



Bird's eye view

The STS-61 crew had a spectacular view of the Earth during servicing activities on the Hubble Space Telescope. Photos on Page 3.



Air time

JSC's high altitude research aircraft collects samples of cosmic dust for researchers. Photo on Page 4.

Space News Roundup

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No. 2



Carolyn Huntoon

Key center positions filled

Dr. Carolyn L. Huntoon took the helm as JSC director and appointed George W.S. Abbey as her deputy this past week as part of a sweeping realignment of field center management by NASA Administrator Daniel S. Goldin.

In addition to naming new directors for five NASA field centers, Goldin appointed former Hubble Space Telescope Mission Director Randy Brinkley as program manager for space station and Navy Capt. William Shepherd as manager for technical issues reporting to Brinkley.

"I'm pleased Dr. Huntoon has agreed to become the director," Goldin said in a televised address to agency employees.

"This is exciting because we're going to have a scientist, a life scientist, in charge of this important facility. As you know, the whole purpose of space flight is to learn and to understand and to develop technology so we can perform research and science in space," he said.

Huntoon, who joined the space program in 1970, said she is gratified to have the opportunity to lead the JSC

team and is looking forward to working with even more of its employees in her new role as center director.

"The talented men and women at our center have amassed an impressive record of accomplishments in space exploration over the past 30 years. During December's successful repair of the Hubble Space Telescope, the JSC team worked effectively with the rest of the NASA team to show the world once again what well-focused, dedicated people can achieve in space."

Please see **NEW** Page 4



George Abbey

Discovery moves to center stage

By James Hartsfield

With the stage set and dress rehearsals complete, all eyes are now focused on the space shuttle's opening act of 1994—the launch of STS-60 in less than three weeks.

Discovery was moved to Launch Pad 39A early this week. Today, the STS-60 crew—Commander Charlie Bolden, Pilot Ken Reightler, and Mission Specialists Jan Davis, Ron Sega, Franklin Chang-Diaz and Sergei Krikalev—will complete a terminal countdown demonstration test dress rehearsal of the launch countdown at Kennedy Space Center. Shuttle managers will meet Jan. 25

for a final review of all flight preparations, following which an official launch date will be announced.

In addition to opening a new year of shuttle flights, STS-60 will open a new era of manned spaceflight with Krikalev, a cosmonaut, becoming the first Russian ever to fly aboard a U.S. spacecraft. STS-60 will be the first flight of the Wake Shield Facility as well, a satellite that will fly free of *Discovery* for about 48 hours to study using the ultra-pure vacuum of space to process materials for microcomputer chips. *Discovery* also will be the second flight of

Please see **LAUNCH**, Page 4



JSC Photo by Andrew Patnesky
SAFETY TRAINING — Russian Cosmonaut Sergei Krikalev is assisted by trainers as he maneuvers a small life raft following a bailout training exercise in the Weightless Environment Training Facility.

Sweeping changes for NASA

By Kelly Humphries

The leadership change at JSC is accompanied by the appointment of new directors at four other NASA field centers and a number of management changes at NASA Headquarters.

"These appointments and realignments will enhance and strengthen the agency's programs and institutions," Goldin said. "They will affect NASA science, technology, research facilities and major programs, as well as the agency's Advisory Committee structure."

Ken Munechika was named director of Ames Research Center. Currently executive director of the Office of Space Industry for the State of Hawaii, he also held a number of key management and technical positions during a distinguished 31-year Air Force career, with his last Air Force assignment as senior commander of Onizuka Air Force Base in Sunnyvale, Calif. Dr. Dale Compton, the present director of Ames, plans to retire Jan. 28.

Kenneth Szalai was appointed to lead the new center that will replace the current Dryden Flight Research Facility when it becomes independent from Ames in March. He currently heads Dryden as a deputy director of Ames.

"Operating as a separate facility, Dryden will be able to support the agency's aeronautics and space programs in a streamlined manner, by working directly to serve each of the research and flight centers," Goldin said.

G.P. (Porter) Bridwell is the new director of Marshall Space Flight Center, with current director Thomas "Jack" J. Lee, becoming the agency's special assistant for access to space.

Bridwell was deputy manager of the Space Station Redesign Team and a leader of the U.S.-Russian Space Station feasibility study. He has been with NASA since 1962, directing space shuttle project activities assigned to the Marshall Space Flight Center, including the main engines, external tank, redesigned solid rocket motor, solid rocket booster, advanced solid rocket motor and related systems, as well as test activities and activities at the Michoud Assembly Facility.

Lewis Research Center will be led by Donald Campbell, currently director of science and technology in the Office of the Assistant Secretary of the Air Force for Acquisition. Campbell was responsible for monitoring the Air Force

Please see **GOLDIN**, Page 4

JSC to pilot federal safety and health program

By Audrey Schwartz

Soon more JSC employees will inspect for workplace hazards and identify "accidents waiting to happen" as part of a voluntary safety and health initiative that will be a pilot program for other NASA centers and federal agencies.

JSC is the first federal agency to seek entry into the Voluntary Protection Program, a new initiative of the Occupational Safety and Health Administration. The VPP is a cooperative program among employers, contractors, unions and OSHA. "The VPP is really an exercise in continuous improvement and employee empowerment. The program empha-

sizes that every employee, at every level, is responsible for safety and health. Employees can take faster action and be part of the solution," said Richard Holzapfel, chief of the Test, Operations and Institutional Safety Branch.

More employees will become directly involved with required safety and health inspections at their work site, explained Holzapfel. When a health or safety concern, such as a tripping hazard or other unsafe condition, is identified, employees can call an ad hoc meeting to discuss problem solving ideas. Individual employees can take immediate action to correct problems, when appropriate.

The VPP also will help save JSC from potential fines that could further impact organizational budgets. Once exempt from OSHA penalties, federal agencies will soon be required not only to comply with all workplace health and safety standards but will be liable for monetary penalties that will be assessed off the top of agency budgets. To help ensure that JSC meets OSHA VPP criteria, a management committee benchmarked private sector health and safety programs and recommended VPP adoption to center management.

JSC's VPP efforts will address three issues. "First and foremost is

the need to consciously improve employee safety and health on site. Second is to create a cooperative relationship with OSHA. The third focus is to develop a set of consistent center-wide health and safety standards to make sure all civil service and contractor organizations are working toward the same goals," said Gary Caylor, head of JSC's Occupational Health Office.

JSC will officially kick off the pilot program in early 1995. Currently, Holzapfel and Caylor are meeting with directorates, contractors, union officials and safety representatives to generate awareness and input into the VPP plans.

