



ROUNDUP

NASA LYNDON B. JOHNSON SPACE CENTER

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Free Flight 5 concludes successful ALT program

Free Flight 5 was flown successfully Wednesday morning by pilots Fred Haise and Gordon Fullerton. Flight duration from release to touchdown was 1 min 55 sec. The main objective of this flight was the braking test on a concrete runway. Photographs and further discussion of this final free flight will appear in the next issue of *Roundup*.

"We now have reasonable confidence we can bring the Enterprise back [from space]. The next hurdle is to get it up!"

This comment from Donald K. Slayton, Manager of the Approach and Landing Test Program, came in answer to queries about future Shuttle milestones from newsmen at the conclusion of Free Flight 4.

Confidence in the handling and performance characteristics of the Orbiter is well deserved, and Enterprise pilots Joe Engle and Richard Truly reiterated the fact on Free Flight 4. Everyone who had worked to get the first tailcone-off mission ready had "done their homework," stated Engle, "because it flew just like our simulators indicated that it would."

Slayton told press audiences that Free Flight 4 was, perhaps, the most important flight in the ALT program in that the Orbiter was flown in the configuration it would be in coming out of orbit.

One of the objectives of the flight was to determine the extent of buffeting without the tailcone attached to the Enterprise. Inside the Enterprise, Engle and Truly did not really notice much difference one way or the other.

Inside the 747, however, pilot Fitz Fulton said they did experience more buffeting, but not as much as anticipated. The damper located in the nose section of the jumbo jet was turned on to alleviate the lateral vibration caused by buffeting around the 747 tail. This damper can best be described as a 1000-pound spring-loaded weight, and it did improve the ride up front.

With an operational Shuttle program, however, buffeting will not be a concern because the 747 will only be used to ferry the Orbiter between sites and for routine maintenance, and the tailcone will always be on the Orbiter.

A second, and probably the most important, objective of the first tailcone-off flight was to test the speed brake to see if the Orbiter could handle a concrete-runway landing. Maximum hard braking was performed in an attempt to land and stop the Orbiter within an ideal 9000 feet. Engle and Truly accomplished the task in 5000 feet.

Engle and Truly again split up the piloting chores so they could get all their data. No significant differences in handling were encountered without the tailcone; that is, the response of the Orbiter and the way it flew were about the same.

The most noticeable difference was in performance. With the tailcone off, the descent is steeper during the equilibrium part of the glide, air speed decreases faster, and there is a lot more deceleration coming in to touchdown.

More photos on page 4



A BEAUTIFUL SEPARATION - This photograph shows the first tailcone-off separation high above the Edwards terrain, with chase plane close behind.

Two more groups of astronaut applicants arrive for interviews

The seventh and eighth groups of 20 mission specialist astronaut applicants reported to JSC Oct. 17 and Oct. 25 for a week of physical examinations and interviews. Eight of the applicants in the seventh group are women.

To date, 160 astronaut applicants have been selected to come to JSC for further screening. Of the eight groups that have reported, 77 have been pilots, 83 are in the mission specialist category, and 17 of the 83 mission specialist applicants are women.

The names, age, degrees and/or military rank, birthplace (BP), and current place of employment or duty station (DS) of the individuals in these groups are:

- Jack L. Bufton, 32, Ph.D.; BP - Kenmore, N.Y.; DS - NASA/GSFC, Greenbelt, Md.
- Samuel H. Clark, Jr., 40, Ph.D.; BP - Bristol, Va.; DS - U.S. Geological Survey, Office of Marine Geology, Menlo Park, Calif.
- Kathleen Crane, 26, Ph.D.; BP - Wash., D.C.; DS - Scripps Institute of Oceanography, La Jolla, Calif.
- Bonnie J. Dunbar, 28; BP - Sunny-side, Wash.; DS - Rockwell International Space Division, Downey, Calif.
- Brady A. Elliott, 30; BP - Columbus, Ohio; DS - Texas A&M Univ. (Research Assistant), College Station, Tex.
- Joan J. Fitzpatrick, 27, Ph.D.; BP - Bayonne, N.J.; DS - Colorado School of Mines Research Institute, Golden, Colo.
- Jack L. Bufton, 32, Ph.D.; BP - Hoboken, N.J.; DS - State of Arizona, Oil and Gas Commission, Tempe, Ariz.
- David S. Ginley, 27, Ph.D.; BP - Denver, Colo. DS - Sandia Laboratories, Albuquerque, N. Mex.
- Carolyn S. Griner, 32; BP - Granite City, Ill; DS - NASA/MSFC, Huntsville, Ala.
- Evelyn L. Hu, 30, Ph.D.; BP - New York, N.Y.; DS - Bell Laboratories, Holmdel, N.J.
- Carol B. Jenner, 27, Ph.D.; BP - Wash., D.C.; DS - Univ. of Wisconsin, Madison, Wis.
- Mary Helen Johnston, 32, Ph.D.; BP - West Palm Beach, Fla.; DS - NASA/MSFC, Huntsville, Ala.
- H. Louise Kirkbride, 24; BP - Philadelphia, Pa.; DS - Jet Propulsion Laboratory, Pasadena, Calif.
- Larry A. Mayer, 25; BP - New York, N.Y.; DS - Scripps Institute of Oceanography, La Jolla, Calif.
- Harry Y. McSweeney, Jr., 32, Ph.D.; BP - Charlotte, N.C.; DS - Univ. of Tennessee, Knoxville, Tenn.
- Richard W. Newton, 29, Ph.D.; BP - Baytown, Tex.; DS - Texas A&M Univ., College Station, Tex.
- William H. Peterson, 36; BP - Brooklyn, N.Y.; DS - Univ. of Miami (Graduate Research Asst.), Miami, Fla.
- Wayne R. Sand, 36; BP - Conrad, Mont; DS - Univ. of Wyoming, Laramie, Wyo.
- Brian H. Shoemaker, 40, CDR-USN; BP - Noranda, Quebec, Canada; DS - NAS North Island, San Diego, Calif.
- Ritchie S. Straff, 24; BP - Philadelphia, Pa.; DS - M.I.T. (Graduate Student), Cambridge, Mass.
- Thomas N. Almojuela, 34, Major USA; BP - Seattle, Wash.; DS - NASA/AMES, Moffett Field, Calif.
- Robert F. Behler, 29, Capt. USAF; BP - Rome, N.Y.; DS - 6512 Test Sq., Edwards AFB, Calif.
- Donald C. Bulloch, 32, Major USAF; BP - Alexandria, La.; DS - Air Command & Staff College, Maxwell AFB, Ala.
- William J. Fields, 35, Major USAF; BP - Baltimore, Md.; DS - Armament Development Test Center, Eglin AFB, Fla.
- William F. Harrison, 32, Lt.Cdr. USN; BP - Charleston, S.C.; DS - NAS Whidbey Island, Oak Harbor, Wash.
- Jane L. Holley, 30, Capt. USAF; BP - Shreveport, La.; DS - USAF Tactical Fighter Weapons Center, Nellis AFB, Nev.
- Robert A. Lancaster, Jr., 30, Capt. USAF; BP - Wash., D.C.; DS - Aeronautical Systems Division, Wright Patterson AFB, Ohio.
- Johnnie B. Ligon, 35, Capt. USAF; BP - Henderson, KY; DS - 3246th Test Wing, Eglin AFB, Fla.
- John M. Lounge, 31, Lt. USN; BP - Denver, Colo.; DS - Naval Electronics Systems Command, Wash., D.C.
- Richard M. Mullane, 32, Capt. USAF; BP - Wichita Falls, Tex.; DS - 3246th Test Wing, Eglin AFB, Fla.
- George C. Nield IV, 27, Capt. USAF; BP - Wash. D.C.; DS - USAF Flight Test Center, Edwards AFB, Calif.
- Frederick K. Olafson, 30, Capt. USAF; BP - Seattle, Wash.; DS - 3246th Test Wing, Eglin AFB, Fla.
- Ellison S. Onizuka, 31, Capt. USAF; BP - Kealahou, Hawaii; DS - USAF Test Pilot School, Edwards AFB, Calif.
- Michael T. Probasco, 26, 1st Lt. USAF; BP - Houston, Tex.; DS - SA-ALC/MMSRE, Kelly AFB, Tex.
- Jerry L. Ross, 29, Capt. USAF; BP - Gary, Ind.; DS - USAF Flight Test Center, Edwards AFB, Calif.
- Vernon P. Saxon, Jr., 32, Capt. USAF; BP - Birmingham, Ala.; DS - USAF Test Pilot School, Edwards AFB, Calif.
- Charles W. Schillinger, 34, Capt. USMC; BP - Chicago, Ill.; DS - NAS Whidbey Island, Oak Harbor, Wash.
- Robert L. Stewart, 35, Major USA; BP - Wash., DC; DS - US Army Aviation Engineering Flight Activity, Edwards AFB, Calif.
- Erik M. Stolle, 29, civilian; BP - Pensacola, Fla.; DS - USAF Test & Evaluation Center, Kirtland AFB, N. Mex.
- Charles A. Vehlow, 31, Capt. USA; BP - Waukesha, Wis.; DS - Naval War College of Command & Staff, Newport, R.I.

