

Webb Predicts Cutback If Budget Cut Further

Layoff of almost 5000 NASA federal employees, shutdown of Saturn IB and Saturn V construction and manned spaceflight program stretchouts are distinct possibilities if the NASA FY 69 budget is cut much below the \$4.008 billion appropriation passed by the House of Representatives, according to NASA Administrator James E. Webb.

Testifying before the Senate Committee on Appropriations, Subcommittee on Independent Offices, Webb last week said, "To achieve the number of position reductions necessary to meet this dollar reduction would require the separation of as many as 5000 civil service employees and a proportionate number of support contractor personnel."

"Such a reduction," continued Webb, "would be out of line with the heavy flight and test schedule requirements of programs such as Apollo that are approaching their periods of maximum. It would leave us problems with an inadequate in-house technical and management base. We must also face the problems of the civilian pay raise which becomes effective this July, for which no provision was made in our budget estimates. This pay raise will cost an estimated \$22 million in FY 1969."

The President's budget request for NASA funding was for \$4.37 billion. The House authorization was for \$4.013 billion, and the House-passed appropriation was for \$4.008 billion. The House appropriation bill went to the Senate for hearings and action.

Turning to hardware, Webb told the Subcommittee, "With respect to the continuation of the Saturn IB and Saturn V production lines, which are funded in the Apollo Applications Program budget item, the future is not bright. The authorization for Apollo Applications is \$253.2 million, a reduction of \$186 million in the request. This, plus the basic lack of balance in the total program as authorized, raises serious doubts as whether we can continue production of either of these vehicles."

NASA Orders Vehicle for 2nd SAAP Mission

NASA has contracted for the delivery of one additional Black Brant IV sounding rocket to serve as a launch vehicle for a scientific payload investigating the South Atlantic radiation anomaly. The contract with Bristol Aerospace, Ltd., Winnipeg, Canada, was amended for delivery of the Black Brant and associated equipment.

In a cooperative effort with the Brazilian National Space Commission (CNAE), NASA June 9 successfully launched a sounding rocket probe atop a Black Brant IV from Barreria

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"As I stated on May 17," Webb continued, "I do not believe that we should terminate production of either of these vehicles. But at the \$4.008 billion level, we will be forced to accept a gap in Saturn V production of almost a year. By obligating about \$25 million in FY 1969 and about \$200 million in FY 1970, we can plan to continue production after a gap of that duration between the fifteenth and sixteenth vehicles. At the \$4.008 billion level, continued production of Saturn IBs will not be possible."

Toward the end of his testimony, Webb reiterated to the Subcommittee the impact of further cuts to the NASA FY 1969 budget. Said Webb: "If our new obligational authority for FY 1969 is significantly below \$4.008 billion, we will have to terminate production of the Saturn V as well as the Saturn IB launch vehicle. I know that you recognize how difficult and significant a step this would be, but without the funds we would have no other choice. Along with this action, we would cancel production of manned spacecraft for the terminated Saturn launch vehicles."

"These are the most significant actions we would have to take, but throughout the NASA program further delays, curtailments and cancellations would be required, depending on the size of the reduction. There is, naturally, a point at which even more harsh steps would be necessary, such as cancelling the orders for the Saturn boosters and spacecraft for the Apollo program, which are already under contract. In certain cases, mothballing entire installations may be required."

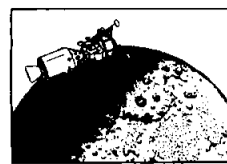
ROUNDUP

NASA MANNED SPACECRAFT CENTER

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WHICH WAY TO THE SHOWER?—A bearded, smiling threesome look forward to a shave, shower and some sleep in a regular bed after spending eight days in Apollo 2TV-1 spacecraft during thermal-vacuum tests. At left is Vance Brand, two manlock safety crewmen, Joseph Kerwin and Joe Engle. The astronaut crew stepped out of the spacecraft at 6:30 am June 24.

Successful Apollo 2TV-1 Test Called 'Significant Milestone'

Completion of the eight-day Apollo spacecraft 2TV-1 manned thermal vacuum test last week was branded as "a significant milestone in the Apollo program" by Structures and Mechanics Division chief Joseph N. Kotanchik.

The test ended June 24 at 6:30 am when astronauts Joseph Kerwin, Vance Brand and Joe

Engle opened the spacecraft hatch and stepped out through the third-level manlock of Space Environment Simulation Laboratory's Chamber A. The crew had entered the spacecraft at 10 am June 16 for the scheduled week-long test to verify the command module for the first manned Apollo mission, Apollo VII. The 2TV-1 spacecraft is virtually identical to spacecraft 101 to be flown on Apollo VII.

Kotanchik said, "The measure of this success is that no retest of 2TV-1 in support of the next manned Apollo mission is required, and therefore there are no constraints on proceeding with that manned mission."

"In a test of the scope and complexity such as the 2TV-1 test," Kotanchik continued, "the occurrence of anomalies can be expected and some were encountered. Those involving the spacecraft are of a minor nature, are understood, and are easily corrected. The chamber facility performed very well with the exception that for one 12-hour period the solar simulation was inoperative. The impact of this was minimized by going into an acceptable revision of the test timeline. The principal test difficulties were related to those areas in which the vehicle is joined to the test facility and to test related equipment."

2TV-1 test manager Robert Wren said that some 700 to 800 people working full time were necessary to the successful completion of the vacuum chamber test. "More than 600 persons worked in the Space Environment Simulation Laboratory where the test was conducted," said Wren, "with an additional

100 to 200 contractor and MSC support employees in other areas of the Center."

"The fact that we were able to complete the vehicle checkout and the thermal vacuum test on schedule is in large part due to the consistent and dedicated effort of these people," said Wren.

