



## Season's Greetings

*This has been an arduous, but exciting year. We have had men in space for much of it, and we have established many spaceflight records. Our center has been honored with the name of a president who believed in the promise of spaceflight and who supported our efforts from the beginning.*

*Today finds the Lyndon B. Johnson Space Center again busy accomplishing one of its basic objectives—flying men in space and collecting a wealth of knowledge which, I am confident, will enrich the lives of all of us on earth.*

*In my Christmas message last year, I reminded you that we were on the eve of new challenges and I asked for your commitment to them. The performance has been outstanding. I am proud of the way you have met and overcome the many difficult, and often unexpected tasks that Skylab has posed. I know that you will not do less in the closing months of the program.*

*To some persons it may appear that each succeeding Skylab mission has merely repeated the activities of its predecessor. However, you and I know that one mission has built on another and that the promise we saw is already becoming reality in terms of what we are learning about the sun, the earth, manufacturing in space, human abilities in space, and other areas which will benefit mankind.*

*Five years ago today, we launched Apollo 8 to the moon. One year ago today, we welcomed home our last lunar explorers, the Apollo 17 crew. Today, we are supporting an outstanding Skylab crew in orbit. A year from today, JSC will not be in mission status, but we will be approaching the culmination of the first cooperative manned mission with another nation—The Apollo-Soyuz Test Project; we will be deeply involved in the Space Shuttle and Earth Resources Program; we will be devoting talent and resources to urban systems and to other tasks that may be assigned to us. In short, we still will face challenges that will require our dedication and a commitment to quality.*

*To each of you and to your families, I wish a most happy Christmas season and New Year. I am sure that the outstanding spirit you manifested in 1973 will continue to bring credit to yourselves and to this center in 1974.*

CHRISTOPHER KRAFT JR.  
Director

## Apollo 17 Flag To Fly in MOCR

On December 11, 1972, Apollo 17 touched down upon Taurus Littrow to finalize manned lunar landings.

Commemorating this event, Apollo 17 commander Eugene Cernan and lunar module pilot, Jack Schmitt last Tuesday presented a U.S. flag which flew aboard the Apollo spacecraft, the "America," to mission controllers and "all the people at JSC who supported the operation."

The ceremony took place in the Mission Control Center at approximately 1:54 p.m.

"The real significance of this

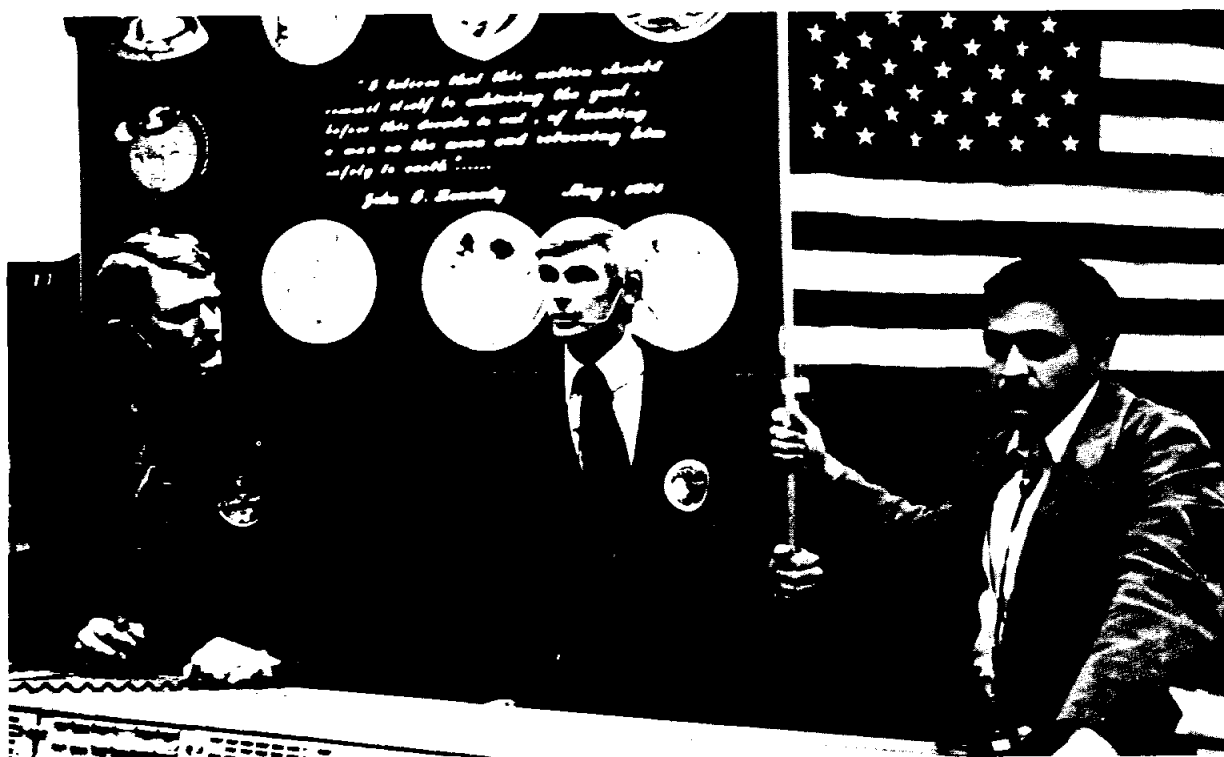
flag," Cernan stated, "is manifested in its own history, but to us, the fact that we had the opportunity to carry it, sort of represents the dedication and effort and the courage and self-sacrifice of so many of you people at the Center who made our mission possible."