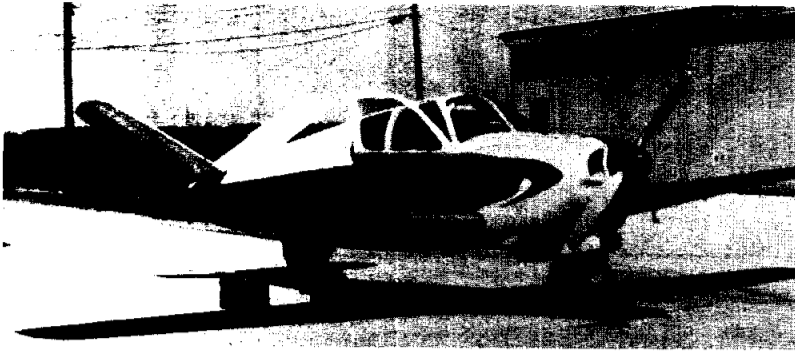
Suggestion, Invention, Tech Brief awards are presented

Jack A. Kinzler, Chairman of the JSC Suggestion Committee, presented suggestion (S), tech brief (TB), and invention (I) awards to the following employees this month. Receiving these awards are: (first row, left to right) Richard L. Martinez (S), Herbert S. Kobayashi (I), Lelan R. Whitaker (S), Rees H. Underhill (S), Shirley A. Chevalier (S), Sandra S. Burdsal (S), George Strouhal (TB), Robert J. Maraia (TB), Donald M. Curry (TB), and Robert G. Richmond (TB). Second

row, left to right are: Chairman Jack Kinzler and award winners Robert L. Bryant (S), F. Donald Freeburn (S), Reuben E. Taylor (TB), Sydney P. Bradfield (I), Leo G. Monford (TB), Thomas C. Snedecor (S), William D. Sherborne (Contribution award), and Robert L. Dotts (TB). Not pictured are Thomas M. Conway (S), Charles J. Bauer, Jr. (S), Robert S. Clark (S), Dale G. Sauers (S), and Ivan K. Spiker (TB).



Award recipients are shown with Jack Kinzler.



NOW IT'S AN ANTIQUE — Arabian's 1947 Beech Bonanza airplane is as good as ever — and worth twice as much!

Solving a problem is almost as much fun as finding one

Donald D. Arabian, Manager of the Program Operations Office, would find a world without Murphy's Law exceedingly dull.

"There's guys in this country who can do anything," exclaims Arabian. "Rather than saying how you can't do something, the challenge in life is finding ways you CAN do things."

Arabian, whose name has been associated with such adventuresome terms as "Arabian's Air Force" and "Tiger Teams," is living proof of his own philosophy.

About three weeks before the Apollo-Soyuz mission in July of 1975, experts at Cape Canaveral became concerned that thunderstorms might delay the launch of Apollo, thus ruining the project.

Arabian, who had done lightning/thunderstorm research during the late sixties was left with the question of how one would determine whether the possibility of lightning striking the spacecraft was severe enough to warrant scrubbing a launch.

Arabian wasn't worried. The question involved the need to know the electrical fields in the launch path.

"So, I thought there must be an easy way to find that out," says Arabian. "We just get a stack of airplanes to fly in there and find out what the stress is. If it's all right to launch, we launch. If it isn't, we don't."

