

# Space News Roundup

Vol. 22 No. 20

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National Aeronautics and Space Administration



For once, here's a page one photo which has very little to do with the space program, except that it's a picture of the winning boat in the latest Shuttle Regatta sponsored by the National Space Transportation System Program Office, the NSTSPO Cup, if you will. Skipper Buck Gay and his crew, aboard the *Viking*, took top honors, while *Halcyon*, with Skipper Len Nicholson at the helm, took last place and the Turtle Trophy. If you're interested in sailing but don't have a boat, you might want to check out an organizational meeting for the new JSC Sailing Club, to be held Dec. 1 at 5:15 p.m. in the Rec Center lounge. (Photo by Otis Imboden)

## Crew assignments out; 10 flights set for '84

NASA has selected astronaut crews for four additional Space Transportation System missions—flights 41-G, 51-A, 51-C and 51-F—and has named a launch-ready standby crew.

The following crew schedule and cargo manifest are subject to change, but list assignments as now planned beginning in January 1984:

### Flight 41-B

Scheduled for launch Jan. 29, 1984, Flight 41-B will include the first space demonstration of the Manned Maneuvering Unit, and is a dress rehearsal for the Solar Max repair mission to follow in April. The crew will consist of Vance D. Brand, Commander; Robert L. Gibson, Pilot; and Bruce McCandless, Robert L. Stewart and Ronald E. McNair, Mission Specialists. The payloads will include SPAS-01, Palapa B-2 and Westar-VI.

### Flight 41-C

This mission is the long-planned Solar Max repair flight, now set for launch April 4, 1984. The crew will consist of Robert L. Crippen, Commander; Francis R. Scobee, Pilot; and George D. Nelson, James D. Van Hoften and Terry J. Hart, Mission Specialists. The cargo will also include the Long Duration Exposure Facility.

### Flight 41-D

Set for launch on June 4, 1984, the Flight 41-D crew will consist of Henry W. Hartsfield, Commander; Michael L. Coats, Pilot; and Mission Specialists Judith A. Resnik, Steven A. Hawley, Richard M. Mullane and Payload Specialist Charles D. Walker. The payloads will include Telesat-I, Syncom IV-1, the Large Format Camera and OAST-1.

### Flight 41-E

This mission is now scheduled to be flown for the Department of Defense.

### Flight 41-F

This mission is now scheduled for launch on Aug. 9, 1984. The crew will consist of Karol J. Bobko, Commander; Donald E. Williams, Pilot; and Mission Specialists Rhea Seddon, Jeffrey A. Hoffman and S. David Griggs. The cargo on this flight will include Telstar 3-C, Syncom IV-2 and SPARTAN.

### Flight 41-G

Set for launch on Aug. 30 1984, the flight crew for this mission will consist of Robert L. Crippen, Commander; John A. McBride, Pilot; and Mission Specialists Kathryn D. Sullivan, Sally K. Ride and David D. Leestma. The cargo will include OSTA-3 and ERBS.

### Flight 41-H

Depending on flight manifesting, this mission will either be a Department of Defense mission or a civilian mission with the second Tracking and Data Relay Satellite as its major payload. The crew assignment for this flight is Frederick Hauck, Commander; David M. Walker, Pilot; and Mission Specialists Joseph P. Allen, Anna L. Fisher and Dale A. Gardner.

### Flight 51-A

The flight crew for this mission, now scheduled for Oct. 24, 1984, will consist of Daniel Brandenstein, Commander; John O. Creighton, Pilot; and Mission Specialists Shannon W. Lucid, John M. Fabian and Steven R. Nagel. The cargo includes Telesat-H and the GAS Bridge.

### Flight 51-B

Set for Nov. 22, 1984, this mission will carry Spacelab-3. The crew will consist of Robert F. Overmeyer, Commander; Frederick D. Gregory, Pilot; and Mission Specialists Don L. Lind, Norman E. Thagard and William E. Thornton.

### Flight 51-C

This mission, scheduled for Dec. 20, 1984, is slated to carry either TDRS-B or C, depending on how manifesting for Flight 41-H goes. The crew consists of Joe H. Engle, Commander; Richard O. Covey, Pilot; and Mission Specialists James F. Buchli, John M. Lounge and William F. Fisher.

### Flight 51-F

This mission, scheduled for March 29, 1985, will carry Spacelab 2. The crew will consist of Charles G. Fullerton, Commander; S. David Griggs, Pilot; and Mission Specialists F. Story Musgrave, Anthony W. England and Karl G. Henize.

NASA has also announced a stand-by crew for contingency (Continued on page 2)

## Spacelab increases MOCR workload

Flight control of the ninth Space Shuttle mission represents a significant increase in workload for mission control teams in two respects.

The first concerns mission duration. The nine-day flight will be the longest mission to date. The second aspect pertains to the increased duties some mission controllers will assume with the addition of responsibilities for Spacelab systems.

Additionally, a new flight control position will appear in the Mission Operations Control Room (MOCR) during STS-9. It will be the Command and Data Management Systems Officer, to be identified by the call sign, "CDMS," who will have responsibility for Spacelab computer systems.

Three other systems officers will see an increase in the volume of data they monitor through the addi-

tion of Spacelab systems to their realms of responsibility. They will be the Remote Manipulator System, Mechanical and Upper Stage Systems Officer (RMU), the Data Processing Systems Officer (DPS), and the Environmental, Consumables and Mechanical Systems Engineer (EECOM).

Lead flight director for STS-9 will be Charles R. Lewis, the most senior among current flight directors. In all, five flight directors will see duty during STS-9, reflecting the increasing specialization which is becoming a feature of mission operations. Jay H. Greene directed the ascent portion of the flight and entry flight director will be Gary E. Coen. Both performed in identical capacities on each of the three previous Shuttle missions. Sharing duties as flight directors during on-orbit phases will be Lewis, John T. Cox and Lawrence S. Bourgeois.

Paul M. Joyce, lead flight controller among EECOMS, estimates that STS-9 adds about a one-third greater workload to his duties as compared to previous Shuttle operations. These functions are essentially an extension of orbiter systems—power distribution, life support, cooling and cabin fans, and management of cryogenic fuels. Management of cryogenics for fuel cells, Joyce said, will be a more significant duty on this flight in part because of the power levels to be experienced, but more because consumption must be monitored and budgeted over a longer duration flight.

Richard H. Koos, chief of the Payload Computer Section under the Director of Mission Operations, explained the relationship between the DPS and the new CDMS officer. For the DPS, he said, STS-9 will feature the addition of 11 displays

which cover nearly 300 parameters monitored by one of the orbiter's General Purpose Computers. The DPS officer would direct commands through the astronaut on duty in the flight deck, who would make inputs via keystrokes at the aft crew station.

The CDMS officer will be responsible for data processing hardware and software executes for Spacelab's two major computers and the associated input/output devices. One of the French-built computers controls and monitors Spacelab subsystems. The second provides control and monitoring for the lab's scientific experiments. A third backup computer is carried as an on-orbit spare. The CDMS console will be manned only during on-orbit phases and not during ascent or entry.

