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GODDARD NEWS

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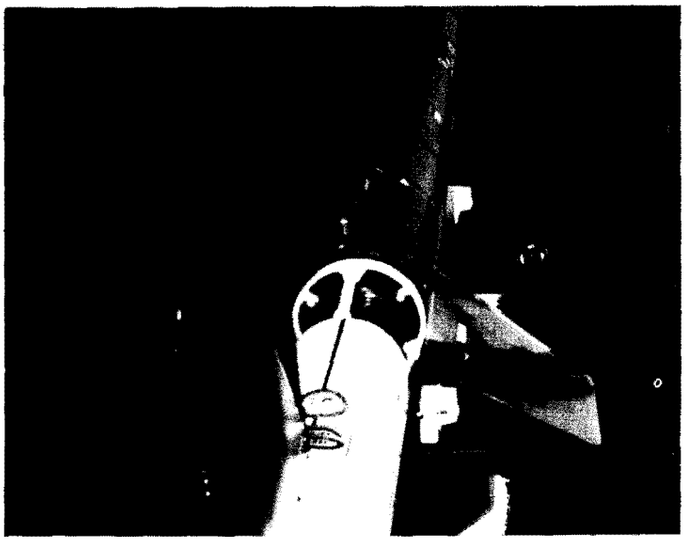
HANGING OF THE AEROBEE

GSFC RECENTLY PRESENTED THIS AEROBEE 150 TO THE SMITHSONIAN INSTITUTION. Working at the Smithsonian's National Air and Space Museum to mate the booster and sustainer (on Nike-Ajax launch rail) are, L to R: Jon Busse, Bob Demorest, Norm Peterson and Jim Gitchell, all of GSFC's Sounding Rocket Division.



READY FOR LAUNCH—Here the four workmen have completed their tasks and the Aerobee, workhorse of the Sounding rocket program, is ready for viewing. The Air and Space Museum is to be open to the public in July.

NASA LAUNCHES SECOND MARISAT FOR COMSAT GENERAL CORP.

The second maritime satellite (Marisat) was successfully launched by Goddard's Delta rocket for COMSAT General Corp. from Cape Canaveral, Fla., on June 9th.

The spacecraft was the second in the new Marisat system designed to provide communications to the U.S. Navy, commercial shipping and offshore industries.

Marisat-B was placed into synchronous orbit over the equator above the Pacific Ocean at 176.5 degrees W. longitude just west of Hawaii. A third Marisat has been built as a spare.

The first spacecraft, Marisat-1, was launched successfully Feb. 19 on a Delta vehicle and is in orbit over the Atlantic at 15 degrees W. longitude, where it has been providing service on UHF frequencies to the Navy since March 25.

It is planned to inaugurate full-time commercial voice and data communications via both Marisat satellites on July 1.

A Delta rocket placed the 1,445-pound Marisat-B into a highly elliptical transfer orbit of about 22,300 miles with an inclination of 26 degrees to the Earth's equator. A 646 lb. apogee kick motor augmented by the onboard hydrazine system will later circularize the elliptical transfer orbit into an Earth-synchronous 22,300 mi. 2.5 degree inclined orbit.

At this altitude the speed of the spacecraft in orbit matches the rotational speed of the Earth to hoyer over the Pacific. Small gas jets on board keep Marisat-B on station and oriented properly toward Earth to receive and retransmit signals. From this vantage point the satellite can serve an area of about one-third of the Earth's surface.

Small Business Expo Continues to Grow

A&M Deputy Director Richard S. Sade welcomed over forty small business firms to GSFC's fourth Annual Small Business Exposition, the largest ever held here. An estimated six hundred people attended the successful conference.

In addressing the firms, Mr. Sade pointed out the steady increase in awards to small businesses made over the past few years. "The Center Director and his staff are continually on the alert for ways to increase small and minority business awards," he said.

Mr. Sade commended the entire staff of the Industry Assistance Office headed by Mr. Bob Smaldore, Goddard's Small Business Specialist, and Mr. Al Glorioso, the principal coordinator for the event.

In Case You Didn't Know

The "mirrors" installed on the windows of most Goddard buildings is a solar reflective mylar film that keeps out 80% of the Sun's heat.

According to Dave Lewoc, Assistant Chief, P.O.M.D., a thermometer placed inside a window with solar protection will register 20° to 25° less on a sunny day than a window without solar protection.

When viewed from the outside, the windows resemble mirrors. From the inside, looking out, the film blocks a portion of the light which requires a little adjustment on the part of office occupants.

Strangely enough, the film also helps in the winter by reducing heat loss 18%.

