

ROUNDUP

Lyndon B. Johnson
Space Center

NASA

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Lab in Building 16 tests, re-tests Orbiter avionics

To the computers it's a real mission

It is two minutes into a Space Shuttle flight. Onboard computers activate pyrotechnic devices and the Solid Rocket Boosters separate from the Orbiter. They descend to altitudes where a drogue chute and a parachute control their descent into the ocean.

However, almost immediately after separation, the crew observes that the Space Shuttle Main Engine Three status light is RED. There is a problem. The crew also observes the Main Propulsion System pressure for Engine Three is rapidly decreasing to 0%. With an engine failure at this time, the Orbiter cannot achieve orbital velocity.

The crew selects the return-to-launch-site abort mode, and the Orbiter returns to Kennedy Space Center.

The mission described above actually took place at JSC in the Shuttle Avionics Integration Lab. It was one of a series of tests that will be run before launch of the Shuttle.

Persons operating the equipment know it was just a simulation, but as far as the flight computers in the lab are concerned, it was a real spaceflight.

Equations for the aerodynamics, environment, and motion of the Orbiter, SRB, and ET separations were fed into the test system by the Shuttle Dynamic Simulator.

The SAIL is a high-fidelity mockup of all the wiring and electronics that make up the Space Shuttle system. It uses flight qualifiable hardware to run through phases of a mission, testing the full electrical systems of the Space Shuttle.

The SAIL looks like a full-sized Orbiter stripped of its skin with its wires and connectors bared. It is configured with the same electrical systems as are on the "real" Orbiter in Florida.

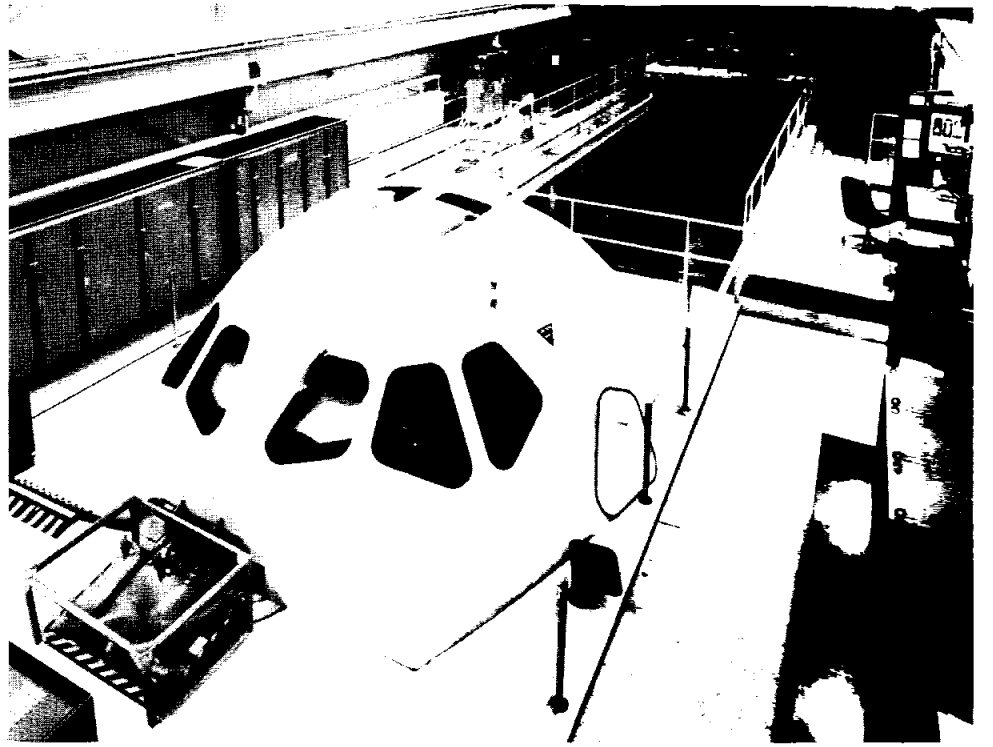
On a 24-hour basis SAIL employees run troubleshooting sequences, verifying procedures for the Shuttle's complex avionics systems. Over 300 mock missions will fly in the lab at JSC before the targeted November 30 launch of the first Shuttle mission.

Some of the avionics the SAIL verifies are displays and controls; power and control; Solid Rocket Booster control; guidance, navigation, and control; data processing; operational flight instrumentation; communications and tracking; and External Tank propellant control and instrumentation.