"Well, somebody said you couldn't get airplanes. I said I'd do it. The Air Force supplied two; Ames supplied one; the astronauts had one, plus what the Cape had. ... So, that was 'Arabian's Air Force.' As it turned out, there were no thunderstorms that day, so we didn't have to do it. But the technique has been used since during Viking launches."

When he isn't busy troubleshooting problems and anomalies connected with space flight (hence, the term "Tiger Teams"), he goes out looking for something to troubleshoot closer to home. Arabian has been flying his own airplanes for years and presently owns a 1947 Beech Bonanza, which he says he has flown all over the country — even on business trips if it happens to be more efficient to do so.

But Arabian gets as much of a kick out of working on an airplane as he does flying one.

"Flying is just one aspect," he says. "Another intriguing aspect is working on them and the aerodynamics of the thing. It's also an intriguing thought to be able to go anywhere you want whenever you want to go."

In keeping with his fascination with aerodynamics and "going anywhere you want to" is Arabian's latest project to build his own ocean-going sailing vessel. He started by ordering a 32-foot West-sail hull and deck from California and then proceeded to build a shop to house and finish constructing his

boat. The shop, which "has a skylight and all that" took him about a year to build.

"Meanwhile, I needed lead for the bottom of the boat — about 7000 pounds of it! The local places wanted something like 30 cents a pound. So I said that was absurd.

"Then, someone mentioned that one place they get lead is hospitals — you know, from radiology laboratories, nuclear medicine. They carry it in what they call "pigs" and "cows" and they vary in size from several ounces to maybe 50 pounds. They use it to protect radioactive materials.

"After they're through with it, some hospitals recycle it, others don't. It accumulates, so they sell it to scrap metal dealers. Of course, they have it checked to make sure it's safe.

"Junk dealers were getting 14 cents a pound for the stuff, so I called the hospitals and offered 15 cents a pound. It took me about a year to accumulate all I needed."

Arabian then had the task of melting and casting the lead. So he built his own furnace.

"Surprisingly simple," he declared as he explained how he melted down nearly a ton of lead in half an hour.

"Glynn Lunney helped me pour the lead because it's hard to move," Arabian said, and that's about the only help he has had on his project.

Next he had to have teak. He got it from India.

It all started with letting his fingers do the walking — to the tune of about \$3 a board foot (now increased to \$6). Arabian decided local prices were too steep. By chance, a lady who worked close by

was from India and her father just happened to know some people at the embassy who might be able to help. Arabian got the names and addresses of five places in India; wrote them all letters in English, explaining his project and his needs; and received back a fantastic assortment of responses and free samples AIR MAIL.

By last February, he had his teak — all of it rough, requiring cutting and machining.

Now Arabian is in the process of insulating the interior of the boat. Among other materials, he is using a very light, almost white, mahogany called primavera, from a timber tree in Central America that has bright yellow flowers.

"You'd be amazed at the things you can get if you just take your time. The stuff I have been able to get is just unbelievable," he laughs.

It's unbelievable, all right. He got a \$2500 engine for \$1600 from a place that was going out of business. He obtained a beautiful bronze tableware set with rosewood handles from Denmark for only \$50. Bronze for the portholes came from Connecticut.

Although the boat can be sailed by one person, Arabian plans to carry enough fuel for about 1500 miles. He will generate AC power off his 25 horsepower diesel engine so he can have all the conveniences — which includes a microwave oven and a refrigerator, which he is constructing himself.

"But can you SAIL?" his associates ask him. "Aren't you going to take lessons?"

"No," smiles Arabian. "I'll scrounge somehow. It's amazing what you can do."

Author/inventor Faget finds sailing a "creative outlet"

Maxime A. Faget, author, inventor, and one of the original group of 35 assigned as the nucleus of JSC "would rather be sailing," as the saying goes.

Faget has been involved in competitive sailing for a long time. He learned to sail at 13 years of age and taught his four children how to sail.

He owns a Windmill sailboat — a "sloop," which consists of a mainsail and a jib. It takes two people to sail the boat, and now that three of Faget's children are grown, his youngest daughter sails with him.

Faget was Commodore of the Clear Lake Sailing Club, a title which he gratefully gave up to Pat Butler, a JSC scientist, along with his winning streak.

"I don't know if the competition is getting better or I'm getting worse," laughs Faget. "Maybe winning goes along with being Commodore!"

Faget has sailed in many areas of the country, among them Virginia, Balboa Island, and Galveston. He has returned twice to Virginia with his boat to race in national competition.

Sailing at Clear Lake is done on a triangular course that is staked out with flags. The starting line is also marked, and the competing boats must be on the proper side of the line when the gun or horn sounds the beginning of the race.

"The tactic," says Faget, "is to be as close to the starting point going as fast as possible when the gun

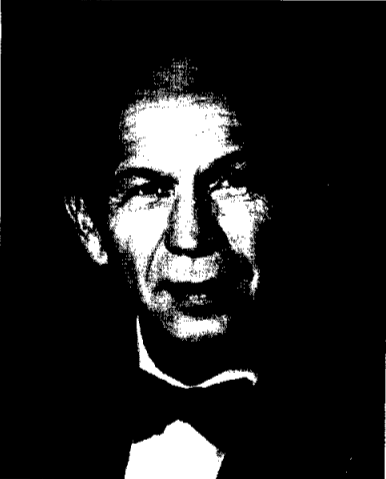
signals the start. If you're on the wrong side you have to go back."

Between five and 15 boats can compete comfortably, but Faget says he has seen as many as 55 boats in national competition trying to race, a situation he describes as "mast confusion."

Races at Clear Lake take from 45 minutes to an hour, and there are always plenty of spectators. At JSC, Faget estimates there are about a dozen competitive sailing enthusiasts who are very active.

Sailing is described by Faget as a vigorous sport. "It takes a lot of work to control the sails," he says. You don't just sit back and enjoy the view if you are racing.

But Faget enjoys the relaxing aspects of the sport, too. He says sailing is his "main creative or innovative outlet," although he also enjoys all the racket sports — everything from tennis to squash.



Max Faget

Cafeteria Menu

WEEK OF NOV. 7 — Nov. 11

MONDAY: French Onion Soup; BBQ Beef; Parmesan Steak; Spare Ribs w/ kraut; Chili & Macaroni w/salad (Special); Ranch Style Beans, English Peas, Mustard Greens. Selection of Salads, Sandwiches & Pies Daily.

