ROUNDUP

NASA LYNDON B. JOHNSON SPACE CENTER — HOUSTON, TEXAS

Vol. 12 No. 15 — June 8, 1973

Skylab Mission Forges Ahead, Trouble Shooting Pays Dividends

The at-first gloomy outlook for Skylab has continued to improve. Engineers, technicians, flight controllers, astronauts and program officials at the NASA Centers and contractor plants around the country have teamed up to trouble-shoot and come up with the right answers and equipment to put the Earth-orbiting space station back on the path to success.

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At ROUNDUP press time Pete Conrad and Joseph Kerwin had successfully deployed the solar wing and the solar array panels were beginning to deploy. Telemetry indicated that the solar panels were generating the much needed electric power for a successful Skylab mission.

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The first indication of a problem occurred some 63 seconds into the launch of Skylab 1 at 12:31:03 p.m. CDT on May 14, 1973 as the vehicle was heading up the east coast of the United States on its way to orbit. At that time the meteoroid shield separated from the Orbital Workshop (OWS) causing the OWS solar array system failure and the thermal problems in the space station.

Launch of the SL2, scheduled for May 15 was postponed while possible solutions to the problems encountered by the Space Station could be resolved.

Flight controllers continued to work with the unmanned Space Station in an attempt to prevent the temperatures inside the OWS from rising too high and possibly ruining food, drugs and film supplies. External temperatures on the OWS were in the 300 degree F. range while internally the temperatures reached 125 to 130 F with maximum of 131 degrees in one of the food lockers.

By orienting the Space Station flight controllers were able to stabilize the temperatures while possible fixes were worked on the ground.

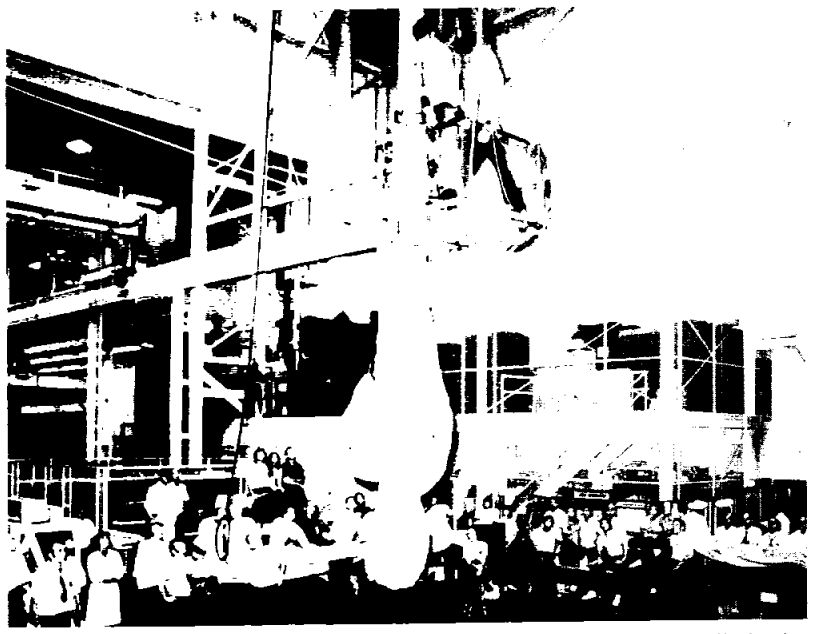
The SL2 launch was rescheduled for May 25 at 8:00 a.m. CDT.

In the meantime the crew returned to Houston while proposals were considered to alleviate the thermal problem in the OWS.

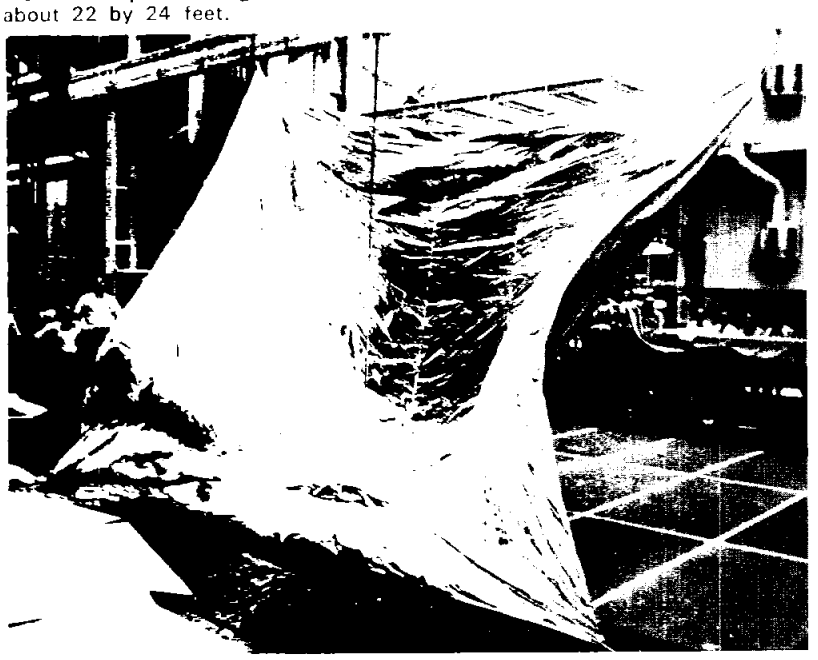
Three options for relieving the overheating were decided upon and procedures for deploying same were worked out at the Johnson Space Center and the Marshall Space Flight Center in Alabama.