The RMU officer's duties will expand with the addition of some

30 parameters to be monitored during orbit phases. The lead RMU officer, Rodney Lofton, explained that the new functions are associated with the Common Payload Support Equipment, which consists of three elements.

The first is the Scientific Air Lock (SAL), which will be tracked for pressures and venting during inner and outer hatch openings and extension of the equipment table. The second is a Scientific Window Adapter Assembly, through which a metric camera will record selected Earth views. And finally, two viewports will be monitored. One is at the aft end of the Spacelab which is normally closed for thermal protection, but which will be opened at selected intervals for crew observation of the Shuttle pallet. The second is situated adjacent to the SAL. The RMU officer will monitor these for mechanical performance.

## Space News Briefs

### Lewis awards Centaur contract

The Lewis Research Center has awarded a \$253 million contract to the Convair Division of General Dynamics for work on the Shuttle/Centaur upper stage program. The work involves reconfiguring the Centaur launch vehicle for use as a high energy cryogenic upper stage. The cost-plus-incentive award fee contract includes the design, development and integration into the Space Transportation System of a common NASA/Department of Defense Centaur G configuration and a NASA-unique Centaur G Prime configuration. The contract also includes construction of two G-Prime vehicles which will be used to support the Galileo Jupiter Probe and International Solar Polar missions scheduled for launch in 1986.

### Pioneer Venus sees volcano evidence

Evidence of possible volcanic activity on the planet Venus has been discovered with an ultraviolet spectrometer on NASA's Pioneer Venus spacecraft, in orbit around Earth's sister planet since 1978. Observations of the Venusian atmosphere by Pioneer have revealed large quantities of sulfur dioxide and sulfuric acid haze at the cloud tops, a possible indication of volcanic activity below. The observations showed a decrease of more than 90 percent in the sulfur dioxide content of the cloud tops during the past five years, suggesting a major volcanic eruption on the surface prior to Pioneer's arrival in 1978. The radar mapper aboard the orbiter has provided additional evidence by identifying topographical features similar to volcanic regions on Earth. Lightning has also been observed near these regions—significant, perhaps, since lightning frequently accompanies volcanic eruptions on Earth.

### Buckhorn to cease operations

The Buckhorn Space Tracking Data Network station located on a hill above the Dryden Flight Research Facility will no longer provide communication and telemetry services for orbiting Shuttles effective the end of November. The Goddard Space Flight Center facility is closing and will be replaced by the Tracking and Data Relay Satellite now in orbit over the Atlantic Ocean. Buckhorn employed 30 people, most of whom have gone on to other Goddard station locations. Some of the Buckhorn equipment will be used for Vandenberg Air Force Base Shuttle launches, while some of the rest will be farmed out to other Goddard stations. The Buckhorn facility opened in 1976 to support Shuttle Approach and Landing Tests and Shuttle missions.

### Trilateral space research discussed

The United States, Europe and Japan moved a significant step closer to an international solar-terrestrial space research program recently when delegates from the three countries discussed plans at a meeting of solar and space physics scientists in Washington, D.C. Representing the three space research organizations of these countries—The European Space Agency, the Institute of Space and Astronautical Science and NASA—the delegates worked to develop a definitive research program for an international effort which now goes by the title "International Solar Terrestrial Physics Program." Two projects in the planning stage by ESA are potential elements in this program: a versatile solar observatory and a cluster of four Earth orbiting spacecraft to study basic plasma physics processes. The Japanese would have major involvement by providing one of the primary spacecraft for coordinated effort, which would be launched aboard the Shuttle. Plans formulated by the delegates are now to be further considered by their respective agencies. NASA is recommending launches to begin in mid-1989, with the missions extending into the late 1990s for a major study of Sun-Earth relationships.

## Bulletin Board

### Symphony plans holiday concert

The Clear Lake Symphony at the University of Houston-Clear Lake will appear in a Holiday Pops Concert Dec. 3 at 8 p.m. The symphony, conducted by Dr. Charles Johnson, will play Tchaikovsky's "Nutcracker Suite," Williams' "Greensleeves," Anderson's "Sleigh Ride," selections from Handel's "Messiah," and other songs of the season. The soloist is April Pels, soprano. The concert will be held in Atrium II of the Bayou Bldg. Tickets are \$4 general admission and \$2 for students and senior citizens. Table seating with refreshments will be available for an additional \$6. For more information, call 488-9390 or 488-9288.

### JSC holiday fund raising to begin

The annual JSC holiday fund raising campaign to assist needy families in the Houston area, The Family Affair Christmas Project, will begin Nov. 28. This year's goal is to raise \$4,000 and to purchase food and toys for 135 families. The project has been a perennial success since 1971, thanks to the involvement and generosity of the JSC community. Any employees or contractors who would like to help with some phase of the project can contact Elmer Fridia, x3205, or Doris Roberts, x2761. The fund drive will end Dec. 9. For more information, call Fridia or Roberts.

### Mini-Marathon to be held Dec. 10

The third annual Combat Medic Mini-Marathon, with proceeds benefiting the U.S. Army Combat Medic Museum in San Antonio, will be held at JSC beginning at 9 a.m. Dec. 10 at the Gilruth Recreation Center. Both a quarter marathon (6.5 miles) and a half marathon (13 miles) will be held, with awards in men and women categories of 14 and under, 15-19, 20-24, 25-29, 30-34, 35-39, 40-45, 46-49, women 50 and older, men 50-54, 55-59 and 60 and older. Early registration until Dec. 2 is \$6. After that date registration will be \$8. Interested runners should contact Bill Rousseau of the Bay Area Running Club at 944-0040, or Jeanette Gallagher of Empire of America Savings at 427-6585. The race is being co-sponsored by the 3457 Medical Training Center of the U.S. Army Reserves, the Texas Air National Guard 147th Fighter Interceptor Group at Ellington AFB, the Bay Area Running Club and Empire of America.

### M. D. Anderson cards on sale

Each year since 1973, the young patients at the University of Texas M. D. Anderson Hospital have created a series of Christmas cards, with proceeds from the sale of these cards going to brighten the lives of the pediatric patients. The children with cancer enjoy offering their designs—they are an expression of hope and happiness—and last year over a million cards were sold. In the Bay Area, the cards will be on sale weekends until Christmas, from 11 a.m. to 3:30 p.m. at Sakowitz and from noon to 5 p.m. at Joske's in Baybrook Mall. The cards are the same price as last year, \$6 for a box of 20. If you would like to participate in this volunteer effort, call Stella Kiefir at 488-4080, Betty Conklin at 486-4193 or Marty Moore at 482-4215.

# Dear NASA,

From enchanting to bizarre, the letters keep coming in

Mark a letter "NASA Headquarters, Houston, Texas," and it will eventually end up in the Public Affairs Office mailroom, as will letters from "Buck Rogers, Space Station Moon," and another 50,000 letters a year from all over the world.

"I would like to apply to be a Mission Specialist on the Space Shuttle. Can I bring my Garfield, my bean bags, my blankie and my Mom?" asked four-year-old Russ in a recent letter.

