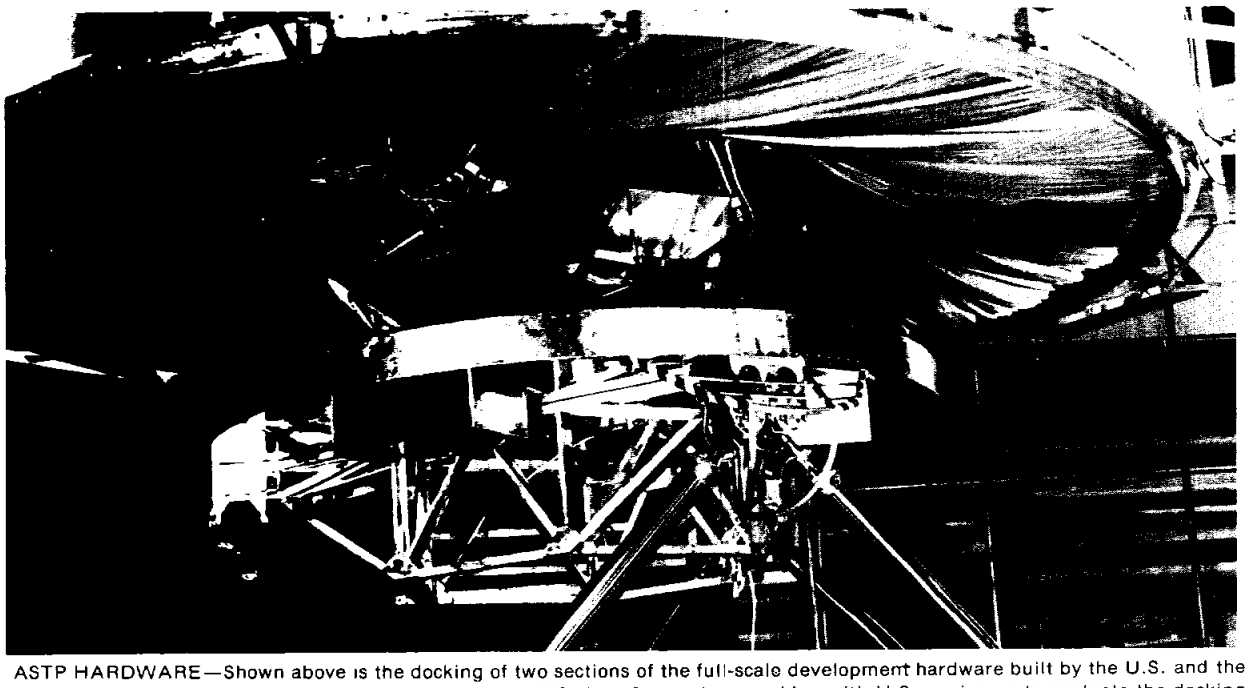


ASTP HARDWARE—Shown above is the docking of two sections of the full-scale development hardware built by the U.S. and the U.S.S.R.. Soviet scientists and engineers have been at JSC since September, working with U.S. engineers to evaluate the docking system which will be used on ASTP.

ROUNDUP

NASA LYNDON B. JOHNSON SPACE CENTER HOUSTON, TEXAS

Vol. 12 No. 25 November 9, 1973

Final Skylab Mission Delayed Until Nov. 15

The Skylab 4 launch has been rescheduled to no earlier than 8:37 am CST, Thursday, November 15 in order to replace the eight fins on the first stage of the Saturn IB rocket.

Cracks were discovered in the stabilizer fins during inspection late Wednesday. Present plans are for the Mobile Service Structure to be rolled back to the pad late Saturday night, and Rocket Propellant-1 load and hold-down arm ordance (quick release mechanism) installation should occur Saturday.

Countdown will resume Sunday if the process goes as planned. A final assessment on launch date will be made on Sunday afternoon. If there are no problems, the launch window on November 15 will open at 8:37 am CST for five minutes.

Skylab 4 has been planned as a 60-day open-ended mission with consumables aboard to provide for as many as 85 days.

As many as five extravehicular activities (EVA's) may be scheduled for the mission. The first EVA would last for four to six hours for the purpose of installing Apollo Telescope Mount (ATM) film and beginning repair work on the S193 experiment antenna.

A second EVA may be required to complete the antenna repair operation. A third EVA, scheduled on Christmas day in order to photograph the Comet Kohoutek just before it passes by the sun, would last for about 4½ hours. ATM film change and several experiments would be carried out during this EVA.

A fourth EVA, also lasting about four and a half hours, would perform additional experiments and retrieve various samples of materials left out on earlier EVAs. The fifth EVA would be in January lasting about three and a half hours to retrieve ATM film.

JSC Employees Honored at MSFC

Twenty-seven JSC employees and five Center organizations were honored recently at a ceremony at Marshall Space Flight Center, Huntsville, Alabama for their work on the Skylab missions.

Five of the group received the NASA Distinguished Service Medals; 19 were awarded NASA Exceptional Service Medals; and three were honored with the Outstanding Leadership Medal. NASA Group Achievement Awards were issued jointly to the Skylab EVA Operations Team with members at both JSC and Marshall; the Skylab Operations Support Team out of JSC/MSFC and the Kennedy Space Center, Florida; the Skylab System Operations Team, JSC/MSFC; the Skylab Real Time Planning Team, JSC/MSFC/KSC, and the Skylab Emergency Thermal Shield Development Team out of JSC/MSFC and the Langley Research Center, Hampton, Virginia.

The Distinguished Service Medals were awarded Astronauts Charles Conrad, Jr., Joseph P. Kerwin, and Paul J. Weitz; the crew of Skylab 2. Kenneth S. Kleinknecht, Skylab Program Manager, and Jack A. Kinzler, Chief of the Technical Services Division, were the other recipients.

