

SPACEPORT



NEWS

Volume 2, Number 26

NASA Launch Operations Center, Cape Canaveral, Florida

June 27, 1963



BUSINESS END of five-and-a-half foot eastern diamond-back rattlesnake is these curved, membrane-covered fangs. Snake, common to this area, is country's most dangerous because he's bigger, strikes harder and carries more venom. For a story on Cape area snakes and snake bite survivors, turn to Page 4.

For White Collar Workers

HIGHER CS PAY SCALE SOUGHT BY PRESIDENT

President Kennedy has asked Congress to vote most Federal non-wage board employees a pay raise above the increases already approved for next January.

The raise would apply to Government's million classified and related employees.

It would not apply to wage board (blue collar) workers, who are paid under another pay system but on the basis of comparability with local rates of private industry.

The raise would take effect in January, 1964, and would adjust Government rates to the level of January, 1962, private industry rates as disclosed in a recent Bureau of Labor Statistics survey. The increase would replace, and in most cases increase, the pay hike scheduled for next January under the recent pay reform law.

The President said the supplemental increase to last October's pay raise is necessary to carry out the policy expressed in the new pay reform law that Federal pay rates be comparable to average rates in industry for the same levels of work.

Average Boost \$322

Under the proposal employees paid under the 1949 Classification Act would receive an average of 4.7 percent increase, ranging from 2.2 percent in grade GS-3 to 27.5 percent in GS-18, over the rates effective in January, 1964, that were provided in the 1962 Salary Reform Act.

The average dollar increase of all rates combined—grades 1 through 18 — would be \$322 a year. Those in GS-1 and 2 would get no supplemental pay raise under the President's proposal because

the rates established by the pay reform law already exceeded the "comparability" level.

Raises generally would be increased with each higher grade level. The range would up salaries for GS-3 workers an average of \$93 a year above the base pay received just before last October's pay raise and would increase GS-18 employees an average \$5,500 annually.

Employees in the two lower grades would get no increases beyond the adjustments already provided for in the January, 1964, schedule in the pay reform law. These amount to \$60 a year for both grades.

Those in GS-3 through 7, while not having achieved 1962 "comparability" from last year's pay hike, more nearly approached this level. Under the new proposal, they would receive modest raises ranging from 2.2 to 3.2 percent.

However, pay of employees in GS-8 through 18 lagged behind even the 1961 level of salaries in the private sector, and no January, 1964, adjustment was provided for those in grades 16-18.

Their salaries, therefore, (See PRESIDENT, Page 3)

Bidgood To Speak

Colonel Clarence Bidgood, Chief of LOC's Facilities Office, is in Stillwater, Oklahoma, today to speak to college teachers at the Summer Institute of Civil Engineers, sponsored by the National Science Foundation.

He will discuss the relationship between civil engineering training and construction management.

MILA RR Bids Announced; Water Contract Awarded

A New York firm has proposed to build an 18-mile-rail system to serve NASA's Merritt Island Launch Area for \$2,386,250.42.

The Corps of Engineers said in Jacksonville the proposal by A. S. Wikstrom, Inc., Skaneateles, New York, was the lowest of three bids opened last week.

Two spur tracks will be constructed under the terms of the contract. One will extend from the community of Wilson on Merritt Island past the Saturn V/Apollo Vertical Assembly Building into the MILA industrial area. The second spur track will go from Wilson eastward to the three launch pads of Complex 39, where the Saturn V is to be launched.

The rail system will deliver construction supplies to the MILA and later will provide rail delivery of operational

and maintenance equipment in support of Saturn V launches.

The successful bidder on the railroad spur system will be required to complete the project within 180 calendar days after award of contract. The completion date is timed to coincide with delivery of large quantities of structural steel for the construction of the 524-foot tall Vertical Assembly Building, where Saturn V boosters will be erected and checked out.

A second contract, for \$752,155, has been awarded to J. Hilbert Sapp Inc. of Orlando to provide primary water facilities at MILA.

