# ace News Roundup

Vol. 24 No. 16

September 13, 1985

**National Aeronautics and Space Administration** 



51-I crew pleased with mission results

Members of the 51-I crew debriefed program and mission officials, employees and the press this week in the aftermath of a successful flight to deploy three satellites and repair a fourth.

"It was one of the most fantastic things I've ever been involved with," said Mission Commander Joe Engle. "Five months ago we had no idea we'd be doing this, and four months ago we were not sure it would really happen. The Syncom salvage wouldn't have been possible without the unbelievable effort of the NASA and Hughes team."

The 51-I mission, originally intended as a typical satellite deploy flight, took on new characteristics when Syncom F3 (Leasat 3) failed to activate after its deploy last April on STS 51-D. During that mission, an extensive inflight effort to activate the satellite was not successful, but even before the flight was over, planners began to consider how a repair might be accomplished later.

What followed was an intensive study effort which resulted in an equally intensive scenario whereby Syncom would literally be plucked out of space by hand and refurbished with a space age form of electronic bypass surgery. Moreover, after a complicated repair, it would then be spun up by hand and released.

Going into the flight, officials from Hughes Communications and NASA gave the repair scenario a high chance of success. But because the satellite has been

so long, with the possibility that ground command, and telemetry frozen propellant may have cracked data continues to confirm the good manipulator arm, which apparently

dormant in the cold of space for is under full control by Hughes' more remarkable for the degraded condition of the Discovery's remote fuel lines, they were not prepared health of the satellite. The liquid had a short in the elbow drive and



Ox van Hoften does a Charles Atlas pose after sending Syncom on its way.

to be as enthusiastic that the propulsion systems are intact and end, however, the news was good.

'The jump start of Leasat 3 has been a complete success," a Hughes statement said. "Leasat 3

repair would be enough. At week's the solid propellant perigee kick motor temperatures appear to be rising gradually toward acceptable levels.

had to be operated, for the most part, in the single joint drive mode. Technicians at Kennedy Space Center were still trying to isolate the arm problem at Roundup press The repair effort was all the time, but the upshot was that

Mission Specialist Mike Lounge had to pilot the degraded arm within very close tolerances. The extra time involved in that type of operation made it necessary to rewrite the flight plan and do two EVAs instead of one. "Pulling the repair off with the need for single joint ops was a tremendous accomplishment in itself," Engle said.

Handling the massive 15,000 pound satellite was simulated on the ground, and both James "Ox" van Hoften and William Fisher said the task in space turned out about like they expected. "It was about like we expected," van Hoften said. "It was difficult to move around. It's a big satellite. I would say it was difficult but achievable."

Fisher said he was surprised that even holding the satellite motionless "was a more dynamic task than I thought." The bottom line, he said, "was to keep the rates low, because each rate vou put in you knew you would have to take out sooner or later.'

The mission also saw the successful deploy of three satellites: Aussat-1 for the Australian government, ASC-1 for the American Satellite Corp., and Syncom (Leasat) F4, for Hughes Communications. The first two satellites were reported in good shape at geosynchronous orbit this week, although Syncom F4 was reported to have lost its UHF communications link. A team of technical experts was investigating the problem as the Roundup went to

# Space News Briefs

#### INTELSAT V-A 11 on station

The powerful new INTELSAT V-A model 11 satellite, launched by a Delta rocket June 29 from Cape Canaveral Air Force Station, is now on station over the Atlantic Ocean. It will serve as an on-orbit spare for INTELSAT V-A F-10, and will allow movement of another satellite. V F-8, to an on-orbit spare slot over the Pacific. The satellites are part of the International Telecommunications Satellite Organization's network, which provides services to 165 countries.

#### ICE comet encounter is Sept. 9-13

The International Cometary Explorer, ICE, will rendezvous with Comet Giacobini-Zinner next week in the first such encounter in history. The probe will come within 6,200 miles of the nucleus while the comet is 44 million miles from Earth. The close encounter period extends from Sept. 9 to 13. ICE was launched in 1978 as the International Sun Earth

# **Bulletin Board**

#### JSC to host Satellite Services Workshop

A workshop will be held Nov. 6-8 at JSC to survey experience to date and explore all aspects of future servicing of satellites in space. The workshop is being sponsored by the Offices of Space Flight and of Space Science and Applications at Headquarters, and by the Goddard and Johnson Centers. A final program agenda will be distributed in mid-September. No pre-registration or fees are required. For more information, call workshop organizer Gordon Rysavy at x4407 or Jay Robertson at x2263.

#### MAES to hold scholarship banquet

The Houston Chapter of the Mexican American Engineering Society will hold its second annual scholarship banquet at 7 p.m. Sept. 19 at the Four Seasons Hotel. The keynote speaker will be Dr. Owen K. Garriott and the master of ceremonies will be Sylvan Rodriguez of KTRK-TV. The distinguished guest for the program will be astronaut Dr. Franklin R. Chang-Diaz. The event's honorary co-chairmen are Eugene Holzer of Texas Eastern Corp. and Bob Minor of Rockwell International. For more information, call Carlos Ramirez at x4831.