NASA Exceptional Service Medals went to Flight Directors Neil B. Hutchinson, Donald R. Puddy, Milton L. Windler, and Charles R. Lewis. Also receiving Exceptional Service Medals were Paul A. Buchanan and Charles E. Ross, MDs.

Program office personnel honored were Alfred A. Bishop, W. Harry Douglas, Reginald M. Machell, and James C. Shows. Also, Astronaut Russell L. Schweickart and Capcom Richard H. Truly.

Others include Larry E. Bell, Robert E. Ernull, Sidney C. Jones, Jr., Thomas U. Mc-

[*Continued on Page 3*]

Smylie Gets New Post In Major NASA Office

Robert E. Smylie, Chief of the Crew Systems Division at JSC, recently was appointed Deputy Associate Administrator (Technology) for NASA's Office of Aeronautics and Space Technology (OAST).

OAST, one of five major Headquarters Offices which direct NASA's research and development programs, has the responsibility for providing the technology to meet the nation's future requirements in aeronautics and space exploration.

ROBERT E. SMYLIE

As Deputy Associate Administrator (Technology), Smylie will be directly responsible for those research and technology discipline offices dealing with space propulsion and power; guidance, control and information systems; materials and structures; aerodynamics and vehicle systems; aeronautical man-vehicle technology; aeronautical propulsion; and research.

Prior to 1969, Smylie held various key assignments in support of the Apollo manned lunar exploration program.

Before joining NASA in 1962, Smylie was employed by the Douglas Aircraft Company, Santa Monica, California, where he was responsible for various systems in the development of the DC-8 aircraft. Upon completion of the DC-8 Program, he was assigned as lead engineer for the Skybolt Missile thermal conditioning system and led a research group concerned with air conditioning problems associated with the supersonic transport.

Smylie graduated cum laude from Mississippi State University in 1952 and received a Masters

[*Continued on Page 4*]

Good Ideas Bring Cash Awards to 12 JSCers

A number of JSC employees recently received cash awards for suggestions which helped to improve certain JSC operations.

Cheryl DeMumbrun of the Director's office pointed out that there was no policy concerning the leave status of employees on full-time graduate study during normal school holidays. A policy has now been established at JSC and other NASA Centers that an employee must use annual leave during periods of academic breaks unless he is working full-time on study projects during such periods. Cheryl received $75 for her suggestion.

John Maas of the Medical Operations Division also received $75 for his suggestion entitled "Combined Repetitive Dive Table for Hyperbaric Chambers." The hyperbaric chamber is utilized during manned testing to compress any gases that might be emitted from the human body as a result of decompression sickness.

During hyperbaric operations, chamber crewmembers may make repetitive dives, and in the past, three separate tables were used to determine safe decompression periods before proceeding with successive dives. John recognized that by using separate tables, the possibility of serious error resulting in decompression sickness was greater. He prepared a combined repetitive dive table which provides a human safety factor.

Several employees received $25 Suggestion Awards. Two of these employees--Lois D. Walker of Quality Assurance and Linda M. Rucks of the Patent Counsel office--had ideas which helped to eliminate traffic hazards.

Lois had observed several minor accidents in the parking lot east of building 45 where the street ends and the parking lot begins. She suggested that a safety marking be painted in the parking lot lane to encourage drivers to keep to the right.

Linda suggested placing a stop sign at the intersection of 3rd street and the building 2 parking lot where drivers often proceeded past a caution sign into oncoming traffic.

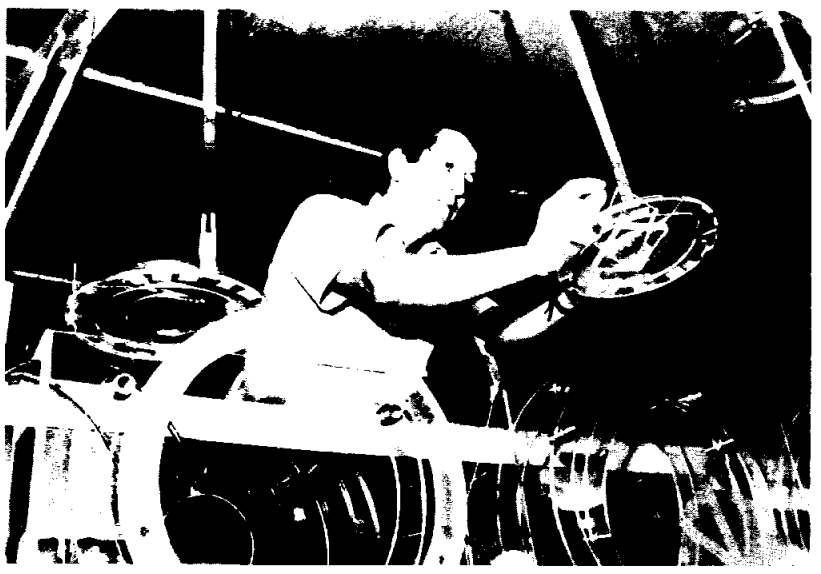
These suggestions were implemented by the Security Branch.

Burney H. Goodwin noticed that with the accelerated rate of job retirements during the past two years, many employees were leaving JSC without recognition from the Center or their superiors. As a result of this observation, a system has been developed so that the Center Director or the employee's Program manager or functional director personally meets with the retiree and presents him with a certificate shortly before he leaves JSC.