Schmitt added, "I think all of you remember what I said when we deployed the flag similar to this on the Moon, that was the flag that flew in the MOCR during Apollo 11 through Apollo 16 and its up there, not only representing the country, but everyone involved in Apollo

through the years. This flag went to the same place, but comes back to fly in the MOCR and I hope you'll let it fly here for as long as we're flying in space."

Eugene Kranz, Deputy Director of Flight Operations, accepted the flag on behalf of the Center.

"This flag shall always stand in the Mission Control Center," Kranz stated, "and when we look at it, we'll think that dedication to the job, self sacrifice, attention to detail and craftsmanship are what we need to keep this country great."



PRESENTING U.S. FLAG—Apollo 17 commander Eugene Cernan and lunar module pilot, Jack Schmitt recently presented a U.S. flag which flew aboard the Apollo spacecraft "America," to mission controllers and everyone involved in the Apollo 17 mission. Accepting the flag on behalf of the Center was Eugene Kranz, Deputy Director of Flight Operations.

## Conservation Measures Still Being Planned

Director of Center Operations, Joseph V. Piland, has announced that a number of additional measures are being considered for incorporation in the JSC Energy Conservation Program.

While previous conservation measures have been accomplished without facility modifications, follow-on phases will consider alterations to buildings and/or equipment. The modifications will be selected based on technical and economical feasibility.

Some of the measures under consideration are employing reflective window coatings; insulating wall panels below windows; instrument heating, ventilation, and air-conditioning (HVAC) system for computer

assessment and precise control; revising year-round relative humidity limits; replacing oversized equipment; providing individual light control switches in offices; employing power factor correcting condensers; employing highly tailored work area lighting; utilizing subcompact GSA automobiles, restricting individual taxi service onsite; and examining advanced power sources such as solar panel generators or pyrolysis units.

Piland emphasized that none of the measures have yet been adopted or thoroughly evaluated. They are simply indicative of the type of actions that may emerge during the next phase of the energy conservation program.

(Continued on Page 3)

## Officials Review SL-4

Skylab Program Director William C. Schneider recently reviewed the health and the accomplishments of the Skylab 4 crew during their first month in space. The review took place at a press conference at JSC.

"The doctors are pleased not only with their physical well-being, but also with their mental well-being and the job they are accomplishing," Schneider stated.

Schneider said that all the medical experiments planned for the initial 28 days of the mission had been accomplished.

In the area of ATM solar observation, the crew accomplished about 10 percent less than planned during pre-lift-off. Schneider explained that ATM time after lift-off was consciously shifted to Earth Resources. He added that even though ATM observations has been decreased there were several significant accomplishments in this area including observation of a limb flare by Ed Gibson on December 4.

"The principal Investigators tell me that the flight crew exercised perfect judgement and execution in getting all the data

that they possibly could from this limb flare."

The astronauts also have recorded the activities of the Comet Kohoutek, even though it is not bright as had been expected. The crew says, however, that the comet is becoming steadily brighter.

Also, one of the SL-4 Earth Resources passes associated with the ocean currents in the Yucatan channel may present ideas which could help the weather bureau in better modeling the Earth's atmosphere and in predicting the weather.

Recently, the crew began surveying known geothermal areas such as California and Western Mexico. They are gathering data that may aid scientists in detecting the best areas for producing electrical energy from the earth's inner heat. Geothermal energy plants already supply electricity in Northern California and several foreign nations.

Schneider said the true accomplishments of all of the Skylab missions probably won't be known until several years from now.

## Center Employees Receive Awards

A total of 49 JSC Certificates of Commendation and 79 Superior Achievement Awards were recently presented to Center employees in recognition of their efforts in the manned flight program.

Receiving Certificates of Commendation were William M. Anderson, Stephen G. Bales, James H. Barnett, Jr., Robert L. Blount, James E. Broadfoot, Jr., Robert G. Brown, Patrick Butler, Jr., Marlowe D. Cassetti, Melvin E. Dell, Wade D. Dorland, Larry J. Dungan, C. Ragan Edmiston, Wilbert F. Eichelman, Galloway B. Foster, Jr., George E. Griffith, Vernon C. Hammersley, Jr., Norman J. Hubbard, William C. Huber,

Gerald L. Hunt, Armond T. Joyce, C. Alan Kirkpatrick.

