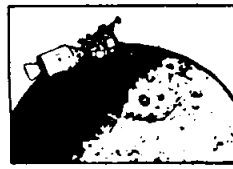


Planetarium  
features "Apollo"  
through March 5

# ROUNDUP

NASA MANNED SPACECRAFT CENTER

HOUSTON, TEXAS



VOL. 11 NO. 5

January 21, 1972

EAA seeks your  
Aid for '72 plans

(See "Help," page 4)

## Crews Announced for Three Skylab Missions

Flight crews for Skylab were announced earlier this week at MSC. The Skylab Orbital Workshop will be launched in 1973 and will be visited three times by three man crews over a six-month period.

Prime crewmen (commander, science pilot, and pilot, respectively) for Skylab 2 are Charles Conrad, Jr., Joseph P. Kerwin, and Paul J. Weitz.

Skylab 3 prime crewmen are Alan L. Bean, Owen K. Garriott, and Jack R. Lousma. The Skylab 4 crew will include Gerald P. Carr, Edward G. Gibson, and William R. Pogue.

Skylab 2 backup crewmen are Russell L. Schweickart, Story Musgrave, and Bruce McCandless II. Vance D. Brand, William B. Lenoir, and Don L. Lind will serve as backup crews for both Skylabs 3 and 4.

The Skylab 2 mission will last 28 days, and Skylabs 3 and 4 will last 56 days each. Investigations to determine man's biomedical response to long periods in the space environment and extensive solar astronomy and Earth resources experiments will be conducted during the 140 days the Orbital Workshop is manned.

Skylab 2 commander "Pete" Conrad flew on Gemini V and XI and on Apollo 12, the second manned lunar landing, for a total 506 hours of space flight. He holds the rank of captain in the U. S. Navy and is a native of Philadelphia, Pennsylvania.

Kerwin, Skylab 2 science pilot, has a doctor of medicine degree from Northwestern University Medical School. A commander in the U.S. Navy Medical Corps, Kerwin will be making his first space flight on Skylab 2.

Weitz is also a commander in the Navy and holds a master's degree in aeronautical engineering from the U.S. Naval Post-graduate School. A native of Pennsylvania, Weitz has not flown in space before.

Skylab 3 commander Bean is a native Texan. He was lunar module pilot on Apollo 12. He holds a bachelor's degree in aeronautical engineering from the University of Texas and is a U.S. Navy commander.

Garriott, science pilot on Skylab 3, holds a doctorate in electrical engineering from Stanford University. A civilian scientist-astronaut who hails originally from Oklahoma, Garriott has not flown in space.

Skylab 3 pilot Lousma is a major in the U.S. Marine Corps. He has aeronautical engineering degrees from the University of Michigan and from the U.S. Naval Post-graduate School. A native of Michigan, he has not yet flown in space.

Skylab 4 commander Carr, a U.S. Marine Corps lieutenant colonel, was born in Denver. He has a masters degree in aeronautical engineering from Princeton University. Carr has not flown in space. (See CREWS, page 3)



IN THE MCC — Dr. Robert R. Gilruth (right), Dr. Christopher C. Kraft, Jr. (center), and Sigurd A. Sjoberg gaze intently at a console in the Mission Operations Control Room during the Apollo 14 lunar landing mission in February 1971. Dr. Gilruth has accepted a new position within the Agency, and Dr. Kraft and Sjoberg have been named Director and Deputy Director of MSC, respectively.

## Gilruth assumes new NASA job; Kraft, Sjoberg named to top posts

NASA Administrator James C. Fletcher announced last week the appointment of Dr. Robert R. Gilruth to the newly-created position of Director of Key Personnel Development.

Dr. Christopher C. Kraft, Jr., has succeeded Dr. Gilruth as Director of MSC, and Sigurd A. Sjoberg, Director of Flight Operations, has been named to the post of MSC Deputy Director.

Gilruth said that his new job will include identifying and helping to prepare the future leaders of NASA. Although his office will be located here, his work will see him dealing with personnel at all NASA field centers and at Headquarters.

Of Dr. Gilruth's new assignment, Administrator Fletcher said, "Development of key personnel is one of the most essential functions of top management. As the man largely responsible for developing the team at MSC whose outstanding performance over the last decade is without parallel, Dr. Gilruth is especially well qualified for this important assignment."

In a statement to the press, Gilruth said, "I feel particularly good about the situation here at MSC. We have developed a lot of good people here to take over. My successor, Dr. Kraft, is known to all of you. I have great confidence in him. He is ready—well-trained—and will be an excellent Center director."

Gilruth had been Director of MSC since its inception in November 1961. Prior to that time, he was Director of the Space Task Group at Langley Field, Virginia,

the organization responsible for Project Mercury. He began his distinguished career in flight research in 1937 at the Langley Aeronautical Laboratory.

He holds B.S. and M.S. degrees from the University of Minnesota. He was awarded honorary Doctor of Science degrees by the University of Minnesota in 1962 and by the Indiana Institute of Technology and George Washington University, and a Doctor of Engineer-

ing degree from the Michigan Technological University in 1963.

Dr. Gilruth recalled some of the proud and some of the harrowing events in space of the last twelve years. He remembers particular concern during John Glenn's orbital flight—the first for the U.S.—when telemetry readings showed that the heatshield had loosened. The readings were incorrect, and Glenn made a safe reentry, the heatshield secure. That historic flight took place ten years ago on February 20, 1962.