TUESDAY: Split Pea Soup; Meatballs & Spaghetti; Liver w/onions; Baked Ham; Corn Beef Hash (Special); Buttered Cabbage, Cream Style Corn, Italian Vegetables.

WEDNESDAY: Seafood Gumbo; Cheese Enchiladas; Roast Pork w/ dressing; Oven Crisp Flounder; BBQ Beef Plate; BBQ Link (Special); Pinto Beans, Spanish Rice, Turnip Greens.

THURSDAY: Beef & Barley Soup; Roast Beef w/dressing; Baked Flounder; Lasagna w/meat; Chicken Fried Steak (Special); Peas & Carrots, Buttered Squash.

FRIDAY: Seafood Gumbo; Fried Shrimp; Broiled Halibut; Beef Stroganoff w/noodles; Fried Chicken (Special); Breaded Okra, Buttered Broccoli, Carrots in Cream Sauce.

WEEK OF OCT. 31 — NOV. 4

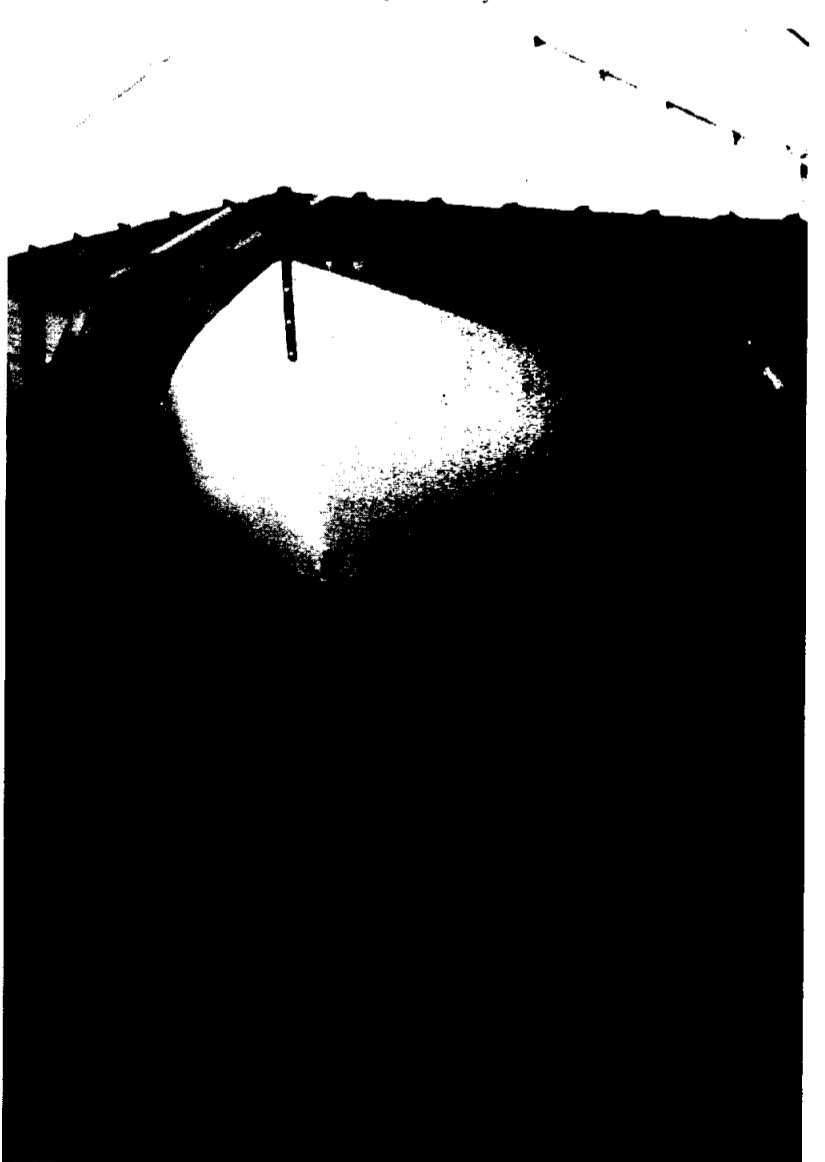
MONDAY: Beef & Barley Soup; Beef Chop Suey; Veal Cutlet w/cream gravy; Broiled Ham Steak; Weiners & Baked Beans (Special); Brussel Sprouts, Mixed Vegetables. Selection of Salads, Sandwiches & Pies Daily.

TUESDAY: Cream of Celery Soup; Turkey a la King; Frito Pie; Pork Chop and Apple Sauce; Chinese Pepper Steak (Special); Spinach, Buttered Squash, Au Gratin Potatoes.

WEDNESDAY: Cream of Potato Soup; Catfish w/hush puppies; BBQ Plate; Braised Beef Ribs; Mexican Dinner (Special); Broccoli, Peas, Ranch Beans.

THURSDAY: Vegetable Soup; Corned Beef & Cabbage; Chicken & Dumplings; Tamales w/chili; Hamburger Steak (Special); Green Beans, Cabbage, Navy Beans.

FRIDAY: Deviled Crabs; Liver w/ onions, Halibut w/lemon sauce; BBQ Smoked link (Special); Corn, Italian Green Beans.



NOAH'S ARK? — No, this is Don Arabian's ocean-going sea vessel in-the-making.

EAA ATTRACTIONS

Patricia Garza: top secretary

TICKETS

The following tickets are available at the Bldg. 11 Exchange Store from 10 a.m.-2 p.m. Monday - Friday.

Astroworld - Adult & children tickets available for \$5.95 each. That's a \$2 discount.

Dean Goss Dinner Theater - Mark Oct. 30 on your calendar to attend NASA Night at Dean Goss Dinner Theatre. The play is entitled "Right Bed, Wrong Husband." Tickets: \$6.00 per person.

Disney Magic Kingdom Club - Free membership cards.

Sea-Arama Marineworld - Tickets on sale, \$3.75 for adults, \$2.50 for children. Open until dusk, year round.

Six Flags - Adult & children tickets \$6.75 each. That's a \$1.20 discount.

STOP SMOKING COURSE

A stop-smoking course is scheduled for Nov. 7-11 at a low cost of \$10.

Interested parties are urged to dial X-2310.