Among the 2TV-1 test objectives were proving out the spacecraft structure and pressure vessel and verifying the environmental control system in the temperature and vacuum extremes of the space environment.

UofH to Brief On Mathematics Graduate Plan

The University of Houston mathematics department July 18 will conduct a briefing on UofH graduate degree requirements at 2 pm in the Bldg 30 auditorium. The briefing will acquaint MSC and contractor employees with the UofH math department's new non-thesis master's degree program which begins in September.

Among the speakers will be department chairman D. Reginald Traylor, director of graduate studies in mathematics Dr. James Younglove, Dr. Henry Decell and Dr. Garrett Etgen on differential equations, Dr. Pat Hedgcoxe on applied mathematics and Dr. Lamar Wigington on the UofH-MSU math program.

Deadline for UofH graduate schools registration is July 25.



CAPTIVE SUN—It may have been raining outside during most of the eight days of the 2TV-1 test, but carbon arc lamp arrays in SESL's Chamber A simulated the sun's radiation for "hot-soak" portions of the test. Side solar heating is provided by 54 carbon arc lamps, while another bank of lamps serve as the "top sun."

Your Job in Focus

Changes in Personnel Data

It is important that official personnel records be correctly maintained at all times. Therefore, if employees acquire on their own, additional training, education, or experience, or assume offices or membership in professional organizations, the information should be forwarded to BP8 for inclusion in the personnel folder. Such information should be submitted on SF-58, "Supplemental Experience and Qualifications Statement."

Position Classification

Employees have the right to appeal the classification of their positions whether or not an adverse action is involved. In addition, employees may have access to the standards on which the classification of positions is determined. These standards are located in the Personnel Office. If additional information is desired as to either the appeal procedure or the application of classification standards, the appropriate supervisor, should be consulted. If he is unable to satisfy the information needed, the Personnel Management Specialist servicing the organization concerned is available to provide assistance.

Annual Leave Earned by Service Length

A NASA employee earns annual leave, or time off with pay for vacation and other purposes, on a graduated scale based on creditable length of Federal civilian and military service. During the first 3 years of service, 13 working days or 4 hours every 2 weeks are earned. Those with 3 to 15 years of service earn

20 working days or 6 hours every 2 weeks and those with 15 or more earn 26 days a year or 8 hours every 2 weeks. Annual leave remaining to the individual's credit at the end of the leave year may be accumulated for later use up to a limit of 30 days.

To become qualified to earn annual leave, a new employee must be employed for 90 calendar days without a break in service. A break in service is 1 day or more when the employee is not on the Government's employment rolls. Any absence during this 90-day period will be without pay unless the absence is due to illness for which accrued sick leave is granted. After an employee has worked for the 90-day period, his leave credits will be restored retroactively for each payday included in that period. An employee should always request annual leave from his supervisor in advance.

Thirteen days of sick leave a year, or 4 hours for each bi-weekly pay period, are earned by all employees regardless of length of service. Unused sick leave is accumulated and remains to the employee's credit indefinitely. There is no restriction on the amount that may be accumulated.

An employee may be granted leave without pay in an emergency or under exceptional circumstances.

More detailed information regarding leave is contained in the Personnel Manual, MSCM 3000.

Roundup Tardy

Like the white rabbit in Alice's Wonderland, this issue of the *Roundup* is late for the first time in seven years of publication.

Roundup's tardiness stems from the switchover from FY-1968 to FY-1969 and all of the intricacies of funding new contracts — among them the contract for printing the *Roundup*.

Except for eight-page issues for coverage of manned missions, the *Roundup* will be four pages for all of FY-1969 as an economy measure.

CU Adds Sale Of Money Orders

The MSC Federal Credit Union recently added the sale of American Express money orders to the services offered.

Share winners in the June drawing were James Axley and Zell Farris.

The Credit Union reminds all members that a change-of-address notice is needed when members move so that statements and other mailings can go to the right place.

JOY Trainees Finish Program

Graduation exercises were held recently for 25 Job Opportunities for Youth program clerical trainees at MSC. The trainees had taken part in a nine-month vocational training program under the Manpower Development Act coupled with on-the-job training. Each girl worked 20 hours a week under supervision of an MSC secretary and attended 20 hours of clerical practice class work each week.

The program is part of MSC's effort to provide training and employment for economically-disadvantaged youth and to help them prepare for a full-time job.

Speakers at the graduation were astronaut Don Lind and Employee Development Branch chief Stanley H. Goldstein, who received a plaque from the graduates for his work with the JOY program. Lind and Goldstein spoke on the "Challenges of the Space Age."

Berry Honored

MSC Director of Medical Research and Operations Dr. Charles A. Berry last month was named a fellow of the American College of Chest Physicians at the American Medical Association annual meeting in San Francisco, Calif.

Hartman Named Top Reservist

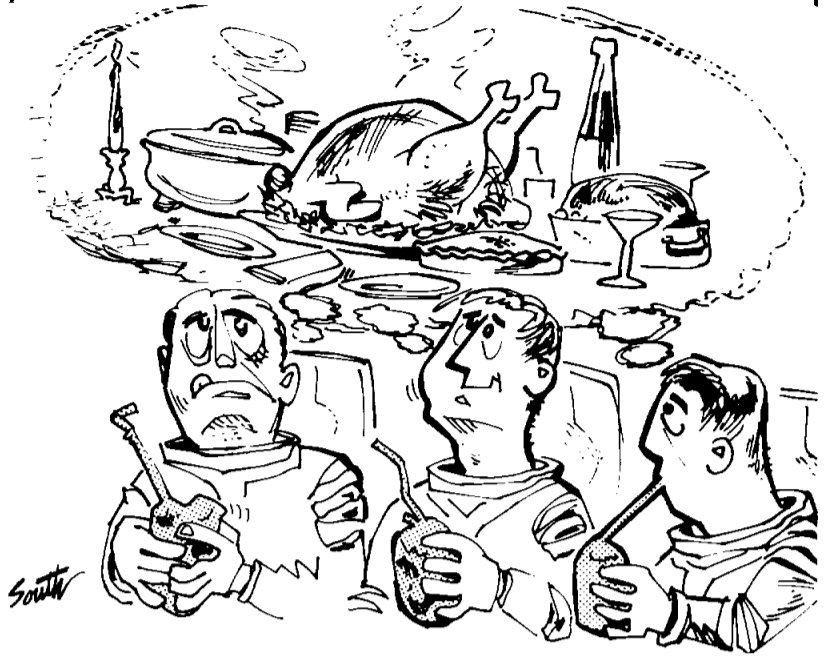
Harvey L. Hartman of Personnel Management Branch was selected by the Houston Naval Reserve Training Center as the outstanding naval officer in the Houston-area Naval Reserve.

