

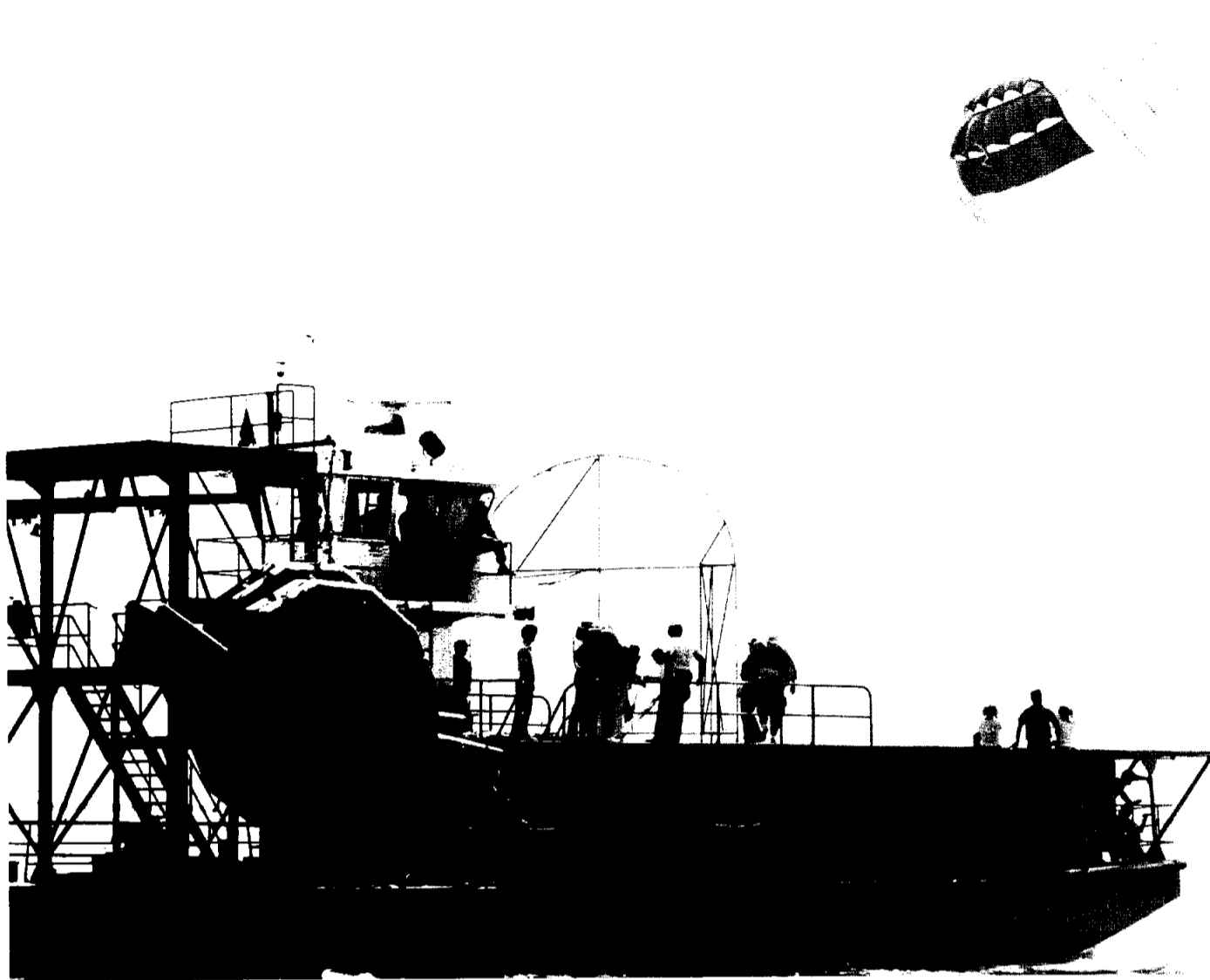
ROUNDUP

Lyndon B. Johnson
Space Center

NASA

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THE NEWEST GROUP of astronaut candidates had their ups and downs during a recent water survival training exercise at Homestead Air Force Base in Florida. Eight of the candidates, including the two European Space Agency mission specialists, went through classroom sessions, parachute training, and water survival during a three-day program at the USAF Water Survival School which is operated by the 3613th Combat Crew Training Squadron. The classroom sessions included lectures on survival techniques, parachute harness operation, and jump training. The finale for the candidates came when they were plucked from the deck launch boat. Wearing a parasail-like chute, the candidates were towed into the air 500 to 600 feet and released. They floated into sparkling Biscayne Bay where they inflated their single-man liferafts and then awaited rescue by pick-up boats.

TV from space

What the crew sees, the camera sends in technique to be used during EVAs

NASA television engineers at JSC are modifying an Air Force television camera for live, real-time TV transmission by crewmembers taking spacewalks outside the Space Shuttle orbiter.

Like a third eye or miner's light mounted on his forehead, the camera is positioned in the astronaut's extravehicular visor assembly. It protrudes from the visor, seeing what he sees, and transmits black and white scenes back to a TV monitor for a crewmember in the spacecraft. Also, it may transmit live back to Earth, or record onboard for later replay.

What the astronaut sees, the TV camera transmits.

He may be inspecting the glass-tile heatshield or choose to view the latches, doors, or payloads.

The camera system allows the crewmember inside to view the hardware and spacewalk activity while it happens, so the two can make joint decisions on repairs.

Three TV camera systems are being purchased: one for flight, a second for training, and a third for testing, qualification, and future use.

The camera system includes a battery pack, FM transmitter, antenna, and receiver in the orbiter, and other supporting hardware.

