Orbiter test to go from countdown to entry

Resumption of the Orbiter Integrated Test was scheduled to begin Tuesday (January 8) at the NASA Kennedy Space Center. Florida as of Roundup press

The test is one of the final verifications of Orbiter systems and electronics and their interface with KSC's Launch Processing System before the Columbia is cleared for assembly with the external tank and solid rocket boosters.

Among the tests being performed are five separate launch and ascent flight profiles, nearly two days of on-orbit operations, and reentry and landing. Test objectives include the demonstration of selected Orbiter hardware and computer programs and subsystem operations during a mission timeline. In addition to normal launch conditions, the test will put the astronauts and ground support teams through various flight problems.

Astronauts and several hundred NASA and contractor support team members at KSC, Johnson Space Center, and Rockwell International's Space Division will participate in the test.

The test began before the Christmas holidays, and a successful countdown leading to simulated ignition and ascent to Earth orbit was achieved on December 20 before the tests were terminated for the Christmas and New Year's holidays.

Participating in the tests as they did in December will be Astronauts John Young and Robert Crippen, and Joe Engle and Richard Truly, prime and backup crews, respectively, for the first Space Shuttle mission.

NASA engineers will staff the Mission Evaluation Room (Building 45), and flight controllers will be on duty in the Mission Operations Control Room in support of

the integrated test which is scheduled to run around-the-clock for five days.

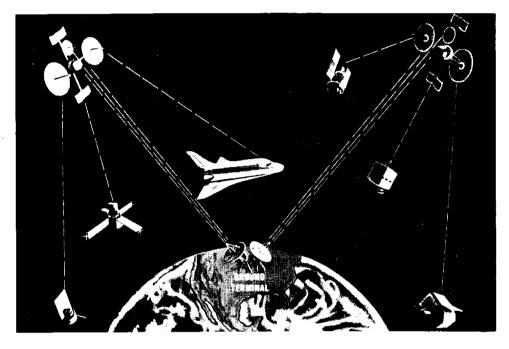
Main engine firing set

A full duration firing of the three Shuttle main engines is now scheduled for January 16, 1980, at the NASA facility at Bay St. Louis, Mississippi.

This will be the second full duration

test firing of the clustered engines. On December 17, 1979, the engines were successfully fired for a total of 550 sec-

The January 16 test calls for the engines to run at 100% and 65% thrust levels. Four more full duration test firings are planned before the first manned orbital flight of the Space Shuttle.



STS to adopt TDRS in '82

The Tracking and Data Relay Satellite shown at left will take over tracking and data support of low Earth-orbiting spacecraft when it becomes operational in 1982. The change is to insure that tracking stations and networks operate more efficiently and effectively using both government and contractor personnel and resources. With the new system the government will focus on mission planning, technology development, and systems engineering. Contractors will be responsible for opera-

'Early out' opens up jobs in Shuttle program

In the last six months 185 employees took advantage of JSC's early out retirement program, creating promotion opportunities for those who remained and entry level jobs for new college graduates. They also allowed the Personnel Office to solve a staffing problem without having to consider a Reduction in Force.

The move freed up staff vacancies for new jobs forming in the Shuttle program.

"We were starting to shift emphasis from Shuttle development to operations, from Shuttle management to payload management," said Deputy Personnel Officer Harvey Hartman. "We offered early out so people who wanted to leave voluntarily could leave instead of our having to 'force fit' people to the new jobs."

Mr. Hartman said it was "possible"

there would have been some RIFs without the early out, but he stressed that none were contemplated at the time.

On June 18, 1979, JSC employees received notice of the early out program. Employees with 25 years of service, or with 20 years at age 50, could retire from July 1 to December 31. The program is called the Major RIF Retirement Option, and Personnel had to get approval from Headquarters and the Office of Personnel Management before offering the early out

Ordinarily a person needs 30 years of service at age 55, 20 at age 60, or five at age 62 to retire.

Some employees who qualified applied and retired as soon as the program opened, some left in the following five months, but 129 waited until December, creating an administrative challenge for Staffing Specialists Dianne Trahan and Nancy Gabriel.

'We started work on it as soon as the authority was given," Ms. Gabriel said. There weren't too many surprises, she said, except for one person who made the decision to retire at 4:30 December

"We put in a lot of overtime," Ms. Gabriel said.

