



Reaching out

JSC hosts teachers for an educational outreach program designed to enhance technological skills. Story on Page 3.



Spin doctor

When the crush of day care is too much, a spin around the park is just what the doctor ordered. Photo on Page 4.

Space News Roundup

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No. 34

Ellington tests easier 'close call' reporting procedure

By Eileen Hawley

A new procedure for reporting industrial safety hazard "close calls" is being tested by the Aircraft Operations Division at Ellington Field.

The new reporting procedure is an initiative from the center director's office as part of a centerwide emphasis on safety. JSC's Test, Operations and Institutional Safety Branch is working with AOD to modify its successful aviation "close call" system for use as a centerwide industrial safety reporting system.

"A close call is an incident in which there is no personal injury or property damage, but where that potential exists," said Dave Walker, chairman of JSC's Safety Review

Committee. "We hope that we can take this successful aviation reporting system and establish procedures for reporting all safety-related 'close calls' throughout JSC."

Statistics indicate that for every serious workplace accident, there are about 300 close calls. After reviewing the number of accident and close call reports filed at JSC, the Safety Review Committee noticed a surprising trend.

"We saw that more accident reports than close call reports were being filed," Walker said. "We began to wonder if the complexity of our reporting system was discouraging our employees from reporting close calls."

The committee reviewed the NASA Mishap

Report Form 1627 and as a result, Ellington Field is now the pilot project for a new, less complex close call reporting procedure. The project includes a simplified reporting form, awareness briefings and posters. In addition, reports can be submitted by fax to the Test, Operations and Institutional Safety Branch, or by a phone call to the Safety Action Hotline.

"The information needed to complete the report is as simple as telling someone what happened, where and when it happened, and who was involved," said Dan Clem, close call manager in the safety office. "We think we can reverse our close call reporting trend using this simplified approach to reporting safety hazards on site."

"This project emphasizes individual responsibility and involvement in our safety program," said Ace Beall, chief of the aviation safety office at Ellington. "The close call system is designed to prevent accidents from occurring by encouraging people to report unsafe conditions or activities before someone is hurt." Following the pilot project at Ellington, the reporting procedure will be fine-tuned and expanded throughout JSC.

"One of the things that makes this type of reporting system work is that it directly involves people in the safety process," Beall said. "We are asking everyone to be a safety officer within their own job and be involved in JSC's safety program."

Chang-Diaz gets key role in next tether

By Kyle Herring

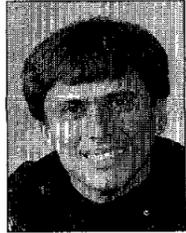
Veteran astronaut Franklin Chang-Diaz has been named payload commander for the second flight of the Tethered Satellite System, set for launch in early 1996.

As payload commander for the 13-day STS-76 mission, Chang-Diaz, 44, will begin the necessary long-lead preparations required for TSS, which was first flown as part of STS-46 in July-August 1992. The Italian-built satellite is designed to orbit at the end of a 13-mile long tether

to test techniques for managing spacecraft at great distances and to study the electrodynamic effects of moving a conductive tether through the Earth's magnetic field.

STS-76 will be Chang-Diaz's fifth shuttle mission. He previously served as mission specialist on STS-61C in January 1986, STS-34 in October 1989, STS-46 and STS-60 in February 1994.

Chang-Diaz received a bachelor of science degree in mechanical engineering from the University of Connecticut in 1973 and a doctorate in applied plasma physics from the Massachusetts Institute of Technology in 1977. He was born in San Jose, Costa Rica.



Chang-Diaz



JSC Photo by Benny Benavides

LIFTOFF, WE HAVE LIFTOFF—Television reporters Stephen Gauvain and Don Nelson tell their audiences about the second annual "Ballunar Liftoff" as Jim Whitesell, pilot for the RE/MAX balloon, and his wife, Deb, ignite the hot-air burner in preparation for an early morning launch. The festival, sponsored by Space Center Houston, RE/MAX and the Clear Lake Area Chamber of Commerce, drew thousands to Rocket Park this past weekend. Festival-goers got a chance to watch about 50 balloonists compete in bean-bag dropping and "fox and hare" contests, as well as listen to music, play on amusement rides and visit a craft show. A highlight was Friday night's "glow" in which all of the balloonists ignited their burners at the same time.

Discovery's launch awaits engine firing

By James Hartsfield

Discovery's launch preparations remained on target for a possible 3:30 p.m. CDT Sept. 9 liftoff on mission STS-64 as shuttle managers met Wednesday for a final review of all mission preparations.

Discovery's launch is pending the completion of an analysis of Endeavour's aborted launch attempt and on-pad engine cutoff last month. For that analysis, a test firing of Endeavour's main engine no. 3 is planned in the test stand at Stennis Space Center late this week. The engine was shut down by the shuttle's onboard computers when the temperature of oxygen flowing from the high pressure oxidizer turbopump went above the on-pad limit. It was removed last week and shipped to Mississippi, where it is to be fired for about five minutes.

The abort analysis is expected to be completed and the results reported to shuttle managers by early next week.

Meanwhile, at KSC's Launch Pad 39B, work on Discovery this week included a successful test run of one

of the spacecraft's auxiliary power units; installation of space suits in the orbiter; closeouts of the Lidar in Space Technology Experiment and other cargoes onboard; closing the payload bay doors for flight; and leak checks and electrical tests of the main engine connections.



The STS-64 countdown could begin as early as 8 p.m. CDT Tuesday. For a Sept. 9 launch, the crew of STS-64—Commander Dick Richards; Pilot Blaine Hammond; and Mission Specialist Jerry Linenger, Susan Helms, Carl Meade and Mark Lee—would depart for KSC early Tuesday.

In addition to the SPARTAN 201 solar wind investigation; ROMPS, an automatic robotic materials processing system; the SSCE, a study of fire in weightlessness; BRIC, a series of biological investigations; SPIFEX, an experiment designed to characterize the exhaust from the shuttle's steering jets; and SAFER, a self-rescue backpack for space walkers that will be tested by Lee and Meade during a six-hour space walk.

