

ROUNDUP

NASA LYNDON B. JOHNSON SPACE CENTER

HOUSTON, TEXAS

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Friday, February 4, 1977

Orbiter 101 takes first trip to DFRC

Enterprise rides 32 miles on 'Strongback' transporter

The real spaceship Enterprise made its first voyage Jan. 31, a trip of about 32 miles along desert highways from Plant 42 in Palmdale, Calif., to nearby Edwards AFB.

Orbiter Vehicle 101, named the Enterprise by former President Gerald Ford, will begin testing right away at Dryden Flight Research Center located at Edwards.

The overland trip took place without any major problems and thousands of interested citizens ignored freezing temperatures and lined public roads along the route to get a look at the big bird.

Only real slowdown during the 13-hour move occurred when a road sign which was supposed to be removable wouldn't budge. A road engineer produced a chain saw but couldn't get it started. Someone then tried to use an axe on the sign. Finally the saw was fired up and the sign removed.

The 53-foot-tall, 78-foot wide Orbiter was hauled along the route at speeds from 3-5 mph on a specially built transporter with 80 wheels. Combined weight of the

Orbiter and transporter was 220,000 pounds.

The trip began at 5 a.m., California time, when the commercial tractor-type tow vehicle began pulling its big load away from Plant 42. After traveling on plant property for about 1.4 miles, the Orbiter rolled out onto right-of-way owned by the Los Angeles County Road Department.

For 8.5 miles, the spacecraft was hauled along public roads.

In the early morning hours, hundreds of school children were brought out by their parents before class to view the Orbiter as it passed.

A busload of senior citizens from a convalescent home also braved the cold weather to see the new workhorse of the Space Shuttle. Crowds of people lined every intersection along the route.

For the last 22 miles of the trip, the Orbiter was transported on roads within the confines of Edwards AFB.

Upon arrival of the spacecraft

and its convoy at the boundary of the base, the Orbiter was received by former astronauts Maj. Gen. Tom Stafford, commander of the U.S. Flight Test Center at Edwards, and Dr. David Scott, director of DFRC.

During the next two weeks, the Orbiter is scheduled to undergo taxi

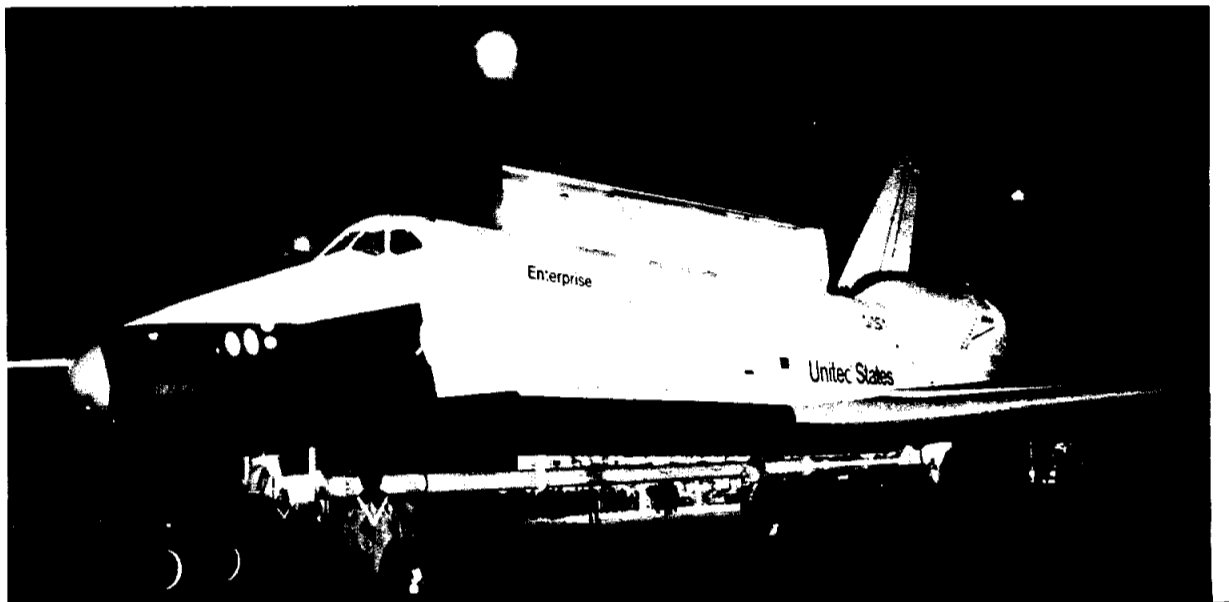
testing at Edwards and its first flight test, an unmanned captive test with the spacecraft attached to the top of a modified Boeing 747. A total of five unmanned flights are planned.

The first captive flight with a crew aboard the Enterprise is scheduled for May. In July, the manned

Orbiter will be freed from the 747 and glide to a landing at Edwards.

Fred W. Haise Jr., commander, and Lt. Col. Charles G. Fullerton, pilot, comprise the first crew for the Approach and Landing Tests.

Members of the second crew are Col. Joe H. Engle, commander, and Navy Commander Richard H. Truly, pilot.



Enterprise began its trip in the pre-dawn hours



The Orbiter rolls across California desert (Also see page 4)

NASA signs up first customers for Shuttle 'getaway' payloads

NASA has signed up the first four customers for small, self contained payloads for flight aboard Space Shuttles on a space available basis beginning in 1980.