Both women had to be innovative with the clearance process, especially in the last month of the year. They staggered appointments at 10-minute intervals and consolidated the property, supply, security, and personnel exit-interviews into one step.

'We had some signing-up parties, too," Ms. Trahan said. "We had about 15 persons come in together and sign their papers in a group complete with refreshments and Christmas decorations.

"They enjoyed it," she said. "They were able to talk over plans with each

She added, "Everyone was very cooperative. They took how busy we were into consideration and didn't make a lot of demands."

Mr. Hartman emphasized the opportunities for promotion that will come up as a result of early out. "Watch the Bulletin Boards, and check with your PMS," he

He does not anticipate another early out in the near future. "We were getting ready to make a sizable shift in gears, he said. "It's best to start with vacancies where we can hire new people."



Boss and Secretary of the Year

Donald C. Cheatham, Manager of named Secretary of the Year. The two Operation Integration for the Space Shuttle program, was recently named 1979-80 Boss of the Year. Pictured with him is Phyllis Vanlandingham, of Control Applications, Inc., who was

received the honor from the NASA Clear Lake Chapter of the National Secretaries Association (International) at the group's Christmas function held December 5

First PAO dies Jan. 1

John A. "Shorty" Powers, 57, the voice of NASA's Project Mercury, died suddenly Tuesday, January 1, at his home in Phoenix.

Powers was detailed to NASA from the Air Force in April 1959 to become the Public Affairs Officer for Project Mercury which put America's first man in space. His knowledgeable narrations helped in explaining the complex technical aspects of the space program for nationwide radio and TV audiences.

He served as the voice of NASA's manned space missions until his transfer from Houston to NASA Headquarters in 1963. Powers retired as a lieutenant colonel from the Air Force and his NASA detail in 1964. He returned to private life in Texas before moving to Phoenix.



Powers in Mercury control

Learn it at the Rec Center

Registration is now underway for a variety of leisure time classes at Gilruth Recreation Facility. These include:

Ballroom Dance - All the social dances from the waltz to disco to Latin American sambas. Classes began on Wednesday January 9, but it's not too late to join. There will be 10 one and one half hour classes. Cost is \$46 per couple. Classes are categorized beginner, intermediate, high intermediate and advanced.

Disco Dance - Learn to bump and boogie and get some exercise as well. Class meets Tuesday nights for six weeks. Lessons are beginning or advanced and cost is \$32 per couple. Registration deadline is January 14.

Defensive Driving - Learn the art of safe driving and qualify for a 10% reduction on auto insurance. Class meets January 15 & 17 from 6-10 p.m. Cost is \$12 per person and deadline to register is January 11.

Karate (Tae Kwon Do) - A chance to learn basic karate techniques and selfdefense skills that will improve physical health and stamina. Classes meet Mondays & Wednesdays from 5:30-7p.m. Cost is \$15 per month.

Karate (Kung Fu) - Learn the secrets of this ancient Chinese-type martial art which stresses internal control and mental discipline. Classes meet Tuesdays and Thursdays from 4:30-7:30 p.m. and cost is \$15 per month.

CPR Training - An opportunity to learn this basic lifesaving technique. Class is free and will be offered on January 29 & 31 from 7-9:30 p.m.

Womens' Exercise Class - A class to firm up and shape up for the new year. Class meets on Tuesdays and Thursdays starting in February from 5:15-6:15 p.m. and cost is \$10 per month.

Call X3594 for more information.



Astronaut John Creighton runs tests in the SAIL cockpit

Bulletin Board

Clear Lake Ski Club Sponsoring a Spring Trip

The Clear Lake Ski Club is sponsoring a Spring Break (March 29-April 5) ski trip to Breckenridge, Colorado. Package price of \$395 (subject to increase due to rising air fares) includes air fare, bus fare, seven nights lodging, and a pre-trip party. Join the CLASC (\$10 single, \$15 family) and ski with the club at Breckenridge. Deadline for sign-up is January 28. For more information and for reservations call Oneil McCaffety, x4346 or 482-1369.



Adios, retirees, have fun

JSC Bike Club To Meet with Management

Bicycling is not enjoyable unless it is safe, and making cycling safe is the main purpose of the JSC Bike Club. December's meeting primarily concerned proposals for bike lanes, bike awareness signs, personal safety, and courtesy. NASA management will discuss these Bike Club ideas in a meeting the third week of January in Room 966, Building One. Watch for future announcements for the meeting date. If you would like to be able to ride your bike to work safely,

Lockheed announces

A newly chartered subsidiary of the Lockheed Corporation, the Lockheed Engineering and Management Services Company, Inc., or LEMSCO, began operations in Houston December 31.