Please see ALL, Page 4

Total Health celebrates first anniversary with honors

By Eileen Hawley

In the year since its inception, JSC's Total Health Program has become an integral part of life on site.

In fact, the Total Health Program is so involved in improving the health and well being of JSC employees that on Sept. 12 it will be honored with an Honorable Mention award from the Office of Personnel Management. The award annually recognizes outstanding employee health service programs within the federal government.

Gary Caylor, occupational health officer, and Lynn Hogan, chief nurse at the JSC clinic and a coordinator for the Total Health Program, will accept the award at a presentation in Maryland. Other agencies selected for the award are the Panama Canal Commission in the Republic of Panama, and the Department of Veterans Affairs in North Carolina.

Director's Awards will be presented to the Department of Energy, Department of Interior and Department of the Army.

"We're very pleased to be selected," Hogan said. "Our Total Health Program is very new and it's gratifying to be recognized for our efforts so early in our existence."

The Total Health Program began in August 1993 through the efforts of a committee led by Roger Billica, chief of the Medical Operations Branch. The Total Health team included representatives from the occupational health office, JSC clinic, health-related fitness program, Employee Assistance Program, and human resource officers and union representatives.

"Our goal was to develop a preventive health program that met the needs of JSC employees, and at the

Please see NOVEMBER, Page 4



JSC Photo by Jack Jacob

READING, WRITING AND RUSSIAN—Irina Lendrassova, an engineer for Russia's Energia Rocket Space Corp., draws a flurry of raised hands at a Ward Elementary School fourth-grade classroom. Lendrassova, center, visited the classroom of teacher Barbara Bennett, right, last week while at JSC to participate in technical interchange discussions on the International Space Station. She asked to visit an American school, where she discussed what life is like in Russia, and how learning, the students and the clothing they wear differ. "The students were fascinated," Bennett said. Interpreter Elena Kit, left, helped facilitate the visit.

NASA to use Russian airliner for speed tests

NASA, a team of U.S. aircraft and engine manufacturers and the Russian aircraft firm, Tupolev Design Bureau, plan to use a Russian Tu-144 supersonic transport as a flying testbed for conducting flight research on high-speed enabling technologies.

As part of NASA's High-Speed Research Program, the U.S. industry team, which includes Boeing, McDonnell Douglas, Rockwell International, General Electric and Pratt & Whitney, signed a contract to work with Tupolev to modify its Tu-144 aircraft to meet program research needs and to conduct up to 35 test flights.

The flights will provide unique aerodynamic, structures and operating environment data on supersonic passenger aircraft. Funding for the flight research program is being provided by NASA's Office of Aeronautics through Langley Research

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JSC

Ticket Window

The following discount tickets are available for purchase in the Bldg. 11 Exchange Store from 10 a.m.-2 p.m. Monday-Thursday and 9 a.m.-3 p.m. Friday. For more information, call x35350 or x30990.

Seaworld of Texas: Discount tickets: adult \$20.95; child (3-11), \$14.25.

Fiesta Texas: Discount tickets: adult \$18.95; child (4-11) and seniors (55+), \$14.25.

Astroworld: Discount tickets: adult \$13.75.

Moody Gardens: Discount tickets for two of three different attractions: \$9.50

Space Center Houston: Discount tickets: adult, \$8.75; child (3-11), \$7.10; commemorative, \$9.55.

Metro tickets: Passes, books and single tickets available.

Movie discounts: General Cinema, \$4.75; AMC Theater, \$4; Loew's Theater, \$4.75.

Stamps: Book of 20, \$5.80

JSC history: *Suddenly, Tomorrow Came: A History of the Johnson Space Center*, \$11.

Apollo Souvenirs: Apollo 11 25th Anniversary souvenirs are being restocked in the Bldg. 11 Exchange Store.

JSC

Gilruth Center News

Sign up policy: All classes and athletic activities are first come, first served. Sign up in person at the Gilruth Center and show a NASA badge or yellow EAA dependent badge. Classes tend to fill up two weeks in advance. Payment must be made in full, in exact change or by check, at the time of registration. No registration will be taken by telephone. For more information, call x30304.

EAA badges: Dependents and spouses may apply for photo identification badges from 7 a.m.-9 p.m. Monday-Friday; and 8 a.m.-4 p.m. Saturdays. Dependents must be between 16 and 23 years old.

Weight safety: Required course for employees wishing to use the weight room is offered from 8-9:30 p.m. Sept. 6 and Sept. 12. Pre-registration is required. Cost is \$5.

Defensive driving: Course is offered from 8:15 a.m.-3 p.m. Saturday. Next class is Sept. 10. Cost is \$19.

Aerobics: High/low-impact class meets from 5:15-6:15 p.m. Tuesdays and Thursdays. Cost is \$32 for eight weeks.

Exercise: Low-impact class meets from 5:15-6:15 p.m. Mondays and Wednesdays. Cost is \$24 for eight weeks.

Aikido: Martial arts class meets from 5-7:30 p.m. Tuesdays and 6:15-8:15 p.m. Wednesdays. Black Belt class from 6-8 p.m. Fridays, requires instructor permission. Cost is \$25 per month. New classes begin the first of each month.

Country Dancing: Classes meet Mondays. Beginners class meets from 7-9 p.m.; advanced class meets from 8:30-10 p.m. Partners are required. For additional information, contact the Gilruth Center at x33345.

Golf Lessons: Lessons for all levels. Cost is \$90 for six weeks. For additional information, contact x33345.

Sailing Club: Intermediate sailing classes will be held on Saturdays, Sept. 17, Oct. 1 and Oct. 15. For additional information, contact Richard Hoover at x31360, or 996-7716.

Men's Open C Softball: Men's Open C Softball Tournament will be held Sept. 17 and 18. Cost to register is \$100 per team.