A recorder will take your name and extension, and someone will call you as soon as possible.

HOUSTON AERO HOCKEY

Houston Aero Hockey tickets are on sale at the special rates of \$6.50 and \$4.00 through EAA. They are regularly priced at \$8.50 and \$5.50.

Houston Aeros gift cards will be sold in Bldg. 11 to EAA members, who in turn may exchange them at the Aero's Box Office in the Summit for regularly scheduled home games this 77-78 season.

Upcoming home games are with Birmingham Nov. 2, Quebec Nov. 4, and Indianapolis Nov. 11.

CARRIAGE DINNER CLUB

In an effort to combine quality service with substantial savings, the ninth exciting program of the Carriage Trade Dinner Club will begin Nov. 1.

The special INDUSTRY RATE application will be available in the

EAA offices. Regular general public price is \$15; the special industry discount price is \$12.50. See your EAA representative for a brochure or go to the Building 11 cafeteria.

Each membership contains a directory of restaurants; a plastic membership card and case; bonus coupons for Aero's tickets, theater tickets, and Sea-arama tickets.

You pay for ONE dinner; the second dinner is free. Provisions are provided for guests, and your membership is valid from November through April 30.

RESTAURANT & THEATER CLUB

The Restaurant and Theater Club offers for only \$22.50 per membership a full year of two-for-one meals at over 40 fine restaurants; two-for-one discounts on admission tickets to Houston's best theaters, dinner theaters, and musical arts; a monthly issue of *Party Line Magazine*, Houston's complete entertainment guide; and bonuses for your entire family at hotels, cinemas, wildlife parks, and sporting events.

You will be impressed with the list of fine restaurants, which are included in a brochure from your EAA representative. This club offers a first in programs of this kind in that memberships are honored all week at 15 establishments, week-ends and some weekdays at 11 restaurants, and at nearly all restaurants on Sunday.

Contact your EAA representative now for more information, or go to the Building 11 Exchange Store.



GROUND SCHOOL

The JSC Aero Club is offering its audio visual ground school for employees and their dependents. A meeting will be held at the Gilruth Recreation Center on Thursday, November 3, at 5:15 p.m. Materials for the ground school may be ordered FOR COST at this time.

Those completing the ground school will be given a certificate which will allow them to take the FAA written examination for private pilot. Typical costs are \$35 for the ground school, \$18 for materials.

The ground school covers meteorology, flight planning, regulations, publications, emergency procedures, aircraft systems, and aviation medicine. For more information, contact Gary Raines, X-3876.

TENNIS CHAMPIONSHIPS

C. W. Smith of Pearland, Texas, won the "B" Men's bracket tennis championship with an amazing array of spin, slice, chip, twist, and reverse-twist shots and lobs placed with line-hitting accuracy. His wins over Harry Kolkhorst in the quarter-finals, over Dick Arndt in the semi-finals, and over Steve Mayfield in the finals were hard-earned.

Ruth Damoff won the Women's "A" title over Linda Olivares with a score of 6-1, 6-1, due to her great concentration and control.

The Men's "A" winner was Enio Olivares. He scored 6-3, 6-3 over local favorite Gideon Weber.

Linda Ranft in the Women's "B" division scored a 6-1, 6-3 win over Leslie Garner, and the Women's "C" winner was Kelley Weston, who beat Friendswood Racket Club favorite Gigi Reese with a score of 6-3, 6-0.

Perhaps the most competitive action was in the Men's "35-and-over" bracket. Al Jowid emerged victorious in a duel with Dave Schultz in the finals with a 6-4, 6-1 score.

Men's "C" champion was Al Lang, who beat M. Ehlinger in a marathon 7-6, 6-4, 7-6 final match.

The JSC Tennis Club plans to hold its next tournament Dec. 2, 3, and 4 with perhaps a junior and senior age bracket to encourage participation by tennis enthusiasts of all experience and maturity levels.

Patricia R. Garza is Lead Office Assistant of the Administrative Center, which is responsible for providing administrative and secretarial support to the Payload Operations Division (POD) and to other assigned organizations within the Flight Operations Directorate.

Garza provides personal secretarial support to Division Chief Charles S. Harlan and directs the efforts of the Administrative Center. Her ability and effort permitted an organizational change to be accomplished with minimal impact to daily activities and with considerable increase in efficiency.

At the time of her selection as Division Secretary in March 1974, the division had just been established by a JSC reorganization. Immediately, she was made responsible for initiating the filing system, for correspondence and mail control, and for the establishment of a correspondence control system between the Grumman Aerospace Corporation and NASA, due to the major division project responsibility of developing the Shuttle Training Aircraft.

In a subsequent reorganization, the division evolved into the POD, and Garza had the task of establishing the basic secretarial and administrative systems for another new organization.

The POD established an Administrative Center early in 1977, which required a transition from a normal secretarial/office relationship to one more on the order of a word processing center. Garza was placed in charge of activities associated with planning the transition to the new approach at the same time she was maintaining her responsibilities as secretary to the division chief.

Establishment of an Administrative Center within the POD was the first attempt of this kind within a JSC technical division. Garza developed individual work assignments and job descriptions, administrative systems, office procedures, and general operating arrangements. She was engrossed in the selection and layout of office equipment, the training of personnel on sophisticated new equipment, and established new ways of doing business to meet the challenges of the new situation.

Garza's initiative was a major factor in the success of the Administrative Center. The Center was capable of taking on an additional workload from other parts of the directorate.



Patricia Garza

Roundup Swap Shop

Swap Shop advertising is open to JSC federal and on-site contractor employees. Goods or services must be offered as advertised, without regard to race, religion, sex or national origin. Non-commercial personal ads should be 20 words or less, and include home telephone number. Typed or scribbled ad copy must be received by AP3/Roundup by Wednesday of the week prior to publication.

CARS & TRUCKS

71-F250 Ford pickup. 3/4-ton GVW Ranger XLT camper special, 61K mi, loaded, air springs, extensible bumper, xInt cond. \$2,150. Glynn, X-3076 or 488-4453.