THE INSIDE STORY

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COLUMBUS TO COOPER

"Although the voyage of Christopher Columbus has pretty well disappeared from the front pages, Isabella is rarely criticized for her folly in financing that expedition. One might even suggest that the busloads of school children — and foreign diplomats — waiting in line at the Smithsonian Institution for a glimpse of Friendship 7 or the Spirit of St. Louis have a more than passing interest in the achievements which these vehicles represent.

"Exploration of the moon has been selected as the focal point of our present efforts in space partly because, by its very nature, it commands worldwide public interest. But it also has been selected because it promises to add to our knowledge of the laws of nature, the forces mankind strives to understand and use, the origin of the universe, and because its accomplishment requires mastery of a broad spectrum of science and technology on which a growing capability to operate in space and increase efficiency on earth must rest.

"Those who view the lunar program simply as a propaganda effort fail to grasp that not only our prestige, but our capacity for constructive international leadership, our economic and military capacity for technological improvement, depend upon our ability to achieve acknowledged superiority in science and technology, and to use the capability in our own behalf and that of our allies."

(From a recent speech by NASA Administrator James E. Webb.)

IRON CURTAIN IN SPACE

Outer space could become a "realm of tyranny" with an "iron curtain drawn across the pathway to the stars" if America were to cut back its exploration of space, Vice President Lyndon Johnson has warned.

Johnson addressed 3,337 graduates at the University of Maryland commencement and received an honorary doctor of laws degree from University President Wilson H. Elkins.

Johnson defended the present space program against critics who say it is "too dominant" and "usurping too much of our scientific talent and ability."

"We are not reaching for prestige in space — we are reaching for peace," he said. "To default the exploration of the universe of space would surely be as catastrophic as if we had defaulted exploration . . . of the atom."

What concerns him most, Johnson said, is "the fashionable outcry against science itself . . . the source from which much of the most vocal criticism comes." He warned against permitting "our sophistication and abundance to degenerate into cynicism and arrogance."

"If we abandon the field," he said, "space can be preempted by others as an instrument of aggression."

He urged the graduates, the largest class in Maryland's history, to accept the "new horizons of physical science" but not to "permit the pace of physical science to outrun the performance of our political science."



TWENTIETH CENTURY QUESTION

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BEG SUMMER TUITION DEADLINE MONDAY

NASA employees interested in getting sponsorship of course tuition for Brevard Engineering College's summer term, should have applications forwarded to LOC's training branch no later than Monday.

NASA sponsorship of course tuition is available for employees who need courses in relation to their work.

Undergraduate evening courses offered include: chemistry, graphic science, English, English literature, public speaking, business and report writing, creative writing, economics, advanced AC circuit theory, electron devices laboratory.

Industrial electronics, management processes, managerial accounting, history of science, algebra, trigonometry, calculus, differential equations, digital computers, applied mechanics, strength of materials, fluid mechanics, physics, physics of the atmosphere and space, and mechanical design.

Graduate evening courses offered include: advanced theory of servomechanisms, random processes, advanced

calculus, operational calculus, error analysis, vector analysis, missile guidance, celestial mechanics, geodesy and math review.

Classes begin July 8th.

SPACE ALMANAC

A CHRONOLOGY OF
EVENTS IN SPACE
EXPLORATION AND
RESEARCH.

5 years ago

June 28, 1958 — EXPLORER III, launched on March 26, 1958 reentered the earth's atmosphere after a successful orbit of 93 days.

3 years ago

June 30, 1962 — NASA's George C. Marshall Space Flight Center, with Dr. Wernher von Braun as its Director, officially opened with formal transfer to NASA from ABMA, at Redstone Arsenal, Huntsville, Ala.

SPACEPORT



NEWS

Published each week by the National Aeronautics and Space Administration's Launch Operations Center, Cape Canaveral, Florida.

THREE CAPE SNAKEBITE SURVIVORS . . .



Earl Godwin



Bill Morton



Marvin Coisman

Three men at the Cape share a rather exclusive but not altogether enviable distinction — all have been victims of attack by Genus Crotaline, pit vipers whose principal mid-Florida members are diamond-back rattlesnakes and cottonmouth water moccasins.