The prime mode was deploying a parasol device developed at JSC by Jack Kinzler and his people in the Technical Services Division. Backup modes included a sail device to be deployed

(Continued on Page 4)

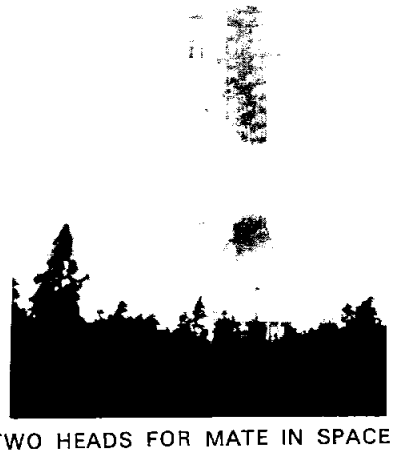


SKYLAB SHIELDED FROM SUN—An umbrella-like device called the "parasol" is shown here being checked in the Technical Services shop at the Johnson Space Center. The parasol was designed to fit to the T027 experiment photometer canister. It was successfully deployed by the crew on May 26 through the solar Scientific Airlock. Deployed, it measures about 22 by 24 feet.

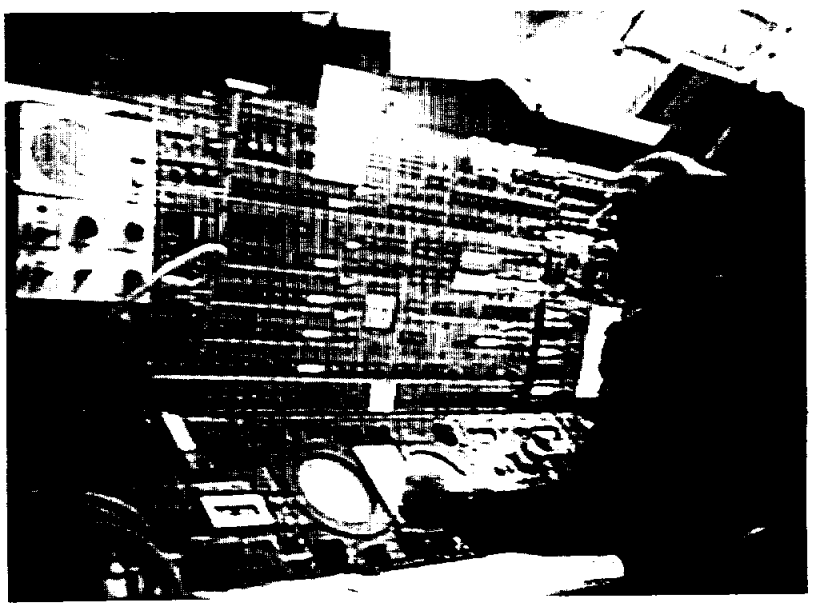


PARASOL DEPLOYMENT CHECKOUT AT JSC ON MAY 23.

TV PICTURE OF PARASOL DEPLOYMENT—The TV camera in the CM recorded this portion of the parasol deployment looking through the trusswork of the Apollo Telescope Mount.



SKYLAB ONE THUNDERS INTO EARTH ORBIT ON MAY 14 ... SKYLAB TWO HEADS FOR MATE IN SPACE ON MAY 25.



WORK—Charles Conrad operates the controls of the Apollo Telescope Mount in the Multiple Docking Adapter.

AND PLAY — Skylab crewmen prepare to begin running the "Skylab 500" on lockers that ring the upper bay of the OWS.

Fletcher Establishes Board To Investigate Skylab Anomalies

NASA Administer James C. Fletcher recently announced the establishment of a Board to investigate the anomalies which occured during the launch and initial Earth orbits of Skylab I.

The Board will seek to determine the actual probable cause of the anomalies which led to the loss of the micrometeoroid shield and the failure of the orbital workshop's solar power panels to deploy.

Bruce T. Ludin, Director of NASA's Lewis Research Center Cleveland, has been designated Chairman of the Board, which will report to Dr. Fletcher and NASA Deputy Administrator, George M. Low. The other members of the Board will be designated in the near future.

Skylab and Satellite Provide Rapid Agricultural Surveys

Remote sensing from satellites and spacecraft lends itself particularly well to applications in the field of agriculture due to the dramatic seasonal changes that occur in vegetated areas.

Managers of cultivated vegetational resources need to know such things as the type of crop and size of each field, the vigor of the crop, damaging agents present, and probable yield per unit area in the major agricultural areas of the world.

Both agriculturists and wildland managers also require knowledge of terrain characteristics; such as, slope, soil type, moisture content, and susceptibility to erosion. Conservation requires a knowledge of the state of deterioration brought about by overgrazing, overcropping, repeated burning, erosion or mineral depletion.

