

Sounding rocket probes south atlantic radiation

A NASA sounding rocket carrying three scientific experiments designed to provide measurements of the South Atlantic radiation belt was successfully launched from Natal, Brazil late September 18.

The probe which carried a 110 pound experiment package approximately 500 miles over the south Atlantic was launched at 10:15 pm CDT from the Barreira do Inferno range near Natal. A 37-foot tall Black Brant IV, a two-stage, solid propellant sounding rocket, was the launch vehicle for the multi-unit science payload.

Primary objective of the mission was to provide detailed scientific measurements of the

Apollo 12 stack undergoes tests

The Apollo 12 space vehicle, still on schedule for a November 14 launch, Tuesday underwent its flight readiness test at Kennedy Space Center Launch Complex 39A. The vehicle's two-day countdown demonstration test (CDDT) is scheduled for October 28-29.

Flight controllers in Mission Control Center Wednesday ran lunar descent simulations with the Apollo 12 LM crew in the KSC LM simulator and were scheduled to run ascent phase simulations today, transearth injection and entry sims Monday, and an EVA walk-through next Thursday with the crew tied in from Flagstaff, Ariz.

EAA plans MSC annual picnic come hurricane or high water

Dynallectron gets aircraft contract

NASA has selected Dynallectron Corp., of Washington, D.C. for award of a contract to provide aircraft maintenance support services at MSC.

The period of performance under the contract will be for one year with provisions for two additional one-year renewals. The estimated amount of the first year of the cost-plus-award-fee contract is \$3 million.

The contract will provide maintenance, modification, and ground support for T-38 and T-33 aircraft for astronaut flight readiness training, P-3A and C130B aircraft for earth resources programs, SH-3A and T-33 aircraft for special research programs, G-159 transport aircraft and Bell 47G-3B1 and Lunar Landing Training Vehicles.

charged particle environment of the South Atlantic Anomaly (radiation belt) region.

The payload consisted of a Positive Ion Telescope (PIT), a Light Ion Detector (LIDE) and three magnetometers.

The PIT developed by Dr. D. Greiner of the University of California, Berkley, is a 8-element solid state device with a rectangular field of view.

The LIDE, similar to detectors flown June 1968 from Brazil, is intended to verify the existence of charged, low-energy ions at earth-orbital altitudes. The three-single-channel magnetometers measured the magnitude and direction of the magnetic fields at points along the payload trajectory.

The experiment package splashed down approximately 225 miles southeast of the launch site. Recovery of the package was not planned.

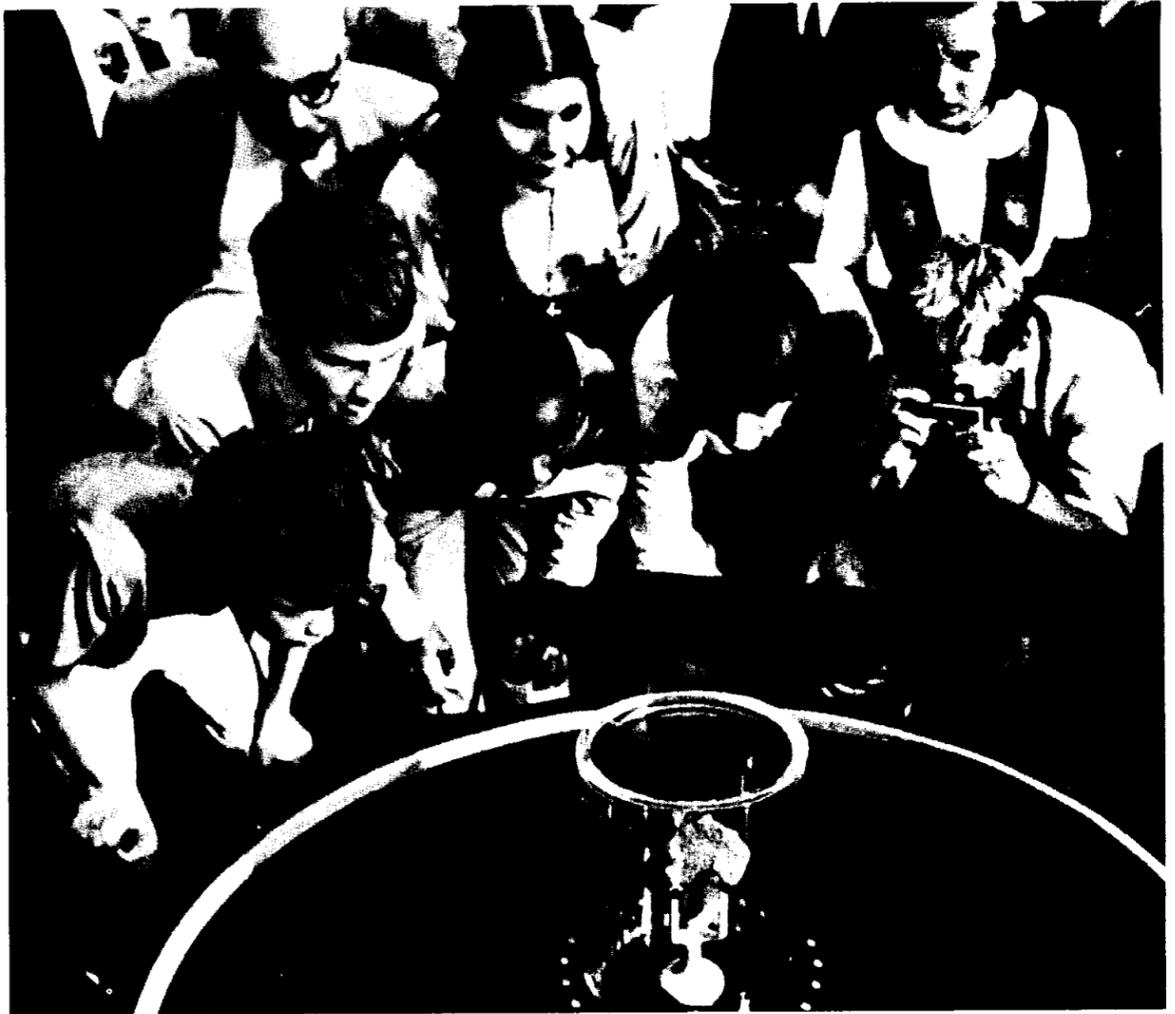
Preliminary analysis of the data indicates that the experiments carried in the nose cone of the Canadian manufactured launch vehicle performed according to plan.