In a letter to MSC, Hartman's commanding officer LCDR M. D. Milner said, "The same qualities that have earned Lieutenant Hartman this highly competitive award have undoubtedly been utilized by your organization. Your organization is to be commended for having a man of this caliber in your employ."

Hartman joined MSC in 1966 as a management intern and is currently assigned as a personnel management specialist in Personnel Management Branch servicing the Flight Operations Directorate.

THE ASTRONUTS

(filched from TRW Systems Group)



The *Roundup* is an official publication of the National Aeronautics and Space Administration Manned Spacecraft Center, Houston, Texas, and is published every other Friday by the Public Affairs Office for MSC employees.

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Public Affairs Officer Paul Haney
Editor Terry White
Staff Photographer A. "Pat" Patnesky

Co-op of Month



MR. DEPENDABILITY—While not poring over the classwork as a sophomore majoring in physics and math at Beloit College, Beloit, Wis., David B. Dreffin writes computer codes and does satellite data analysis in the Space Physics Division Radiation and Fields Branch where his supervisors deem his judgment as "exceptionally mature" and where he is given tasks normally requiring two additional years of education.

Aero Club Sets Private Pilot Ground School

The Aero Club, Inc. July 10 will begin a private pilot ground school utilizing the Sanderson visual system. The first class will be in Room 517, Bldg 2 at 5:15 pm. Tuition will be \$15 and the course is open to non-Aero Club members.

To register, attend the first session or call Charles Krpec at MI 5-6089.

Aero Club training and safety activities are partially subsidized by the MSC Employee Activities Association to provide the low-cost instruction. The Club is a non-profit corporation operated for MSC and contractor employees and their families and emphasizes private and instrument instruction and flight safety.

TB Film Shown

The Elusive Enemy, a film on tuberculosis, will be shown to MSC and contractor employees July 10 at 10 am in the MSC Auditorium. The film is from the Texas Department of Health Tuberculosis Control Division, according to whose statistics Harris County reported more cases of TB for June than any of the other 253 Texas counties.

The screening is presented by the MSC Health Education Program.

Children love to imitate their parents.

They learn by imitating them.

Do you smoke cigarettes?



American Cancer Society



Uncle Sam still needs you

BUY U.S. SAVINGS BONDS, NEW FREEDOM SHARES

Earn Quality Salary Increases



Phyllis Johnson
Medical Research and Operations Directorate Office



Bennie C. Wooley
Biomedical Research Office

Roundup Swap-Shop

(Deadline for classified ads is the Friday preceding Roundup publication date. Ads received after the deadline will be run in the next following issue. Send ads in writing to Roundup Editor, AP3. Ads will not be repeated unless requested. Use name and home telephone number.)

FOR SALE/RENT—REAL ESTATE

Five acres of land off Manville Highway on Country Road 101. MI 5-0188.

8-month old French Provincial in Baybrook: 4 bedrooms, separate dining room and living room, large family room w/fireplace, kitchen and dinette, utility room and separate two-car garage with fenced backyard, Refrigerator, washer, dryer and miscellaneous furniture included, central air/heat, located on court, away from main traffic and apartments. Cost \$25,000 equity and assumption. Dave Peterson, GR 4-3681 after 5.

Heavily-wooded corner lot, 90x200 ft., Oak Hollow subdivision in Dickinson. Most surrounding area lots already developed. Good price. Don Wade, MI 9-0554.

3-bedroom frame in Dickinson convenient to shopping center and school. Central heat, two-ton air conditioner. Nice neighborhood. Very good condition. \$12,500. 4102 Victoria Ave. Jean White, 534-4073.

Rent by day or week, 1 bedroom furnished beach house, all electric kitchen, at Bolivar. Has boat dock in front. Evelyn Huvar, HU 3-7626 (no home phone).

Lovely two-story home overlooking water. Three bedrooms, two baths, double garage. Near swimming pool, concrete boat ramp, fishing pier. Adjacent to Houston Yacht Club. School bus at front door. Excellent condition. Carpets, drapes, all-electric kitchen. Very attractive. 211 Bay Colony Circle. \$28,500. Jo Blanks, GR 1-4979 or 621-6607

For sale, 1 acre wooded corner lot, paved-road access. Montgomery County, clear title. PA 3-9110.

FOR SALE—AUTOS

63 MGB, good condition, new tires, \$750, Bill Gravett, MI 4-4468 or GR 1-3284.

66 427 Corvette convertible, both tops, Nassau Blue, 26,000 miles, Firestone "500" tires, \$2600 cash. Roy Linton, WI 5-4651 Texas City.

66 Toyota Carona 4-door sedan, beautiful inside and out, expertly maintained, \$1250. Bob Bird, GR 4-4141 or HU 2-7960 after 5.