#### BAPCO to meet Sept. 17

The Bay Area PC Organization, BAPCO, the local IBM-PC users' group, will hold its next monthly meeting at 7 p.m. Sept. 17 at the Sheraton Kings Inn on NASA Road One. BAPCO meets regularly on the third Tuesday of each month. For more information, call Earl Rubenstein at x3501

#### Erickson to address Space Roundtable

Dr. Jon D. Erickson, Chief of Artificial Intelligence and Information Systems at JSC, will address the Space Business Roundtable during a noontime meeting at the Houston Club Sept. 18. Erickson will address NASA's role in encouraging and expanding the growth of robotics and expert systems. Guests are welcome on a space available basis. The Houston Club is located on Travis at Rusk in the Capitol Suite, Eighth Floor. For more information, call Nancy Wood at 332-0779

## Astronomy brown bags scheduled

Upcoming sessions in the JSC Astronomy Brown Bag Seminar series will include a presentation Sept. 18 by STS 51-F Mission Specialist Karl Henize, who will discuss astronomy conducted on Spacelab II. On Sept. 25, Paul Maley of Ford Aerospace will show a video tape of a Comet Halley sighting. On Oct. 2, STS 51-D Mission Specialist Jeff Hoffman will discuss astronomical observations from the Space Shuttle using a small hand held camera system. Don Bogard of the Solar System Exploration Division will survey planetary atmospheres during two sessions, Oct. 9 and 16. On Oct. 23, Jim Oberg of McDonnell Douglas will discuss anti-satellite technology. The seminars meet Wednesdays from noon to 1 p.m. in Bldg. 31, Conference Room 193. For more information, call Al Jackson at 280-2285

## Rowing Club invites new members

The thrill of slicing through the still waters of Forest Lake in the world's fastest human-powered watercraft. The aerobic benefits of slide-seat rowing for fun and fitness. Instruction by world class rowers. These are some of the offerings of the Clear Lake Rowing Club, which will be offering a day of instruction and fun each Sunday from Sept. 1 to Dec. 29. Special weekend trips to various Texas lakes also will be offered. The experience costs \$65 plus \$10 for materials. For more information, call Joe Towner at 474-7100, or write to the Clear Lake Rowing Club, P.O. Box 623, Seabrook, 77586.

## Gilruth Center News

Call x3594 for more information

Beginning French — Learn basic words and phrases in this class, which meets from 7:30 to 9:30 p.m. beginning Sept. 23. The class duration is 6 weeks, and the cost is \$40 per person.

Intermediate Spanish — Learn vocabulary and phrases in group conversation through this course, which will meet from 7:30 to 9:30 p.m. beginning Sept. 26. The class duration is 6 weeks and the cost is \$40 per

Word Processing — The production of such documents as legal letters and resumes, using Wordstar, will be covered in this course, which meets from 5:30 to 8:30 p.m. beginning Oct. 21. The duration is 6 weeks and the cost is \$190 per person.

Youa - Study classic youa exercises in this 6-week class which begins Sept. 10 and meets from 7 to 8 p.m. on Tuesdays. The cost is \$25 per

CPR — Learn the basics of cardio-pulmonary resusitation in two days in this class which meets from 7 to 10 p.m. Oct. 29 and 30. The cost is \$10 per person.

Defensive Driving — Learn safe driving techniques and qualify for a 10% reduction in insurance rates for the next 3 years. This is an all day class. meeting from 8 a.m. to 5 p.m. Oct 5. The cost is \$20 per person.

Ladies weight training — This class meets from 7 to 8 p.m. Mondays and Wednesdays starting Sept. 9. The duration is 4 weeks and the cost is \$20

Dancercise — With the goal of toning the body, this class will gradually get you into shape. The 6 week course meets Tuesdays and Thursdays from 5:15 to 6:15 p.m. starting Sept. 10. The cost is \$25 per person.

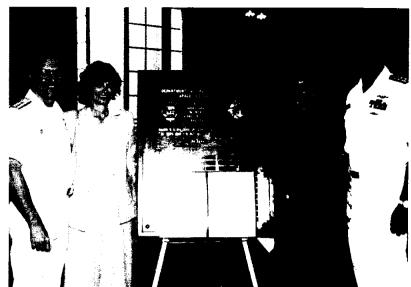
# Naval space research chair named for astronauts Chaffee and Williams

A new Space Systems Research Chair at the U.S. Naval Academy, designed to enhance space education programs for the Navy, was named in memory of two naval astronauts - Roger B. Chaffee and Clifton C. Williams - during ceremonies recently at the Acad-

Williams was a Major in the U.S. Marine Corps and Chaffee was a Lt. Commander in the Navy. The astronauts' widows, Jane E. Williams and Martha Chaffee, joined Rear Admiral Charles R. Larson. Academy Superintendent, and Commodore Richard H. Truly, Commander of the Naval Space Command, for the plaque unveiling

Both Williams and Chaffee were among the third group of astronauts named by NASA in October 1963. Williams served as backup pilot for the Gemini 10 mission. He was killed in a T-38 crash on October 5. 1967. Chaffee was assigned as one of the pilots for the first three-man Apollo flight. He was killed in the Apollo I spacecraft fire at the Kennedy Space Center on January 27, 1967, along with astronauts Virgil Grissom and Edward White.

