NASA Launches Ambitious Shuttle Flight Schedule

NASA has moved into its fourth year of Space Shuttle operations and has begun a hectic and ambitious flight schedule that has programmed eight more flights (including STS 51-B) this year and as many as 41 in the next 32 months.

The program moved into its fourth year in April, which was anything but dull in itself. First, STS 51-D was launched on April 12, four years to the day that Columbia first went into orbit to initiate the program in 1981.

After successfully launching one communications satellite, the 51-D crew found itself flying formation with a second communications satellite when its sequencing system developed a glitch and failed to ignite the apogee kick motor that would have sent the spacecraft into geosynchronous orbit.

The astronauts, including U.S. Senator Jake Garn, tried valiantly to get things working on the satellite, conducting

Continued on page two

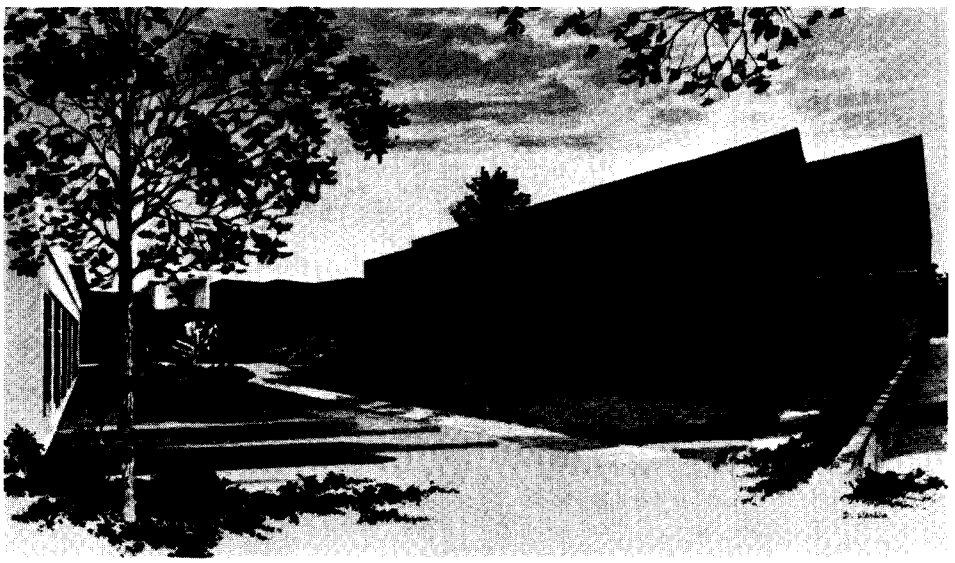
NASA
National Aeronautics and Space Administration
Goddard Space Flight Center

Goddard News

Greenbelt, Maryland and Wallops Island , Virginia

Vol. 31 No. 5-May 1985

Construction Begins On Building 13 TDRSS Addition



NEW ADDITION—An artist's rendering of Building 13 expanded to include the new structure for Goddard's growing Tracking and Data Relay Satellite System (TDRSS) facility.

Builders have begun digging a foundation for a new addition to Building 13 just east of Goddard's Main Gate.

The addition, scheduled for occupancy in August, 1986, will provide room for expanding Goddard's Tracking and Data Relay Satellite System (TDRSS) facility currently housed in Building 13. The construction will cost approximately $5 million and is funded jointly by Goddard and the U.S.A.F.

When complete, the new addition (now known as 13A) will be combined with the existing Building 13 and the old Opscon area of Building 14. The total complex will be known as Building 13.

The addition will be completed in three phases, the first of which, laying of foundation and underground utilities, began the first of April. The second and third phases will include erecting the building's structural steel framework and completing the balance of construction, including installation of electrical and mechanical facilities.

In total, the addition will offer 32,000 square feet of space in two stories, including 13,000 square feet of raised flooring for computers. The building also will be able to accommodate an additional two stories if needed in the future.

Several features designed to increase the security of the 13A addition will make the building unique. These will include a strong room for storing secure archives and no windows within the computer spaces. Entrance to the addition and to the rest of the Building 13 complex, will be solely through the old Opscon lobby area of Building 14. Addtionally, the 13A addition will include a separate chill water feeder as a redundant source for air conditioners to guarantee TDRSS computer operations.