Formerly know as the Systems and Support Services Division of Lockheed Electronics, LEMSCO will assume responsibility for existing LEC contracts at JSC, White Sands, and NSTL in Mississippi, as well as the Environmental Protection Agency in Las Vegas, and USAEUR in Stuttgart, Germany.

The newly designated company will continue to specialize in government technical support services, said Company President Robert B. Young.

come support the Bike Club in its meeting with NASA officials. For more information contact Brian Morris at x5293 or Michael Drews at x4326.

Deadline Near for Houston Festival 1980 Performers and Writers

All artists in Greater Metropolitan Houston are eligible to be considered as performers at the Houston Festival 1980. Entry forms are due January 15 for performers and for poets and fiction writers, January 25. Categories of performing arts include: Latin American; Jazz and Blues; Folk and Ethnic, Country Western, Bluegrass; Large Orchestral, Ballet, Opera, Drama; Small Performing Groups, and Individual. Entry forms may be obtained from The Houston Festival 1980. 2999 Wayside Dr., Houston, Texas, 77023. For further information contact Rochella Cooper, 641-6136.

Charles M. Duke, Jr., to Speak At Businessmen's Fellowship

Charles M. Duke, Jr., Apollo 13 astronaut, will speak at the Full Gospel Business Men's Fellowship meeting at Nassau Bay Holiday Inn, on January 26. His topic will be his business and travel experiences since retirement from the space program in 1974. The 7 p.m. meeting will be preceded by dinner at 6:15. Deadline for reservations is noon, Friday, January 25. For more information and for reservations contact Ben F. McCreary at x4688 or 488-7636 or D. Lyon at 488-8710.

Jackie S. Parker Receives Kitty Hawk Youth Award

Jackie S. Parker was presented the Kitty Hawk Youth Award by the Los merce at the Wright Brother's Banquet changes.

held December 7, 1979, in Beverly Hills, California. The award, sponsored by the Northrop Corporation, honors Ms. Parker for her distinguished achievement in the aviation/aerospace field.

AIAA Meeting to Cover Airplanes of the Future

Next meeting of the AIAA will be January 23 at the Holiday Inn, and this month's program is "Airplanes of the Future." The program will be preceeded by cocktails at 6:15 and dinner at 7:15. Cost of the buffet dinner is \$7 per person. Reservations are requested and may be made by calling Linda at x3851. Speaker will be M. Swihart, Boeing vice-president. There is no charge to attend the meeting only.

New Series EE Savings Bonds on Sale

The Treasury Department has announced that the new Series EE Savings Bonds, called United States Energy Bonds, are on sale effective January 1, 1980. The interest rate on the new U.S. Energy Bonds, Series EE, will be increased from 6.5% to 7% interest for bonds held for the full 11 years to maturity. Series E bonds that have not matured and U.S. Savings Notes ("Freedom Shares") will also receive the 1/2% bonus if they are held for 11 years from the date of the first semi-annual interest period that begins on or after January 1, 1980. Bonds and notes redeemed earlier will not receive the bonus.

After June 30, 1980, all U.S. Savings Bonds bought through payroll savings plans will be Energy Savings Bonds. Series EE. Series H and HH Savings Angeles Area Chapter Chamber of Com- Bonds will not be affected by these

How to use foods you eat

One person gulps vitamins twice a day; another eats steak at every meal. Both believe in nutrition and diet myths that promise instant energy—myths that were dispelled at a seminar in Gilruth Center last month.

Dr. Euguene Coleman, consultant to the astronauts on physical fitness and University of Houston at Clear Lake professor, conducted the seminar, part of a series of lectures given quarterly by the Employee Development Branch.

While designed as pre-retirement seminars, the lectures are open to all interested NASA employees.

"You don't eat steak to get energy," he said. "Protein is used to build and repair muscle tissue, and excess protein is stored as fat.'

Vitamins don't give instant energy. They do regulate metabolic functions, and they are necessary for growth and maintenance of life, Dr. Coleman said. "But they're needed in small amounts."

Excess water soluble vitamins will go to waste, but fat soluble vitamins-A, D, E, and K—are stored in the body as fat.