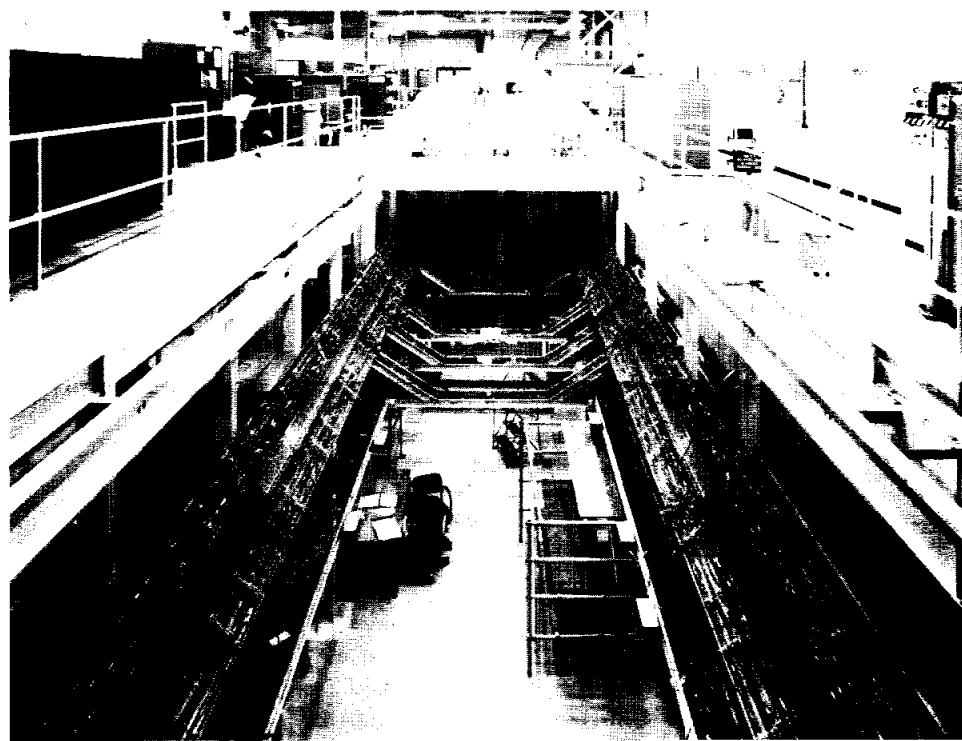
A typical test series begins with an initial run with all systems operating nor-

mally—a "nominal" mission phase in space parlance. Then in the following runs, test engineers inject various failures into the flight system to see if it can cope with the problems. If discrepancies result, they are isolated to hardware, flight computer software, or crew procedures. Subsequently, Orbiter engineers and technicians make appropriate fixes to the real Shuttle vehicle which is to fly.

The current test schedule has the SAIL running ascent (launch) verifications through June, ascent/on-orbit verifications through July, then atmospheric entry and final mission compatibility testing up to the date of launch. The ascent



The SAIL cockpit—verifying ascent runs through June



Aft view—an Orbiter with its wires and connectors bared

mode tests are particularly complex as they include launch, SRB separation, ET separation, and insertion into orbit.

An ascent troubleshooting sequence can cover, for example, navigation performance, computer synchronization, control system performance, and an abort-return-to-launch site due to engine failures.

After each run the flight computers, the laboratory computers, the Shuttle Dynamic Simulator computers, and the Launch Processing System computers, as required, dump their memory contents onto tape for test engineers to study.

For all the flight computers know, it was a real mission.

Center employees among the third group of 20 astronaut applicants are Paul Skabo of Flight Operations and Bonnie Dunbar of Payload Support. This screening takes place March 24 - 28.

Census:

The results count out to the city's advantage

Census Day is April 1, 1980. Questionnaires will arrive in the mail on Friday, March 28. The completed questionnaire is to be returned in the mail on April 1 in the envelope provided.

Accurate census results spin off as help for the community in numerous ways: the apportionment of Congressional districts—the amount of representation you get in Washington; data for Federal and State aid programs; statistics for predicting future housing needs; State Legislature redistricting—again, the amount of representation you get; population facts that draw a profile of the community; and information for business, government, and civic organizations to use in their plans for the future—in *your* community.

Bill Kelly of the Center Director's office sits on the Mayor's Complete Count Committee, a group that is urging Houston residents to answer the census. They are counting on you.

Gossamer Albatross is coming

Cyclist-pilot Bryan Allen pedaled the Gossamer Albatross across the English Channel last June and accomplished the most historic feat in the history of man-powered flight.

His aircraft will be on display in Building 9A throughout the month of April, from

9 a.m. to 3:30 p.m. Monday through Friday.

To achieve flight, the Gossamer Albatross had to be lightweight yet durable. Its key components are films and fibers that allowed the 26-year-old, 137-pound bicycle racer to keep the plane aloft with only 25 horsepower for the 23-mile trip across the Channel.

The Gossamer Albatross is powered by a single propeller connected by chain-drive to a bicycle-like pedalling device. The pilot rides seated in an enclosed compartment of transparent film which rests under a huge wing.

The aircraft will be suspended from the ceiling in 9A sharing space with the Orbiter mockup through April 28.