Cost of the three complete TV-camera systems including integration, testing, and mission planning is estimated at \$750,000.

"This program will mark initial

use of a solid state image sensor instead of vacuum tube," said Bernard C. Embry, Jr., subsystem manager for the Extravehicular Mobility Unit television in the Television Systems Section in Building 44.

Here is how the Space Shuttle orbiter space television system works:

An astronaut dons his pressure suit, officially termed the Extravehicular Mobility Unit (EMU), and backpack with a portable life support system (PLSS), capable of supplying seven hours of oxygen.

He then enters the payload bay through an airlock, where he hooks up to the Manned Maneuvering Unit (MMU) and moves laterally to the work platform. Powered by jets of nitrogen gas, the crewmember taxis the station to inspect and photograph the orbiter.

The camera's wide angle lens provides a 19.7 mm focal length with a 32 degree horizontal field-of-view. The lens range will be preset to keep the scenes in focus from about 15 inches to whatever distance is required.

From the Administrator

'We know that is a tight schedule'

(From a Special Announcement dated August 18, 1980.)

"There is a time in a major national program to join together in a concerted drive for the finish. This time has come. Not one of us believes that we have set an easy course. But not one of us can identify any single aspect of the Shuttle which, from what we know today, is 'not achievable.'

"Meeting these milestones will require exceptional dedication to the task to be done; exceptional judgment in refraining from doing those things which are not required to be done; and excep-

tional leadership to provide the opportunity for each of us to contribute his or her full share to that task.

"We have baselined the remaining TPS and other necessary work on the orbiter and concluded that it can be completed in time for Columbia's rollout from the Orbiter Processing Facility at KSC on or before November 23, 1980.

"We have adopted a 15-week work schedule for activities necessary from OPF rollout to launch.

"We intend to launch by the end of March 1981, although we recognize that this is a tight

NASA selects MDTSCO

NASA has selected McDonnell Douglas Technical Services Co., Inc. (MDTSCO), Houston, for negotiations leading to the award of a cost-plus-award-fee contract for performance of Space Transportation Systems Engineering and Operations Support.

The contract will be under the management and technical direction of Johnson Space Center. Lockheed Engineering and Management Services, Houston, also submitted a proposal for the work.

The contract will be for technical and analytical support in the areas of engineering systems analysis, flight design, flight operations, and management systems support.

The period of performance of this effort will be from October 1980 through September 1986,

and will be divided into three equal contract increments. The contractor's estimated cost for the first two-year increment plus a firm two-year option is approximately \$25 million.

2 firms to study satellite ops in orbit

JSC has awarded contracts to two aerospace firms to study and analyze the concept of a Satellite Services System for use during Space Shuttle operational flights.

The study will define a comprehensive program for servicing, repairing, or returning to Earth satellites already in orbit. These capabilities will enable the satellite users to increase the efficiency of satellite operations and reduce the cost of doing business in space.

Grumman Aerospace, Bethpage, New York, and Lockheed Missiles & Space Co., Inc., Sunnyvale, California, will conduct the nine month two-part study at a total cost of \$327,508.

Part I of the study will define potential users and the type of satellites and functions to be considered in the design of the system. Specific servicing functions, required equipment, operations, costs, and schedules are also in Part I.

Using the results of the first part of the study, Part II will define new equipment needed and how exist-

schedule.

"Although we have not reassessed the requirements for the total flight test program, we expect that the planned 18-month OFT program will lead to an initial operational capability in September 1982.

"Chris Kraft, Bill Lucas, Dick Smith, John Yardley, Al Lovelace, and I pledge our best efforts to this task. We urge you to join us in moving forward toward this worthy goal."

—Robert A. Frosch
Administrator

Continued on Page 2

Cookin' in the cafeteria

Week of September 8 - 12

Week of September 15 - 19

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; Lasagne w/Meat; 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.

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 w/Onions; Shrimp Creole; Smothered Steak w/Dressing (Special); Corn, Cabbage; Rice; 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; Brussel Sprouts; Cream Style Corn.

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

Some Cajun safety stories... Humorist speaks to reps at JSC

"Hi y'all are," said Justin Wilson opening his speech to the bi-monthly meeting of safety representatives at JSC last month in Building 30 Auditorium.

Wilson is a Cajun humorist who started out as a safety engineer in the forties. He found that through funny stories he could get the safety message across and began a career touring installations such as JSC giving speeches on safety seasoned with Cajun spice and humor.

Such as: "My old grandmother was 87 years old in 1969 when I visited her and told her, 'these men, my friends, are going to fly to the Moon.' 'Well,' she said, 'I just hope to God that Moon is full when they try to land.'"

One humorous story followed another throughout the hour-long talk, and most of them have just a touch too much Cajun spice to be printed on these official NASA pages. But as the room filled with laughter, some basic truths about

on-the-job safety and how to enforce safety rules came across to the representatives.

They are messages that should be delivered to all JSC employees.

"Rules and regulations don't prevent accidents," Wilson said. "Safety is self preservation governed by two tenets: Love thy neighbor and Think."

He advised the safety reps, "Be positive. The secret is not to tell people, 'Don't do this and don't do that.'"

"The secret of any safety program is the interest of supervisory personnel and coworkers," he said and added, "Training and retraining - it's a constant thing."

Wilson said, "I've yet to find one job where an accident is part of it. When an accident occurs something was done wrong. That's why I believe in training."

Then he made an important point of which every JSC employee should be aware: "Safety is an emotional thing. Safety is a very personal thing."

"Supervisors should check to see if a person is under emotional strain," Wilson said. "If a person is angry on the job his emotions take over and he forgets safety training."