Is there an instant energy wonder food?

Dr. Coleman paints a picture of Americans eating red meat and handfulls of vitamins and wondering why they are so overweight.

In most cases eating too much or too little fat is the problem. "Fats are essential in the diet," Dr. Coleman said. "They provide twice as much energy per gram as carbohydrates.

"Dietitians at Methodist Hospital test very diet that comes out." Dr. Coleman said. "They tried a diet that eliminates all fats from the body and in two weeks they found their fingers cracked, their fingernails buckled, their lips cracked, their skin chaffed. They went back to eating the recommended amount of fat and their condition went back to normal."

The National Research Council advises that 30% of a person's diet be fats. "However, the average American eats about 45% fats in the diet," said Dr. Cole-

"Half of that 30% should be unsaturated fats such as safflower, cottonseed, and sovbean oil."

If any food is an energy food it is starch, or carbohydrates. "They're the most rapid source of energy, and they're inexpensive," Dr. Coleman said. "Fifty percent of your diet should be carbohydr-

"In 1900 the average diet was 50% starch and 30% sugar, in 1979 we've reversed it: The average diet is 30% carbohydrates and 50% sugar. Most of our



Estella Gillette processes some of JSC's 3000 astronaut applications

What's cookin'

Week of January 14 - 18

Monday: Cream of Chicken Soup; Beef Burgundy over Noodles; Fried Chicken; BBQ Sausage Link; Hamburger Steak (Special); Buttered Corn; Carrots; Grean Beans. Standard Daily Items: Roast Beef; Baked Ham; Fried Chicken; Fried Fish; Chopped Sirloin. Selection of Salads, Sandwiches and Pies.

Tuesday: Beef Noodle Soup; Baked Meatloaf; Liver w/Onions; BBQ Spare Ribs; Turkey & Dressing (Special); Spanish Rice; Broccoli; Buttered Squash.

Wednesday: Clam Chowder; Broiled Fish; Tamales w/Chili; Spanish Macaroni (Special); Ranch Beans; Beets; Parsley Potatoes.

Thursday: Navy Bean Soup; Beef Pot Roast; Shrimp Chop Suey; Pork Chops; Chicken Fried Steak (Special); Carrots; Cabbage; Green

Friday: Seafood Gumbo; Broiled Halibut; Fried Shrimp; Baked Ham; Tuna & Noodle Casserole (Special); Corn; Turnip Greens; Stewed Tomatoes.

Week of January 21 - 25

Monday: Chicken Noodle Soup; Weiners & Beans; Round Steak w/Hash Browns; Meatballs & Spaghetti (Special); Okra & Tomatoes; Carrots; Whipped Potatoes. Standard Daily Items:

Tuesday: Beef & Barley Soup; Beef Stew; Shrimp Creole; Fried Chicken (Special); Stewed Tomatoes; Mixed Vegetables; Broc-

Wednesday: Mushroom Soup; Fried Perch; New England Dinner; Swiss Steak (Special); Italian Green Beans; Cabbage; Carrots.

Thursday: Cream of Chicken Soup; Turkey & Dressing; Enchiladas w/Chili; Weiners & Macaroni; Stuffed Bell Pepper (Special); Zucchini Squash; English Peas; Rice.

Friday: Seafood Gumbo; Baked Flounder; 1/4 Broiled Chicken w/Peach half; Salisbury Steak (Special); Cauliflower au gratin; Mixed Vegetables; Whipped Potatoes; Buttered Cab-

Nutrition From Page 2

dietary problems are from eating too much sugar.'

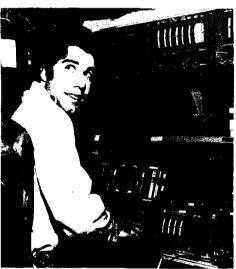
There is no wonder food, he said. "To insure that you're receiving the necessary vitamins, eat a balanced diet and eat a variety of foods.

"That may sound like something you've known all along, but people tend to forget. They go on diets looking for a quick way out.'