53 Nash, conv., radio, heater, continental spare kit, excellent condition. \$175. Bob Snell, HU 3-3402 (no home phone).

55 MG-TF1500, perfect, \$1500. HU 7-2739.

59 Rambler 6-cyl 4-door. Reliable transportation, excellent running condition, 7 tires, needs very minor repairs, \$100. Lindsey, HU 8-0517.

59 Ford 2-door 6-cyl, autotrans, R&H, recent motor overhaul, \$175. W. Cook, 932-2895 after 6.

67 VW Bus, deluxe. Excellent condition, still in warranty. Will negotiate a fair price. John J. Thiel, 946-6814.

62 Starfire Olds, good condition, good tires, full power. Dick Mains, 932-4692 evenings.

50 Ford V8 in good running condition, only 52,000 miles, offered by original owner for \$150 or best offer. Betty Voigt, 946-0735.

66 VW Bus, excellent condition, 26,000 miles, \$1,295. F. Wrinkle, 932-2156.

64 Pontiac Tempest Custom 4-door sedan, 326 V-8, automatic, air conditioning, new brakes, new shocks, 2 new tires, original owner, \$1250. J. O. Covington, 487-3066.

68 Chevelle Super Sport, 396. Completely equipped. Automatic transmission. Frank Borman. Seabrook, 877-2275.

65 GMC pickup, new tires, air conditioned, AM/FM radio, camper/cover, excellent condition, \$1650. W. B. Wood, HU 2-7557.

White 1963 Valiant, 2-dr. standard shift, radio and heater, new paint job, good tires, excellent running condition. Alice Hoff-paur, 946-4751.

66 Chrysler Newport, 4-door sedan, auto. trans., power steering, factory air. Other deluxe features, low mileage, excellent condition, \$2,250. Frances Kennedy, 944-9023.

FOR SALE—MISCELLANEOUS

16 ft. fibreglas boat, big two-wheel tilt trailer, 100-hp Mercury motor, canopy. MI 5-0188.

Mobile home for lease, furnished, air. Will relocate to your choice area, if on a long-term lease. Reasonable rent. Floyd A. Turner, RE 3-7667.

1964 Corvette Postraction rear axle assembly, complete w/traction bars, suspension assy, wheel hubs, brakes etc. \$115. Also Corvette dashboard (all instruments except radio) \$45. Ron Hagood, WI 8-2870, Texas City.

Step table \$12.50. Pair of fireside chairs; set of 4 folding doors plus hardware (never used) \$15. Two ball-bearing spice racks (new, still in boxes) \$2.50 ea. or \$4; several new cornice boards up to 12 feet (never used) 30¢ per foot; 5 fluorescent fixtures and tubes wired for cornice board indirect lighting as 2, 3, or 5 light strips from one wall plug; glass and 6 new unfinished picture frames of 2 inch material; mirror squares. Keener, HU 8-1193 after 5.

Antique gold wrought iron table with champagne glass top and four matching chairs with apple green leather cushions. Original price \$200. Used 2 mo. Sell \$150. Evelyn L. Huvar, HU 3-7626 (no home phone).

Fireplace screen with draw drapes, log holder, tools with one extra large log prong holder, all match and grate. \$50. Evelyn L. Huvar, HU 3-7626 (no home phone).

Stud Service—Champion English stock, male silver blue AKC registered miniature poodle. Evelyn L. Huvar, HU 3-7626 (no home phone).

1 pair \$18 dark men's dress slacks, waist size 44, length to fit 6' man. Cleaned once. Sell \$10. Evelyn L. Huvar HU 3-7626 (no home phone).

Learn to fly with the Aero Club Inc. for MSC and contractors. Cessna 150 \$7/hr wet; C-172 \$9/hr and K-Bonanza \$16/hr. Instructor \$5/hr. Only \$50 down \$11/month 50% refundable. Robert J. Ward, 877-3187.

19" TV—Zenith table model on roll-around stand, \$20. R. H. Dietz, 534-3665.

Dickinson. Hemisfair, 5 tickets to Fiesta Island Fun Ride \$1.70 value, \$1. R. H. Dietz, 534-3665 Dickinson.

Collie puppies: AKC registered, champion bloodlines, 4 females, sable and white, born April 12. Vaccinated and wormed. \$40. Will trade one puppy for golf cart and bag. Hooper, 488-4120.

Gas range, good condition, \$30. Range hood with lights and replaceable charcoal filter, \$7. Ross Ferland, 877-1888.

Clarinet, excellent for beginning student. Recently overhauled and repadded, New case, \$50. Earl Rubenstein, 877-3288.

23-foot fibreglas Falcon day sailer, 1000-lb. keel, dacron sails, aluminum mast and boom, stainless steel rigging, mahogany seats, flotation tanks, auxiliary motor, ALL for \$1650—terms available. R. E. Flaherty, HU 9-8410, Roy Brown, GR 4-3750.

Kenmore gas range with grill, oven and separate broiler. Two utensil storage compartments, \$40. Baby bed, \$20. Kathryn Harvey, GR 4-3650 after 5:30.

Chartcraft weekly service subscription (point and figure update). Service available to February 1969. \$30. Getting out of stock market. Hooper, 488-4120.

Hemisfair—Bonus Book with two gate admissions, value \$15.85, price \$9. John C. Fischer, Jr., GR 2-6910.

12' sailing surf board, 100 ft 2 sail area, gaff-rigged center board racing boat will carry 3 adults, easily transported on car top carrier. Best offer over \$100 by 7/15/68. Gene Flaherty, HU 9-8410.

Bonus book with two gate (adult) admissions to Hemisfair, \$9. M. Alexander, ext. 3532 (no home phone).