Flag Football: Registration for Saturday mixed flag football teams will be at 7 a.m. Sept. 12. For additional information, call x33345.

Fitness program: Health Related Fitness Program includes a medical examination screening and a 12-week individually prescribed exercise program. For more information, call Larry Wier at x30301.

JSC

Swap Shop ads are accepted from current and retired NASA civil service and on-site contractor employees. Each ad must be submitted on a separate fully revised JSC form 1452. Deadline is 5 p.m. every Friday, two weeks before the desired date Friday, two weeks before the desired date of publication. Ads may be run only once. Send ads to Roundup Swap Shop, Code AP3, or deliver them to the deposit box outside Rm. 147 in Bldg. 2. No phone or fax ads accepted.

Property

Sale: Meadow Bend, LC, 2 story, 3-2-5-2, 2100 sq ft, FPL, lg deck, fenced back yard, shed in back yard, new flooring/carpeting, new A/C/H, ceiling fans, new ext paint, \$85.9k. x31891.

Sale: Meadow Bend, by owner, 3-2-2, lg yd, cul-de-sac, extras, \$89.9k. Cindy, x31769 or 334-3836.

Sale: 2.5 acres, unimproved, Santa Fe/Alta Loma, 409-925-1468.

Sale: Santa Fe/Alta Loma, 2.5 acre, 3-2, 2000 sq ft, FPL, both formal, den, det garage, sat dish, pool. 409-925-1468.

Lease: Baybrook condo, 1-1-1CP, 749 sq ft, El Dorado/Sterling Knoll build, upstairs, corner, W/D, \$435/mo + dep. Phillip, x32142 or 480-9701.

Sale: Pearlland Raintree Acres, mobile home, 2-2, CA/H, near schools/pool, \$8.5k firm. 286-7404.

Rent: Lake Travis cabin, CA/H, fully equipped, sleeps 8, fall/winter, \$325/wkly, \$90/dly. 474-4922.

Sale: Two four-plexes, 2 BR ea, 2 patios ea, FPL, nice neighbor hood. Dan Bennett, 388-1095.

Lease: Meadowbend, LC, 3-2-2, 1876 sq ft, lg lot, avail 10/1. x35268 or 334-3191.

Sale: Galveston condo, 1-1, Seawall, furnished, \$25.9k. 483-0737.

Lease: Baywind II corner unit, 2-2-5, 2 story, W/D, refrig w/ice maker, FPL, \$625 + \$400 dep. Sue, 282-3950 or 339-3464.

Sale: League City, 3-2-2, cul-de-sac, lg yard, possible assum, \$58k. James, 286-1934.

Sale: South Shore Harbour, 4-2-5-2D, lg lot, 2 story, lg deck, landscaped, \$119k. 334-4240.

Rent: Waterfront efficiency apt, furn or not, flexible lease, utilty paid except phone, non-smoker/no pets, \$410/mo. x48882 or 532-1725.

Lease: San Jacinto College area, 3-1-1, \$450/mo. Minh, x37492 or 484-2456.

Rent: Breckenridge, CO, 4-3-loft, sleeps 12, panoramic views, \$150/night in summer. 303-482-9124.

Cars & Trucks

'87 Shelby Charger, 2.2 L Turbo, 5 spd, 47k mi, \$3k. 333-6691.

'89 Nissan Stanza GXE, auto, sunroof, loaded, auto, 63k mi, lt blue w/blue interior, \$5,995 firm. Sheril, 280-0907.

'93 Dodge Intrepid ES, Chargoild, low mi, power, like new, \$17.4k. 996-1327.

'86 Ford van, 62k mi, ex cond, \$7.5k. x30122 or x48199.

'87 Toyota Tercel, 76k mi, needs A/C compressor & radio, \$1.3k OBO. Bob, x35900 or 334-4428.

'78 Corvette, silver/black, auto, T-tops, \$5.5k. Rich, 282-4741 or 339-3464.

'89 Mustang LX, immaculate exteri/inter, PW, blue, \$3.9k OBO. Darius Davis, 996-9933.

'93 Plymouth Voyager Sports van, loaded, warr left 24k mi, take up note \$15.4k, Betty, 479-1393.

'88 Ford Tempo, pwr locks, tilt, cruise, A/C, cass, tinted windows, \$2.1k. 282-3172 or 332-6588.

'84 Nissan 300 ZX, ex cond, \$3.2k OBO. x30737.

'87 Audi GT Coupe, 5 spd, 60k mi, sunroof, no dents, new tires, \$4,290. 480-3986.

'78 Chevy Malibu station wagon, 150k mi, running cond, make offer. Jim G, x35126.

'67 Pontiac Firebird convertible, guarded red w/black inter & top, 400 ci, 325 hp, \$13.8k. Mike, 333-2335.

'80 Nissan 280 ZX, runs good, new A/C compressor, fuel injectors & rear brake, \$1,950. Joe, 212-1417.

'88 Ford F150 XLT Lariat, V8, reg cab, 8' bed, auto, A/C, AM/FM, 67k mi, \$5.5k. Ray, x38876 or 338-1065.

'84 Ford F150 Supercab, 8' bed, bedliner, toolbox, new tires, 351 V8, \$3.8k. x44265 or 554-5006.

'70 Chevy PU C10, 3 spd, 6 cylinders, 8' bed, good tires, running, \$700. x44265 or 554-5006.

'86 Toyota Celica GT, liftback, auto, AM/FM/cass, new tires, 99.5k mi, \$3.9k. Tom, x40048 or 992-2166.

'81 Eldorado, rebuilt engine, interior perfect, new tires & headliner, \$3k. Jim, x39624 or 475-9671.

'87 Audi GT Coupe, 5 spd, 60k mi, sunroof, no dents, new tires, \$4,290. 480-3986.