The Naval Space Command and the Naval Academy signed an initial agreement to establish the Space Research Chair earlier this year. The principal objective of the new Academy professorship, as stated in the agreement, is to provide a means for future officer candidates at the Academy to further their understanding of space systems and their naval applications. "It will provide the mechanism by which midshipmen and faculty members will become exposed, involved, and committed to scientific activities at the forefront of the technologies and Commander Robert L. Gibson.



A Space Research Chair, named in memory of "the vision, pioneering effort and sacrifice" of Maj. C. C. Williams and Lt. Cdr. Roger B. Chaffee, was dedicated recently at the U.S. Naval Academy. On hand were (from left) Commodore Richard H. Truly, Jane Williams, Martha Chaffee and Rear Admiral Charles R.

related to space systems," the agreement said

Naval Space Command's sponsorship of the new Space Research Chair at the Academy is in keeping with the Command's mission to help develop educational programs that will provide the specialized training needed to increase the number of space-qualified naval

Also participating in the Space Chair dedication ceremony was Rear Admiral William E. Ramsey, Director of the Naval Space Systems Division. He presented the Defense Superior Service Medal to three Navy astronauts present at the dedication ceremony-Commodore Truly, Captain Robert L. Crippen,

The Navy officers were each commended for "exceptionally superior achievement" as astronauts. Truly served as Pilot on STS-2 and Commander of STS-8. Gibson served as the Pilot for STS 41-B, while Crippen has flown on STS-1, STS-7, STS 41-C and 41-G.

Other awards presented by Ramsey during the ceremony were the Navy Commendation Medal to Lt. Commander W. T. Aldinger, USN, and the Navy Distinguished Flying Cross to Captain Frederick H. Hauck, USN.

Aldinger was commended for service as the Navy Oceanography Committee Liaison Officer at JSC from November 1983 through May 1985. Hauck was cited for extraordinary achievement as Pilot on STS-7 and Commander of 51-A

# Phys Ed sessions available

At the end of September, the JSC Physical Fitness Course will have been in continuous operation for two years. Since the origin of the course, 349 of 454 students (77% have completed the 12-week course. Physiological performance records show that the graduates experienced a 10% reduction in

If 80 JSC employee applications have not been received within 6 relative fatness and improved in letter of referral and a list of medical

weeks of each session start date (see table), the remaining spaces will be filled by applicants in the successive priority groupings. Applicants who are not JSC employees will be notified by a member of the Physical Fitness staff and given a

provements in physical fitness in the components of cardiorespiratory endurance, relative body fatness, muscular strength, and flexibility, and (3) acquire an understanding of the role of exercise on

It is the philosophy of the program staff that the accomplishment of each of the objectives is valuable for motivating graduates to adopt a lifestyle of physical activity for the promotion of health and fitness.

To apply, complete Form 1285 and mail to Code AW or deliver to the Physical Fitness staff at the Gilruth Recreation Facility between the hours of 8 a.m. and 5:30 p.m. After applicants have been medically cleared, they will be scheduled for an in-processing consultation which will last approximately 1 hour. At the consultation, they will be assigned to one of the Education Classes (3 days per week, 11 a.m.-12 noon or 4 p.m.-5 p.m. or 7 a.m.-8

JSC employees are advised that participation in this program is a nonduty activity. Therefore, all civil service personnel must make appropriate arrangements with their supervisor for the time involved, such as changing their tour of duty or using annual leave.

For more information about the Physical Fitness Program, call the Physical Fitness staff at x3531.

## 1985-86 Schedule for the JSC Physical Fitness Course

Start Date	Finish
September 30, 1985	December 20, 1985
January 6, 1986	March 28, 1986
April 7, 1986	June 27, 1986
July 7, 1986	September 26, 1986
September 29, 1986	December 19, 1986
	September 30, 1985 January 6, 1986 April 7, 1986 July 7, 1986

cardio-respiratory endurance by facilities capable of providing an flexibility) by 7%

Openings now exist in classes being scheduled for fiscal year 1986. The priority order for processing applications is as follows: (1) JSC employees, (2) JSC employee dependents, (3) JSC retirees, (4) JSC retiree dependents, (5) JSC contractors, and (6) dependents of cycle is limited to 80 participants.

15%, situp scores (abdominal acceptable physical examination. strength) by 29% and sit-and- The examination must include a reach scores (low back-hamstring treadmill stress test to maximum or a.m. for the July-September class). near maximum capacity. Although such an examination is furnished for JSC civil servants at the clinic, non-JSC applicants (i.e., contractors or dependents) must obtain the examination at their own expense.