He also recalled the anxious moments during Gemini VIII when the spacecraft went into a convulsive spin. He believes that Gemini VIII crewmen Neil Armstrong and Dave Scott "brought it

(See GILRUTH, page 3)

### Bogart to Retire

MSC Associate Director Frank A. Bogart will retire from government service on January 22.

A 1931 graduate of the U. S. Military Academy, General Bogart served in the Army and Air Force until his retirement from the Air Force in 1964 in the rank of Lieutenant General. At that time, he was Comptroller of the Air Force.

He joined NASA in December 1964 as a special assistant to the Associate Administrator for Manned Space Flight. He remained with NASA Headquarters until November 1969 when he accepted the post of Associate Director here.

Also in 1969, he received the NASA Distinguished Service medal in recognition of his contributions to the success of the Apollo program.

General Bogart and his wife Mary have plans underway to build a retirement home on a lake near Huntsville, Texas. They hope to have the home completed by summer of this year.

### EAA Assembles

The Employees Activities Association held its first general assembly meeting of the year last week.

Roy Aldridge, Supervisor of Exchange Council Operations, spoke to the group on Council plans for 1972.

He said that the designs and cost figures for the employee recreation center have been approved at MSC and sent to Washington for final Headquarters approval. Target date for completion of the center is late September, hopefully in time for the annual EAA picnic.

Employee suggestions concerning the recreation area can be

(See EAA, page 2)



Conrad



Kerwin



Weitz



Bean



Garriott



Lousma



Carr



Gibson



Pogue

## Attention: All MSC Skaters

The EAA has scheduled an ice-skating party at the Galleria Skating Rink on Wednesday, February 16 from 7:30 to 10:30 p.m.

The number of reservations is limited. Last week's EAA *Beacon* should have reached you by now, and it had a reservation form attached. Fill out the form, attach the money and return to BP23/Kay Anderson by Thursday, February 10.

If you're over 13 years of age, the price is \$1; under 13, it's but 75¢. If you have your own skates, take them. If not, rent skates at the rink for 50¢.

See you on the ice!

## EAA Session

(Continued From Page 1)

channeled through Jim McBride, EAA Vice-President for Facilities.

Between now and the end of March, the Building 11 cafeteria is scheduled to have both a grill and gift shop. This shop will be geared more for employee use since the gift store in the Building 3 cafeteria is frequently crowded with tourists.

Jeri Brown announced that the Special Services auto hobby shop at Ellington is now open to MSC Civil Service employees. It's located on the back gate road into the base.

## Kemmerer resigns

Dr. W. W. Kemmerer, Chief of the Preventive Medicine Division, has resigned to accept a position with the Galveston County Health Department.

Kemmerer, who had been with NASA since 1964, is a native Houstonian and holds degrees from the University of Houston, Baylor University School of Medicine, and Harvard University.

His new position, which became effective last week, is as Director for the Galveston County United Board of Health.



**BIRD'S EYE VIEW OF BOULDER** — University of Colorado President Dr. Frederick P. Thieme (right) visited MSC while in Houston for the football game between Colorado and the University of Houston. Center Associate Director Frank A. Bogart (center) presented Dr. Thieme with a high altitude aerial shot of Boulder in which the University appears. The photo was taken from an MSC Earth Resources aircraft. University of Colorado Vice-President Dr. Lawson Crowe is at left. General Bogart has set tomorrow as the date of his retirement from government service (see story on page 1).

## How Many Years Did You Say?

A whopping total of 109 and 3/4 years is the combined government service of four employees in one MSC office.

The men are A. E. "Art" Garrison, Harry L. Watkins, James Stroup, and A. B. "Ace" Jordan of the Procurement Operations Office.

Art, Chief of the Office, celebrated his thirtieth year working for Uncle Sam in December 1971.

He began his government career at Wright-Patterson Field in Ohio. In 1943, he joined the Army Air Corps as a pilot. After his military service, he returned to Wright-Patterson where he met and worked with Jim Stroup.

Art and his wife Mary Lou, both natives of Fort Thomas, Kentucky, have four children, Tom, Sue (both of whom are in college), Jeff, and David.

Harry Watkins will have been with the government for 29 years, come this March.

He served in the Army Air Corps from 1942 through 1945

and went to work for the Veterans Administration in 1946. He later joined the Department of the Air Force and worked in the Richmond (Virginia) Contract Management District where he met Ace Jordan.

Harry and his wife Elizabeth are both from small towns near Scranton, Pennsylvania. Last fall, he returned to his hometown, Forest City, for the first time in over 20 years. The occasion was his high school class' fiftieth reunion.

The Watkins' daughter Pari is a graduate student at Yale University.

Jim Stroup has been with the government for 25 years. He was with the Navy from 1942 to 1947. He joined the Department of the Air Force in 1951 at Wright-Patterson where he met Art Garrison.

While working at Wright-Pat, Jim met his wife Barbara. They have two youngsters, Eric and Rebecca. Jim is a native of the West Texas town of Borger.

Ace Jordan will reach his twenty sixth anniversary of government service in March.

He was a Navy pilot, beginning in 1941. After military service, he went to work first for the Department of the Navy and then for the Department of the Air Force. His Air Force employment took him to the Richmond Contract Management District.

Ace is originally from Norfolk, Virginia, and his wife Pat, from nearby North Carolina. They have a son, Adrian, and a daughter, Regina.

All four men joined MSC at Langley, Virginia, in October 1961.