Boats & Planes

'81 Hobie Cat 16', EC, mesh trampoline, dbl trap, white hulls, blue sails/sailbox, galv trlr, \$1.1k. 996-5739.

Sailboat, Lido-14, sloop complete w/sails & trailer, \$2.9k. R. Hoover, x31360 or 996-7716.

17' aluminum canoe, oars, life vest, \$300; wet suit, small, \$50 OBO. 282-6975.

'93 Bass Tracker/trailer, 17' Magna, 60 hp, many extras, bimini top, life jackets, \$8.5k. 534-3046.

16' Spyder Tri-Hull boat w/85 hp engine, \$900. x36135 or 409-935-1633.

'82 Tornado Catamaran fiberglass, 3 mains & jibs, beach wheels, custom tilt/breakdown trailer, \$4.5k. 333-6246 or 480-3986.

'78 Wellcraft Airstar, 17', 115 Mercury OB, galvanized trailer, runs, \$2.2k. x34924 or 334-4361.

Wave runner, Wet Jet, 432 cc eng, 2-person watercraft, Sportman galvanized trailer, custom cover, \$4k. Charles, x33626.

'93 Kawasaki Jet ski 750 SS, trailer, cover & 2 life preservers, \$3.5. Daryle, x33818 or 286-9121.

Cycles

Triumph 750, \$850. Joe, x30225.

'89 Suzuki GSX 600, \$2.5k. 471-5248.

Children's bicycles, ex cond, Huffly 20", 6 spd, \$50; Murray 16", \$35; motorcycle trailer, \$150. 332-9105.

10 spd, CILIC-Centurion, 27", black, everything works, original owner, \$50. James, 333-7174.

Audiovisual & Computers

Sony 7" reel-to-reel recorder w/65 tapes, \$200 OBO; Isaac Asimov, Voyage to the Outer Planets & Beyond, VHS videotape, \$20; America's Achievement in Space, 8 video set Eastman Press, \$140 OBO. 488-3975.

AT&T 6300 computer w/kybd, Panasonic computer printer, KX-P1092i & Amdex color 725 monitor, \$150; RCA playmate 5" B&W TV AC/DC 3-way operation w/programmable quartz AM/FM radio/alarm clock, \$75. Jack, x33741 or 488-1222.

NeXT station turbo 33 MHz computer, CD-ROM, 250 MB HD, 8 MB RAM, Hayes modem, Unix-4.3 BSD compatibility, documentation & s/w incl Mathe-malifa, SoftPC, object oriented C & C++, NXSpipe, Lotus 1-2-3, developer s/w, \$3,850. 991-0821.

NEC 386/25 MHz computer, 9.2 MB RAM, 310 MB HD modem, 3.5" & 5.25" FD, math co-processor, Windows, Microsoft Word for Windows, Math Cad, Turbo C & C++, PC Tools & Antivirus, \$1,250. 991-0821.

286 DTK computer, 1 MB RAM, 40 MB HD, 5.24" floppy, Amber monitor, Hercules Graphics, keyboard, \$250. 996-5739.

386 DX, 4 MB RAM, 3.5" & 5.25" FD, \$400 OBO. 616-4546 pager.

JSC

Today

Cafeteria menu — Special: tuna noodle casserole. Total Health: steamed salmon steak. Entrees: steamed salmon steak, roast beef, baked chicken, steamed fish, Reuben sandwich. Soup: seafood gumbo. Vegetables: French cut green beans, cauliflower with cheese, green peas, black-eyed peas.

Monday

Labor Day — Most JSC offices will be closed in observance of the Labor Day Holiday.

Tuesday

NMA Courses — The JSC chapter of the National Management Association will offer a professional development course "Challenging People to Succeed" from 5-7 p.m. Tuesdays from Sept. 6 through Nov. 8. For additional information, contact Jovan-Justine Love, x39319.

Cafeteria menu — Special: fried chicken. Total Health: vegetable lasagna Entrees: Salisbury steak, steamed pollock, vegetable lasagna, French dip sandwich. Soup: split pea and ham. Vegetables: mixed vegetables, French cut green beans, pinto beans, vegetable sticks.

Wednesday

NMA Courses — The JSC chapter of the National Management Association will offer a professional development course "Leadership Development" from 5-7 p.m. Wednesdays from Sept. 7 through Oct. 19. For additional information, contact Jovan-Justine Love, x39319.

Toastmasters meet — The Spaceland Toastmasters meets at 7 a.m. Sept. 7 at House of Prayer Lutheran Church on Bay Area Blvd. For additional information, contact Darrell Boyd, x36803.

Cafeteria menu — Special: stuffed bell pepper. Total Health: stuffed bell pepper with creole

sauce. Entrees: fried catfish with hush puppies, stir-fry chicken and rice, wieners and beans, Reuben sandwich. Soup: seafood gumbo. Vegetables: buttered rice, Italian green beans, corn O'Brien, peas and carrots.

Thursday

Cafeteria menu — Special: barbecue smoked link. Total Health: roasted turkey breast. Entrees: turkey and dressing, beef stroganoff, chopped sirloin, French dip sandwich. Soup: tomato Florentine. Vegetables: Lima beans, buttered squash, Spanish rice, oriental vegetables.

Friday

Cafeteria menu — Special: meat sauce and spaghetti. Total Health: spaghetti noodles with turkey meat sauce. Entrees: rainbow trout, liver and onions, beef cannelloni, pork and shrimp egg roll, Reuben sandwich. Soup: seafood gumbo. Vegetables: steamed broccoli, breaded okra, cut corn, black-eyed peas.

Sept. 12

NMA Courses — The JSC chapter of the National Management Association will offer a professional development course "Business Concepts" from 5-7 p.m. Mondays from Sept. 12 through Oct. 24. For additional information, contact Jovan-Justine Love, x39319.

Sept. 14

Software demonstration — Omni Data Sciences and Success Resources will present software demonstrations from 8:30-10 a.m., 10:30 a.m.-noon; and 1:30-3 p.m. in the Bldg. 111 Conference Center. For additional information, contact Dean DesJardins, x34132.