One other unique characteristic of the 13A addition is that it will cover the portion of Aerobee Road which currently skirts the south side of Building 13. Accordingly, Aerobee Road will be relocated 30 feet to the south of its present course.

Shuttle Schedule

Continued from page one

an unscheduled space walk and manufacturing a hand-made "fly swatter-like piece of equipment" with which they could snare a lever on the spacecraft and get things going again.

They snagged the lever OK, but the spacecraft failed to come to life, and the astronauts moved Discovery away to a safer distance. Plans for the future of spacecraft remained uncertain at that time.

The STS 51-D crew was commanded by Karol J. Bobko. Other crew, in addition to Senator Garn, were Donald E. Williams, pilot; Jeffrey Hoffman, David Griggs and Barbara Rhea Seddon, mission specialists, and Charles D. Walker, payload specialist. Garn also was a payload specialist.

After more than six days in space, the STS 51-D crew landed successfully at the Kennedy Space Center on April 19 after one waveoff for bad weather.

Even as STS 51-D landed, Kennedy Center crews were readying Challenger for another mission, due for launch as Goddard News went to press. That mission was to fly Spacelab, a scientific laboratory. It also was to take two Goddard Getaway Special payloads, which, for the first time, were to launch satellites from the Getaway Special canisters.

While all that activity was going on, Atlantis—the fourth orbiter in the Space Shuttle program—arrived at the Kennedy Center to begin pre-launch processing for its maiden flight. That's STS 51-J, a Department of Defense mission, scheduled for launch in September.

AAS Hosts Twenty-Third Goddard Memorial Symposium

The American Astronautical Society (AAS) hosted the Twenty Third Goddard Memorial Symposium and Nineteenth European Space Symposium at Goddard Space Flight Center March 27-28.

Entitled "Europe-U.S. Space Activities", the symposium provided a forum for participants from around the world to discuss and exchange ideas for future international and national space programs.

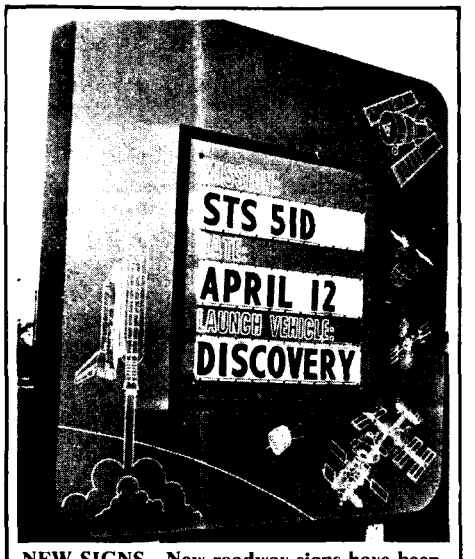
The annual AAS symposium has been held at Goddard for the last four consecutive years. This year marked the first time European Space Organizations have joined the events as sponsors.

In addition to the AAS, principal sponsors included the Association Aeronautique et Astronautique de France (AAAF); the Associazione Italiana di Aeronautica e Astronautica (AIDAA); the British Interplanetary Society (BIS); and the Deutsche Gesellschaft fur Luft und Raumfahrt (DGLR).

Cooperating sponsors included EUROSPACE; the American Institute of Aeronautics and Astronautics (National Capital Section): the National Space Club; the National Space Institute, and the Students for the Exploration and Development of Space (SEDS).

The symposium opened March 27 with a tour of the Center, followed by a formal welcome by Goddard Director Dr. Noel W. Hinners on March 28. Sessions held in Building 8 auditorium through March 29, included presentations of National Space Programs; Space Station and Platforms; Cooperative International Programs, and Space Science and Applications Programs. Astronaut Dr. Owen K. Garriott of Johnson Space Center was keynote speaker.

This year's Symposium Committee included General Chairman Dr. Friedrich von Bun (NASA Headquarters); Technical Chairman Dr. Peter M. Bainum (Howard University); Technical Co-Chairman Dr. Louis Walter (Goddard); AAAF Co-Chairman Jacques Breton (CNES); AAS Co-Chairman Dr. Vittorio Giavatto (AIDAA); BIS Co-Chairman L. J. Carter (BIS); DGLR Co-Chairman Heinz Stoewer (DGLR); and Goddard Liason, Dr. George F. Pieper, Associate Center Director at Goddard.