The Space Physics Division of MSC directed the program. The Sounding Rocket Branch of NASA's Goddard Space Flight Center, Greenbelt, Maryland, assisted in the launch and data recovery. For Brazil, the Brazilian National Space Commission (CNAE) provided overall management direction and scientific coordination and the Brazilian Ministry of Aeronautics carried out the data recovery and operations.

Come rain or come shine the MSC Employee Activities Association plans to bring off its annual picnic October 18 with a western flavor. Even the chow will go western — barbecue beef and links with baked beans washed down with coffee, ice tea, pop or beer.

The picnic will run from 10 am to 3 pm. Picnic tickets are for sale from EAA representatives at \$1.50 for adults, \$1 for kids 7-13 and \$.50 for tads 1-6. The EAA rep selling the greatest number of tickets will get a prize.

Entertainment will range from a western band for adults and a rock band for the youngsters to goat sacking and greased pig grabbing contests. Although no organized adult games are planned, baseball, softball and volleyball equipment will be available.



CURIOS KIDS GET A CLOSEUP OF A PIECE OF THE MOON

Wishing they could reach out and touch it, a group of children at the Smithsonian Institution view a two-pound fragment of moon rock displayed in a sealed glass case. Apollo 11 crewmen Neil Armstrong, Edwin Aldrin and Michael Collins last month presented the rock to the Smithsonian.

ROUNDUP

NASA MANNED SPACECRAFT CENTER

HOUSTON, TEXAS



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Scientists sign out lunar samples

A total of 61 scientists as of Monday had signed for and received all or a portion of their lunar samples from Apollo 11.

Lunar Receiving Laboratory curator Dr. Dan Anderson said 61 principal investigators had

accepted two kilograms (4.4 lbs). A total of 18 pounds of material is scheduled for distribution to 142 principal investigators from the US and nine foreign countries.

The sample material thus far

distributed is fine material and thin section; the remaining 14 pounds to be released are larger sections and chunks of rock, Anderson said.

The Apollo 11 crew brought back 48 pounds of samples . . . of which 18 pounds will be distributed to principal investigators.

McDivitt to head ASPO

James A. McDivitt, 40, last week was appointed Manager of the Apollo Spacecraft Program at MSC.

He succeeds George M. Low, 43, who temporarily will be on special assignment to MSC Director Robert R. Gilruth to plan future programs and work on organizational matters.

McDivitt, who commanded the Gemini IV and Apollo 9 missions, has been Manager for Lunar Landing Operations in the program office for the past four months. He has completed his primary responsibility in that capacity of planning future lunar landing missions, and the position has been eliminated.

"I am pleased to have a man with Jim McDivitt's experience as an astronaut, as an engineer, and as a manager to head the Apollo Spacecraft Program," Gilruth said.

Low has headed the Apollo Spacecraft Program since early in



1967. Prior to that he was Deputy Director of MSC.

Under Low's leadership, the Apollo Spacecraft was made flightworthy after the fire of January 1967. He originated the plans for Apollo 8, the first manned lunar orbit flight, and he played a leading role in planning all of the Apollo missions.

During the time Low has directed the program, the Apollo spacecraft has performed five flawless manned flights, including the first manned lunar landing.

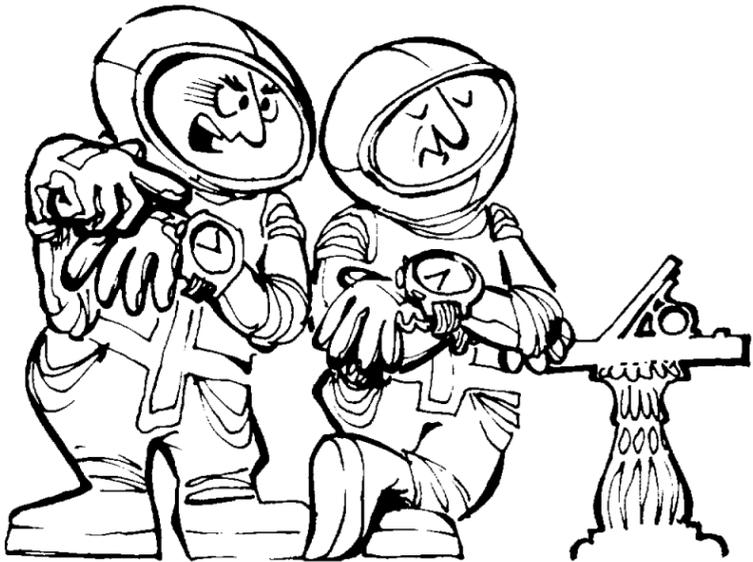
In another area MSC space science endeavor, a 1,500-pound scientific package which floated over south and central Texas for two days this week, was recovered Monday near Cleburne, Texas.

The experiment, called Cosmic Ray Smulsion Plastic Experiment, was launched last Saturday suspended from a 20-million cubic foot balloon provided by the National Center for Atmospheric Research at Palestine, Texas.

One of the largest ever launched, the balloon was clearly visible Sunday at sundown west of Houston as it drifted northward at 130,000 feet.

CREPE is a joint project of the MSC Cosmic Ray Physics Branch and Prof. Peter Fowler of the University of Bristol, England who furnished the cosmic ray detector used in the payload. MSC project manager is Dr. Don Hagege.