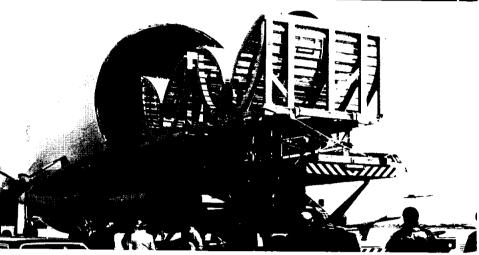


PHOTO ROUNDUP

From top—clockwise, space stars "R2D2" and "Scotty" of Star Wars and Star Trek fame visit the JSC Visitors Center; "Super Guppy" is unloaded of Articles two and three of the Orbiter Neutral Buoyancy Trainer November 28, 1979; NASA officials inspect first man-rated flight suit; Astronaut "Deke" Slayton, manager for Orbital Flight Test, films and records narration for the Society of Automotive Engineers' documentary Freedom Through Mobility; John Travolta checks out the flight simulator on a recent visit to JSC.









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

Roundup Swap Shop

Property & Rentals

Lease: Friendswood area, 3-2-2 with fireplace, fenced back yard and formal dining room. No flooding. Available immediately. Gene x3343 or 482-4874.

Lease: Kings Row Townhome, 2-2 1/2-1 + 1cp, 1569', fireplace, small complex w/pool, Available Feb. 1, \$495/mo, prefer no pets. 333-2636 after 5.

Lease: Baywind condo, 2-1 1/2-2, available 16 January, includes W and D, \$345/mo plus \$200 deposit, 486-9305.

Lease w/option to buy, Dickinson, 1019 snady Oak, beautiful contemporar bath \$850/mo. 332-1514 or 486-0780.

Rent: Three bedroom cottage near bay. 1101 Meyer Rd. (off NASA One). \$275/mo. Horton 334-2360 or x5266.

Lease: Almeda Mail area, new 2-1 duplex. carpeted, appliances, no pets, \$295-\$310 plus deposit. Cooper x6161 or 333-5883.

Cars & Trucks

78 Ford F150 Ranger, PS/PB, AM/FM stereo, custom wheels, ziebarted, microloned, perf cond, 17 mpg-reg gas, 11 K mi, \$5000. Bob x4665 or 481-8622.

76 Pacer, red. Gets good gas mileage only 58,000 miles. Needs some body work. Runs great. \$2500 book value. Make offer. Kline x6479 or 337-4063.

66 Mercedes, 250S, 70,000 miles, A/C, sun roof, good cond, \$2350. Smith x4171 or

78 Camaro LT, automatic, power brakes and steering, A/C, AM/FM, cruise control. One owner, not flooded, perfect mechanical, \$4900. Peacock x2208.

77 T-Bird, grey vinyl, air, power, cruise, stereo, rust-proofed, 14,000 miles, owner retiring, \$4100. x3969 or 488-2147.

75 Chevy Nova, 2-door, standard 6-cyl, PS, radio, A/C, low mileage. Day: 488-0660 Nite:

69 Olds 98 4-door luxury sedan, gold, really good shape, \$1075 Cash. 482-7698 or x2761.

73 Honda CL175, street/trail, 6,000 miles, exc cond, \$250. 333-2509.

Stereos & Cameras

New AM/FM/Cassette (auto) \$80. Speakers \$22/pair. New CB antenna \$12 and new base radio (RCA) \$90. New 30 watt/ch. audio fooster (12 v.) \$40. 488-1846 eves.

Phono-stereo with AM/FM radio, housed in 2 matching blond cabinets, only \$40. Rubenstein x3116 or 334-2354.

Miscellaneous

Typewriter, electric, office type, good cond, \$100.333-2509.

New and used air tools, compressor, hose, paint pot, and other industrial grade tools,



SEND YOUR COST REDUCTION REPORT TO BE -3 COST REDUCTION OFFICE ON JSC FORM 1150

Cartoon by Russ Byther

Shop is open to JSC federal and on-site contractor employees for non-commercial personal ads. Slow scan TV converter, robot 400, less than 6 month old. perfect con. \$600 each or two for \$1000. Vincent x4188 nite or 488-2148

Singer sewing machine w/button hole attachments and built-in cabinet; also 8-track car stereo plus carrying case for 8-track tapes. Alaniz x2471 or 486-1009 after 4.

For sale: Hughes Airwest 50% off round-trip fare coupon, good through Jan. 31, 1980. x5326 or 334-1773. Sail Boat slip rental, 35 ft, The Landing

(across from Lacks on NASA Rd. 1) \$65. Volick

40 ASTP commemorative sheets at 10% above face value. Jeff x7429 or 482-5393. New Mahrajaho water ski. Orig. cost \$180

asking \$90. Waite x4241. Weed Eater, electric, almost new, \$35 (\$60 new). Steve 482-2527 after 3:30.