HE HAD A DREAM

The Goddard Stamp Club is saluting America's birthday with a philatelic post card honoring the 50th Anniversary of Robert H. Goddard's first rocket flight—and 200 years of freedom.

The artist, Norman M. Ressler, utilizing a design by Robert Krider of the Goddard Stamp Club, donated his time and talents to creation of an embossed red, white and blue post card. The card is being used by Goddard management and the Stamp Club to tell the Goddard story world-wide.

COE PROGRAM SUCCESSFUL

The Goddard Space Flight Center has established a Cooperative Office Experience Program which offers high school seniors with clerical skills an opportunity to gain on-the-job work experience with a government installation. Students are selected in accordance with criteria established for the program and are hired as GS-1/1 trainees working 15-20 hours a week. These students work under the direct supervision of a senior secretary and her supervisor, who are responsible for insuring that each student is given experience in all aspects of a secretarial position, such as the use of government forms, correspondence formats, the use of various types of equipment, telephone techniques, and the ability to interface with personnel in an office. These students are also evaluated by both the supervisor and the teacher-coordinator on a monthly basis.

The purpose of the program is to train these students with the intent to hire them as full time employees upon graduation, providing that (1) Goddard has available vacancies, (2) the student is recommended for hire by his/her supervisor, and (3) acquires Civil Service eligibility. This past year was the first year for the COE Program at Goddard, and 10 out of the 15 students in the program will be hired as permanent employees upon graduation. The COE Program has been a success and with the cooperation of the local schools, it will be expanded during FY 1977. This program has been beneficial both to the community and to the Goddard Space Flight Center.

GODDARD MOURNS . . .

Donald M. Witters of the MMS Project died Sunday, May 23rd of a heart attack. He is survived by his wife, two sons, a daughter, and his mother and father.

Mr. Witters came to Goddard in January 1962 from NOL and for the past 14 years has worked on AOSO, OAO, EOS, MMS, and other spacecraft projects.

William J. (Bill) Healy, Goddard retiree, formerly an aerospace technologist in Code 500, died June 7th in Baltimore.

He is survived by his wife, two sons, a daughter, a sister and a brother.

Bicentennial Symposium Series Scores Twin Successes

"Mounting Pressures on Planet Earth" is a four part Bicentennial symposium series sponsored jointly by the NASA/Goddard Space Flight Center and the Maryland State Department of Education.

Forum I "Can the Earth Feed Its People?" was successfully held at Goddard on April 29th. Forum II, "Can the Earth Provide the Energy and Other Resources For the Next Generation?" held May 20th was equally successful.

The speakers and topics were selected to inform persons who make major political, environmental and educational decisions affecting our lives. The audience represents group-influencing individuals and organization representatives.

Forum III on September 30th will strive to answer the question "Can Science and Technology Solve the Earth's Problems?" The fourth and final symposium of the series scheduled for October 28th is entitled "Can Existing Economic Political, and Value Systems Cope With the Problems of the Earth?"

All sessions are being videotaped, and a comprehensive report of the series will be published. Tapes and reports will be made available to symposia participants.

In the words of Director John F. Clark :

I am pleased to have you visit with us in this year of triple historical significance. In 1976 we will observe the 200th anniversary of our Nation, the 50th anniversary of the flight of the first liquid fuel rocket, and the 15th anniversary of the dedication of this Center to the memory of Dr. Robert H. Goddard, inventor of that rocket.

These symposia provide an especially significant way to commemorate our Bicentennial. They allow us to look toward America's Tricentennial and to face some of the survival issues which must be resolved if we expect to reach that date as a nation and perhaps as a species. Success will depend in large measure on our country's access to knowledge on which to base decisions. We at Goddard intend to serve this national need by achieving the fundamental purpose of this Center and of NASA—the acquisition and dissemination of knowledge. Our mission provides for a natural partnership with the Maryland State Department of Education for co-sponsoring this symposium. We enthusiastically join them with the ardent hope that it will directly benefit our country."

MARYLAND GOVERNOR Marvin Mandel greets Goddard employees during the first Bicentennial Symposium.

Clark Wardrip Elected Chairman

Clark Wardrip, Head, Timing Systems Section, Code 814.2 was elected Chairman of the IEEE, Instrumentation and Measurement Group (G-IM), Washington Chapter at the May Meeting. The Washington Chapter is one of sixteen located throughout the United States, Canada and Japan with a total world wide membership of about five thousand. Local membership exceeds one hundred and sixty.

The Big Dippers of A.E.