THE ASTRONUTS filched from TRW's gordon a. south



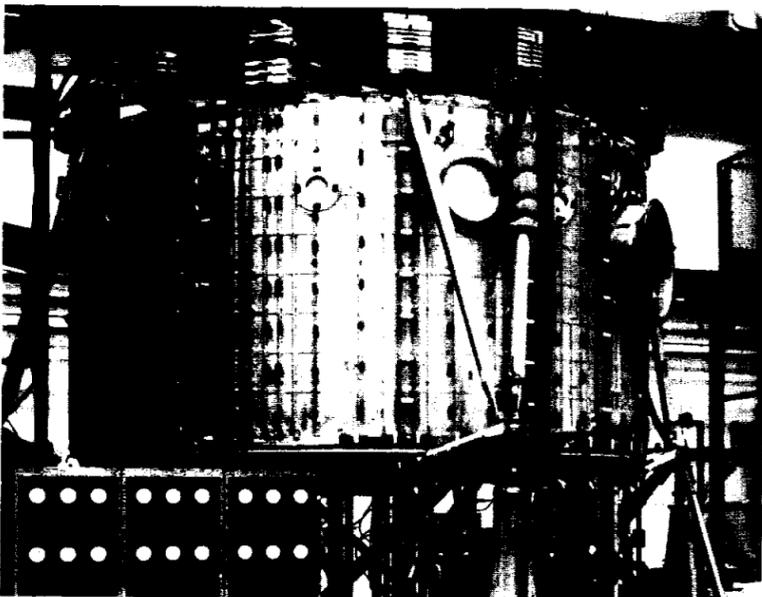
ROUNDUP

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Test bed subs for future craft

The Subsystem Test Bed (STB) — a developmental tool for future spacecraft — is shown above undergoing Saturn V launch-load testing in building 13 at MSC.

Hydraulic jacks and weights subject the fifteen-foot diameter, nine-foot high module to peak loads of 160,000 pounds, simulating a five-G liftoff with a 32,000 pound vehicle.

Vacuum chamber tests are tentatively scheduled to be conducted early next year in MSC's chamber to evaluate the STB's low-heat-leak design. Subsequent cabin air circulation tests will be aimed at reducing excessive air conditioning power requirements and minimizing moisture condensation. Other unmanned tests will verify the STB structural integrity to help certify the vehicle for follow-on manned test-

ing with advanced, integrated subsystems.

The STB was designed and built by the Martin-Marietta Corp., Denver under a NASA supporting development contract. Hatches, windows, trusses and other auxiliary equipment were fabricated in house at MSC and by small firms located mainly in the Houston area.

The vehicle represents a module of a building-block concept and is being used in an exploratory effort by MSC's Engineering & Development Directorate to reduce the cost of spacecraft development and testing and to provide a realistic spacecraft structure for development of advanced spacecraft subsystems.

Kenneth Idomir of MSC's Spacecraft Design Office is program manager for the Subsystem Test Bed.

NASA issues Gemini photo second volume

More than 250 full-color photographs of the Earth as seen from spacecraft in orbit are featured in NASA's newly published *Earth Photographs from Gemini VI Through XII*.

The book is a collection of the best of hundreds of pictures taken between 1965 and 1967 from altitudes between 99 and 850 miles as Gemini spacecraft orbited the Earth.

In this volume, however, the pictures are presented as if taken on a single flight around the world. The first and last views are of Cape Kennedy, Fla., where the Gemini flights began. Between are views of all the principal areas within about 30 degrees latitude of the Equator.

The arrangement helps a reader interested in a particular area to turn quickly to pictures of that area or a reader can go page by page seeing it much the same way that it appears to astronauts.

Captions for the photographs are by specialists in geology, oceanography and other sciences.

All the photographs were taken with hand-held cameras as part of synoptic terrain and weather photography experiments.

The new book is a companion volume to *Earth Photographs from Gemini III, IV and V*, published in 1967. The new book, Special Publication 171, may be purchased for \$8 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

THOMAS JEFFERSON

"The God who gave us life, gave us liberty at the same time." *Summary View of the Rights of British America.*

Buy U.S. Savings Bonds, new Freedom Shares

project names-

10. Langley Research Center, "Manned Lunar Landing via Rendezvous," April 19, 1961; interview, John D. Bird, Langley Research Center, June 20, 1968.
11. Interviews: Bird; Thomas E. Dolan, Orlando, Fla., Oct. 14, 1968.
12. Waugh letter, Nov. 5, 1963; informal memo, Lee D. Saegesser, June 11, 1969; *Congressional Record*, Vol. 115, No. 119 (Washington, 1969), July 17, 1969, E6092.
13. Interview, Charles J. Dolan, Langley Research Center, June 20, 1968.
14. NASA-Industry Program Plans Conference, July 28-29, 1960 (Washington, 1960), 8.

Your Job in Focus

Leave System

The U.S. Civil Service Commission has asked Congress to enact legislation which would improve the administration of Federal employees' leave system in two ways.

First, the legislative proposal would allow a Federal employee to receive lump-sum payment for all annual leave accrued during the year in which he leaves the Federal service.

Under present law, an employee is entitled to lump-sum payment for up to 30 days of leave or for the amount carried over into the year in which his separation takes place, whichever is greater. Thus, if an employee carries 30 or more days of accumulated annual leave into his final year of service, he may receive payment for the amount carried into the year but not for any leave accumulated after the beginning of that year.

Second, the legislative proposal would repeal the ban on the use of annual leave during an employee's first 90 days of employment, except in the case of employees whose appointments are limited to less than 90 days.

In requesting these legislative changes, the Commission pointed out that the proposed legislation

would in no way modify the ceiling on annual leave which can be carried over from 1 year to the next and does not change the limitation on accumulation of annual leave.

Holidays, as of 1971

When Public Law 90-363, the so-called Monday Holiday law, becomes effective on January 1, 1971, Federal Holidays will be observed as follows:

- New Year's Day—January 1
- Washington's Birthday — Third Monday in February
- Memorial Day—Last Monday in May
- Independence Day—July 4
- Labor Day — First Monday in September
- Columbus Day (new) — Second Monday in October
- Veterans Day — Fourth Monday in October
- Thanksgiving Day — Fourth Thursday in November
- Christmas Day—December 25.

Application for leave

Periods of absence of more than 5 consecutive days of annual leave must be requested in advance and authorized on SF-71, "Application for Leave." If the period of leave extends into another pay period, the SF-71 should be submitted to the Payroll Office at the beginning of the period of leave. This will assist the Payroll Office in maintaining accurate records.

Records Roundup to smoke out dusty file piles

The projected "Records Roundup," as described in MSC Announcement 69-113, would be an excellent time to screen and make appropriate disposition of classified materials that are no longer needed or that are eligible for downgrading. Arrangements for pickup of classified material to be destroyed can be made by calling extension 3331.

Modified file cabinets can be declassified by screening the files to make certain that all classified material has been removed, mailing the locks to BM4, or bringing them to Room 150, Building 2. Locking bars will be picked up if they are placed in the hallway at the close of the working day.