PSI meets — The Clear Lake/NASA Area chapter of Professional Secretaries International meets at 5:30 p.m. Sept. 14 at the Holiday Inn

on NASA Road 1. For additional information, contact Elaine Kemp, x30556 or Diana Peterson, x33077.

Toastmasters meet — The Spaceland Toastmasters meets at 7 a.m. Sept. 14 at House of Prayer Lutheran Church on Bay Area Blvd. For additional information, contact Darrell Boyd, x36803.

Sept. 21

Toastmasters meet — The Spaceland Toastmasters meets at 7 a.m. Sept. 21 at House of Prayer Lutheran Church on Bay Area Blvd. For additional information, contact Darrell Boyd, x36803.

Sept. 28

Toastmasters meet — The Spaceland Toastmasters meets at 7 a.m. Sept. 28 at House of Prayer Lutheran Church on Bay Area Blvd. For additional information, contact Darrell Boyd, x36803.

Oct. 5

Toastmasters meet — The Spaceland Toastmasters meets at 7 a.m. Oct. 5 at House of Prayer Lutheran Church on Bay Area Blvd. For additional information, contact Darrell Boyd, x36803.

Oct. 10

Columbus Day — Most JSC offices will be closed in observance of the Columbus Day Holiday.

Oct. 12

PSI meets — The Clear Lake/NASA Area chapter of Professional Secretaries International meets at 5:30 p.m. Oct. 12 at the Holiday Inn on NASA Road 1. For additional information, contact Elaine Kemp, x30556 or Diana Peterson, x33077.

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Swap Shop

Technics tape deck model 615, \$50. x36813.

286 Samsung computer w/ DOS & various S/W, monitor & keyboard, \$200. x34637.

Motrola cellular phone, 2/batt, car charger w/ mount, spare car charger, home batt charger & leather case, will sell separate. Faye, 470-1455.

HP 41CV calculator w/math module, case & all documentation, ex cond, best offer. Ron, x30887.

NEC PowerMate 386 SX, 25 MHz, 2 MB RAM, 40 MB HD, 1.2 & 1.44 MB FD, VGA color monitor & card, \$495; AST color notebook, 386 SX-25, 5 MB RAM, 60 MB HD, 1.44 MB FD, fax modem, DOS, Windows, carry case, \$1K OBO; Canon BJ-105X portable bubble jet printer, \$200. Kelley, x36818 or 488-8194.

IBM PC Clone 286, VGA monitor, 2400 baud modem, 40 MB HD, 2 MB RAM, mouse, 3.0 5.25" floppies, many programs, \$500. Sandy, 470-9195.

386 SX/16 MHz, 6 MB RAM, VGA monitor & card, 70 MB HD, 3.5" & 5.25" FD, S/W included Windows, Quicken 2.0 etc, fax/modem, BD, Game BD, \$550. x33233.

C-128, 1571, 2 printers, modem, joystick, lots of programs, \$225; 286-40 HD, 2 MB RAM, EGA, your choice S/W, \$200; EPSON LQ-570, extra ribbons, ex cond, \$200. Rick, x34497 or 488-3527.

Musical Instruments

Yamaha, 6 piece maplewood custom drumset w/ Zildjian symbols, \$1,495; Remo Rotom Toms, \$75; Fender Telecaster, professional model made in USA to 1952 specs, blonde w/black pick guard, incl Fender amp & tweed case, \$600. x35180 or 326-3706.

Yamaha Y-23 Alto saxophone, music stand, hard case, digital metronome & pitch pipe, approved for Clear Creek & surrounding schools, was \$1060, now \$550. Steve, x48618 or 488-5105.

Pets & Livestock

Umbrella Cockatoo, male, 6 yrs, hand fed, lives children, pizza, fried chicken & country music, will sign along with most anything. \$1.5k neg. Larry, x47004 or 930-8393.

AKC Chihuahua pups, shots, wormed, \$150. 534-4667.

Dalmation puppy, male, all shots, \$225 OBO. Kim, 409-925-4285.

Household

Waterbed, qn sz, heated, ex cond, \$90. 486-8482.

Full size waterbed, wood headboard, semi-motionless, \$100 OBO. 409-925-5461.

Solid wood bunk beds w/mattresses, \$150. 996-9690.

Baby crib/youth bed, ex storage, ex cond, was \$650 now \$200. 282-2731 or 331-0164.

Baby bed, Jenny Lind, new mattress & box full of bed sheets, \$100. Debbie, 474-2745.

36" x 66" glass top table w/6 chairs, ex cond, picture available in my office, best offer. Ron, x30887.

Waterbed complete w/12 drawer pedestal, \$400. Jody, 282-3155 or 409-948-6128.

New Couch & loveseat, ex cond, \$500. 282-3406 or 286-3677.

Kenmore 30" drop-in elec range, stainless & black glass, still in box, was \$700, now \$350; genuine brass, queen size bed, \$450. x39129 or 997-2280.

Antique oak rocking chair, \$125; table circa 1910, 45" x 60", oak & pine inlay, \$525; baby bed, antique iron, \$225; English pull-table & chairs, \$550. 488-3588.

Desk, 5', 4 drawers, light colored, \$30. Shelley, x37824.