The *Roundup* salutes the foursome on over a century of service.

## Safety Office Honors Paul Anderson

Paul Anderson of the Space Environment Test Division has been named Safety Representative of the Year for 1971.

The honor carries with it a trip to Cape Kennedy for the launch of Apollo 16 and a handsome silver Snoopy pin.

Five other safety representatives also received Silver Snoopy pins. They are Art Chapman, Structures and Mechanics Division; Harold Ferrese, Telemetry and Communication Systems Division; Dan Carter, Crew Systems Division; Ken Ramke, Flight Support Division; and Dick Graves,

Preventive Medicine Division. Astronaut Story Musgrave presented the awards to all recipients.

The six honorees were chosen from a field of sixty-nine directorate and division safety representatives. The MSC Safety Office selected them for their participation in the President's 1971-72 ZERO IN on Safety Program and for their initiative and resourcefulness in carrying out duties as safety representatives.

Do you know who your directorate and division safety reps are? If not, find out today. Let's all ZERO IN on Safety in '72!



**ASTRONAUT** Story Musgrave (right) presents the award for Safety Representative of the Year to Paul Anderson during the December Safety meeting.



**MSC DUFFERS OF THE YEAR**—Trophies were awarded recently to members of the 1971 MSC Golf Association. In the top photo are the flight winners (l. to r.) Mike Conway (championship), I. K. Spiker, Ernie Weeks, Harry Kolkhorst, Lyn Dunseith, and Jim Sanders. Not pictured are champs Bob Liounis and Gerry Kenney. In the bottom photo are fourball and individual winners (l. to r.) I. K. Spiker, Sam Glorioso, Ed Cawley, Chuck Levy, Jerry Shinkle, R. Redman, Morgan Cooner and Jim Sanders. Bill Chase, Max Engert who had low gross average of 77.6; and Bob Epperson, hole-in-one winner, were not present for the picture-taking session.



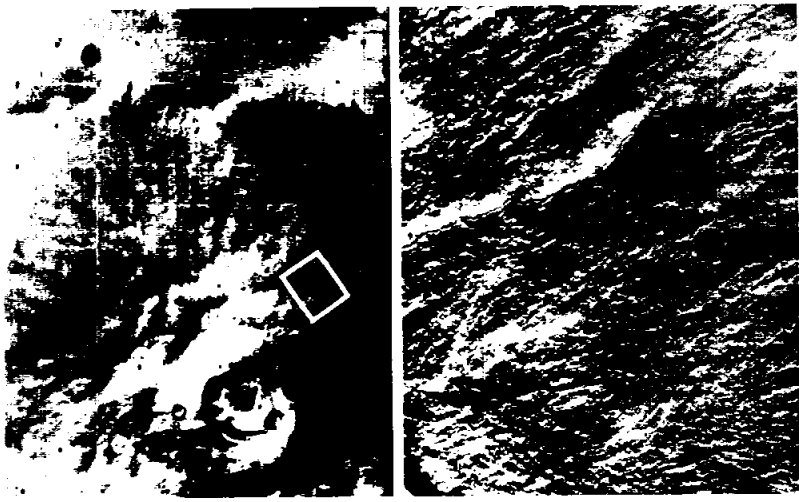
**GOODBYE AND GOOD LUCK**—Astronaut/Rear Admiral Alan B. Shepard, Jr. (right) reads the certificate of retirement from the Navy to Astronaut/Navy Captain Richard F. Gordon, Jr. (left), who has joined the New Orleans' Saints football organization as executive vice-president. Captain John Allman, commander of the Houston Naval Reserve unit, was also present for Gordon's retirement ceremonies in late December.

# ROUNDUP

NASA MANNED SPACECRAFT CENTER      HOUSTON, TEXAS

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.

Editor: Sydni Shollenberger  
 Photographer: A. "Pat" Patnesky



**DUST STORM IS CLEARING**—These pictures of Mars' Nix Olympica region, taken January 7 by Mariner 9, appear far less obscured by atmospheric dust than those taken during earlier orbits. The two pictures were taken five minutes apart. The photo to the right is a closeup of the area within the inscribed rectangle in the left hand picture, in which a crater complex is distinctly visible. The closeup shows a feathery texture and many small intersecting elongated lobes which suggest flowage of material downslope and away from the central crater complex. A raised ridge, with an irregular crack running along its crest, can be seen at top center. Collectively, these features are similar in appearance to those seen on terrestrial lava flows.

## Gilruth, Kraft, Sjoberg in new jobs

(Continued From Page 1)

back with their own skill and cool."

The Apollo 13 emergency was his most recent recollection of a harrowing time. However, Gilruth said that he had great confidence from the start that using the lunar module would allow the crew to make a safe return to Earth.

It would be difficult, he said, to name the proudest moment during his years of working in the field of manned space flight, but he did recall Alan Shepard's sub-orbital flight, the Glenn orbital mission, and the Apollo 11 lunar landing as particularly vivid memories.

Kraft was appointed Deputy Director of MSC in 1969. Prior to this, he was Director of Flight Operations. He is a graduate of Virginia Polytechnic Institute with a B.S. degree in Aeronautical Engineering. He was awarded honorary Doctor of Engineering degrees from the Indiana Institute of Technology and from St. Louis University.

Sjoberg was named Director of Flight Operations in December 1969. From 1963 until 1969, he served as Deputy Director of that organization. He will continue to

act as Director until a successor is selected.