Then speaking for the representatives, he said, "Training is actually selling: you've got to sell safety."

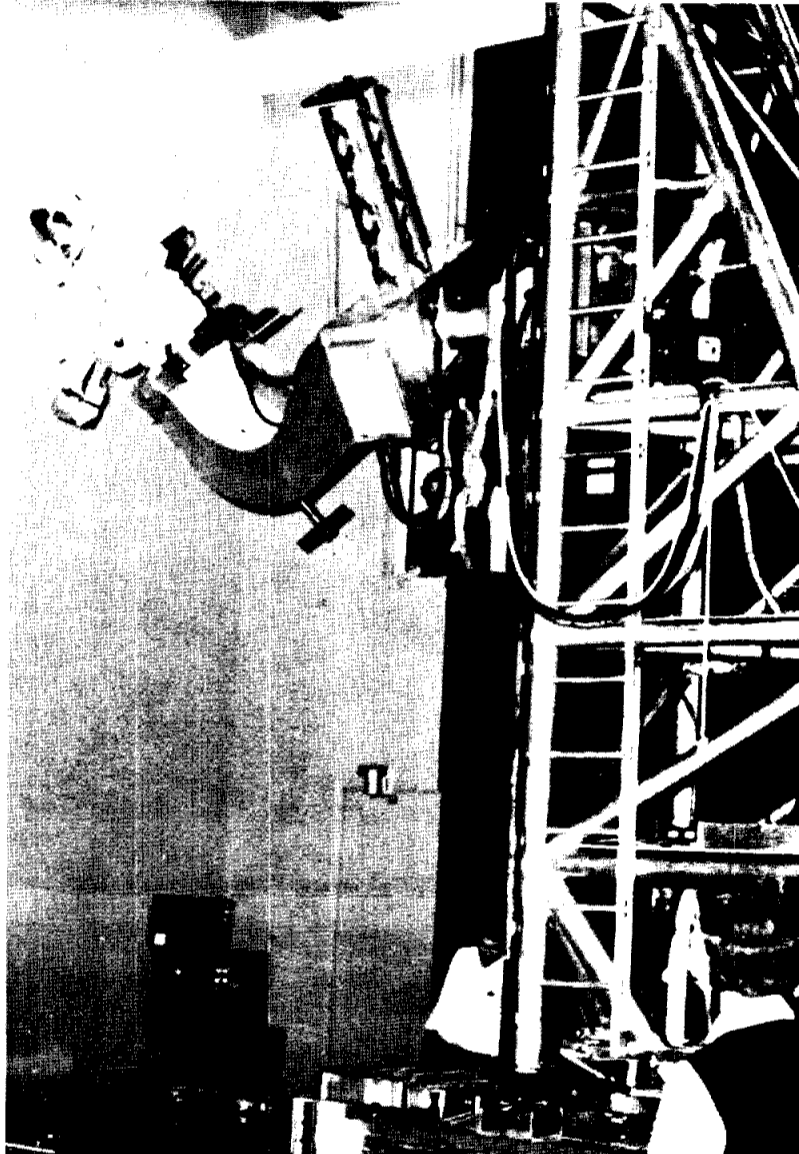
"Most accidents are caused by human act, so you need a constant process of selling."

"And you must maintain a sense of humor," he said and went off into more Cajun stories that cannot be printed here.

He closed his speech with straight advice: "Your pitch as a safety rep is simple: 'I value your life.'"

"Bon chance," he said, "au revoir," and Astronaut Deke Slayton presented him with a Snoopy pin.

Safety representatives serve collateral duty from different divisions around the center. They hold a Safety Representatives' meeting every two months.



THE MANNED MANEUVERING UNIT training simulator allows astronauts to "fly" missions against a full-scale mockup of a portion of the orbiter. Above, a suited test subject uses a simulator at Martin Marietta's space center near Denver to develop flight techniques for a backup propulsion unit which will be used during Space Shuttle flights.

Report fraud and abuse

You don't have to take it anymore.

The NASA Office of Inspector General recently instituted a toll-free "hotline" telephone number to report fraud, waste, abuse, and/or mismanagement at NASA. The caller can remain anonymous and the information provided remains confidential.

The "hotline" number is 1-800-424-9183.

The office of Inspector General was created by Public Law 95-452, "The Inspector General Act of 1978," to investigate allegations of the following: criminal violations, fraud, mismanagement, and gross waste of funds; improper and unethical conduct; and prohibited personnel practices beyond the scope of established appeal and grievance avenues.

Essentially, the NASA Office of Inspector General is an independent body, and the Inspector General reports directly to the Administrator of NASA, Dr. Robert Frosch. The Inspector General has the authority to make recommendations to the Administrator which would enable NASA to operate

more efficiently and economically.

To have a successful program against fraud and waste, the Inspector General needs the assistance of NASA Civil Service employees and NASA contractor personnel in identifying problem areas.

At JSC the NASA Office of Inspector General is located in Building 1, Room 161.

Satellites From Page 1

ing equipment should be modified. Part II also covers equipment compatibility with the Space Transportation System.

NASA's Shuttle equipment such as the remote manipulator system and the manned maneuvering unit are the building blocks for the future service system.

With the operational Shuttle flights scheduled for late in 1982, the Satellite Service System will provide the satellite users with new equipment, better services, and greater operational capabilities as the Space Transportation System's usage rate increases.

'She is of that rare breed'

She has been Mrs. Santa Claus at every JSC Christmas Party for children. She does volunteer work at the V.A. Hospital, helps serve lunch once a month at the Loaves and Fishes, visits and calls senior citizens, and collects clothing and other articles for charitable organizations.