Also, Joseph J. Kolnick, Helmut A. Kuehnel, Axel M. Larsen, Jr., William S. Lee, Joseph H. Levine, Morgan R. Loree, Merrill A. Lowe, Lawrence E. Lundgen, James E. Mager, Wendell W. Mendell, James L. Neal, Lawrence E. Nyquist, Rita M. Rapp, Robert R. Regelbruggee, Archibald M. Reid, William E. Rice, Jasper C. Smith, Jr., William A. Sullivan, Charles C. Thomas, James W. Thompson, Bobby K. Vermillion, Jeffrey L. Warner, Richard I. Williams, Wayne K. Williams, Walter D. Wolhart, R. Wayne Young, Eugene F. Zetka,

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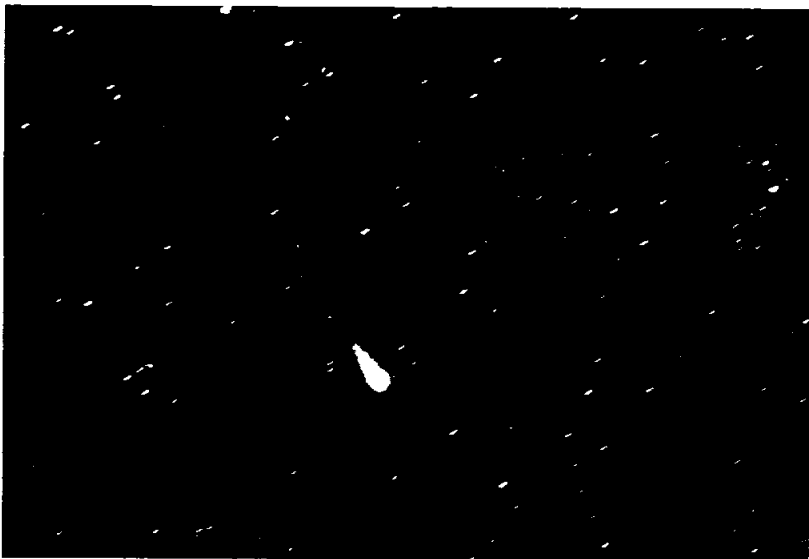
## Professor Kohoutek To Visit JSC

Comet Kohoutek will make its closest approach to the Sun on December 28. On that day, Professor Lubos Kohoutek, discoverer of the Comet will visit JSC's Mission Control Center to talk to the orbiting Skylab crew. Astronauts Gerald Carr, Bill Pogue and Ed Gibson have been observing and photographing the Comet during the Skylab 4 mission.

While visiting the Center, Dr. Kohoutek will meet informally

with the press. Friday evening, a reception and dinner, hosted by JSC Director of Science and Applications, Anthony Calio, will be given in his honor. Skylab Principal Scientific Investigators will attend the affair.

Before coming to Houston, Dr. Kohoutek will conduct a news briefing in Washington D.C. at 10 a.m., Thursday, December 27, in the first floor auditorium of the HEW Building, 300 Independence Avenue.



NOAA SOLAR PHOTO—The Comet Kohoutek, photographed by the National Oceanographic and Atmospheric Administration (NOAA) solar observatory, is shown traveling at a speed of 110,000 miles per hour. The coma (head) of the comet is 100,000 miles in diameter and its tail is 3,720,000 miles long. While photographs are being made of this large comet from the ground, the Skylab 4 crew is using instruments aboard their space station to record the activity of the unusual celestial event.

## Money To "Talk" For The Blind

The cliché "money talks" will soon acquire a literal meaning for blind persons as the result of a simple paper money identifier developed from NASA technology.

The device will enable a blind person to identify paper money by its sound "signature." Until now, no reliable paper money identifier for the blind has been available.

To determine its denomination, a bill is passed under a light source on the small, inexpensive device. A phototransistor measures changes in the bill's light patterns. These changes are converted into sound signals by an oscillator—producing sounds similar to "beeping" tones that occur when making long-distance telephone calls.

Since the design of various denominations of paper money differs, each bill gives off its own easily identified sounds.

Tests of an early version of the money identifier were successfully conducted by Arkansas Enterprises for the Blind in Little Rock. It was found that after about three hours of practice, a subject could easily distinguish the sound patterns of different denominations of paper money.

The "talking money" concept was developed by NASA's Biomedical Applications Team at the Southwest Research Institute, San Antonio, Texas. It stems from technology first reported in 1969 by NASA for the semiautomatic inspection of microfilm records.

The paper money identifier is being produced by the Marchak Engineering and Manufacturing Co., Austin, Texas. It is being marketed by Applied Rehabilitation Systems, 3902 Idlewild, Austin. It is available to training centers and schools for the blind as well as individuals.



EARLY BIRDS GET THE BEST CAR NEST—Pictured above are the first JSC employees who signed up for a car pool. Left to right are Sandra Wright, Donna Robbins and Norma Costella. The young ladies were assigned parking space C-7, near building 2.