Any questions regarding disposition of classified material can be answered by calling extension 3331.

MFA reps hold two-day seminar

Some 500 representatives of industry, the Department of Defense and NASA met at MSC September 25-26 to discuss future programs in manned space flight and to formulate plans for sustaining the team effort which produced the first manned lunar landing.

Keynote address at the affair, known as the National Seminar for Manned Flight Awareness, was Dr. George Mueller, NASA Associate Administrator for Manned Space Flight. The Seminar theme will be "After the Moon—What?"

During the two-day meeting, astronauts and key members of NASA and industry management spoke and took part in panel discussions on future programs and their impact on the employees and management of individual companies concerned with the national manned space flight effort. NASA participants included representatives from the John F. Kennedy Space Center, the Marshall Space Flight Center, NASA Headquarters and MSC.

The seminar is part of NASA's Manned Flight Awareness program, which seeks to cultivate a sense of pride and purpose in those workers who comprise the manned space flight team.

Fire Prevention Week Schedule of Events

- Parade of firefighting apparatus at 10 am, Monday, Wednesday, and Friday, October 6, 8, and 10, 1969.
- Fire prevention films to be shown in building 1 at 9 am on Monday, Wednesday, and Friday, October 6, 8, and 10, 1969.
- Fire inspection of selected areas of MSC facilities by MSC management.
- Fire drills of selected buildings.
- Open House at Fire Station, October 5-11, 9 a.m. to 4 p.m.
- Display of fire equipment in buildings, 2, 3, 11, 30, 32, and 25.

NASA industry team cited in MSC Award ceremony

More than 100 NASA, industry and Department of Defense people Thursday, received awards and citations for their part in the first manned lunar landing mission at a special awards ceremony in the MSC Auditorium.

NASA Administrator Dr. Thomas O. Paine made the prin-

cipal address to the employee-filled auditorium following a welcome from MSC Director Robert R. Gilruth.

Recipients of the NASA Distinguished Service Medal for "leadership and dedicated performance were essential elements in the fulfillment of this Nation's commitment to achieve the goal,

during this decade, of landing a man on the moon and returning him safely to earth," were Carroll H. Bolender, Maxime A. Faget, Robert R. Gilruth, Wesley H. Hjernevik, Kenneth S. Kleinknecht, Christopher C. Kraft, Jr., George M. Low and Donald K. Slayton.

The NASA Exceptional Sci-

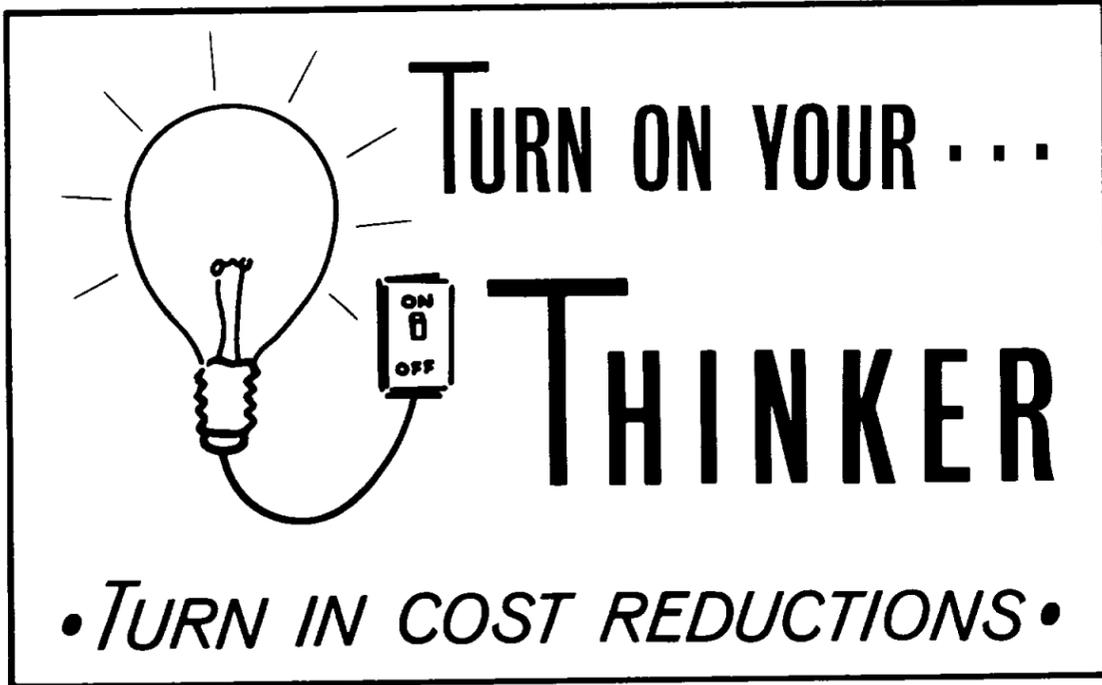
entific Achievement Medal went to MSC Director of Medical Research and Operations Dr. Charles A. Berry for his "leadership and personal efforts in the field of aerospace medicine in the success of the first manned lunar landing."

The NASA Exceptional Service Medal was presented to 61 MSC employees in all areas of the center for their part in the success of Apollo 11.

NASA Group Achievement Awards went to the Manned Spacecraft Center, accepted by Gilruth; the Lunar Exploration Planning Group, by Anthony J. Calio; the Lunar Sample Analysis Planning Team, by Dr. Paul W. Gast of Columbia University; the Lunar Sample Preliminary

Examination Team, by William A. Greenwood; US Navy Task Force 140, by Rear Adm. Philip S. McManus.

Recipients of the NASA Public Service Award in the Apollo industry team were: Robert T. Benware, Philco-Ford; William B. Bergen, Charles H. Felts, George W. Jeffs and Dale D. Myers, North American Rockwell Space Division; Hugh Brady, AC Electronic Division; C. Stark Draper, David G. Hoag and Ralph R. Ragan, Massachusetts Institute of Technology; Joseph G. Gavin, Jr. and Ralph H. Tripp, Grumman Aerospace Corporation; Richard B. Hanrahan, IBM; and Clarence W. Pittman, TRW, Inc.



Harnett named to Hq post

Daniel J. Harnett has been appointed Assistant Administrator for Industry Affairs at NASA Headquarters, effective October 1.