She is an active member of Toastmasters, several Catholic women's organizations, the Musical Theatre Guild of Houston, and the Veteran's Administration Hospital Voluntary Service Advisory Board.

And she is JSC's Outstanding Secretary for the month of July.

Helen K. Montgomery serves a dual role as an Office Assistant and Division secretary in the Institutional Procurement Division. Along with performing the work of personal secretary to the Division Chief and providing secretarial support to four branch chiefs, she directs the work of four other clerical employees--assigning workloads and establishing



Helen K. Montgomery

schedules and procedures. She oversees mail processing, files and records, time and attendance, and telephone communications for the entire division.

In other words she is a dynamo. When her co-workers describe her work, words such as "enthusiastic," "fast and efficient," and "high standards," come up.

"She is a member of that rare breed of employees who can be

described as dependable, reliable, and loyal," said Paula M. Fyffe, Chief of the Administrative Office.

For example, Montgomery recently traveled to San Antonio as part of a recruiting team for the Administration and Program Support Directorate. During the trip she scheduled 41 interviews, processed the paperwork, and answered questions regarding employment at JSC. For two days she was confined to her room and the telephone for 10 hour stretches, at times even skipping breaks for meals.

"She was a definite credit to JSC in this assignment," Fyffe said. "Compliments were received from applicants as well as the interviewers Helen supported. They remarked about her hard work, dedication, and expert and cheerful assistance to everyone concerned."

"Helen is an exceptional person and an outstanding secretary."

Playin' at the Rec Center

The Rec Center continues to add new classes to its program:

Hatha Yoga: Learn the art of relaxation; release from tension and fatigue; and toning muscles and weight reduction. Class meets Tuesdays beginning September 23, 5:15 to 6:15 p.m. Cost is \$20 per person.

Advanced Beginners and Intermediate Tennis: Learn to play tennis and stay in shape. Class begins Wednesday, September 20 for eight weeks. Cost is \$20 per person and class meets from 5:30 to 7 p.m. on the JSC tennis courts.

Country & Western Dance: 6-week course meets on Mondays beginning September 15. Beginners dance from 7 p.m. to 8:15 p.m. and Advanced Kickers dance from 8:30 to 9:45 p.m. Cost for this popular course is \$18 per couple.

Defensive Driving: Learn to drive safely and save on auto insurance. Cost is \$15 per person and class meets Saturday, September 27 8 a.m. to 5 p.m.

USVBA Teams: The Gilruth Center will hold practice for a men's and women's volleyball team to represent JSC at USVBA sanctioned tournaments throughout the state of Texas. Practices will begin at 7 p.m. on Friday September 26 at the Rec Center. Men or women who are interested in playing competitive volleyball should contact Carl McCollum at x3594.

The next selections for the Saturday morning movies are as follows: Muppet Movie on September 20; Pete's Dragon on October 4, and The Love Bug on October 18. Movie starts at 10 a.m. and cost is \$1 per person.

Women's Exercise Class meets Tuesday and Thursday 5:15 to 6:15 p.m. and cost is \$12 per person.

For any information please call the gym office at x3594. Registration is conducted in the Gym Office.

Bulletin Board

Come Hear the Houston Grand Opera

The Houston Grand Opera is offering corporate discount subscriptions to NASA employees and contractors. Obtain a special order form at the Building 11 souvenir shop. They will also be mailed with the summer catalog to Federal Business Association members. The form allows 20% off the regular subscription price or 50% off for senior citizens and students. Five operas will be presented in English in the Light Opera Series and six operas of the Grand Opera Series will be offered.

This Theatre Offer Is Special for NASA Employees

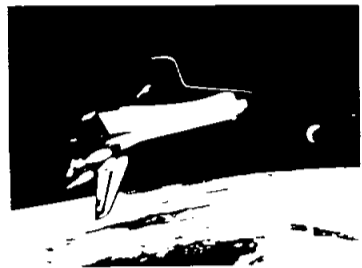
The Nina Vance Alley Theatre Corporate Subscription Program is again being offered to NASA employees and contractors. Season tickets are available for next year's series of six performances at the low price of \$30 which may be charged on a variety of credit cards. Brochures and order forms are available at the Building 11 souvenir shop. They will also be mailed with the

summer catalog to members of the Federal Business Association. Corporate Subscription coupon books will be home-mailed just prior to the opening of the '80-81 season in October.

FBI Agent to Speak at NMA-CSC Dinner Meeting

Computer Crimes and Industrial Espionage will be the topic of the

Roundup deadline is the first Wednesday after publication.



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Editor: Kay Ebeling

featured speaker for the NMA-CSC Monthly Dinner Meeting which will be held at Gilruth Center Tuesday, September 9. Supervisory Special Agent James Edward King of the Federal Bureau of Investigation will give a presentation to the chapter on computer related crimes and industrial espionage. Social hour begins at 5:30, followed by the dinner and program. Guest tickets can be purchased when you make your reservations. All reservations must be made by September 5—there will be no tickets available after that date. Contact Linda Frazier at 486-8153 ext. 383.

On Sale at the JSC Exchange Store

(Store hours 10 a.m. to 2 p.m.)
Dean Goss tickets: \$10 single, \$20 couple
ABC Theatre tickets: \$2
General Cinema tickets: \$2.40
Astroworld tickets: \$8
Six Flags over Texas discount tickets
Magic Kingdom Cards: Free
Sea Arama Marineworld Fun-Time cards: Free

Tennis

Results in on Gambler's Open

The JSC Tennis Club held its annual Gambler's Open mixed doubles tennis tournament at Friendswood Racket Club on August 15, 16, and 17.