[*Continued on Page 2*]

SUGGESTION AWARD WINNERS—Jack A. Kinzler, chairman of the Suggestion Committee, recently presented awards to a number of JSC employees whose ideas helped to benefit the Center. Receiving awards are, front row l-r, Linda M. Rucks, Lois D. Walker, and Cheryl DeMumbrun. Standing l-r are Kinzler, John Maas, Fred Junek, Edwin Shropshire and Carrington H. Stewart. Not Pictured are Burney H. Goodwin, Lucille Blanco, Dr. John Rummel and Jerry T. Kilpatrick.

Profile of a JSC Employee: Dr. Robert S. Clark



SCIENTIST UNDERGROUND—In the Radiation Counting Laboratory sixty feet underground at JSC, Dr. Robert S.Clark prepares to load pieces of iridium foil—sandwiched between plastic sheets—into the laboratory's radiation detector. The iridium foil strips were worn by the crew of the second Skylab flight in personal radiation dosimeters throughout their 59½ days in space. In side the radiation detector assembly surrounded by 28 tons of lead sheilding, the sample will be tested to determine the total neutron dose to which the astronauts were exposed during their long stay aboard the space station.

Dr. Robert S. Clark is one of NASA's most unusual space scientists: his investigation of the Moon and radiation in outer space is conducted, not beyond the atmosphere, but sixty feet beneath the ground in a laboratory at JSC.

The Radiation Counting Laboratory, where the research is conducted, is about forty feet below sea level--which makes nuclear chemist Clark and his fellow scientist, Dr. James Keith, the objects of good natured kidding about the space program's lowest level of investigation.

Dr. Clark joined NASA in 1969. Born in Chicago, he received his B.S. in education at Eastern Illinois University in 1960. Bob worked for the Food and Drug Administration and also spent several years in the U.S. Air Force. After completing his Ph.D. at the University of Arkansas, Bob moved to Johnson Space Center .

With his wife Christine and his three children--David, 12, Catherine, 9, and Pamela, 2, Bob lives near the gates of JSC in Clear Lake City.

In addition to bringing a bumper harvest of 16 different crops from his vegetable garden, Bob Clark is active as a Little League Baseball umpire and as equipment manager for a youth football club with nearly a hundred young players.

Bob was one of the founding members of the Optimist Club of Clear Lake. Before his election as President of the Club, located in League City, Bob was one of its first two Vice-Presidents.

Dr. Clark's studies of some 120 lunar samples returned from six landing sites on the near side of the Moon have been an important element in determining the history of Earth's nearest neighbor. By carefully recording the amount of radioactive material in lunar rocks, scientists can determine the origin and history of the samples.

Among the surprising discoveries made from America's journeys to the Moon was the fact that none of the lunar material had

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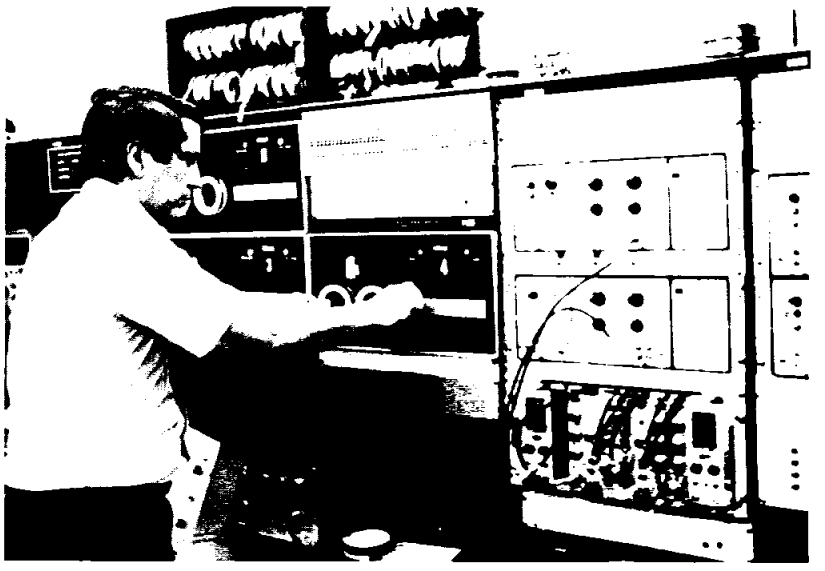


CHANGING MAGNETIC TAPE—Dr. Robert S. Clark changes the magnetic tape on the Radiation Counting Laboratory's mini-computer. The computer calculates the total content of radioactive isotopes in the lunar materials. Some 120 different samples from the six landings on the Moon have been studied by the lab's gamma spectrometer, which generates 65,000 individual data points of each sample. Measurements of radioactive isotopes reveal how long they have been near the surface,and also reflect how much the rocks have been eroded by micrometeorites.

Good Ideas Bring Cash

[*Continued from Page 1*]

Two employees were concerned with the effect of excessive noise generated from machines in certain areas of JSC.

Lucille Blanco of Financial Managment suggested that the noise level of the teletype machine, used as part of a comshare computer terminal in the accounting branch, interfered significantly with other work operations. As a result of her observation, the terminal was enclosed by a wall at the other end of the building.

Margaret E. Waln of the Program Administrative Division felt that noise from several magnetic tape selectric typewriters (MTST) that were grouped together in Building 45 for the preparation of mission reports, had an adverse effect on the employees using the equipment. Sound insulation has been provided which has improved working conditions and has resulted in greater efficiency by MTST operators.

Dr. John A. Rummel of the Biomedical Laboratories Division proposed the use of a form to facilitate ordering reprints of articles that appear in scientific literature. The Management Services Division determined that a NASA form of this type already exists and action has been taken to make the form available throughout JSC.

Jerry T. Kilpatrick of Flight support observed that mechanical pencils were issued by the Supply Branch but that the stocking of replacement lead for the pencils had been discontinued. The Supply Branch has arranged for the lead to be a continuous item in the JSC Stores Stock inventory.