Trailer Hitch. Sears No. 61596, \$15. Motorcycle trailer, Holds three bikes. Spare tire and rim, \$195. Hutchins x5886 or 482-5607.

Want to join carpool from Glenbrook Valley/New Meadowbrook area to JSC. 8:30-5 shift. Kennedy x4073.

Want nonsmoking carpool member. Sam Rayburn High School area, NASA. Hours 7:30-4:30 (adjustable) drive every 4th week. Mansfield x6101

Household Articles

Dining rm, harvest table, w/pads. 2 deacon benches, hutch, fruitwood finish, \$400. Forsyth

Pool table w/accessories, \$55, 482-7042 after 5.

25" TV, Heathkit, needs work, new picture tube, good cabinet, \$50. Chase x3831 Avocado green electric stove, exc cond,

not in flood, best offer. 486-5957 after 5. Carrier, 80,000 BTU, 3-ton central air comp. blown \$25, 4 ton coil \$10. Gammon x6353 or

471-2542. Large coffee table and two lamp tables by Singer, \$150. Duncan Pfyfe coffee table. \$50.

1 box spring and mattress (single), good cond, \$40. x5585 or 488-0079 after 5.

Pets Free puppies, half miniature poodle, all adorable males, healthy and affectionate.

488-2695 after 4:30. Free to good home, one year old German Shephard mix, with all shots, spayed, friendly

with children. Jeff x7429 or 482-5393. Peke-a-Poo puppies, healthy, 6 weeks old, \$20. Jim x4571 or 488-8143.

AKC Beagles, selling complete stock due

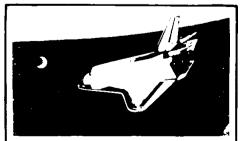
to personal illness. \$75 and \$100, 946-1794. 2-fer aquarium set. 10/10 gal. metaframe tanks mounted on single stand, includes all accessories plus \$100 in African fish. Total price \$150, 333-5797

Lost & Found

Sapphire/diamond bracelot lost at NASA Christmas party (gym side). If found, please contact Ton Kumashiro, x2208.

Boats & Planes

Wellcraft 78 V20; 470 Mercruiser, SS prop. VHF, Exc. \$7900, 471-5396.



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

Into the 1980s

The first of January can be just a number assigned to a day with no connection to events taking place. But January 1, 1980, is more than a symbol for a new decade; for NASA it marks the beginning of a new era.

On the last day of 1979, the Orbiter Columbia had just run through a full segment of an integrated test and the three main propulsion engines had just completed a 550second burn. Both tests had run up against obstacles earlier in the year, and with other setbacks in Shuttle development a demotivating gloom threatened to close in on Shuttle employee morale.

But programmers, scientists, technicians, engineers, administrators, and everyone else involved continued to work on the problems. And the work paid off.

Fortunately, the Shuttle program is going into gear at a time when Americans are rediscovering patriotism and

"COME, MY FRIENDS,

holds

baths

knew.

tho'

old days

we are, we are-

strong in will

yield."

'Tis not too late to seek a newer world. Push off, and sitting well in order smite The sounding furrows; for my purpose

To sail beyond the sunset, and the

It may be that the gulfs will wash us

It may be we shall touch the Happy

And see the great Achilles, whom we

Tho' much is taken, much abides; and

We are not now that strength which in

Moved Earth and Heaven, that which

Made weak by time and fate, but

To strive, to seek, to find, and not to

by Alfred, Lord Tennyson

One equal temper of heroic hearts.

Of all the western stars, until I die.

the need for nationwide projects that contribute to national unity. The Space Shuttle can be such a project. Its success will restore Americans' interest and faith in technology; its operation will stimulate the economy and create capital. The end result will be new economic and material resources that the nation critically needs.

In a world of shrinking resources a nation can give in and lower its standards and expectations; or a nation can work, invest, test, and re-test until a way to create new resources is found. NASA is one of this nation's vehicles to take the latter course.

Recently, people have shown their enthusiasm for space projects. They turn out by the thousands to watch an Orbiter fly in on a 747 for display at an airport. Over a million a year come to tour the Space Center. They form lines to see space movies over and over again.