None of the three knows the others but they share common interests. All are avid outdoor sportsmen and fishermen. All are unusually knowledgeable about Florida fish and wild life. And all know that snakebite, when it occurs, usually is caused by carelessness or a startling lack of knowledge that everyone who goes into the state's undeveloped areas should have.

5 1/2-Foot Rattler

Earl Godwin, who operates the Cape's spray paint shop, was first bitten by a five-and-a-half foot rattlesnake, while still a youngster. He and several playmates were running single file at dusk, along a weed-bordered path in a vacant lot in Paola, near Mount Dora, Florida. He was third in line when the snake struck his bare foot with such force that he fell sprawling. Prompt, adequate treatment in a hospital reduced the danger but he still remembers the pain.

He was bitten the second time as a teen-ager during a water hyacinth fight in a lake. He and his friends were throwing bunches of the stinging water plants at each other. A moccasin bit him in the hand when he grabbed a fist full of hyacinths out of the water to throw.

Hazards In Handling

Bill Morton, Facilities Layout and Design, was handling a rattlesnake at the Living Wonders exhibit in Indian River City when he was bitten. He was experienced in handling snakes and was filling in for a friend in the exhibit. The snake thrust suddenly against the side of the cage as he was picking it up and its head turned slightly in his hand, enabling it to sink fangs and teeth into his hand. He put the snake back in the box so quietly that none of the people in the audience realized that he'd been bitten. He was taken

immediately to the hospital where he spent three painful weeks recuperating.

Marvin Coisman, Transportation Branch, was bitten by a moccasin while fishing in a cypress swamp. He reached over through the "knees" at the foot of a cypress tree to free his line when the snake struck his hand.

"I was doing exactly what I'd often warned others not to do," he said ruefully. And he, like Earl Godwin and Bill Morton, was able to reach medical care quickly.



POISONOUS snakes common to Cape area are rattlesnake, above, water moccasin, below, and coral snake. Because so many harmless snakes resemble the coral snake, experts recommend a simple rhyme, "if his nose is black, he's bad for Jack!"



Coisman, who spends much of his spare time fishing, encounters moccasins frequently. He and a friend were fishing from his boat not long ago when they noticed that the string of fish they had hanging over the side were thrashing violently about in the water. When the friend pulled the string of fish into the boat, he also pulled in a very pugnacious moccasin which had been trying to swallow one of the fish. The snake became so aggressive that the fishermen, who had nothing to use against it, went over the side.

"I found out later," he said, "that what happened to us is a common occurrence — so common, in fact, that I'd urge anyone who doesn't have a fish-well in his boat to pull his string of fish out of the water slowly and check it carefully before pulling it back into the boat."

Another time, while fishing in chest-deep, clear water, he felt movement in the water and looked down to see a big moccasin nosing around the string of fish he had tied on a stringer around his waist.

"I don't string fish that way any more," he said.

Fish is the major part of the diet of moccasins and many central Florida fishermen who have been sitting still in the water for some time have been dismayed to see a moccasin start to come into the boat after fish.

Pugnacious Snake

Dr. Robert Shelby, a member of the St. Louis Underwater Recovery team, said in recent article on fresh water diving hazards in "Skin Diver Magazine" that the moccasin is the principal animal danger that divers will encounter in fresh water. The snake is aggressive and vindictive when disturbed, he said, and will attack even when unprovoked. And it certainly can and will bite under water, he added.

All other water snakes show fear of divers, Dr. Shelby pointed out, but the moccasin is apparently disturbed and infuriated by underwater noises and movement and will attack repeatedly.

Because of its isolation, terrain and abundance of small wild life, the Cape is an

TELL HOW TO AVOID THEIR EXPERIENCE



PYGMY or "ground rattler," also common to Central Florida area, is held by Art Bass, one of owners of Living Wonders exhibit. Small snake is dangerous because it is easily excited and very fast. Swelling in hand is still visible from bite of this same snake two weeks ago. Bass had just caught it and was holding it as shown when the snake suddenly doubled back up and bit back of his hand.

ideal locale for the country's most dangerous reptile, the eastern diamond-back rattlesnake. He's so dangerous, snake men say, simply because he is so big, carries so much venom and strikes so hard. The fatality rate from the bite is still estimated at approximately 20 per cent, but that is usually when the victim is not given adequate treatment in time.