**Take stock in America.**

Buy U. S. Savings Bonds

## Center Employees

(Continued From Page 1)

and John F. Zieglschmid.

The JSC Superior Achievement Award went to Charles E. Allday, Lawrence L. D. Armstrong, Philip N. Barnes, William V. Bates, Jr., Charles A. Biggs, Sr., Robert L. Bond, Aldo J. Bordano, Jr., Timothy M. Brown, Jr., Frank A. Burgett, Arturo B. Campos, Gary E. Coen, John W. Conlon, Norman R. Cooper, Charles N. Crews, Charles L. Dumis, Elsie M. Easley, Stanley B. Easterly, Hilda B. Edwards, Gene W. Frye, Fred Fulton, Gene E. Gentry, Robert L. Giesecke, Robert V. Gordon, Michael C. Gremillion, Chester M. Gross, James L. Hall, Gary E. Hanisch, Harvey L. Hartman, Donald F. Hughes, William R. Humphrey, Donald L. Jacobs, Allan W. Joslyn, Allan Robert C. Kohler, Fred D. Koons, Thomas A. Lane, Thomas P. Larkin, George Laski, Curtis J. LeBlanc, John D. Lem, Jr., Humboldt C. Mandell, Jr., Carl P. Maxey, Albert B. McIntyre, David S. McKay.

In addition, Charles E. McQuain, Joseph E. Mechelay, Edward D. Mendenhall, Percy S. Miglicco, R. Scott Millican, Pantaleon Moreno, Duane K. Mosel, Catherine T. Osgood, David H. Owen, Jr., Andrew R. Patnesky, Ernest E. Peck, R. Ray Reynolds, Melvin L. Richmond, John E. Riley, James R. Roundtree, George W. Sandars, Hugh M. Scott, Jr., Bill R. Sheegog, William H. Shumate, Antoine F. Smith, Irwin D. Smith, P. Donald Smith, James C. Stamps, Carrington H. Stewart, William A. Stransky, Leslie J. Sullivan, Gerald R. Taylor, James P. Vincent, Joel E. Wakeland, James M. Waligora, Douglas K. Ward, Dwayne P. Weary, James E. West, Richard D. Stewart and Harry O. Wheeler.

A Group Achievement Award was presented to the Shuttle Orbiter Double-Delta Aerodynamic Design Team.

Also recognized were those civil servants who have performed continuously in an outstanding manner; retirees, suggestion award winners; invention and contribution awards and "Outstanding Secretary of the Month." Many of these awards carry cash increments or salary increases.

The Leo Stevens Award was presented to JSC and John E. Kiker.

## 18 Employees Complete First MDP

Eighteen JSC employees recently completed the Center's first Management Development Program. Initiated in 1971, the MDP provides selected management level employees at the Center with a better understanding of management concepts and techniques. Particular emphasis is placed on the working environment at JSC.

The program is sponsored by JSC and conducted by the

University of Houston's College of Business Administration. Program Director is Dr. Winfred E. "Dutch" Holland.

Employees in the first MDP have completed four semesters of graduate work conducted at JSC over a two-year period.

Two additional groups of JSC employees are currently participating in Management Development Programs started at the Center in 1972 and 1973.



EMPLOYEES COMPLETE MDP—Pictured above are JSC employees who recently completed the first Management Development Program at the Center. Left to right, bottom row are Paul Svjkovsky, Percy Miglicco, Jim Sasser, Howard Sands, Ken Schnell, Bob Hood, and Anne Cunningham (Program Assistant.) Top row, left to right, are Tom Kloves, Bob Johnson, Jim Lawrence, Charlie Parker, Jack Heberlign Bill Zrubek, Lee Nichols, Jim Taylor, Mike Duke, Larry Bell, Dave Shultz, and Dutch Holland, Director of the JSC/UH Management Development Program. Harvey Hartment, not pictured, also completed the program.

## Working Group Completes Meetings

The joint US/USSR Working Group on Space Biology and Medicine, established under the January 21, 1971 agreement between NASA and the Academy of Sciences of the USSR, recently completed eight days of meetings at JSC, devoted to extending cooperation in space biology and medicine between the United States and the Soviet Union.

The Joint Working Group continued the exchange of medical data and results from U.S. and Soviet manned flight experience. The group discussed vestibular disturbances and the characteristics of human blood circulation under space flight conditions. The participants also developed recommendations designed to further the use of common procedures in the biomedical aspects of manned space flight.

During the meeting, the

Soviet delegation reported that in connection with the recently completed flight of Soyuz 12, they had conducted pre- and post-flight cardiovascular evaluations with a Lower Body Negative Pressure device in accordance with the common US/USSR procedure established in Moscow in March, 1973. This will permit for the first time the direct comparison of Apollo, Skylab, and Soyuz data.

The Soviet delegation visited the JSC Mission Operations Control Center, where they observed the facilities for monitoring the health of Skylab crew members. They also visited the Skylab 1-g trainers and the Skylab Mobile Laboratories.