A native of Minneapolis, Minnesota, Sjoberg received his Bachelor of Science degree in aeronautical engineering from the University of Minnesota. After his graduation in 1942, he joined the National Advisory Committee for Aeronautics, NASA's predecessor, as an aeronautical engineer.

In a statement last week, Kraft said, "I have been fortunate to work with and learn from Bob Gilruth for a number of years, so I feel especially honored to be named his successor as Director of the Manned Spacecraft Center. The wisdom that he has imparted to the accomplishments in space are without parallel. I am pleased that he will continue to make important contributions to our nation and its space program in his new position.

"I have inherited a great responsibility. I am confident that MSC will continue the high standards of performance reached under Dr. Gilruth's leadership, and I look forward to the challenges of the new programs which will maintain the United States' leadership in space and provide benefits to people everywhere."

## Crews picked for Skylab Missions

(Continued From Page 1)

space.

Gibson, Skylab 4 science pilot, is a civilian scientist-astronaut. He holds a doctorate in engineering with a minor in physics from California Institute of Technology. Originally from Buffalo, New York, he has not flown in space.

Skylab 4 pilot Pogue is an Oklahoman. An Air Force lieutenant colonel, he has a masters degree in mathematics from Oklahoma State University. Skylab 4 will be Pogue's first space flight.

**POTENTIAL SUGGESTORS:** Support the MSC Suggestion Program. Send your ideas to Mail Code BP5 or call 5404 for infor-

mation.

Both prime and backup crews met with members of the press during sessions held here on Wednesday.

## Aero Club Fixes ground school date

The MSC Aero Club plans to conduct a private pilot ground school again this winter.

The introductory session of the Sanderson audio-visual course will begin at 5:00 p.m. on Tuesday, January 25 in Building 2, Room 511.

Partially subsidized by the EAA, the ground school tuition is \$20. To register, attend the first class or call Bob Monesko at 488-5354 or extension 4667.

## Roundup Swap-Shop

(Deadline for Swap-Shop classified ads is Thursday of the week preceding Roundup publication date. Ads are limited to MSC civil service employees and assigned military personnel. Maximum length is 20 words, including name, office code and home telephone number. Send ads, typed or legibly written, to Roundup Editor, AP3.)

### MISCELLANEOUS

Water tank gauge, camper, new. S3. Riegert, 877-1834.  
Binoculars, 10 x 50, color corrected lenses. S20. Coan, 488-1028.  
Three H78x15 WSW safety Sealant tires. S45. Donnell, 877-1746.  
VW air conditioner, complete. S35. Moncrief, 333-2616.  
6-volt VW air conditioner, complete, good condn. S60. Sanders, 485-1509.  
Exercycle. S10; 3 lovely maternity dresses. S10 each carpet samples 25c each. Chimenti, 333-3897.  
Blonde Dutch Boy wig. S10. Deans, 488-4039 after 5 p.m.  
Ithica pump shotgun, 12 GA. Imp. Cyl. Vent rib, S100 includes case and several boxes mixed shells. Gremillion, 479-8872.  
Two fur coats, one black Persian lamb, one natural beaver, both 3/4 length, xln condn. Gray, 471-3260.  
Aurora race car set. S12.50. Cole, 333-4408.  
McGregor golf clubs w/bag, 8 irons, 1 & 3 woods with socks. S35. Cole, 333-4408.  
Lawn mower, Craftsman, 2.5 HP. S5; 3-speed Schick razor for home, auto, boat. Great for camping. S6. 488-5372 after 5:30 p.m.  
GE Washer, 2 cycle, 12 pound, good cond. S60. Reim 944-3795.