Technical Service's Fred H. Junek and Edwin L. Shropshire noted that 3 disc sanders in a certain work area were blowing dust and particles into the operators faces, even though the equipment had built-in filters. Junek and Shropshire installed deflectors which eliminated the problem.

Carrington H. Stewart of Telmetry and Communications Systems prepared a technical brief which describes a newly designed circuit that allows direct frequency-to-amplitude conversion without the need for special counters and discriminators and provides for individual or simultaneous emphasis of the high or low frequencies. The circuit is simple, small, and light weight and is versatile in its frequency range and region of conversion.

EAA Plans Party

The JSC Children's Christmas Party has been scheduled for December 15, 1973 from 1:00 pm to 3:00 pm in the new Recreation Facility. Children age 2—10 are invited to the festivities.

Tickets at $1.00 each will be available from EAA Representatives, or from the Building 11 Cafeteria starting December 2. No tickets will be sold after December 15.

Again this year, Mr. and Mrs. Santa Claus will make a special appearance; cartoons will be shown; and there will be toys, fruit and candy for the children. Don't let your kids miss the fun!

Hoyle Speaks at Rice

Rice University has invited all JSC employees to attend two lectures which will be presented by Sir Fred Hoyle, internationally renowned cosmologist and educator, on November 13 and 15.

Tuesday, November 13, Hoyle's topic will be "Stonehenge." The stonehenge is a megalithic monument erected in the Salisbury Plain in Wiltshire, England, about 2,000 B.C. Hoyle has theorized that the monument, designed to observe the rising and setting of the sun and moon, is also perfectly structured for determining solar and lunar eclipses.

On Thursday, November 15, Hoyle will discuss the ideas of Nicolaus Copernicus, a Polish astronomer who revolutionized man's view of the universe. The Copernican theory states that the Sun is the center of the solar system and that the Earth and other planets revolve in orbits around the sun. Previously man had believed that the Earth was the center of the universe.

In addition to his two lectures, Hoyle will participate in a round table discussion at 7 p.m., Wednesday, November 14 in the Wiess College Commons at Rice. An informal question and answer session will be chaired by Donald D. Clayton, professor of space physics and astronomy.

In the past few years, Hoyle has worked primarily on ideas concerning how the Universe influences physics on Earth. He has written numerous articles for scientific journals as well as a number of novels with scientific themes.

Hoyle is a Fellow of the Royal Society and President of the Royal Astronomical Society. He is a member of the American Academy of Arts and Sciences and a foreign associate of the National Academy of Sciences.

Attention!

ABC Theater passes are being sold in the Building 11 cafeteria through December, 1973. The cost is $1.00 per pass as opposed to the usual $2.00 or $2.50 window price of regular tickets.

The passes will be honored through May 31 at any ABC theater in the Houston area (Clear Lake City, Parkview, Santa Rosa, Alabama, Tower, etc.) Check your local newspaper for a complete listing of participating theaters.

The passes are also accepted in Louisiana, Oklahoma and Mississippi. Roadshow attractions are excluded.

WINNERS—Shown above are the winners of the JSC Table Tennis Club's first tournament, held recently at the Gilruth Recreation Center. Twenty-four players competed in the tourney. Club President Stephen Jacobs is shown presenting trophies to the winners; left to right, Richard Russell, 1st place; Jose Saavedra, 2nd place and Danny Feagin, 3rd place.

Lectures To Begin

The College of the Mainland has announced that the featured speaker for their first Great Lecture Series will be Ralph Nader. Nader will speak on "The Consumer Society" which will include such topics as Environmental Hazards, Corporate Responsibility and the Energy Crisis. The lecture will take place Monday, November 26 at 7:30 p.m. in the LaMarque High School auditorium. Tickets priced at $2.00 for adults and $1.00 for students are available at the College of the Mainland Administration Bldg, and Newsland on NASA Rd 1 in Clear Lake City.

Something New Added to Menu For The Skylab-4 Crew

Something new--a high energy food bar--has been added to the menu for the Skylab 4 crew.

The new food is actually an off-spring of a food bar developed jointly by NASA, the U.S.Air Force and the Pillsbury Company. This bar is a modification of the commercially available Pillsbury food sticks.

The crew will eat these food bars every third day along with the regular Skylab food items. There are three types of bars-chocolate chip, crispy and flake—and each of these is coated with one of three flavors--vanilla, chocolate, or strawberry. This offers a total of nine different types of bars.

The bars are two by four inches and weigh approximately 55 grams each.

Dr. Norman Heidelbaugh of JSC said that each bar is nutritionally complete and contains 300 calories each.

Requirement for the additional food bars came as a result of the possible extension of the mission to 85 days. There is adequate Skylab food aboard the workshop to provide meals for 56 days. Dr. Heidelbaugh said. "We turned to the Pillsbury as a means of providing a tasty and nutritionally balanced food without adding excessing weight to the command module."

One hundred and fifty-nine pounds of additional food has been placed on board the command module to permit a possible mission extension of 28 days for a total mission duration of 85 days and to provide 10 days of food for an end of mission rescue capability.

Seventy-five pounds of Skylab type food has been included to insure a more normal diet with the required variety for maintenance of a balanced menu. Three hundred and ninety-two bars which weigh 59 pounds have been added as high calorie supplements. These bars will be consumed by the crew every third day of the mission in combination with normal Skylab food. The 28 day mission extension would require approximately 233 lbs. of

[*Continued on Page 4*]

UM-UM GOOD!—Dr. Norman Heidelbaugh of JSC samples one of the high energy food bars--an addition to the menu for the SI-4 crew. The bars are two by four inches and weigh approximately 55 grams each. There are three types of bars--chocolate chip, crispy, and flake, coated with one of three flavors--vanilla, chocolate or strawberry.