One Cape Bite

Only one poisonous snake bite has been reported at the Cape in more than seven years, according to Dr. D. M. Mosher of Pan American's Medical Department. That bite occurred, Dr. Mosher said, when the victim was poking around in brush and weeds and was bitten on the hand. It was not a severe bite, he added.

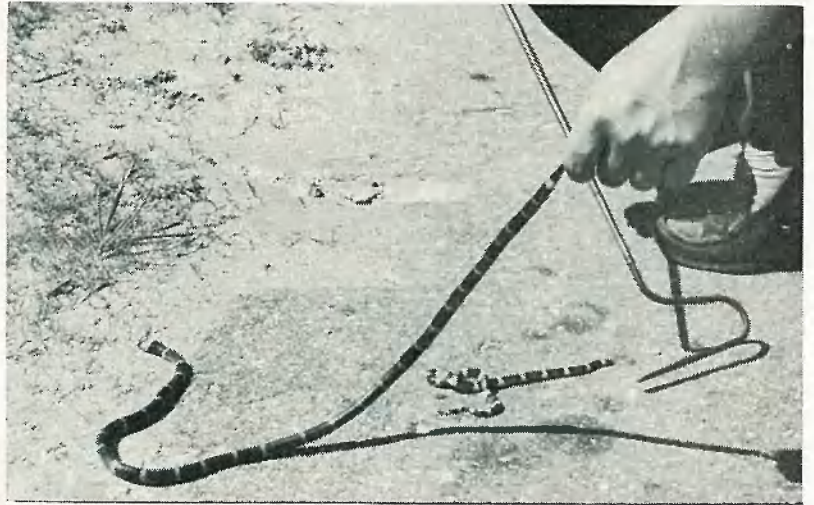
Experts believe that the average person has a dread, a misunderstanding and little or no factual information regarding snakes. Dr. Mosher points out that the coral snake bite is actually less serious than the bite of either the rattler or moccasin. Its

venom, a neuro-toxin which effects the nervous system, is more deadly, but it is difficult for the small-mouthed snake to bite a human.

The shy, secretive little snake is common to this area but is usually unaggressive unless tormented or hurt. It has small teeth and must bite and chew to inject the venom which flows down over its teeth. But coral snakes are the reason wise gardeners don't pick up arms full of leaves or trash which have been setting for a while in their yards, or work in around the bottoms of plants without gloves.

The rattler, however, can strike faster than human reaction and can sink his fangs deep into a victim several times in a series of fast, stabbing strikes. The moccasin strikes first like a rattler but attempts to retain the hold and bite and chew to imbed fangs and poison deeper.

How does one avoid the danger of snake bite and still enjoy outdoor life in Florida? Experts like Ross Allen of the Reptile Institute at



CORAL SNAKE, whose more poisonous venom attacks nervous system, is described by Cape doctor as actually less dangerous than either rattler or moccasin because of small mouth and his, comparatively, less efficient method of injecting venom.



COMPARISON is shown between much larger diamond-back rattler and pygmy rattler. Big diamond-back rattlesnakes can strike more than half their length and can penetrate leather boots under certain conditions.

News Photos by Russ Hopkins

Silver Springs, recommend snakeproof boots, pants or leggings.

The best defenses as always, however, are knowledge and common sense. Dr. Mosher points out that one should never reach into underbrush or shady places where he cannot see.

Penetrate Boots

Most bites are on hands or arms. Don't tempt fate by handling, teasing or prodding snakes. They can strike more than half their length and a big diamond-back rattler can penetrate leather boots.

There are many misconceptions in how one should treat a snake bite. Rather than list all that are wrong — such as whiskey and incision — Dr. Mosher lists those that are right:

*Kill the snake and bring it in for identification, if possible.

*Apply a tourniquet a few inches above the bite if it is on a limb. Do not apply tight-

ly enough to stop blood flow or turn the limb blue.