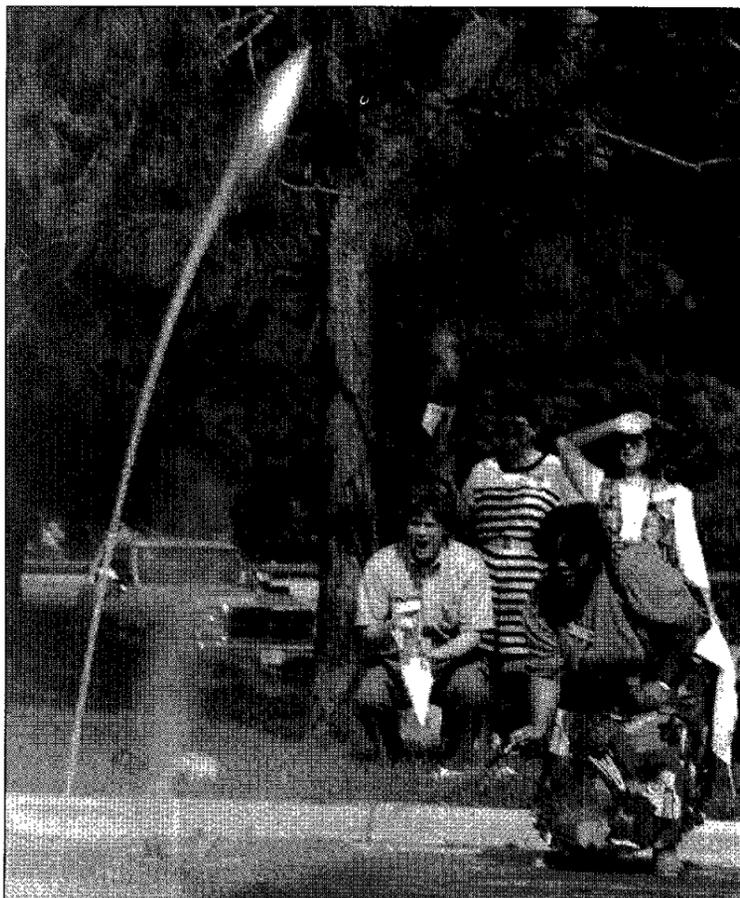
Matching couch & chair, good cond, gold w/black stripes, \$60; recliner, \$30; dark brown coffee table, \$15. Joe, x41096 or 326-5184.

Brown leather sofa, loveseat, chair, \$750. x37124 or 532-2370.

Sears washer/dryer, good cond, \$50/ea; sofa/hide-a-bed, ex cond, \$150; PVC pool furniture, 482-6027.

Round dining table, wood finish, 45" dia, ex cond, \$150; Maytag washer/dryer, large capacity, 2 yrs old, \$420/ea. Rita, x32686.

Kitchen table, leaf & 4 chairs, \$50; couch, polished cotton, ex cond, \$200; Kenmore refrigerator, 20 cu ft, w/ice maker, \$225. x473



Launching futures

Education programs reach out to teachers

For 12 weeks this summer, teachers visited JSC as part of an educational outreach program designed to enhance their scientific and technological skills.

"The goal of our educational workshops is to keep instructors informed and excited about science and math," said Norma Rhoads, public affairs specialist in the Education Branch. "When instructors are enthusiastic about these topics, they can instill some of that desire into their students."

Students are the ultimate goal of JSC's many educational outreach programs since they are the inventors and innovators of the future. However, JSC's programs target teachers in an eight-state region since many students may be reached through the positive experience of one teacher. Direct contact with students occurs through presentations given at elementary and secondary schools, or through video teleconferencing activities like the JASON project.

Most programs are geared

toward increasing teacher knowledge in scientific and technical fields, and helping teachers design new ways to share that knowledge with their students.

"During our workshops, we do a lot of fun things with a very practical purpose," Rhoads said. "John Connolly of the Solar System Exploration Division conducted a rocket building session he developed in which our teachers designed and developed a rocket using cardboard, plastic and wood rocket parts. Then, with an egg for a passenger, launched their rockets."

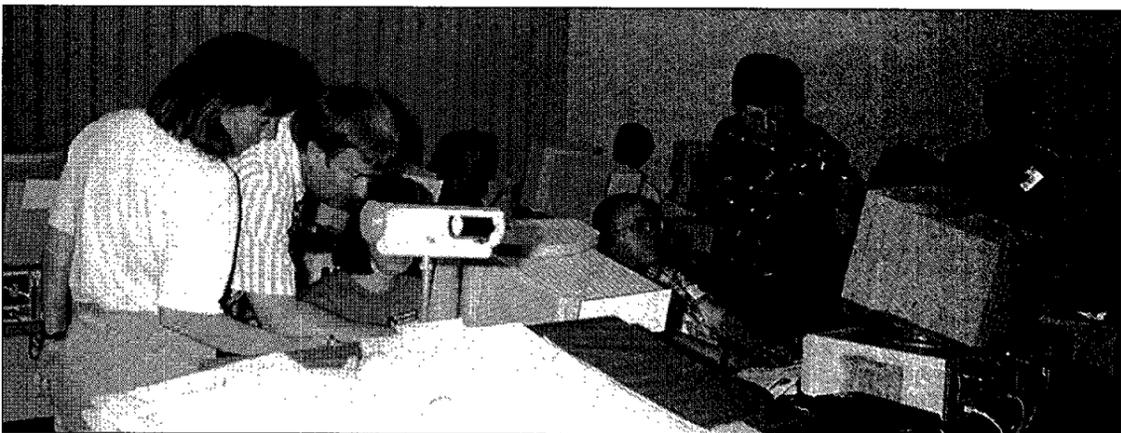
Some of the teams met with great success, safely returning rocket and passenger to Earth. Others discovered the hazard to a passenger during an uncontrolled reentry.