Don't Miss The Coming Attractions

The Houston Aeros ice hockey team will play the Chicago Cougars in the Sam Houston Coliseum, November 24. This will be "NASA Night" at the Coliseum and JSC employees may purchase tickets for $4.

On November 28 at 8:30 p.m., a play entitled "My three Angels" will be presented at Dean Goss' Holiday Dinner Theater. Dinner will be served from 7:00 p.m.—8:00 p.m. The price is $6. per person.

The Annual Christmas Dance will be held December 21 at the Whithall Hotel. Tickets are $12.-50 each and include drinks and a midnight breakfast.

Anyone interested in attending any of the events should contact Mary Yarbrough, Rm 707, Bldg 2.

Outstanding Secretary For Nov. Chosen

Laverne Hansen, secretary to the Director and Deputy Director of the Administration and Program Support Directorate, has been named "Outstanding Secretary" for November.

Along with her normal secretarial duties, Mrs. Hansen's position involves a great deal of personal and telephone contact with high level officials of Government and industry. She handles these contacts in such a manner that they always reflect a favorable impression.

In order to accomplish her heavy workload, Laverne arrives at work early and often stays beyond the normal working hours. She is often called upon to support Source Evaluation Boards and other high level efforts.

Mrs. Hansen responds to all requests quickly, cheerfully and efficiently. She anticipates what is required of her and on her own initiative performs all tasks that are vital to a smooth operation.

In addition, her energy, cooperative attitude and charm all combine to make Laverne an asset to the Administrative and Program Support Directorate, the Center and the Agency.

New ID Badges Must Be Obtained

For the past few months, representatives of the Security Branch have been positioned in various facilities around JSC on designated days to issue new identification badges reflecting the name change of the Center.

Individuals who were unable to get new badges while Security personnel were in their buildings will be required to go to the badge room in the Visitor Registration Center, Building 100, to obtain new badges.

The badge room is open from 7a.m. to 11p.m., Monday through Friday, excluding holidays.

Identification badges marked "Manned Spacecraft Center" will not be valid after January 1, 1974.

Employees

[*Continued from Page 1*]

Elmurry, George A. Post, Leonard T. Spence and James D. Williams.

The NASA Outstanding Leadership Medals went to Donald D. Arabian, Eugene F. Kranz and Philip C. Shaffer.

Dr. James C. Fletcher, NASA Administrator, made the presentations.

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

Enlarger, Durst 606, subminiature to 2½ x 2½, xlnt cndn, $75. Handley, 482-7041.

Fender Dou-sonic 11 guitar and amp, ti nw, prfct cndn, $150. Nelson, 554-6668.

Lowrance fish locator, xlnt cndn, 2 years old, portable, $75, Shirley, 422-5123.

Girls shoe skates, sz 5, white com whs, $3.50, 334-1628.

Commercial grade children's jungle gym, 8 months old, $65. 482-3116.

Blc and white Sears portable tv, 2-3 years old 17" screen, $62. Wylie. 333-4927.

Heathkit 23" color kit, model GR 295 vacuum tube, marked down to $300, Overton, 6478,534-2476, Dickinson.

8mm movie outfit, zoom lens camera wi pistol grip handle, zoom lens projector wi remote control and auto thread, light bar, empty reels, $100, 488-2273.

Rectangular wrought iron chandalier, $35, tear-drop crystal chandalier for xtra high entry hall, $100, Ms. Brown, x5113.

30 x 40 projector screen $10, Argus slide trays, $1ea, Heathkit transistor checker, $20, Motorola portable radio, $10. 482-1179.

Stereo cnsl record player, VM tubetype wi bit-in speakers, nw changer/stylus, $25. Wardell, 333-3587.

Minox C, nvr used, $225, Keystone 8mm 3-lens turret, $25, McBryar, 534-3076.

HOUSEHOLD ARTICLES

Console, Upright Wurlitzer piano, walnut cabinet, xlnt cndn, $500, 48 -4664 AFT ¼ P.M.

Walnut bdrm suit, triple dresser, chest, bed, mattress and bx springs, nite stand, gd cndn, $250, 481-2335.

Walnut formica kitchen/dinette set, Norge auto hvy duty washer/dryer, 19" b/w model TV, Sam, 5451.

VEHICLES

67 Rambler Classic 770 sta wgn, 75,000 mi, nds engine wk, bst ofr, 488-3183.

Ford S/W Country Sedan, 1968, $500, 334-1628.

64 Falcon Futura, 6 cyl, auto, glass-belted tires, nw battery and muffler, $500, Miller, 334-2977.

66 6-pass 3/4 ton IH pkup, air, radio, camper shell, 14,000 mi since major, $1200, Royce, 333-3453 or 2614.

69 Plymouth Sport Satellite wgn, air, pwr disc br/str/tailgte, radio, $750,Keith, 534-3746 or 488-5660, x-228.

64 Volvo, gd tires, nds repair, !100, Johnson, 488-5010 aft 5 pm.

71 Kawasakei G-4, 100 CC, runs gd, rigged for dirt, str gear incl, $250, Guy, 482-3100 aft 3:30.

Dunebuggy, Corvair, Calif custom, mst sell, Bullock, 488-6095.

Two CB-100 Honda motorcycles for sale, 70 models, 1 red, 1 gold, helmets incl, $200 ea or both, $375, Don, 481-4468.

69 Alfa Romeo, 1750 Spider Veloce, Super cndn, nw top, less than 40,000 mi, fine machine, $2500, x-4763.

24" boys bike, AMF brand, $8.99, red, 488-3183.

Airplane for rent, Cessna 150, $11/hr, instructor, $6/hr,based League City, S&S patrol field, 332-1822 or 488-2537.

