

Research Being Done to Develop Space Vehicles

By JOSEPH L. MYLER
United Press International
Washington - (UPI) - At Pittsburgh, Westinghouse scientists dunk a running electric motor in liquid nitrogen at a temperature of 320 degrees below zero.
This is 180 degrees below the lowest temperature ever recorded in Antarctica.
Then the Westinghouse researchers put the still running motor in an oven and bake it to red heat at temperatures above 1,100 degrees.
In Palo Alto, Calif., Lockheed scientists subject various materials to similar and even worse indignities. They not only freeze and heat, they twist, sand-blast and irradiate.
At Greenbelt, Md., the Goddard Space Flight Center is building a \$15 million "torment chamber" in which engineers will shake and shock entire spacecraft, weighing up to 4,000 pounds, and subject them to extremes of temperature in vacuum chambers.

Serious Research
All this is not sadism of a peculiar sort; it is serious research to develop materials and craft capable of surviving the shocks and vibrations of rocket launchings, the heat and cold and radiations of airless space, and the solder-rattling stresses and vaporizing temperatures of spaceship re-entry into the atmosphere.
The purpose of the Westinghouse experiments with the "hot-cold" motor is to develop electrical insulation proof against "extreme environments."
The Lockheed project, and others like it, is aimed at finding more reliable materials for use in spacecraft destined for missions millions of miles from earth.
Some of the experiments were conducted not in the laboratory but in space itself. Some materials have been put in orbit aboard an agency rocket and returned to earth by capsule and parachute.

Seeks Lubricants
What the scientists are looking for are lubricants that won't deteriorate in a vacuum, paints that will stay put in space under radiation, gaskets that won't leak under any conditions, lighter and better electronic equipment, and materials that won't fail under the erosion of meteoric dust particles impacting at 179,000 miles an hour.
Already many space-resistant materials have been developed. The existing Goddard "torment chamber," otherwise known as the test and evaluation laboratory, can handle space payloads of only 200 pounds or smaller.
The new lab will be able to test one 4,000-pound load and two 1,000-pounders at the same time. It will handle craft up to 25 feet in length.
The orbiting astronomical observatory, the orbiting geophysical laboratory and the advanced NIMBS weather satellite will be put through their paces in the new chamber before launch to determine their ability to operate in space.

Alumni Group at University Changes

Eugene-Membership in the Alumni association of the University of Oregon was raised from 4,200 to more than 42,000 by the approval of alumni directors of changes in the alumni constitution, University President Arthur S. Flemming has announced.
The action was taken during a directors' meeting recently, with Joe McKeown, Coos Bay attorney and president of the alumni association, presiding.
The constitutional revisions abolished alumni dues, which had been a minimum of \$4 a year. Membership in the association was extended to graduates and all other persons, except those currently enrolled, who have at any time enrolled in any courses at the university.
The alumni magazine, Old Oregon, which has previously been mailed only to dues-paying members, will now be mailed to the entire list of 42,000 alumni, as soon as proper addresses are confirmed. The constitutional revisions will take effect as of July 1.

Youngster Found Dead in Mine Shaft

Shamokin, Pa. - (UPI) - The body of Kenneth Schickley, 12, was found Wednesday deep in a mine 11 hours after he disappeared while chasing a squirrel into the entrance of the 925-foot shaft.
John Varano and Joseph Garcia found the body at the 450-foot level and relayed the grim news to the surface by portable telephone.
Kenneth's father collapsed in the arms of a relative when he heard his son was dead.

"MORE MEAT FOR YOUR MONEY AT THUNDERBIRD"

PORK ROAST

Round bone shoulder cuts. Meaty well trimmed. Tender young pork
Special this week..... Just **29^c** lb.

PORK STEAK

Lean Meaty Blade Cuts. Grain Fed Midwest Porkers **39^c** lb.

FRESH PORK HOCKS

Real Meaty. Cut up, kettle ready **19^c** lb.

COUNTRY STYLE SAUSAGE

All Pork. Always fresh. Nicely Seasoned **29^c** lb.

SAUSAGE ROLLS

Del Monte's "farmer's style". Pure Pork-Real tasty 1-LB. ROLLS **3 for 98^c**

PURE LARD

Van Dines from "Boomer Hill." Kettle rendered 4 lb. pkg. **49^c**

SWISS STEAK

Lean boneless cuts of the round **69^c** lb.

RUMP ROAST

Well Trimmed Bone in Center Cuts **69^c** lb.
End Cuts **59^c** lb.