Veterans named to command shuttle flights

Air Force Lt. Col. Donald McMonagle has been selected to command STS-66 aboard *Atlantis* later this year.

The Atmospheric Laboratory for Applications and Science mission is the third in a series of Spacelab flights to study the energy of the Sun and how it affects the Earth's climate and environment.

Filling out the crew are Air Force Maj. Curtis Brown, Jr., pilot, and Mission Specialists Scott Parazynski, Joseph Tanner and Jean-Francois Clervoy, a European Space Agency astronaut. Ellen Ochoa previously was named payload commander for the mission.

McMonagle, 41, flew as a mission specialist on STS-39 in April/May 1991. He also was pilot for STS-54 in January 1993. Brown,

37, previously served as pilot aboard *Endeavour* on STS-47 in September 1992.

Parazynski, 32 was selected as an astronaut in March 1992. Tanner, 43, has been with NASA since 1984, serving as an aerospace engineer and research pilot. Clervoy, 35, was born in Longeville-le-Metz, France. He is a member of the astronaut class of 1992.

Parazynski, Tanner and Clervoy are all making their first shuttle flights.

The mission includes deployment and retrieval of the Cryogenic Infrared Spectrometer Telescope for Atmosphere.

CRISTA is mounted on the Shuttle Pallet Satellite and designed to explore the variability of the atmosphere and provide measurements that will complement those obtained by the Upper Atmosphere Research launched from *Discovery* in 1991.

CRISTA-SPAS is a joint U.S./German experiment.

Veteran shuttle astronaut Stephen Oswald is set to command the STS-67 flight, an astronomy mission, aboard *Columbia* late this year.

Oswald, 42, previously flew as pilot on STS-42 and STS-56. Joining Oswald on the flight deck as Pilot is Air Force Maj. William Gregory. Gregory, 36, was selected as an astronaut candidate in 1990 and will be making his first shuttle flight.

Completing the crew is Mission Specialist Navy Lt. Cdr. Wendy Lawrence and Payload Specialists Ronald Parise and Samuel Durrance. Payload Commander Tamara Jernigan was named to the mission in August and Mission Specialist John Grunsfeld was assigned in October.

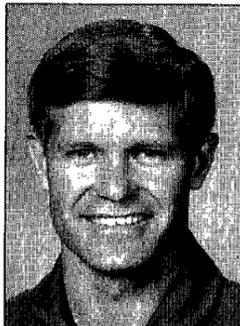
Lawrence, 34, is a member of the

astronaut class of 1992 and will be making her first space flight on this mission.

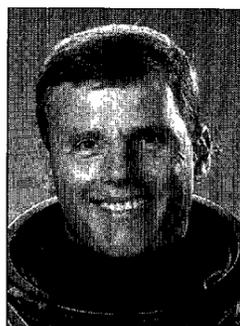
Parise, 42, is a member of the research team for the Ultraviolet Imaging Telescope, one of the instruments scheduled for flight as part of the Astro payload. This will be his second shuttle flight as a payload specialist.

Durrance, 50, is a research scientist in the Department of Physics and Astronomy at Johns Hopkins University. He is the assistant project scientist for the Hopkins Ultraviolet Telescope, one of the instruments scheduled to fly as part of the Astro Observatory.

He is making his second flight as a payload specialist having flown previously on the Astro-1 mission aboard *Columbia* in December 1990.



McMonagle



Oswald

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.

Moody Gardens — Discount tickets for two of three different attractions: \$9 Houston Rodeo — A limited number of tickets go on sale at 8 a.m. Jan. 20. Entertainment '94 Coupon Books — Bay Area/Galveston/Downtown or FM 1960/Downtown: \$30 each, \$1 off first book for civil servants. Gold C Books: \$8 Space Center Houston — Discount tickets: adult, \$7.50; child (3-11), \$4.50; commemorative, \$9.95. Metro tickets — Passes, books and single tickets available. Movie discounts — General Cinema, \$4.50; AMC Theater, \$3.75; Loew's Theater, \$4. Stamps: Book of 20, \$5.80

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 6:30-9 p.m. Monday-Friday. 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. Jan. 27. Pre-registration is required. Cost is \$5.

Defensive driving — Course is offered from 8:15 a.m.-3 p.m. Saturday. Next class is Feb. 5. 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.

Western dance — Beginner class meets from 7-8:30 p.m. Mondays and advanced class meets from 8:30-10 p.m. Mondays. Cost is \$20 per couple for six weeks.

Line dance — Classes meet from 7-8 p.m. Tuesday nights. Cost is \$10 per person for six weeks.

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

JSC

Swap Shop

Property

Sale: LC waterfront marina TH, 2-2, \$99.5k. Steve Brody, 202-358-0889 or 703-532-3415.

Sale: Galveston Seawall condo, gulf view, \$21.9k. 409-744-3594.

Rent: Meadow Bend, 3-2-2, brick, high ceiling, lg back yard, 6 mo rent, \$800/mo, 1 mo deposit, avail 1-18. Mann, 334-1072.

Sale: Friendswood/Heritage Park, 3-2-2, 1850 sq ft, 3 yrs old, Jacuzzi, both formals, FPL, c'fans, window coverings, storage bldg, fenced, \$92.5k. 996-5076.

Rent: Waterfront eff apt, furn or not, pool, utilities paid except phone, no smokers, no pets, \$395/mo. x48882 or 532-1725.

Sale: Meadow Green, 4-2.5-2, 2900 sq ft, lg cul-de-sac, lg deck, both formals, wet bar, gameroom, FPL, 8 c'fans, \$133k. x36881.

Rent: Breckenridge, CO, ski house, sleeps 12, view of slopes, 1 block from ski shuttle. Larry, 303-482-9124.

Sale: Sagemont, 3-2-2, both formals, den, FPL, brick. Ben, x34339 or 481-1439.

Sale: Baywind II condo, 1 BR, FPL, W/D, refrigerator, new carpet, \$27k. Steve, x49625 or 486-8047.

Rent/Sale: Nassau Bay, lg 4-2-2, water view, cul-de-sac, gas heat, recently remodeled, fenced, patios, trees, lg lot, \$795/mo. Do, 333-6806 or 484-2456.

Rent: Galveston duplex, 2 blocks off Seawall behind Gaidos, \$375/mo + deposit. Jim, x35852 or 474-7747.