As an executive agency, NASA's job is to give the American public what it wants. In the 1980's space will no longer be a show or demonstration—it will be an enterprise. KE



Attitudes

Reprinted from April 1965 Roundup

Below are several state-of-mind stumbling blocks that often get in the way of innovation and progress in government operations:

- We tried that before.
 - We don't have the time.
 - That's beyond our responsibility.
 - · We've never done it before.
 - · Why change? We're getting along. · The front office would squelch it.
- · Let's shelve it. Maybe it will die of
- Employees don't like change.
- · Has anyone else tried it?

Sound familiar? If the above platitudes are inhibiting constructive thought, throw them out before they completely paralyze originality.

He then shows a sample of lightweight

aeronautical material, and he gives infor-

mation on launch vehicles—sometimes

exploding gunpowder to demonstrate. He

talks about cryogenics-sometimes fill-

ing a balloon with liquid nitrogen to dem-

onstrate—and then gets to everyone's

favorite part: how a person eats, sleeps,

"Now they just expect to go into space

someday, the same way they expect to

'Twelve years ago it was all like make believe for the kids," Mr. Poindexter says.

dresses, etc., in space.

learn how to drive a car.'

Help stamp out tunnel vision.



Space belongs to children of '80s

Gradeschoolers visit JSC to hear 'whole NASA story'

It can be defeating for the adult space enthusiast. He's missed out on manned exploration of the solar system by perhaps only one generation. Space belongs to the children of the 1980's, and JSC has a full time staff on contract with the University of California who work at educating grade and high school students about NASA.

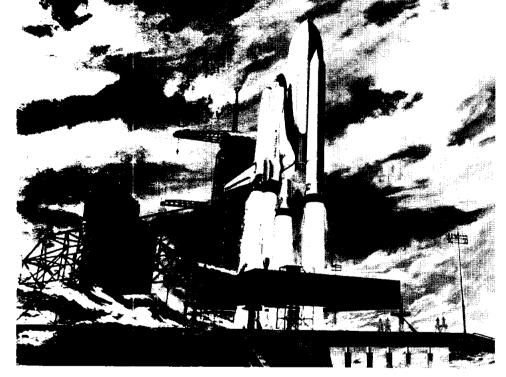
Jim Poindexter, who runs the project, describes how a hushed audience—up to 750 children in the Building Two Auditorium on a Tuesday or Wednesday-react to demonstrations on space food, cryogenics, and aeronautical research. Since the program started 12 years ago, more than one young visitor has gotten "turned on" to aerospace, worked on model rockets and airplanes as a hobby, and gone on to become a pilot, engineer, or astronaut as an adult.

And more than one young space cadet has decided on another career after finding out that astronauts have to study math and science.

Each year Mr. Poindexter sends out a schedule to county school districts within a 50-mile radius. Teachers call him at x4433 to make reservations. The program lasts 30 minutes to an hour and tells "the whole NASA story," says Mr. Poindexter, "everything from airplanes to deep space

He starts out on a positive note: "Would you like to fly an airplane someday?" The children call out, "Yeah!" He answers, "Well, you can."

Poindexter demonstrates telemetry unit to volunteer from the audience. "They just expect to go into space someday.'



Remembering roots, goals, and purposes: **Preamble**

National Aeronautics and Space Act of 1958

The aeronautical and space activities of the United States shall be conducted so as to contribute materially to one or more of the following objectives:

- The expansion of human knowledge of phenomena in the atmosphere and in space.
- The improvement of the usefulness, performance, speed, safety, and efficiency of aeronautical and space vehicles.
- · The development and operation of vehicles capable of conveying instruments, equipment, supplies, and living organisms through space.
- The establishment of long-range studies of the potential benefits to be gained from the opportunities for and the problems involved in the utilization of aeronautical and space activities for peaceful and scientific purposes.
- The preservation of the role of the United States as a leader in the aeronautical and space science technology and in the application thereof and the conduct of peaceful activities within and outside the atmosphere.
- · The making available to agencies directly concerned with the national defense discoveries that have military value or significance and the furnishing by such agencies to the civilian agency established to direct and control non-military aeronautical space activities information as to the discoveries which have value or significance to that agency.
- Cooperation by the United States with other nations and groups of nations in work done pursuant to this Act in the peaceful applications of the results thereof. And finally,
- The most effective utilization of the scientific and engineering resources of the United States with close cooperation among all interested agencies in the United States in order to avoid unnecessary duplication of effort, facilities, or equipment.