The initial 12-week education phase of the program is designed to (1) develop skills needed for contractors. The size of each class participating in a safe and effective exercise regimen, (2) achieve im-

# Atlantis *readied for 51-J*

at Launch Pad 39A at the Kennedy Space Center, will make her maiden voyage next month when STS 51-J launches Oct. 3.

Mission 51-J, a Department of Defense dedicated Shuttle flight, will liftoff between 2:20 and 5:20 p.m. EDT. The date and time of the return to Edwards Air Force Base, Calif., will be announced 24 hours prior to landing.

The Commander of the mission

The new Orbiter Atlantis, now Commander of Mission 51-D in April and was Pilot on STS-6 in April 1983.

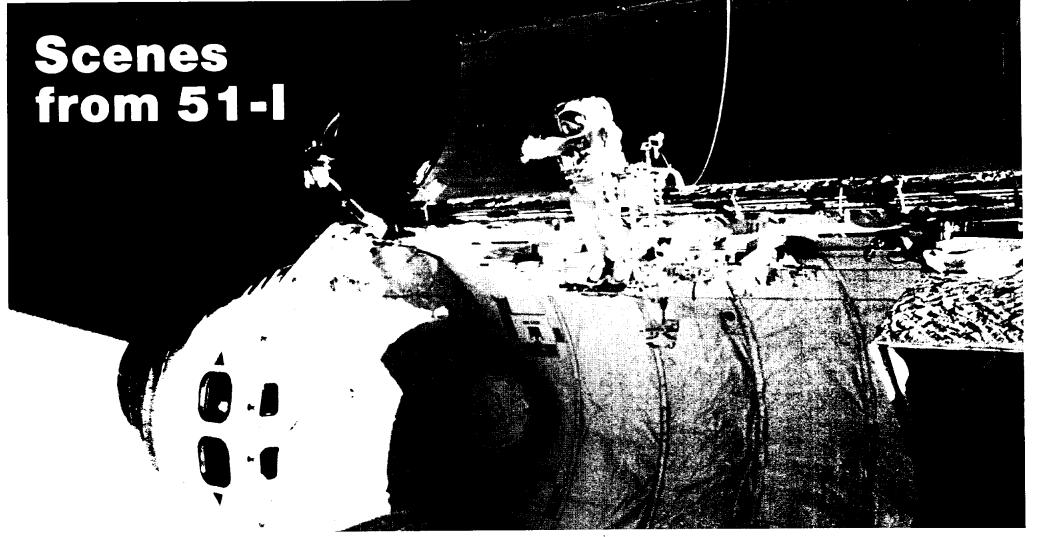
The Pilot will be Ronald J. Grabe, Lt. Col., USAF, who will be making his first spaceflight. Grabe is a member of the Astronaut Class of 1980.

Mission Specialists will be David C. Hilmers, Maj., USMC, and Robert A. Stewart, Col., USA. Hilmers, who will be making his first spaceflight, is a member of will be Karol J. Bobko, Col., USAF, the Astronaut Class of 1980. He who will be making his third has served as capsule communispaceflight. Bobko last flew as cator on several Shuttle missions.

Stewart, a member of the Astronaut Class of 1978, will be making his second spaceflight. He last flew as a mission specialist on STS 41-B and participated in the EVA which certified the manned maneuvering unit for operations.

The Department of Defense Payload Specialist on 51-J will be Air Force Major William A. Pailes.

At Roundup press time, Atlantis was being prepared for a Flight Readiness Firing. After her return to KSC following 51-J, the ship will be readied for the late November launch of Mission 61-B.



Bill Fisher waits to do his part on Syncom F3 in this view taken from above by Ox van Hoften.



Syncom rolls slowly away as van Hoften watches from his lofty perch.



Fisher steadies Syncom while, out of the field of view, van Hoften attaches the spinup bar.



The crew, like most residents along the Gulf coast, also kept an eye on Hurricane Elena, here seen from an altitude of about 200 miles.



Crew members Fisher, Covey, Lounge, Engle and van Hoften pose with a friend of many parts during spacesuit checkout day.

# Roundup Swap Shop

All Swap Shop ads must be submitted on a JSC Form 1452. The forms may be obtained from the Forms Office. Deadline for submitting ads is 5 p.m. the first Wednesday after the date of publication. Send ads to Roundup, AP3, or deliver them to the Newsroom, Bldg. 2 Annex, Room 147. No phone in ads will be taken.

#### **Property & Rentals**

Lease: Baywind I condo, end unit downstairs, near NASA, \$295/mo., 12th free w/ 1 yr. lease. Mason, x5457 or 333-4144

Sale: 3-2-2 mobile home, fenced, patio, Bacliff, corner lot, \$25,500. Busby, 488-2500.

Sale: Middlebrook 4-2-2A, contemp. design, open flr. plan, FPL, fenced, well kept, \$88,900. Ron, x3821 or 488-7387.

Sale: Lakefront investment property in Brazoria Cty., low \$30s, 12% assumable. Don, 280-6307 or 554-6205.