Lease: Townhomes, front and back door, 2 cov parking, outside storage, W/D conn, 2-2.5 TH, \$585/mo + deposit; 1-1.5 loft, \$495/mo + deposit. 474-9262.

Rent: Ski Wolf Creek, southern CO, furn, 2BR, sleeps 5, no smoking, no pets, day/wk/mo or longer. Bob, x30825 or 998-7372.

Rent: Galveston condo, Seawall and 61st St, furn, sleeps 6, wknd/wkly/dly rates. Magdi Yassa, 333-4760 or 486-0788.

Cars & Trucks

'91 Chevy Cavalier, blk, tinted windows, stereo, \$2500 neg. Dave, x34271 or 488-6912.

'88 Honda Accord LX, 4 dr, ex cond, 67k mi, pwr windows and dr locks, new brakes, new tires, \$6995.

x32567 or 488-3314.

'84 Nissan 300ZX, 5 spd, silver, T-tops, 87k mi, \$4200. x39045 or 488-2676.

'92 Isuzu Rodeo, 17.7k mi, A/C, cruise, cass, 5 spd, roof rack. x39120 or 922-7283.

'86 Firebird, V8, 305, T-tops, midnight blue, gray velour int. Nelda, 333-7686 or 332-5641.

'72 VW Super Beetle, rebuilt eng, new paint, starter and generator, needs new reverse gear, \$1250. 488-9044.

'88 Nissan 200SX, auto, A/C, sun roof, clean, 56k mi. \$5900. Larry, 334-3386.

'73 Grand Torino, A/C, PS, PB, auto 351 Cleveland. Bill, 996-8194.

'78 Porsche 928, brown w/leather int, auto, ex cond, 75k mi, \$8500. Bill, x48889.

'91 Toyota MR2, blk, ex cond, CD. Gary, x37896 or 333-2751.

'91 5.0 Mustang LX, 5 spd, all pwr, bra, tint, car cover, ex cond, 18k mi, \$10.5k. Russell, 554-2879.

'84 Buick LaSabre Ltd, auto, PS, PB, good tires, blue, 4 dr, \$2695 OBO. 489-0605.

'85 Nissan 300ZX, 5 spd, T-tops, all options, 99k mi, ex cond, \$5700. Lisa, 333-6795.

Boats & Planes

16 ft Lamar boat w/35hp Evinrude OB and drive up trlr, new plates and registration, \$650 OBO. x39491 or 409-925-2330.

U.S. Yachts 22 ft sloop w/45hp OB, 2 sails, galley, sleeps 5, ex cond, \$5399. Russ, x45979 or 332-1769.

'86 Sea Ray Bow Rider, 16.5 ft, Mercruiser 120hp w/drive on trlr, \$4500. Gary, x37896 or 333-2751.

'79 14 ft Malibu boat w/89 Nissan OB, Johnson trolling motor, live well, galv trlr, Humminbird TCR, fish or ski, \$1500. 482-7922.

Cycles

'92 Marin mountain bike, 17.5 in. CrMo frame, Deore Lx/Dx components, Mavic 231 rims, choice 3 stems, 2 saddles; Answer Accutrak 1.125 x 6 in. fork, \$25; 0 deg 1.125 stem, \$10; bottom bracket, \$10. Trey, x47982 or 992-1076.

Audiovisual & Computers

Compaq Deskpro 286, 12 MHz, 40

JSC

Dates & Data

Today

Cafeteria menu — Special: baked chicken. Total Health: roast beef au jus. Entrees: deviled crab, Creole baked cod, baked chicken, beef cannelloni, Reuben sandwich. Soup: seafood gumbo. Vegetables: seasoned carrots, peas, breaded okra, steamed cauliflower.

Saturday

Sky watch — The JSC Astronomical Society and Challenger 7 Memorial Park will have telescopes available for the public to view the winter sky from dusk to 10 p.m. on Jan. 15. For more information, call Bill Williams, 339-1367, evenings.

Sunday

Chorus auditions — The Bay Area Chorus will hold auditions for its 1994 Spring Season from 3-5 p.m. and 9-9:30 p.m. Jan. 16 at Clear Lake Presbyterian Church. For additional information, contact Gayle Brown at 684-6030.

Monday

MLK Day — Most JSC offices will be closed Jan. 17 in observance of the Martin Luther King Holiday.

Tuesday

Speech contest — The Loral Chapter of the National Management Association will host the opening round of the American Enterprise Speech Contest for high school students with dinner at 5:30 p.m. and speeches beginning at 7 p.m. at the Lakewood Yacht Club. For reservations and information, contact Mary Jane Powell, at 335-2739.

Cafeteria menu — Special: turkey and dressing. Total Health: roast

turkey. Entrees: baked meatloaf, barbecue spare ribs, liver and onions, baked chicken, French dip sandwich. Soup: black bean and rice. Vegetables: steamed broccoli, California vegetables, breaded squash, savory dressing.

Wednesday

Astronomy seminar — The JSC Astronomy Seminar will meet at noon Jan. 19 in Bldg. 31, Rm. 129. For more information, call Al Jackson, 333-7679.

Cafeteria menu — Special: Mexican dinner. Total Health: ground turkey tacos. Entrees: Parmesan steak, beef cannelloni, catfish and hush puppies, steamed fish, Reuben sandwich. Soup: seafood gumbo. Vegetables: peas and carrots, ranch beans, mustard greens, Spanish rice.

Thursday

Russian speakers — Practice Russian language skills from 11 a.m.-1 p.m. Jan. 20 in the Bldg. 3 cafeteria. For more information, call Jack Bacon, x38725, or Amy Mendez, x38066.

Town meeting — The Asian Pacific American Program Council will host a town meeting for the Asian Pacific American community at NASA/JSC from 4:30-6 p.m. Jan. 20 at the Lunar and Planetary Institute. For more information, contact K. Nguyen, 282-2854 or L. Li at x39160.

Cafeteria menu — Special: smothered steak. Total Health: steamed pollock. Entrees: chicken and dumplings, corned beef and cabbage, broccoli cheese quiche, steamed fish, French dip sandwich.

Soup: navy bean soup. Vegetables: steamed cabbage, cauliflower au gratin, buttered carrots, lima beans.

Friday

Cafeteria menu — Special: baked meatloaf. Total Health: lite macaroni and cheese. Entrees: baked scrod with Hollandaise, broiled chicken, pork and beef egg rolls, steamed fish, Reuben sandwich. Soup: seafood gumbo. Vegetables: stewed tomatoes, seasoned spinach, cut corn, macaroni and cheese.