70--175cc Yamaha Enduro, 960 mi, xlnt cndn, xtra fender, tire, $375, McQueen, 334-1688. Motorcycle trailer, bg wh, 3 bikes, ti nw, nw bearings, loading ramp, $125, McQueen, 334-1688.

2-Wh utility trailer, 4 x 6 steel bd, 36 sides, 15" wh, sparetire, $125, Thoma, 471-2976.

72 Impala, silver, 4-dr, loaded, lw mi, take up payments, on bal of $2,000, mst sell, 337-2973.

69 Alpine camper, self contained kitchen, sleeps 6, xlnt cndn, 487-2361.

Raleigh boys 24" bike, gd cndn, 2 yrs-old, 3 spd, $40, 334-1628.

53 Hudson Hornet, $100, McBryar, 534-307

69 GTO p/s auto trans, a/c, $1200, 332-2306.

PROPERTY AND RENTALS

Nassau Bay, 4-2½-2 Spanish, 2450 sq ft, front court yard, screened bk patio, nw carpering in bdrms, 49,500. 333-2880 evenings, wkends:488-3353 days.

Furnished modern cabin for sale on fenced 3/4 acres, land near Lake Livingston, shag carpet, a/c, private 15-acre lake at bk dr wi lighted fishing pier, ¾ mi from Trinity river, private access, sell equity, $7500, balance$75 mo or $11,500 cash, Don,481-4468.

Contemp 4-2-2 wooded subdivision, Dickinson, lrge lr, patio, swim club membership, xlnt cndn, 534-5907.

WANTED

Gd home for friendly year-old Border Collie, x4321 Wicklund.

Used trailer for sm sailboat (14 ft) Eggleston, 334-2897.

Used 18-20 hp outboard motor, used childrens water skis, 2 or 3 bike trailer, will pay $50, Peters, 482-2589 aft 5 or x5380.

Pre-1965 dimes and quarters, will pay $170 per $1.00 face value, Lafferty, -2666 or 485-1997 aft 7.

PETS

Young female beagle AKC championship stock, nice pet, sold for $40 as puppy, make ofr, Willis, 944-3647.

AKC blonde Cocker Spaniel puppies, $75 each, 946-4315 aft 5:30.

BOATS

El Toro sailing dingy, fiberglass, $125, 337-2078.

Fiberglass V-hull boat wi little used 69 55 hp Johnson, nw trailer lites, bearing buddies, spare, xtras, $1100, Allgeir, 333-4627.

14' Hobie Cat wi trailer, xlnt cndn, stored inside, $1095, Bentley, 333-3001.

JSC Issues $1.2 Million Agreement

The Johnson Space Center will issue a $1.2 million cost-plus a fixed-fee supplemental agreement to the existing Skylab Payload Integration contract with the Martin Marietta Corporation, Denver Division.

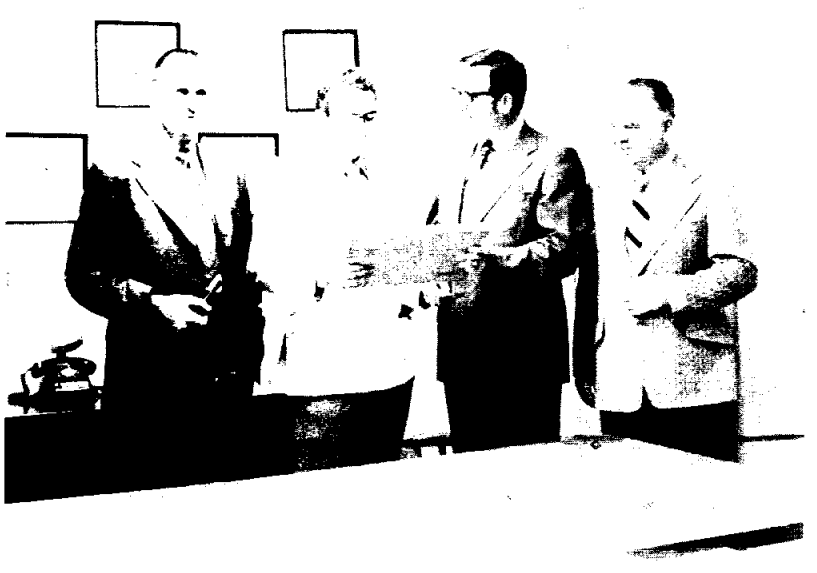
The supplemental agreement is for Earth Resources Experiment Package (EREP) Hardware Evaluation, and includes evaluation of EREP hardware perfor mance during the Skylab missions. The results of the hardware performance evaluations, to be performed at the Martin/Denver, Colorado facility through June, 1974, will be provided to scientific investigators for use in their analysis of EREP scientific data.

ASNT CERTIFICATE—E.P. "Mike" Riley, left, an Engineer in JSC's Quality Assurance Division, proudly displays the certificate he received from the American Society for Non-destructive Testing (ASNT) at the Society's annual meeting held recently in Chicago. Jack A. Jones, right, of the Quality Assurance Division, is shown congratulating Mike on his election to the status of Fellow in the Society.

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



AWARD—NASA has presented a group achievement award to the Lunar science Team of the Lockheed Electronics Corp. NASA Administrator James C. Fletcher conferred the award citing the team's accomplishments in the advancement of lunar science during the Apollo Program. Shown with their award are, l to r, Dr. K. E. Bentley, Dr. John Wainwright, R. D. Chandler, Jr., and W. R. Walker.

Lasers to Profile Earth and Sea

As Skylab's third crew collects data on the Earth's resources from 270 miles out in space, two aircraft from JSC will skim near the surface using laser instruments to provide an exact profile of the land and water at more than a dozen sites.