That same type of exercise can be taken back to the schools to show students their math and science studies can be fun. Other teacher groups designed and developed Mars colonies, Mars rovers, and paper airplanes — all potential ways to keep students

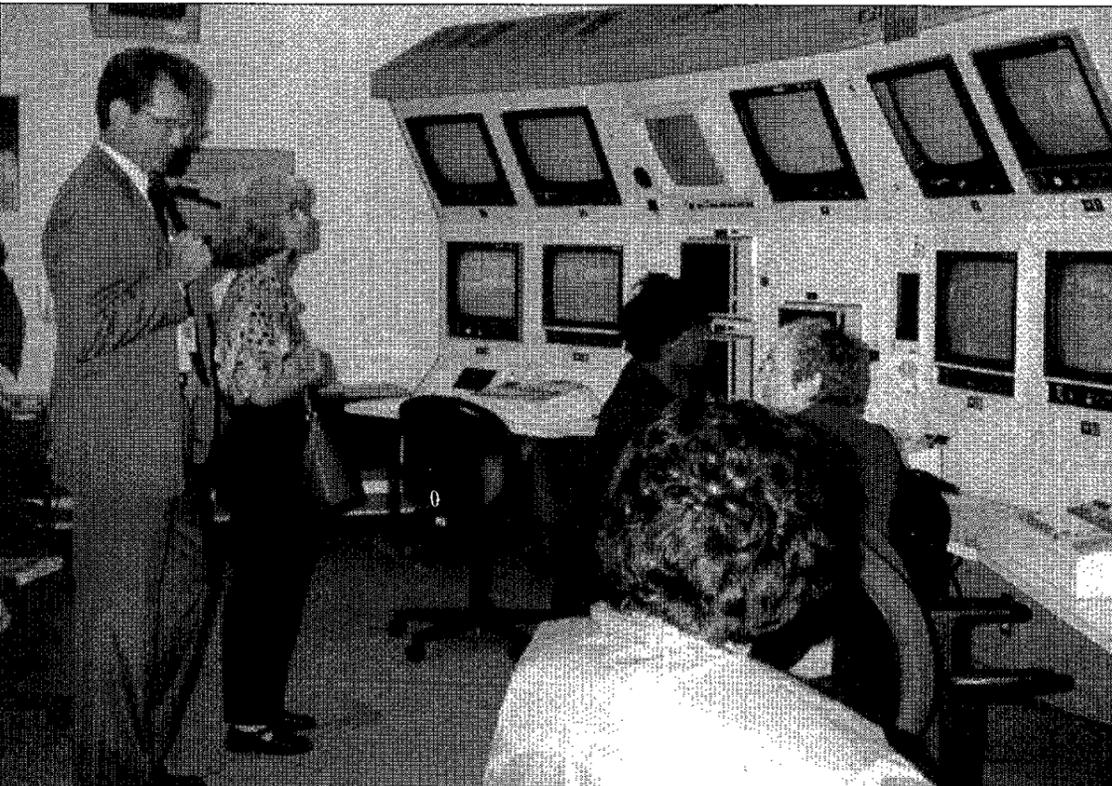
enthusiastic about the possibility of high-tech careers.

"We have very unique facilities, and a very unique and exciting mission within the space program," Rhoads said. "We try to share that sense of excitement with the educational community."

The seven workshops taught this summer were led by Rhoads, Bob Fitzmaurice, Jim Poindexter and with the support of Oklahoma State University Aerospace Education Specialists. Rhoads also credits much of the workshop success to the efforts of the many JSC civil servant and contractor experts who provided lectures, tours and demonstrations to the teachers. Workshops range from 1-4 weeks long and include tours of many JSC facilities. Teachers visited Ellington Field for a tour and explanation of the T-38 training jets and the Shuttle Training Aircraft. They also learned about space food, the space station, Mission Control, virtual reality, robotics, and physiological training during visits to the many laboratories on site. □



Clockwise from top left:
 Barbara Lyles urges on a water rocket built using a plastic soda bottle and cardboard
 Immediately before launching their water rockets, workshop participants show off rocket designs and prepare for the ultimate design test.
 Workshop participants spend some time training on computers and learning to access Spacelink through the Internet system.
 One workshop participant climbs into a shuttle trainer during a tour of Bldg. 5 facilities.
 Participants get a briefing into how trainers communicate with astronauts during shuttle simulations during a tour of Bldg. 5.
 More rockets are prepared for launch, carrying eggs aloft and hopefully to a safe return to Earth.



Henricks to lead STS-70 crew

By Kyle Herring

Veteran shuttle astronaut Tom Henricks will lead the crew of STS-70, scheduled for launch in mid-1995.

Joining Henricks on the five-day mission are Pilot Kevin Kregel; and Mission Specialists Nancy Sherlock, Don Thomas and Mary Ellen Weber.

The primary payload for STS-70 is a Tracking and Data Relay Satellite used as part of a three-satellite constellation providing telecommunications needs essential to the success of space shuttle and low-Earth orbit spacecraft missions.

Henricks, 42, has flown on two previous missions, STS-44 in November 1991 and STS-55 in April 1993. He was born in Bryan, Ohio, but considers Woodville, Ohio, his hometown. Henricks received a bachelor of

science degree in civil engineering from the U.S. Air Force Academy in 1974 and a masters degree in public administration from Golden Gate University in 1982.

Kregel, 37, was born in New York City, but considers Amityville, N.Y., his hometown. He received a bachelor of science degree in astronautical engineering from the Air Force Academy in 1978 and a masters degree in public administration from Troy State University in 1988. STS-70 will be Kregel's first shuttle mission. He is a member of the astronaut class of 1992.

Sherlock, 35, flew as a mission specialist on the STS-57 mission in June 1993. She was born in Wilmington, Del., but considers Troy, Ohio, her hometown. Sherlock received a bachelor of arts degree in biological science from Ohio State University in 1980



Henricks



Kregel



Sherlock



Thomas



Weber

and a master of science degree in safety engineering from the University of Southern California in 1985.

Thomas, 39, was a mission specialist on the STS-65 mission in July 1994. He was born in Cleveland, Ohio. He received a bachelor of science degree in physics from Case Western Reserve University in 1977 and obtained his master of science and doctorate degrees in materials science from Cornell

University in 1980 and 1982, respectively.

Weber, 32, was born in Cleveland, Ohio, but considers Bedford Heights, Ohio, her hometown. She received a bachelor of science degree in chemical engineering from Purdue University in 1984. Weber received her doctorate in physical chemistry from the University of California, Berkeley. She is a member of the astronaut class of 1992 and STS-70 will be her first shuttle flight.