Jan. 25

Blood drive — The next JSC blood drive will be from 7-11:30 a.m. Jan. 25 at Loral at 1322 Space Park Drive and from 1:30-4:30 p.m. at 1816 Space Park Drive. For additional information, contact Ed Barela, 335-5023.

PMA meets — The Performance Management Association will host a membership awareness meeting Jan. 25 at the Gilruth Center. For additional information, call Ed Parks at x45375.

Jan. 26

AFCEA meets — The Armed Forces Communications and Electronics Association meets from 11:30 a.m.-1 p.m. Jan. 26 at the Holiday Inn on NASA Road 1. Stephen Bales will discuss "Reducing the Cost of Space Operations." For more information, call Linda Hinton, 282-7682.

Astronomy seminar — The JSC Astronomy Seminar will meet at noon Jan. 26 in Bldg. 31, Rm. 129. Wendell Mendell will discuss an "International Observatory on the Far Side of the Moon." For more information, call Al Jackson, 333-7679.

MB HD, 1.2 MB FD, mono, SW, \$275. Kyle, 481-2195.

IBM PC, 640k, two 5.25 in. FD, no HD, 13 in. color monitor, kybd, SW, \$175 OBO. Michelle, x31109 or 474-7263.

Tohsiba T5200, 6 MB RAM exp to 14 MB, 200 MB HD, one 3.5 in. FD, 386 20MHz, Windows, RGB output, plasma screen, 1 parallel port, 2 serial ports, 2 internal slots for AT-bus cards, manuals, \$900 OBO. Tien, 777-7003.

Swap Shop ads are accepted from current and retired NASA civil service employees and on-site contractor employees. Each ad must be submitted on a separate full-sized, revised JSC Form 1452. Deadline is 5 p.m. every 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.

Photographic

Pentax ME Super Body, \$130; 50mm lens, \$30; 135mm lens, \$50; 300mm lens, \$100; flash, \$35, OBO. Gregg, x31250.

Musical Instruments

Kramer electric guitar w/string locks, whammy bar, strap, hard case, V-style, \$300 OBO. Lawrence, x45131 or 480-6837.

Pets & Livestock

Iguana, 3.5 ft long, cage, heat rocks, food bowls, misc accessories, \$150 neg. Allen, 326-4613.

Two 1.5 yr old female tabby cats, spayed, free. Pete, x38614.

Rotweiler puppies, AKC reg, ready 1-13-94, \$350 ea. 399-9244 or pager 262-4704.

Household

Matching coffee table, 2 end tables and kitchen table, all blk frames and

tinted glass, will sell as a set of 4 or separately; 3 pc wht/blk designer sofa. Dave, x34271 or 488-6912.

K2 waterbed w/canopy mirrors, 6 drawers, semimotionless, side pads, stain glass doors, was \$1200, now \$500 OBO. x39491 or 409-925-2330.

Beige corduroy sleeper sofa, \$125; coffee and end tables, \$10 ea; entertainment center, \$100; 2 contempo DR chairs, \$15 ea; lamps, \$20 ea; Sanyo receiver, \$25; Technics CD player, \$85. Debbie, x33038 or 332-0479.

Solid wood microwave stand, \$30; solid wood coffee table, \$20; solid wood butcher block, \$20. 333-6573 or 488-4813.

Solid natural pine platform dbl bed w/mattress, \$50; wht student desk w/bookshelf, \$30; Mondo roller blades, sz 10, \$75; round Danish walnut dining table w/4 chairs. Steve, x49625 or 486-8047.

Mikasa Imperial Lapiz china, \$65/5 pc place setting, assorted serving pcs. Fisher, 480-2584.

Kg sz waterbed, solid oak, 8 drawers, captain's pedestal, was \$2500, now \$700 OBO. Gary, 482-3669.

Dinette w/4 chairs, \$50; couch, love seat, brown w/oak arms and legs, oak end tables, all 3 pcs, \$300. x34354 or 337-1640.

Antique dining table, tiger eye oak w/matching buffet and 5 chairs, table is adjustable, \$775; drop-leaf table, \$125; various wooden chairs, \$20 to \$40 ea; Wurlitzer Fun-maker organ, \$125; table lamps, \$25-up. Jim, x38624 or 475-9671.

Thomasville formal DR set, table w/2 leaves, 6 chairs, 6 ft china cabinet, ex cond, \$1000. 334-3066.

Vacuum cleaners, one Hoover self propelled and one Hoover Dial-A-Matic w/attachments, both in ex cond. 286-8822.

Wanted

Want female, nonsmoker to share lg house in Pipers Meadow, \$375/ mo all bills paid, avail 2-1. x47485 or 286-3101.

Want used stained glass equipment or supplies. Rusty, x35589 or 474-9140.

Want motorcycle trailer. John, x31114 or 486-0898.

Want amateur jazz musicians to jam. Andy, x34423.

Want gas edger. Jim, x35852 or 474-7747.

Want riders to join VPSI Vanpool, depart Meyerland Park and Ride 7:05 am for JSC, onsite personnel working 8 am/4:30 pm, 11 current members seeking 6 to 8 more. Travis Moebees, x45765 or Don Pipkins, x35346.

Want responsible nonsmoker to rent furnished room, reduced rent in exchange for help w/5 yr old child. 480-3424.

Miscellaneous

Colt Double Eagle Officer's model-SA/DA compact .45, 8+1 capacity, good cond, warranty and box, \$450 OBO. Lawrence, x45131 or 480-6837.

Ladies' leather English riding boots, 8.5M, ex cond, \$50. Sarah, 486-2164.

Electric lawn trimmer, ex cond, \$25. x48882 or 532-1725.

Camper shell for Toyota 4x4, red and white, \$200; California carpet kit for Toyota 4x4, ex cond, \$150. 488-9044.

Dearborn unvented LP gas heaters, one 40k Btu, one 20k Btu; refrigerator; A/C, 110V, 10k Btu; two 6 ft sliding glass doors; misc doors and windows. Ken, x30921 or 554-6504.

Tickets, Texas A&M Singing Cadets at Galveston Ball High School auditorium, 1-10-94, 7:30 pm, \$10. Rob Way, x33195 or 332-3077.

Sears electronic speed control, unused, fits most cars, \$30. Jim, x30079 or 332-6302.

Ladies' sz 12 winter coats, full length leather, \$45; mid length lavender, \$30; ex cond. 474-9262.

Lathe, 1/3 hp, 3 ft working area, Mft KFF, 8 wood tools, complete, \$120. Tom, 996-5835.