66 Big-Window Barracuda. A/C, auto, PS, AM-FM stereo, clean and sound. \$800. 474-2906 after 6 p.m.

73 Mustang Mach 1. Pwr, A/C, mag wheels, tape player, 45K mi. \$2,100. 554-6242.

71 Buick Electra, Ltd. New Paint, clean, loaded, good cond. \$1,050. 482-1635.

75 Chevy Monza. 2 + 2 hatchback, 8 cyl engine, auto, A/C, PS & PB, AM-FM stereo, radials. \$2,800. Walker, X-4488 or 479-7815 after 6 p.m.

72 Gran Torino. 351 V-8, auto, PS, A/C, radio, good cond. Sell retail. X-5495 or 488-2346 after 5 p.m.

72 VW Beetle. New engine overhaul, new clutch, good cond. \$900. 334-3227.

77 T-Bird. 2200 mi. \$2,000 plus assume note. Hardy, X-5231 or 332-3234 after 5 p.m.

PROPERTY & RENTALS

For sale in Brookforest: 4-2 1/2-2 w/ fireplace & wet bar. \$83,500. Lockard, owner/agent, 488-8007.

For lease/sale in El Lago: 4-2-2, old English, 2 yrs old, near school & boat dock. \$395/mo plus dep. Immed avail. Johnson, 334-4427.

For rent: Lake Livingston, Cape Royale, compl furn home, 3-2-1. Fishing, hunting, tennis, golf, etc. Reserve early. Wk/mo/yr rates. 488-4487.

House for lease: Clear Lake City, 3-2-2, fenced, patio, close to schools & shopping. Available Jan. 1, 1978. \$375/mo. 474-2081 or 334-2187.

Galveston West End. 2 BR by-the-sea condo apt, full furn. \$180/wk off-season; \$260/wk in-season. Clements, 474-2622.

Rent: New Galveston Island Jamaica Beach cottage. \$175/wk or \$30/day for weekends. 334-1640 after 6 p.m.

Rent: Lakeside vacation retreat at Cape Royale on Lake Livingston. Tennis, boat launch, golf. 488-3746.

WANTED

Yamaha guitar. Prefer RG 200N. 482-7643.

Sail f/ Sunfish or Dolphin, new, Dacron. \$85. Harvey, 621-5311.

Need one person to join carpool w/ 4 other people. Leaves Meyerland Shopping Center at 7:15 a.m. f/ the 8 a.m. - 4:30 p.m. shift. Krpec, X-4871; Cathey, X-6387; or Russ, X-4871.

Riders f/ carpool from Baytown. Powell, X-2805 or 426-2717.

Rider wants carpool from West Univ., 8 a.m. - 4:30 p.m. shift. Krpec, X-3284.

Need riders for carpool from W Loop, SW Fwy. Bellaire area, 8 - 4:30. McLaughlin, X-5536 or 661-2974.

Firefighters needed! Men and women adult residents of CLC needed to join CLC Volunteer Fire Dept. Rewarding community service. You will be trained and equipped. Call 488-0023 any time.

Used scuba equipment in good cond. Esp B.C. vest, jet fins and booties. Bruce, X-4363 or Doris, X-2831 or 333-2373 at night.

HOUSEHOLD ARTICLES

Sofa. Early Amer, wing back, fair cond. \$75. Antique country oak washstand. \$75. 488-4487.

Children's school desks. Refinish for Xmas: 24" (h) x 21" (d) x 42" (w). \$18. 946-5849 after 5 p.m.

Reconditioned upright piano. \$225. 481-3787.

Champagne-color 104" 4-cushion sofa. \$50. Two peacock blue/green traditional chairs, perfect cond. \$50 ea. See to appreciate. 479-8141 after 5 p.m.

Sofa. 3-piece combination. Good cond. needs reupholstering. \$15. 488-1364 after 8. Ask Tami for details.

Karistan Oriental rug. New, 9 x 12, multicolored. Also new 9 x 12 Oriental rug in brown/blue/beige/white. Make offer. Late 1800's dining set, solid mahogany; includes china cabinet, table & chairs. Make offer. 474-4247.

Sears Kenmore Dishwasher. White w/ maple top, pushbutton controls, 1 year old. \$150.00. Durst, 474-2927.

CYCLES

Boy's bicycle. Huffy 5-speed, good cond. 482-7643.

BOATS & PLANES

For sale: one-third ownership 1966 Comanche 260B. Full IFR, new paint, fresh annual, based at Clover Field. \$9,500. Samonski, X-4823 or 334-1869 after 5 p.m.

Flight instruction in Cessna 150 Aerobat starting at \$17/hr solo, \$26/hr dual. Private pilot license \$860. Leota Golden, 477-4443.

Model airplane engines. Type 0.49 Babe Bee, \$10; Type 0.20 Pee Wee, \$12. XInt cond. Lenett, X-2128.

Sunfish size sailboat, wooden, \$90. 474-2906 after 6 p.m.

Boat for sale: Hi-miler, semi-deep-V, 19-ft, 1970, 135 HP Evinrude outboard, Bimini top, trailer. Ray Darrah, 482-7424.

17' Cheetah Ski Boat w/ 115 HP Mercury Outboard (9 Hrs). Tilt Trailer. Cost \$6280; sell \$5295. Durst, 474-2927.

PETS

Baby normal cockatiels. Tame, finger trained, sweet & lovable, 3 mo old, can learn to talk. \$80. 333-3166.

Llewellyn English Setters. Registered. Shots. 6 mo. 474-3418.

MISCELLANEOUS

Premium East Texas oak firewood. Split, delivered, stacked. 482-1048 after 5 p.m., weekends after 8 a.m.

Three new Lionel 027 electric train sets in original boxes: Set No. 6-1381 Cannon Ball, 2-4-0 Steam engine w/ 3 freight cars. (Good starter set.) \$22.50. Set No. 6-1386 Rock Island Express, 4-4-2 Die Cast Steam Engine, sound of steam, smoke, etc, w/ 5 freight cars; \$45. Set No. 6-1585 Lionel's 75th Anniversary Set, big U36B diesel engine w/ 3 box cars, covered hopper, 3 reefers & caboose, all beautifully decorated. Less track & transformer. Collector's item. \$86. X-3947 or 487-4898 after 6 p.m.

Print your own greeting cards. Small Kelsey hand press w/ 13 printers trays of different types. \$425. 488-0452.

Cabover camper. 10 1/2 ft, self-contained, sleeps 4, 6 cu ft refrig, shower, monomatic toilet, extension bumper, unloader, boot. 488-6083.