The payloads, termed "getaway specials" by NASA's Associate Administrator for Space Flight John F. Yardley, weigh 90 kilograms (200 pounds) or less each, measure less than .15 cubic meters (five cubic feet) and are for research and development purposes and re-

quire no additional Space Shuttle services such as electrical power or deployment in space.

Cost of the service will be negotiated based on size and weight of the package but will not exceed \$10,000 in 1975 dollars. Minimum charge will be \$3,000 also in 1975 dollars.

Each of the four customers who have signed up for the "special" have deposited \$500 earnest money with NASA. This money will be

applied to the final cost of the service.

The four customers in order of signing are:

R. Gilbert Moore, a private citizen from Utah, who plans to place research equipment in this "getaway special." He has offered half of his payload to Utah State University which in turn will offer the space to selected high schools for students to submit proposals to fly

(Continued on page 2)

Black History Month Observance set here

Guest speakers, public school groups, and art and jewelry displays will highlight JSC's Feb. 17-18 observance of Black History Month.

U.S. Rep. Bob Gammage, NASA Federal Women's Program Coordinator Oeola Hall and Houston City Atty. Otis King will speak during the second day's program.

The theme, "Heritage Days: The Black Perspective," recalls such black American contributions as the development by botanist and chemist George Washington Carver of hundreds of products from peanuts and sweet potatoes.

It also reflects the works of inventor-draftman-engineer Lewis H. Latimer, including his patent drawing of the first telephone and his invention of the first incandescent light bulb with a carbon filament.

African-style jewelry, portraits and graphic art works will be exhibited both days at the Bldg. 2 auditorium. Performances of the Woodson Carter Junior High School modern dance group and the Forest Brook High School stage band are scheduled to begin at 11:30 a.m. Thursday, Feb. 17.

At 1 p.m. Friday, Feb. 18 the program will be opened by Henry Smith, chairman of JSC 1977 Black History Observance program committee.

Gammage will speak following the welcoming by Administration

and Program Support Director Philip Whitbeck.

After Hall's presentation, King will be the concluding speaker of the afternoon.

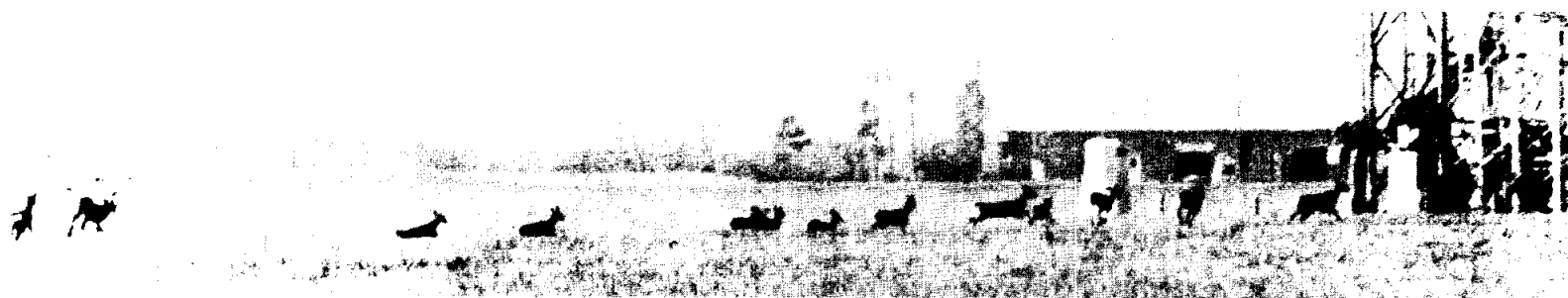
Other JSC and contractor employees on the program include Rhonda Alcorn, Joe Atkinson, Theodore Bossette, Herman Hines, Izella Mitchell, Shirley Price and Horace Williams.

All JSC and contractor employees have been invited.

In conjunction with the observance, the program committee will present two volumes to the Human Rights Collection at the Bldg. 45 Technical Library. They are *Roots* by Alex Haley and the *National Afro-American History Kit*.



Otis King



BAKER'S DOZEN — Employees who enter the site via the west gate have reported seeing large groups of deer there for several weeks. Photographer Pat Patnesky shot these 13 with a 300-mm lens one recent overcast morning. Antenna tower is on the right.

Whitbeck named to board

Philip Whitbeck, director of Administration and Program Support, has been named to the public affairs advisory board of the University of Houston Clear Lake City's School of Professional Studies.

Board members will act as liaisons between the school and the community by advising the dean and program directors, said Dr. Rosemary Pledger, dean of the School of Professional Studies.

"As practitioners in their fields they will be asked to provide information and recommendations concerning their area of expertise as it relates to future UHCLC programs in professional studies," Pledger said.

.....payloads

(Continued from page 1)

their own experiments.

Dr. L. R. Megill, chairman of the Space Science Experiment Committee at Utah State, personally will fund a \$3,000 payload as a follow-on to Moore's. He also plans to invite students to submit proposals.

Reiner Klett, a German consultant representing independent German researchers, has signed for two \$10,000 payloads. One of these will be for a space processing experiment and the other for a biological experiment.

Battelle Memorial Institute has purchased two \$10,000 payloads to be used in the field of materials science.

NASA also is seeking customers for larger payloads for Space Shuttle missions. The agency is negotiating with Comsat Corporation to fly three missions to place Intelsat V communications satellites in Earth orbit.

The Space Shuttle is capable of carrying payloads of up to 29,485 kg (65,000 lb.). Its payload bay measures 18.28 m (60 ft.) long and 4.57 m (15 ft.) in diameter.