*Apply ice if it is available.

*If alone, walk slowly toward help. If not alone, the victim should be carried or driven to a hospital.

*Do NOT attempt crude incision and suction in the field. It is of little value and is more likely to increase the hazards to the victim. Proper medical aid is practically always available within two hours.

The Cape's three holders of first-hand information of the subject share one final attitude — a deep and abiding respect for the authority of the snake when he's on his home ground. He has a place in nature's system of balance, they believe, and does much toward keeping other reptiles, insects and animals in check and under control. None of the three has let his experience hamper his activities in the field. But all have learned a lot about the hazard — and all are very, very careful!



SEBRING VISITORS last week included, left to right, Gerald Michaud and Tom Davis of P & C, John Bentley, speech writer, Joseph Aurelio of P & C and Wright Kerns, Community Development. They were in Sebring to brief local businessmen on NASA's small business needs and requirements. While there, the local Chamber of Commerce provided Bentley, who annually races at Sebring, with a sports car to take his co-workers for a spin around the race course.



FACILITIES CHIEF Colonel Clarence Bidgood, right, congratulates members of his office on their recent promotions. Left to right are Lou Burgett, Woodrow McKinney, O. J. Martyn and Tom Goldcamp. Also promoted, but not present for the photo was Lloyd Ernest.

High-Flying Barnes

NASA's flying Barnes' family—Martha of Personnel and her husband Leroy of Facilities—did it again Sunday at the Indian River Sports Car Club's Serpentine Gymkhana in Cocoa.

They both won first place awards in their respective auto classes and finished one-two in best overall time. Leroy was clocked at two minutes, 10 seconds, and Martha at 2:12.

LOC Security Chief Charles Buckley also copped a first in class. His time: 2:22.

Small Problem

Space housewives of the future will still have cleaning problems, but only within small areas, according to one NASA official, Dr. Raymond L. Bisplinghoff.

He cites the space dust problem, but says the interior of the space "house" will be similar to that of a submarine or ship, since space, weight, and volume will be at a premium.

The kitchen, for example, will look much like a ship's galley, he said.

Southeastern Campus Queen Cape Worker For Summer

Pat Brill, a summer employee in NASA's Centaur Project Office at the Cape, recently won the "Southeastern College Queen" title, and competed for national honors in New York.

Pat, a senior at Florida State University, won her crown over beautiful and intelligent contestants from Florida, Georgia, Alabama, Mississippi and Louisiana.

As opposed to the Miss America, Miss Universe and most other beauty-talent contests, the College Queen competition is largely based on knowledge of a wide range of subjects. Physical beauty, in fact, is only a secondary consideration, although Pat is well qualified in that category too.

Pat completed a battery of tests and wrote an essay on "What College Means to Me," in the southeastern contest.

She was then flown to New York earlier this month to compete with 11 regional winners for the national title.

Miss Congeniality

Although Pat didn't win — Karen Sorenson of the University of Arizona was crowned queen — she did place high in the final standings, and was named "Miss Congeniality" by the girls.

In the finals, each girl was quizzed on current events, art, history, literature and world problems. There were also forums on education, home-making competitions and judging on essays.

Pat placed third in general knowledge and second in photography. (Each girl was given a camera and film to take pictures of New York — judged by editors of national photography magazines.)

A highlight of the 10-day New York trip was an appearance by the 12 girls on TV's Tonight show. Pat was interviewed by host Johnny Carson.

"Competing in this contest was perhaps the most exciting thing I've ever done," Pat says. "It was a real challenge and I've learned so much."

She hopes to become a high school counselor and a social studies teacher upon graduation next spring.



Pat Brill

British Satellite Ready In Four Years

England has announced plans to build the first all-British satellite.

It will be launched by NASA in about four years, and will be known as UK (United Kingdom) 3.

The British Aircraft Corporation said the satellite will carry experimental instruments into a circular orbit, 400 miles above the earth and will transmit data for a year.

UK 3 will be the third in a series of joint British-American scientific research satellites. The first two were American-built and fitted with British instruments. The first is in orbit. The second is due to be launched later this year.