To acquire the profile of wave heights and landforms, JSC's C-130 and P3A aircraft will make slow passes over the selected sites at altitudes of 500 feet or less, with the instrument called a laser profilometer. At this altitude, the thin beam of bright red light transmitted by the helium-neon laser produces a spot less than six inches in diameter on the land or water directly below the plane.

The instrument's operator focuses the small red dot in a powerful light-collecting telescope. Light reflected from the ground is filtered to eliminate the sunlight and other random sources, then converted to an electrical signal.

The laser light is briefly interrupted by a high-speed shutter as it is transmitted from the instrument, then timed as it returns to the aircraft to permit the calculation of the exact height of surface irregularities.

A computer corrects for variations in the aircraft's attitude to give a profile of the height of waves, trees, land formations and other features that is accurate within inches.

Flying in support of a Skylab investigation, a laser profilometer recorded wave height during hurricane Ava, an unusually powerful storm that developed off Mexico's coast in early June. The instrument has also been used over Sam Houston National Forest, in southeast Texas, to record growth rates by measuring the heights of trees in a test of its possible use for forest inventories.

During the coming months, NASA aircraft will use laser profilometers over portions of the North Atlantic Ocean, the Gulf of Mexico, the Puerto Rican Trench, and the Great Salt Lake to support Skylab remote-sensing passes over the same areas.

One laser, carried aboard JSC's C-130 during the first two Skylab missions, has just been refurbished at the Spectraphysics facility in Mountain View, California, for use on the upcoming flights.

A second instrument will be borrowed from NASA's Langley Research Center in Hampton, Virginia, for installation on the four-engine P3A used in JSC's Earth Resources Aircraft Program.

Five JSC aircraft will carry a battery of earth resources cameras and electronic sensors to support the longest planned Skylab flight, continuing the role they have played in most of the 50 earth resources passes completed since late May, when the first Skylab crew entered the orbiting space station.

JIMMY WARREN MEMORIAL BOWLING LEAGUE

Chokers	16	8
Mixers	16	8
Strikeouts	16	8
Associates	15½	8½
Ball Busters	14	10
Spoilers	13½	10½
Team X	13	11
Hertz	11	13
Asenders	11	13
Pin Pounders	10	14
Alley Oops	10	14
Jokers	9	15
Clowns	8	16
Hexes	5	19

Individual Scratch Highs

Games	Set	Name
220	568	Chic Chicoine
200	564	Paul Cooper
200	559	Cecil Dorsey
---	555	John Dornbach
---	555	Jack Kochner
214	547	John Sargent
213	547	John Davis
203	546	Dave Dyer
202	546	Ron Durkee
---	542	Al Bordano

Smylie

[*Continued from Page 1*]

Degree in Mechanical Engineering from MSU in 1954. He completed the requirements for a Masters Degree in Business Administration and Public Administration as a Sloan Fellow at MIT in 1967. In addition, he has done graduate work at UCLA. He has received the NASA Exceptional Service Medal, as well as various JSC awards.

Something New Added to Menu

[*Continued from Page 3*]

Skylab food to be launched in the command module. Twenty-five pounds of the high calorie bars have been included.

An example of the every third day menu is, breakfast: flake bar, sausage, grapefruit drink; lunch: chocolate chip bar, crispy bar, pork and potatoes; dinner: crispy bar, beef hash or chicken and gravy, mashed potatoes; snack: chocolate chip bar, dried apricots, spaghetti with meat.

The SL-4 crewmen started on the planned inflight diet during their 21 day preflight period and will continue on the diet for 18 days postflight.

Prior to the start of the controlled 21 day preflight period, the SL-4 crewmen ate samples of the high density food to insure crew acceptance and to preclude any potential individual problems with gastrointestinal compatibility.

Basketball League May Be Different

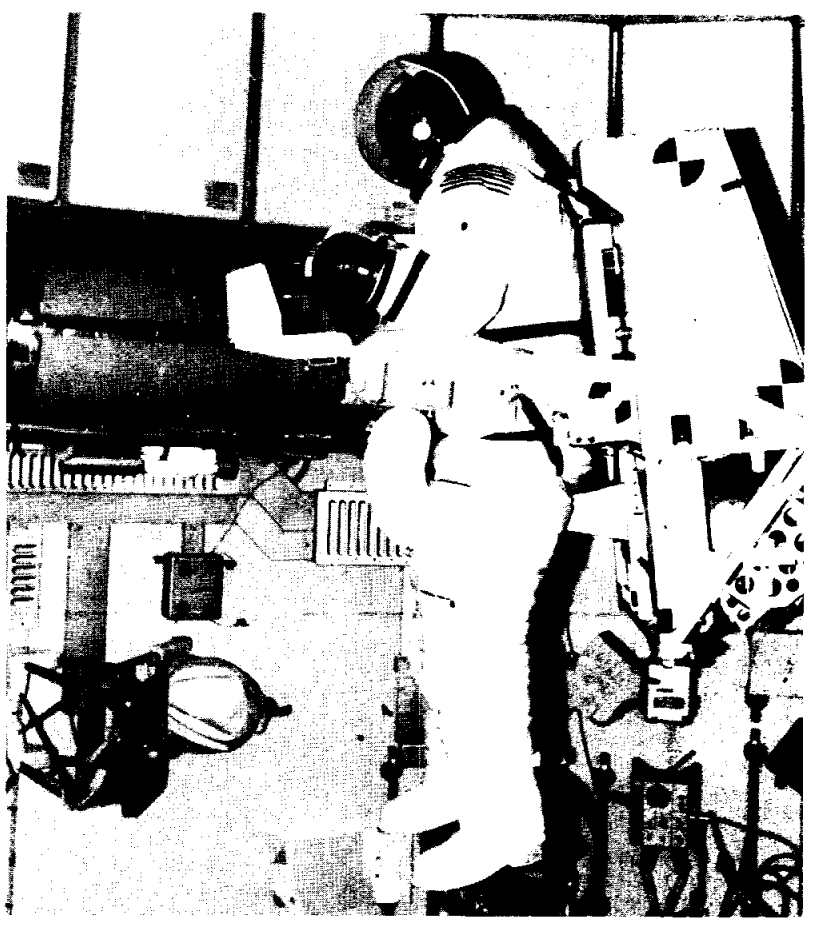
An organizational meeting was held October 18 at the Recreation Facility and at that time interest was expressed in the formation of a Basketball League along different lines from the previous proposal.