Men's mirrored wrap around terminator cool Gargoyles sunglasses, were \$85, make offer. Bob, x33149.

Yonex Adx 100 driver clone, graphite shaft and head, ex cond, \$75. Bob, x33149.

Men's ski gear, Raiche RX860 boots sz 9.5, \$60; Hotfingers gloves, sz M, \$10; ski jacket sz XL, \$30. Jeri, 333-7552.

Phonemate answering machine, \$25; Singer sewing machine w/o cabinet, \$35; Graco baby stroller, \$40; antique brass FPL screen, 31 in. x 38 in., \$15. 480-3424.



A noble endeavor

A look at the crew and activities of the Hubble Space Telescope servicing mission

(Clockwise from top: 1)

The STS-61 crew members take a moment to pause for a crew photo on *Endeavour's* flight deck. From left are Story Musgrave, Dick Covey, Claude Nicollier, Jeff Hoffman, Ken Bowersox, Kathy Thornton and Tom Akers. The Hubble Space Telescope solar panels are visible in the cargo bay.

2) Passing over the west coast of Australia, Story Musgrave (top) and Jeff Hoffman complete the final of

five space walks and enjoy the view from 325 nautical miles above Earth.

3) Claude Nicollier at the aft flight deck station from where he operated the shuttle's robot arm during activities to service the telescope.

4) Story Musgrave (foreground) works on HST's solar arrays while Jeff Hoffman, anchored to a foot restraint on the end of the robot arm, waits to be maneuvered to the forward payload bay.