The recommendations of the Joint Working Group, which was co-chaired by Dr. Charles A. Berry of NASA and Dr. N.N. Gurovsky for the Soviet Acad-

(Continued on Page 4)



IT DOES PAY TO SELL PICNIC TICKETS—Pictured above are the top three ticket sellers of the 1973 JSC picnic. Kathy Spencer (2nd from right) sold the highest number of tickets, with Gloria Martinez (3rd from right), and Charles Seaman, (2nd from left), running a close second and third, respectively. Presenting the gifts to the winners are Evon Collins, Betty Cornett and Mary Yarbrough.

## Linda T. Rogers Gets Secretary's Award For Dec.

There are many secretaries at JSC. Some are considered good, some are average and others are "great."

Linda T. Rogers of the Flight Support Division, Operations Integration Branch, falls into the latter category. Consequently, she has been awarded the Outstanding Secretary Award for December.

In addition to her regular assignments as section secretary, Linda has mastered the details of operating the Administrative Terminal System (ATS) a computerized documentation system. When the ATS was centrally located, Linda voluntarily operated the terminal to maintain her proficiency and to relieve other operators. She has been appointed alternate operator for an ATS terminal recently installed in the Flight Support Division.

During missions, Linda is assigned duties within the Mission Control Center and frequently works shifts ending or beginning at midnight to support 15 members of her section as well as 40 contractor personnel who must perform essential console duties.

Linda understands the need for exactness and timely reaction to unusual situations that often occur during mission support activities.

Her efficiency, cheerful disposition and willingness to accept responsibilities have elicited many favorable comments from all who have observed her work.



OUTSTANDING SECRETARY AWARDS—In the top photo, Dr. Kraft has just presented Mrs. Linda T. Rogers the "Outstanding Secretary" Award for December. Linda is in the Flight Support Division. Pictured below is Laverne Hansen, Outstanding Secretary for November. Laverne is employed in Administration and Program Support.



## Energy Conservation (Continued From Page 1)

JSC employees have cooperated well with previously implemented measures.

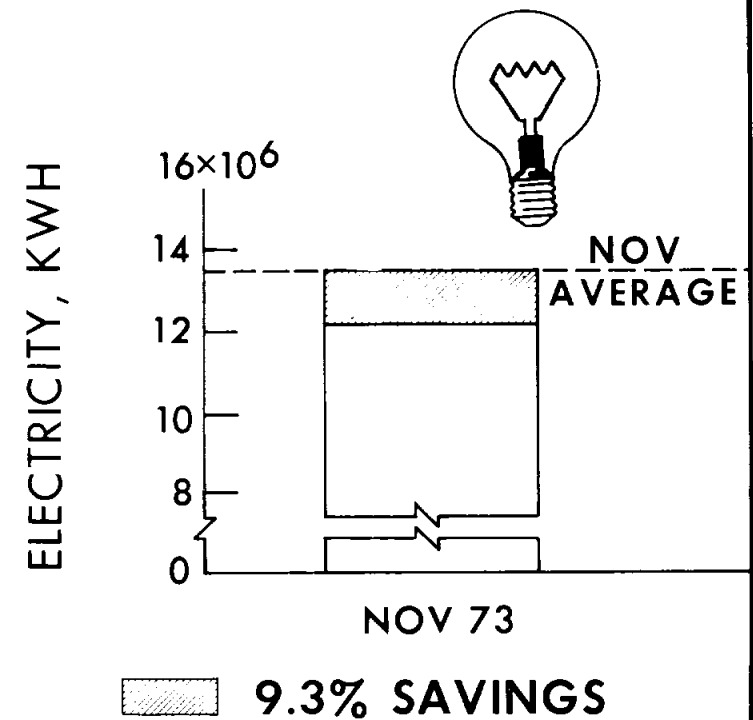
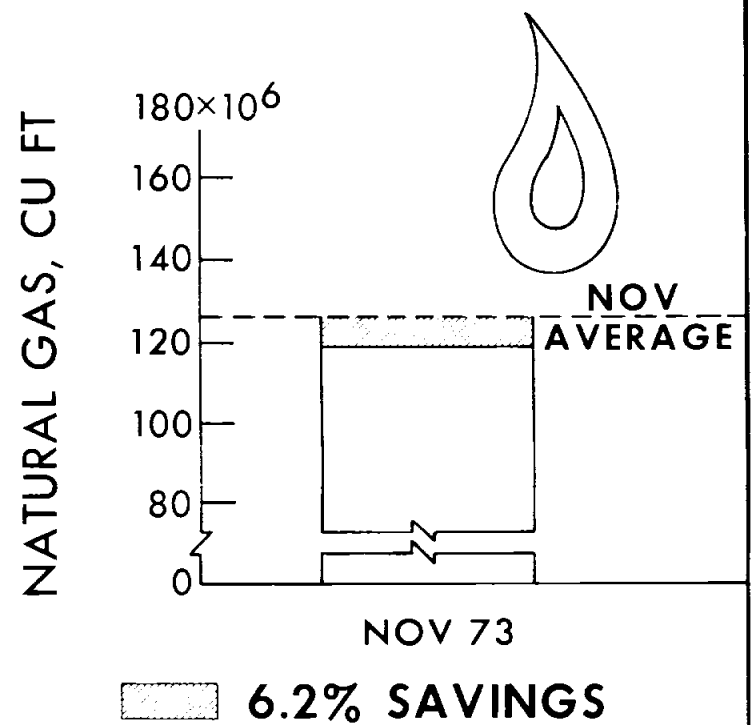
"There have been frequent invitations to remove additional fluorescent tubes beyond the one-third programmed." Piland related, "While care is being exercised to insure that requested levels are not overly severe, there are undoubtedly additional gains that can be realized and persons who might want to volunteer further reduc-