ROUND STEAK

Tender young beef, well aged. Full bone in center cuts lb. **75^c**



BAR S WIENERS

SKINLESS All Meat. Vac. Twin Pak. Full Pound **49^c**

DINTY MOORE BEEF STEW 15 1/2-oz. Can **29^c**

FIRESIDE CREME SANDWICH COOKIES Vanilla or Chocolate 1 1/2-LB. PKG. **29^c**

DOUMAKS MINIATURE MARSHMALLOWS 10 1/2-oz. Bag **19^c**

THUNDERBIRD MUSTARD Creamy Quart Jar **19^c**

HEREFORD CORNED BEEF 12-oz. Can **39^c**

FAB DETERGENT Reg. Home size 3.69 Laundry 16-LB., 1-OZ. PKG. **2⁸⁹**

EVERICH MARGARINE All Vegetable 1-lb. pkg. **7 for 99^c**

TIP TOP INSTANT COFFEE Blend of Choice Coffees 6-oz. Jar **59^c** 10-oz. Jar **89^c**

MEADOWBROOK'S FINEST

ICE CREAM

1/2 Gal. **59^c** Gal. **\$1.09**



WHITE KING 'D'

Giant Pkg. **47^c**

LOW EVERYDAY PRICE

FOLGERS COFFEE

Limit 4-Lbs. Total Coffee lb. can **49^c** 2-lb. can **97^c**

PHEASANT WH. KERNEL CORN No. 303 Can **2/25c 8/99c**

CHEF BOY-AR-DEE SPAGHETTI With Tomato Sauce & Cheese. 15-Oz. Can **2/25c 8/99c**

SMITH PEAS No. 1 Can **10 for 99c**

CRESTWELL CURLEUCUE BEETS No. 303 Can **10 for 99c**

JEFFY Cake & Brownie Mixes All Varieties 9-Oz. Pkg. **10 for 99c**

DIETETIC METRECAL WAFERS Box of 36 **87c**

FOR HOME FROZEN SICLES POP ICE Asst. Flavors Box of 6 **19c**

BANQUET FRESH FROZEN "COOK IN BAG" 8-Oz. Poly Bag Beef Stew or Chicken/Noodles **3 for 99c**

DIXIE PICNIC DINNER PLATES Super Strength Pkg. of 80 **99c**

STOKELY PINEAPPLE JUICE 46-Oz. Can **4 for 99c**

LADIES CHOICE PURE PEACH PRESERVES 44-Oz. Jar **79c**

REAL GOLD ORANGE BASE 6-Oz. Can **6/99c** 12-Oz. Can **29c**

Men's, Ladies', Children's THONGS

- Assorted Colors
- Heavy Rubber Sole

Reg. 39c **3** Pair for **\$1.00**

WIZARD Charcoal Lighter

- Reg. 98c-1 1/2 Gal. size **79c**
- Reg. 59c-Qt. Size **49c**
- Reg. 39c-Pint size **33c**

2 1/2-LB. BOX SNAROL

- Pellets or Meal
- Kills Slugs
- Kills Snails

Reg. 98c **79c**

McGraw Deluxe Electric HEDGE TRIMMER

- Heavy Duty Motor
- Slip Clutch
- On-Off Switch

Reg. \$19.95 **\$14⁸⁸**

BLACK FLAG HOUSE & GARDEN INSECT BOMB

- Contains 5 Proven Bug Killers

Reg. \$1.39 **99^c**

REDDY-LOG WINDOW SCREEN

- Extends to 37 Inches
- Locks at Any Adjustment

Reg. \$1.29 **88^c**

ALLSAF SAFFLOWER MARGARINE 100% Pure Safflower Oil 1-Lb. Pkg. **39c**

JEFFY BISCUIT MIX All Purpose 40-Oz. Pkg. **29c**

STOKELY'S PI-LI DRINK 29-Oz. Can **4 for 99c**

THUNDERBIRD SALAD DRESSING Qt. Jar **33c** Gal. **\$1.29**

THUNDERBIRD MAYONNAISE Qt. Jar **39c** Gal. **\$1.49**

SCOOPY ICE CREAM CUPS Box of 24 **29c**

HUNT'S PORK & BEANS 51-Oz. Can **39c**

DIAMOND A CUT BLUE LAKE GREEN BEANS No. 300 Can **5 for 99c**

HERSHEY INSTANT COCOA MIX 38-Oz. Pkg. **79c**

CARNATION LIGHT CHUNK TUNA No. 1/2 Can **29c** No. 3/4 Can **39c**

SILK PAPER NAPKINS Asst. Colors Pkg. 60 **10c**

GERHARDT'S CHILI WITH BEANS 40-Oz. Can **59c**



THE Thunderbird

Discount MARKET

CORNER JACKSONVILLE HIWAY AND LOZIER LANE

SUMMER HOURS

8 a.m. to 9 p.m.

Prices Effective Thursday Thru Sunday
We Reserve the Right To Limit No Sales to Dealers



Chrome Plated Hood!

OZARK CHEF WAGON BRAZIER

With Rotisserie. Reg. \$29.95 **\$19⁸⁸**

Use Our Layaway Plan