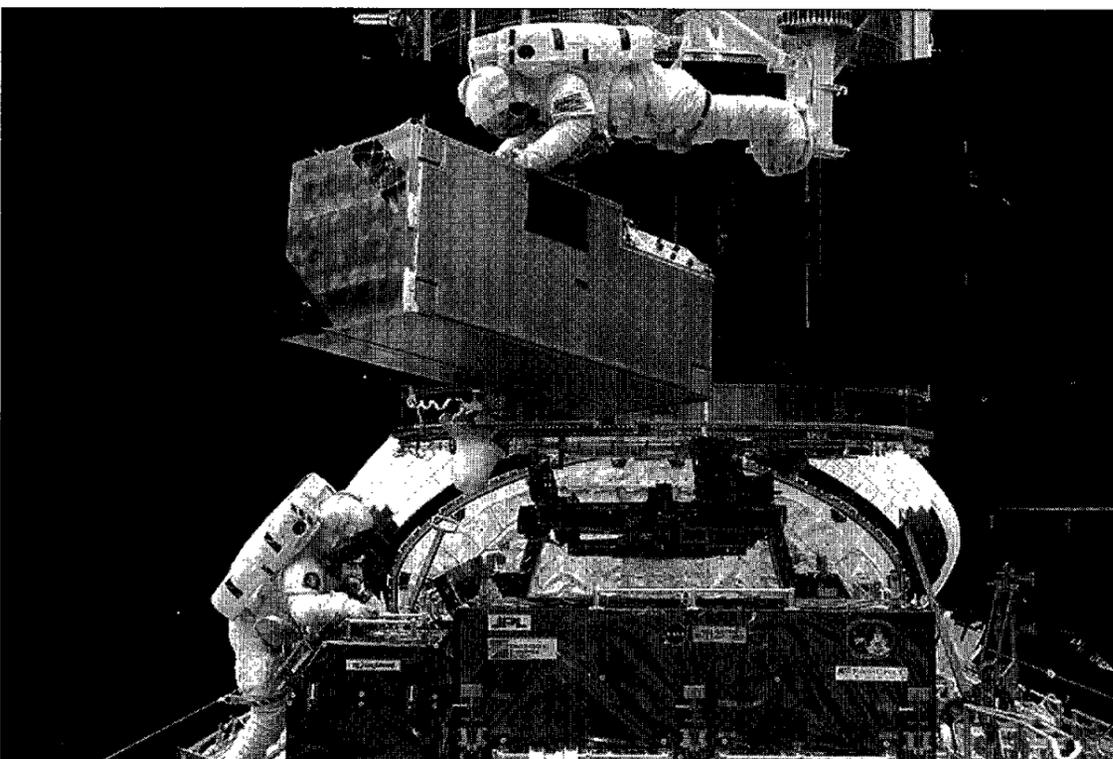
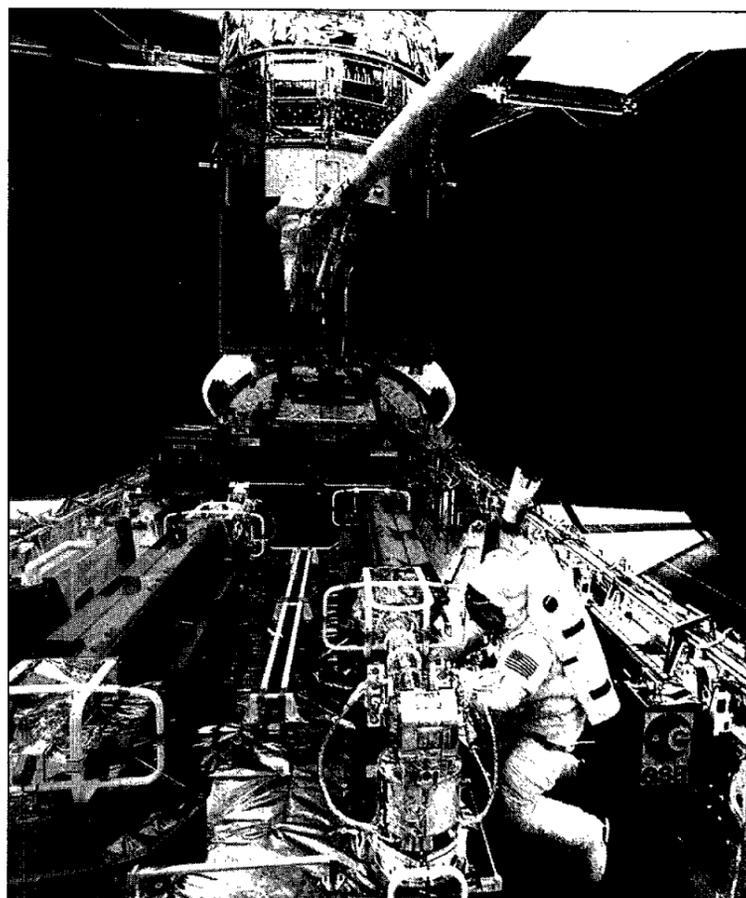
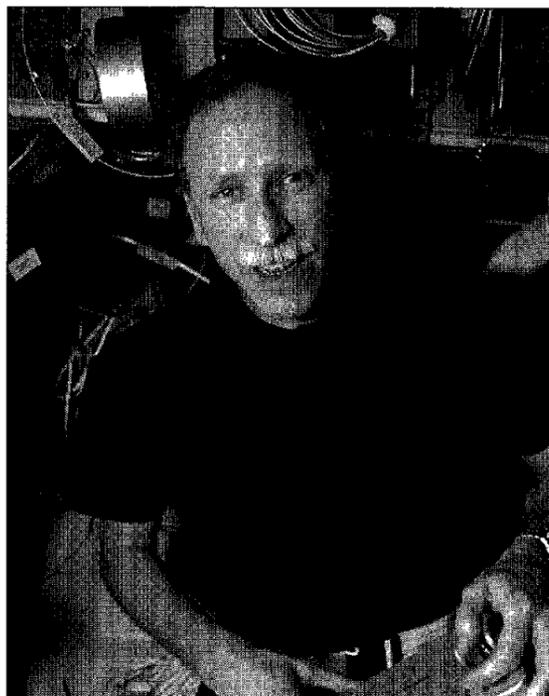
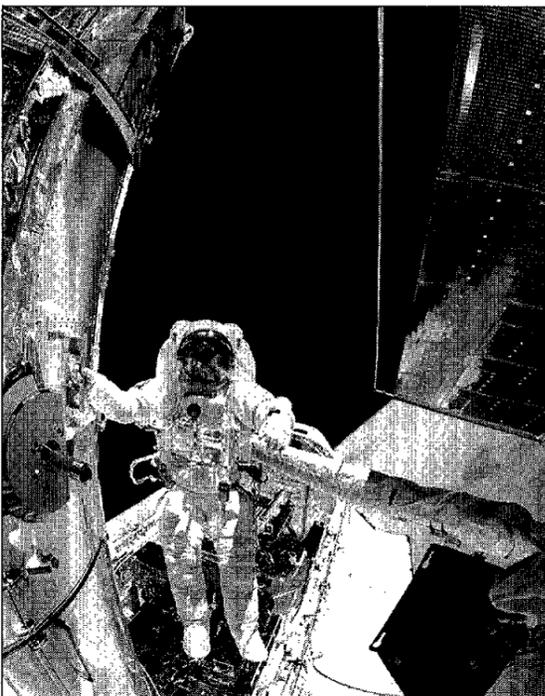
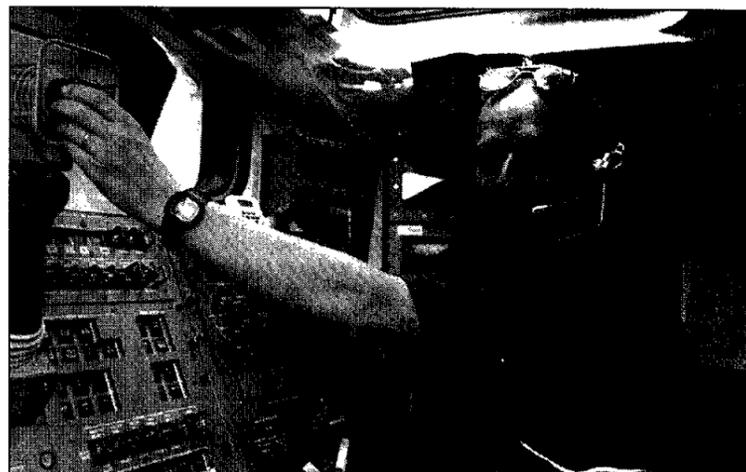
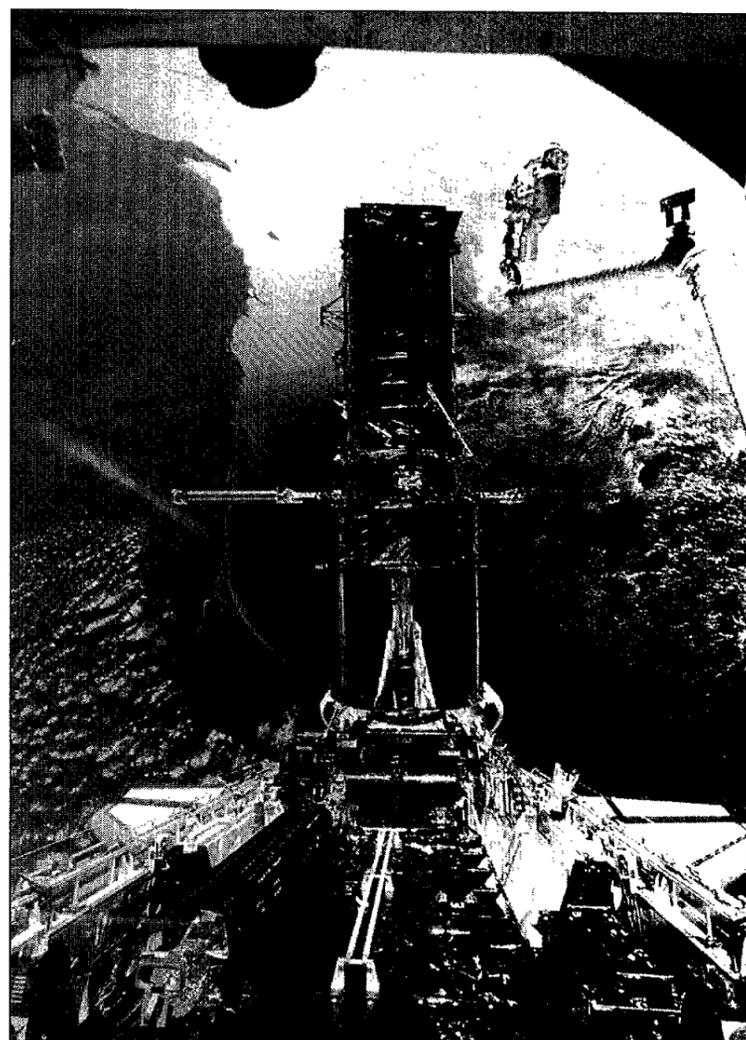
5) Inside the orbiter, Jeff Hoffman displays the tools used to

service the telescope.

6) Kathy Thornton lifts the Corrective Optics Space Telescope Axial Replacement prior to its installation in the telescope while fellow spacewalker Tom Akers is maneuvered on the end of the shuttle's robot arm.