Employees' kids earn FBA grants

The children of two JSC employees are among 13 recipients of the 1994 Federal Business Association scholarship grants.

Christi Grissoffi and Eric Richeson will each receive a one-time grant of \$500 to continue their studies. Grissoffi is the daughter of JSC employee Diane Grizzoffi and is in her third-year at Baylor University where she is pursuing a bachelors degree in Psychology.

Richeson is the son of JSC's George Richeson and is in his last year at Texas Tech majoring in Family Studies/Marriage and Family Therapist.

Grissoffi and Richeson were selected based on their scholastic achievements, financial need and the evaluation of an essay on "How Winning a Grant Will Help Me Meet My Goals."

The FBA provides programs to improve the educational and social welfare of federal employees and community relations.

VFW scholarship award honors Hubble team

The success of last year's Hubble Space Telescope servicing mission once again has benefited NASA's College Scholarship Fund.

The Veterans of Foreign Wars named the Hubble Servicing Team to receive its 1994 Aviation and Space Award. The award included a \$1,500 honorarium donated to the scholarship fund.

The Scholarship Fund awards scholarships agencywide to NASA-employee dependents pursuing undergraduate degrees in engineering and science. Five \$8,000 scholarships will be awarded in 1995.



JSC Photo by Scott Wickes

OUT FOR A SPIN — JSC Child Care Center care-giver El Borinsky takes five of her students for a spin in the park aboard the "Bye Bye Buggy." The shoulder-harness equipped contraption is used to give kids some fresh air and supply an interesting diversion. This time around, it was pre-toddlers Andy Berend, Shawn Fitzpatrick, Ryan Fletcher, Laura Salkowski and Alex Swanson who got to visit the Gilruth Center grounds.

Rawlings space paintings on display

An exhibition of 40 pieces of artwork representing 10 years of work by space artist Pat Rawlings will be featured Sept. 1-Nov. 1 at Space Center Houston.

Rawlings creates images based on scientific and technical themes that appeal to both rocket scientists and art enthusiasts, many of which are used to illustrate concepts being considered for future space missions.

Rawlings' extraterrestrial "snapshots" of future events give viewers a sense of being

there as explorers hop from one world to the next using the best technology of the 21st century. His paintings include vistas of Mars settlements, lunar bases and orbiting classrooms.

Rawlings, art director for Science Applications International Corp., has lived in the Houston area for 15 years. He earned a bachelor's degree in applied science and visual art from the University of Houston-Clear Lake.

For more information, call Space Center Houston at 244-2100.

November pond party honors Total Health birthday

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same time was efficient and cost effective," Billica said. The result is a program that identifies medical needs based on gender, age and occupation, but is still flexible enough to be tailored to an individual's medical history.

The program was introduced last August. Individual health programs—Health Related Fitness, Employee Assistance Program, and the health clinic—already were in place but the Total Health Program combined nutrition, exercise, prevention and mental health into a cohesive approach.

"The Total Health Program has increased employee awareness of the connection between exercise and long-term health," said Larry Wier, coordinator for the pro-

gram. "At a time when national statistics indicate the population is growing heavier, we've managed to hold the line here at JSC, and I think that's directly attributable to our Total Health Program."

Total Health also helps employees with its complete weight control program, total health menu, and new desktop lunch, a low-calorie, pre-packaged meal for employees on the go.

The complete weight control program held its first 12-week session in May. The second class began in August, and Wier reports the program has a waiting list of more than 100 names.

Through Total Health, the clinic sponsors health awareness topics every month.

"Over the past year we have had seminars on infertility, ergonomics, skin cancer

awareness and hurricane preparedness," Hogan said. "We try to respond to the needs of the JSC community with our programs and we've had a very positive response."

One of the best-received innovations are new employee health information cards. Employees receive the card following scheduled physicals. The card has a photographic image of the holder's most current electrocardiogram, and information on blood type, allergies, special medical needs, and an emergency point of contact.

To celebrate the program's successes and its one-year anniversary, the Total Health Program once again will host a "pond party" in the mall area near the duck ponds. To avoid the summer heat, the party will be held in November.

NASA, Russia's aeronautics teams collaborate

(Continued from Page 1)

Center in a contract with Boeing. The Tupolev effort is budgeted for \$8 million over a three-year period.

NASA first considered using the Tu-144 in September 1993 as a result of U.S.-Russian joint discussions on aeronautics. Subsequent studies by NASA, U.S. industry and Tupolev engineers concluded that because of its size, performance characteristics and availability, the aircraft would be an effective and economical flying testbed.

"Using the Tu-144 is a perfect fit

between our needs and their capabilities. It's a model for cooperative technology programs with Russia," said NASA High-Speed Research Program Director Louis J. Williams. "This effort will give us up-to-date information on the 'real world' conditions that a supersonic airliner operates in — data we wouldn't otherwise be able to obtain easily."

Personnel from Langley, Dryden Flight Research Center and Lewis Research Center will comprise the agency's flight operations and research team.

The first flight is expected to take place by late summer 1995.

The Tu-144 first flew in prototype form at the end of 1968. The aircraft to be used in the NASA research program is a later production version built in 1982 and has a total flight time of only 87 hours. It has a maximum cruising speed of Mach 2.35, a range of 2,485 miles and a maximum altitude of 62,000 feet. Tupolev most recently used the plane as a flying laboratory; it has an emergency escape system and mounts a number of research instruments.

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All three Endeavour engines replaced

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In the Vehicle Assembly Bldg. Endeavour's other two main engines also have been removed. New engines are being installed for a second launch attempt perhaps as early as Oct. 2, on STS-68, the second Space Radar Laboratory mission.

Atlantis is being readied for a launch in late October on STS-66 with Atmospheric Laboratory for Applications and Sciences-3. Work on Atlantis this week included an end-to-end test of ATLAS-3.