



Hoppe's machine is powered by a 28-hp. salvaged combine engine. It powers a 4-in. cylinder that pushes the "Super Clipper" blade through the tire.

Tire "Fuelmaker"

(Continued from preceding page)

them one inside the other, slipping as many as 12 sections—equivalent to 4 tires—into a space 1/3 the size of an uncut tire. The solid block of rubber easily fits into stoves and burns from the outside like a wood log.

"If you feed tires into a stove without cutting them up they burn too hot because of all the air space in and around them. Turning them into logs

slows the burn down to a more manageable level," explains Hoppe.

Cut-up tires slip together quickly during the cutting process. Hoppe can cut up to 1,000 tires per day working alone. Once cut and stacked the tires take up only a fraction of the space of uncut tires. One cut-up stack of 2,000 tires in Hoppe's yard, for instance, is about 6 ft. high and fills an area only about 10 ft. by 10 ft.

"We sell pickup loads of tire logs for about \$50. That's the equivalent of 3 to 4 cords of wood," says Hoppe, who heats both his welding shop and house with tires burned in an outside "Aqua Therm" furnace. Hoppe says the Aqua Therm is ideal because the entire firebox is surrounded by a 46-gal. capacity water jacket that draws off the heat from the firebox. Before



Hoppe fits cut-up sections inside each other to make compact tire logs. Here he holds 4 auto tires made into one "log".



Hoppe modified Aqua Therm water-jacketed wood burning furnace by mounting afterburner on top to eliminate excess tire smoke.

Hoppe found the Aqua Therm furnace (Aqua Therm, Box 281, Brooten, Minn. ph 612 346-2264) he tried stoves with firewalls as thick as 1/2 in. that still warped when exposed to the high heat of burning tires.

Olav Isne, sales manager of Aqua Therm, told FARM SHOW, "You can burn tires in our Aqua Therm outside furnace without any modification whatsoever. Tires actually give off less smoke in our furnace than cut-up railroad ties. And, because the firebox is surrounded by a heat-absorbing water jacket, it easily handles even the hottest temperatures."

Hoppe added an "afterburner" to his Aqua Therm furnace. It consists of a small burning chamber that mounts on top of the furnace and is also wrapped by a water jacket. A small oil-burning nozzle creates a small flame that ignites the heavy tire

smoke that comes up out of the Aqua Therm burning chamber. The smoke is ignited in the afterburner so that almost no smoke goes up the chimney. Heat is absorbed by the water in the water jacket and circulated through underground pipes to radiators installed in Hoppe's shop and home.

"We get less smoke out of the chimney than an average wood stove, although there's some heavy smoke when you first light the fire. During all of last winter the stove used just 12 gal. of fuel oil to ignite smoke in the afterburner," says Hoppe, who's currently working on a second model of his afterburner to eliminate the need for a fuel oil burner.

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Motorized Hitch Boosts Small Car Pulling Power

"Few cars built today can handle the weight of a big trailer over 15 ft. long," says Thomas Moravec, president of Tow-All, Inc., manufacturer of a new motorized hitch that lets any small car pull any size travel trailer or wagon with ease. Only about 30 lbs. pressure is applied to the towing vehicle.

Hydraulically activated controls are the key to success of the unique motorized hitch. A pressure cylinder on the tongue, between the hitch and the towing vehicle, senses when the car slows down, speeds up or brakes and instantly signals the hitch to do the same. Because of the near-instant reactions of the motor hitch, total weight on the towing vehicle is negligible.

"You can pull a big trailer with a small 4-cyl. car and it's almost like you've got nothing behind you," says Moravec.

The idea may also have applications pulling big farm equipment with smaller tractors or trucks. With off-road tires for better traction, the

motorized hitch could be used in the field.

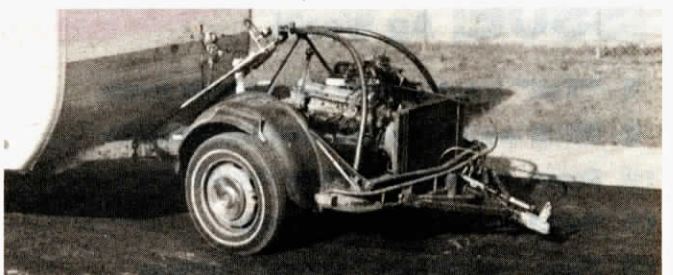
Moravec, and the inventor Roger Anderson, built the prototype motorized hitch using the front-end of a damaged 1980 Citation with front-wheel drive. They cut the car off right behind the engine compartment. It has automatic transmission, power disc brakes, and a gas engine. It connects rigidly to the trailer with a tow bar and two patented stabilizer bars, and connects to the towing vehicle with a ball hitch. It's very easy

to unhitch from the towing vehicle and is designed so that one man can move the trailer around by hand just by manipulating the tongue of the motorized hitch.

"Our first prototype was built from a 1972 Saab. Any front-wheel drive car with automatic transmission will work," says Moravec. A bank of controls and gauges for the hitch mounts inside next to the driver for easy access.

Tow-All, Inc., hopes to go into production soon with a commercial unit.

For more information, contact: FARM SHOW Followup, Tow All Inc., Suite 19, 10501 E. Bloomington Freeway, Bloomington, Minn. 55420 (ph 612 881-8996).



A 3,700-lb. trailer puts just 30 lbs. pull on towing car or truck.