He will be responsible for all NASA relationships with indus-

try. Reporting to him will be the offices of Procurement, Cost Reduction, Labor Relations, Reliability and Quality Assurance, and the staff of the Inventions and Contributions Board.

Roundup Swap-Shop

(Deadline for Swap-Shop classified ad is the Friday preceding Roundup publication date. Ads received after the deadline will be run in the next following issue. Ads are limited to MSC civil service employees and assigned military personnel. Maximum length is 15 words, including name, office code and home telephone number. Send ads in writing to Roundup Editor. AP3. Ads will not be repeated unless requested.)

REAL ESTATE

El Lago 3-2-2, for sale or lease, new carpets, large wooded lot, G. Horton, 877-4102.
Nassau Bay colonial 3-2-2, fenced, corner, formal living & dining, paneled den, fireplace, custom draped, carpeted, 5 1/4%, 591-2340.
Parkview Manor, Pasadena, brick, assume 5 1/4% FHA, \$3000 equity, Gillam, 946-4281.
Glenbrook Valley 3-2-2, colonial, brick, formal living & dining, large den, central A/H, pool, 6% loan, R. Driver, 644-7789.
Ten acre Hill Country homesites, 3 mi from Wimberley, wooded, beautiful views, pavement, owner, low down, Davis, 877-1155.
Bay 3-2-2 for rent, brick, central air, 2 blocks to elem, pier & boat launch, \$188, 471-4539.
West Galveston Island beach house for sale or rent, all electric, gulf view, 1 block to water, Green, 932-3486.
Houston 2-1-1 frame house, air, fenced, schools nearby, assume 6% loan, 649-1697 after 5.
Clear Lake City, 3-2-2 Spanish, custom drapes, good grass, 802 Buoy Rd, \$2700 equity, \$168 mo, L. Moore, 488-5132.

AUTOS

68 gold GTO, automatic, air, AM FM stereo, \$2850, S. Spaeth, 944-3170 after 5.
62 Pontiac Bonneville, 4 dr HT, \$275 or best offer prior to Oct 15, 474-3476.
65 Triumph Spitfire, top & Tonnau, good cond, \$895, N. Nelms, X2662.
56 Chevy, 6 cyl, 3 speed, Hurst transmission, new brakes, good upholstery, very good running cond, J. Folse, 935-6546 after 8.
66 Corvette convertible, 327, factory air, AM FM, positraction, mag wheels, disc brakes, McCollum, 487-2047 after 5.
59 Chrysler, 4 dr Windsor, power, air (not working), \$125, Drexel, 471-0269.
68 VW bus, 7 passenger, excellent cond, \$1495, 591-3531.
66 Chevelle SS 396, automatic, air, R/H, buckets, stereo hookup, good tires, excellent cond, owner, under bluebook, C. Hooper, 877-1328.
67 GTO, excellent cond, air, 4 speed, mag wheels, R. Culbertson, 488-4176.
68 Dodge Charger, 1-yr-old, \$1000 equity but will take \$200 & assume payments of \$126.00 mo, 24 more payments, L. Williams, 643-9128.
63 VW sunroof sedan, excelent cond all around, \$350, F. Hall, 522-6629.
67 Jaguar XKE 2+2, like new, jet black w/chrome wire wheels, 488-3271.
62 Corvair Monza interior & exterior body parts, hub caps, tinted glass, 471-4448.
66 Ford wagon, power, air, excellent, bluebook, R. Hymmer, 649-0416.
66 LeMans coupe, gold w/beige vinyl top, excellent cond, owner, 488-3136.

66 Mustang 289, automatic, air, AM/FM, discs, power steering, other extras, A. Glines, \$1485, 944-9491, 5 to 7.
55 Chevy V8, runs excellent, \$90, P. Weitz, 591-3071.
67 Valiant, 2 dr, very good cond, new tires, plugs, points, shocks & muffler, \$900, D. Ward, 488-0715.
64 Olds F-85 wagon, air, power, automatic, luggage rack, radio, excellent tires, Rainey, 474-2937 after 5.

BOATS

Sailfish, like new, \$300, J. Lee, 591-3539 after 5.
21' Thunderbird Formula, 155 hp, OMC I/O, cabin, marine head, excellent cond, used less than 50 hrs, \$4850, S. Roosa, 877-2867.
14' fiberglass boat w/Mercury 70 hp electric start motor, excellent ski rig, \$950, 488-3271.
69 19' Thunderbird Comanche deluxe, less than 20 hrs on 160 M Cruiser, R. Burt, 591-2117.
15' fiberglass boat, 40 hp Johnson, trailer w/spare tire, retractable top, various accessories, \$800, P. Clyatt, 944-3725.
15' Ouachita aluminum canoe, \$100 firm, 591-4891.
17' fiberglass ib/ob deep-vee, trailer, \$1850, 471-4539.

HOME FURNISHINGS

Danish modern coffee table by Lane, glass top, good cond, \$20, Grissom, 932-4206.
Baby bed, white, Early American, fine quality for less than 1/2 price, D. Nussman, 946-0359.
Salterini wrought-iron patio furniture, M. Lake, 591-2334.
36" Kenmore gas range, 3-yr-old, white, \$100; 1 1/2 ton air conditioner, Philco, 7-yr-old, \$50, G. Lofgren, 471-4589.
Double-door refrigerator, used 6 mos, must sacrifice, \$150, 591-3531.
Glass-top table & chair set, aluminum, floral design, won't rust, use for patio or dinette, \$100, R. Lang, 488-0149.
Gas refrigerator, old but ideal for cabin, \$15, C. Hooper, 877-1328.
Spanish dinette, \$75; 2-piece set black modern sofa, \$95; single bed complete, \$30, R. Lang, 488-0149.
GE electric clothes dryer, \$10, M. Smith, 471-1984.
Baby crib & springs w/out mattress, good cond, \$10, B. Jones, 487-2958.
Boy's maple bunk or trundle beds including 2 good mattresses, \$60, P. White, 877-3153.
Oval 9 x 6 braided rug in browns & beiges, \$15, P. White, 877-3153.

BIKES & MOTORCYCLES

Honda CL-90 Scrambler, excellent cond, recent tune-up, new tires, looks like new, R. Reina, 488-1326.