### VEHICLES

71 Vega 2-door sedan, A/C, radio, like new. S2,000. Merrifield, 333-2437.  
Mobile home, 12 x 65, 3-bedroom, 2 bath, 1969 Winston, central heat/air, priced for immediate sale. Kennedy, 941-5179.  
65 Chev. V8, air, overdrive, radio, economical S550 or make offer. Deiterich, 482-1859.  
65 Pontiac Lemans, buckets, console, air, automatic, extra clean inside and out, runs good, reasonable. Paizzola, 488-0125.  
69 Lincoln Continental, red leather interior, all extras. S2800. H. Rees, Dickinson 534-5655.  
71 Honda CB 350, many extras, 2100 miles, adult rider, 70 Honda OA-50 mini, like new, about 3 hrs. Under-hill. 488-2781 after 4 p.m.  
Tent camper, sleeps 4, add-a-room, spare tire. S250. Gillis 471-0995.  
70 Yamaha 350 cc RS, very good condn. with shop manual and extras, S600. Hutchins, 877-4634 (Kemah).  
67 Chev. Super Sport, 396, 4 speed, mags, gages, air, radio, new tires, best offer. Williams, 534-3378.  
67 GTO, 4-speed, A/C, pwr steering, stereo tape, console, vinyl top, xln condn. Dell 'Osso, 488-0639 after 5 p.m.  
New 20-inch girls bike with training wheels. S25. Mieszuk, 333-4669.  
70 VW bus, 7 passenger, air conditioning, xln condn. S2495. Sampsel, 471-0172.  
69 Opel Kadett, very good condn. good tires and paint, sacrifice at S925. Allgeier, 483-4771.  
65 Pontiac LeMans, two door, A/C, bucket seats, 4-speed synchro mesh transmission, console, AM-FM radio, good tires, N.A.D.A. value S700, sell for S595. Coan, 488-1028.  
67 GMC 1/2-ton pickup, good condn. S1,000. Fillippa, 877-1884 (Kemah).  
66 Chevy 1/2-ton pickup, runs good, needs body work. S695. Fillippa, 534-5827 (Dickinson).  
Sprint go-kart by Rupp, like new MC-91A McCulloch 2-cycle engine, disc brakes, live axle. S150. Littleton, 944-3244.  
60 Mercedes Benz 190 SL, above average condn. hard and soft tops. S1500. Silver, 488-0317.  
69 Executive Safari S.W. air, power, front disc brakes, low mileage, good condn. blue book value S2425, take S2300 or trade down for economy car. Gentry, 488-0405.  
64 VW camper w/radio, recently tuned, good transportation. S600. Ragan, 481-0408.  
Girls 24" bicycle, fair condn. new tires, baskets. S10. Smith, 488-3238.  
Dune Buggy, 69 VW chassis & engine, automatic, metalflake orange, white top, sand tires, mags, roll bar, xln. S1200. Mandell, 877-2925.  
67 Cougar, GT, XR-7, 390 CID engine, 4 speed, stereo, air, power disc brakes, power steering, radial tires, very good condn. S1500. Mandell, 877-2925.  
Sunset model 166T travel trailer, 16' long, icebox, range w/oven, elect. brakes, hitch, mirrors, sleeps 6. Melugin, 471-4267.  
Working parts to a 56 Chevy incl. auto trans., elect. windshield wiper motor, fuel pump, air cleaner, etc. Ferguson, 482-3241.  
67 Mercury Caliente sedan, A/C, power, automatic, xln condn. one owner, fair price. Brewer, 422-7304.  
68 Fiat 830 Spyder hardtop plus convertible top, baby blue, Pirelli tires, S800. Biggs, 471-2745.  
Suzuki TC 90cc, 8 speed, new condn. S295. Hamlin, 932-3992.  
64 Pontiac 4-door Catalina, needs transmission work (2 gears out). S150. Foster, 534-5358.  
Yamaha 250 Twin, street bike, good condn. S225. Mark, 488-5037.  
71 Suzuki 250cc street, windshield, crash

bar, luggage rack & case. S800. Donnell, 877-1746.

71 Mobile Scout travel trailer, 19', self-contained w/many extras. S2995. Donnell, 877-1746.

71 International Travelall 1110, air power, auto transmission, towing package. S3995. Donnell, 877-1746.

71 Honda SL100, xln condn, full knobbies, new paint, superfender, 1400 miles. S415. Cole, 333-4408.

Girls single speed 24" bike. S15; men's 3-speed 28" bike. S25. Both xln condn. Irwin, 333-3097.

Camper, 64 Dreamer, self contained chassis, mount on 1/2-ton Chevrolet, 292 six, clean throughout, newly painted A.C. cab. Booher, 489-8375.

64 Pontiac Tempest Station wagon 326 V8, factory air, auto trans, power steering, power brakes, good condn. Huber, 877-1276.

67 Mercury Montclair, 4-dr., air, power steering & disc brakes, AM-FM, good tires, new brakes, extra clean. Embrey, 946-7283.  
Boys' 5-speed bike Sears delux Spyder model. 20" wheels. S25. Vincze, 877-2237.

69 Ford LTD, power, air, etc., good condn. A real bargain. Pearson, 877-2701.

70 Triumph Spitfire, loaded, tape deck, sell or trade for good ski boat or sail boat. Alford, 877-4789.

### HOUSEHOLD ARTICLES

Black and white, all channel, 19" portable with stand, xln condn. S50. Coan, 488-1028.

Sewing machine, Kenmore zigzag, portable with case, xln condn. S50. Coan, 488-1028.

Double pedestal extra large wooden desk, S20; kitchen set, table, 4 chairs, good condn. S20. Mieszuk, 333-4669.

Compertone 14 cu. ft. Frigidaire Imperial refrigerator, bottom freezer. S200. Walnut table with end tables, S35. Talbert, 643-9206.

Oval dinette with 4 chairs. S25; bookcase, S5; high chair, S6; chalk board, S4; tricycles. Lapko, 945-4311.

Spanish game table and 4 chairs, hecho en Mexico. S100. Capps, 488-5306 after 6 p.m.  
New mattress springs, frame for dbl. bed. S75. Deans, 488-4309 after 5 p.m.

Modern dining room pedestal table and four pedestal, black leather, swivel chairs. Paletz 481-2318.

Kenmore portable dishwasher, like new, with fittings. S90. McCafferty, 488-1892

61 Frigidaire frost-free refrigerator, re-finished in avocado, good operating condn. S75. Dell Osso, 488-5077.

Color TV, 18" w stand, S150; green blue brocade high back chair, like new. S60. Cunningham, 488-3512 after 5:00 p.m.

Good condn: 3-drawer white dresser, S15; 4-drawer maple chest of drawers, S15; twin size bunkie mattress. S15. Smith 488-3238.

Triple dresser, S45; 4-shelf bookcase. S4. Gibson, 333-3425.

Double bowl kitchen sink, white porcelain finish w/single-lever faucet, S10; car-top carrier. S5. Dorland, 488-3258.

65 Silvertone 19" portable B W TV w/stand, S15. Ohnesorge, 534-3602.

Walnut bedroom: dbl bed w bedding, 5-drawer chest, utility table, corner table, desk & chair. S250. Talbert, 643-9206.