The results of the tournament were Blumentritt and Weber over Williams and Stetzer 6-4, 6-4 winning Championship, Ahr and Dunage over Arndt and Kaszynski

6-2, 6-4 in Mixed A's, Chapman and Chapman over Toops and McDonald 1-6, 6-4, 6-4 in Mixed B's, and Gabbett and Gabbett over Murray and Wylie 6-2, 6-2 in Mixed C's.

The next JSC Tournament will be an open singles tournament on September 19, 20, and 21. Mark your calendar!

Basketball

Big Red of Omega closes out summer season with an 8-0

The Big Red of Omega closed out the JSC summer basketball post season tournament this year with a 51-47 overtime win over the Veterans.

Omega finished the regular season with a spotless 8-0 record. They opened the tournament with a 67-54 win over the Shady Oak Bombers before being taken to the limit by the Veterans.

Team members were Ned Robinson, Rudy "Ice Tea" Williams, Lewis "Bobo" Little, Eddie "Pepper" Saladavas, Tony "All World" McDonald, Dennis "Slim" Edwards, M. Campbell, C. Bennett, M. Bennett, and "Willie Boy" Braggs.

The team was coached by Morris Williams of Technicolor Graphics in Building 8.

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 AP3 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

75 Tioga mini-motor home, fully equipped, roof and dash air, assume CU loan, Scott x3278 or 554-6148
74 Ford Pinto station wagon 2300 cc, ac, 4-sp, runs good, some rust, \$650. Scott x3278 or 554-6148

Sale: League City, 3-2-2, mini-blinds, wood fence, ceiling fan, \$45,300 Total, \$14,000 equity, 8-1/2% FHA at \$325 per month. 554-6039

Sale: Camping membership in Marina Village Camping Club at beautiful Westwood Shores on Lake Livingston, \$500 below market value. 334-2063 or 486-6205

Sale: Lake Travis, 1/4 acre corner lot in Country Club Estates, Lago Vista, \$6000, will finance 5 years at 5% Ron x5954

Rent: League City, 3-1 1/2-2, fenced, \$400/m; and 3-1 3/4-2, fireplace, \$495/m or rent to purchase. Inquire 212 Pecan Dr. 554-6200

Sale: NASA Rd 1, unrestricted, almost 200 ft NASA Rd frontage, corner location, long established income property, \$59,000 total. Owner/agent 334-5949 evenings

Sale: Heritage Park, 4-2-2, high and dry, pleasant trees, drapes, well kept, \$59,500, 332-2950 after 6 p.m. or 333-3544

Lease: Kirkwood, near Alameda Mall, 3-2-2, formals, drapes, carpets, fenced, no flood, walk to schools, \$485/mo. 486-8862 evn

Stereos & Cameras

Stereo AM/FM 8 track player for auto, Craig, practically brand new, \$50. No speakers, Parker x4241 or 481-4372

Realistic SCT-11 stereo cassette tape deck, full-feature front load w/Dolby noise reducer. Complete w/owner's manual, \$125. 945-3611

Marantz receiver and turntable like new, \$450. Bryant 554-2693 after 5
35 W receiver \$125. x4065 474-2319. T. J.

Musical Instruments

Trombone, Yamaha, silver, w/case, \$150. Richard Davidson x5545 or 946-2523

Guitars, electric Les Paul copy, \$150; acoustic Autocrat GT-600, \$30, 333-3056

Alto sax, 1 yr, old, exc cond, includes music stand, \$395. Womack x2521 or 488-6758

Miscellaneous

Radio antenna tower, 45 ft., 3 sections, tilt base, includes guy wires, \$375. 331-6836

Portable sign with letters, one year old, cost \$550, will sell for \$300. McPhillips, 337-1645

Wedding gown, size 12, long sleeve, medium train, lots of applique, \$175, matching finger tip veil, \$50. x2407 or 488-6292 after 5:30

New S&W auto gauges (4) \$50. Pontiac 400 heads, new valves, \$100. 333-3056

New trailer light kit, complete \$12. Children's water skis, \$30. Plaque x6128 or 474-2660

3 Firestone "721" steel belted tires, white sidewall, GR78-15, very little wear, \$35 each. x5916 or 333-4458 after 5

Baby clothes galore. Some fancy, all adorable, newborn to size 3. Some for boys, more for girls, 488-6521

Seat pedestal, 360 degrees swivel, Chevy van, without seat, \$20. Bauch 333-3382

TA-33 triband beam, Tri-Ex "Supermast" 40-foot crank-up tower, Ham-M rotator, Wheeler, 334-2765 after 5

Paintings, Larry Dykes' 1st 15, limited editions numbered and signed. To go to buyer. \$1500. 554-2693 after 4:30

NASA flying club membership space has come available. Ken Gibson x4041

Carpools

Ride from Pasadena (Shaver at Hwy 3) to Holiday Inn 8-3:30 (or 4:30). Jean 644-6651

Carpool from Baybrook Mall to Kirkwood at I-10. 482-5681 after 5

Need ride from El Dorado View apts. or vicinity to Bldg 16, 8-4:30. No car but will share gas. Harris x2586

Cycles

Used girls bicycle, 24" blue, \$25. x2407 or 488-6292 after 5:30

66 crempup Honda 305cc overhauled last 5,000 miles, good brakes, electric start, 2 cylinder, 65 mpg, \$400. 331-8665 nites

77 Kawasaki 1000 LTD. Windjammer SS AM/FM Cassette Stereo 479-7585

Household Articles

Woodgrain formica dinette, 4 chairs, 12" leaf, exc cond, like new, \$175. Andy 488-4366