Sale/lease: Friendswood/Sun Meadow 4-2-2, bi-level, FPL, formal living, 2,125 sq. ft., patio doors off kitchen & master, \$650/mo., \$65,000. By appointment. Keith, x5202 or 485-3618.

Sale: Heritage Park 3-2-2, FPL, fans, deck & spa, fenced, no backyard neighbors, near school/pool/tennis, low \$70s. 996-9411.

Rent: Galveston/Tiki Island, furn., new 3BR on canal, boat dock, master bath spa, weekend, weekly & monthly rates. 486-9335.

Rent: Pasadena/South Houston 3-1.5-2 brick, central air & heat, appliances, clean lovely home in nice neighborhood, good location, \$500/mo. 941-5908 or 941-1092

Sale: 101 acre ranch, old house, tractor, equipment, fruit and nut trees, bass ponds, oaks. 488-8105.

Sale: large waterfront lot, 105 ft. frontage, over 1/2 acre, lots of trees, near marina, fishing, also have a lakeview lot. (409) 855-2063.

Lease: Baywind II condo, 2-2.5-2, two story, 1,130 sq. ft., FPL, W/D, fans, pool, tennis, \$480/mo. Jeff, x5595 or 280-8608.

Lease: Seabrook 3-2-2, Baybrook Subd., brick, microwave, fenced, FPL, avail. Oct. 1, \$575/mo. plus deposit. 326-1944

Sale or lease: League City townhouse, 3-2.5, FPL, jacuzzi, all appliances, fans, paid lawn care, tennis, pool. Mike, 280-4313 or 554-6378.

Sale: Fleetwood mobile home, 2-2, 14' x 80', low equity, excel. cond., assume notes. Darlene, x5881 or 534-6616.

Sale: Half house interest, \$300/mo., no down, management plan, 2 to 1 tax advantage, positive cash flow. Randall, x2381

Sale: Galveston condo timeshare, use of sauna, pool, tennis, BBQ, whirlpool, \$4,500, 30% below sales. 488-1809.

Rent: New Orleans condo, French Qtr., penthouse, Oct. 11-18, priv. roof sundeck. Faye, 280-3695 or 480-5656.

Sale: Wooded corner lot, 2 acres, Splendora, some financing, 332-0047,

lv. mssge. Sale: Piper's Meadow 3-2-2, brick, FPL, garden bath, fans, fenced, 1,489

sq. ft., low equity, \$79,500. K. Perkins, x3754 or 486-1015. Sale: Friendswood 3-2-2, Wilderness

Trails, 90 x 120 lot. 482-6536. Lease: Camino South 3-2-2, FPL,

fenced, appliances, near school/shopping, first, last, \$200 dep., \$550/mo., no pets. Jack. x2761 or 488-1411

Sale/lease: League City/Meadowbend 3-2-2, FPL, appliances, assume 12.5%, FHA loan, \$3,500 down. 538-3315.

Lease: El Dorado Way condo, 1BR, corner, \$295/mo + dep. 486-7411.

## Cars & Trucks

78 Olds Cutlass Brougham, AM/FM/ cassette, pwr. windows/seats/locks, black/gold, \$2,700. 996-9520.

'79 VW Rabbit, AC, radio, body excel., recent motor work and shocks, needs transaxle work, \$950. Jim, x2375 or 488-0658

'85 Buick Park Ave., loaded, sell for bank balance due, \$14,000, 996-7559. '80 Buick Skylark Ltd., 4-spd., PS,

PB, AC, 4-dr., new paint/tires, 61K mi., 32 mpg., \$3,500. Gayle, 332-7802. '46 GMC pickup, good for parts or restoration, classic headlamps, wood

bed, needs overhaul & body work, \$400. Henderson, x3838 or 534-2133. '81 F-150, 4 x 4, 6 cyl., 4 spd., overdrive, excel. cond., \$5,000. Matt,

x5231 '78 Alfa Romeo Spyder, 5-spd., ivory, 49K mi., no rust, sheepskins, new top, AM/FM/cassette, \$4,500. Farmer, x6101

or 532-3173. '77 T-Bird, loaded, power windows/ locks/trunk, leather, much more,

\$1,845. Kurt, 480-3565. '79 Chevy Malibu Classic, 2-dr., PS, PB, AC, AM, rear defrost. Virginia,

x3803 or 480-4131.

'74 Chevy Luv pickup, 4-spd., overhauled engine, new paint and interior, new AM/FM/cassette, clock, AC, good tires. Plauche, x6171 or 474-2660.

'81 Honda Prelude, AM/FM/cassette, sunroof, rack, 5-spd., \$4,975, 488-1809.

72 Ford Torino, new paint/interior, runs well, needs minor work, \$600. 554-4133.

'82 Datsun 280ZX 2+2, low miles, Ttops, digital, auto, loaded, excel. cond., \$10,500. 554-4133.

'80 Toyota Celica, 5-spd., silver, extras, great condition, \$4,800. Sherry, x5540 or 482-3963.