Danish modern living room suite: 1 couch, 1 chair, 2 end tables, 1 step table, coffee table, 2 table lamps, 1 floor lamp, 24" hex mirror, all good condition, \$75. Walnut bedroom suite: Hollywood double bed with 3-mo. old foam mattress and box springs, 1 6-dwr dresser w/mirror, 1 3-dwr bedside table, \$75. 24 in. barbecue, warming oven w/temp gauge, spit and motor, WW tires, used once. Cost \$25, sell for \$15. W. Cook, 932-2895 after 6.

Rent my 1966 Cessna 150 or 1967 Skyhawk. Attractive rates! Instruction also available. Earn your Private Pilot Certificate for as little as \$450. N. Tilton, GR 9-1176.

Lawn mower, Sears, 18 in., 2 1/4 hp motor. Runs OK, \$10. Bill Zruher, 591-2549.

Nylon pink plush carpet 10'x10' and pad. Like-new condition, used only 2 months. Will sell both carpet and pad for \$65. New American Standard garbage disposal (in carton) \$25. Jack H. Cohen, HU 8-3171.

14-foot sailboat and trailer. International 14, fibreglas with mahogany gunwales, dacron main and jib, in racing trim, \$1000. Carroll Mayhew, 932-3971.

18-foot Thunderbird Cheyenne boat fully equipped w/head, large-wheel, tilt, galvanized trailer, 100-horsepower Evinrude with only 75 hrs. Fine family boat. Dick Mains, 932-4692 evenings, 488-0024 days.

AKC-registered German Shepherd pups, solid silver and black and silver. White male stud service. Barbara Williams, 944-1524 or 944-5215 after 5.

Flying club membership, four planes available at reasonable hourly rates, \$500 returnable fee, terms. Roy Brown, 474-3750 after 5.

Automobile air conditioner, old A.R.A. under-the dash model. Condition unknown but worth a gamble at \$25 or will trade for good gasoline-engine lawn edger. HU 7-0095.

Boy's 26" bicycle, hand brakes, three speeds, English style. Stanley Faber, HU 2-7877.

Sear's Coldspot 16 ft. refrigerator-freezer. Yellow, left-hand door with freezer at top. Frostless. Stanley Faber, HU 2-7887.

Chair and sofa, Danish walnut, 66" sofa, matching chair, sofa in white, chair in gold leather. Excellent condition. \$70. John Lancaster, HU 8-2783.

Corner table, Danish walnut, 13" high, mar-resistant top \$10. John Lancaster, HU 8-2783.

Attention girls: Just what you have been looking for. A beautiful dark brown fall. 100% human hair. Wore 3 times. Must sell because it doesn't match my present color of hair. In very good condition. Regularly \$95, now just \$60. C. Barentine, MI 4-1104 after 5.

White wedding dress, 3/4 ruffled sleeves, bell skirt with tiny appliques on the sides, tiny buttons down the back, scoop neckline, peau de satin, fitted bodice, size 12-14. Will sacrifice for \$30. Pat Wilkes, 932-4437.

Honda, 1965, 300 Dream, excellent condition, sacrifice due to enlistment in Navy. Floyd Eaton, HU 2-7047.

Citizen's band radios: Two Belcom E-129 five-watt, eight channels. Require 12 volts DC, \$50 each. Johnson "White Face" with crystals for four channels. 100 volts AC or 12 volts DC. \$60. Doug Ward, MI 3-8686.

Silvertone 1957 model portable Hi-Fi, mono, with wrought-iron stand and "home-rigged" extension speaker and cord. In operational condition, but turntable drive squeaks. Best offer. Tom Ohnesorge, 946-5950 after 8.

Dachshund puppies, 8 weeks old, pure-bred, wormed, only 2 brown males left, \$35 each. Frances Morphew, WE 5-6322, La Marque.

Home movie outfit—8mm—Paillard Bolex projector and Craig film splices. Bell and Howell camera with 12.5 mm and 25 mm lens and filter adapters. \$75. Maple dining set, round table with formica top, leaf and 6 captain chairs. \$75. Stewart, 946-1004.

Royal portable straight-stitch sewing machine with case and instructions book, in good condition, \$15. R. Serpas, HU 8-2318.

Lido 14. Fibreglas sailboat, 14 ft. long, 6 ft. wide, covered foredeck, galvanized tilt trailer and a few extra included, low price. J. V. West, 932-4856 League City.

AKC Dachshund puppies. Gwen Boykin, 591-2160 after 5.

17' fibreglas boat with 75-hp Johnson motor. Tilt trailer has new rustoleum paint job. Boat has 11 safety requirements including horn, fire extinguisher, mirror and also comes with complete water skiing equipment. See to appreciate for \$1200. Sam Cerniglia, 944-0710.

14 ft. aluminum boat, 3.9 Mercury motor, new large-wheel trailer, \$250, or will sell separately; Sony 250A tape deck, like new, \$90; Heath Kit 23-channel CB transceiver, excellent condition, \$75. W. B. Wood, HU 2-7557.

AR turntable with ADC Point Four E magnetic cartridge. \$50. Several pre-recorded stereo tapes \$3 ea. Charles Krpec, MI 5-6089.

110 v. G.E. air conditioner, used 1 yr. Triumph Spitfire and Herald parts (no sheet metal). T. Cousins, HU 8-1494 or 591-2724.

Blander Tongue FM—signal booster, designed especially for multiplex FM—\$7.50. R. G. Musgrave, HU 8-3966.

Mason-Hamlin upright practice piano, \$150. Grace Giralda, WA 1-7212.

Sailboat—El Toro class, 8 foot dinghy with dacron sail. Excellent condition. \$99. T. M. Macfarlane, HU 8-2493.

84" modern sofa, vinyl, turquoise, \$25. T. M. Macfarlane, HU 8-2493.

One Hemisfair Bonus Book with 2 adult gate admissions at NASA cost of \$9. Regular value is \$15.85. M. R. Rother, HU 7-2693.