7) Story Musgrave holds on to a hand rail in the shuttle's cargo bay during a space walk.

8) Dick Covey holds the control box for the bicycle ergometer. The bicycle provided much needed exercise for crew members during the 11-day mission. □



Loss of Mars probe blamed on fuel line rupture

The most probable cause of the loss of communication with Mars Observer was a rupture of the fuel pressurization side of the spacecraft's propulsion system, according to an independent investigation.

The investigation team, led by Dr. Timothy Coffey, director of research at the Naval Research Laboratory, reported Jan. 5 that the resulting leak of gaseous helium and liquid monomethyl hydrazine probably caused a high spin rate that caused the spacecraft to enter its "contingency mode" and interrupted the stored command sequence that would have turned on the transmitter. The high spin rate also would have precluded proper orientation of the solar arrays, resulting in dis-

charge of the spacecraft's batteries.

The team qualified its findings, saying that the spin effect may have been academic, because the released MMH would likely attack and damage critical electrical circuits.

Mars Observer was to be the first U.S. spacecraft to study Mars since the Viking missions 18 years ago. The spacecraft fell silent Aug. 21, 1993, just three days prior to entering orbit around Mars, following the pressurization of the rocket thruster fuel tanks.

Because the telemetry from the Observer had been commanded off and subsequent efforts to locate or communicate with the spacecraft failed, the board was unable to

find conclusive evidence pointing to a particular event that caused the loss of the Observer.

"We were challenged to conduct an extraordinarily complex investigation in which we had no hard evidence to examine nor communications with the spacecraft," Coffey said. "However, after an extensive analysis covering every facet of the mission, operations and hardware, I believe that we are justified in arriving at the conclusions we have. If our finding will help to ensure that future missions won't suffer a similar fate, we feel we will have achieved our purpose."

Other possible causes for the loss of the spacecraft included: failure of the electrical

power system due to a regulated power bus short circuit; nitrogen tetroxide tank over-pressurization and rupture due to pressurization regulator failure; and accidental high-speed ejection of a standard initiator from a pyro valve into the MMH tank or other spacecraft system.

The panel also cited a number of concerns including a need to establish a policy to provide adequate telemetry data of all mission-critical events, the lack of post-assembly procedures for verifying the cleanliness and proper functioning of the propellant system; and the potential for command and data handling control systems to be disabled by a single-part failure.

Launch activities under way for STS-60 mission

(Continued from page 1)

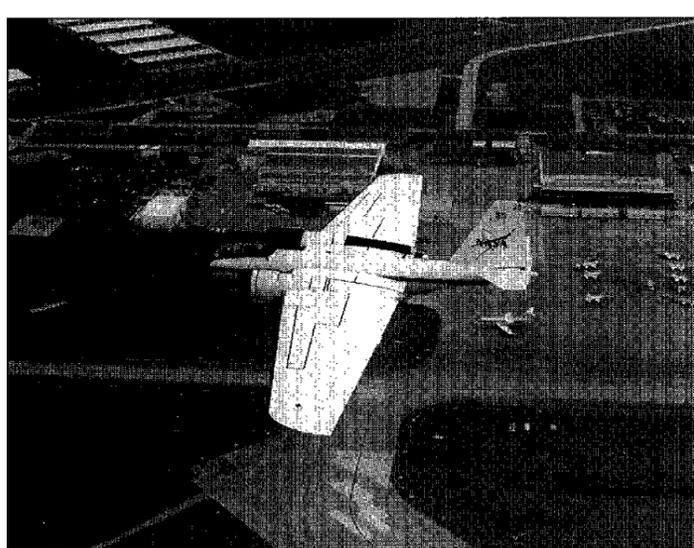
Spacehab, a module that expands the area available for experiments in the lower deck of the shuttle.

This week at KSC, workers installed the Wake Shield Facility in *Discovery's* cargo bay; loaded hypergolic propellants into the orbital propulsion systems; and performed a flight readiness test of valves and electrical connections in the main engines.

Meanwhile, *Columbia* is being readied for an early March launch on shuttle mission STS-62.

Work in the Bay 2 hangar on NASA's oldest shuttle included installation of the three main engines, a checkout of the orbital maneuvering system, servicing of the drinking water system, checks of the external tank doors and the mechanical arm.

Endavour is being readied for a flight in early April on STS-59, carrying the first Space Radar Laboratory to study the Earth's oceans, geography, topography and environment from orbit.



JSC Photo

HIGH FLYING — NASA's WB57F high altitude research aircraft flies above Ellington Field sporting a new paint job. The corrosion control painters at Ellington repainted the aircraft to protect against corrosion damage. The paint job included the addition of a stylized NASA "meatball" logo to replace the "worm" which used to adorn JSC's aircraft fleet. The new logo will appear on all JSC aircraft during regular maintenance painting activities. The modified B57 uses cosmic dust collector panels under its wing tips to collect particle and whole air samples at altitudes up to 60,000 feet. Research with cosmic dust samples is valuable since they form the building blocks of all matter.

Program honors memory of Martin Luther King

In observance of the birthday of the late Dr. Martin Luther King, JSC's Black Cultural Association is presenting a program from 11 a.m.-1 p.m., today commemorating Dr. King's contributions to American life.

The theme for the program is "Unity — Coming Together to Support the Efforts of the JSC Black Advisory Committee." Keynote speaker for the event is U.S. Representative Craig Washington. Program highlights include a 15-minute film honoring Dr. King. The invocation will be offered by Minister

Robert Muhammed, Nation of Islam and the Occasion by State Representative Harold Dutton.

Avarita Shari Williams, a student at Texas A&M University at Galveston, will receive the Dr. Ronald E. McNair Scholarship Award. Petty Hunter, assistant director for the City of Houston Parks and Recreation Department and chairman of the board for the Black United Fund of Texas will present the award. BUFT provides a matching grant in support of this BCA-sponsored scholarship.

Mentoring guide available

Everyone can use a little career mentoring, and a new JSC guidebook helps employees who seek an experienced mentor or wish to share their experience with others.

"The Guide to Mentoring at JSC," distributed to all JSC employees, discusses the JSC mentoring philosophy, mentor roles and employee participation in the process. The guide is designed to be placed behind the

"career development" tab in the 1994 Training Opportunities Catalog binder recently received by employees.

The Human Resources Office publishes the mentoring guide as a part of the JSC's continuing commitment to professional development. Employees who have not received their copy should contact the Human Resources Development Branch at x35266.