NEW SIGNS—New roadway signs have been placed near the Main Gate and Employee entrances to identify upcoming launches. The new signs identify the mission, the date and the launch vehicle.

Computer Problems? Call Info. Tech. Ctr.

The Management Operations Directorate has established a new Information Technology Center (ITC) for the Goddard workforce.

The facility will combine the resources and training background of the Employee Development Branch (EDB), code 224, and the data processing expertise of the Computer Services Branch (CSB), code 254.

The ITC will be comprised of four functional areas: the Multimedia Learning Center; the ADP Training Classroom; the Office Automation Demonstration Center, and a Technical Support Group to provide technical assistance for office automation users.

Employees will be able to receive training in computer and non-computer areas; evaluate hardware and software by attending demonstrations, and receive support on technical problems concerning the CSB mainframe or personal computers. Also, the Technical Support Group will assist users in defining requirements and determining hardware/software configurations.

The ITC will be located in Building 18 on the first floor and is scheduled to open in early June. For more information, call Technical Support, 344-9058, or the EDB, 344-5086.

Correction:

The Editors regret that in the April issue of the Goddard News Dr. Carl Reber of Code 616 was erroneously identified as Carl Reber of Code 430.

Software for Space Telescope Data Capture Facility Is Now Ready

By Carter Dove

Ahead of schedule and on target with program costs, NASA Headquarters, Goddard and contractor personnel gathered April 4 in Building 23 for a demonstration of the final operational release by the development contractor of the software for the Space Telescope Data Capture Facility (ST DCF).

Currently undergoing interface testing with other elements of the Hubble Space Telescope (HST) ground system, the DCF will accept science data from the Telescope's five instruments through the NASA Communications (NASCOM) system via the Tracking and Data Relay Satellite and the NASA Ground Terminal at White Sands, NM.

"Within 24 hours of receipt of the science data stream from NASCOM, the facility will pre-process the data and forward it to the Space Telescope Science Institute (STScI) for further processing and use by scientists," according to William H. Stallings, Head of Goddard's Data Capture Systems Section and Project Manager for ST DCF development. The Science Institute is located on the Homewood Campus of John Hopkins University in Baltimore, MD.

Two Systems

The facility consists of two identical Gould 32/87 computer systems and special hardware to provide the science data processing requirements. "Either system", Stallings said, "is capable of capturing and processing the science data and then transmitting it to the Institute on a stand-alone basis."

Charles Horne, ST DCF Project Manager for Computer Sciences Corporation, the contractor, conducted the demonstration. Those in attendance included Joseph Bishop, Office of Space Tracking and Data Systems, NASA Headquarters; S. Richard Costa, Chief of the Information Processing Division at Goddard; Charles Scaffidi, Test and Verification Manager for the Space Telescope Observatory Management System (STOMS); and Stallings.

With a planned mission life of 17 years, the Telescope is due for Shuttle launch in 1986. The heart of the day-to-day operations will be the Space Telescope Operations Control Center (STOCC) at Goddard. It is the largest and most complex control center for a scientific satellite to date.

Edge of Universe

The Control Center will allow astronomers to utilize the HST much like a ground observatory as it targets its instruments toward the very edge of the universe.

The DCF has previously demonstrated the capability of capturing the 1.024 megabit and 4 kilobit per second data streams, processing the data into user data sets and transmitting them to the Institute at the required volume level of 3 billion bits of science data daily.

Additionally, because the HST's science instrument data are packetized, the future refurbishment of the HST with new instruments will require only table updates in the DCF's software. Another feature incorporated in the DCF is automated data quality control which will reduce operational costs.

CONTRACTOR DEMONSTRATION—Shown here at the demonstration of the final release of software for the Space Telescope Data Capture Facility at Building 23 April 4 are: (left to right, seated) Paul Goldstein and Nathaniel Daniels, Computer Sciences Corporation; and (left to right, standing) David Ulmer, Lockheed Engineering and Management Services Company; Charles Horne, Computer Sciences Corporation (the demonstrator); Richard Costa, GSFC; William Stallings, GSFC; and Joseph Bishop, NASA Hq.