Boy's 24" bike, \$6, D. Ward, X4651.
Boy's 20" bike, A. Brenton, X7231.
Boy's 26" bike w/saddle basket, \$10, E. Rubenstein, 877-3288.

SPORTS EQUIPMENT

Shotgun, 410 ga, 3-shot bolt action, excellent cond, w/box of shells, \$30, B. Handley, 482-7041.
Arnold Palmer golf clubs, aluminum shaft wood (pro line), 1, 3, 4 & 5, \$75, R. Wrinkle, 932-2156.
Two Wilson tennis rackets, excellent cond, \$13 for both, F. Wrinkle, 932-2156.
Marlin model 43 12 ga pump action shotgun, beautiful balance, barrel needs rebluing, \$65, J. Samouce, 488-0406.
21 1/2' leisure-time travel trailer, tandem, Marlin carbine, 30-30, w/ammo, \$65; Moss-berg 320B, 22 target rifle, never fired, \$35, Donnell, 877-1746.
Attention, NRA instructors: large supply NRA instruction manuals for sale, Donnell, 877-1746.
Various calibers military rifles, some sporterized, some original w/matching serial numbers, L. Kaigler, 877-4731.
12 ga Remington automatic 3-inch mag, 471-4539.
Savage automatic shotgun, 30" barrel, \$70; model 600 Remington rifle w/weaver scope 3X, 308 caliber, \$90, C. Stamps, 471-0770.
David Bradley Go-Cart, 2 cycle, Power Products engine, 40 to 50 mph, \$115, C. Stamps, 471-0770.
New SAKO 30-06, unfired, in box, \$150; 3 Mausers, \$25, \$30, \$35, 482-3059.
69 Starcraft Tent Trailer, excellent cond, 488-4069.
Sears washing machine, turquoise, \$20, C. Hooper, 877-1328.

PETS

Wire Fox Terrier puppies, AKC, \$75, R. Pereboom, 645-6043.
Seal Point Siamese kittens, 6-wks-old, housebroken, male & female, \$15 each, 474-3373.
Rare registered Manx kittens, the tailless cats, personality plus, 925-3312.
Stud available, white mini-toy poodle, registered, excellent litter record, A. Smith, 488-3238.
Bargain, must sell miniature French Poodle, AKC, solid black female, 1-yr-old, well-trained, all shots, G. Seate, 932-6020.
American Eskimo female puppies, UKC, \$50, 433-2351.

CAMERAS & STEREO

Realistic model 909 solid state stereo tape recorder, 3 speed, 2 mikes, auxillary cords, detachable speakers, used 10 times, \$135, 944-9625.
4:8 track portable stereo tape player w/3

speakers & key-locked mount, perfect cond, cost \$150, sell for \$90, 447-6678.

VOX Super-Peate Piggyback amplifier model V1141, replacement cost \$1523, good cond, \$695, J. Weber, 944-3256.

Technicolor Movie Club membership, equipment: Super-8 camera, projector, lights, screen, film, processing, \$550 new, sacrifice \$400, 645-1001.

Columbia AM/FM console stereo, total unit in 2 matching limed oak cabinets, 24" x 30" x 15", 3 speakers each cabinet, storage for 80 records, \$100, E. Rubenstein, 877-3288.

Rolleiflex f3.5 Planar, case, lens hood, 2 1/4 square, all like new, \$95, P. Kloetzer, 877-3365.

Portable stereo HI-Fi, \$35, C. Hooper, 877-1328.

EICO FM tuner, good cond, \$15; EICO amplifier, good cond, \$15, B. Handley, 482-7041.

Speaker cabinet w/12" speaker, hi-frequency unit, crossover, good cond, \$20, B. Handley, 482-7041.

Sony stereo recorder, excellent cond, several tapes free, Hector, 946-1987.

MISCELLANEOUS

Underwood upright typewriter, excellent cond, \$45; Nesco cooker & stand, \$20; pair carved gold-leaf spanish mirrors, \$40 for pair or sell individually, 649-2569.

67 Henslee mobile home, 2 bdr, 1 1/2 bath, carpet, central A/H, assume loan at 6 1/2%, balance, \$5275, \$110/mo, G. Chamblin, 483-2198.

Realistic TRC-X23, Heathkit 5 channel CB radios, base & whip antennas, \$100, W. Narkunz, 427-6289.

Conn trombone w/case, perfect cond, 877-4703 after 3.

Black factory hardtop for Alfa 1600 Giulia, M. Brown, 946-3554.

Wedding ring set, .75 carat total, 7 diamonds, yellow-gold band, white-gold setting, very pretty, cost \$250, sell for \$100, L. Williams, 643-9128.

Dressmaking & alterations, professional work, L. Williams, 643-9128.

Percolator, 1-yr-old, avacado, 32-cup West-bend, must sacrifice, \$8, X3021.

Telescope on tripod, Tasco 9TES, 56X, 117X, 234X, Barlow, sun filter, \$60 new, sell for \$40, B. Trout, X5361.

Underwood typewriter w/wide carriage, \$30, M. Smith, 471-1984.

Sears 22" self-propelled rotary lawn mower, needs work, \$15, 877-2839.

MSC Guitar Club is being organized, NASA employees & contractors are invited, J. Perez, X3803.

Mooney M20A, 1550 TT, 600 SMOH, Genave Navcom, good paint & interior, \$5950, D. Friis, 944-5000.

Will fly persons on weekend for cost, F. Blankenship, 944-0750, after 5.

Weather-proof roof-top luggage carrier for VW sedan, \$15, B. Jones, 487-2958.

Bathenette; play pen, car seat, L. Hayman, 487-0278.

Fly retractable w/Aero Club, Inc, for MSC & contractors, P & K Bonanzas, IFR, 195 mph, \$17/hr wet; Cessna, 172 \$9/hr, 150 \$/8hr, instructor, \$5/hr, B. Ward, 877-3187.

Removable car top carrier, fits standard or compact cars, used once, \$17, R. Stanton, 932-2982.

All Citadel graduates in Houston area are requested to call D. Broome, 488-4375 as soon as possible, to form local Citadel Alumni Club.

Maple Bunk beds, \$30; hobby horse on springs, \$5; baby bed, \$10; set of book cases, \$10; exhaust fan, \$15, Lippitt, 649-3200.

Alto E Flat Saxophone, Vito w/case, good cond, \$50, M. Cox, 946-6292 after 5.