'61 restored Chevy truck, 3-spd., straight 6, metallic blue, large rear tires, \$1,045 OBO. 482-8827.

'69 Camaro, 350 V8, 4 bbl., 4-spd., 83K mi., excel. cond., \$3,400. Mark x6226 or 554-4847.

'81 Datsun 310 GX, sunroof, 35 mpg, \$3,500. Al, x5106, Debra, x4471, or 554-6643.

'79 Chevy Camaro Berlinetta, low miles, excel. cond. Stephenson, x5305 or 946-4286.

'76 Cadillac Sedan de Ville, parts, interior excel., \$200. Russ, 485-6919 or Keith, x5202.

'80 Pontiac Gran Lemans wagon,

loaded, 55K mi., clean, \$3,500. John, x4478 or 326-4494. '68 Shelby Mustang, GT 350, fastbk.,

mostly orig., ex. cond., \$8,900. '83 Camaro, V-6, auto, PS, PB, AC, AM/FM/cassette, low miles, \$8,500.

Glenn, x4188 or 559-1097. '80 Buick Skylark Ltd., 4-spd., PS, PB, AC, 4-dr., 61K mi., 32 mpg., \$3,500.

Gayle, 332-7802. '77 VW Rabbit, 4-dr. deluxe, wrecked-

sell parts. 474-3319. '80 Datsun 200 SX, auto, AC, AM/FM, 45K mi., good cond., \$4,000. Ives, x4045 or 532-1100.

'81 Corvette, dark blue, low miles. Photography loaded, like new, \$13,000. McBride,

'83 S-10 Durango, clean, loaded; '82 Silverado diesel. Wright, 471-5964. '83 Chevy S-10, 5 spd. OD, tool box,

ex. cond. 996-0715. '82 Chevy Celebrity, V-6, AC, PS, AM/FM, cruise, ex. cond., \$4,875.

Zielke, x2362 or 334-4631. '78 Ford Fiesta, 59K mi., 4-spd., AM, \$1,100. Dave, x3201 or 480-7423.

'78 Starcraft motor home, 19', no generator, 36K mi., \$8,450 OBO. John, x5301 or 482-8457.

'81 280ZX, 2+2, GL pack., T-tops, cruise, loaded and clean, 34.5K mi., \$10,200. Michael, x5576 or 484-7527.

'80 Toyota Celica, 52K mi., AM/FM/ cassette, tint, ex. cond., \$4,800.

'78 Granada Ghia, V-8, one owner. loaded, \$3,500. Majone, x3358 or 427-7802

'77 Buick LeSabre, 4 dr., V8, loaded, ex. cond., \$2,100. Curley, x3026 or

944-3522. 77 Camaro, new tires, cruise, AM/ FM, Jensen spkrs., slight body damage, runs well, \$1,000. Kay, x4036.

'77 Chevy Vega hatchback, not running, for parts, \$145. Kilbourn, x4545 or 482-7879.

## **Boats & Planes**

18' catamaran, AMF trac, trailer, extras, like new, \$4,750, 333-3056.

Gulf Coast 20, Brit. Seagull outbd., ex. rigging & sails, Little Dude trailer. \$3,400 OBO. Bishop, 280-6890 or

MacGregor 22', 9.9 electric Johnson, sips. 4, head, trailer, accessories.

'81 Tidecraft bass boat, 80 HP Merc., pwr. tilt/trim, live wells, depth finder troll. mtr., etc. \$4,550. Don, 280-6307 or 554-6205.

'79 Proline 20, ctr. console, 200 HP Evinrude, low miles, pwr. tilt/trim, dual trailer, ex. cond., \$6,000. Iris, x3489 or 876-4194.

Hobie mono-cat, 12', new trailer/ rigging/paint, ex. cond., \$500. Keith, x5381 or 334-6718

Sea King 14' bass boat, 35HP, trailer, depth finder, troll mtr., 2 tanks, etc. \$1,895. 649-7891.

## Cycles

'83 Yamaha Heritage Special 650, 2cyl., 3K mi., \$1,600 OBO. Scott, x6171 or 554-6148.

California Friendship cycle sidecar, ex. cond., hardware to mount all bikes, \$900. 487-3799.

'74 Yamaha, on/off rd., 100cc \$425 OBO. 482-4260. '71 Honda CB450, 2.4K mi., Wixom

fairing, crash bars, carrier, mint, \$1,100. '80 Kawasaki KZ440, low miles. Tim.

x4576 or 280-9774 '75 Honda 750F supersport, low

miles, ex. cond., '85 Wetbike, 800cc. Bullock, 326-4949.

Girl's 20" Raleigh, \$20; Boy's 20" Raleigh, \$20. 482-2369.

'72 Yamaha 175, needs carb work, \$125, 482-6607.

'79 Gold Wing 1000 engine block some accessories and cams, sell parts or all for \$200. Boyd, x2051 or 486-1418.

#### Audiovisual & Computers

Altec studio monitor spkrs., \$1,000 OBO. Bud, x4546.