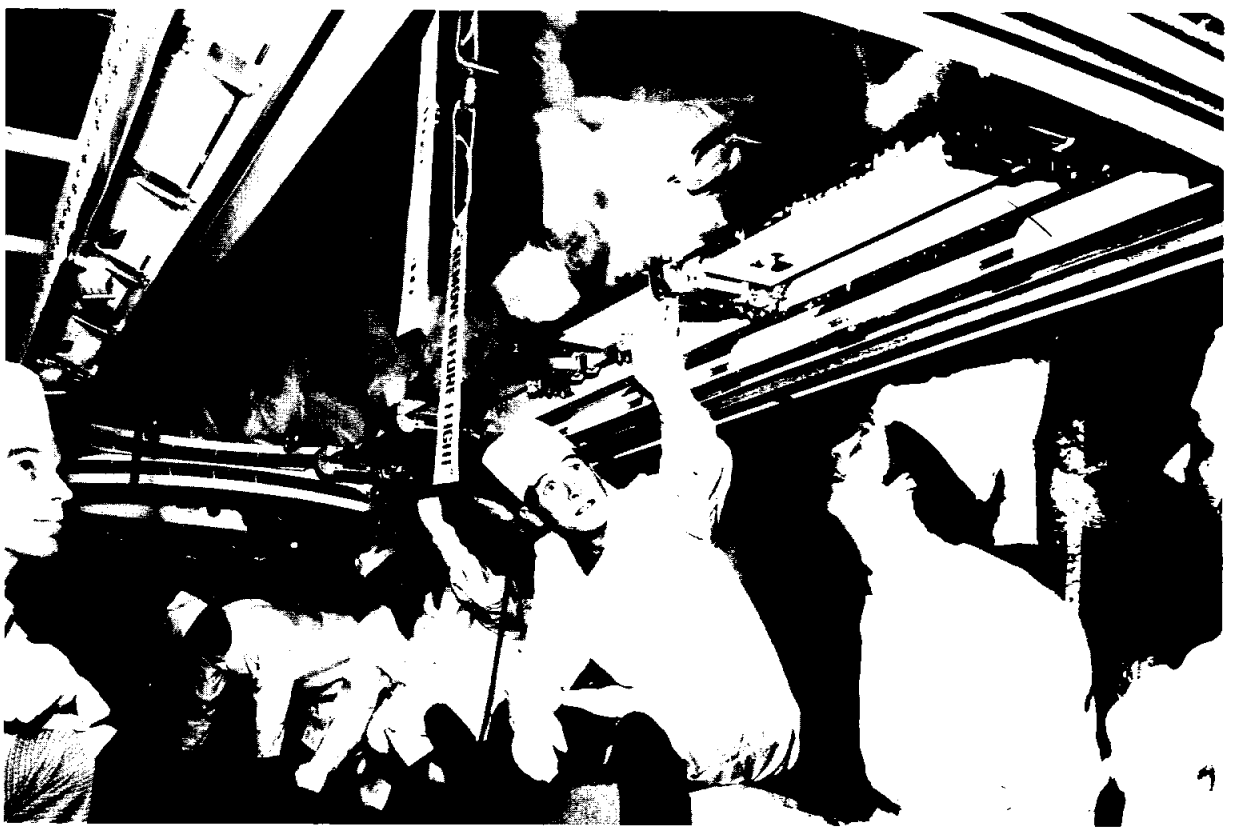
Remote sensing from space can provide this information covering massive land areas of the earth in a short time.

Preliminary studies using ERTS-1 data has shown that with existing technology we are now able to detect and identify major crop species over large geographical regions, and are able to determine the location and areal extent of the fields to a high degree of accuracy.

The discrimination capability of the data is good and in some cases better for crop species identification, as compared to similar experience with low-altitude airbourne multispectral data.

Field identification studies were made in the Delta Mendota region of California where some ground truth data were available. Discrimination of field classifications including stubble and turned fields, and crop types including rice, safflower, alfalfa, cotton were made with 93 to 98 per cent accuracy Measurement accuracy using digital data was between 88 and 93 percent for three of the fields studied. The accuracy using image interpretation techniques was from 90 to 100 percent for the same three fields.

Skylab will provide additional and more precise spacecraft-sensing capabilities than the ERTS-1 which, combined with advanced interpretation techniques, should prove to be a valuable aid to the agricultural community.



SOLAR WING EVA PREPS—Astronaut Dr. Edward Gibson touches part of the deployment mechanism on the solar array system wing from the backup flight unit at the NASA-Marshall Space Flight Center. He and Astronaut Russell Schwelckart (next to Gibson) were at the Marshall Center examining the wing, which was shipped to MSFC for discussions, and performing underwater EVA Tasks in NASA's effort to develop a method of deploying the solar array wing on Skylab which is now in Earth orbit. Wing number two ripped away during launch shortly after the meteoroid shield deployed prematurely. Wing numer one began its deployment but was stopped by what appears to be a strip of metal that wrapped around the wing fairing.

"PARASOL" ASSEMBLY—Technicians in the Tech Services shop at JSC attach the telescoping extension rods to the canopy. Temperatures in the OWS have dropped into the 70's since the "parasol" was deployed to shade the exterior of space station. The deployed canopy was designed to cover an area 22 by 24 feet.

PACKAGED "PARASAL"—Dr. Christopher C. Kraft Jr. (left), JSC Director, and George A. Post, JSC Crew Systems Division, examine the packaged "parasol" and the photometer cannister it was designed to fit. The "parasol" was selected as the primary mode because of the operational ease of using it and minimal crew training required to deploy.

JSC Traveleers Plan Jamaica Trip

The NASA/JSC Traveleers recently announced plans for a 5-day, 4-night mini-vacation in Montego Bay, Jamaica. The trip which will depart August 15 and return August 19, will be for club members (and immediate families) only, and will be limited to 90 persons. Reservations are strictly on a first-come, first serve basis.

Based on a double occupancy package, the cost will be $210 per person. This price includes round trip air, fare, four nights at the Heritage Beach Hotel, ground transfers, luggage porterage, taxes, tips, service charges and a Rum Swizzle arrival party.

Reservations and a $75 (per person) initial payment must be made by June 25. A final payment of $135 per person must be received by July 6. After July 6, reservation deposits are not fully refundable.

For more information concerning the trip, contact Gerry Swanick, 481-2396 or Ron Rafuse, 332-1356.

Safe Boating Classes To Begin

Flotilla 68 of the U. S. Coast Guard Auxiliary will again hold a series of free boating safety classes at the Landing Apartments on NASA Rd 1. The classes will be held June 5, 12 and 19 at 7:30 p.m.

Classes include rules of the Road, equipment required, latest safety rules, motor boat handling, aids to Navigation, compass, charts and other topics concerning boating safety.

For more information, call Jim Bailey, Ext 7205 or John Sanders 334-2398 after 5 p.m.

EVA CUTTER TOOL—Tools that are being considered for use in freeing the solar array wing of Skylab. The device at center is a cable cutter which is operated by cable. Enchanced television pictures indicate that the wing is being held to the side of Skylab by a strip of metal from the meteoroid shield. Identical tools and rods were carried into orbit by the Skylab.

