

OPERATES INDEPENDENT OF ENGINE SPEED TO MAINTAIN CONSTANT TEMPERATURE

Viscous Fan Clutch Boosts Tractor Hp

Some of the first farm tractors equipped with new-style "viscous" fan clutches are producing up to 10% more hp on 5 to 10% less fuel.

The new Duro Drive fuel saver and power booster costs about \$210 and is designed for do-it-yourself installation. "It'll fit most diesel tractors, and a few gas models, with only a few minor modifications which most farmers can handle themselves," says Derrell Jones, sales manager for White Tractor Parts and Equip. Co., Blue Springs, Mo., national distributor of Schwitzer viscous fan clutches.

"They've been extremely popular with over-the-road truckers and we're just now introducing them to the farm market. We think farmers will be just as anxious to cash in on this opportunity to boost fuel and horsepower efficiency of tractors, trucks and stationary engines, such as those used for irrigation," says Jones.

The new device automatically adjusts fan speed to engine cooling requirements. Jones notes that speed of a standard truck or tractor fan is controlled entirely by speed of the engine and bears no relationship to coolant temperature or cooling requirements of the engine. The fan is apt to run when not needed, thus over-cooling the engine and wasting horsepower and fuel, causing needless wear on belts and generating unnecessary noise.

Not so with the Duro Drive viscous fan clutch. It's a fluid coupling, controlled by a thermal unit which is sensitive to the temperature of air flowing from the radiator core. Thus, when the air is cold, the fan rotates at minimum or idling speed. As the air warms up, the thermal control admits more fluid into the coupling, increasing speed of the fan. Changes in fan speed are related directly to changes in air temperature and not to engine speed, as is the case with conventional fan drives.

"Operation of the viscous fan clutch is similar to that of an automatic transmission," explains Jones. "The temperature when fan speed changes, and fan speed, can be preset to the cooling needs of the particular type of engine on which it is mounted. This is accomplished by utilizing different viscosities of the silicone fluid and calibrating the temperature control for various applications. The unit must not be used with modulating shutters but will operate with snap action or no shutters," says Jones. Models are available to fit tractors factory-equipped with 22½ or 24 in. fans, with a model for 20 in. fans to be introduced soon.

For more details, contact: FARM SHOW Followup, White Tractor Parts and Equip. Co., Highway 40W, Box 206, Blue Springs, Mo. 64015 (ph. 816 229-3411).

FAST WAY TO MOVE BINS, WINDMILLS AND TANKS

Can You Use A Sky Hook?

Got some steel bins you'd like moved in a hurry, or maybe a windmill or large water tank?

These and other special moving jobs are tailor made for Imperial Helicopter's fast-growing "sky hook" service.

"We have a fleet of ten helicopters operating in 30 different states," explains Kent Rudeen, sales manager of the firm which has offices in Charlotte, N.C.; St. Paul, Minn.; and Northfield, Minn. "Our main business is lifting steel beams, big air conditioning units and other such items to the top of multi-story skyscrapers under construction. But we do get a lot of calls from farmers and ranchers for special jobs."

Rudeen notes that most grain bins can be moved easily and quickly by helicopter. If there's a cluster of bins to be moved, with all the bins going to the same or neighboring farms, the charge generally ranges from \$200 to \$400 per bin.

Helicopter firms have an "up front" charge just for flying their machines to the job site and back. This cost generally makes it too costly to move a single bin or other item by helicopter. However, because Imperial Helicopters operates in 30 states, it may have a chopper working at a construction site nearby. "In this case, we might be able to move even a single bin faster and cheaper than other alternatives, particularly if a bridge, power or telephone lines, an overpass or other obstacle posed problems in moving it with ground equipment," Rudeen points out.

In addition to grain bins, the firm also custom moves a lot of windmills. "They're light and relatively easy to move. We've also moved water tanks and have had calls to help lift animals out of deep gulleys and other problem spots. In a wet spring, you hear lots of rumors about farmers having to hire a helicopter to unstuck big equipment hopelessly mired in mud.



Operation of the Duro Drive viscous fan clutch is similar to that of any automatic transmission. The clutch is a fluid coupling, controlled by a thermal unit which is sensitive to the temperature of air flowing from the radiator core.



Imperial Helicopter's fleet of 10 helicopters, operating in 10 different states, are often called upon to move grain bins and other items weighing up to about 10 tons.

But it's mostly rumors. Firms with bigger helicopters than ours — with up to 20 tons lift capacity — may be able to do some of this mudhole lifting but the cost would be enormous."

Rudeen adds that "every spring we get calls from ice fishermen wanting help to retrieve a car that crashed through the ice and is sitting on the bottom of a lake."

Imperial Helicopters also specializes in a custom, multi-state crop and

livestock spraying service, headed by Pete Lonergan, 700 St. Olaf St., Northfield, Minn. (ph. 507 645-7138).

For more details on moving bins, buildings, windmills or other speciality jobs requiring a "sky hook", contact: FARM SHOW Followup, Imperial Helicopters, Flemming Field, South St. Paul, Minn. 55075 (ph. toll free 1-800 328-9292).