UK 3 will have an overall height of five feet and a span of seven feet. It will weigh 140 pounds.

NASA NEGOTIATING FOR PIONEER PACT

Space Technology Laboratories, Inc., Redondo Beach, California, has been selected for negotiation on an estimated \$15 million contract for the design and fabrication of four spacecraft in NASA's Pioneer interplanetary exploration program.

The Pioneer project will be managed by NASA's Ames Research Center at Moffett Field.

Pioneer, part of NASA's lunar and planetary program, will gather scientific information on the interplanetary environment and determine effects of solar activity upon this environment.

The first launch of the 100-pound satellite is scheduled for early 1965 aboard a Delta launch vehicle from Cape Canaveral.

Specific objectives of the Pioneer program are: (1) To provide basic data on the interplanetary environment; and (2) To provide, in conjunction with other spacecraft presently scheduled, simultaneous scientific measurements at widely separated points in interplanetary space.

These data will increase our understanding of the field and particle environment and will provide information necessary for the Apollo manned lunar landing program, as well as advanced projects in the interplanetary program.

Engineers Reassigned

The MAC/NASA Hangar S Communications Group at Cape Canaveral dined out recently to mark the temporary reassignment of 12 MacDonnell engineers from the group.

The 12 have been reassigned for a two-month period to monitor operations at the various vendor plants developing Gemini spacecraft components.

Temporarily reassigned are: N. Beckel, R. Schutz, H. Wilson, P. Rhen, H. Gugton, R. Ramsey, P. Noland, J. Cullen, P. Broome, S. Randolph, W. Stone, and B. Geolat.

NASA personnel at the luncheon included: W. Stegles, H. Matthews, J. D. Collner, T. Crutcher, H. Cribb, E. Walters, J. Wilson, and L. Bell.



FIELDS OF FLOWERS, LETTUCE ON MARS?

America's first astronauts to land on Mars may find fields of flowers and rows of cucumbers and lettuce.

Scientists with the Union Carbide Research Institution have created models of the Martian atmosphere in laboratory jars.

In this atmosphere of only two per cent oxygen and 98 per cent argon, they got high percentages of germination from the seeds of cucumbers, lettuce, marigold, zinnia, onion, and a number of other earth plants.

The seedlings which adapted to oxygen starvation were subjected to the wind range of a day-night temperature characteristic of Mars and much wider than the earth range.

Mars is believed to have little or no water, but the scientists found the seeds of cucumber, marigold, turnip, carrot, rye and other "high" life germinated in the synthetic atmosphere with water vapor alone.

\$97,000 STUDY PACT AWARDED SYLVANIA

NASA has announced the award of a \$97,000 study contract to Sylvania Electric Products Inc. for preparation of a plan to use satellites for collection of weather and oceanographic data from unmanned weather stations, buoys and balloons.

Examples of data that might be collected in this way are: air temperature at various heights, humidity, wind speed and direction, water temperature, wave height and ocean current velocity at various depths and possibly, the tracking of icebergs, various forms of wildlife, search and

rescue and the location of returned spacecraft.

The satellite would interrogate each station by means of a code. This information would be stored on magnetic tape in the satellite. Then upon command from the ground the satellite would transmit the information to a data retrieval station for distribution to various users.

Analysis of the data collected on a world-wide basis would result in a better knowledge of the weather and sea. Possible benefits include: better forecasts and improved weather routing of ships.

Astronauts' Applications Anticipated

NASA's Manned Spacecraft Center is making a broad effort to see that no qualified person is overlooked in selection of the third group of astronauts.

A nationwide call for volunteers has been issued for the pool of astronauts to man spacecraft in flights in the Gemini and Apollo programs. Ten to 15 new astronauts will be selected in the Fall.

In seeking additional astronauts MSC has broadened its recruitment in two ways. One of these ways is a change in the criteria for selection, the major effect of which is to eliminate the need for a test pilot school certificate, although possession of one is still preferred.

Call For Volunteers

In addition, the Center is spreading its call for volunteers throughout the nation by requesting recommendations of qualified men from a large number of organizations which normally possess knowledge of professional pilots meeting the criteria for astronaut selection.