Nine-year-old Kathleen, a Canadian, wrote, "The reason I want to go to the Moon is because someday we may have to evacuate the Earth and we will have to know how children can survive in space. Don't worry about not having permission, my parents don't mind if I go."

Those are but two of the thousands of letters received last year, but not all of them are from children. One writer asked for a one-way ticket on the Space Shuttle to give his wife on their anniversary.

An Episcopal Rector in Houston thanked NASA for a photograph taken in space and said, "It will be a real source of inspiration to me in my study as I search for the beyond in my own work."

A businessman in New York asked NASA for the procedures for applying for permission to establish a flea market on NASA properties in outer space, leading to speculation that perhaps he

knows something NASA does not.

Some of NASA's pen pals are rather more eccentric. One gentleman wrote JSC 40 letters in only three months. He never asked for a single thing but only offered NASA useful information free of charge.

One of the more original pen pals, Buck Rogers from Space Station Moon—or so the return address said—sent NASA an elaborate "Space Orbital Housing Unit" design proposal complete with dimensional drawings. He even recommended certain experiments NASA might perform in the future and suggested that rubber runways be constructed to the Moon.

Norma Kersman, who runs the mail office for Public Affairs, said, "I think the people write us because the space program excites them. Even though astronauts have traveled into space, there is still an element of the unknown there."

About half of the mail to JSC comes from overseas, Kersman said. The foreign letters usually need translation, which is done by volunteers around the Center, but Kersman said she can often tell what the writer wants even without understanding the language. "Letters from Poland," she said, "sometimes ask for a 'prospectus of your company,' which means information on the space program, or 'labels,' which translates to color photographs from space. Nearly 1,000 letters from Poland are

answered each month, and rarely has a package been returned undeliverable."

Another source of foreign mail, and a great deal of it, is the African country of Ghana. In addition to asking for information on the space program, many of the writers from Ghana ask for Bibles, blue jeans and money.

Keeping up with the fan mail is no easy task, Kersman said. During FY '83, her operation answered over 50,000 individual letters and mailed 1,466,420 pieces of printed material. That is a monthly average of 122,201 fact sheets, lithographs and other space-related materials.

Frequently space buffs write NASA to share something dear and personal to them. A grandmother and grandfather in Wyoming sent a copy of a letter from their granddaughter, who had just learned to write in script. "Man soars in space, walks on the Moon and sends his contraptions beyond the boundaries of the galaxy," they wrote. "Yet what human can fathom the awesome power of the common everyday pencil?" They asked that the letter be posted on NASA's bulletin board. It was.

Some fans ask for materials, some offer suggestions and some share a bit of sunshine, but one unimpressed child wrote, "Our teacher gave us your address and I wanted to write you, so now I have, goodbye."—Chuck Biggs

## Patnesky honored by FBA

Andrew R. Patnesky, "Pat" to most, JSC's longtime Public Affairs photographer, has been named the

Employee of the Year for Service for 1983 by the Houston Area Federal Business Association. Patnesky, who is a few months short of 45 years of government service, has documented the space program since the very first, accompanying astronauts on survival and training missions, photographing their return from space missions and chronicling the activities in Mission Control. The award was presented in a luncheon at the Holiday Inn/Medical Center Nov. 17 by FBA President Ronald C. Geasland of the U.S. Army Corps of Engineers.

As promised, here's that picture of September's Outstanding Secretary Lynn Ross, which had to be omitted from the last issue of the Roundup due to deadline pressures. Our congratulations for her outstanding award.



### In Memorium

Robert C. Clark, a retired quality control engineer at JSC, died Nov. 3. A World War II Army Air Corps Veteran, Clark had 22 years of government service. He was born in Yarmouth, Maine and resided in League City. He is survived by his wife.



## Cookin' in the Cafeteria

Week of November 28 - December 2, 1983

**Monday:** French Onion Soup; BBQ Sliced Beef, Parmesan Steak, Spare Rib w/Kraut, Chili & Macaroni (Special); Ranch Style Beans, English Peas, Mustard Greens. Standard Daily Items: Roast Beef, Baked Ham, Fried Chicken, Fried Fish, Chopped Sirloin. Selection of Salads, Sandwiches and Pies.

**Tuesday:** Split Pea Soup; Meatballs & Spaghetti, Liver & Onions, Baked Ham w/Sauce, Corned Beef Hash (Special); Buttered Cabbage, Cream Style Corn, Whipped Potatoes.

**Wednesday:** Seafood Gumbo; Cheese Enchiladas, Roast Pork w/Dressing, BBQ Link (Special); Pinto Beans, Spanish Rice, Turnip Greens.

**Thursday:** Beef & Barley Soup; Roast Beef w/Dressing, Fried Perch, Chopped

Sirloin, Chicken Fried Steak (Special); Whipped Potatoes, Peas & Carrots, Buttered Squash.

**Friday:** Seafood Gumbo; Fried Shrimp, Baked Fish, Beef Stroganoff, Fried Chicken (Special); Okra & Tomatoes, Buttered Broccoli, Carrots in Cream Sauce.

Week of December 5 - 9, 1983

**Monday:** Cream of Potato Soup; Franks & Sauerkraut, Stuffed Pork Chop, Potato Baked Chicken, Meat Sauce & Spaghetti (Special); French Beans, Buttered Squash, Buttered Beans. Standard Daily Items: Roast Beef, Baked Ham, Fried Chicken, Fried Fish,

Chopped Sirloin. Selection of Salads, Sandwiches and Pies.

**Tuesday:** Navy Bean Soup; Beef Stew, Liver & Onions, Shrimp Creole, Smothered Steak w/Dressing (Special); Corn, Rice, Cabbage, Peas.

**Wednesday:** Seafood Gumbo; Roast Beef, Baked Perch, Chicken Pan Pie, Salmon Croquette (Special); Mustard Greens, Italian Green Beans, Sliced Beets.

**Thursday:** Beef & Barley Soup; Beef Tacos, Diced Ham w/Lima Beans, Stuffed Cabbage (Special); Ranch Style Beans, Brussels Sprouts, Cream Style Corn.

**Friday:** Seafood Gumbo; Fried Shrimp, Deviled Crabs, Ham Steak, Salisbury Steak (Special); Buttered Carrots, Green Beans, June Peas.

## Crews

(Continued from page 1)

scheduling. The crew consists of Karol J. Bobko, Commander; Ronald J. Grabe, Pilot; and Mission Specialists Richard M. Mullane, Robert L. Stewart and David C. Hilmers.

For a detailed description of missions, crews and payloads through Flight 51-F, see the updated manifest in the next edition of the Roundup.

NASA

Lyndon B. Johnson Space Center

## Space News Roundup



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Editor: Bill W. ...

# Major Findings by IRAS reported

An object closer to the Sun than any known planet or asteroid, rings of dust within the Solar System and "infrared cirrus clouds" out in the galaxy are among the major preliminary findings reported recently by the IRAS science team.