Early American couch and chair, condition suitable for rec-room or lake house. S25 total. Nussman, 946-0359.

### SOUND EQUIPMENT

Antenna, 10 element, stereo FM, high gain. S15. Coan, 488-1028.

Jensen corner-loaded horn speaker system with two 12" coax speakers. S40. Stereo reverberator for home system. S20. Pavelka, 482-7461.

Sixteen 5" speakers for "Sweet Sixteen" system, S16. Jensen exponential-horn high frequency driver and crossover. S15. Pavelka, 482-7461.

Fisher stereo amp, X-101D, 55 W chan, wd. cab. 4 yrs old, xln condn. S260 new, make offer. Grogan, 932-5417.

Turntables (2), Garrard and ??, need work, good motors, good for parts. Garrard has wd base, S15 each, will dicker for pair. Grogan, 932-5417.

Danish modern Zenith stereo w/six speakers and AM/FM radio. Paletz, 481-2318.

Magnavox console stereo/AM&FM radio/B&W TV (w/o picture tube). S150. Cunningham, 488-3512 after 5:00 p.m.

GE solid state portable record player, S12. Cole, 333-4408.

2 HiFi speakers, bass reflex enclosures, 15" woofer and 12" woofer w/3" midrange and 3" tweeter. S50. Kirkland, 932-4101.

### BOATS

17' fiberglass boat, 4-cycle Humelite motor, galv. tilt trailer, most equipment, shrimp troll, S800. Gillis, 471-0695.

LIDO 14 sailboats: information on prices and condition of used LIDO's for sale by owners. Hoover, 877-3366.

20' Bertram Sportsman, 1969, 160 HP 1/O Mercruiser with galv trailer. S4650. Franklin, 877-1730.

Luxurious 16' speedboat, 120HP outboard engine, trailer, equipment, including professional ski-tow bar; 71 model in mint con-

dition, S3595. Bland, 333-4580.

71 tri-hull 17' fishing and skiing boat w/ canopy, controls, and equipment. 70 120HP outboard engine and trailer, xln condn, S2495. Bland, 333-4580.

Cuachita Al. flat bottom 12S, S70. Crotty, 877-1011 after 5 p.m.

14 ft. aluminum Jon boat w/6HP Mercury (Merc 601 motor; complete rig. S175. Kirkland, 932-4101.

Dutch built fiberglass 22' aluminum mast sloop w trailer, 6 sails, large cockpit w/removable cuddy cabin, short keel/center-board, xln, S1900. Also, Dolphin Senior, S400. Irwin, 333-3097.

### MUSICAL INSTRUMENTS

Ventura classical guitar, xln tone & condn, S50. Singer child's portable AC/DC, xln condn, S18; Singer adult's portable small green, good condn. S20. Riegert, 877-1834.

Antique organ, electrified, motor needs repair, beautiful. S150. Foster, 534-5358.

Lyra snare drum with case. S20. Cole, 333-4408.

Harmony electric-acoustic guitar with case. S70. Cole, 333-4408.

### CAMERAS

8mm Agfa movie camera, electric eye, hard leather case, w movie light, S20. 488-5372 after 5:30 p.m.

### REAL ESTATE & RENTALS

RENT: two new townhouses, Clear Lake City, all electric, 2 bedrooms, 2 baths. Miller, 488-0621 after 4 p.m.

RENT Clear Lake City 3-2-2, fireplace, across from school and park. Miller, 488-0621 after 4 p.m.

Share 3-bedroom home, Dickinson, mother, 2 teen-age girls, S70/month, plus share food Foster, 534-5358.

LEASE: 3 bedroom, 2-bath brick home, unfurnished, S160/month, on the Bay 7 miles from MSC. Randall, 932-3884, League City.

LEASE: Clear Lake City townhouse; 2 BR, 1 1/2 bath, private patio, washer & dryer, carport, storeroom. All built-ins in kitchen. S210 bills paid. Mrs. Doans, 488-4009 after 5 p.m.

Friendswood 3-2-2; GI 5' 9"; 1750 sq. ft. extras, xln condn. S24,900. VanBockel, 482-7017.

Friendswood executive home sites, some wooded and creek front, 3/4 to 2 1/4 ac., all utilities. VanBockel, 482-7017.

Camino South, brick 3-2-2, formal dining room, family room, fenced, shrubs and lawn established. S2,900 equity, FHA loan. McCurley, 488-1322.

### PETS

Free puppies, Mama Dachshund, too! Also, 2-year old female Dachpoo. Boykin, 877-2142.

Siamese kitten, female, 10-weeks old, full blood, no papers, S10. Clanton, 482-7187.

### WANTED

Schwinn exercise bike in good condn. Erb, 877-1097.

Metal exercise weights and/or dumbbell sets, will pay 15c lb., no plastic please. Kiehn, 483-5121.

Front windshield for 1960 Morris Minor 1000. Grogan, 932-5417.

Maple pedestal table, round 48" diameter w extra leaf, chairs also. Fischer, 472-6910, no calls Fri, night or Sat.

26" girl's bike and 26" boy's bike. Gibson, 333-3425.

Ford shop manual for 1966 Mustang. Embrey, 946-7283.

1/2 hp or 3/4 hp 120V electric motor in working condn. Dorland, 488-3258.