Mastermind behind the Gossamer Albatross design is Paul MacCready, a California scientist. Dr. MacCready will be on site April 15 and 16; and Mr. Allen will help open the exhibit, visiting the space center April 2, 3, and 4.

Center Director Christopher Kraft will make the opening remarks for the exhibit in Building 9A at 9 a.m. April 3.



Man-powered craft crossing English Channel last June—to be displayed on site through April



Picnic organizers at it again

There will be a 1980 JSC Picnic!! Picnic co-chairs Sandy Richardson and Liz Braunig have assembled one of the largest committees in years and after only one meeting they have resolved: Theme—Western: Place—Camp Manison; Time—May 3 or 17; Attractions—the usual, and more TBD. (Watch future editions of *Roundup* for details.) A few members of the committee are pictured above. First row, left to right: Cindy Martin, Liz Braunig, Sandy Richardson, Fay Broussard, Anna Costello, Glenda Lancan. Second row: Mary Mueller, Dale Martin, Mavis Lancan, Hal Lambert, Kandy Hosea, Larry Davis, Gloria Salinas, Susan Bomnskie. There are about as many more committee members not pictured above.

Pirtle, Nichols sit on State flood committee

In response to the increasing urgency of the flooding disasters in Southeast Texas, a 31-member, five-county Regional Flood Task Force has been appointed by the State. Purpose of the Task Force is to investigate solutions to the flooding problem and report the findings and recommendations to the Legislature.

Two NASA employees—Joe Pirtle, BB2; and Lee Nichols, FD—were appointed as Chair and Vice-chair of the Subcommittee on Purposes and Functions.

After an organizational meeting in late January, the project divided into various subcommittees to address alternatives and to produce a comprehensive and workable set of proposals to submit to the full Task Force for consideration. Ultimately, the Task Force intends to present its findings to the 67th Legislature in January to obtain relief from the flooding disasters.



Pilots who attended the Women in Aviation and Space Symposium got to test their skills in the Shuttle Mission Simulator. Above, USAF Capt. Stephanie Wells brings the Orbiter in for a landing. (See story below.)

Symposium may be last of its kind.

JSC hosted a symposium March 12 and 13 on women in aviation and space. Among the speakers was Carolyn Huntoon of the Astronaut Office—her topic was "Women in Space." Dr. Huntoon made a signifi-

cant point in the closing of her speech, and following are excerpts.

The outlook for the future of women at the Johnson Space Center is excellent. For those who have the necessary skills and education, NASA offers many career opportunities.

Our goal should be not to have more programs such as this—programs on women in aviation or women in anything else. I'd like to quote from Virginia Smith who said, "This subject should be of little interest. No one will ask now for discussion of short people, tall people, skinny people, blondes, or brunettes in the space program. No one cares."

"When the present period of transition is complete, women will enjoy the same freedom from analysis and conjecture as many other common and accepted daily facts of life." So I hope it soon will be with women in aviation and space.

What's cookin' in the JSC cafeteria

Week of March 24 - 28

Monday: Chicken & Rice Soup; Texas Hots & Beans; BBQ Ham Steak; Steak Parmesan; Beef & Macaroni (Special); Green Beans; Carrots; Au Gratin Potatoes. Standard Daily Items: Roast Beef; Baked Ham; Fried Chicken; Fried Fish; Chopped Sirloin; Selection of Salads, Sandwiches and Pies.

Tuesday: Tomato Soup; Potato Baked Chicken; BBQ Spare Ribs; Mexican Dinner (Special); Squash; Ranch Beans; Spanish Rice; Broccoli.

Wednesday: Clam Chowder; Baked Turbot; Liver & Onions; BBQ Ham Steak; Baked Meatloaf w/Creole sauce (Special); Beets; Brussels Sprouts; Green Beans; Whipped Potatoes.

Thursday: Beef & Barley Soup; Chicken & Dumplings; Corned Beef w/Cabbage; Smothered Steak w/Cornbread dressing (Special); Spinach; Cabbage; Cauliflower Au Gratin; Parsley Potato.

Friday: Seafood Gumbo; Pork Chop w/Yam Rosette; Creole Baked Cod; Tuna & Salmon Croquette (Special); Brussels Sprouts; Green Beans; Buttered Corn; Whipped Potatoes.

Week of March 31 - April 4

Monday: Cream of Celery Soup; Braised Beef Ribs; Chicken a la King; Enchiladas w/Chili; Italian Cutlet (Special); Brussels Sprouts; Navy Beans. Standard Daily Items: Roast Beef; Baked Ham; Fried Chicken; Fried Fish; Chopped Sirloin; Selection of Salads, Sandwiches and Pies.

Tuesday: Beef & Barley Soup; Turkey & Dressing; Country Style Steak; Beef Ravioli; Stuffed Cabbage (Special); Corn Cobette; Okra & Tomatoes; French Beans. Roast Pheasant Under Glass with Spam Salad Stuffing, Spam Finger Sandwiches, Spam-Yam-Spinach Casserole, (April Fool Special).