Shuttle orbital flight tests begin in 1979 and operational flights begin in 1980. By 1984, the space agency expects to be conducting up to 60 Space Shuttle missions a year from launch sites at the Kennedy Space Center, Fla., and from Vandenberg Air Force Base, Calif.



CONGRESSIONAL BRIEFING — Three members of the House Committee on Science and Astronautics and their aides get a look inside the Skylab in Bldg. 5 as Astronaut Joseph Kerwin, right, briefs them on the project. Visiting JSC Jan. 15 were U.S. Reps. Manuel Lujan of New Mexico, left, Robert Gammage of Texas, second from left, and Carl Pursell of Michigan, second from right.

Credit Union slates vote, annual meeting

Candidate nominations will be accepted until Feb. 11 for three positions on the JSC Federal Credit Union board of directors and one vacancy on the Credit Committee.

A credit union member wishing to have his or her name placed on the ballot for the March 11 election should contact either J. D. Haptonstall, chairman, X-5449; Bill Bates, X-5841, or Joe Pirtle, X-2757.

The credit union's annual meeting is scheduled to begin in the Bldg. 2 auditorium at 7:30 p.m. March 11, coinciding with the closing of the poll.

Rec Center is seeking instructors

The Gilruth Recreation Center periodically needs to employ instructors, officials and umpires. Hours and pay vary. Anyone qualified and willing to work should contact Tim Kincaid at X-3594.

A partial list of the types of positions frequently available includes instructors for belly dancing, bridge, karate, dance, judo, square dancing, tennis, languages, photography, flower arranging, lawn and plant care, auto repair and oil painting. Also, officials for basketball, volleyball and softball.

Voting will be held at the credit union building from 8 a.m. to 2 p.m., when the poll will move to Bldg. 2 and reopen at 4 p.m. The poll will officially close when the annual meeting is called to order.

Vocational students set program

Industrial Cooperative and Office-Education Association student trainees of JSC will observe National Vocational Education Week with a two-day program Feb. 7-8.

At 11:30 a.m. Monday, Feb. 7, a Parents Day luncheon will be held at the Gilruth Recreation Center with Houston Independent School District's Jean Gaines as guest speaker. Gaines is program administrator for business and industrial coordination. Parents will be invited to visit student work stations.

On Tuesday, JSC will be visited by junior students from area high schools who are members of Office-Education Association chapters.

A vocational education display will be featured throughout the week in the Bldg. 2 lobby.

Donna Mays chosen Secretary of Month

Donna J. Mays, assistant branch secretary, Crew Systems Engineering Branch, Crew Systems Division, was chosen JSC Outstanding Secretary for January.

Mays was recommended for the award, which includes \$100 cash and a plaque, by her division chief, James V. Correale.

At the time of her nomination, Mays was serving as division secretary in the absence of the permanent division secretary.

"She has exhibited superior talents" and "has mastered and virtually taken full control of the division office operation in an exceptional manner," Correale said.

"Her initiative and self-assurance, with little or no outside assistance, has managed to permit the division to continue to function in an excellent uninterrupted manner," he said.

Correale said Mays had shown an ability to take on added duties many times in the past when she

was called upon to serve as a substitute secretary in every branch of the division.

"In view of the circumstances in which Mrs. Mays accepted the difficult assignment with little or no notice and the manner in which she performed, I recommend her for the secretary of the month award," Correale concluded.



Donna Mays

Civilian astronaut applicants exceed 1,200

The Astronaut Candidate Program Office reported Jan. 31 that 1,208 applications have been received for civilian astronaut pilot and mission specialist candidate positions. Of those applicants, 143 are women.

Of a total 12,066 applications and announcements mailed out by request, 214 went to JSC employees.

Civilian applications must be postmarked no later than June 30, 1977. For information, write the Astronaut Candidate Office, Code AHX.

WASHINGTON, D.C. — NASA's Marshall Space Flight Center, Huntsville, Ala., and Kennedy Space Center, Fla., are experimenting to determine the effects of salty and brackish water on materials being considered for use in the Space Shuttle. The Shuttle is a reusable launch vehicle being developed by NASA for use in the 1980s.

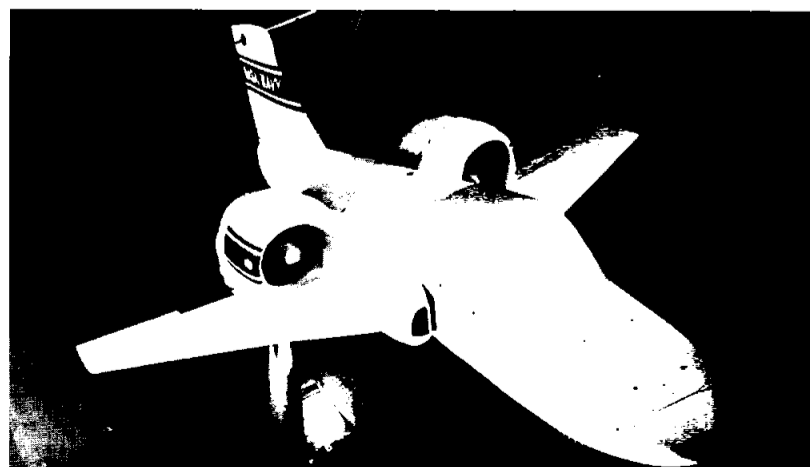
Transmitter interference bugs airplane hobbyists

Radio interference from outside transmitters recently has caused crashes resulting in significant financial loss to some members of the JSC Radio Control Airplane Club.