SOLAR WING EVA—The equipment shown here would be used to break a frozen hydraulic actuator which was to serve as a damper as the Solar Wing deployed. The SL-2 crew will use other tools to clip or saw away a metal strip that is wrapped around the wing fairing. Then the two small hooks seen here would be attached to the ATM Deployment Assembly with the line taut along the fairing. An astronaut would then position himself with the line on one shoulder. As he rose from his anchorage near the hinge, force would be applied to the line and it would tend to pull on the fairing.

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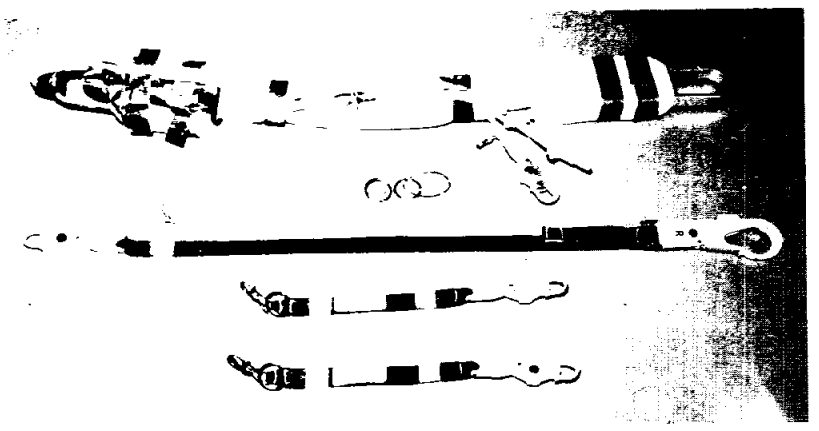
Photographer: A. "Pat" Patnesky



SKYLAB EVA TOOLS—Various tools and tethering devices used in the Neutral Buoyancy Simulator at the NASA-Marshall Space Flight Center are shown here. The devices were used by Astronauts Russell Schweickart and Dr. Edward Gibson in performing simulated EVAs in NASA's effort to determine the best tools to use and method of getting to and deploying the stuck solar array wing on Skylab. At top is a bundle consisting of folded tether strap with hooks, a pry bar and a pair of vise grips. Below that is a bone saw consisting of a wire between two rings and with saw teeth imbeded in the wire. The other items are tethers

Lunar, Remote Sensing Papers Delivered At COSPAR Meeting

Three papers, which ranged from scientific analysis of rock samples from the Moon to remote sensing of coastal land and water use on earth, were delivered by three Johnson Space Center scientists at the annual meeting of the Committee on Space Research (COSPAR) May 23 to June 6 in Kontanz, West Germany.

Dr. Friedrich Horz of the JSC Planetary and Earth Sciences Division presented a paper titled "Lunar Rocks as Micrometeroid Detectors" in which he described a method for estimating micrometeorite impact frequency and density by statistical analysis of microscopic craters on rock samples returned from the moon.

The information gained from the analysis will help in understanding the evolution of lunar soil materials. Co-authors with Horz on the paper are J. B. Hartung of the Max Planck Institute fur Kernphysik, Heidelberg, W. Germany; D. E. Brownlee, University of Washington, Seattle; and D. E. Gault of NASA Ames Research Center, Moffett Field, California.

A second paper delivered by Horz and Dr. David S. Strangway, also with the JSC Planetary and Earth Sciences Division, was titled "Long-Term Surface Exposure Experiment." The authors were responsible for the careful documentation of selected pieces of hardware left on the Moon by the Apollo 17 mission.

The documentation will serve as a baseline standard for investigations of space environment effects such as micrometeorite impacts and cosmic rays on the hardware if the Apollo landing site is ever visited again, and the objects returned to Earth.

Robert O. Piland, director of the NASA Earth Resources Laboratory at Bay St. Louis, Mississippi presented a paper "Remote Sensing Techniques for Support of Coastal Zone Resource Management." Piland's paper described how multispectral scanning and photography from high altitude aircraft can be used for analyzing vegetation in accessible coastal marshes and waterways as a tool for fisheries, wildlife and recreational planning and management.

Piland pointed out that unless careful planning is exercised, marshes which serve as breeding grounds for marine life and a habitat for wildlife can be destroyed or damaged as commerical development expands into these areas

Piland asserted that a solution to the problem of optimum land use lies in the rapid, low-cost method of preparing 1:24,000-scale land-use maps derived from high-altitude imagery which classify various types of vegetation patterns in areas inaccessible by any type of survey.

Skylab Provides Home Atmosphere

Unlike previous flights in which crews slept in the same couches they sat in all day, each Skylab astronaut has his own 3 foot by 11 foot bedroom.

Complete with a tape deck, a reading light, several lockers for clothes, and a pillow, these delux accomodations offer almost every earthly comfort.

Made of soft flannel-like material, the brown sleeping bags are mounted on aluminum frames. Hanging vertically like a papoose on an Indian mother's back, the astronauts are able to touch all three sides of their bedroom while in the sack.

The astronauts shouldn't mind sleeping standing up, however since they lose their up-down orientation in the weightlessness of space. In that up right position, they have a cloth headcovering and body restraints to keep them from falling forward, a natural tendency in weightlessness of space.

Such luxurious sleeping arrangements have their disadvantages as well, however. In the absence of any existing astro-maid service, the astronauts are changing their own sheets.

Communications Policy Changed For Skylab

To accommodate the special requirements imposed by long duration fights, three types of private communications—morale, medical, operational—have been provided for in the policy for Skylab communications.

Astronauts are allowed to make private calls to their families once a week, normally on their day off. No public announcement will be made concerning the intent or content of these calls, but public affairs will subsequently announce that such calls have been made.