Trade or sell, two ovens, cooktop, refrigerator, disposal, sunniland beige/gold rug (15x35). 69 Olds Schwinn 20-inch girls bike. 482-7698

2-1/2 ton central a/c, blowers, thermostat, heat exchangers good, \$75. 2 Goodrich tires and rims from Ford p/u; tubeless, 4 ply, L78-15, 9/16 tread, \$70. Martin 554-7157

Electric typewriter, \$110. Table and four chairs, \$25. Barbara Hays 334-1791 after 6

Full size Brunswick delux pool table and ping pong set for sale \$800. Chuck x4730 or 481-2023 after 5

Large chrome boom land w/metal base, \$75. 945-3611

GSA sells used cars

The General Services Administration (GSA) will offer 100 used cars, trucks, station wagons, and vans for sale at 9:30 a.m. on September 12 in Houston. The vehicles will be offered directly to the public one at a time by the spot bid method of sale. Individuals are welcome to participate.

A special feature of the sale will be 30 1977 AMC Hornets with air conditioning, radios, and six cylinder engines. Most Hornets look good and are in good operating condition. Many have less than 50,000 miles on the odometer.

Other items offered for sale include two 1974 Valiant sedans, seven 1977 Plymouth Furies, three pickup trucks, 12 vans, five station

wagons, and many others.

Vehicles may be inspected between 8:30 a.m. and 3:30 p.m. on September 10 and 11 and between 8:30 and 9:30 a.m. on September 12, the morning of the sale. The sale location is the U.S. Marine Corps Reserve Center, 1902 Old Spanish Trail in Houston, Texas.

The vehicles were used by various Federal agencies in the Houston area. According to Ann Doughty, GSA Regional Administrator, Fort Worth, Texas, most vehicles are in good operating condition. Some will require mechanical repairs and several have accident damage. Most of

the sedans are air-conditioned.

During the spot bid sale, bids will be submitted in writing on cards. The sale officials will find the card with the highest amount. The individual who submits that card purchases the vehicle. Sale items are sold one at a time in this manner.

Successful bidders will be required to make payment in full during the sale. Payment must be in cash, certified or cashier's check, first party personal and company checks, or money orders. Purchasers may remove their vehicle immediately after payment is made. Bidders must be present at the sale and must be at least 18 years of age.

RCA 25" TV, needs tuner repair, \$50; Sears 200 amp arc welder w/acc's, \$100; Andy x5127 or 488-5344

79 Sears Kenmore refrigerator, 19.2 cu. ft. frostless, ice maker. 649-3452 after 5

Wanted

Secretaries to join a professional team "The National Secretaries Association (International) (NASA Clear Lake Chapter) for membership information contact: Estella Gillette 488-5960 evenings

78 Chevy Blazer or GMC Jimmy 2WD, 305 or 350, air, pwr, cruise, pre lite color. White x5111 or 332-5177

Used sewing machine in good cond, will pay up to \$75. Joyce x4814

Stained glass equipment (soldering iron, cutting tools, etc.). Mayilyn 471-5736 after 5

Late model pickup truck, 4 wheel drive, or positraction drive, good cond. only. Rod Clyatt 944-3725 after 7:30 p.m.

Pets

Kitten, male, 4 months old. 649-7516

Dachshunds, AKC, 8 wks old, red, beautiful little companions, \$175. Stud available. 645-3722

Cocker Spaniel pups, pure breed, 8 wks, 1 fed fm, and 1 buff m, \$100 each. 921-7212

Finches: 3 Society Finches with cage, \$55 5 tier bamboo cage, \$15. 729-5481 after 6

Boats & Planes

76 Galaxy 16' 120 OMC, l/o drive, depth finder, radio, w/dual speakers, etc. \$2995. 451-2112 or 921-2793

17' aluminum boat, 75 hp Evinrude motor, trailer with new tires. \$1000. 482-3678

78 Cobia 24 ft. Caribbean Cuddy cabin boat w/200 hp Johnson motor, mint cond, many extras, rigged for offshore. Perry x7428 or 554-2086

Lido-14 sailboats, new/used, family sailing/racing. Popular boat/big fleet, exc investment. 334-2392 or 482-7305

1980 17' Center console all glass boat (extras) with trailer, \$3000. 471-2447

1977 55 hp Evinrude motor, with controls, good cond, \$1000. 471-2447

Cars & Trucks

69 Dart, mag wheels, a/c, 8-cyl, 4 spd, vinyl top, white/blue, \$300. J.J. x2119 or 337-1662

79 Toyota Corona Station Wagon, 17,300 miles, good condition 649-3452 after 5

72 Ford Galaxie 500. Good condition with a/c, ps/pb, AM/FM stereo, tape deck. \$800. Davie 554-2401

79 Eldorado Cadillac, white, blue leather interior, loaded AM/FM stereo with CB. \$10,000. 334-5258 after 6

76 Corvette, 4-speed, AM/FM radio, \$6,800. 334-5258 after 6

66 Mustang, rebuilt 289, automatic transmission, less than 10,000 miles on motor. Lwo rear ends, very clean. 471-0691

77 Volare Premiere station wagon, exc cond, 4 new tires, fully loaded, \$3200. Linda x2569

64 Chev good interior, tires, body fair, engine needs work, \$250. Chuck x5381 or 944-6133

73 Olds Cutlass, 4 dr, a/c, ps/pb, 68,000 miles, one owner, \$950. 482-1617 after 5

75 Ford F-150 pickup, a/c, pb, auto w/Koenig side packs, good cond, clean. 772-5410 or 921-7212

53 Ford 2-dr sedan, 239, flathead 8 engine, rebuilt engine and transmission, all original. 479-7585

77 Ford F-250, 4x4, 3 tanks, heavy hitch. Best offer over \$3000. x4065, 474-2319, T. J.

78 Custom 8' camper. 3-way refer, stove, oven. Deer hunters! Best offer over \$1800. 474-2319 or x4065. T. J.

78 T-Bird. Town Landau, exc. cond. All extras, leather interior. \$5400. Parton x3181.

T-38s: 'The sky is our own this day'

"It goes fast, really fast," said an aerial photographer.

