



The big power unit is used to power a manure pump and forage blower. It's powered by an 855 Cummins engine that drives a 10-speed Road Ranger transmission.



The power unit is equipped with a revamped Clark forklift mast which raises and lowers a heavy-duty manure prop and pump to empty out pits.

LOADED WITH FEATURES NOT FOUND ON CONVENTIONAL FARM TRACTORS

Pto Power Unit Built From Forage Chopper

One of the most ambitious farm shop projects we've seen lately is "The Ajax 500," a self-propelled power unit designed and developed by brothers Howard and Roger Schnell, Franklin Grove, Ill. They use it to pump manure from the 10 ft. deep pits in their confinement beef barn, and to blow silage into four large upright silos, including a tall 25 by 90 Harvestore that's loaded and unloaded year-around.

The powerful, well-engineered work-horse cost less than \$8,000 to build (not including the Schnell's labor) and does the work of a tractor that, even if bought used, would cost upwards of \$20,000. What's more, it's loaded with exclusive hydraulics and other features not found on high-horsepower conventional tractors.

Starting with a used 1965 Fox model SP-F self-propelled forage harvester, the Schnell Brothers stripped it to its strong (4 in. dia.) tubular frame, leaving intact the Rockwell trans-axle in the front, the steering axle in the rear, and the operator's platform.

Power is provided by an 855 cu. in. 250 hp (flywheel) Cummins diesel that was sal-

vaged from a used White 400 semi tractor along with the semi's 10 speed Road Ranger (910 series) transmission coupled to an 8000 series splicer auxiliary transmission.

The splicer auxiliary transmission was altered by placing an "ag spline" stub into the lower countershaft. A new lower cover-plate and double oil seal were made to hold the "ag spline". In the 8000 series splicer, the input and lower countershaft gears are 2 in. wide helical with 41 and 39 teeth. Therefore, the engine rotation was reversed at near equal speeds.

"This was the key to making the power unit work. The drive shaft of the former semi has to counter rotate to pto-drive farm equipment," explains Howard.

By shifting to any one of 10 Road Ranger gears, rotating speeds of the pto can be adjusted independent of engine speed. Transmission gear ratios are approximately 23% apart, giving a wide choice of speeds.

When pumping manure, for example, the Schnells start the job using a 24 in. dia. agitating propeller on the pump. The 7th

gear is used with the motor running at 1,800 rpm, providing a pto speed of 100 rpm and approximately 175 hp. When the pit is about 3 ft. from empty, the propeller is removed (because of splatter) and a higher gear is used with less motor rpm's and only about 75 hp is delivered. "We wouldn't have this wide a range of fuel-saving power options with a conventional tractor," Roger points out. Rpm speed of the engine is monitored by a waterproof Sangauro tachograph salvaged from the semi. A Motorola electronic rpm shaft monitor keeps tab of the pto speed.

For pumping manure, the Schnells revamped a Clark forklift which is hydraulically tilted and raised to lift their heavy duty "Super Prop" Pearson Bros. Better-Bilt pump in and out of the pit. Wide visibility and the short wheel base make it easier to place the pump into the pit from the Ajax unit than from a 3 pt. hitch tractor, the Schnells point out.

For locomotion, a Dynapower hydrostatic

pump is mounted to the rear of the power unit and is powered live from the Cummins crankshaft. A matching hydrostatic motor is belted to the old Fox final belt drive, giving infinitely variable forward and reverse speeds in each of the 3 Fox speed ranges. A two-stage Webster hydraulic pump supplies 10 gpm to a 5-spool bank valve for hydraulic functions (including orbit motor power for forage box unloading) and 100 gpm to the old Fox hydraulic system which includes Charlynn hydraulic steering.

The Schnells use their home-built Ajax power unit approximately 250 hrs. per year for manure pumping and silage blowing. "It saves the use of a high horsepower tractor, offers flexible pto speeds according to the amount of horsepower required and has performed beyond our expectations," notes Roger.

For more information, contact: Schnell Brothers, 1243 Rock Road, Franklin Grove, Ill. 61031 (ph 815 857-3584, or 3609).

LETS YOU LOCK UP THE BOX WITH A TRAILER HITCHED

Fifth Wheel "Box Cap" For Pickups

If you pull a fifth wheel trailer with your pickup, you'll like this new fifth wheel "box cap" from Bo-Wi Enterprises, Menominee, Mich.

The "box cap" consists of a flat fiberglass panel that covers the entire pickup box. There are lockable 18 by 36-in. hatch covers on either side of the forward half for easy access to store tools, tack, chairs, grills, stoves, etc. Once a fifth wheel trailer is hooked up, the box cap closes up around the gooseneck.

"It's a problem to find enough room for tool boxes, grills or camp gear in fifth wheel trailer storage compartments. Many people load tools or equipment into the cab because there's no place to secure them in the pickup box. Our 'box cap' locks up securely and the flat surface eliminates air drag created by

the tailgate. You can expect 1 to 1 1/2 mpg better fuel economy," says Don Bolander, president.

The front end of the box cap is secured with turnbuckles attached to the pickup's stake pockets. The rear end of the unit is bolted to the pickup's rear corner posts.

To hook up to your trailer, simply lower the center tailgate and the box cap's two rear centerline doors. The fifth wheel center plug slides forward out of the way. After hookup you can close the two rear doors and your tailgate.

Retails for \$895. Dealer inquiries welcome.

For more information, contact: FARM SHOW Followup, Bo-Wi Enterprises, Inc., N1425 Oak Park Drive, Menominee, Mich. 49858 (ph 906 863-2839).



To hook up a trailer, you drop the tailgate and the two rear centerline doors on the "box cap" as shown above. When no trailer is being towed, pickup box can be completely covered, below.