tions may do so by calling X-6421."

Piland stated that the transfer of janitorial services to the daytime shift has been accepted by JSC personnel without indications of interference. Also, employees have been tolerant of the 78 degree-68 degree cooling and heating limits.

"The spirit in which the measures are being supported," Piland added, "is a credit to the entire center."

### JOHNSON SPACE CENTER ENERGY CONSERVATION SCOREBOARD



## Roundup Swap-Shop

Swap Shop advertising is available to JSC and on-site contractor personnel. Articles or services must be offered as advertised, without regard to race, religion, sex or national origin. Ads should be 20 words or less, including home telephone number. Name and office code must accompany, but need not be included in ad copy. Typed or printed copy must be received (AP3 Attn: Roundup) by Thursday of the week before publication.

#### MISCELLANEOUS

Online Chain Saw, lightweight, li nw, \$100. Hutch, well constructed, xint cndn, \$15.  
Double bass drum set, 11 pieces, Ludwig and remo heads, xint cndn, \$450 value, sacrifice for \$195, Kirklund, 484-3420.  
Li new table top hair dryer w mist setting, \$17, Haines 4971 or 941-2495.  
Tent, 10x14 gd cndn, \$80. Fishmaster water temp. meter (0-50 pt) \$18. Price, 471-3314.  
VW wheel and tire, 61, li nw, \$15, 477-3761, large Sears car top lug carrier, vinyl w zipper, completely weather tight, \$25. Hvy duty Sears belt sander and case, \$30, 471-3761. Everlast heavy punching bag w chains and swivel, li nw, \$25, 471-3761.  
Dyna-kit stereo PAS-3x preamplifier, stereo-70pwr amp, FM-3 tuner, li nw, \$150, 488-0672.  
Girl's women's white lace-up skates, 2 pr, size 6 and 7, \$5/pr, Ed, x-4401.  
Full size table tennis folding table, net, paddles, gd cndn, \$25, Rose, 334-3461.  
Two 15x6 chrome reverse wheels w baby moon hubcaps, fits Ford, Dodge, Plymouth. Both for \$20, Mark, 488-5037.  
Two 15" wheels w tires, fits Ford, Dodge Plymouth, both for \$20, Mark 488-5037.  
8 gallon saddle type gas tank, for car, truck, boat, \$20, 488-5037.  
Three carat Diamond ring, Tiffany setting on wh brushed gold band, will sacrifice for \$125, Judy 5111.  
Bell-TpoTex R.T Motorcyc helmet size, 7 v8, \$10 or trade for equiv, 7 1/2, x-3711.

#### VEHICLES

65 Chrysler sta wgn, 383, air, auto, trans, pwr, steel belted radial tires, \$450, Barnett, x-3343 or 331-3334 aft 6 pm.  
72 Yamaha, DTIF, 250cc low mi, 1 owner, will negotiate Lynch, 473-2720 aft 6 pm or x-6493.  
Girls spider bike, xint cndn, \$15, boys spider bike gd cndn, looks well used, \$5,