The Club, an EAA-sponsored organization is authorized to fly its planes on the antenna test range west of Bldg. 14 after 5 p.m. weekdays and from 8 a.m. to 5 p.m. Saturdays and Sundays.

Club members would like to hear from any other radio hobbyists operating within two miles of JSC on the federally approved frequencies 27, 53 or 72 MHz in order to work out a method of sharing and controlling frequency use to prevent interference.

Contact J. W. Smith, X-4564; John Kiker, X-2076, or Tim Brown, X-4771.



NEW V/STOL DESIGN — This large scale model of a lift/cruise fan V/STOL aircraft sits in the wind tunnel where it was tested at Ames Research Center as a cooperative NASA-Navy project. Object is to design, build and flight test a craft using lift/cruise fan propulsion for vertical and short take-off and landing.

ROUNDUP

NASA LYNDON B. JOHNSON SPACE CENTER

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Editor: Richard Finegan

Photographer: A. "Pat" Patnesky

EAA ATTRACTIONS

TICKETS

The following tickets are available at the Bldg. 11 Exchange Store from 10 a.m.-2 p.m., Monday - Friday:

Houston Aeros - EAA discount gift coupons may be exchanged at the Summit box office for "live" tickets on the night of the game. A \$6.50 coupon gets you an \$8 ticket, \$5.50 gets a \$7.50 ticket and \$4 gets a \$5 ticket. Aeros play

Birmingham, Feb. 4; Quebec, Feb. 12; New England, Feb. 15, and San Diego, Feb. 18.

ABC Interstate Theaters - \$1.50 admission tickets.

Dean Goss Dinner Theater - Comedy production, *The Babysitter*, \$16/couple. Tickets available every night except Monday, Saturday.

Disney Magic Kingdom Club - Free membership cards. Also available is Disneyland passport, good

any day through May, which allows unlimited use of all Disneyland attractions. Adults, \$7.50; juniors, \$7; children, \$6.

Sea-Arama Marineworld - Tickets on sale, \$3.75 for adults, \$2.50 for children. Open until dusk year-round.

Marietta's Dinner Theater - Royal Coach Inn, Southwest Freeway. Tickets \$8/person any week night. Call Ms. Royal, 621-5957, tell her you're from JSC. Get ticket and pay at theater on night of play.

Tickets are available through Feb. 14 for \$8/person at the Bldg. 11 Exchange Store. Price covers admission, barbecue dinner and drinks.

For information, call Tom Gallagher, X-2657; Chuck LaPinta, X-4211, or Dot Newberry, X-3383.

BASKETBALL

The second 1977 basketball season begins the week of Feb. 28. It is un-subsidized so all teams will pay the full \$80 entry fee. Captains must turn in rosters and fees between Feb. 9-18. Blank roster forms are available at the gym. Leagues will again be divided in A, B & C divisions.

LIKE TO TRAVEL?

The Aerospace Employees Cultural Club is planning an active year - everything from weekend trips to a 23-day European tour in the spring. Also available is a singles-only Caribbean cruise and a week-long trip to the Bahamas.

Gilruth Center offers varied class schedule

The Gilruth Recreation Center offers a variety of classes throughout the year in subjects of special interest to JSC or contractor employees.

Each class is taught by a qualified instructor employed by the center or the sponsoring club.

Currently scheduled classes, registration dates, costs and other information are provided below. Unless otherwise indicated, all registration locations are at the Gilruth Center.

Fees must be paid at the time of registration. Classes not filled to a minimum level will be cancelled and monies refunded. For additional information, contact the Recreation Center, X-3594.

EXERCISE SEMINAR

Sign up Feb. 21-28, nominal cost to be announced, 1-1/2 hrs, meet in Rm. 206, 8-9:30 p.m. Joggers, March 8; general exercisers, March 10, beginners, March 15.

FIRST AID

Sign up Feb. 21-March 1, no charge for 20 hrs beginning March 7. Rm. 209, Mon & Weds, 7:15-9:45. Red Cross book required, \$1.95.

RESUSCITATION

Sign up March 23-April 1, no charge for 6 hrs. Meet Rm. 206, April 19 & 21, 6:45-9:45 p.m.

KARATE CLUB

Sign up anytime, \$10/mo, 3 hrs/wk. Meet Mon & Weds, 5:30-7 p.m. Kung Fu, contact Ralph Culbertson, X-3511, meet Rm. 204. Tae Kwon Do, contact Lynn York, X-3821, meet Rm. 206.

TENNIS LESSONS

Sign up March 21-28, \$30 for 8 hrs. Beginners & intermediates, times to be announced later.

YOGA EXERCISE, RELAXATION

Sign up March 30-April 11, \$17.50 for 4 hrs, Tues beginning April 19, 4:45-5:45 p.m., Rm. 206.

HOUSTON RODEO

The EAA has acquired a large block of tickets to four performances of the 1977 Houston Livestock Show and Rodeo.

All tickets are \$5.50 each. Headlining performers and dates are: Mac Davis, Feb. 26; Mel Tillis, March 1; the Osmonds, March 5; and Charlie Pride, March 6 (matinee).

SCUBA DIVING COURSE

The JSC Lunafins are offering a basic SCUBA diving course to begin about the first week in March. Two classes will be held per week for about 7 weeks. Cost is \$50-60, depending on pool arrangements.