Wednesday: Clam Chowder; Catfish w/Hush Puppies; Roast Pork w/Dressing; Chinese Pepper Steak (Special); Broccoli; Macaroni w/Cheese; Stewed Tomatoes.

Thursday: Cream of Tomato Soup; Beef Tacos; BBQ Ham Slice; Hungarian Goulash; Chicken Fried Steak (Special); Spinach; Pinto Beans; Beets

Friday: Seafood Gumbo; Liver w/Onions; Deviled Crabs; Roast Beef w/Dressing; Seafood Platter; Tuna & Noodle Casserole (Special); Whipped Potatoes; Peas; Cauliflower.

Bulletin Board

JSC Bike Club Still Cycling Along

Next club meeting is Monday April 7 at 5 p.m., Building 350. Topic is the next bike ride and other future activities. Forty-five people took part in the 25-mile ride to Morgan's Point March 9, rendezvousing at Sylvan Beach Park.

NARFE to Hold Annual Convention In Houston April 27-30

The Texas Federation of Chapters of NARFE will meet for the 28th annual convention in Houston on April 27-30 at Astro Village Hotel. The 11 chapters of NARFE in the Houston Area District three will host the convention. Members are urged to attend. Also, the regular monthly meeting of the Houston-NASA Area Chapter 1321 is at the Harris County Building-Clear Lake Park, NASA Rd. One, April 2, at 1 p.m. *Visitors are welcome.* Federal employees who are 50 years of age or over, with at least five years of service, are eligible for membership in NARFE. For over 50 years NARFE has worked protecting and securing the retirement benefits for our future. Join NARFE today and add your own brand of clout to your

protection. For more information about the convention or the local chapter call: Jack Kinzler-334-2449 or A. B. Olsen-334-3270.

On Sale at the JSC Exchange Store

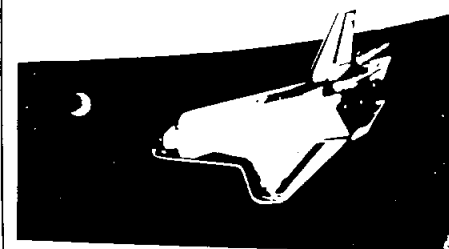
(Store hours 10 a.m. to 2 p.m.)
Dean Goss tickets: \$10 single, \$20 couple (regular \$14.50)
ABC Theatre Tickets: \$2 ea.
General Cinema Tickets: \$2.40 ea.
Astroworld Tickets: \$8 (regular \$9.95)
Six Flags Over Texas Tickets: \$8 for one day (reg. \$9.95) \$9.95 for two days (reg. \$14.95)
Magic Kingdom Cards: Free
Astroworld: Free coupon for \$2.50 discount on Astroworld tickets. (Coupon good from March 8 to April 6.)

Health Program on Cancer To Take Place April 2

Cancer of the colon and rectum is often called "the cancer nobody talks about." Thus, there is widespread lack of information about the disease and a tendency to avoid diagnosis and treatment of it. Not enough people have regular

Continued on Page 3

Roundup deadline is the first Wednesday after publication.



The *Roundup* is an official publication of the National Aeronautics and Space Administration Lyndon B. Johnson Space Center, Houston, Texas, and is published every other Friday by the Public Affairs Office for all Space Center employees.

Editor Kay Ebeling



PTD challenges center employees

EUGENE ROGERS (pictured above), a Technicolor precision photo technician for the JSC Photo Technology Division, was declared the Bar-B-Que King of 1980 after a cook-off competition on February 25 involving some 38 to 40 people of the PTD laboratory.

Gene, as he is affectionately known by his colleagues, is now backed by the Technicolor Employees Association who are issuing a challenge to any other organization or group for a future Bar-B-Que Cook-off to determine the JSC Bar-B-Que King for 1980.

'80 blood drive begins

The first JSC blood drive of 1980 is Thursday, April 3, 8 a.m. to 4 p.m. at the Gilruth Center. For an appointment call Bob Jones x6251 or Helen Crawford x3159. The schedule for the rest of 1980 is on the last page of the current JSC Telephone Directory.

At Gilruth Center

Spring weather brings more recreation: tennis, softball—and more classes, too

Registration is now being accepted in the following leisure time classes at the Gilruth Recreation Facility:

Photo Class: A unique course titled "Better Picture Taking" designed to help you improve your skills in photography. Class meets Thursday evenings beginning March 27. Hours 6-8 p.m. Cost per person is \$25.

Basic Auto Mechanics: Learn to perform your own preventative maintenance and beat inflation. Class meets on Thursday's beginning April 10 and cost is \$16.75 per person. Savings in lab alone pays for the cost of this course.