IRAS, the Infrared Astronomical Satellite, a joint project of the U.S., the Netherlands and the United Kingdom, "has produced a steady flow of stunning scientific discoveries," NASA Administrator James M. Beggs said. Since its launch in January, the infrared observatory has identified more than 180,000 infrared point sources, with another 70,000 expected; it has executed almost 6,000 survey scans of the sky, as well as 10,000 specific observations of longer individual duration; it has sent down a steady flow of 350 million bits of data per day, and according to one project scientist, "it is just the beginning. We've only analyzed a fraction of the data."

Major discoveries credited to IRAS in its short lifetime include the stunning finding that a ring of particles—perhaps a solar system in the making—circles the star Vega; about 50 other stars are being studied for Vega-like systems.

The satellite also has discovered more new comets in a shorter period of time—five and possibly six—than any other celestial observer in history.

IRAS carries a highly sensitive cryogenically cooled infrared telescope, which is conducting an all-sky survey—the first since 1950—of objects in the universe which radiate infrared energy. Its detectors are cooled to about 2.5 degrees above absolute zero by superfluid helium, making the instruments the coldest man-made objects ever flown in Earth orbit.

The first stage of the all-sky survey was completed in August. A second look at the sky is now under way to achieve 99.8 percent reliability for objects observed by the telescope. This final stage of the survey will continue until the telescope's coolant is exhausted in early January, 1984.

The Zodiacal Dust Bands announced by the IRAS science team are three narrow, continuous rings of dust within the Solar System. These newly discovered features may be the result of countless collisions in the main belt of asteroids between Mars and Jupiter, at a distance of 200 to 300 million

miles from the Sun. It is also possible, scientists say, that a single catastrophic collision between two large objects, such as between an asteroid and a comet, produced the two outer bands of material.

IRAS mapped infrared emission from this interplanetary dust at wavelengths from 12 to 100 microns. The dust is also known as zodiacal dust since it lies mainly in the zodiacal or ecliptic plane in which the planets travel. The temperature of the dust is -123 to -73 degrees Celsius. The estimated amount of material in the two outer bands corresponds to the mass of an asteroid one kilometer in diameter.

Another previously unknown feature of space discovered by IRAS are wispy clouds of dust, termed "infrared cirrus" by the science team, which lie across much of interstellar space. The clouds are believed to be formed by dust among the stars within our Milky Way Galaxy. Viewed in the 100 micron wavelength region of the spectrum, the sky appears largely highlighted by these cloudy features.

IRAS scientists believe the clouds consist mainly of graphite (carbon) dust particles, formed in the outer

atmosphere of stars and heated by starlight.

IRAS also has observed star formation in ways never before achieved. The satellite has found numerous small clouds of molecular gas and dust that are sites of formation for stars like our Sun within 650 light years of Earth. In the last decade, Earth-based telescopes have shown that giant stars, ten times more massive and a thousand times more luminous than the Sun, are forming within large clouds of gas and dust. Before IRAS, however, little could be learned of the formation of smaller stars, like the Sun, because of their faintness.

IRAS has peered into these clouds and observed globules of a few hundred solar masses of molecular hydrogen gas that could collapse under their own weight to spawn stars of about the same size as the Sun. One object probably much like our early Sun has been found within a dark cloud called Barnard 5. The object is radiating at about 10 times the rate of the Sun, at a temperature between -243 to +227 degrees C. It appears to agree with theories of stellar formation, which suggest that a

star, like the Sun, goes through an extremely luminous phase in its first 100,000 years of existence.

IRAS also has discovered five new comets, detected extensive envelopes of dust around comets not previously known to be dusty, and observed a long, thin, invisible trail of cometary debris from the well-known Comet Tempel 2. It has also discovered a new object, designated 1983 TB, which appears to be the parent body for the Geminid stream of meteors, which is seen on Earth in December. If this is true, then 1983 TB may be the sixth comet discovered by IRAS.

At 16th magnitude, 1983 TB is about 6 million times fainter than the brightest star in the sky. Although it may be an Earth crossing asteroid, a member of the Apollo class of asteroids, its orbit and position suggest it may be a dead comet whose ice and other volatile materials have boiled away during its many close passes to the Sun. It passes within 9 million miles of the Sun, closer than any known object.

Based on findings to date, IRAS scientists expect additional information about the universe will be revealed as processing and analysis of data continues over the next several years.

## Reform '88 stresses improvements

The Reagan Administration has embarked on a four-phased overlapping effort designed to streamline government administration, reduce waste and most of all, save money.

The major element of the program, called Reform '88, reflects an effort to make the government operate in a more businesslike manner, with new practices to be implemented between now and 1988.

Other initiatives are Personnel Management Reform, for implementation of changes to fulfill the Civil Service Reform Act of 1978; Federal Field Structure Reform, which will study Federal field operations to streamline programs and support operations; and the President's Private Sector Survey on Cost Control, to find potential cost reductions and management improvements that relate to the Executive Branch.

"We all take pride in the reputation NASA enjoys as a well managed organization," Administrator James M. Beggs said. "It is a reputation earned through open evaluation of the process used in attaining our goals and objectives. The management improvement initiatives are

consistent with, and lend support for, the broad range of efforts we currently have underway through our productivity initiatives," he said.

The four Presidential initiatives are under the policy guidance of the Cabinet Council on Management and Administration.

Reform '88, led by Office of Management and Budget Deputy Director Joseph Wright, is designed to achieve a comprehensive upgrade of the management systems within the Federal government. The White House faces difficult challenges in the effort, as reflected by some of these statistics:

- More than 2,000 programs are administered by 153 units of the government, with 60 agency heads reporting, theoretically, to the President.
- The Federal budget has doubled in size in the last decade, and has grown nearly 700% since 1962. The annual growth rate of government has been brought down from 18% in 1981 to 8% now, with plans to further reduce the growth rate to 4.5% a year.
- The government uses 325 primary accounting systems and some 1,000

secondary accounting systems. "All of those systems are basically incompatible," Wright said.

- Some 1,200 transaction accounts go into the Department of the Treasury for payment every month, but only 20 are computer driven—the rest are handled manually; more than 2,300 administrative payment centers process some 700 million documents annually.
- The U.S. Government has 350 different payroll systems and 1,750 personnel offices.
- The U.S. Government is owed around \$260 billion, about \$35 billion of it delinquent, mostly taxes, or in default. "But we've found one agency which, basically, collects checks from people who've taken out loans and just holds them for 60 to 90 days," Wright was quoted as saying in Government Executive magazine. "We do not have one, not one, automated bill collection system in the entire U.S. Government, and that's ten-year old technology."

Efforts to turn these figures around under Reform '88 include linking management planning with the budget, installing financial/

administrative management information systems, modernizing the cash management of over \$1.7 trillion, tightening the credit management of outstanding debts, improving the data processing and communications capabilities of the government, reducing Federal work space by 10%, strengthening the Inspectors General programs, and other cost reduction programs, a White House announcement said.

