"It's a very simple system. All you have to do is watch the monitor screen," says Heard, who mounts the camera on an 8-row

cultivator on his own farm. "It lets you cultivate as close as possible, often to within an inch of the row. It even works in dusty conditions where you can't see the discs because the camera is mounted ahead of them. It's enclosed in an airtight box so dust doesn't cover the lens.

"It's much less expensive than using automatic row guidance systems that sell for \$4,000 to \$6,000. The camera can be quickly moved from one implement to another and can be used on cotton strippers and combines as well as cultivators."

Sells for \$1,400.

For more information, contact: FARM SHOW Followup, Perry Heard, Farm World, 2733 79th St., Lubbock, Texas 79423 (ph 806 745-3330).



Extended cab is 21 in. longer than original cab and bed is 22 in. shorter.

MODIFIED 1975 CHEVROLET 3/4-TON PICKUP

He Built His Own Extended Cab Pickup

Six years ago David Schlichenmayer, Burlington, Colo., beat General Motors to the punch by equipping his 1975 Chevrolet 3/4-ton pickup with an extended cab. That was a full year before GM came out with its own extended cab model in 1988. He did all the painting, body work, and mechanical work himself.

"I built it after I came back with some friends from a deer hunting trip in the mountains," says Schlichenmayer, who built the pickup with the help of friend Dean Fisher. "It was a 12-hour drive and we just didn't have enough room. At the time, only Dodge and Ford made extended cab pickups and I didn't want either of them so I decided to convert my existing pickup.

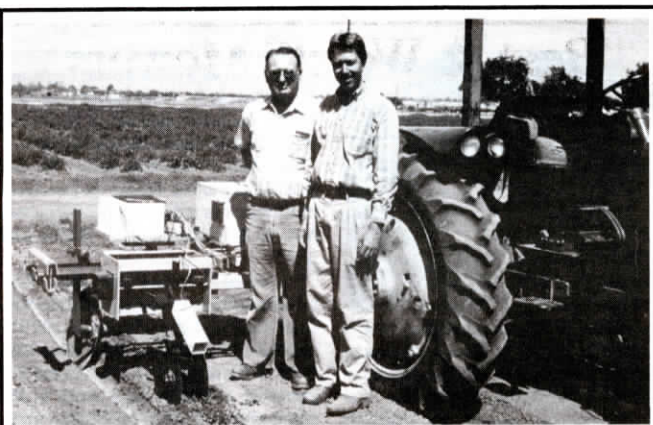
"Five people can ride comfortably. The two jump seats in back are from a Ford Club Cab pickup. I installed swivel bucket seats in front that I salvaged from an old Monte Carlo car and added a fold-down armrest that has a storage compartment at the bottom. I also lowered the floor pan to provide more leg room for the rear passengers. The extended cab is 21 in. longer than the original cab and the bed is 22 in. shorter than the old one. I couldn't find a cover to fit the shortened-up bed so I had to make my own. I also made my own running boards, sun roof, and interior trim, and cut carpet to fit. I got the rear side windows on the cab extension from a van conversion shop.

"I also decided to beef up the pickup by adding a Gear Vendor's overdrive to the 4-speed transmission and rebuilding the 350 cu. in. engine to a 383 cu. in., which gave it much more power and torque. It has 365 hp and will easily pull a 20-ft. flatbed trailer. With the overdrive transmission I never have to shift out of fourth gear, even on mountain passes. I installed the overdrive at 90,000 miles and rebuilt the engine at 119,000 miles. The pickup now has 142,000 miles and still runs great."

Schlichenmayer cut the back of the cab off just behind the door pillars, then cut 20 in. off the front of the pickup bed and moved it forward an inch or so. He used sheet metal to make a roof over the top of the add-on cab and welded it in place. A steel cross member was used to reinforce the back of the cab.

To rebuild the engine, Schlichenmayer rebored it and installed bigger valves. He also replaced the crankshaft with one from a Chevrolet 400 cu. in. short block engine and added a supercharger for more low-end power. "The modified 350 cu. in. engine has a longer piston stroke for more torque and power. The overdrive transmission splits the gears and reduces the rpm's by 30% for longer engine life and better mileage."

Contact: FARM SHOW Followup, David Schlichenmayer, 1634 Frank, Burlington, Colo. 80807 (ph 719 346-5663).



University of California-Davis ag engineers David Slaughter (right) and Clay Brooks are experimenting with this robotic cultivator that may someday allow growers to cultivate rows at twice the normal speed and get twice as close to the row. A video camera mounts on the cultivator frame directly in line with a tomato row and 10 in. above the ground. As the cultivator moves through the field, the camera monitors the row and the distance the cultivator's tines are from it. The camera relays that information to an on-board computer which activates hydraulic valves, which in turn activate a hydraulic cylinder that moves the cultivator toolbar from side to side. At this time, the experimental cultivator can align itself within three-tenths of an inch of its goal 68% of the time.



Boom extends 30 in. ahead of tractor and can be shifted 6 in. to either side on-the-go.

"SIDE-SHIFTS" AS NEEDED ON CONTOURS

State-Of-The-Art 16-Row Front-Mount Spray Boom

Latest new equipment for front-mount spraying is this state-of-the-art, 16-row "side-shift" boom that can be shifted 6 in. to either side on-the-go, allowing you to spray accurately even on contours.

The boom, which extends about 30 in. ahead of the tractor, is mounted on a subframe that bolts onto the tractor's front casting or weight bracket. The front part of the subframe bolts onto the boom. An 8-in. hydraulic cylinder is used to raise or lower the boom. A 12-in. hydraulic cylinder, mounted between the subframe and boom, allows the operator to hydraulically shift the boom from side to side on-the-go.

"It lets you get banded herbicides accurately on all rows even on sharply contoured ground," says John Wolf, inventor.

The boom is designed to spray with the gauge wheels about 1 in. off the ground. "The gauge wheels come into contact with the ground only on rough terrain," says Wolf. "Keeping the gauge wheels off the ground lets the boom ride smoother. The boom floats up when the gauge wheels come in contact with the ground."

The boom is equipped with two 8-row

manifolds with a valve between them, allowing the operator to shut off one or both wings. Each boom has a pressure gauge. Solenoid switches allow the operator to switch from banding to broadcast. The nozzles are slightly staggered to keep the spray pattern from overlapping and forming large droplets that can run off.

The boom is equipped with "snap back" breakaway ends and a fence line attachment on each end for spraying fence rows. Banding nozzles can be clamped onto the back of the boom, allowing you to band skip rows and conventional rows at the same time. A shutoff valve on the manifold is used to feed herbicide to the skip row nozzles.

The boom can also be used for side dressing liquid fertilizer that can later be incorporated during cultivation and can be mounted on back of a Deere Highboy, allowing it to be used for banding. When not in use the boom rests on self-supporting stands.

The boom is available in 4, 6, 8, 12, and 16-row models that sell from \$700 to \$3,800.

For more information, contact: FARM SHOW Followup, John Wolf, Rt. 1, Hospers, Iowa 51238 (ph 712 324-3844).