Aerobic Dance: Part dance, part exercise. All fun, this course is designed to get you in shape and keep you that way. Class meets day or night to suit your schedule. Daytime class meets 9:30-10:30 a.m. Monday and Wednesday's beginning April 7. Evening classes meet Tuesday and Thursday from 6:30-7:30 p.m. beginning April 8. Cost for this 12-week course is \$48 per person.

Amateur Radio Novice Class: A class designed to provide the student with knowledge necessary to pass the required examination. Emphasis will be on rules and regulations, operating practices, basic theory, and morse code. There will be a final exam. The six-week course meets Tuesday and Thursday

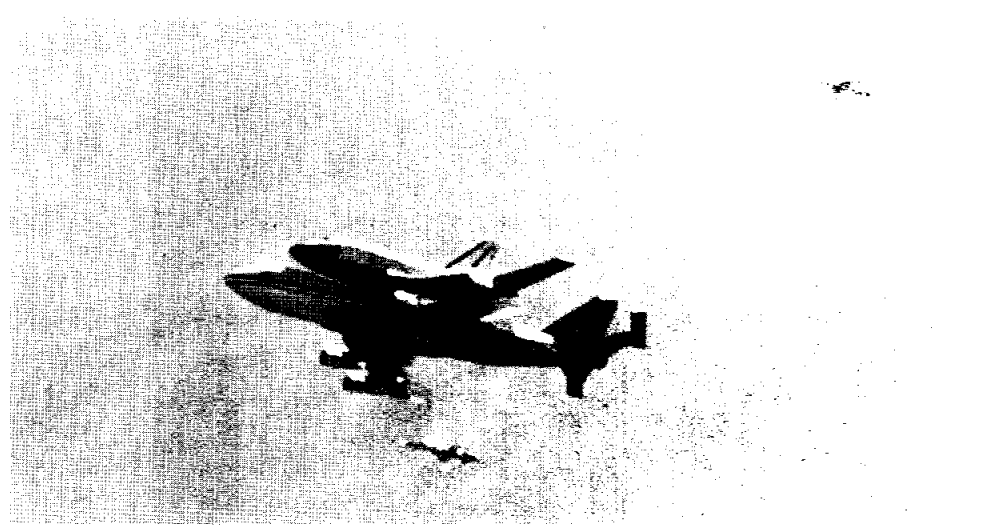
beginning April 1 from 6:30-8:30 p.m. Cost is \$25 plus \$2.95 for text.

Tennis Courts Open: The five tennis courts at Gilruth Center are now open. Court usage is *by reservation only*. Cost is 75¢ per person per 1-1/2 hour playing period. Call x3594 for reservations and information.

Monthly Fun Run: The next scheduled fun run will occur at 9 a.m. Saturday, March 29 at Gilruth Center. Races will be run over the five km and one mile courses. Entry fee is 50¢ and no pre-registration is required. Bring the whole family along and run. Last month 210 runners of all ages participated. Come on out and get in shape for the April Intercenter Run.

Softball Registration: Registration is now being accepted for softball. Teams are forming for men, women and mixed leagues. Cost is \$90 for EAA teams and \$140 for non-EAA teams. Also, the center needs ASA sanctioned officials for all leagues. For more info call x3594.

Free Throw Contest: The Rec Center will be sponsoring a FREE THROW CONTEST March 31 - April 5. Rules are simple,—best of 50 wins. Cost \$1.00. Trophies will be awarded.



One Year Ago at the Space Center

Rodney Rocha, ES2, caught this shot of the Orbiter on its way to the Cape

Health Program, cont'd

health checkups which include a proctoscopic examination (visual examination of the lower colon and rectum through a lighted tube).

Deaths from colon and rectum cancer now total about 51,000 a year in the U.S. This is one form of cancer in which the incidence is almost the same among males and females. The number of new cases annually is over 100,000.

If you are interested in learning more about colorectal diseases, plan to attend a Health Education Program on Wednesday, April 2. This program will be conducted at 10 a.m. and again at 1 p.m. in the Building 30 Auditorium. A JSC Clinic physician will be on hand to answer any questions you may have.

Five Years Ago Today

2 bdrm townhouse in pines of Dickinson, fireplace, drapes, washer-dryer incl, \$24,000 (\$188/mo)-----

House for sale, Friendswood, 3-2-2, carpeted, custom drapes, frpic, fnced, 1832 sq ft, \$35,500, will arrange financing,-----

Nassau Bay, 4-2-2, Contemp, corner lot, \$55,000, no agents-----

CLC, 4-2-2, 1850 sq ft, fnced, nice trees, \$45,000-----

Ten Years Ago Today

4-2-2 Glen Cove, central A/H, carpets, drapes, built-ins, 16 mos. 6-3/4%, \$158/mo. \$2300 equity,-----

Friendswood 3-2-1, central A/H, drapes, patio landscaped, near elem school, assume 6%, \$119/mo-----

Pasadena 3-2-2 brick, central A/H, builtins, fence, huge trees, patio, walk to schools, 5-1/4%, \$5300 equity-----

Roundup Swap Shop

Ads must be under 20 words total per person, double spaced, and typed or printed. Deadline for submitting or cancelling ads is 5 p.m. the first Wednesday after publication. Send ads to AP3 Roundup, or deliver them to the Newsroom, Building 2 annex. No phone-in ads will be taken. Swap Shop is open to JSC federal and on-site contractor employees for non-commercial personal ads.