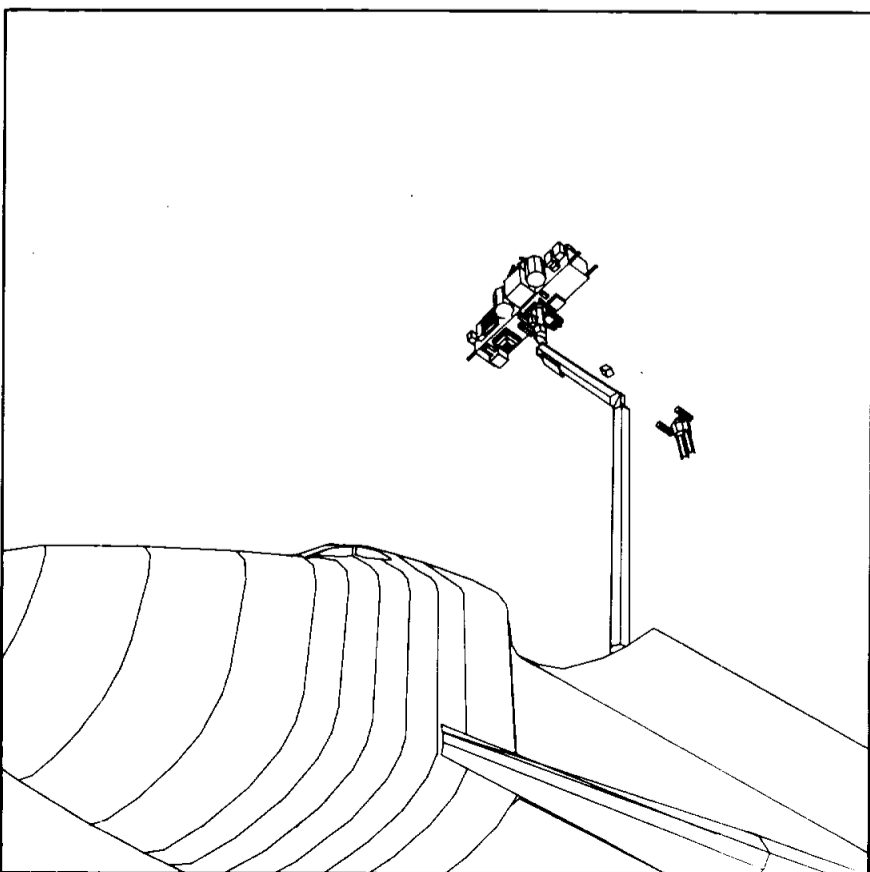
The White House cited the following accomplishments under Reform '88, which has been underway since 1982: \$22.3 billion saved or put to better use as identified by the President's Council on Integrity and Efficiency; 65,000 Federal full-time equivalent positions eliminated; \$3.5 billion in debt collections above the figure for "business as usual"; \$50 million saved in Federal travel costs; 2,300 Federal publications (72 million copies) terminated; and White House and Cabinet departments and agencies linked by instantaneous communications.

Personnel Management Reform, led by Office of Personnel Management Director Donald Devine, is an effort to implement the aims of the Civil Service Reform Act of 1978. Included in that effort are performance-based incentive and

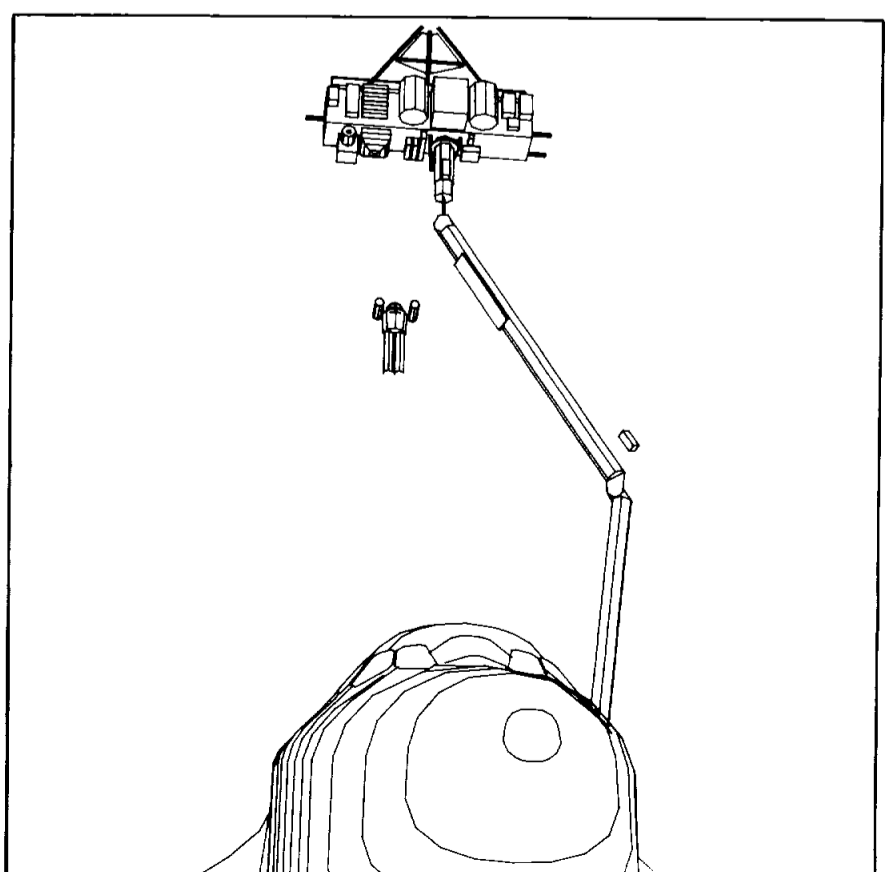
reduction-in-force systems, less costly retirement and health benefits programs, pay and benefits truly comparable to the private sector, greater job opportunities for women and minorities and equitable realignment of job classification standards.

Federal Field Structure Reform, led by General Services Administration head Gerald Carmen, is a study of Federal field organizations. Recommendations of this study, approved by the President, are designed to streamline operations by eliminating unnecessary offices and organizational layers, consolidating administrative support services, collocating field facilities and reducing the supervisor/employee ratio.

The President's Private Sector Survey on Cost Control, led by J. Peter Grace, Chairman and Chief Executive Officer of W.R. Grace & Co., went to over 1,500 private sector executives for advice on streamlining government operations. More than 36 preliminary task force reports, containing over 5,000 recommendations, have been released for public comment, and initial Administration review of the reports is underway, the White House said.



An MMU approach to the SPAS-01 platform during the 41-B (STS-11) mission early next year is illustrated in these two computer-generated drawings produced by the Mission Planning and Analysis Division. The SPAS will be rotating at the end of the robot arm during this maneuver, while the Manneuvering Unit is programmed to match that rotational rate. A large portion of these first MMU maneuvers ever will be televised, either through live downlinks or video tape dumps.



# Roundup Swap Shop

Ads must be under 20 words total per person, double spaced, and typed or printed. Deadline for submitting or cancelling ads is 5 p.m. the first Wednesday after publication. Send ads to AP 3 Roundup, or deliver them to the Newsroom, Building 2 annex. No phone-in ads will be taken. Swap Shop is open to JSC federal and on-site contractor employees for non-commercial personal ads.