A group of Goddard specialists headed by Jim Cooley tread a thin line between success and disaster every time they press a button. They are the "Bob and Dippers", the people responsible for commanding Atmosphere Explorer satellites to either dip down into the earth's atmosphere, or bob back up to a safer altitude after they have collected samples of the atmosphere.

"As low as possible, for as long as possible" are the orders of the day for "Cooley's Commandos," as they seek atmospheric information. The 75-85 mile area above the Earth is so low that the Atmospheric Explorers now orbiting are in great danger of destruction by the high frictional temperatures generated.

Mr. Cooley and crew work like puppeteers manipulating an electronic "Punch and Judy" by remote control as they make things happen inside the satellite many miles in the sky over a continent perhaps half a world away.

SHARING RESPONSIBILITY for the planning, control and determination of Atmosphere Explorer maneuvers are: (back row) Carl Gustafson, Mission Operations Manager; Gene Willingham, orbital computations engineer; Donald Woolston, flight dynamics manager; Roger Werking, attitude control analyst; (front row) James Cooley, flight mission analyst; and Janet Kristiansen, attitude engineer.

WILLIAM D. PETERSON, left, receives his National Achievement Scholarship Certificate from Murray Weingarten, President of Bendix Field Engineering Corporation, Columbia, Maryland. Peterson, son of Yvonne M. Peterson, a recordings systems recertification specialist for BFEC assigned to Goddard's Magnetic Tape Facility, has been awarded a four-year renewable college scholarship for outstanding performance in academic, leadership and extra-curricular activities and promise for future academic achievement. The Washington, D.C., resident plans to attend Brown University in Providence, R.I., where he will be a prelaw major.

Bendix awarded 41 college scholarships in 1976 in conjunction with the National Merit Scholarship Program. Four-year scholarships have been presented to 23 children of Bendix employees and nine awards have been given in Bendix' name to children of non-employees. Nine $1000 awards have been given to black students whose parents need not work for Bendix. Since the program began in 1972 Bendix has presented 139 awards.

HYDROGEN FUELED AUTO BEING DEVELOPED

A joint NASA/ERDA test car has a generator located in the engine compartment that produces hydrogen *directly* from the car's gasoline. Project officials plan to have a prototype automobile built by one of the big three manufacturers by late 1978.

So far, research has shown that hydrogen enrichment, in addition to improving fuel economy, can meet the toughest Federal emission standards proposed for new cars. Putting the concept into effect is a near term possibility, and can be done without building a new engine. It would also be relatively inexpensive to mass produce, and has the potential for use with non-petroleum fuels.

Goddard Joins In U.S. Flexitime Experiment

The Tracking and Command Data Systems Branch, Networks Directorate, started operating under *Flexitime* on May 10, 1976. Mr. William Hocking's branch of 26 employees joined an ever growing number of employees (28,000 in 35 Government agencies) involved in testing the expanded workday concept which allows the employee to set his arrival and departure times for an eight-hour working day.

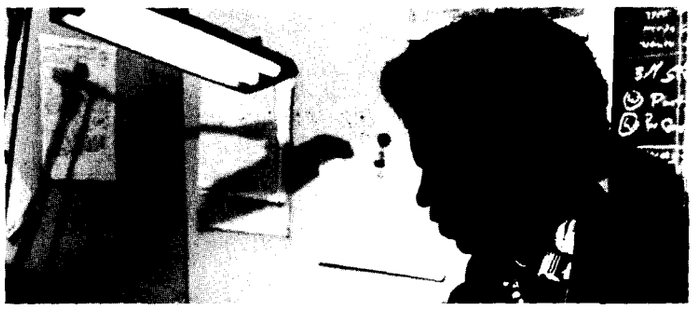
The pilot program is being conducted in conjunction with the Manpower Utilization Division, with the approval of Mr. William Mecca, Director of the Administration and Management Directorate, and is expected to be followed by similar experiments in other areas.

The Flexitime day employs *SPLIT Core Time*—that is, the hours during which an employee is *required* to be present have been set for 2 periods: from 9:00-11:00 a.m. and from 1:00-3:00 p.m. The Flexitime day starts at 6:30 a.m. and ends at 7:00 p.m. Thus, an employee may come in as early as 6:30 a.m. and leave as early as 3:00 p.m., resulting in an eight-hour day with a 30-minute lunch period (required). Or, he may come in as late as 9:00 a.m., and leave 8-1/2 hours later, at 5:30 p.m. On the other hand, since there is a flexible band between 11:00 a.m. and 1:00 p.m., the employee could use 1 hour of that period for personal needs and then work till 6:30 p.m.