Property & Rentals

Sale: 1.2 acres wooded, Polly Ranch, 488-6433 after 5.

Sale: Wooded waterfront lot at Pt. Lookout on Lake Livingston, 75 x 137, utilities, restrictions, \$3,750. 946-7587.

Sale: Camino South, 3-2-2, split brs, \$59,760, assume 8 1/2 % FHA, owner finances half \$22,400 equity, 486-8810.

Lease: Luxury townhouse on Clear Lake, 2 br/loft, furnished, fireplace, pool. Boat slip available. Larry X5009 after 3 p.m. or Trudy 332-6008 for appointment.

Galveston West End, 2 bedroom, By-the-Sea condo, furn. \$210/week off, \$300/week in season. Clements 474-2622

Lease: Sagemont Park, 4-2 1/2-2, 2475 sq ft., drapes, carpet, fireplace, \$495 per month plus deposit. 474-3319

For lease: CLC Baywind I Condo, 2-2-2, \$375/mo. X3226 or 486-7461.

Resort lot near Houston, tennis, golf, horse facilities, pool, lake, trees, utilities. Sid X6204.

Cars & Trucks

77 Pontiac Astre, 4 cylinder, standard transmission, good cond. 991-0125.

78 Porsche 924, black leather interior, automatic, less than 15,000 miles. No scratches or dings. Like new, \$11,500. Copeland 944-3104.

78 Camaro LT, maroon, one owner, power brakes, steering, A/C, auto, good cond, bargain at \$4700. Peacock X2208.

79 Ford F-250 4/wheel drive, 3/4 ton with 1 ton frame, red, \$6500. Marc X6393 or 488-4904.

70 Marquis, 2 dr, good xportation, \$650. Ed X3205 or 334-1177 nites.

76 Cordoba, low mileage, PS/PB, AM/FM, electric windows, seats and door locks, exc rubber, beautiful, best offer. 333-2974.

67 Pontiac Firebird engine 326 cu in, 4 bbl carb, it runs, \$75. also 2 speed auto xmission, \$25. 554-6685.

75 Chevy truck, ps/pb, V-8, automatic, cruise, extra tank, cassette, camper shell, sliding glass, \$2950. Dale X4065 or 481-0046

77 Vette-white lacquer, buckskin leather interior, low miles, runs and looks great, \$8500. 941-8584 after 6.

76 280Z, exc cond, auto, AM/FM, AC, sun shade, 474-5074

62 MGA 1600 MKII, good cond runs good. 474-5074

70 Corvette, green, T-top, auto, transmission, PS/PB, A/C, good condition. \$4500.00. 944-4896 after 5.

78 Trans-Am White w/red, AC, Auto, stereo, cruise control, 9000 mi., like new, \$5500. Blucker 488-4188 X3533.

75 Mark IV, Designer edition; sun-roof; aqua; loaded; velour; 334-5298.

77 Dodge Van, customized w/captain's chairs, lo-boys; naugahyde interior, P/B P/S,

tape A/C. Exc. 38,000 mi. \$4900. Jay X5853 or 481-2335

73 Olds 8-passenger wagon. AC/PS/PB, radio, reg gas, good cond. Barton X5181.

73 Torino sport. AC/PS/PB, reg gas, new tires, runs good. Barton X5181.

74 Chevelle sta wag. exc. cond., recently overhauled. \$1100. 486-0728.

Corvette 1973, convertible Stingray, pwr windows, 2 tops, air, mags, 8-trk stereo, 66,000 miles, exc. shape. \$6500, call 554-2425 nights.

Boats & Planes

Membership available in a small private club to fly 1975 IFR Skyhawk, based LaPorte. 487-3857 after 5.

1/4 interest 1975 IFR Skyhawk, based LaPorte, asking \$7000. Bill Pruett X4491.

For sale: Ski boat - 18' Regatta, 135 hp Johnson, custom trailer. Fully equipped with stereo system. \$4000 firm. 554-6107 after 6.

Wellcraft '78 V20, 470 Mercruiser, SS prop. VHF. Exc. \$6900. 471-5396.