Double bed, lawn mower, refrigerator, stove, \$30 each. Bookcase with sliding glass doors, \$15. Antiqued desk, \$15. GR 7-1354.

WANTED

Wanted: TV, Hi-fi components, working or not; also self-propelled lawn mower, edger, sailboat. Don Frisbee, 946-7193 Houston.

Will share driving or ride. Freeway Manor to MSC, 8 to 4:30. Don Frisbee, 946-7193.

Bass player, standards, country and western, local area already established. Ross Ferland, 877-2083, 877-1888.

Used typewriters, electric fans, electric percolators, and sewing machines for VISTA Community Center in the 5th Ward. John Hirasaki, 591-3779.

Four Early American bar stools. Kathryn Harvey, GR 4-3650 after 5:30.

Boy's bike 24-26 inch or spyder. D. Osgood, 946-3404.

Want to join carpool from Baytown to MSC, 8:30-5. N. R. Schulze, 422-5636.

Ride or carpool from Broadway-Pasadena Freeway area to Bldg. 7. 7:30-4. Lucretia Knox, MI 4-7098.

Girl to share house with same beginning July 21, 1968. F. Howard, 644-0988.

Bedroom suite, prefer modern style. R. Bristow, HU 5-2219.

Used deep freeze, must be in good condition. Walter Smith, Alvin OL 8-4957.

Need ride or carpool from S.W. Houston (Westbury) to NASA (Bldg. 2) Mon.-Fri. Paul MacGregor, PA 3-9110.

Cars to wash and wax while you work, only \$8. Pickup and delivery at MSC. Mark Johnson, GR 4-2422.

Young gentleman to share \$120/mo. Gulfway Apartment. Call David Cook, HU 3-7505 (no home phone).

EAA Sponsors Theater Night

Dark of the Moon, a dramatization of the ballad "Barbara Allen," will be presented at the EAA-sponsored theater night at Pasadena Little Theater July 19. Curtain time for the PLT thirteenth anniversary production is 8:30 pm.

The play is set in the Smoky Mountains backwoods where a boy warlock attempts to become human so that he can marry the beautiful Barbara. Folk music such as "Down in the Valley," dancing, pathos, humor and a touch of rivalism form this appealing fantasy's melange.

Champagne punch and party snacks will be served in the lobby after the show. Theater tickets at \$2/person are available from PLT vice president Bill Simmons, Room 251, Bldg 16, Ext 5371. Seating in the theater is limited to 100. PLT is on Tulip Street just south of Spencer Highway, one-half mile east of Bayshore Hospital.

Spanish Club Picks Officers

The MSC Spanish Club at its annual meeting June 25 elected officers for the 1968-1969 club year. New officers are President Norman Chaffee, Vice President Richard Ecklekamp, Secretary Estelle Gillette, Treasurer Joe Pirtle and Program Chairman Harry F. Kline.

Preliminary planning was begun for a social event late in July. The club next meets July 24 at 5:15 pm in Room 108, Bldg 13. Prospective members are invited to attend. Club information may be got from Estella Gillette at 3194.



"I JUST SENT JIM OUT TO GET SOME STEAK AT THE MEAT MARKET, SOME ROLLS AT THE BAKERY, AND \$100 AT THE CREDIT UNION."

Do your share for Freedom!



Sign up for SAVINGS BONDS NEW FREEDOM SHARES

How to Survive In Building Fires

MSC employees on travel to other NASA facilities and contractor plants stay in lodgings ranging from single-story suburban motels to downtown multi-story hotels.

Hotel fires take many lives each year across the country, but most of the fatalities are either caused by panic or smoke inhalation rather than fire itself.

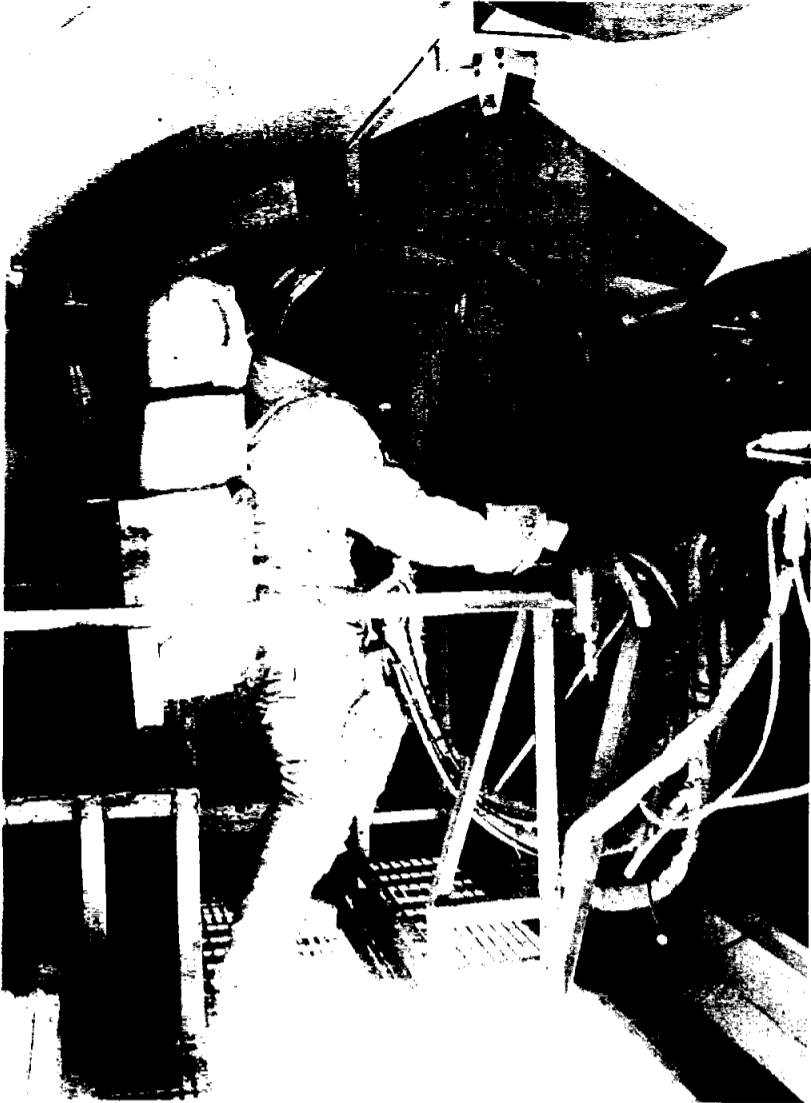
Here are ten tips on how to survive when trapped in a multi-story building fire:

- Note location of exits.
- Keep exits free for quick use.
- Never panic when fire breaks out; notify desk or fire department.
- If exits are blocked, stay in room with windows and doors closed.
- Seal around doors, bath fixtures and vents with wet towels, sheets or clothing. Seal around electrical fixtures with dry material. Seal possible smoke entries.
- If room air becomes unbreathable, open window from top to allow smoke and gases to escape, then open window four inches at bottom, cover self with wet blanket or sheet and breathe through window at bottom.
- Listen for rescue instructions.
- Use improvised rope as final effort; check rope for strength and that end leads to safety.
- Choose lower floor rooms if possible; upper floor rooms are the most hazardous.

Coin Club Meets

The newly-formed Spaceland Coin Club Wednesday will meet in Room 1067, Bldg 30 at 7:30 pm. A coin-swap session is on the agenda, and members are asked to bring up to ten coins.

For more club information, Call Gerald Janicke at 6128.



PRE FLIGHT DRY-RUN—The Apollo Portable Life Support System (PLSS) for extravehicular activity during the second manned Apollo (A/S 503) later this year undergoes a vacuum chamber test by the man scheduled for Apollo's first EVA, Russell L. Schweickart. A counterbalance removed all but 50 pounds of the PLSS 120-pound weight from Schweickart's back.

PLSS for Apollo EVA Gets Vacuum Checkout

The flight-article Portable Life Support System (PLSS) to be used by Russell L. Schweickart for extravehicular activity during the second manned Apollo mission (A/S 503) June 29 successfully underwent the second and third of a series of altitude verification tests in the Crew Systems Division eight-foot vacuum chamber.

Schweickart, Lunar Module pilot for the mission, entered the chamber to begin the tests at 11 am and performed various work tasks for a three-hour period. The chamber was pumped down to an altitude of 180,000 to 200,000 feet, during which time Schweickart transferred from the chamber environmental control system to the PLSS.

Backup LM pilot Alan L. Bean entered the chamber at 4 pm and ran a similar test profile. A four-hour chamber test was run with the PLSS June 24 by Thomas K. Mattingly.

The three astronauts taking part in the PLSS verification tests wore the new Apollo pressure suit which incorporates changes recommended by the Apollo 204 review board.

Additional tests of the PLSS oxygen purge system (emergency system) and familiarization runs for flight crews are scheduled later this month in the CSD eight-foot chamber.

The PLSS provides a controlled flow of breathing, pres-

surizing and ventilating oxygen and a flow of temperature-controlled water for the liquid-cooled undergarment.

The flight-article PLSS was delivered in late May from Hamilton Standard, Windsor Locks, Conn.

Laboratories Hard at Gathering Data for 1st, 2nd Manned Apollos

Apollo spacecraft command and service modules 101 were scheduled Wednesday to begin runs at ambient atmosphere in the Kennedy Space Center vacuum chamber as a prelude for manned and unmanned vacuum checkouts later this month. Spacecraft 101 will be flown on Apollo VII, the first manned Apollo mission.

Lunar Module 3, to be flown in the second manned Apollo mission (A/S 503), this week was in combined systems tests at KSC. Minor leaks discovered last week during ascent stage pressure checks had been corrected.

In the final test in a series of seven verification tests of the modified Apollo parachute system, a 13,000-pound Apollo boilerplate spacecraft was scheduled for a test drop Wednesday at the Naval Air Facility, El Centro, Calif.

The boilerplate was to be dropped from an aircraft from 31,000 feet and programmed to deploy only one of the two

drogue chutes and two of the three main chutes to simulate a high-altitude launch abort, thereby subjecting the Apollo earth landing system to design-limit worst-case conditions.

Apollo earth landing system modifications include larger drogue chutes and a change to three-stage reefing in the main chutes instead of two-stage to handle command module weight growth.

Vibration testing of an Apollo spacecraft stack — S-IVB forward skirt, instrument unit, spacecraft/LM adapter, service module, command module and

launch escape tower—is scheduled to begin tomorrow in the MSC General Vibration Laboratory.

Electromechanical shakers will subject the spacecraft stack to launch-condition longitudinal vibrations. The test series will last about ten days and will gather data for the first manned Saturn V mission.

Also supporting the first manned Saturn V Apollo mission was a series of command module and LM docking mechanism latch-loading tests in the General Vibration Laboratory.

Group Studies Ways of Sublunar Exploration

Methods to find deposits of ice, a permafrost layer, caves, or bodies of ore beneath the lunar surface, and to determine the overall structure of the Moon and the temperature of its core have been outlined.

During working group sessions at NASA's Ames Research Center co-sponsored by the University of California, Berkeley, some 90 of the nation's experts discussed the electromagnetic exploration of the Moon.

Attendees pointed out that many scientists believe there is water on the Moon. They said that on Earth proven electromagnetic methods currently find bodies of ore, water, and other formations far beneath the surface.

They commented that electromagnetic systems will provide the best information on the

Moon's interior, and recommended three main techniques from about a dozen proposed: magnetometer systems, radar, and radio-frequency systems. These could be deployed from Earth, from lunar orbit, or from crawlers or emplacements on the lunar surface.