### BOWLING STANDINGS

#### Jimmy Warren Memorial Bowling League

Chokers	41	23
Ball Busters	38 1/2	25 1/2
Alley Oops	38	26
Team = 14	36 1/2	27 1/2
Hexes	34	30
Bit Pickers	33	31
Spoilers	32	32
Pin Pounders	32	32
Mixers	31 1/2	32 1/2
Fabricators	31	33
Hertz	29 1/2	34 1/2
Achievers	27	37
Splitters	27	37
Leftovers	17	47

The second half of the bowling season finds the Chokers holding the honors so far for both high team set (3044) and high team game (1067).

# Center gears up for lead role in developing Space Shuttle

Why does this nation need a Space Shuttle?

That question was posed last week to Robert F. Thompson, Manager of the Space Shuttle Program here, a post he has held since April 1970.

As a sea-faring nation needs ships, so "if you postulate that we should be a space-faring nation, and I believe that we should be, then we must build something with the general capability of the Shuttle," Thompson responded.

In the Shuttle, he believes, this country is buying a general purpose capability, "a vehicle that, by its reusable nature, will be of relatively low cost in operation."

Thompson sees the Shuttle as providing the opportunity and capability of performing many tasks in space, "everything from taking satellites into orbit and planting them, to going back to repair or retrieve those satellites, to conducting medical research programs in space, to conducting engineering experiments, to deploying and supporting space station-type flights, to conducting earth resources missions for cataloguing and understanding what is taking place on the Earth's surface."

MSC has been named the "lead center" in development of this reusable space transportation sys-

tem called the Shuttle.

In a press conference on January 10, Associate Administrator for Manned Space Flight, Dale B. Myers said, "The overall management (of the Shuttle) on the day-to-day basis will be here at MSC.



Robert F. Thompson

This would include technical management and responsibility for gathering cost estimates and for managing the cost balance against schedule and technical elements as we move forward in the program."

Of MSC's responsibilities as lead center for Shuttle development, Thompson said, "We here will set up and staff to provide an integration or overview function of the program on a day-to-day basis, as well as day-to-day

management of the detailed elements of the program assigned here, like development of the Orbiter portion of the Shuttle."

Current plans call for a small program office staff composed of MSC personnel and key individuals from other NASA centers involved in Shuttle work. This group would, in Thompson's words, "be concerned about everything happening across the total program in the way that it should happen and whether the right coordination among the elements of the program—the Orbiter, Booster, engines, launch site activities—is taking place."

A number of Center organizations are already working on the Shuttle project. During the current study and design phase, the great bulk of the work is being done within the Engineering and Development Directorate, which has a staff co-located in the Shuttle Program Office under Milton A. Silveira.

The Administration and Program Support Directorate has provided a Program Control and Contracts Supply Office, headed by R. Wayne Young, which is located within the structure of the Shuttle Office.

The Technical Services Division in the Center Operations Directorate is currently building a model of the Shuttle cockpit. Divisions of the Flight Operations Directorate are feeding in information which will influence the design of the Shuttle, such as trajectory problems, timeline analysis, and communication and tracking requirements.

The Flight Crew Operations Directorate has submitted data and possible requirements relative



**SHUTTLE LIFTOFF** — This version of the Space Shuttle, one of several under study, shows a delta-wing Orbiter riding piggy-back aboard a Ballistic Recoverable Booster (BRB). The first stage Booster burnout occurs between 172,000 feet (52,425 meters) and 190,000 feet (57,912 meters). The two stages separate, and the Orbiter with hydrogen/oxygen tank, attached in tandem fashion continues into space. The Booster is parachuted gently into a water landing, recovered, returned to the launch site, refurbished, and used again. The stack could be launched from modified pads at Kennedy Space Center—the same pads used for lunar missions.

to the crews which will one day pilot the Shuttle. The Medical Research and Operations Directorate last year completed a study on the influence of G-levels on passengers. There will be other investigations into medical aspects of Shuttle flights.

As the Shuttle development plan unfolds, more MSC organizations will find themselves involved.

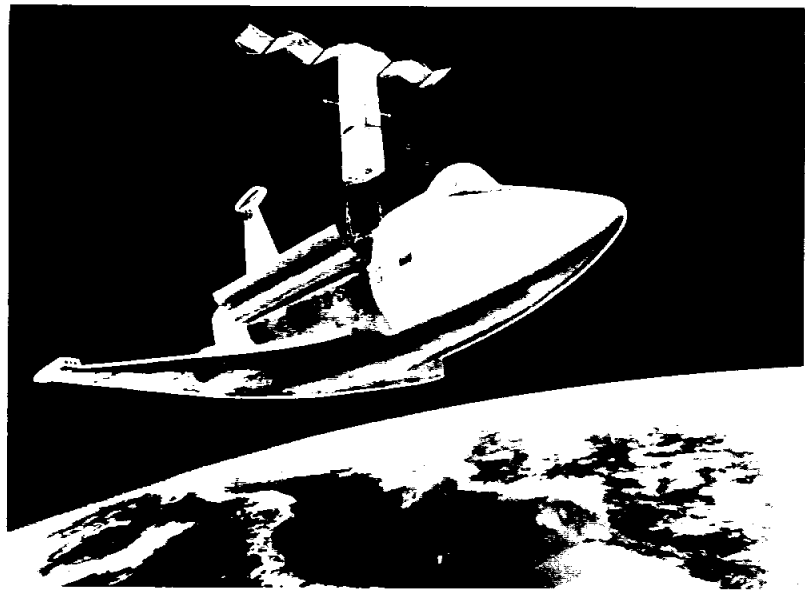
The major milestone for the Shuttle program this year will be the letting of a contract to industry for program design—identified in the NASA contracting effort as Phase C of the development program.

