

New ways to burn wood fuel aimed at energy shortages

New ways to burn wood fuels are coming from Oregon State University studies that are aimed at helping solve national energy shortages.

With proper burning techniques in wood-fired industrial boilers, air pollution emissions can be cut in half and more steam can be produced

with the same amount of wood, says David C. Junge. He became director of the OSU Office of Energy Research and Development this month.

So far Junge has run 685 separate tests with wood of various kinds, sizes and moisture levels. His wood combustion research is funded

by the U.S. Department of Energy with additional funds from industries that use wood residue fuels to generate steam.

One of the keys to reducing air pollutant emissions from wood fuels is "proper control and distribution of combustion air," Junge emphasizes.

"With proper distribution of the air that is brought into the boiler-furnace for combustion, air pollution emissions can be reduced by 50 percent or more."

Typically, about 80-90 percent of the combustion air has been brought in through the grates, Junge observed. When

40-50 percent is through the grates and the rest is brought in over the top of the grate, emissions are dramatically reduced, he said.

"By using combustion control techniques, the need for tail-end pollution control devices is reduced," Junge added.

If moisture content of the wood is less than 50 percent, then it's beneficial to use cold air through the grate to help in the combustion process, the engineer reported. "But it's equally beneficial to use the highest temperature air possible over the grate."

As a general rule, large

wood fuels burn better than small, tests have shown. "The larger the fuel, the lower the emissions from the boiler," says Junge.

"Small pieces tend to be entrained and blown out of the boiler before burning completely," he pointed out.

"There's a vast difference

in the combustion characteristics of different species of wood. All wood fuels don't burn the same and bark burns differently than wood."

Lodgepole pine chips have burned more completely and with the least amount of air pollution of the thirteen different species of wood fuels burned to date.

"The worst? Ponderosa pine bark created more air pollution than any other," Junge said.

More than 200 tons of fuel have been burned in the course of the four-year test program and 2,850 pages of test data are on file so far.

The total research expenses to date amount to about \$650,000.

"Wood has been a fuel since the early history of man but research results are sadly lacking on the combustion characteristics for different wood species under varied firing conditions," Junge stated.

The OSU project was prompted by the fact that the Pacific Northwest alone has approximately 800 industrial wood-fired boilers in operation now. Half of these boilers have had "substantial difficulty" in meeting environment emission regulations because of smoke and particulate emissions. "Furthermore, they're not very efficient from the standpoint of steam production per unit of wood fuel," said Junge.

His research findings are expected to have an impact on both boiler design and operation in the future. "We're talking about hundreds of thousands of dollars being tied up in some boilers," he noted.

Denny Smith named to GOP panel

Congressman Trent Lott, R-Miss., chairman of the National Congressional Council, has announced the appointment of Denny Smith, of Salem, Oregon, as a member of the National Congressional Council.

The National Congressional Council, a panel of community leaders from across the country, meets regularly in Washington with the Republican Members of Congress to discuss current issues.

Smith is the chairman of Eagle Newspapers, a chain of weeklies in the state. From 1967 to 1976, he was a pilot-flight engineer for Pan American World Airways. He is active with the Lions, Boy Scouts and the local art and symphony association and the Airline Pilots Association.

Smith also is a candidate for Congress in Oregon's Second District.

Smith is a 1961 graduate of Willamette University and served on active duty with the U.S. Air Force for seven years, including combat tour in Vietnam. He and his wife Kathleen are the parents of four children.

Nearly 8,000 cited for lack of insurance

More than 3,500 Oregon drivers have had to get liability insurance under the state's financial responsibility law after being convicted of driving without insurance this year.

In addition to convictions for driving without insurance, 4,350 drivers' licenses were suspended during the first 11 months of the year when random surveys of registrations or notices of cancellation from insurance companies showed liability insurance was not in effect.

The law provides that a citation for driving without insurance may be dismissed if the person cited goes to court within 15 days and shows proof that insurance has been obtained.

Pay Less

SELL-a-thon

Don't Miss Out On These Fantastic Prices During Our Annual Sell-a-thon In Progress Now!..

Prices Effective Now Thru Feb. 16, 1980

Quartz Precision VIR II COLOR TV

VIR II Broadcast controlled color television features 100% solid state chassis, black matrix picture tube, set-and-forget volume control, quartz precision electronic tuning, "tilt-out" control bin and decorative base. Item #457-234

\$569



MAYTAG

Automatic WASHER & DRYER

Washer features two-speed washing action with permanent press cycle, three water levels, four wash/rinse temperatures and lint filter. Item #342-279

Dryer features two temperature selections, automatic shut-off, end of cycle buzzer, up-front lint filter and large Dura Cushion drum. Item #342-311



Come In & See Our Special LOW PRICE!