14' aluminum boat, 33-hp. Evinrude. Elec. start, swivel seats, depth finder, trolling motor, McLain trailer, never in salt water. 645-6267

Foam core fiberglass sailboat. Hull and deck. Ready for home completion. 27' LOA, 6800# displacement, \$5250. 334-1983 evenings, weekends

DON'T BE SO DAD GUMMED



SAVE EVEN MORE IN THE LONG RUN!
DO IT TODAY! HELP THE TEAM!
SEND JSC FORM 1150 TO BE-3

Cartoon by Russ Byrner

Household Articles

Electrical hospital bed with trapeze/patient helper, exc cond, \$500 firm. 481-1469.

Two sofas, early-American table w/four chairs, all cheap 488-6433 after 5.

Beautiful wood stereo cabinet. 488-6433 after 5.

53" roll-a-way bed without mattress, \$20. Shumilak 482-7723.

Sony 12-in. color TV, solid state, red hue not working. \$35. B&W Zenith 19-in, needs tubes, \$25. 333-3547 after 5.

Compact refrigerator for office or dorm, freezer, thermostat, 19x18x18 inches, never used, \$85. Hull X4461.

Brown vinyl loveseat, like new. \$175. GE refrigerator, cools well but defroster needs coil. \$125. Young, X4401 or 334-3272.

Used carpet, 12 x 26 ft. exc. cond. light green color. \$100. 482-7546.

Antique solid oak buffet. Very Old, in good condition. \$200. 482-7546.

Gold shag carpet, 30 sq. yds. \$150. 488-0010 evening.

Wanted

One set of used golf clubs. Fisher X4488 or 331-3954.

Left-handed golf clubs, good cond. reasonably priced; Bill Daley, X2285 or 488-3557 after 5.

Wanted: Housing or bedroom accommodations for JSC Summer interns. Needed for mid-May through August. Contact Betty Johnson, ext. 5266.

Miscellaneous

Antique brass tea set with tray, \$95. Silver tea set very nice, \$150. Odds and ends of crystal and china reasonable. 488-5564

Several beautiful pageant/prom dresses, size 5 & 7, like new. Lois Walker X4488 or 479-7815.

Transmitter, Hallicrafters HT-37, AM/CW/SSB, 80 thru 10 mtrs. Owner purchased new, \$100. Hull X4461

Riding lawnmower, Sears 36", A-1 cond, ready to go. Dick 486-9124 or 538-1247.

Compound bow, 39" Bear 60 lb Whitetail, five arrows, water arrow/reel, quiver, finger tip, arm brace, \$100, 333-3508.

Utility trailer, Sears one wheel type with lockable cover. About 4x4 ft, great for camping, hauling supplies, etc, \$125. X2392 or 488-0266.

16-ft Husky, gooseneck trailer, 2 axle, 5' solid steel sides, tractor ramps, \$1200 X6393 or 471-0261

Roofing. We perform minor repairs or complete overhauls on roofs. Call for free estimate. Doug or Will 484-1036.

Roof rack with all fasteners for auto or station wagon, new \$125 sell for \$25. Shumilak 482-7723.

Aquarium setup, two ten gallon tanks complete with stand, hoods, fluorescent lighting, art. plants, gravel, backgrounds filters, exc buy. 482-1630.

Royal model 80 all electric portable typewriter for parts, D. Long 538-1816.

TI-59 calculator with all original equipment plus extra magnetic cards and other materials, \$180. Dennis 488-3370.

Senco roofing stapler, used on one roof. 333-2974

Sony STR-6046A receiver, 25 watts per channel. \$200. Dianne X5549 or 487-4967 after 5.

GUNS: Ruger 44 Mag 10-1/2" BBL. Browning Auto 5 20 ga. Several hard to find pistols Colt, Ruger). 488-1846 eve.

Air Tools (impact, ratchet, paint). Many other tools 488-1846 eve.

Go-Cart. 5 HP Honda engine, Simplex frame. 1-seater. \$300. Siegfried X4721 or 487-5679

6-way Ward's electric hospital bed w/patient helper. Exc. cond. \$500 firm. 481-1469.

Venture Cat. 15-foot w/trailer, mail & jib, in exc. cond. \$1500. Dianne X5549 or 487-4967 after 5.

Lawnmower, Toro, 21-inch self-propelled rear bagger. Runs OK but needs minor work. \$50. Killingsworth, X2313. 488-1689.

37-105 Spiratone Macro zoom lens. Pentax screw mount. Xint optics. w/case. \$85. 488-3966.

Pets

Male Weimaraner, 1-1/2 yrs old, \$200 negotiable. The Dester s 438-0269.

Carpools

Need another rider from Friendswood to NASA, non-smoker, female Brenda X3836

Want to join/form carpool from Missouri City (Hunters' Glen) to NASA, 8-4 (adjustable) Fulton X5263.

Need ride home daily at 4:30. Willing to pay. Corner of Plum hollow and Shady Elms, Middle brook forest. Aurora Salinas X4839, Bldg. 2

Non-smoker to join carpool from Hiram Clark/Anderson Road area. 8-4:30. Jeanie X5834 or Doris X2761.