Conn trombone, used 1 season, like new, Cost \$160, sell for \$95, J. Hammack, 877-1657.

Firewood delivered in Friendswood & NASA area, 482-1664.

WANTED

Shotgun, 20 ga, double barrel, side by side or over & under, C. Hopkins, 944-2838.

Car pool member wanted, Beverly Hills addition, 8 to 4:30, D. Ward, X4651.

Complete set of Great Books & Syntopicon, will pay around \$150, J. Delcambre, 591-4214.

Baby chest of drawers, will pay \$10 to \$15, L. Williams, 643-9128.

26" lady's bike, must be in good cond, preferably 3-speed, B. Handley, 482-7041.

Used guitar, prefer flat top but will consider F hole or electric, 946-7641.

Driver to share car pool from SW Houston, 8:30 to 5, H. Kline, 433-5190.

Power lawn edger, engine not required, 877-2839.

Sidewalk bike or large tricycle in good cond, 488-5079.

Female roommate to share Bay House apartment, 2-1/2, C. Critzos, 591-2271 after 6.

Throw-away "junk" TY, Hi-Fi components, etc, will pick up, J. Samouce, 488-0406.

Wanted from owner: low equity 4-2-2 old english or colonial, prefer Clear Lake City but will consider other areas, 932-5241 after 5:30.

Driver to join existing car pool from SW Houston, 8:30 to 5, S. Jacobs, 774-9924.

Driver to join car pool from UH area, 8 to 4:30, R. Frances, X3509.

Ride from 7355 Belfort Apts, 8:30 to 5, B. Wornack, X3841.

Need ride to & from work 7:30 to 4, will pay, Galveston Road, 944-8287.



COLLINS CAUSES CONGRESS TO CHUCKLE

Apollo 11 command module pilot Michael Collins gets off a *bon mot* that brings grins from the rostrum and his crewmates during last month's joint session of Congress addressed by the first lunar landing crew. To Collins' left are Apollo 11 commander Neil Armstrong and lunar module pilot Edwin Aldrin. Behind him in the House of Representatives chamber are Vice President Spiro Agnew and Speaker of the House John W. McCormack.

Three Apollo tracking ships retire

Three instrumentation ships will be withdrawn from the tracking network supporting future Apollo manned flights, beginning with the Apollo 12 lunar landing mission now scheduled November 14.

NASA has decided on this action because of reduced requirements for the Apollo Program. NASA officials noted the highly successful performance in 11 flights to date, including the Moon landing mission of Neil A. Armstrong, Edwin E. Aldrin, Jr., and Michael Collins.

NASA has notified the Department of Defense, which operates the national fleet of Range instrumentation ships, of the decision to discontinue the services of *USNS Redstone*, *Mercury* and *Huntsville* from Apollo support.

The three ships have been serving for communications, tracking and data handling in the Pacific, between major tracking stations in Hawaii and Australia. They have been operated by the Air Force Western Test Range for NASA's global Manned Space Flight Network. On occasion they have served other NASA and DOD flight missions when not needed for Apollo.

The fourth and remaining tracking ship, *USNS Vanguard*, will be continued on station in the Atlantic Ocean. Operating about 1,000 miles southeast of Bermuda, *Vanguard* covers Apollo flights in the early phase following launch from Cape Kennedy, Fla., while the spacecraft is climbing into Earth orbit. It also is available in the recovery fleet for possible emergency landing in the Atlantic.

A fifth ship, *USNS Watertown*, was dropped from the Apollo fleet last year. It is now used by the Air Force in the

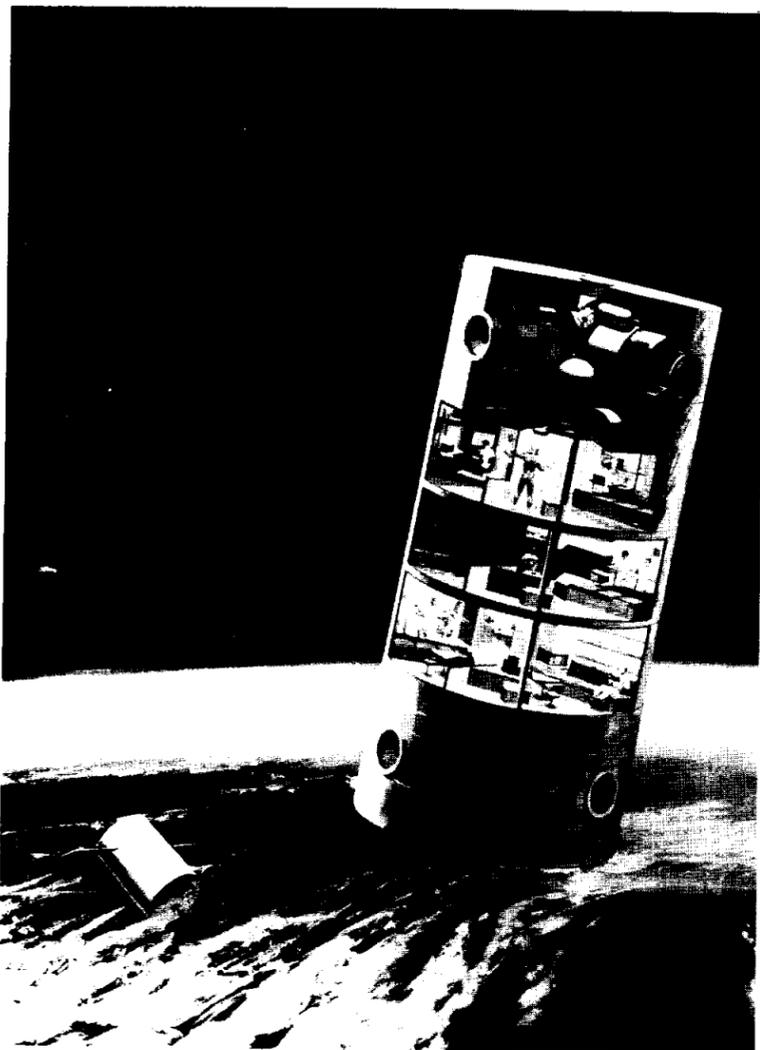
Pacific for support of launches from its Western Test Range.