## Property & Rentals

Condo timeshare, one week, world-wide exchange privileges, \$7,995/offer, assume \$94/mo. Call 554-2506.

For rent: Galveston By-The-Sea condo, 2 BR, furnished apartment for rent by day (2 minimum) weeks or month. Call Clements, 474-2622.

For lease: 10 acres, Alvin area, fenced, on paved road, good for horses, cattle. Call Damewood, 482-5572.

For sale: 4-2 home, fenced, by owner, \$45,500. Call Shirley, x3060.

For sale: Gulfgate area 3-1-2, large fenced lot w/trees, brick exterior, hardwood floors, 9.5% assumable, \$445/mo., \$50s. Call Debi, x4696 or 645-1265.

Lease or lease/purchase: Baybrook 1-1-1 condo, fulsize W/D, fireplace, covered parking, pool, club house, immaculate, \$360/mo. plus deposit. Call 280-7272 or 554-2538 after 6 p.m.

For sale: All brick 1,900 sq. ft. home, formal dining, fenced, pool, Friendswood/Sunmeadow. Call 482-4600.

For lease: Nassau Bay townhouse, lovely 2BR, 2 car garage, all appliances, Queens Court, \$475/mo. Call Lynn, x4415.

For lease: Oakbrook 4-2-2, storm windows, gas BBQ grill, trees, convenient, \$600/mo. Call 488-0264 evenings.

For sale/lease: University Trace condo, 1-1½-2, all appliances, ceiling fan, security system, fireplace, jacuzzi, pools. Call 486-1472 after 5 p.m.

For sale: Nassau Bay townhouse, 2-2½-2, remodeled like new, good location. Call 334-4184.

For lease: League City Countryside 4-2-2, carpeted, drapes, fireplace, fenced, 3 years old, \$575/mo. Call 488-5019 or 334-1817 after 5:30 p.m.

For sale: 4 lots in Hitchcock, \$1,000. Write Shirley Lewis, 6887 Renaud, Hitchcock, TX 77563.

For sale: New custom built 2 story Victorian, 3-3, 1,800 foot runway with hangar on 6 2/3 acres under \$150K, Manvel, Hwy. 288 area. Call 388-2445.

For sale: 6.6 acres 10 mi. east of Woodville, access road, creek, heavily wooded, \$1,500/acre. Call Thelma, 470-8500 days or (409) 258-9017 weekends.

For lease: Heritage Park 3-2-2, fenced yard, fireplace, newly painted, \$545/mo. plus deposit. Call 486-9562.

For lease: Oakbrook West 4-2½-2, contemporary, formals, fireplace, wet bar, professional decorating, rose garden, garage door opener, executive size, good neighborhood, no pets, \$895/mo. Call 482-6609.

For lease: Friendswood 3-2-2, new paint, new carpet, fence, convenient, \$500/mo. Call 482-6609.

For lease: Sycamore Valley 3-2-2, fireplace, fenced, patio, central A/H, open floor plan, \$610/mo. plus deposit. Call David, x2886 or 488-1705 evenings.

For rent: Steamboat Springs, Colorado, 3-2½-1, for Christmas in the snow country, Dec. 24-31, lovely 3 level townhouse with spa privileges. Call 474-3839.

For Lease: Camino South 4-2-2, fireplace, new carpet, paint, 1,850 sq. ft., fenced, excellent condition, \$595/mo. plus deposit, references required. Call 480-1347.

For rent: Bayou Vista on water, 2-1, fenced, storage appliances, \$575/mo. Call (409) 935-2867 after 5 p.m.

For sale: 2-2 condo, inside loop 610, West Univ./Galleria, 1000 sq. ft., utilities paid, large enclosed patio, carport, \$75,000. Call R. Friedmann, 439-1332.

For sale: League City lot, 68' x 170', all utilities, \$8,500. Call 1-585-8162.

For rent: Lake Tahoe condo for one week starting 2/18/84. Call V. Marks, x5975 or 488-3354.

For Lease: Oakbrook townhouse, 2-2½-2, fireplace, all appliances, W/D. Call Actkinson, x3611 or 482-7061.

For lease: Countryside, League City 4-2-2, on cul-de-sac, near pool, tennis, available 1/1/84, \$595/mo. Call Tim Pelischek, x2276 or 488-6167.

For sale: College Station 3-2 mobile home, 14' x 78', excellent condition, landscaped, near university on Texas Ave. Call McCollum, 474-3839 after 5 p.m.

For rent: Deer hunting and camping, by day, Houston county, room for 3 guns. Call 554-6004 after 5 p.m.

## Cars & Trucks

1977 Buick LeSabre, new vinyl top, AM/FM, AC, tires like new. Call 471-3165 after 5:30 or 479-3454 anytime.

1965 Plymouth Fury II, 4 dr., V-8, good condition. Call Jesse, x3125 or 946-8500 after 4 p.m.

1971 Plymouth Satellite Sebring, 318, auto, PS, PB, no A/C, reliable and rusty, recently tuned, \$480. Call Ron Cohen, x4691 or 333-1471.

1972 Olds 88, good condition, \$950. Call Ben, x5996.

1975 Olds Cutlass, 3-seat station wagon, 70K miles, AC, PS, PB, good condition, \$12,000. Call Box, x3538 or 474-4531.

1981 Chevy Chevette, 4 door, 2-tone blue, low miles excellent condition, \$3,500. Call Linda, x4319 or 480-8339.

1978 Custom Chevy van, V-8, PS, PB, AC, AM/FM/8-track, tilt, cruise, 53K miles, like new condition. Call 774-4321 after 6 p.m.

1968 Cougar, 302 V-8, auto, one owner, receipt on restoration in and out, appraised \$3,500; \$3,000/best offer. Call Carla, x2623 or 538-1148 evenings.

1963 Plymouth, two door, perfect running condition, some rust, good tires, \$500. Call Bob, 333-4800.

1973 Mercury Marquis, runs well, power everything, AM/FM, 94K miles, \$750 or best offer. Call 480-6783 after 6 p.m.

1976 Ford Pickup, positive rear-end, dual tanks, AC, stereo, camper cab, V-8 390. Call 470-8973.

1966 Chrysler Newport sedan, V-8, auto, AC, PS, original mint condition, original owner, \$995. Call Clarence Blume, x5159 or 554-2911.

1981 Olds Regency, V-8, 4-door, padded vinyl top, loaded, excellent condition, 39K miles, \$8,700. Call 333-3254.

1978 Chevy Nova, extra clean, new brakes, shocks, 54K miles, \$2,250. Call Linda, x4319 or 480-8339.

1980 Cadillac Coupe de Ville d'Elegance, fully equipped, like new, 41K miles. Call 334-3370.

1976 LTD 4 door, \$1,495; 1978 LTD II, 302, 4 door, 58K miles, \$2,275. Call Clay, x3422 or 481-1507 after 4:30 p.m.

1976 Ford Grenada, 302 V-8, PS, PB, AC, AM/FM/8-track, cruise, auto, lock group, new paint, new half vinyl top, excellent tires, silver with burgandy int., \$1,800. Call Bob Harris, x5841 or 474-4946.