Notch filter for PA, prevents feedback, \$500. 559-2742.

Arcade size video game, \$150. Dave, 333-0688 or 486-6543.

Tandy PC-3A pocket computer, \$90; HP-15C calculator, \$60; JVC car cassette receiver, digital tuner, auto reverse, scan, \$125. Tom Clark, x7445. Sony ¾" VCR, tape sticks, make offer. 482-6607.

15" Sears color TV, \$120; 5" B/W portable, \$50. 488-5564

144-148 MHz converter, \$25; 1.5 KW 28V DC motor/generator, \$200. Girala, 643-3112 or 921-7212.

Model AR40 antenna rotator, solid state, \$75. Girala, 921-7212.

Panasonic PV 1275 VCR, \$175; PV 1770 VCR, \$350; Dynaco preamps, \$75 & \$100; Revox tape dk., \$325; TEAC tape dk., \$375; Advent dolby NR unit, \$75; Phase Linea preamp, \$175; Pioneer LV, \$150; Hitachi CD player, \$300; Radio Shack VCR color enhancer, \$35; stabilizer/enhancer, \$35. Thagard, x4716.

TRS-80 64K color computer & cassette, never used, \$200/532-3308.

Atari video game, like new, storage case, 20 game cartridges, \$200 OBO. Ed, x5489 or 480-0273.

Kodak Super 8 zoom camera, projector, screen, \$100, 487-3799

Canon AE-1 program camera, 50mm lens, case, 1 yr. old, \$175. Larry, x4614 or 946-4059.

Want lenses, accessories for Bolex H-16 Reflex motion picture camera. Terry White, x5111 or 332-5177. Electronic flash, ex. cond., \$15.

996-9628. Tamron zoom lens, 28-135mm w/macro, lens hood, UV & polarizing filters, case, \$200. Judith, x5891 or 741-0060.

## **Musical Instruments**

Kimball Entertainer organ, \$650. 333-3056.

Bundy cornet & case, good, \$100. Scott, x6171. Yamaha trombone, O.K., good for

beginner, \$75. 482-4260. Bundy Trumpet, good for beginner,

\$90, 482-2369. Selmer Bundy alto sax, beginner approved, ex. cond., \$400 OBO. Karen,

Alvarez 12 string guitar, w/case, ex. cond., \$175. Chuck, x6226 or 332-0326. Holton cornet, \$250; bugle, \$40. 485-4995

## Wanted

x4111 or 480-3024.

Roommate to share 2BR Webster condo, \$200/mo. plus util. Rick, x5341 or 480-8223.

Roommate to share League City 3BR house, \$210/mo., bills paid, furnished, no smoking/pets/children. Also want speed control chip for Tandon 8" floppy disk drive. Keith, x3643 or 332-8251

R-to-R Teac tape deck, A-40/OGSL, three tapes, \$200. Green, x4895 or

Want roommate for lg. hse. in League City, private rm., W/D, TV, \$200/mo. + util. Galen, x3576 or 332-8837.

Want child's table & chairs & Fisher Price record player. Dorothy, x2981 Want to carpool from Sugarland/First Colony to JSC, 8 a.m. to 5 p.m. Marc,

x4143 or 980-8167. Want to carpool from Fairmount Pkwy. to Beltway 8, 8 a.m. to 4:30 p.m. shift. Carolyn, x5996.

## Household

Queen size water bed, headbd. w/mirror, 6-drawer pedestal, htr., 2 sheet sets, almost new, \$250, 480-0523.

Sleeper sofa, dbl., used once, \$150; tables, 2 Blenko glass base lamps, \$15 ea.; various wall accessories. Nancy, x4381 or 488-1256.

Wood dining room table, dbl. drop leaf, 6 chairs, seats 2-10, \$350; wing back easy chair, recently upholstered, \$110. Lynne, x6201 or 585-6592. Day bed, \$50; antique rock maple

double headboard, folding bed, \$25; footboard & frame, \$35. Claire, 474-

Queen sz. mattress & foundation.

\$80; 64" metal/wood laminated top Miscellaneous desk, \$60; bookcase w/light, \$60; 4 14" rims, \$5 ea. Michael, x5576 or 484-7527.

JC Penny microwave, 650 watt, 10 settings, \$250, 532-3515.

Antique Victorian bedroom suite. bed, dresser, 2 marble table tops, library table, \$3,200; 10-pc. early French dining room set, inlay, \$4,500.

Queen sz. box springs, ex. cond... \$45. 471-3498.

Amana microwave, touch board, stainless, good shape, \$160 or trade in for less; also want non-working microwaves. (409) 925-2469.

Ethan Allen early American couch, 88", perfect frame, worn upholstery, \$300. Goldstein, x3121 or 488-1953.