"I was thinking more about how exciting it was than how scary it was," said a flight surgeon.

"We climbed to 45,000 feet. That's the highest I've ever been. It's very quiet up there," said an astronaut candidate.

The T-38 is a two-seat supersonic lightweight twin-jet trainer used by NASA for astronaut spaceflight readiness training. Aerobic flights in a T-38 improve astronauts' "G" tolerance and help to accustom their inner ears to weightlessness.

NASA flight surgeons also fly the backseat of the T-38 to familiarize themselves with the physical strains put on their patients, the astronauts; and JSC has a crew of aerial photographers who are trained to fly in the backseat taking air to air shots of the jets in flight.

"We fly during chase flights, but mostly we shoot air to air for aircraft modifications—to verify how well things work," said photographer Terry Slezak, who with Pete Stanley and Bob Grey will be flying in the chase planes during Shuttle entries.

"It's very cramped in the cockpit," Slezak said. "You get in and get all the straps and harnesses and masks hooked up. Then you pull the ejection seat safety pins out and show them to the ground crews."

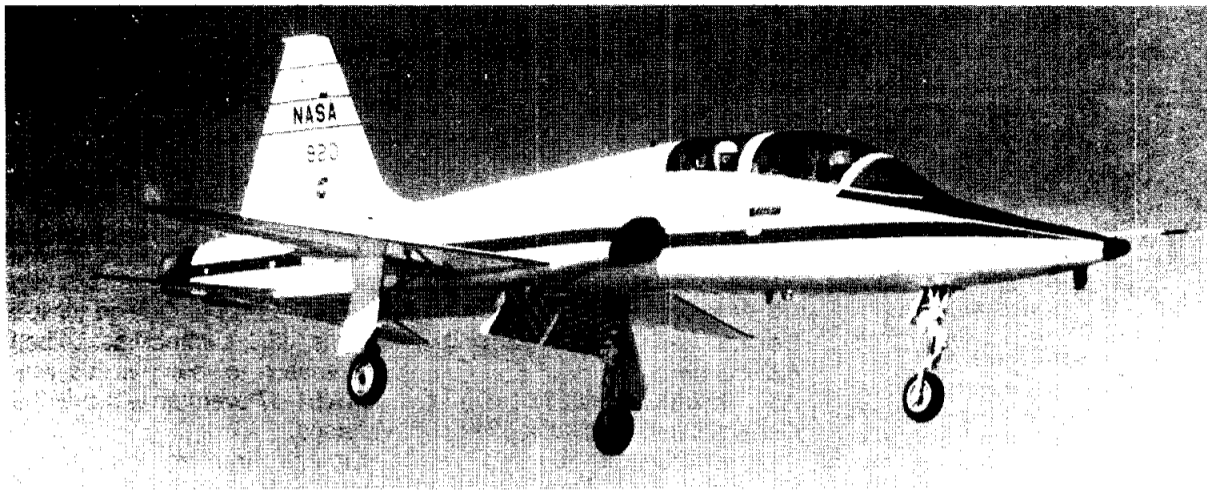
"You taxi out and take off and there's a tremendous amount of thrust. You have a tremendous feeling of the power of the engines. It's like sitting on a baby rocket. Which you are—you're sitting on two of them."

Two General Electric turbojets with afterburners power the Northrop-built "Talons." There are two independent fuel systems, one for each engine. Fuel for the starboard engine is provided by the forward fuselage tank and dor-

sal tank just aft of the rear cockpit. Fuel for the port engine is provided by the center and aft fuselage tanks.

The total usable fuel capacity is 583 U.S. gallons.

The plane is designed for a pupil and instructor to ride in tandem on rocket-powered ejection seats in pressurized and air-conditioned cockpits, separated by a windshield.



There are two separate 3000 pound-per-square-inch hydraulic systems—one for the flying controls and the other for the brakes, landing gear, and nose-wheel steering, as well as the flying controls.

A T-38's maximum level speed (with 50% fuel) is Mach 1.23 (at 36,000 feet).

"I thought it would be a lot noisier inside," said Franklin Chang, who as a new astronaut candidate took his first ride in a T-38 last month. "It's very quiet, smooth, and peaceful. The sky above was very deep blue."

"Then we dove a little and Roger (Zwieg, instructor pilot) lit the afterburner and we went supersonic."

"There was no real drastic change or sensation to breaking the sound barrier—I was really

surprised. You can just detect it by the dials, there's a slight oscillation."

"Then Roger started showing me the handling properties of the airplane and I got a feeling of the responsiveness."

"Nothing happens slowly with this plane," Slezak said. "When you turn the stick, it rolls right away and you are flying sideways. "The first thing everybody has a

quirements for crew training as the plane is relatively inexpensive to operate and maintain. Compared to other high performance jets, the T-38 is small and lightweight with an overall length of 46 feet 4-1/2 inches and an overall height of 12 feet 10-1/2 inches. Its maximum takeoff and landing weight is 12,093 pounds as opposed to, for example, an F-4 with a maximum weight of around 50,000 pounds.

up," Slezak said.