Students who successfully complete the course will be certified by NAUI as qualified SCUBA divers. For information, call Mike Slack, X-4393.

If you are interested in the course but want to sharpen your swimming skills, you may attend the club swim sessions at 7:30 p.m. Mondays at Clear Creek Pool.

COUNTRY FUN

The EAA's third annual Country Western Dance will be held at the Gilruth Recreation Center Feb. 19 with music by the Albatross.

1	2	3	4	5	6	7	8
9				10			
11				12			
			13				
14	15	16			17	18	19
20				21			
22				23			

JSC Crossword

(See answers, page 4)

ACROSS

- A fraud
- Layer
- Viking search goal
- Movie "___ La Douce"
- One of 73
- Military intelligence branch (acronym)
- Controller
- Dr. Frankenstein's assistant
- Ancient people of Southern Asia Minor
- Fuselage
- Device to simulate gravity on lower body (acronym)

DOWN

- Secondary Landing Area (acronym)
- Not hers
- Near the tail
- Original 7 were chosen for it
- DSAD director
- Irish militant group
- Spacesuit
- Rodent
- Texas "tea"
- Curved bone
- The self
- Diety
- Wide, low vessel
- Possess
- Tear

BELLY DANCING

Sign up Feb. 22-28, \$30 for 10 hrs, Rm. 204 Mon & Weds beginning March 7. Beginners meet 5:45-6:45 p.m., intermediates 4:45-5:45 p.m.

DANCE CLUB

Sign up with Bill Simon, X-4027, \$37/couple for 15 hrs over 10 wks beginning about April 6. Meet Weds, 6:45-9:45 in Rms. 204 & 206.

CARS & TRUCKS

70 Ford Sta Wgn. Runs xint, air, radio, a little body rust. \$300. Grace, X-5427.

71 Pontiac Catalina Sta Wgn. Pwr, air, 400 cid. \$950. Donahoo, 925-2139 evngs.

67 Ford F100 PU. 3-spd w/overdrive, air. \$925. Donahoo, 925-2139 evngs.

69 Chevy Caprice. 4-dr, 350 cid, air, pwr, auto, radio, vinyl top. \$900. Orsag, X-3905 or 482-1501 after 6.

76 Corvette. 10k mi, loaded. \$8,500. Hayes, 488-1446.

72 Plym Fury. 4-dr, AM/FM, pwr, air, xint cond. \$1,250. Grace, X-5427.

74 Honda Civic Hatchback. Auto, air, xint cond. \$1,695. Bullock, X-3681 or 488-1042.

61 Austin Healey 3000. As is, make offer. Vincze, 344-1110 or X-3445.

71 Pontiac Grand Prix. Air, radio, vinyl top, very good cond. Taylor, X-3676 or 534-4142.

65 Ford Mustang. 6-cyl, manual. \$500. 474-2974 after 5.

70 Chevy Kingswood Estate Wgn. Air, auto, pwr, good cond. Haines, X-5161 or 488-4079.

72 Pontiac LeMans Sport. 2-dr hdtop, bukts, console, air, pwr str, loaded, xint cond. Dk brown w/beige vinyl top. Sam, X-2553.

CYCLES

71 Honda CB450. Side/cntr lugg compts, crash bar, helmet, fairing, wndshld. \$500 or best offer. Wells, X-5293 or 554-2871.

20-inch boys bike. Mech good, needs paint & chain guard. \$12.50. Killingsworth, X-3286 or 488-1689.

BOATS

16-ft Larson ski boat. 1975 Johnson 85, trailer, many xtras. Moving, must sell. 488-4393.

Swap Shop advertising is open to JSC federal and on-site contractor employees. Goods or services must be offered as advertised, without regard to race, religion, sex or national origin. Non-commercial personal ads should be 20 words or less, and include home telephone number. Typed or scribbled ad copy must be received by AP3/Roundup by Thursday of the week prior to publication.

PROPERTY & RENTALS

13 acres beautifully wooded. 26 mi NE of Houston, creek frontage & road frontage. By owner, terms available. Klotz, 488-1514.

Lot for sale on Lake Travis near Austin. Taylor, X-5341 or 473-5125.

Prime commercial tract, 9.6 acres, 530-ft frontage on access road connecting w/NASA Rd 1 between Webster & JSC. Asking \$288,000. 334-2360 or 334-2108.

Investment property at Lake Livingston. Owner must sell at buyer's terms. 488-6380 after 5.

Lakeway lot near airport, golf course, World of Tennis. Trees, utils, owner financed. \$9,824. 333-3382 after 5.

STEREOS

Stereo cassette deck. Panasonic model 277US. Auto reverse, top load, w/Dolby & chrome tape switch capability. \$99. Gilnes, X-3511 or 861-5278.

Philco Ford AM/FM stereo turntable w/2 spkrs, cost \$200, sell \$100. Panasonic cassette tape player/recorder, cost \$170, sell \$100. Panasonic AM/FM stereo receiver, 8-tr tape player/recorder w/2 spkrs, cost \$250, sell \$150. Press board stereo stand, 14X30X60", cost \$50, sell \$25. Matties, 944-9605.

HOUSEHOLD ARTICLES

2 dryer vent kits. \$3 ea. Ed, X-3278 or 554-7185 after 6.

Folding poker table w/recesses for chips, ashtrays, glasses and vinyl top, walnut finish, 8-sided w/separate flat top for dining, etc. \$25. Also convection-type fireplace grating, 23-in high, uses

natural airflow to increase heat efficiency of fireplace, like new, \$20. Plauche, X-6491 or 474-2660.