In the past seasons there has been a recreational and a competitive league but due to the disassociation with EAFB, JSC was left with only two of the former competitive teams.

A suggestion to create six different teams from the two remaining would solve this competitive problem.

Recreational league players filling the ranks of the competitive teams would not be restricted from playing in the recreation teams under the new proposal.

Teams managers are asked to poll their players on this suggestion and relay the names of those interested in playing in the competitive team to Phil Shannahan at Ext. 4401.



EXPERIMENT M509—Skylab 3 Commander, Alan Bean is shown conducting one of the six M509 Test Flights on the second manned Skylab mission. The purpose of Experiment M509, is to evaluate astronaut mobility and control in a zero gravity environment using a test bed and maneuvering unit, and to correlate this with ground based simulation data. The M509 Principal Investigator is Major Ed Whitsett (USAF), supported by JSC Co-Investigators Cdr. Bruce McCandless, Dave Schultz, Tom Murtagh and Lou Ramon.

Clark

[*Continued from Page 2*]

remained unchanged from the time the solar system is believed to have formed--about 4.6 billion years ago.

Because cosmic rays, high-energy particles from distant stars and lower velocity particles from eruptions on our own Sun, leave traces in the upper levels of the Moon, the radiation laboratory can also tell how long the samples have been on or near the Moon's surface during the past million years.

Although the research into lunar sample continues, new emphasis is on assembling the many discoveries about the Moon to better understand the total character of the Earth and other planets. With a comprehensive view of the Moon, scientists will be able to significantly expand their knowledge of the solar system when the first two Viking spacecraft land on Mars in 1976.

At the same time, Materials returned from the Skylab space station are being studied in the Radiation Counting Laboratory to determine the radiation that will affect men as they spend long periods of time in space.

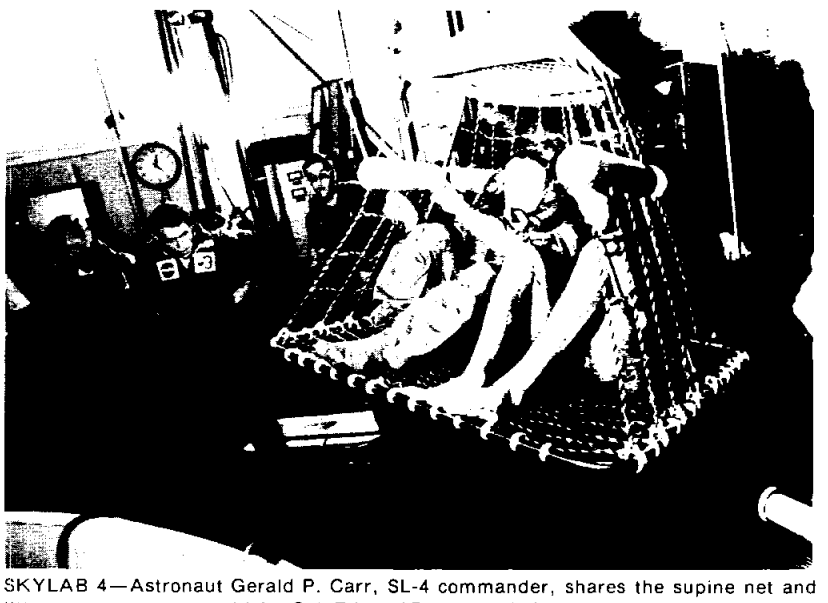
Scientist Bob Clark may work in a steel-lined cavern beneath the ground, but his eyes are on the stars.

AFGE Resumes Negotations With JSC Management Reps

Officers of the American Federation of Government Employees (AFGE) have resumed negotiations with management representatives of JSC. Local 2284 was certified by the Area Administrator of the Labor Management Services Administration, U.S. Department of Labor, in a letter dated December 3, 1970, as the exclusive representative for two units--in one case, certain professional employees, and in the other case, certain non-professional employees assigned by NASA-JSC to the Houston, Texas installation. In addition, the Union was previously certified as the exclusive representative of certain Wage Grade employees at the installation.

The AFGE negotiation team is headed by Mr. Ed Mallet, Jr. Mr. Curtis E. Vetter, President, Local 2284, serves as Chairman and Alternate Chief Negotiator. Anita Davis and Ledrieu Linson complete the Union negotiating group.

Dr. Kraft, Center Director, has appointed a negotiating team comprised of Bailey R. Chaney, Chief Negotiator, Kenneth B. Gilbreath, Carl P. Maxey, and Mrs. Hilda B. Edwards. These four, supported by a number of alternates, will represent the Center Management in contract negotiations.



SKYLAB 4—Astronaut Gerald P. Carr, SL-4 commander, shares the supine net and litter rescue apparatus with Lt. Col. Edward Burchard, MD and a medical officer with the German Air Force, during water egress training here. In the background are Scientist-Astronaut Edward G. Gibson, science pilot and Astronaut William R. Pogue, pilot. The training took place in Building 260.

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