Conversations between astronauts and their families will not be monitored by anyone, but they will be recorded to complete the archives of the flight.

A private medical conversation is routinely scheduled and conducted daily. This conversation involves only the Flight Surgeon and the Skylab crew for the purpose of detailed doctor/patient discussion of crew well-being. This conversation will not be used to prescribe treatment except for minor medications such as aspirin.

The conversation will not be paraphrased for release, but immediately after such a conversation a medical bulletin will be released stating crew medical status. If, as a result of a private medical conversation, it is determined that further actions such as medicals treatment or mission modification are actions such as medical treatment or mission modification are required, subsequent discussion will be conducted on the open loop or by a private operational conversation.

A private operational conversation may be requested either by the crew or ground control. These conversations are expected to be held only in an extreme emergency. When such a conversation is required, it will be announced in advance and a summary of the conversation will be released by public affairs immediately afterward.

Blood Donors Urgently Needed

A retired JSC employee, Frederick J. Bailey, Jr., former Chief of the Flight Safety Office, is in urgent need of 58 units of blood. He is in Orange Memorial Hospital in Orlando, Florida.

Firm arrangements have been made with Community Blood Services, 1213 Crawford, Houston, Texas, to accept donors for Mr. Bailey. Hours for donations are 8 a.m. to 4 p.m., Monday through Friday and 8 a.m. to 1:30 p.m. on Saturday.

It is also expected that arrangements will be completed shortly for donations to be accepted at JSC.

All donors are requested to contact Mae Jones at extension 3191 for an appointment.

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.

HOUSEHOLD ARTICLES

Penncrest Electric Washer & Dryer, avocado color, (8 mos old); $275 for both, originally $400 plus, Brown, 481-5298.

Catalina coppertone refrigerator wi/ice-maker, white Catalina dryer bought in Feb, 332-3679 aft 6 pm.

Beige rug, long shag, 15X18, gd cndn, wi nine-sixteenths pad, $135, 333-3049 aft 4 pm.

G.E. Washer and Dryer, gd cndn, $125 for pair, 946-4752.

9' X 9' aluminum frame umbrella tent, $50. Girls Sears bike, 20", $10, Norge Bottom.

Double size contour chair, green, powr slide and vibrator, mint cndn, replacement cost ovr $600, sell best ofr ovr $200' Conway 534-3036.

Maple twin beds wi matresses and springs' also maple chest of drawers, $125, Paletz, 481-2318.

Caloric gas range, li new, teflon griddle, Rotisserri broiler, white, see at 16714 Paint Rock Friendswood.

Antique Victorian small sofa wi custom made slip cover, $85, Baker, 986-5009.

4½ x 5½ x 10" car top carrier wi fitted tarp, $10 and 1 standard lavatory, $5, 941-5464 or 473-1332 aft 5 p.m.

58mm 1A Skylight filter new, $5 or trade for other filter, Handley, 482-7041.

Bundy flute, gd cndn, gd tone, $75, 332-2080 or 334-5378 aft 5.

Welding kit, propane cylinders and safe, solid sodium chlorate candles for generation of oxygen, will also cut steel, $25, McBryar, 534-3076.

Eletric guitar wi amplifier, $35, Hudson, 488-5159.

Antique (1928) golf clubs wood handles, 4 rons 2 woods signed, book of rules, bag incl, $60, Tash, 534-3414.

Skin/scuba diving gear, wetsuit shirt cnd booties, weight belt w/weights, fins, snorkle, gun xlnt cndn, Samouce, 488-0406, Tennis rackets wi clamps, Samouce, 488-0406.

Ludwig Drum set 8 pieces, li new, drastically reddued, 488-1326.

9'x9' aluminum frame umbrella tent, $50. Girls Sears bike, 20", $10 Norge Bottom freezer Refrigerator, $60. 481-0191.

Misc clothes, snow skis, wigs, etc, 6" dbl bd foam mattress, $7.50. dbl bd mattress and bx springs, wi 6 legs, $20. Evelyn, 941-3777.

Potty chairs, Peterson, li new, 1 yellow, 1 white, cost $10 each, sell $5 ea, Handley, 482-7041.

Dynaco stereo 70 pwr amp (35 watts per channel) and PAS-3 pre--amp, gd cndn, $50, Armstrong, 554-6248.

Shotgun, Western Field, decorative engraving, 30 in, ribbed barrell, full choke, case plus cleaning kit, $75, 488-3295..

1 adult picnic ticket for use of a tricycle this September during JSC picnic, Carol, 5131.

Black & Decker Router/planer kit w/metal case, industrial 366-U motor; cost $140, sell $90, Craftsman, industrial, ball bearing motor, $55, 471-6798.

Measure water temp., Fishmaster model, ft-50, fishthometer li new, $18, Price, 471-3314.

Removeable U-Haul-It type trailer hitch, $20, 337-2078, Harden.

Garage and patio sale, Friday, Saturday, Jun 8, 9, 605 Fairdale, Friendswood, 488-7156.

PETS

Show Quality Registered championship bloodline shaded silver Persian male cat cnd 3 chinchilla silver Persian kittens, 229-9777 or 333-4384 aft 6 p.m.

AKC reg Cocker Spaniel pups, 6 wks old, Buff. male and female champs, sire, $100, Nelson, 488-1335.

Male Siamese kittens, $15 each, 482-7156.

VEHICLES

72 Camino, pwr, air, radio, adj steering, gem top, vinyl tonneau cvr, hvy duty suspension, $3,300 firm, Lamar, 554-2644.

500 lb capacity, 1 wh trailer wi metal cvr and car hitches, ideal for camping equipment, $100, Wasson, 488-2722.