1977 Corvette T-top, new carpets, brakes, exhaust system, 2-tone blue w/Teflon PermaShine, topshape, loaded, \$8,995. Call 480-6325 after 5 p.m.

1979 Mustang, 2.3 litre, AC, stereo cassette, PS, PB, high MPG, std., fastback, center console, sports package, excellent condition, \$2,995. Call 643-8944 after 6 p.m.

1967 Mustang convertible, good condition, \$5,000 or best offer. Call Meider, x4386 or 334-5258 after 6 p.m.

1978 Mustang II hatch back, auto, PS, PB, AC, AM/FM/8-track, \$1,900. Call Jo Ann, 333-2030, x182.

1976 AMC Pacer-X, V-6, good condition, loaded, AC, stereo, 80K miles, \$950 or best offer. Call Peter, x3035 or 480-9191 evenings.

1980 Ford Courier PU, AM/FM, 5 spd., 2 liter, cast aluminum wheels, heavy duty bumper, \$2,450. Call Dick Goody, x7238 or 333-3027.

1978 Olds Cutlass Brogham, 2-door, AM/FM/stereo, auto, cruise, tilt, PS, PB, CB, asking \$2,750. Call Jim, x3901 or 337-2107.

1977 Camero, white, V-6, 3 spd., AC, PS, PB, good tires, new alternator, excellent mechanical condition, \$2,500. Call Jones, x3803.

1982 Ford F100 XLT pickup, AC, PS, PB, cruise, dual tanks, matching color camper top, \$8,000. Call 488-4915.

1976 Grand Prix, V-8, 60K miles, excellent condition, loaded, stereo, cruise, hitch, power windows, \$2,500. Call Peter, x3035 or 480-9191.

1950 Chevy 4 dr., 97K miles, 3rd owner, refurbished, excellent driving condition, wife demands space in garage—Help! Call Smith, 471-2419.

1977 Ford Pinto Runabout, large glass hatchback, vinyl top, 28K miles, \$1,600. Call Jack, x2118 or 538-1577.

1981 Chevy PU, 3/4 ton, 8 ply tires, \$5,500; 1982 Chevy PU, diesel, 6.2 liter engine, custom, equipped for goosneck. Call Cotton Wright, x2211 or 471-5964.

1979 Ford Pinto 2 dr. sedan, AC, PS, rear window defogger, less than 31K miles, excellent condition. Call 488-1550, 9 a.m. to 10 p.m.

1980 Ford Courier, short bed, 31K miles, 5 spd., AC, with camper top, \$3,000. Call 488-2219 evenings.

1983 Ford midsize Ranger pickup, 4 cyl., std., PB, PS, AC, dual tanks, longbed, \$6,000. Call Kenneth, x2638 or 470-9393.

1982 Capri, 4 cyl. 5 spd., AC, AM/FM/ Cassette stereo, all power options, cruise, tilt wheel, more, \$6,100. Call BJ, x5644 or 538-2181.

1981 Ford Pickup F100, AC, PS, PB, 8 ft. bed, good condition, \$5,500. Call June, x2660 or 996-1870 evenings.

## Cycles

1978 Honda Hawk, 14K miles, recently rebuilt engine, nearly new drive chain, sprockets and mufflers. Call Hendrickson, x2051 or 470-2293 evenings.

1982 Honda XL500R, 2,400 miles, excellent condition, \$1,500/best offer. Call 554-2506.

1978 Honda Hawk, running when cylinder head removed, \$250. Call Byrns, x6247 or (409) 925-3945.

1976 Honda Elsinore, Ceriani forks, performance gas shocks, 125cc, x cross up swing arm, FMF tank, new top end, \$500. Call Gary Cunningham, 482-0960 after 6 p.m.

1976 Suzuki RM 370, good condition, \$295. Call J. Leonard, x4248 or 944-4997.

Bicycles: Man's 3 spd., 26", \$25; Boy's 20" moto cross, \$10. Call 280-0454 after 6 p.m.

## Boats & Planes

Rent: Piper Lance, 6 place, 160 knots, full IFR, club seating, \$85/hr. wet. Call L. Damewood, 471-1675.

The Aero Club has just purchased a 1979 152 for flight training at \$25 per hour wet, and also operates a 1976 Archer II IFR for cross country at \$30 an hour wet. For information, call Jerry, x5238 or Bernie, x2901.

Sale: 1977 Bellanca Decathlon, 150 HP, constant-speed prop, 1,050 hours total time, very good condition. Call Hendrickson, x2051 or 470-2293 evenings.

Gulf Coast 200 sailboat, race equipped, good condition. Call Larry, 485-7629.

Sport Fisherman 37', 2 440 Chrysler, 330 HP each, cabin and berths, galley, head/shower/toilet, depth rcd., 2 radios, AC, Bimini flying bridge, \$35,000. Call B. Reina, x2314 or 488-1326.

## Audiovisual & Computers

Commodor 64, \$135. Call Ron Cohen, x4691 or 333-1471.

Colecovision master component, brand new, \$120 or best offer. Call 482-7079.

Atari 400/800: unopened Donkey Kong cartridge plus 2 educational cassettes, \$45. Call Bob, x3538 or 474-4531.

Atari 2600, good condition, includes combat cartridge, \$50. Call 966-1780 or 482-6524.

HP 41CV personal calculator, like new, cost \$325, sell \$175. Call Joe, x3101 or 944-6513.

Dynaco tube stereo, integrated amp, Fisher AM/FM tuner w/MPX, walnut cases, \$40 for all. Call 488-3966.

Sony Walkman, AM/FM, headphones, good condition, \$55. Call 996-1780 or 482-6524.

## Household

Wards side by side refrigerator, \$500; electric stove, \$300; washer & dryer, \$300; all items used two years. Also GE air conditioner. Call Shirley, 337-4879. Westinghouse 25 dehumidifier, like new, \$40. Call 482-8729.

Sears Coldspot chest freezer, 17.3 cu. ft., white, \$200. Call 482-8465.

Mediterranean couch, \$250; end tables, \$100 each; chairs, \$75 each; 8-piece dining room, \$750; recliner, \$50; bar stools, \$10 each. Call Lee, x3459 or 488-1146 after 5 p.m.

Beautiful Drexel couch, almost 9 feet long, recently reupholstered, very comfortable, \$100. Call Brian, x5111 or 480-5194.

RCA color TV, 25", \$250; old IBM typewriter with table, \$120. Call Rao, x6337 or 482-3697 after 5 p.m.

Two piece wooden hutch, 3 drawers, cabinet on each side, \$100. Call Lynn, x4415 or 333-2359.

Rectangular smoked glass and chrome dinette table with 4 matching wine velvet chairs, \$150. Call Kay, 333-5373 after 3:30 p.m.