For instance, letters asking for recommendations have been sent to the commanders of Air National Guard units of the 50 states and to various reserve organizations. As in the past, the nation's military services have been asked to find and recommend from among its personnel men who are qualified for astronaut training.

Pilots selected for the astronaut pool will join the program at MSC this October. They will be incorporated into the group of 16 now in training for the Gemini Earth orbital and rendezvous space flights and the Apollo lunar landing flights.

Applications are to be addressed to the Personnel Officer, P. O. Box 18534, Houston 23, Texas. Civilian applications must be postmarked no later than midnight July 1, 1963.



JOB APPLICATIONS at a rate of 100 a day are deluging LOC's Personnel Office and these three employes are charged with receiving, logging and filing the documents. Shown with just part of one day's applications are (from left) Mrs. Shirley Wiley, Miss Lynett Cue and Mrs. Marilyn Reuter. The Personnel Office is still seeking qualified persons for LOC employment, particularly in the engineering field.



Spaceport News launches with this issue a catchall, editor's-notebook-type column in which we plan to pass on personal notes, express an editorial opinion now and then, and personalize certain news items from time to time.

If you'd care to comment on or for the column, we'd be glad to hear from you. In fact, we'd like to open a letters - to - the - editor section whereby readers may express their opinions on any pertinent subject, air gripes or convey thanks, as the case may be. Just address your letters to the Editor, Spaceport News, LO-JRP.

* * *

Speaking of mail, Dusty Rhodes of LOC's mail room sent us the following letter from teenager Billy Balme of Rhone, France. It's not a particularly cute or clever letter, but in it is a simple and honest expression of how one European youngster feels about America and the space program.

Billy writes: "It would really make me happy if you would be able to send me an autographed picture of John Glenn and Gordon Cooper. It would be a wonderful feeling for me to own pictures of these heroes of space.

"The exploits of these men is truly amazing and there only remains for us to hope that Americans will be the first on the moon. You have my highest admiration, please believe me."

We hope Billy's feelings are representative.

* * *

From the Saturn V Project Office comes word that Chief Bill Clearman has been permanently commissioned as Commander in the Navy Reserve. He recently completed 20 years service.

* * *

Incidentally, we are indebted to talented artist Loren Fisher of Graphics for the creative design that heads this column.

6,000 NOW EMPLOYED AT MICHLOUD PLANT

More than 6,000 people are now employed at the NASA Michoud Operations where the Saturn I and Saturn V space boosters will be produced.

Dr. George N. Constan, general manager of the Saturn booster - manufacturing facility, estimates that a peak of 10,000 NASA - contractor personnel will be working at the Michoud plant in New Orleans and its Computer Office in Slidell, La., by 1964.

A present breakdown by organizations is as follows:

Boeing Company Saturn Booster Branch, Saturn V first stage contractor, 2,889; Chrysler Corporation Space Division, Saturn I first stage contractor, 2,255; Mason-Rust, Michoud support services contractor, 632; NASA, 178; Rocketdyne Division of North American Aviation, 6; Telecomputing Services, computer operations, 40.



Dear Sir:

"I'm interested in space and I want to be an astronaut."

Derryl J. Ashland, Ky.

MSFC Employment Up

Employment at the Marshall Space Flight Center should continue to grow for about two years, then level off at about 9,500 employees.

For the past two years the employment figure at MSFC has grown about 1,000 a year and now stands at about 7,500.

Not all MSFC employees work in Huntsville. Several hundred are in contractors' plants throughout the nation.

OART Seeks Concepts For Life Support

NASA's Office of Advanced Research and Technology is looking for companies and universities with research and development capabilities to submit concepts for experiments applicable to life support systems for men and equipment.

The experiments would be conducted by NASA on space vehicles in orbit and on aircraft having from 15 seconds to 5 minutes of zero-g time available. Vehicles for the experiments would include space laboratories and probes, manned and unmanned.

Desired are such basic experiments as those involving boiling, condensing, or water handling which will give a basis for equipment design in space operation.

To be here tomorrow requires security today.