67 Buick Skylark, a/c, p/s, AM radio, 55000 mi, auto trans nds work, $400, Svejcar, 483-3431.

68 Cadillac, 4-dr, loaded, clean, $1500, 331-3674.

72 Honda CL100, 7,000 mi, gd cndn, Joe, 482-1676.

68 Dodge Coronet 440, 2-dr ht, 318 v-8, air, std, vinyl top and interior, xlnt cndn, League city, 554-6102.

70 DeTornaso, Mangusta, mid-engine, 5-spd, air, pwr, mags, radials, new silver paint, $500 or bst ofr, Morrison, 333-2754.

68 Ford Galaxie, auto, air, gd cndn, aft 4:30, 945-9093.

66 Sedan Cadillac Deville pwr, xtra clean $950, 946-1579.

67 Olds Cutlass, 4-dr sedan, pwr, air, xtra features, records, loan, $875, Rose, 667-6939 aft 9:30 or 488-0910 x 661 before.

70 Holiday Mobile Home 12x65, 2 br, lr, dr, kit, bath, washer/dryer, frig, disposal, cmpletely furnished, skirted, porch/steps, immaculate, 554-6729.

65 ½-ton pickup, radio, heater, air, runs well nds paint, $495, 482-1009.

72 Serro Scottie Hi-Lander traveler, 15', pottie refrigerator range wi/oven, electric brakes, li new, Armstrong, 554-6248.

70 MG Midget, 22,000 mi, radio, lug rack, 2 tops, $1,500, Ritz, 333-3440.

72 Yahama 175cc Enduro, dual purpose, less than 3000 mi, xlnt cndn, $500. Clowdis, 471-2447.

70 Ford Maverick, xlnt cndn, lw mi, auto, new wwtires, radio, heater tinted glass, $1375, Jones, x 2107, aft 5 pm, 645-0763.

65 Chevelle Malibu sta wgn, runs prfct, body and interior, gd shape, v-8, auto, 6 pass, $350, Smith, 488-3238.

59 VW Belly pan cmplt, engine does not run, new brakes, wheel cylinders, wheel bearings, lrg tires on rear, ready to make dune buggy, will assist in cuttng, see at 16714 Paint Rock, Friendswood, Underhill.

Fiberglass pop-up camper, butane stove, ice box, sleeps 4, light weight, new cndn, $995, 482-1009.

67 Ford Sta Wgn, gd cndn, 10 pass, air, pwr str/brk, lug rack, $600, 488-1953.

72 Cadillac Sedan DeVille, 4-dr, champagne vinyl top, stereo, leather, power, 21,000 mi, $5625, Cobb, 333-4109.

Bushwacker mini cycle, spoked wheels, front/rear shocks, motex bars, 4 hp torque converter, nds paint, 16714 Paint Rock Friendswood Underhill.

68 Cadillac, loaded, 41,000 mi, mechanically perfect; body some rust, $1550, 488-3295.

64 Pontiac Catalina sta wgn pwr/air, $350, 481-0780.

72 Pontiac Catalina Brouham, 24,000 mi, eloquent grey wi blc vinyl top, AM/FM radio, rear speakers, aft 5, 481-4660.

BOATS

15' Skeeter bass boat, Little Dude Trailer. 3 spd Minkota Troll motor, gd cndn, 35 hp Evinrude motor-nds repair, 941-3777 or 483-6381.

PROPERTY AND RENTALS

2 brm house near Bay in El Jardin, lrg yd wi trees, waterfront privileges, $150/mo avai, Jun 1, 474-2383.

Colonial living rm furniture, couch, swivel rocker, end tables, coffee table, lamps, recliner, 48" dining rm table wi 4 chairs, xlnt cndn,, $290, Matthews, 781-0906.

3-2-2 Deer Park, brick false fireplace, paneled den wi blt-in bookcase. completely carpeted, cntrl air and heat, generous cabinet work, formal living and dining rms, ovr 1800 sq ft, Saucier, 479-4354.

Lease, 4-2-2, Sagemont, Spanish, available July 1, $285/mo, 1st and last mo rent wi $100 neposit required, 481-1826.

Land, 3.64 acres, $2,000/a 1 mi. off Gulf Frwy on Palmer Hwy, (FM 1764) 339-1237.

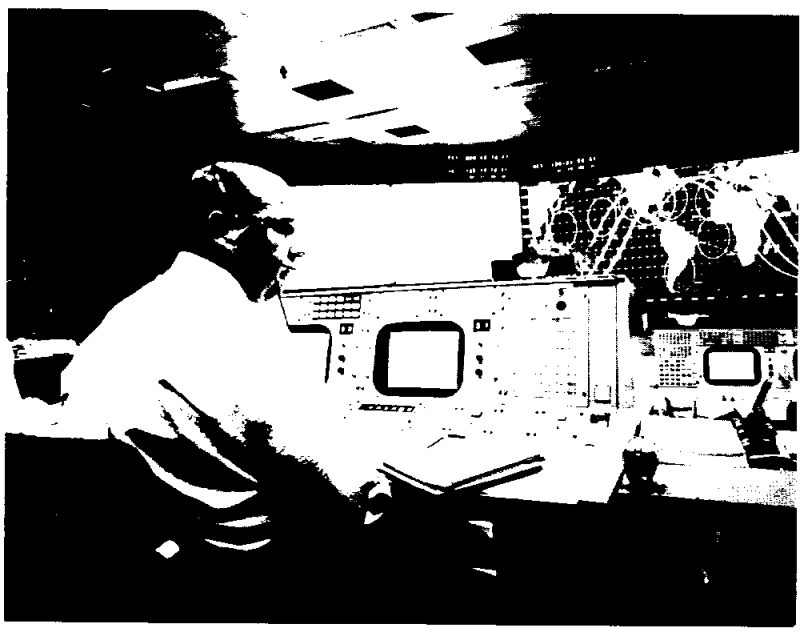
Waterfront home, 3/2, formal lv rm, den, garage, workshop pier, 474-4749.