Screen door/double swing hinges, \$20; cane swag lamp, \$10; coffee table, \$15; steel auto wheel ramps, \$15. Call Allgeier, 488-0397.

Sectional 3-piece sofa, Herculon, natural tones, \$300; Spanish style queen size sleeper sofa, burgandy naugahyde, \$150; walnut gun cabinet, \$175. Call 474-2626 after 6 p.m.

Cedar chest, \$175; secretary, \$125; storage trunks, \$35/\$45; lamp, \$60. Call 333-9234.

Zenith 19" color TV, with stand, \$95. Call 488-3966.

Antique couch, \$150, and chair, \$50. The couch is one of the first hide-a-beds made. Call 643-8944.

Brown loveseat, \$25; baby swing, \$30; color 13" TV, needs some work, \$10. Call Lorraine, 488-3720.

Beautiful 10 x 13 braid rug, Indian brown, reversible, used 8 mo. and replaced with carpet, New \$350, sell for \$240 or best offer. Call Smith, x4571 or 471-2419.

Sealy Posturepedic prestige queen size mattress and box spring, one year old, retail \$650, sell for \$300 firm. Call Mike, 488-9080, x80.

## Wanted

Art student to do some drawings in spare time, must see previous work. Call 333-9234.

Childcare in my Heritage Park home for one-year-old boy. Call Mrs. Trevino, x4086 or 332-1734 after 5:30 p.m.

Want garage to rent for second automobile, possibly 3-4 months. Call Beverly, x2728 or 333-5760.

Want non-smoking roommate to share all brick 3-1½, central A/H/2 car garage, League City, \$200 plus utilities. Call K. Brown, x3643 or 332-8251.

Rider needed to S.E. Michigan, leave Dec. 23, return Jan. 2, share expenses. Call Nancy, x4392 or Tracy, 486-2161.

Want use of van for 2 weeks around Christmas, will rent or trade use of my new Cressida, insurance not a problem. Call Glenn, x4861.

Want electric clothes dryer, outside appearance not important, but must work; also need small boy's bike with training wheels. Call J. Poindexter, x4241 or 474-7769.

Want roommate to share large house in League City, 20 min. from NASA, with 3 male roomies, rent plus utilities approx. \$200/mo. Call Mark, x3803, Galen, x3576 or James, x3406.

Want vintage tube type audio components, mono or stereo, prefer brand names. Call Mark, x3803.

Want career minded female to help share beautiful 2-1½-2 with fireplace, tennis courts, pool and patio. Call 480-8484.

Want to buy electric trains. Call Don, x2449.

Want female roommate to share 2-2 condo, washer/dryer, tennis court, near NASA, non-smoker please, \$250/mo. Call 538-4006.

Want boy's suit, size 8 or 10, must be in good condition. Call Cindy, x7236 or 554-4133 after 5 p.m.

## Photography

35mm camera, Contax 139 quartz with 3 lenses, 2 flash units, flash brackets and cables. Call David Cree, x6411 or 481-1158 after 5 p.m.

Leica M4 35mm camera, body only. Call David Cree, x6411 or 481-1158 after 5 p.m.

Durst enlarger and lenses, \$50; Polaroid 230 camera, \$20; Cannon 8mm, \$25; and others, all excellent. Call 488-3966.

## Musical

Gibson Epiphone guitar with case and amplifier, \$275. Call Scott Thompson, 488-8111 days or 488-6134 evenings.

Epiphone classical guitar, excellent condition, Madrid Model 20, new strings and case included, \$220 or best offer. Call Jerry, x5226.

1981 Hofner Beatles bass, maple brown finish, excellent condition, dual pickup great sound, comes with strap and sound case. Call Scott, x0123 or 538-3069.

## Miscellaneous

Classic Royal typewriter, gun metal gray, good condition, manual, factory reconditioned, \$50. Call Brian, x5111 or 480-5194.

Brown chinchilla rabbit, breeder doe, top breed, \$40 for rabbit, cage and food bowls. Call Scott, x0123 or 538-3069.

Cabover camper shell, 8', new paneling and insulation, not self contained. Call Randy, x4521 or 482-4083.

Two BF Goodrich steel belted radials, TA-70, for vans, RVs, pickups, deep treads. Call 481-2336 after 5:30 p.m.

Classic hardcover editions of American Heritage, some go back to the 1960s, fill out your collection, \$3 each. Call Brian, x5111 or 480-5194.

First issue of Astronomy magazine through Aug. 1981, missing 5 issues. Call Chanis, x3958 or 331-4986.

Galvanized swing set, 2 swings, rings, bar and glider. Made by Outdoor Play Equipment. Call 488-6249.

Beautiful wedding dress, size 10, bought from Ethel's Bridal Shop, \$150. Call 333-6580 or 482-5021.

Smith & Wesson .38, Reg. Police, 4" bbl., good working condition, \$70; Savage .22 bolt action rifle, excellent condition, \$45. Call 488-3966.

Rolex replica watch, Cellini model with diamonds on face, quartz movement, \$250. Call Marty, 488-6915 or Glenn, x4861.

Springfield "03" military issue 30.06 rifle in mint condition, sporterized walnut stock with 3X Savage scope, leather mil sling, bolt action, 5 shot, Rock Island arsenal 1918 series, collectors item and hunter's special, \$475. Call Dave, x5111 or 480-0202.

Full size Brunswick Ambassador slate pool table and accessories, \$1,500; green and white print sofa, \$100 neg. Call Terry, x3321 or 486-8369 after 5 p.m.

Choose and cut your own real live Texas grown Christmas tree this year; 5 to 12 feet, \$20 to \$40. Call Jake, x2386 or 479-1898 after 6 p.m.

Used 14-inch 6-ply tires mounted on Toyota pickup wheels, \$15 for tire and wheel or \$65 for four. Call George Richeson, x3268.

Alpine skiing: Chamonix, France, six days, then Zermatt, Switzerland, also six day, and three days at Trianon Palace near Paris, Jan. 21-Feb. 4. Call Terry, x3321.

Baby carriage, English pram style, very good condition, \$50. Call 488-6521.

Diamond necklace, 3/4 carat, pear shaped; ladies diamond ring, 5/8 carat in gold setting. Call 333-5198 after 5 p.m.

Gold wedding set, diamond 1.5 carat, valued \$2,000, will sell entire set for \$1,500 or best offer. Call Laila, 439-1332 after 6 p.m.

Beautiful pine cone wreaths, 24", 37", 18", \$27.50. Call Pat, 488-0541 or Linda, 488-2893.

Exercise bike in excellent condition, low mileage, \$60. Call Ted White, x2068 or 474-2214 after 5 p.m.

Round trip air tickets on Continental to NYC, \$146; LA, \$100; San Francisco, \$178; Ft. Lauderdale, \$148; Tampa, \$148. Good on any flight til Dec. 11. Call Doris Wood, x5265 or 333-2373.

Beautiful multicolor parasail with harness and 300 ft. rope, never been used. Call Kay Elton, x4384 or 332-5709 after 5 p.m.

One large black light, mint condition, hardly used, new bulb, \$15. Call Scott,