#### HOUSEHOLD ARTICLES

Hydrick, 481-2591.  
69 Chrysler Imperial, 2-dr ht, \$1400 or bst ofr, gd ride pool car, all pwr, air, seat belts, Fischer, 472-6910 or x-2177.  
2 used tricycles, 1 used propeller guard for 10 hp Evinrude motor, Haines, 483-4971 or 941-2495.  
67 Buick Le Sabre, air, hydrumatic, ps, 2-dr, Quinn, 483-2301 or 488-1877 aft 5.  
69 Sta wgn, Dodge Coronet 440, 9 pass, air, auto, pwr, radial tires, gd cndn, \$1150 Potter, 474-4011.  
Carabella racing motorcycle, 125 cc, xint cndn, \$375, "TT" leathers for motorcycle racing, medium sz, \$35, Potter, 474-4011.  
Montessa 125 cc motocross cycle, 72, runs great, sold new for \$849, now \$350, Peters, 482-2589.  
71 Mazda, Rx3, 4-dr Sedan, AM/FM radio, air, low mi, 488-0672.  
64 Chevelle Malibu, auto, engine in gd cndn, gd mi, gd 2nd car, \$295 or bst ofr, Heck, x-3278.  
72 Yamaha 250, xint cndn, Erb, 334-3319.  
70 Honda 350 CL Scrambler, \$395, 488-6128 aft 5:30 p.m.  
70 Suzuki TS 90 cc c/c, low mi, gd cndn, real gas miser, \$195, Rose, 334-3461.  
64 Catalina wgn, no rust, nw tires, clean, must see, \$300, Malone, 332-1367.  
70 T-Bird red w white top, xint cndn, Bigham, 681-7770 aft 6 pm.  
69 Rebel, stick-six, 21 MPG, air, \$500, Wood, 333-2373.  
64 MGB, vgc, inside and out, new radial tires, see to appreciate, Jay, x-6357 or 481-2335, \$550.  
65 K-GHIA conv, red, gd cndn, engine replaced in March 1973, \$250, x-3931.  
68 VW Fastback, light blue, xint body and interior, engine rebuilt in 72, Threw rod last month, bst ofr, x-3931.  
67 Pontiac Bonneville, auto, air, full, pwr, \$300, 554-6361.

#### WANTED

Aquarium, tanks, and equipment, Stytle, 333-4891.  
Pre-1965 dimes, quarters, halves, \$1.90 per \$1.00 face value, Laferty, x-2666 or 485-1997 aft 7.  
Join or form carpool using Gulf Freeway from Broadway/Parkplace or Gulfgate areas, 8:30-5:00, Johnson, x-3258.  
Carpool from Southampton area of Houston to JSC x-4422.

#### LOST AND FOUND

Lost, Prescription glasses, silver metal frames, in blk case, Hydrick, 3286.  
Found, Ladiew beige scarf, reclaim for Hydrick, Bldg 16, rm. 232.

#### PETS

Siamese kittens, chocolate-point, C. Thompson, x-2931 or 748-5720.  
Young female Beagle, AKC, wonderful pet, sold for \$40 as puppy, must sell make ofr, 944-3647.  
AKC Basset Hound puppies, bi-color and tri-color, championship bloodline, ready for Christmas, \$85, 488-6871.

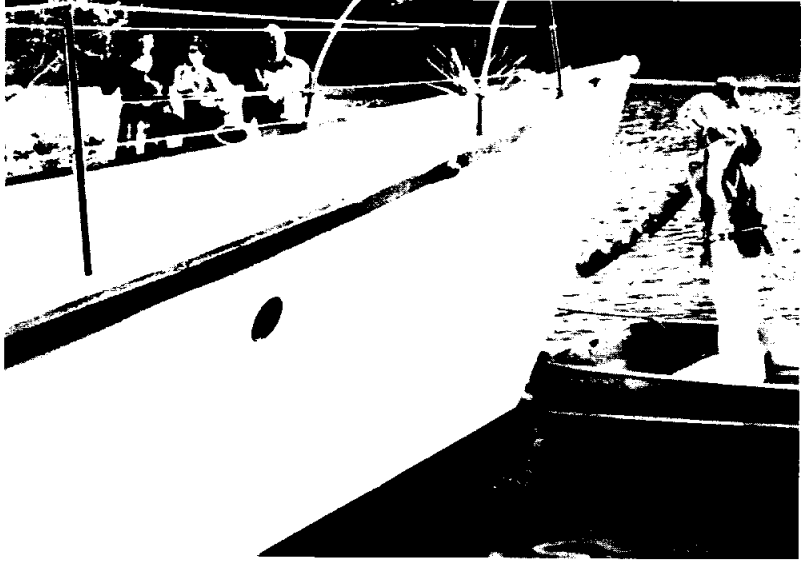
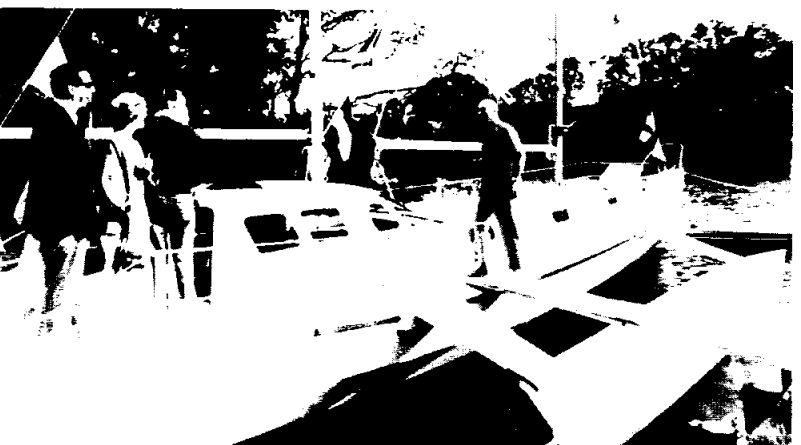
## ROUNDUP