Goldin appoints new management team for agency

(Continued from page 1)

science and technology program, and other selected research, development, technology and engineering programs.

Current Lewis director Lawrence J. Ross has been appointed director of the Wind Tunnel Program Office at Headquarters, reporting to the Office of the Administrator. Goldin said the test facilities are "critical to the country's aeronautics research program and the retention of America's leadership in aeronautics."

Former Marshall Director Jack Lee will become special assistant for access to space.

Lee "will be responsible for leading NASA efforts to help define a technology program for the future that will help the United States retain its leadership in space. This technology is critical to ensuring the retention of the nation's continuing access to space."

Dr. Charles Kennel, from the University of California at Los Angeles, will become associate administrator for Mission to Planet Earth. He will be joined by Dr. Mark Abbott, who was named chief scientist for the Office of Mission to Planet Earth.

Kennel has been a tenured member of the UCLA Department of Physics since 1967, and was its

chairman from 1983 to 1986. He became a member of UCLA's Institute of Geophysics and Planetary Physics in 1971, and is an associate director of UCLA's Institute for Plasma Physics and Fusion Research.

Abbott has been serving as a Professor of the College of Oceanic and Atmospheric Sciences at Oregon State University.

Michael Mott becomes NASA associate deputy administrator for technical matters, providing independent technical analyses in the conceptual and formative stages of programs.

Mott was director for new initia-

tives and concept development for General Research Corp. He has served on numerous NASA civil space panels and review groups.

In the Space Station Program, Wilbur C. Trafton has been appointed deputy associate administrator for station. Prior to joining NASA, he was president of Micro Research Industries, a computer systems integration and software development company in Alexandria, Va.

Trafton retired as a captain from the U.S. Navy in October 1992 and last served as the assistant chief of staff for plans and policy, U.S. Pacific Fleet, coordinating international military and diplomatic nego-

tations with Pacific Rim nations, including Russia. He planned and managed the withdrawal of all U.S. Naval forces from the Philippines.

Also in Washington, Dr. Bradford Parkinson of Stanford University will head the NASA Advisory Council. Anne Accola will be the staff director for the council.

Parkinson has a background in guidance, control, astrodynamics, simulation, avionics, navigation and software engineering. He is currently a professor of aeronautics and astronautics at Stanford. Accola has held a variety of technical and management positions since joining NASA in 1967.

New director looks forward to challenges

(Continued from page 1)

"In many ways, this past year also has been a year of reevaluation and retrenchment. In the coming year we will be challenged to execute an ambitious set of programs and projects that will turn hopes for an international space station laboratory into reality.

"To meet these challenges, NASA and this center must undergo a period of intensive change and development to bring greater stability and efficiency to our programs. We can minimize the turmoil of this period by using the tools of teamwork—good communication, unselfish cooperation and trust in one another. And I pledge to do my best to keep all of you informed of the changes in store for us."

Huntoon has been director of Space and Life Sciences since 1988. She came to JSC as a senior research physiologist, directing research and development programs in medical endocrinology and biochemistry, and served in a variety of increasingly responsible positions before being appointed associate director in 1984.

In addition to her management responsibilities, Huntoon has conceived and developed numerous experiments to help explain physiological phenomena induced by space flight. These range from measurements taken during the Gemini program to sophisticated investigations performed on shuttle Spacelab missions.

Huntoon was principal investigator or co-principal investigator on two experiments—

fluid-electrolyte regulation and the influence of space flight on erythokinetics in man—that flew on board STS-58 in October.

Abbey succeeds Paul J. Weitz, who will stay on as acting associate director until his planned retirement in April to help in the center management transition. Weitz has been deputy director since 1987 and acting director since the retirement of Aaron Cohen in August 1993.

"I am pleased to welcome George Abbey back to JSC in a role that will capitalize on his unique experience and organizational skills," Huntoon said. "With the upcoming retirement of P.J. Weitz, George has large shoes to fill, but he brings a wealth of expertise to the job, and his insights will be invaluable as the JSC team meets the challenges ahead of us in the 1990s."

Abbey is a 1954 graduate of the U.S. Naval Academy who went on to become a U.S. Air Force pilot in the late 1950s. From 1959 to 1964, he was involved in the Air Force DYNASOAR program. He was detailed to JSC in

1964 and the civil service in 1966, becoming technical assistant to Apollo Program Manager George M. Low in January of that year. In 1969, Abbey became technical assistant to Director Robert Gilruth, and in 1976, director of Flight Operations, responsible for planning and overall direction of flight crews and flight control activities for all U.S. human space flights. In a 1985 reorganization, Abbey became director of the newly formed Flight Crew Operations Directorate, responsible for management and direction of flight crews and the center's aircraft fleet. In 1988, Abbey was named deputy associate administrator for space flight at NASA Headquarters. Most recently he was Goldin's special assistant.

Weitz, a Navy pilot, was one of 19 astronauts selected in the class of 1966. He was pilot on the crew of Skylab 2 from May 25 to June 22, 1973, logging 672 hours, 49 minutes aloft and 2 hours, 11 minutes of space walk time in a dramatic repair of mechanisms that

had been damaged during launch of the orbiting laboratory. His second space flight was as commander of STS-6, the maiden voyage of the Space Shuttle *Challenger* in April 1983. That crew deployed the first Tracking and Data Relay Satellite and conducted the first space walk of the shuttle era.

In the Space Station Program Office, Brinkley will assume responsibility for all U.S.-Russian activities and working with international partners "to ensure implementation of the international space station," Goldin said. Brinkley previously was manager of McDonnell Aircraft Co.'s Strategic Evaluation and Studies Team, and had a 25-year career as a Marine Corps pilot and officer.

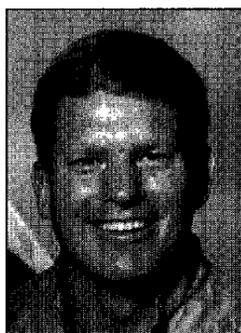
Shepherd, appointed assistant deputy administrator-technical in July to assist with space station redesign efforts, will continue to manage technical issues in support of space station activities.

Shepherd was selected as an astronaut in 1984 and is a three-time shuttle flight veteran.

Daniel Tam has been appointed deputy program manager for business in the space station office at JSC. Tam has spent practically all of his professional career at TRW since starting there in 1975. In January 1993, Tam was named manager of acquisitions for the Space and Technology Group, responsible for subcontracts, purchasing, proposal operations, facilities contracts, procurement review and system support.



Brinkley



Shepherd