Redecorated 1 bdrm furnished cottage, air, wi garage, separate storage blding, conveniet Dickinson location, $100/mo, 534-3802.

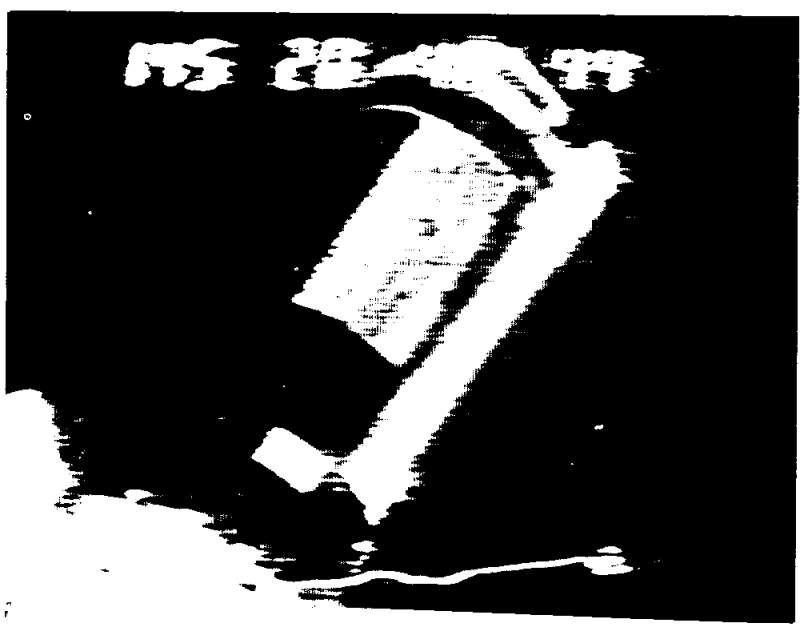
WANTED

Cmplt aquarium setup, must be reasonable, 333-4891.

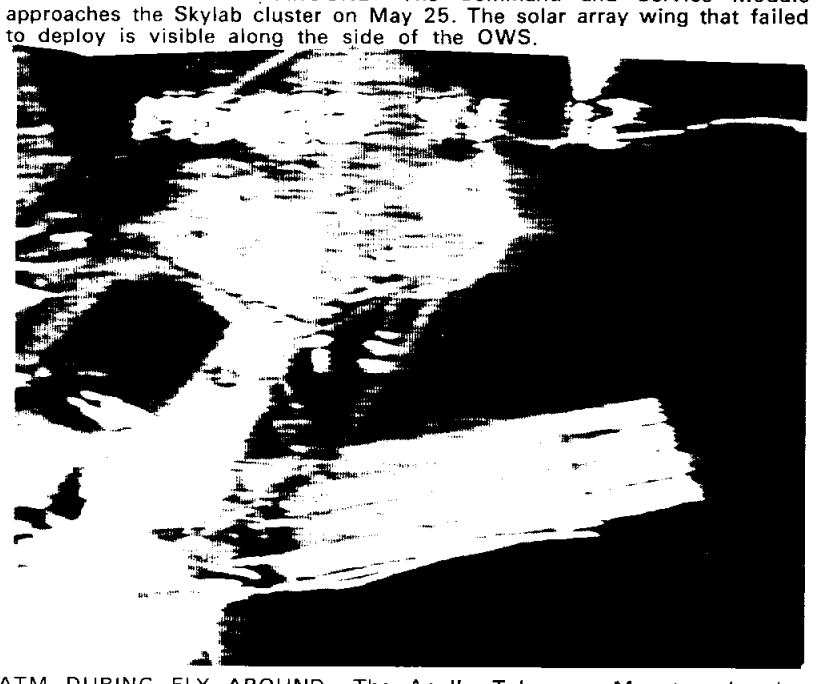
Ham radio tower, 50 ft high or sections of Ron 24G. Eggleston 334-2897.



SKYLAB CONTROL—Flight director Phil Shaffer and Don Puddy during a serious moment in the Mission Operations Control Room. Early in the SL2 portion of the flight. Flight control teams have had their work cut out for them.



SKYLAB DURING FLY AROUND—The Command and Service Module approaches the Skylab cluster on May 25. The solar array wing that failed to deploy is visible along the side of the OWS.



ATM DURING FLY AROUND—The Apollo Telescope Mount and solar panels are shown in this TV picture as the CSM flew under the Skylab cluster

CONRAD ENTERS OWS — Charles Conrad Skylab commander (center) floats through hatch well in OWS on first day before food lockers had been removed from launch configuration positions. View is from Airlock Module looking toward crew quarters.

Ahead . . .

(Continued From Page 1)

by going EVA from the Airlock Module (developed by MSFC people) and other sail device developed at JSC which could be deployed from a standup extravehicnlar activity (SEVA) from the Command Module.

SL2, with crewmen Commander Charles A. "Pete" Conrad, Science Pilot Joseph P. Kerwin, and Pilot Paul J. Weitz was launched on time.

Rendezvous with the space station was accomplished on the fifth revolution at about 3:30 p.m. CDT, and the crew beamed a television picture to Mission Control in Houston as they did a fly around of the vehicle.

A soft dock with the space station was performed by the SL2 crew and preparations were made to do a standup EVA to try to dislodge the one remaining solar wing on the OWS. The attempt to free the solar wing was unsuccessful.

Following the SEVA, at least five unsuccessful attempts were made to soft dock before the crew reported a hard dock accomplished at 10:50 p.m. CDT. The problem with the docking probe was fixed later by the crew.