NASA LYNDON B. JOHNSON SPACE CENTER

HOUSTON, TEXAS



The Roundup is an official publication of the National Aeronautics and Space Administration Lyndon B. Johnson Space Center, Houston, Texas, and is published every other Friday by the Public Affairs Office for JSC employees.  
Editor: Janet Wrather      Photographer: A. "Pat" Patnesky

*I Christen...**Thee...**"Outrigger"*

DR. GILRUTH COMPLETES BOAT—Former JSC Director, Dr. Robert Gilruth, recently put the finishing touches on his boat, "The Outrigger." The 52-ft. multihull was designed and built by Dr. Gilruth in his spare time. He began building the boat in 1963. In the top two photos, Dr. Gilruth's daughter, Mrs. Barbara Jean Wyatt, is shown christening the boat. "The Outrigger sits in splendor in the third photo. Dr. Gilruth is shown joining friends aboard his boat in the bottom photo.

APOLLO 8 MISSION COMMENTARY, 12/24/68, GET 860615, CST 8:58p 277/1

ANDERS In the beginning, God created the Heaven and the Earth. And the Earth was without form and void and darkness was upon the face of the deep. And the spirit of God moved upon the face of the waters and God said, let there be light. And there was light. And God saw the light and that it was good and God divided the light from the darkness.

LOVELL And God called the light day, and the darkness he called night. And the evening and the morning were the first day. And God said, let there be a firmament in the midst of the waters. And let it divide the waters from the waters. And God made the firmament. And divided the waters which were above the firmament. And it was so. And God called the firmament Heaven. And evening and morning were the second day.

BORMAN And God said let the waters under the Heavens be gathered together in one place. And the dry land appear. And it was so. And God called the dry land Earth. And the gathering together of the waters called He seas. And God saw that it was good. And from the crew of Apollo 8, we pause with good night, good luck, a Merry Christmas and God bless all of you - all of you on the good Earth.

PAO This is Apollo Control Houston. The speakers in the order that they read from what we believe to be chapters from Genesis, were Bill Anders and Jim Lovell and close out with Frank Borman. That's both Biblical and a geological lesson that none of us will for get. At 86 hours and 9 minutes into the flight, this is Apollo Control Houston.

END OF TAPE

## Make Christmas Safe and Happy

Christmas is traditionally one of the happiest seasons of the year. Homes are decorated and brightened with colorful gift wrappings and shiny tree ornaments, and are filled with the laughter of children opening packages under Christmas trees.

Extra precaution against fire hazards, however, should be taken to make sure that the holiday season remains a happy one.

Careful selection of Christmas trees is one safeguard against fires. Evergreen trees should be freshly cut at the trunk at an angle one inch above the original cut. The trees should be placed in water and checked everyday since dried-out trees are serious fire hazards. They should also be kept at a distance from such heat sources as TV sets, fireplaces, hot air ducts or radiators.

All plastic trees should contain fire-retardant labels. If the tree is metallic, it should be lighted with indirect spotlights. (strings of lights present shock hazards.)

Also, children's toys should be carefully checked. Electrical toys should bear testing agency labels. Make sure that dolls and other toys are not highly combustible. Toys that operate on gasoline or other flammable liquids are risky for young children.

Make this holiday season a safe and happy occasion—protect your homes from fire.

## Working Group

(Continued From Page 2)

emy, will be forwarded to Dr. James C. Fletcher, NASA Administrator, and Academician M.V. Keldysh, President of the Academy.



## NASA Selects Grumman To Negotiate

NASA has selected Grumman Aerospace Corp., Bethpage, N.Y. for negotiation of a contract to modify two Gulfstream II aircraft for use as crew trainers for the Space Shuttle Orbiter Vehicle. The contractor's proposed cost is approximately \$19.5 million.

Grumman will modify produc-

tion aircraft to simulate the orbiter cockpit, visual cues, handling qualities, and duplicate the orbiter's atmospheric descent trajectory from approximately 35,000 feet altitude to landing on a runway. The training aircraft will be delivered approximately two and one-half years after the contract is signed.

The production aircraft will be purchased on a fixed price basis, while the required modifications will be under a cost-plus fixed-fee arrangement.

The work will be managed by JSC.

## Whitbeck Speaks

Phillip Whitbeck, Director of Administration and Program Support at JSC, was guest speaker at the fall induction banquet of Texas A&M's Sigma Eta chapter of the National Management Honor Fraternity held recently at College Station.

Twenty-eight new members were inducted into the society including Whitbeck who was inducted as an honorary member.

## Credit Union Meets

During the annual JSC Federal Credit Union meeting, which will be held February 22, 1974, four directors and one committee member will be elected to succeed employees currently in these positions.

The nominating committee stated that while nominations for director or committee may be made from the floor, those persons who would like to be considered for the positions should submit their qualifications in writing by January 4 to either Stuart Lennett, EE-3, Jim Moody, EE-23, Marie Wilmet, JN-5 or Maurice Blacman, committee Chairman, EE-3, x-2555.