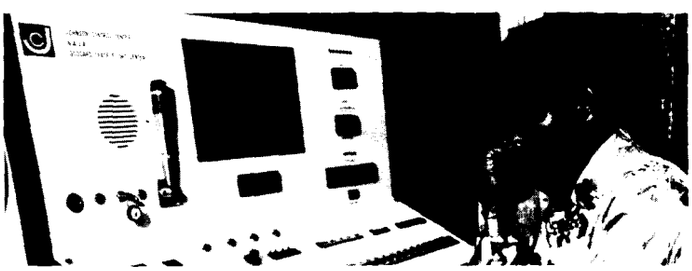
The experiment will last at least one year, during which periodic evaluations will be made.

The Goddard experiment is starting soon after passage of a bill in the House of Representatives on May 6, 1976, which would allow not only the flexible time concept for an 8-hour working day, but also varied work week schedules, including a 4-day, 10-hour-a-day week. This bill has been sent to the Senate, which passed a similar bill last year.

VETERAN/WORKER-TRAINEE PROGRAM AT GODDARD



JOHN BLANKS, Quality Engineering Trainee, is assisting in the preparation of the configuration baseline of the GSFC designed IUE components. He will use this configuration baseline to verify the status of the components prior to integration into the spacecraft in Building 11. He says, "I like the job. It's different and offers a lot of challenge including decision making. For example, whether or not to accept a contractors proposal for parts or specifications or to accept components for the spacecraft."



MR. WILLIAM BUMBREY is operating the Central Utility Control Console. This computer controlled system operates and monitors all Goddard Space Flight Center utility systems. He says when he is finished he will be an "operational engineer." This means he will be an expert in maintaining refrigeration and heating equipment. "I identify problems, run equipment such as the 75-ton chiller which has to do with air conditioning and heating," he says. He adds, "I like this kind of work and think it is really good training for us veterans.

MR. EDWARD TOLSON is assisting in the installation of high voltage underground cable. Tolson says, "It's a very helpful program to a veteran who has just gotten out of the army. I'm very happy to get this chance, especially at a time when jobs were hard to find."

MR. ALAN WILKERSON is a wood craftsman trainee, assigned in the Cabinet Shop and is presently constructing a cabinet that is to be installed in the Visitor Center. Wilkerson says, "I like the job. I've been doing shop work, anything that can be built or repaired. When I finish my training here I will be a journeyman carpenter."

Goddard officials are well satisfied with a group of returned veterans who are participating in the Veteran/Worker-Trainee Program at the Center.

Seven, all but one a minority, have been hired since last December and placed in wage-board jobs that pay $3.63 an hour to start as a WG-1 and up to $4.05 an hour as a WG-3. Ultimately they can work up to a WG-10 or $6.44 to $7.52 an hour. One of their supervisors, Jacques Knox, Chief, Plant Operations and Maintenance Division, has four of the trainees and says they are "dedicated and eager to learn. They seem to be very much interested in acquiring a trade."

Winslow Womack, Chief, Quality Assurance Division, has two trainees in his branch, both WG-3's, and says, "They are doing very well. In fact, one of them, because of his previous experience that didn't come through in his original application, has been much more of an addition to our organization than we ever expected."

One of Womack's trainees has been working in the Parts and Processing Technology Branch as a quality assurance trainee. Another trainee has only recently been hired in Security. The trainees themselves are as pleased as their bosses. They feel it is a good program and comment:

"I like this kind of work and think it is really good training for us veterans," says William Bumbrey, an operational engineer trainee.

"I'm very happy to get this chance," says Edward Tolson who is working in the maintenance area.

Wood craftsman trainee Alan Wilkerson says, "I like the job. I've been doing shop work, anything that can be built or repaired. When I finish my training here I will be a journeyman carpenter."

Quality Engineering Trainee John Blanks likes the job because, "It's different and offers a lot of challenge including decision making. For example, whether or not to accept a contractor's proposal for parts or specifications or to accept components for the spacecraft." He is working on the International Ultraviolet Explorer.

Under Civil Service regulations that came out last November, recently discharged veterans may receive special two year appointments and are entitled to all regular Federal employee benefits including promotion.

The four WG-1 trainees in POMD are working as an electrician, a carpenter, an air conditioning mechanic and an operating engineer. They work under the direct supervision of a journeyman in the trade in which he is being trained.

Eligibility requirements for the jobs are that the potential employee be a veteran who within the past year has been released from the armed forces or released from hospitalization or treatment immediately after separation from the armed forces.

He must not have completed more than 14 years of education, must have served in the military after August 5, 1964, and must agree in writing to pursue the training program.

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