After spending the first night in the CM, on May 26 the crew entered the Multiple Docking Adapter at 11:45 a.m. CDT and the OWS at 3:30 p.m. The crew initiated deployment of the parasol thermal shield through the OWS solar scientific airlock at 5 p.m. and it was deployed at 7:30 p.m. CDT.

Temperatures on the external skin of the OWS started dropping rapidly and a more gradual reduction of the internal temperatures began. Ten days later the internal temperature of the OWS was down to the upper 70s.

May 27 the crew began activation of the OWS and preparations for conducting planned scientific experiments.

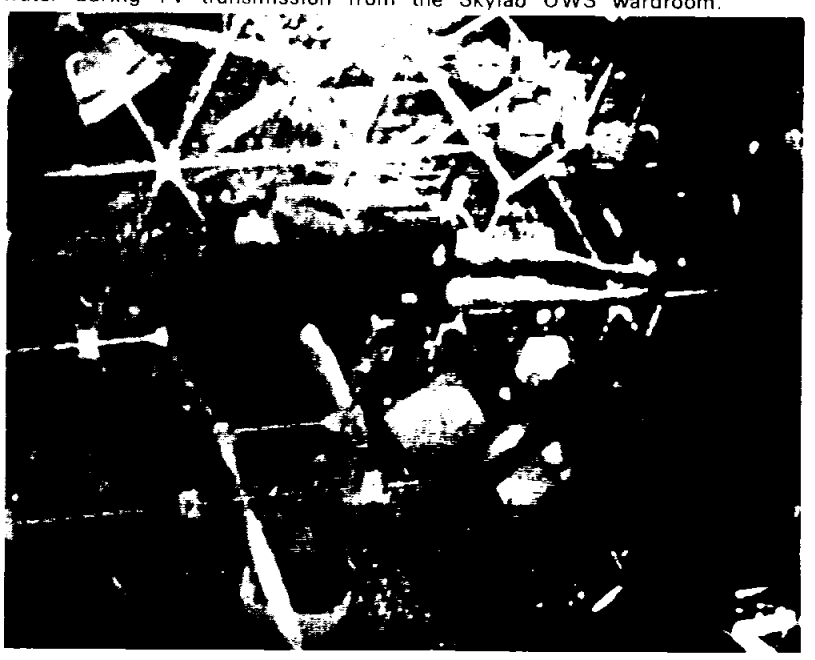
A trim maneuver was performed at 8:08 p.m. CDT on May 28 with the Service Module reaction control system to stabilize the space station ground track at about 50 miles west of the pre-planned ground tracks.

Problems encountered with the charger battery regulator modules forced cancellation of some of the experiments for June 1 due to electrical power limitations.

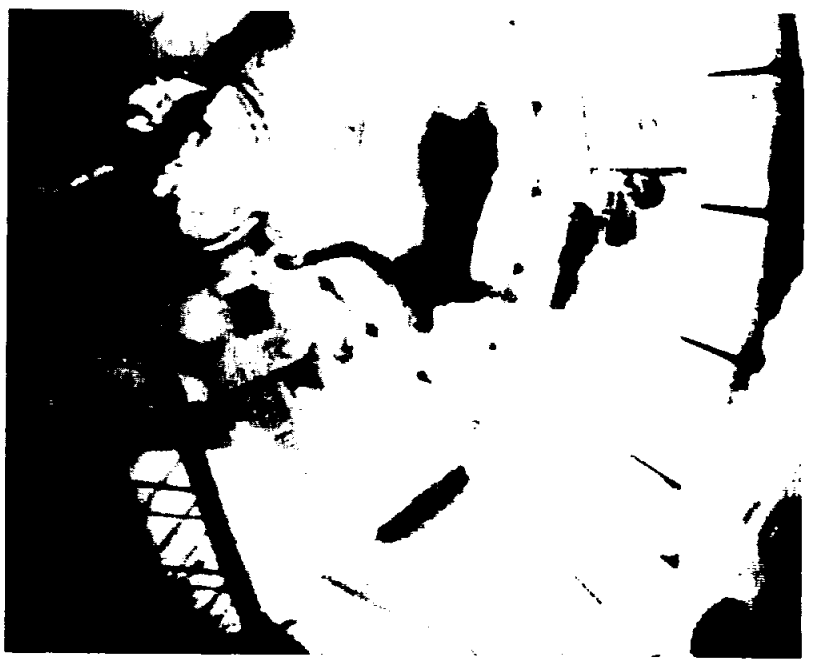
The crew had their first day off Saturday, June 2 and provided the ground with a spectacular display of antics via television. The crew also had their first shower in zero G on their day off.

Several Earth Resources Experiment Package (EREP) passes have been performed across the United States by the crew.

PAUSE THAT REFRESHES—Charles Conrad stops work for a drink of water during TV transmission from the Skylab OWS wardroom.



SUSPENDED ANIMATION—Joe Kerwin gets a stabilization hand from Charles Conrad as he prepares to begin a series of gyration in place on their first day off.



"IF I HAD THE WINGS . . ."—Skylab astronaut soars like a bird in the spacious upper bay of the OWS.

The crewmen have been taking turns operating the Apollo Telescope Mount (ATM) taking data from the sun and conducting corollary experiments.

Skylab crewmen have been supplying the ground with television shows throughout the mission to date. Interior views of the crew working and playing, and an out the window view of a pass diagonally across the United States from the state of Washington to Florida and across the Caribbean, have been part of the TV fare.

An attempt to free the remaining solar wing on the OWS in order to generate more power to operate the space station was scheduled earlier this week.

The activity will require an EVA by the crew to free the solar wing which is unable to deploy because of a piece of angle aluminum that wrapped across the wing when the meteoroid shield came off during launch.

The EVA was scheduled to have taken place no earlier than Thursday, June 7.

With successful deployment of the solar wing and the increased output of power that could result from the solar panels the chances for two additional 56 day missions would be increased.

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