Full-size Hollywood bed. \$75. Zill, X-2457.

Portable apt-size Hoover washer & dryer. Good cond. \$175 for both. Mary Lee, X-5384 or 538-1648 after 5.

Frigidaire washer & dryer, white, dryer in xint cond, washer good cond. \$200. 333-3349.

Metal Hollywood bed frame adj twin or full size. \$10. Odenwalder, X-3977 or 534-2702.

MISCELLANEOUS

AKC Doberman pups. Bred for confirmation & temperament. Debbie, 488-7070 X-17.

1956 Les Paul Model Gibson guitar. Good cond. First \$400 takes it. Taylor, X-5341 or 473-5125, 2610 Rosemead, Pasadena.

Self-propelled lawnmower, B&S eng, grass bag, runs, fair cond, \$17.50. Trailer hitch fits Ford/Merc sta wgn (& pass car I think) 1969 up. Killingsworth, X-3286 or 488-1689.

New Seiberling radial tires. 334-5232 after 5.

Ruger MK-I .22 target pistol. 5 in bull bbl, target grips, spare clip, xint. \$75. 488-3966.

VW front end w/brake drums, \$15. Mud & snow tires, \$7 ea. Reg tires, \$5 ea. Wells, X-5293 or 554-2871.

Mint US stamp collection valued at \$2,100 incl plates, zips, singles & stationery. Jeff, X-6355 or 482-5393.

Family membshp in Bay Area Racquet Club. \$100 below cost. Hayes, 488-1446.

4 church bonds. 7.5% yield, maturing 78483, \$500 denominations, local

church. Klotz, 488-1514.

Philco push-button radio for Ford Pinto, compl w/spkr. Ed, X-3278 or 554-7185 after 6.

Heavily decorated sword in holder w/ivory handle, quite old, believed to be lodge symbol of Knights of C. Also, collection old hardback childrens books, Bobbey Twins, Bunny Brown, Honey Bunch, \$2 ea. 488-5564.

74 Chevy Service Manual & Fisher Body Service Manual \$10 pr. Lake, X-3286 or 523-2137.

12 qts Pennzoil 10W-30 motor oil. 50 cents ea. Kosel, X-6421 or 534-6098.

New ski pants, womens size 10, 12, 14, \$10 ea. 5 pr sport goggles, clear & green lenses, \$3.50 ea. Pace, X-3278 or 337-1436.

WANTED

Part of garage to rent for storage of car. Nassau Bay area preferred. Larry, X-2646 or 333-2640.

2-horse OMC outboard in good cond. Dennett, X-3441 or 334-2798.

Person to join existing carpool from SW Houston. Kamen, X-5954 or 771-9847 after 6.

Need ride or riders for carpool from bay area (Lg Cty) to Med Cntr area (St Lukes), 7:30-4. Margaret, 521-4288 or 554-2871.

67-70 1/2-ton long bed pickup, std trans, expect reasonable mileage or price. Ed, X-3278 or 554-7185 after 6.

Contemp home in Brook Forest. Single living area w/3 or 4 bdrms. 488-6380 after 5.

Firefighters needed. Men & women residents of CLC to join CLC Vol. Fire Dept. You will be trained & equipped. 488-0023 anytime.

LOST & FOUND

Lost at JSC: Hand calculator, Texas Instruments model SR50. Rocha, X-4393.

LATE ENTRIES

73 Toyota Land Cruiser. Xint cond, 6 cyl, 4 WD, 8000 lb winch, locking hubs, tape player. \$3,500. Doug, X-5557 or 534-2226.

67 Buick Electra. Loaded, maintained in top cond. \$850. 482-7643.

73 Honda 750-Four. 6K mi, 1 owner, Harley back tire, 6" tube ext, xint cond. \$1,500. Bristow, 332-4076.

15' boat, trailer, motor (needs new batt), older but very useable. \$350. 944-0917 after 5.

For rent: Lake Livingston, Cape Royale, compl furn attractive retirement home, 3-2-1. Wk/mo/yr rates. 488-4487.

For sale: Lake Livingston, wooded waterview choice lot at Cape Royale. Enjoy fishing, hunting, tennis, golf, etc. Ideal homesite or investment. 488-4487.

Baby bed, \$20. Walker, \$3. Bassinette, \$5. Hamper, \$5. Patsy, X-4331.

75 Datsun 280Z. Metallic blue, 4-spd stick, fuel inj, air, AM/FM, mag whls. \$5,500. 487-2637 after 5.

73 Toyota Carina. Auto, air, radio, good cond, 60K mi. \$1,500. 488-3170 or 488-3377 after 5.

2 Acoustic Research-17 speakers. \$80 pr. Lake, X-3286 or 523-2137.

74 Broughm motorhome. 24-ft, sleeps 8, 3 air, 5 KW, low miles. 333-2182.

LOST: Gold Seiko ladies wrist watch. Sentimental value. Ruth Elder, X-3743.

DC timing light. Radio Shack, Xenon bulb. \$14.95. Doug, X-3561 or 538-2367.

UH area home for sale, University Oaks. 3 bdrm, 1-1/2 bath, 2-1/2 car garage. Paneled study, cent air/ht, bit-in appl, carpet, drapes, wooded lot. Thibodeau, 474-5638 after 5.

Roundup Swap Shop

It was a big year for U.S.-Canadian CTS

U.S. and Canadian college students learning together although thousands of miles apart. Emergency communications from areas around the world where no other communications systems exist. Video teleconferencing to cut down on travel expenses.