Personals

The Clear Creek Bass Club has openings for new members. If you enjoy bass fishing call 334-2003 after 6.

Cycles

77 Suzuki RM80 dirt bike, exc cond. Lousma 482-2360

16" sidewalk bicycle. Exc for young rider. Needs repair. Yours for the asking. Merriam. 488-3806.

Machine Shop in Building 10 grinds out Orbiter panels & parts

Photography by Terry Slezak

It could be Cleveland. The roar of aluminum welding machinery, inert gases flaming from equipment in the hands of a hooded figure. Manufacturing. It could be Detroit. But instead of auto parts, these workers are constructing blood sampling kits to be carried on Spacelab, or panels that will go in the simulators in Building Five. And the workers are all Civil Service employees working for NASA.

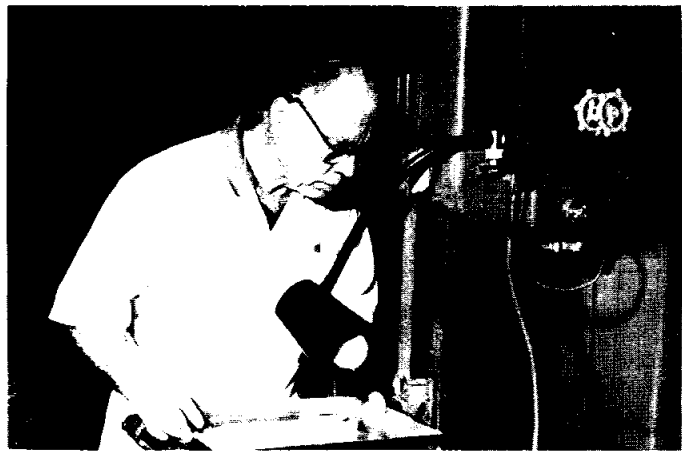
The Building 10 Machine and Sheet Metal Shop opened with the space center, and employees immediately went to work building flight hardware for Gemini. They constructed Apollo lunar hand tools and hardware for all the manned spaceflight missions.

Today their task is parts for mockup and training equipment, and 25% of their work is in construction of Orbiter parts.

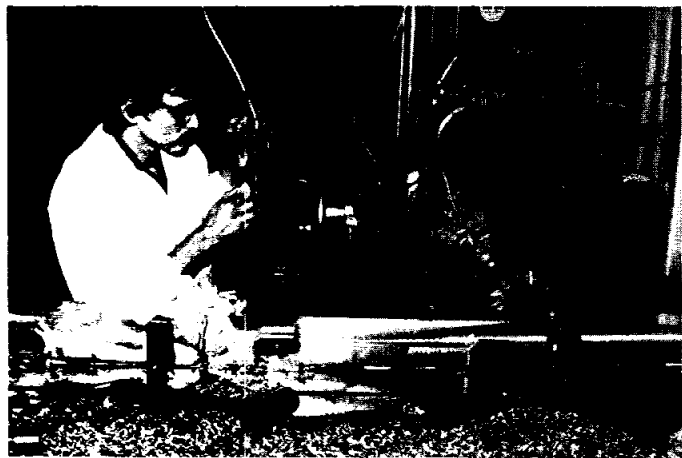
Photos on this page were taken by Terry Slezak, who works in the Photo Technology Division. Mr. Slezak's work will be on display in a one man show in Gilruth center March 26 - April 4. He is also the instructor for the Rec Center's Photography class.



Hershel LaRue



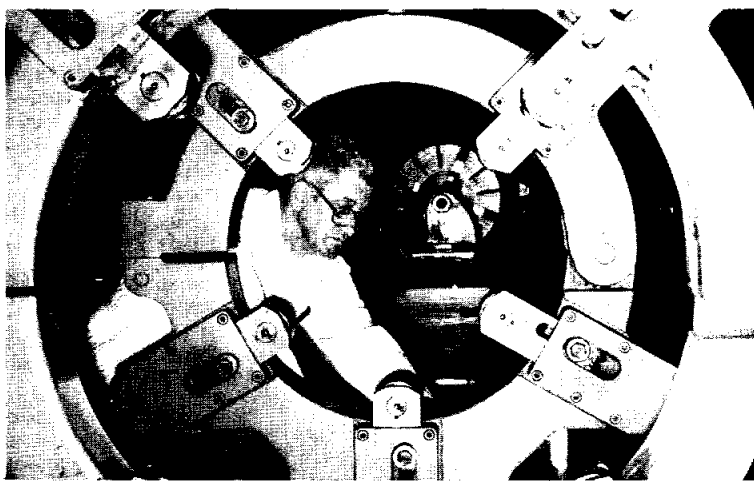
Robert Allmond



Charles Bennett



Amy Lippincott



Bill Laycock



Joyce Davis



Marvin Sharp