Dinette, 6 chairs, ex. cond., heat proof table top, \$85 OBO. 996-9628. King size bed, 4 poster, solid cherry

Sealy Posturpedic, almost new, \$500. Kearney, x3078 or 484-4261. Sears' top microwave, 1400 watts. programmable, \$250; desk & chair, 30

Matt, x6596 or 482-4425. Early American dining room suite, 4 chairs, 2 extensions, bench, china hutch, \$450; 96" contemp. sofa by Steelbelt, \$100. Fugman, x4294 or

x 60", 4 drawer, exec. style chair, \$80.

486-4364. Antique wood trunk, \$75 OBO; girl's 20" Schwinn bike, \$30; twin trundle bed & 2 mattresses, \$50, 944-6457.

Philco frost free refrig., works well \$125 OBO; Sears L-shaped bunkbed, built in chest, bookcase, \$200 OBO; wooden twin bed, orthopedic, \$195 OBO. Stef, x4794 or 331-7360.

Early American queen size sofa bed. rocking chair, \$125 OBO. 334-4894.

15 cu. ft. frost free freezer, 8 yrs. old, works great, \$100 OBO, 532-2128.

Rabbit for adoption, strawberry minilop, good nature. John or Bruce x4393. Free kittens to good home, 484-1241,

Small spoiled blonde male dog, housebroken, 11 mo., \$25 to home with no children. Shirley, x4019.

Free to good home, AKC-reg. cocker spaniel, 1 yr. old female, sweet, prefer home w/children, 332-3287

Lawnmower, bath vanity, attic ventilator, more. 484-1241.

Camper shell, std. 8' long bed, good cond., \$75. Hill, x5541 or 534-3389.

'84 Neckover 14' stock trailer, \$2,700 OBO; 5 HP go-cart \$100; twin mattress & springs, \$50. Scott, x6171 or 554-6148.

Lawnmower, table saw and '73 Fiat for sale. 332-0047 lv. mssge.

Childcraft encyclopedia, complete, in carton, \$145; lawnmower, \$20. Kilbourn, x4545 or 482-7879.

Ladies wedding set, rose gold, engagement and wedding ring, \$350. Glenn, x4188 or 559-1097

both; Alpaca Peruvian fur rugs, 4' x 6', handmade, \$235. John, x5301 or 482-

Wet suit, 2-pc. Lynne, x6201 or 585-

Will do typing, computerized, ac-

Packing boxes and paper, pro. grade,

Toro self propelled mower, \$100; handbuilt sailing ship on stand, \$25.

5 HP Sears mower, propelled, 110V electric start, \$200. 921-7212.

Exercycle, like new, \$75. Goldstein. x3121 or 488-1953.

tubing accessories, \$65. Liz. x4596 or

at Braeswood. Call Heetderks, x4651. Wish to borrow or rent left hand golf clubs for men, 2 sets, to be used

one day. John, x4957 or 482-6364. ASP Manual of Remote Sensing, 2nd Ed., 2 vol., \$40; Richard Timm wildlife art prints, signed, 22 x 28",

\$10; official MGA workshop manual, \$20; '78-'81 Audi 5000 official shop manual, \$15. Parker, x3066.

plus duck prints. 486-1628. 11 HP riding mower, Montgomery

## Week of September 16 - 20, 1985

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 Thursday — Beef & Barley Soup; Roast Beef w/Dressing, Fried Perch,

Chopped Sirloin, Chicken Fried Steak (Special); Whipped Potatoes, Peas & Carrots, Buttered Squash. Friday — Seafood Gumbo; Fried Shrimp, Baked Fish, Beef Stroganoff, Fried Chicken (Special); Okra & Tomatoes, Buttered Broccoli, Carrots in

# Cream Sauce.

NVSV

Week of September 23 - 27, 1985 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 Beer, Baked Ham, Fried Chicken, Fried Fish, Chopped Sirloin. Selection of Salads, Sandwiches and Pies.

Tuesday — Navy Bean Soup; Beef Stew, Liver & Onions, Shrimp Creole,

Smothered Steak w/Dressing (Special); Corn, Rice, Cabbage, Peas. Wednesday — Seafood Gumbo; Roast Beef, Baked Perch, Chicken Pan Pie, Salmon Croquette (Special); Mustard Greens, Italian Green Beans, Sliced Beets. Thursday — Beef & Barley Soup; Beef Tacos, Diced Ham w/Lima Beans,

Stuffed Cabbage (Special); Ranch Style Beans, Brussels Sprouts, Friday — Seafood Gumbo; Fried Shrimp, Deviled Crabs, Ham Steak, Salisbury Steak (Special); Buttered Carrots, Green Beans, June Peas.



NASA-JSC

Van bench seats, \$110 each or \$200

6592

curate & quick. Sandra, 486-1760.

many sizes, \$50; Levolor alabaster window blinds, 36 x 64, \$50. Kimberly, x5457.

488-5564.

15 gal. aquarium, light, gravel, pump,

Van pool to NASA from S. Post Rd.

most \$50 ea. 333-9234. All models '79 Olds service manuals.

Ltd. edition prints by Bev Dolittle, Charles Frace, G. Harvey, Donald Van,

Ward, good cond., \$375, 482-3989.

# Cookin' in the Cafeteria