Shuttle is an exciting opportunity to combine those two.

"We have never before attempted to build an airplane-like rocket ship or space ship. This gives us a wonderful opportunity to blend our complete background and talent in this area.

"I think that in a much more subtle and professional way, there is an excitement about the Shuttle, not as intense and emotional as for Apollo, but excitement nonetheless."

Thompson also believes that "unquestionably, the talent is here at this Center which can meet the needs of the Shuttle program."



**SHUTTLE VERSATILITY**—In this artist's concept, the Orbiter of the Space Shuttle has launched an Earth Observations satellite. Transporting unmanned satellites into Earth orbit is one of many tasks planned for the Shuttle.

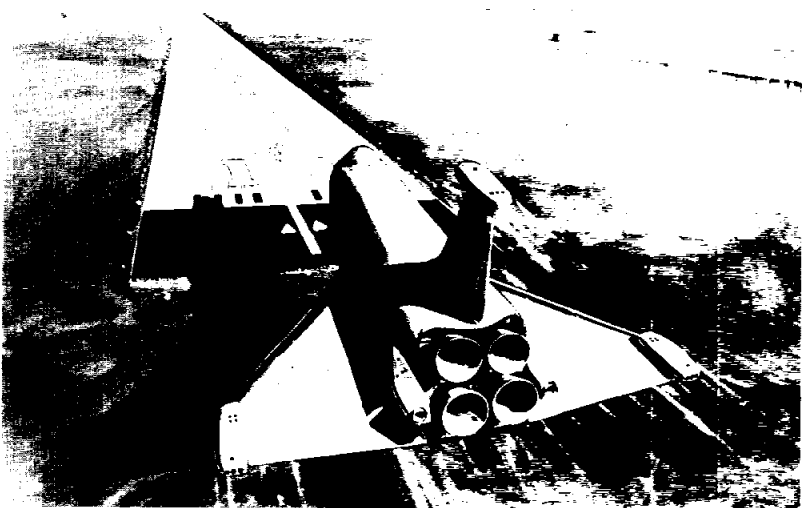
## A short note on long distance calls

It might be well, at the beginning of a new year, to remember a policy concerning the use of government phones. The following paragraph is from MSC Management Instruction 2540.1B, June 5, 1970.

"Government-furnished long-distance telephone facilities will be used only for the conduct of official business, the urgency of which precludes the use of teletype, mail, or facsimile. Use of such facilities for personal business is prohibited by law."

The law which prohibits using government facilities for personal reasons is Executive Order 11222, "Prescribing Standards of Ethical Conduct for Government Officers and Employees."

The Executive Order states in Part II, Section 204, "An employee shall not use Federal property of any kind for other than officially approved activities. He must protect and conserve all Federal property, including equipment and supplies, entrusted or issued to him."



**"ON FINAL . . ."**—This artist's concept shows the Orbiter portion of the Space Shuttle as it approaches an airport runway in a conventional landing configuration.

Requests for proposals are scheduled to be issued in the early spring, with an awarding of the contract set for early summer.

This reporter asked Shuttle Manager Thompson how he compared the feelings of people today as we move into the Shuttle program with those of persons ten years ago when the nation's goal was to land a man on the moon and return him safely to Earth.

"I think in a much more subtle sense, to people with backgrounds in aviation and airplanes as well as backgrounds in space, the

## New season starts for Bay Chorus

Some 130 choristers have signed up for the new season with the Bay Area Chorus. Registration took place earlier this month.

The group is working on a number of musical selections and aiming toward the spring concert now set for May 14 at Clear Creek High School in League City.

## Help the EAA Plan a Good Year

The Employees Activities Association is evaluating the social and athletic activities it subsidizes and plans to submit its budget request for 1972 to the Exchange Council around March 1.

Your advice is being sought.

Please check the following activities which you think the EAA should continue to subsidize in 1972 and add any activities you might wish to see included in this year's schedule. Clip this form and send it to your EAA representative by January 28. If you don't know who he or she is, look up MSC Announcement 71-195, dated December 23, 1971, for a list of all EAA reps.

ACTIVITIES	YES	NO	ACTIVITIES	YES	NO
MSC evenings at the dinner theater	<input type="checkbox"/>	<input type="checkbox"/>	Shrine Circus	<input type="checkbox"/>	<input type="checkbox"/>
Searama	<input type="checkbox"/>	<input type="checkbox"/>	Athletics:		
MSC Picnic	<input type="checkbox"/>	<input type="checkbox"/>	Softball	<input type="checkbox"/>	<input type="checkbox"/>
Pro Football Games	<input type="checkbox"/>	<input type="checkbox"/>	Basketball	<input type="checkbox"/>	<input type="checkbox"/>
Christmas Dance	<input type="checkbox"/>	<input type="checkbox"/>	Football	<input type="checkbox"/>	<input type="checkbox"/>
Children's Christmas Party	<input type="checkbox"/>	<input type="checkbox"/>	Volleyball	<input type="checkbox"/>	<input type="checkbox"/>
Easter Egg Hunt	<input type="checkbox"/>	<input type="checkbox"/>	Other Suggestions:_____		
Ice-skating Party	<input type="checkbox"/>	<input type="checkbox"/>	_____		