Magnetometer systems could explore the deep interior of the Moon, using a network of emplacements on the surface. These would measure the amount of blocking of the fluctuating solar magnetic field as it passed through the Moon, borne by the solar wind. A highly-conductive hot lunar core would cut off the field completely. A cold core would let most of the field pass through. A magnetometer mounted on a lunar crawler could make similar measurements to find highly conductive masses of water, lava, or ore.

Radiofrequency probes were described as the means to make the lowest cost subsurface surveys. Such a probe on a spacecraft in 50-mile polar orbit could make a global survey of the Moon at depths from half a mile to five miles down. It would require a 500-yard-long antenna, similar to that just completed for the REA satellite.

Radio signals from the spacecraft would penetrate the surface and bounce back to the spacecraft where changes in their wave characteristic would be measured.

These wave-change data could be used to define bodies of ore, ice deposits, or permafrost. A similar system could be mounted in a crawler.

A third system, high-frequency radar, could make detailed studies of the lunar surface at depths of from one to ten yards. Radar could be bounced off the Moon from the Earth. It could be beamed from a spacecraft in lunar orbit or from a lunar crawler at the lunar surface, to bounce off and be received by antennas on the Earth, or lunar crawlers could beam it into the surface and receive the returning signal.

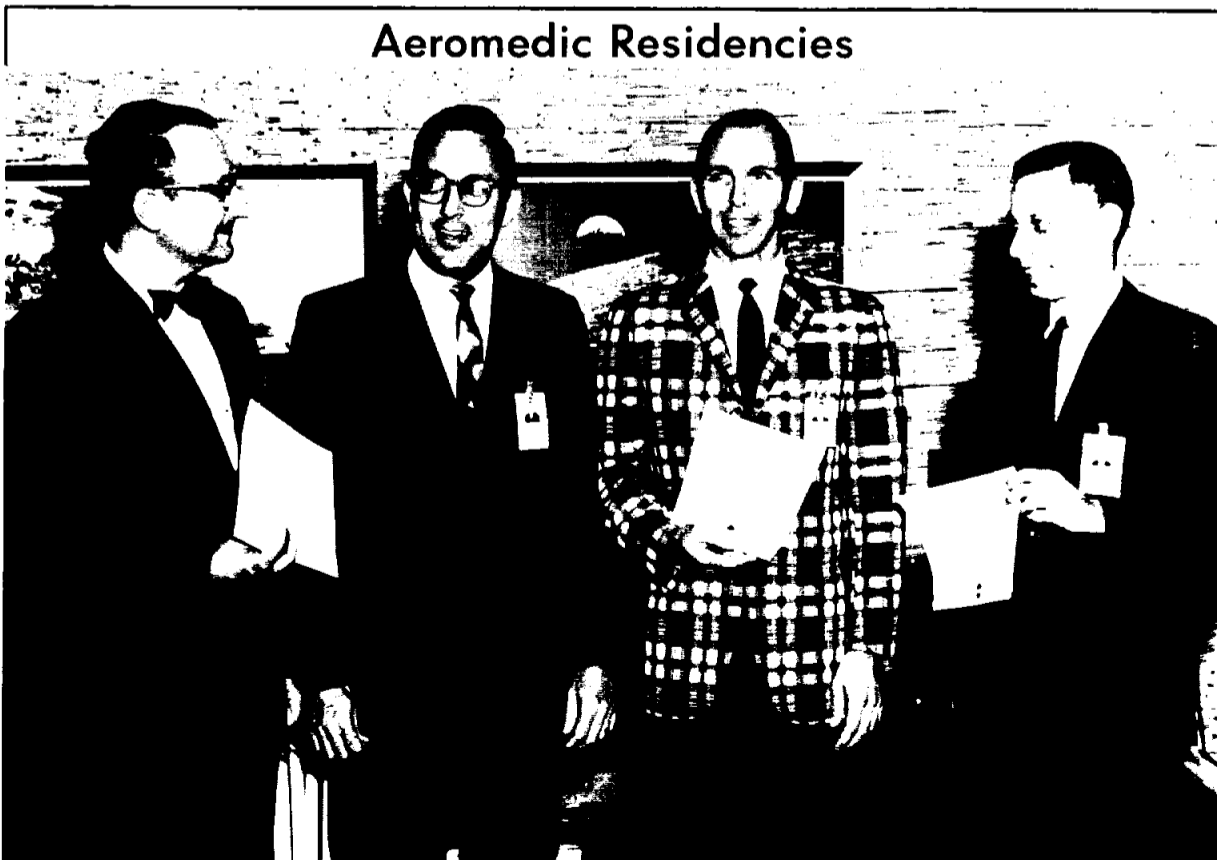
SAAP Vehicle

(Continued from page 1)

do Inferno range at Natal, Brazil. The South Atlantic Anomaly Probe (SAAP) project carried an 80-pound experiment package 502 miles over the Atlantic to measure the Van Allen inner radiation belt. The next SAAP mission, directed by the MSC Space Physics Division, is scheduled for early 1969.

Amendment to the Bristol contract for the two-stage 37-foot-tall solid propellant vehicle boosts the contract value by \$104,000 to a total \$455,028.

Aeromedic Residencies



THIRD YEAR—MSC Director of Medical Research and Operations Dr. Charles A. Berry, second from left, presents certificates of recognition for completion of third-year aerospace medicine residency to physicians assigned to the directorate. Left to right are Dr. John F. Zieglschmid, Berry, Dr. John J. Droescher and Dr. William R. Carpenter. Also receiving residency certificates but not in photo are Dr. Clarence Jernigan, Dr. Kenneth N. Beers, Dr. Russell R. Conley and Dr. Corrin F. Hodgson.