These are just some of the experiments being conducted through the world's most powerful communications satellite, the Communications Technology Satellite (CTS).

A joint program between the United States and Canadian governments, CTS was launched one year ago from Cape Canaveral, Fla. It's

the first satellite to broadcast in a new frequency band at power levels 10-20 times higher than those of other satellites. This higher power makes it possible to use smaller and far less expensive ground receiving equipment.

NASA's Lewis Research Center in Cleveland, Ohio, is responsible for the U.S. portion of the CTS program. This included developing the high-powered transmitting tube which gives the satellite its high broadcast capability, environmental testing of the spacecraft, and providing the launch vehicle and launch services.

Lewis also has management re-

sponsibility for all of the U.S. experiments conducted via CTS.

Spacecraft time is shared equally by the United States and Canada and a wide variety of communications experiments are underway by both countries.

U.S. experiments are grouped into three categories: public service, industrial-commercial applications, and technology. The public service experiments include: telemedicine, tele-education, emergency communications, library networking and public broadcast networking. Experimenters range from the Atlantic to the Pacific.

Some of the long-term experi-

ments include: a curriculum sharing program where engineering classes and seminars are televised between Stanford University in California and Carleton University in Ottawa; a health communications experiment enabling the Veterans Administration to broadcast to 30 VA hospitals in the Western U.S., and a satellite library information network which supplies informational needs to the Rocky Mountain region. Twelve of the 21 long term experiments began in 1976; others began in 1977.

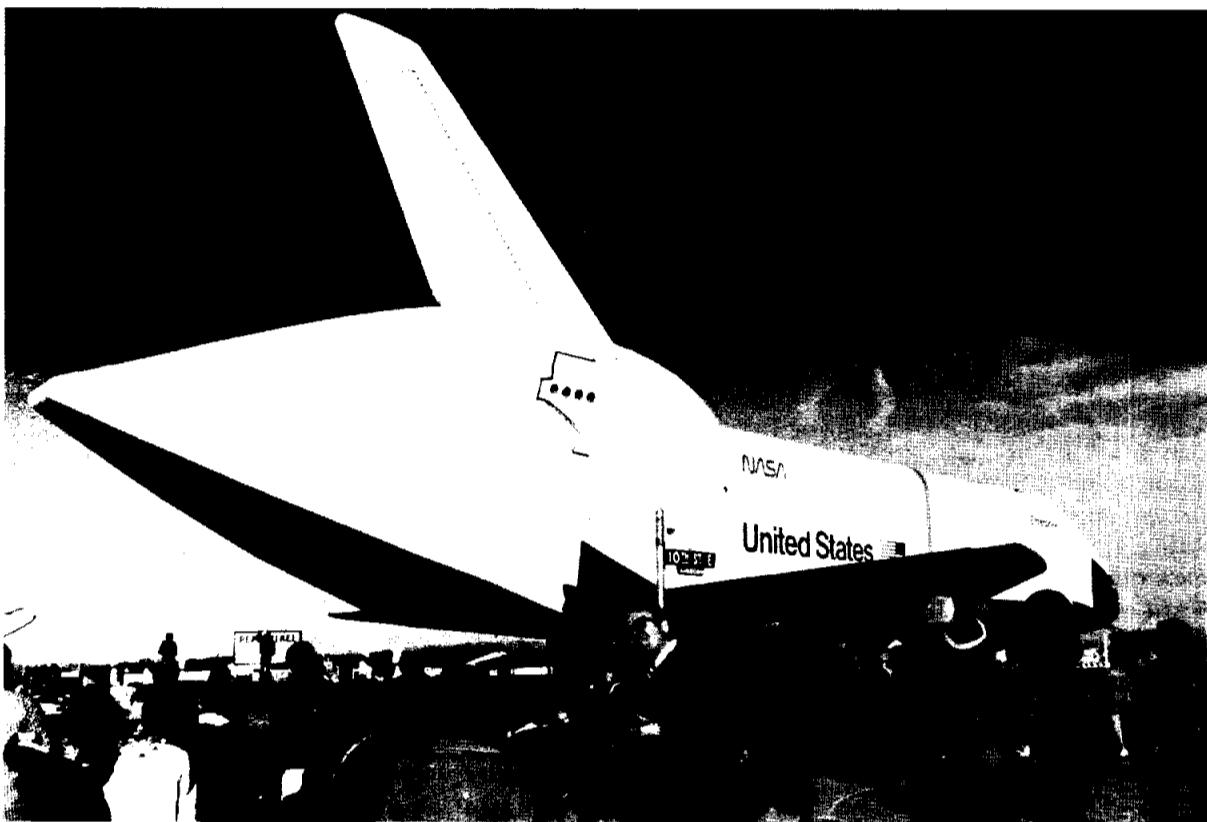
Fifteen mini-experiments were also conducted in 1976 to give greater visibility to this new communication tool.

Included in the mini-experiments were: the first live color teleconference to reach an audience in Barrow, Alaska (from Ohio); a simulated disaster at the George Washington National Forest in Virginia to show the feasibility of providing communications from a remote site

during emergency operations, and participation in NBC's Glorious Fourth Celebration from Yellowstone Park, Wyo.

The Lewis Center has built a Transportable Earth Terminal which includes an antenna mounted on a small trailer. This system has been used for live broadcasts via CTS from Lewis to numerous locations, including the Museum of Science and Industry in Chicago; Kalamazoo, Mich., and Rockford and Peconica, Ill.

