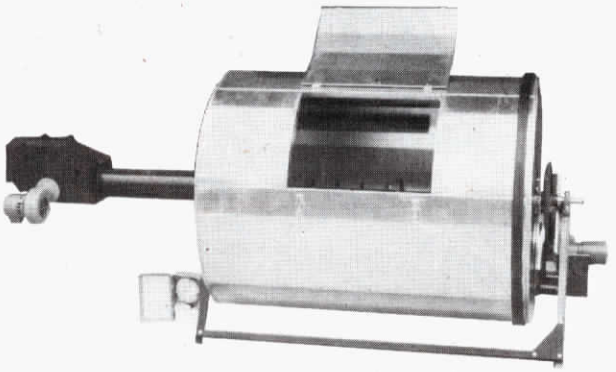
NEW STOKER BARREL FEEDS CONTINUOUS FLOW OF COBS OR SAWDUST

Equip Your Furnace To Burn Corn Cobs?



A 3 in. auger with a half-moon shaped pan beneath catches fuel material as it revolves in the drum and carries it to the cast iron burner.

You can convert your furnace to corn cobs or sawdust with Gailyn Messersmith's new cob burner that, he says, makes burning those hard-to-handle materials nearly as easy as hooking up to oil or gas pipelines.

"I've heated my 1,600 sq. ft. home with it for the past four years with no cost other than electricity to power the small electric motor on the drum," says Messersmith, a heating contractor who's building the new burner in his Carney, Mich. shop. "At 10° below zero, this unit will heat for 28 hours so, at most, you'll only have to refuel once a day."

Messersmith's heater consists of a small cast iron "firebox" that fits inside your existing furnace and is connected to a 3 by 4-ft. stoker drum that's "the key to the entire system," according to Messersmith. It feeds a continuous flow of fuel to the burner unit in the furnace.

"A 3½ in. auger runs lengthwise down the center of the drum. It has a half-moon shaped pan underneath that leaves the auger exposed on top. When the drum is filled with cobs or sawdust, the material is carried up and over by paddles on the revolving drum's sides so that it drops into the exposed auger, which carries it out of the drum." Messersmith explains.

The drum and auger are powered by a 1/20 hp motor that's thermostatically controlled. Messersmith says it runs only when the thermostat calls for heat, except in warmer weather when the timer causes it to run 15 seconds out of every half hour to keep "pilot coals" burning. When empty, he says it takes just a couple minutes to refill the drum from a storage hopper.

"There's very little or no smoke inside the burner as it burns. I've had no need to clean my chimney in the past four years, even though I've burned tons of cobs and sawdust," says Messersmith. A small fan force feeds air into the burner grate so that, as sawdust feeds out of the drum, it actually burns in suspension.

Messersmith says the burner can be adapted to most older oil, wood and coal furnaces, even if they've been converted to gas or other fuels. If they have an ash door opening of 9 by 5½ in. high or larger, it's just a matter of sticking the end of the burner unit into the burning chamber and turning it on. The unit won't install in most newer gas furnaces, however, unless the furnace has an unusually large burning chamber.

"Some of the units I've sold have gone on year-around boilers. One school, for example, installed one of my burners last year and burned less than $300 worth of fuel, compared to their fuel oil bill of $9,000 the year before. This burner could also be used to heat a barn or shop by placing the burner in a barrel or wood stove," Messersmith points out.

The one-size burner can be varied from 100,000 to 500,000 btu by speeding up or slowing down the speed of the drum. Any flammable material 1 in. sq. or smaller, such as corn cobs run through a chopper, can be used.

This fall Messersmith plans to try dry-chopped corn stalks. Depending on the material burned, he says ash only has to be cleaned from the burner every few days. "We got less than a trash can full of ash from a semi-load of sawdust last year," he says.

If you don't use corn cobs, sawdust is usually available for around $5 a ton, according to Messersmith. For burning in the home, he recommends setting up a hopper near the house that can be funneled to the unit. He says he plans to work on an automatic re-fueler in the future.

The unit sells for $1,500 and Messersmith says it's simple enough that, in most cases, you can install it yourself.

For more information, contact: FARM SHOW Followup, Messersmith Manufacturing, Rt. 1, Box 38B, Carney, Mich. 49812 (ph 906 639-2605).

NEW PORTABLE "REFINER" TURNS WASTE ENGINE OIL INTO TRACTOR FUEL

"Free" Diesel Fuel From Crankcase Oil

Used crankcase oil from your diesel tractors can be filtered, blended with diesel fuel and burned as fuel in your diesel tractors or other diesel engines.

Trucking companies are taking advantage of this "free fuel" and interest is now spilling over into the farm market.

"Farmers with diesel tractors can salvage a lot of free fuel from the used oil they drain from the engines of their diesel tractors and other diesel engines," says a spokesman for Racor Industries, Modesto, Cal.

Racor sells a portable "refiner" which filters sludge and water from used crankcase oil. The filtered oil can then be mixed with diesel fuel at prescribed levels to provide "free" fuel for diesel tractors.

Only crankcase oil from diesel engines can be recycled and burned as fuel in diesel engines, and used oil can't exceed 5% of the final blend. (If you have an oil burning furnace or stove, the Racor unit can be used to filter and blend crankcase oil from a non-diesel engine with furnace oil.)

Some trucking companies are recycling filtered crankcase oil back into the fuel tank of the diesel truck from which it was drained. This can be done with Racor's mobile Filter Buggy. It's designed to drain and filter crankcase oil directly from the engine, blend it with diesel fuel from the vehicle's tank, and return the oil-diesel mixture to the fuel tank. The Filter Buggy can also take used oil from a storage drum and mix it with diesel fuel from either a storage or vehicle supply tank. Because it's portable, the unit could be used by several neighboring farmers who store their used oil and periodically filter and blend it with diesel fuel.

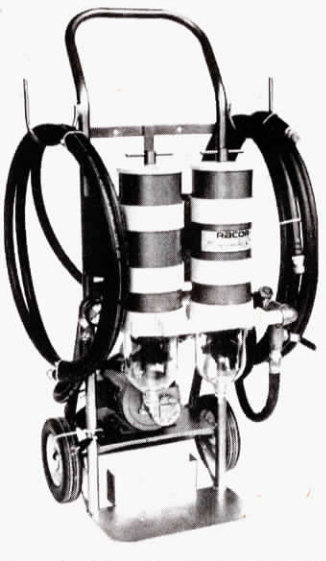
Although burning a mixture of used filtered engine oil with diesel fuel will not directly affect most engine warranties, the following statement in a service bulletin from one company describes the general position of most manufacturers and engineers with whom FARM SHOW visited:

"Although no detrimental effects on the engine or components have been noticed, (the engine manufacturer) does not accept any responsibility for failures or adverse effects, resulting from burning used lube oil in the fuel. The logic is that (the engine manufacturer) has no control over the volume of used lube oil added, nor do we have control of the filtration method used."

Racor's Filter Buggy can process about three gallons of used crankcase oil per minute. The stationary 800C-0F6 Model has about twice as much capacity. Both units have cleanable filters which can be washed three or four times in diesel fuel before being replaced.

Retail price of the Filter Buggy is $1,934, and $3,960 for the larger stationary unit. With diesel fuel costing more than $1 per gallon, you can estimate how many oil changes would be required to save enough fuel to pay for the recycler/blender.

For more information, contact: FARM SHOW Followup, Racor Industries, Inc., P.O. Box 3208, Modesto, CA 95353 (ph 209 521-7860).



Racor's Filter Buggy processes 3 gal. of crankcase oil a minute, blending it with diesel fuel in the tank.