Goodyear tire. L78-15, BSW, polyglas pwr cushion. New. \$35. 334-1267.

Fedders 4-ton central air condensing unit. Needs compressor. Cheap. 334-1267.

AM radio w/ 3-track tape f/ 72 Chevy. \$15. Smith, X-4463.

Light duty trailer hitch f/ 72 Chevy. \$10. Smith, X-4463.

Oster hair dryer w/ hot curlers. 4 settings on hair dryer, 16 curlers in 3 sizes, clips inc. Very good cond. Owner needs set w/ more mobility f/ trips. \$10. Tami, 488-1364 after 7:30 p.m.

G.E. "Touch & Curl" Styling Center. Choose the curl you want on a scale of 1-10. Mist or dry sets. Wave Comb included. Received as Xmas present 1976. Rarely used. Retail: \$24.98. My price: \$10. Tami, 488-1364 after 7:30 p.m.

ROUNDUP

NASA LYNDON B. JOHNSON SPACE CENTER

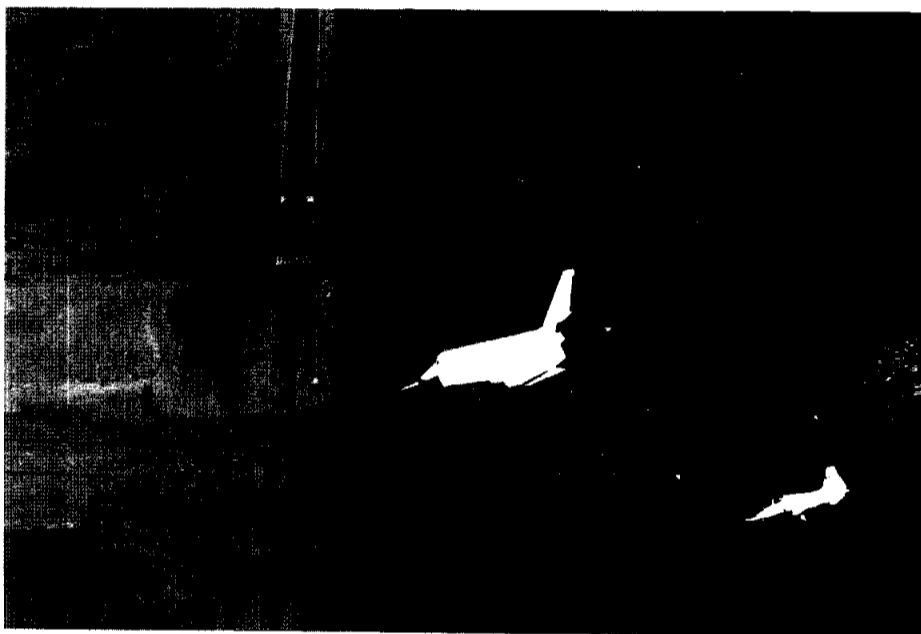
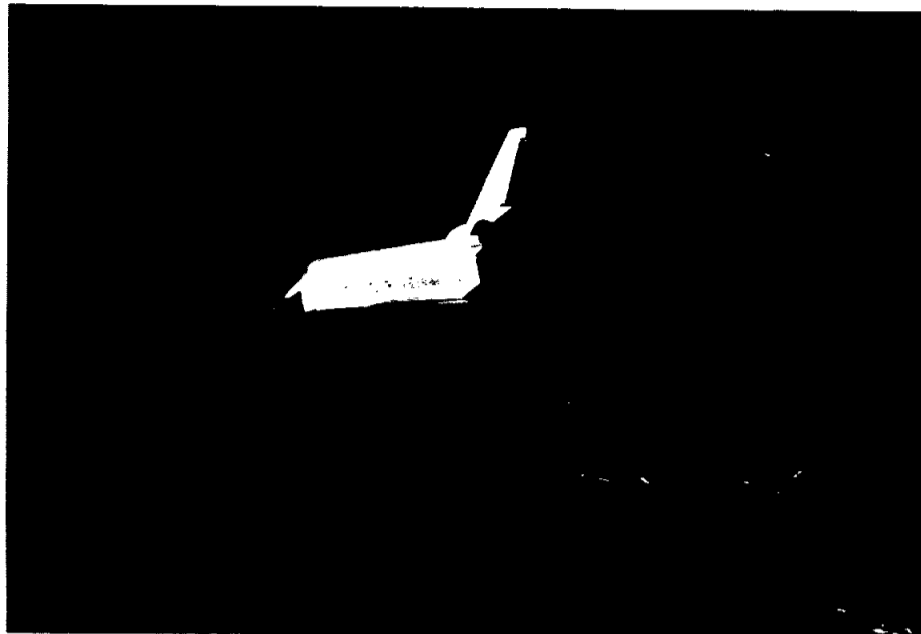
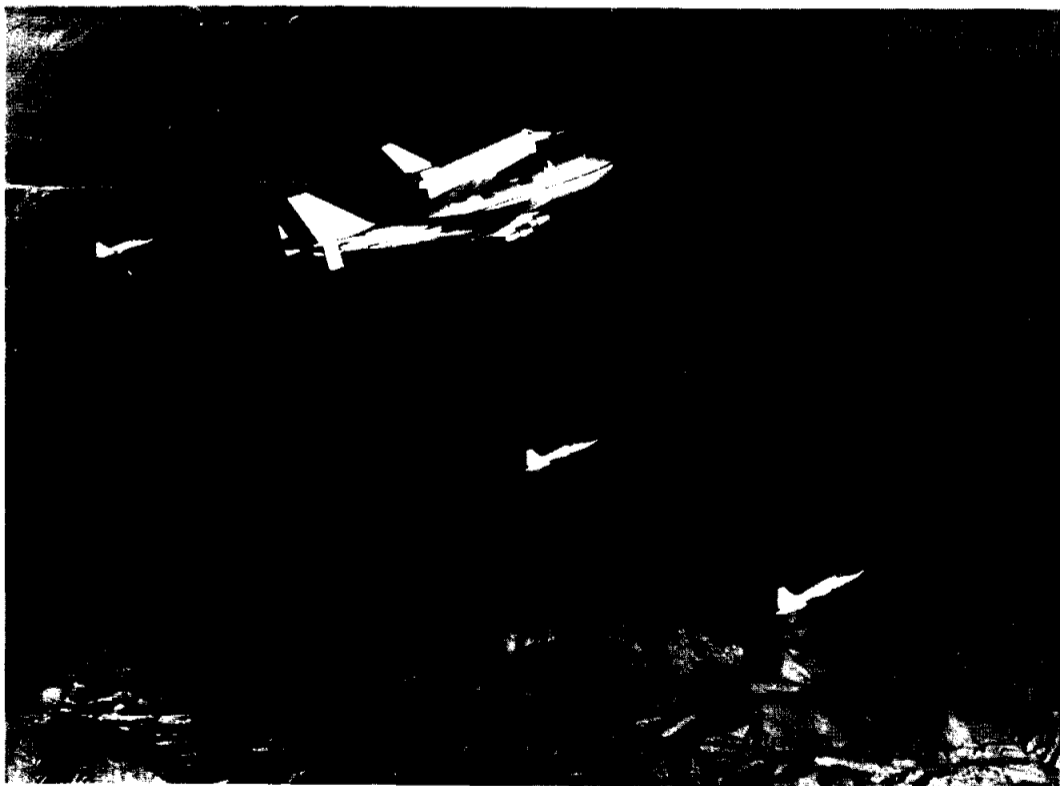
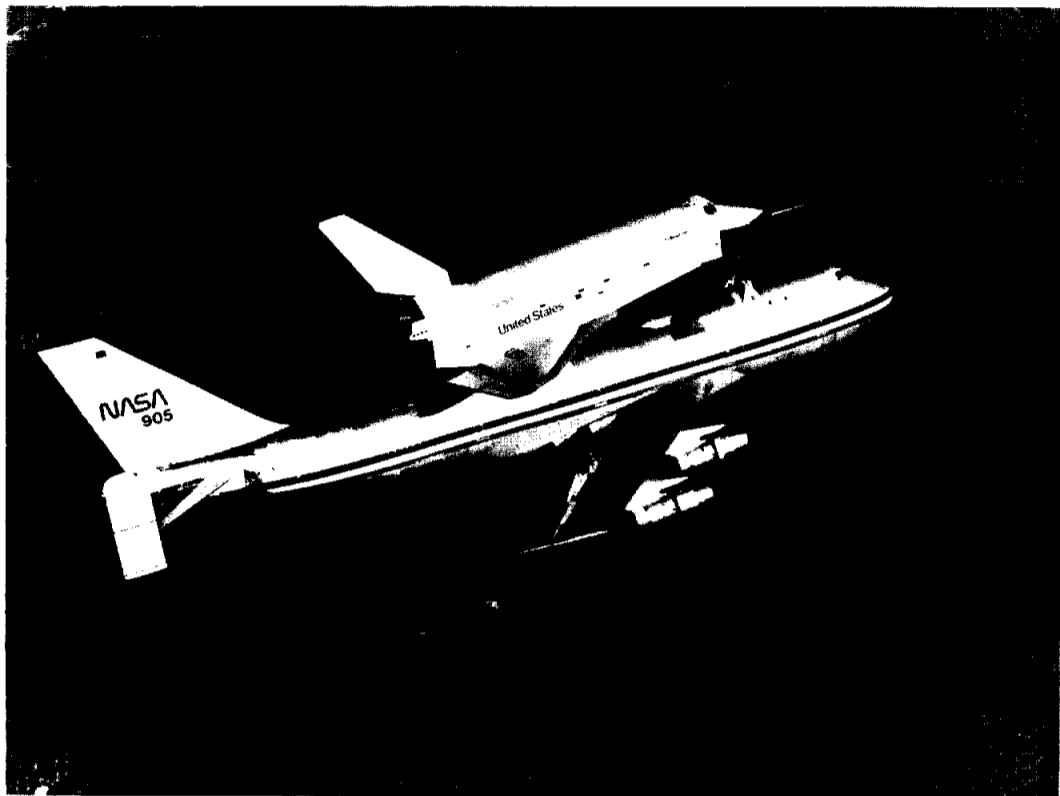
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Free Flight 4 is a combination of rugged beauty, power, and precision