A television conference room at Lewis is used for conferences between NASA's Goddard Space Flight Center in Maryland, Ames Research Center in California, the Canadian Research Centre in Ottawa and other CTS experimenters. A recent CTS Users Meeting was conducted as a teleconference with some of the participants located in Cleveland and others in a conference room at Baltimore, Md.



Thousands came out to get a look at the spacecraft (Also see page 1)

UHCLC foreign policy study seeks citizens' participation

Area citizens are being given a chance to study and possibly influence national foreign policy decisions through the University of Houston at Clear Lake City's participation in Great Decisions 1977.

Great Decisions is a nonpartisan study program sponsored by the Foreign Policy Association providing citizens an opportunity to discuss vital foreign affairs issues and express their opinions on a nationwide ballot.

Beginning Feb. 7 and each Mon-

day night throughout the eight-week program, UHCLC will present

a speaker on that week's topic. Smaller neighborhood study groups will be organized where there is sufficient interest to continue the discussion on another night.

Only cost for participation in the programs is \$4 for a text relating to the lectures, according to Area Coordinator Earle Young of JSC's Institutional Resources Division.

Citizen-participants can study the text, hear and question the lecturer, and discuss the topic in the small group before forming an opinion and expressing it on the ballot, Young said.

The Foreign Policy Association will tabulate the voting in April and present results of the national poll to U.S. Senate and House foreign affairs committees and to the State Department and other members of the Executive Branch.

Lectures will be held at 7:45 p.m. Mondays in the Community Room of the Arbor Building at UHCLC.

Dates, lecture topics and speakers are as follows:

Feb. 7 - "The Spread of Deadly Weapons: Can Proliferation be

Checked?" by Dr. Roger Bilstein, UHCLC history professor.

Feb. 14 - "Southern Africa: End of White Supremacy?" by Donald Morris, Houston Post columnist.

Feb. 21 - "The Middle East Caldron: After Lebanon What?" by a State Department speaker to be announced.

March 7 - "U.S.-Soviet Relations: Whatever Happened to Detente?" by Robert Barry of the State Department.

March 14 - "China and the U.S.: Where Should We Go From Here?" by Charles Freeman, China specialist.

March 17 - "Food and Population" by Michael Rees, UHCLC anthropology professor.

March 28 - "Panama and Cuba: What Choices for the U.S.?" by Dr. Phillip B. Taylor, director of Latin American Studies, UH Central Campus.

The first neighborhood follow-up meeting will be held on Thursday nights, beginning Feb. 10, at the home of Terry Sherwin, 1442 Pirates Cove Drive.

For further information about Great Decisions 1977, contact Young at 333-5494 or X-5215.

Library opens section of human rights books

Ribbon-cutting ceremonies were held recently at the Bldg. 45 Technical Library opening its Human Rights Collection of books relating to minorities and women.

Center Director Dr. Christopher C. Kraft Jr., Technical Library Branch Chief Al Bradley and Equal Opportunity Program Chief Joe Atkinson were among those present for the brief ceremony.

Kraft authorized the library staff to begin selecting books for the collection during last year's Black History Week observance.

The collection includes about 200 titles at present, Bradley said. It is expected to contain 454 volumes when completed.

Of the books included, 256 will relate to blacks, 92 to Mexican-Americans, 91 to women and 15 to American Indians.

Titles were selected primarily from a bibliography prepared at Texas Southern University, Bradley said.

Controller to speak to ASPA

Houston City Controller Leonel J. Castillo will address the Houston Chapter of the American Society for Public Administration Wednesday, Feb. 9, in Almeda Square's Steak and Ale Restaurant, 12250 Gulf Fwy.

Following the 7 p.m. dinner, Castillo will discuss administrative problems facing Houston's city government.

A complete steak dinner will be served. Regular menu price is \$7.65. With a discount coupon provided by the chapter, the dinner may be purchased for \$6.65 per person, including tax and tip.

Anyone interested in reservations, discount coupons or additional information may call Jack Stanley at X-3725 before noon Monday, Feb. 7.

AIAA meet on energy set Feb. 16

America's energy research, development and demonstration opportunities will be discussed at the Feb. 16 meeting of the Houston chapter, American Institute of Aeronautics and Astronautics.

Dr. Michael I. Yarymovych, assistant administrator for field operations of the Energy Research and Development Administration will speak at 8 p.m. at the Gilruth Recreation Center.

He will discuss conservation technologies, as well as fossil, solar, geothermal, nuclear and advanced energy options.

Prior to Yarymovych's presentation, a social hour begins at 6 p.m. followed by dinner. The cost of cocktails and dinner is \$5.50.

Anyone interested in attending can make reservations by calling Lillian Hudson at X-4991 before Feb. 14.

JSCrossword answers

(See puzzle, page 3)

P	N	B	L		Y	D	O	B
I	M	U	L		R	O	R	I
R	O	T	A	L	U	G	E	R
			D	I	C			
T	U	N	A	N	O	S	T	A
A	M	A	I	R	E	I	F	L
R	E	I	T	M	A	H	S	

Blood drive set Feb. 17

The first JSC Blood Drive of 1977 is scheduled for Thursday, Feb. 17, at the Gilruth Recreation Center.

If eight weeks have passed since you last gave blood, you may give again. Both government and contractor employees are eligible.

For an appointment, call Bob Jones, X-3271, or Paula Hagan, X-3728. Please do not call Helon Crawford. She is on extended leave.