Color Trac COLOR TELEVISION

Features ExtendedLife chassis, black matrix picture tube, single-knob 20-position tuning and automatic fine tuning. Item #404-012

\$469



AC/DC Black & White PORTABLE TELEVISION

Compact television features 100% solid state chassis, 3-way power capability and AC/DC with carboat adapter or optional battery pac. Item #239-863

\$119 With Car Cord



Black & White PORTABLE TELEVISION

Features 100% solid state chassis, "Pre-Set" fine tuning, set-and-forget volume control and quick-on "Daylight Bright" picture tube. Item #301-077

\$89.00

Admiral 21.6 Cubic Foot SIDE-BY-SIDE REFRIGERATOR

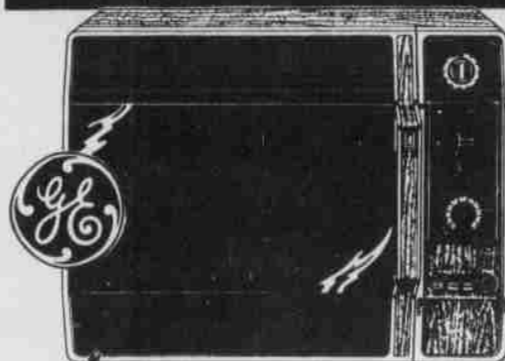
Features adjustable cantilevered shelves and door shelves, glide-out Vari-cold drawer, separate refrigerator freezer controls, chilled water dispenser and automatic ice maker. Item #367-045

\$899

Ice & Water Dispenser Included!



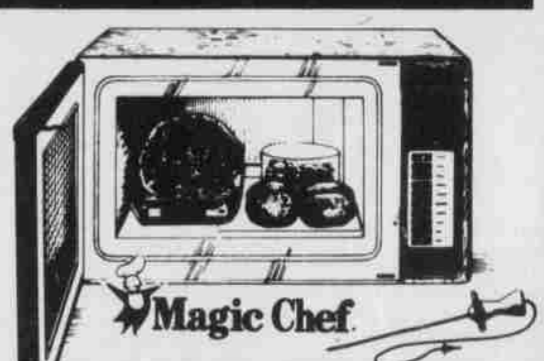
Spectacular Kitchen Values!



General Electric MICROWAVE

Cook by time with your choice of three power levels or cook by temperature with the Micro-Thermometer™ control. Oven shuts off automatically. Item #384-867

\$329



Large Capacity MICROWAVE

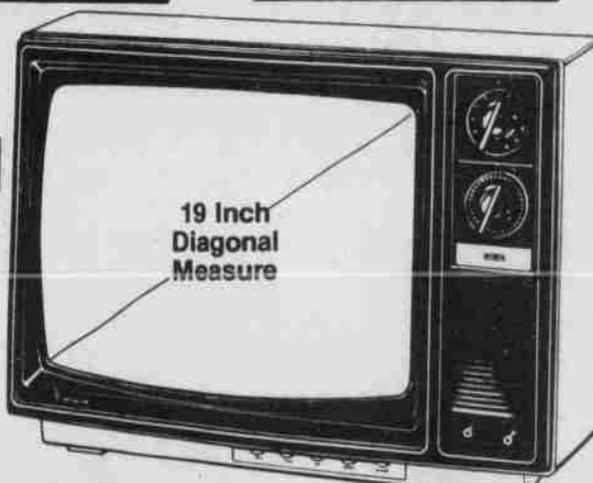
The Common Sense microwave oven features an easy-to-program 4-level memory, a 10-level solid state heat control and temperature probe for cooking accuracy. Item #345-835

\$499

HITACHI 100% Solid State "Table Top" COLOR TELEVISION

Table model color TV with a 19 inch diagonal screen features a quick-start system, automatic frequency control, 100% solid state PolarChrome™ video system. Item #384-842

\$399.00



Solid State Stereo PHONOGRAPH

BSR full-size automatic record changer with rotary controls for volume, balance, bass and treble plus wide range bass reflex speakers. Item #030-312

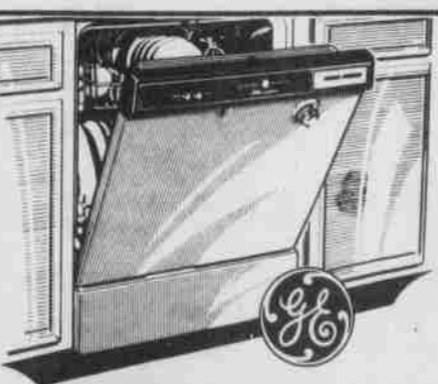
\$69.88



AM/FM Cassette Stereo MUSIC SYSTEM

AM/FM stereo receiver plus front loading play/recorder cassette deck, full size BSR auto record changer and speaker system. Item #372-706

\$169



General Electric Built-In DISHWASHER

Features include 2-cycle wash selection, energy saver dry, 2-level washing action, built-in soft food disposer, full-extension racks and sound insulation. Item #311-621

\$259



General Electric 30-Inch ELECTRIC RANGE

Features removable oven door with window, two 8" Calrod™ surface units, a total of four plug-in surface units, with infinite heat controls, clock, automatic oven timer and signal buzzer. Item #006-858

\$299

All items and prices in this advertisement available at:

PHONE 567-7829

Hermiston 930 Hwy. 395 South

OPEN DAILY 9 to 9
SUNDAY 10 to 5

Each of these advertised items is required to be readily available for sale at or below the advertised price in each Pay Less store. If you are unable to find the item you are looking for, please contact us at 567-7829.