TECHNICAL SUCCESS OF THE FLIGHT UNMATCHED ONLY BY ITS BEAUTY — The photographs taken of the first tailcone-off flight show a beautiful and rugged terrain as a backdrop for two sleek and powerful machines. The mated Orbiter/747 configuration (below) were taken during the initial climb toward the separation point (see photograph, page 1). The views on the left cover the final minutes of flight after separation. The views include an excellent view of the Dryden area (top left), the concrete runway used in the final free flight (second left), and the final approach and landing of the Orbiter, main gear first, on the dry lakebed runway.



DFRC Director Scott resigns

David R. Scott, director of the Dryden Flight Research Center, will resign from NASA Oct. 30 to enter private business.

Dryden Deputy Director Isaac T. Gillam will serve as acting director until a successor to Scott is announced.

As an astronaut, Scott flew on Gemini 8, Apollo 9, and was spacecraft commander on Apollo 15. When he left the astronaut crew in

1972, Scott was named technical assistant to the Apollo Program Manager at JSC.

Scott has received many special honors and awards, among them two NASA Distinguished Service medals, the NASA Exceptional Service Medal, and two Air Force Distinguished Service medals. He was appointed director of Dryden April 18, 1975 and had served previously as deputy director since August 1973.



David R. Scott

AAS honors JSC notables

Several notable figures from JSC received awards Oct. 19 at the American Astronautical Society's Twenty-Third Annual Banquet in San Francisco.

Donald K. Slayton, Manager of the Approach and Landing Test Program, and astronaut Vance Brand received the Flight Achievement Award; Dr. William E. Thornton was presented to the Melbourne W. Boynton Award, which is awarded to a medical doctor who has contributed significantly to the safety of space flight; and Center Director Christopher C. Kraft was awarded the W. Randolph Lovelace II Award for his significant contribution to space science and technology.

These awards are not presented only to members of the American Astronautical Society (AAS). Nominations for the awards come from people in the aerospace field, who may be either members or non-members of the AAS, to honor anyone who has made a significant contribution in the field. Several categories of awards have been established by the AAS for worthy recipients.

Among those from JSC who attended the Oct. 19 affair to honor the award recipients were Paul J. Weitz, William R. Pogue, Charles M. Duke, and T. K. Mattingly.