NASA's decision to reduce Apollo ship support was based on the high degree of success achieved in the five manned and six unmanned flights in the Apollo Program to date, particularly the excellent "launch-on-time" record of the Apollo, which makes it possible now to consider reducing the geographic areas in which tracking of the Apollo spacecraft is required. For this

reason, it may also be possible to reduce some of the land coverage for Apollo.

Some savings will result from the move, pending discussions by NASA and DOD officials in determining other uses for the ships, including possible support of NASA unmanned missions.

The ships were developed and equipped by NASA and Defense and have supported all of the Apollo launches since they began in 1967.



AN ORBITAL HOME AWAY FROM HOME

Cutaway drawing illustrates a mid-1970s space station concept under study by North American Rockwell Space Division under an MSC \$2.9 million program definition study. Drawing shows crew quarters and command area in upper part of station; laboratory and experiment area and physical conditioning area. Docking ports for logistics shuttle are at top and bottom. An experiment module tools along in the station's orbit at lower left.

Mercury, Gemini, Apollo how they got their names

The MSC History Office is often queried by people—in and out of NASA—how the manned spaceflight projects got their names. Although the answers are published in several sources, the questions keep coming in.

Below is a summary of project names and how they were chosen prepared for the *Roundup* by MSC historian Jim Grimwood.

Project Mercury—Bf-clc

Project Mercury

During the conceptual and design stage until program approval (October 7, 1958) what was to become Project Mercury had simply been called the *Manned Satellite Program*. Abe Silverstein, then Director of Space Flight Programs in NASA Headquarters and now Director of Lewis Research Center, suggested the name Project Mercury "because in Roman mythology, Mercury is the winged messenger of the gods." The name Mercury appeared to be a natural to Silverstein.¹ On November 26, NASA Administrator T. Keith Glennan and Deputy Administrator Hugh L. Dryden agreed with Silverstein's proposed name.² Robert R. Gilruth, then Project Manager and now Director of Manned Spacecraft Center, proposed *Project Astronaut* on December 12.³ However, the three NASA Headquarters leaders preferred *Mercury* because they wanted the emphasis placed on the machine rather than the man. In a speech on December 17, 1958, 55 years after the Wright brothers' first flight, Glennan publicly announced the nation's first manned space flight program would be called *Project Mercury*.

Project Gemini

When a follow-on manned space flight program was first conceived, it was called *Advanced Mercury*. In August 1961, Glenn F. Bailey of Space Task Group (now Manned Spacecraft Center) and John Y. Brown of McDonnell Aircraft Corporation tabbed the proposed project *Mercury Mark II*, to denote advancement over *Project Mercury*.⁴ Robert C. Seamans, Jr., then NASA Associate Administrator, started a contest to name the new program in early December 1961. On December 11, Alex P. Nagy of NASA Headquarters suggested the name *Project Gemini*. Nagy wrote, "This name, 'the Twins,' seems to carry out the thought nicely, of a two-man crew, a rendezvous mission, and its relation to Mercury. Even the astronomical symbol (II) fits the former Mark II designation."⁵ On December 16, 1961, the names *Diana*, *Valiant*, *Gemini*, and *Orpheus* were submitted to Seamans.⁶ Also during that month, Seamans gave a speech at

the Industrial War College, mentioning *Mercury Mark II* and the fact that they were searching for a name. Seamans jokingly offered a bottle of scotch to whoever sent in the winning suggestion. On December 28, *Project Gemini* was chosen as the official name of the program and it was announced publicly on January 3, 1962. Nagy won his bottle of scotch and Seamans remembers sending a second bottle to a man (whose name he has forgotten) who was present at his speech and submitted the name *Gemini* about the same time as Nagy.⁷

Project Apollo

During the conceptual and preliminary design stages, what was to become *Project Apollo* had many designations on the various documents proposing operational schemes for reaching the Moon in a manned spacecraft. A committee to establish goals and recommended projects for NASA, which began meeting in April 1959 (Harry J. Goett, chairman), called it a *Manned Lunar Landing Program*.⁸ At Langley Research Center, a group investigating rendezvous referred to it as *Manned Lunar Landing Involving Rendezvous*.⁹ An unfunded contractor study submitted by Chance-Vought (directed by Thomas E. Dolan) titled its proposal *Manned Lunar Landing and Return*.¹⁰ Silverstein sought suggestions for a program name. In his opinion, nothing suitable was offered. So, in January 1960, he consulted a book of mythology. Silverstein said, "I thought the image of the god Apollo riding his chariot across the sun gave the best representation of the grand scale of the proposed program. So I chose it."¹¹ He tried the name on several of his colleagues and received no objections.¹² Dryden publicly announced the name on July 28, 1960, when he made the opening remarks at a two-day NASA Industry Conference, which outlined the concepts and objectives of the manned lunar landing program.¹³

1. Letter, George M. Low to James M. Grimwood, Nov. 13, 1963.
2. Eugene M. Emme, *Aeronautics and Astronautics, 1915-1969* (Washington, 1961), 104.
3. Memo, Low to Abe Silverstein, "Change of Manned Satellite Project name from 'Project Mercury' to 'Project Astronaut,'" Dec. 12, 1958.
4. Loyd S. Swenson, Jr., James Grimwood, and Charles A. Alexander, *This New Ocean: A History of Project Mercury*, NASA SP-4201 (Washington, 1966), 132.
5. Interview, Glenn F. Bailey, Houston, Dec. 13, 1966.
6. Memo, Alex P. Nagy to Low, no subject, Dec. 11, 1961.
7. Memo, D. Brainerd Holmes for Assoc. Administrator, "Naming of Mercury-Mark II Project," Dec. 16, 1961.
8. Paul E. Pursler to Robert R. Gilruth, "Log for week of December 25, 1961," Jan. 2, 1962, 2; memo, Holmes for Assoc. Administrator, "Naming the Mercury Mark II Program," Jan. 2, 1962; *Astronautical and Aeronautical Events of 1962*, Report of the NASA to the House Committee on Science and Astronautics, 86th Cong., 1st Sess. (Washington, 1963), 1; letter, Merle G. Waugh to Grimwood, Nov. 5, 1963; letter, Robert C. Seamans, Jr., to Emme, June 3, 1969.
9. Minutes, Research Steering Committee on Manned Space Flight, May 25-26, 1959.

(Continued on Page 2)