"The number of times I fly varies," said Hanley. "Once or twice a week—it depends on my schedule."

"I've been up about six times now," Chang said. "I haven't flown enough to get spoiled yet..."

Solo

by Raymond P. Holbrook

"Alone we fly... up through a hazy veil of white... the Talon and I... falling gently away from Earth. The sky is our own this day... as we reach for the infinite. We are one... without limits... free in space and time... loop and roll... count the points... perfection laugh aloud... feel it... do it... dive and climb... leave our thunder far behind. Born of Earth, breather of air, rider of the fiery wind... this child of Thor has carried me beyond Olympus to freedom. It has made me a pilot, and I am proud."

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tendency to do when they're turning on their side or on their back during a climb is to try to relate to the ground. That will really dump your computer fast. There is no up or down—you have to concentrate on what you're doing, relate to the plane or the pilot in front of you or the instruments."

Flight surgeon Dr. Susan Hanley elaborated on the physical effects of T-38 flight. "The aileron rolls and turns take a bit of getting used to. At times you may be pulling two to three G's and you feel the blood going out of your head."

"There are straining maneuvers—the L-1 or M-1 maneuvers—where you contract your muscles and make grunting noises to increase the blood pressure in your head."

NASA acquired its first T-38 in May of 1964. It filled NASA's re-

quirements for crew training as the plane is relatively inexpensive to operate and maintain. Compared to other high performance jets, the T-38 is small and lightweight with an overall length of 46 feet 4-1/2 inches and an overall height of 12 feet 10-1/2 inches. Its maximum takeoff and landing weight is 12,093 pounds as opposed to, for example, an F-4 with a maximum weight of around 50,000 pounds.

"The most thrilling part is flying through clouds," Hanley said. "It's like going down a ski slope right after a snowstorm. Everything is white and fluffy—and even more thrilling is flying aileron rolls above the clouds."

"You're stuck in there like with a shoehorn," Slezak said. "Trying to hold a camera and track things through an eyepiece is the hard part. You can lose the other plane in the viewfinder real quick."

"There's a lot of similarities in quickness of response to gliders," Chang said. "Only you're going 600 miles per hour instead of 60."

"I can't estimate the number of times I've been up in the past seven years, but we'll be flying more as the Shuttle program gears

Employees of the year

Linda Kirbie, John Allen honored by FEB/FBA for ability, competence, community participation

His on-the-job activities include the day-to-day technical and administrative supervision of the Sheetmetal and Model Branch, Technical Services Division. He is responsible for such diverse activities as sheetmetal fabrication, welding, modelbuilding, plastics development, anodiz-

ing, plating, painting, and precision cleaning.

She is a mathematician at JSC. She began work here in 1964 as a project leader for development and testing of scientific programs, and she soon advanced to systems programming for UNIVAC large-scale computers.

John H. Allen, Sr., and Linda R. Kirbie have been selected to receive "Federal Employee of the Year" awards.

The FEB/FBA annually conveys such awards to outstanding federal employees who are nominated by their agency head in six different categories.

Kirbie is to receive her award in the category of "Professional/Scientific," and Allen receives his award in the category of "Craft."

The two were chosen out of a total area federal population of 19,000—based upon their outstanding ability, technical competence, and active community participation.

The Annual Awards Luncheon will be held on Tuesday, September 16, at Kaphans, 7900 Main Street at Kirby. JSC employees and friends may obtain tickets to attend the luncheon by contacting Wally Grimes at x-5419 or through the JSC Exchange Store.

Combined Federal Campaign drive for monthly donations kicks off at JSC Sept. 10

The JSC 1980-81 Combined Federal Campaign (the once-a-year fund raising drive for Federal Agencies) will begin with a kickoff meeting on September 10, 1980. The campaign supports the United Way, the National Health Agencies, the National Service Agencies, and International Service Agencies.

The CFC eliminated the old system of several drives a year and at the same time provided for

use of the Government approved payroll deduction plan which spreads the donation over the year in small convenient installments.

JSC personnel have traditionally given wholehearted support to the CFC drive. Contributions to this year's campaign will not only help the community, but could possibly help a neighbor, a friend, or a loved one, when they need it most.

The first days after quitting...

Your hands are shaking and your knees are weak. You've chewed three pencils down to the lead and the secretary won't give you another one. Someone lights a cigarette and you start breathing hard, salivating, and fighting an urge to run out to the nearest concession and drop all your coins into the cigarette machine.

You're suffering from nicotine withdrawal—a noble dilemma—but you need help.

Here are some tips for the first few days after you quit.

Spend as much free time as possible in places where smoking

is prohibited, such as libraries, museums, theatres, department stores, and churches.

Drink large quantities of water and fruit juice.

Try to avoid alcohol, coffee, and other beverages with which you associate cigarette smoking.

Strike up a conversation with someone instead of a match for a cigarette.

If you miss the sensation of having a cigarette in your hand, play with something else—a pencil, a paper clip, or a marble.

If you miss having something in your mouth, try toothpicks.

Hispanic Heritage

JSC to celebrate with show and merienda

President Carter has proclaimed the week beginning September 14, 1980, as Hispanic Heritage Week.

A special program on Friday, September 19, in Building 2 Auditorium will mark the week's observance at JSC.

The program will feature a welcome address by JSC Director Christopher C. Kraft, Jr. A presentation by a

keynote speaker with a local celebrity as master of ceremonies, entertainment, and merienda will highlight the afternoon activities.

The theme for this year's observance will be "1980: Decade of Imagination and Achievements for the Hispanics."

All JSC employees and contractors are invited to attend.