Retirees

Goddard's newest retirees and their codes and years of faithful service are as follows:

Henry Benton	615.1	38
Betty Felter	250	24
Dwight Fortna	302	34
Gerald Groves	821.2	07
Frederick Hallberg	683.1	36
Daniel Knighton	405	20
Ethel Lindsay	752.3	30
John Lovelace, Jr.	405	34
Charles Staugaitis	313	37
Robert Synder	822.3 (Wallops)	50
David Studenich	715.1	37

Goddard Briefs Science Writers on Activities

Science and space writers from the Washington, New York City and Baltimore areas gathered at Goddard Space Flight Center April 3 for briefings on Center projects and activities.

The day-long session—hosted by the Office of Public Affairs—began with a Center overview by John Quann, Deputy Director of the Center. Quann was followed by Dr. Frank Martin, Director of Space and Earth Sciences, with a science overview; and by Dr. Gerald Soffen, his Associate Director for Program Planning, who discussed global habitability.

The morning sessions concluded at Building 3 with presentations by Charles Fuechsel, Manager, Ground Systems and Operations Office, Hubble Space Telescope project; and by Joseph Rothenberg, Operations Manager for the Space Telescope Operations Control Center (STOCC).

After lunch with the Goddard Executive Council in the Executive Dining Room, the writers returned to Building 8 to hear Marc Imhoff, Code 636, relate his experiences in the jungles of Bangladesh; Roger Mattson, Project Manager for the Cosmic Background Explorer (COBE); and Dr. John Mather, COBE Project Scientist.

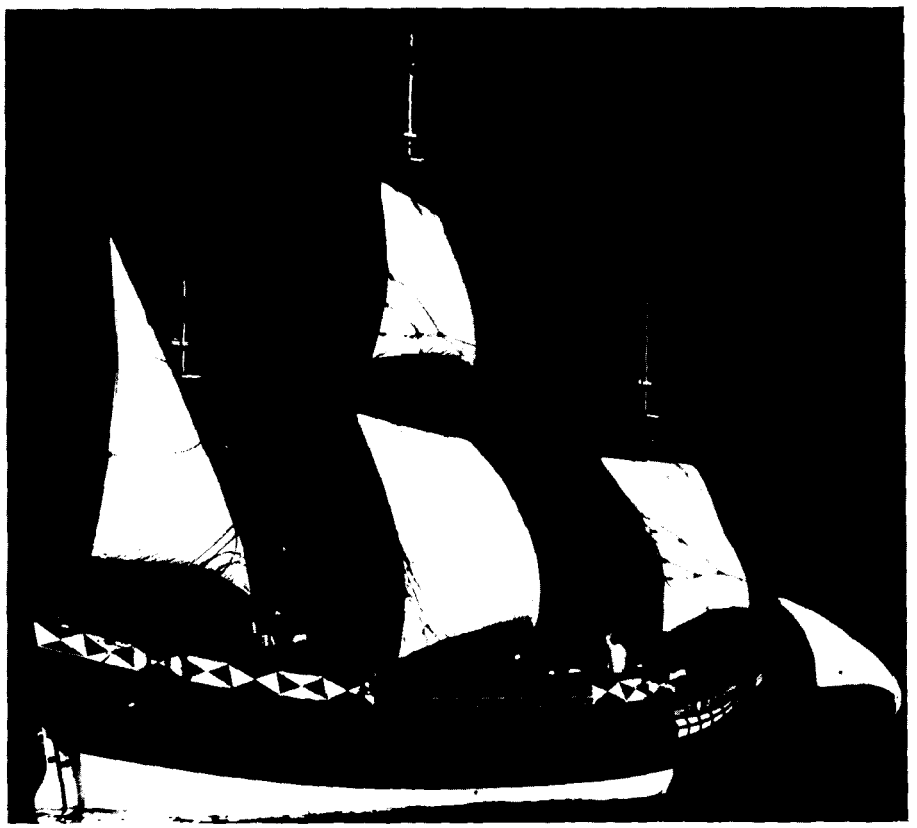
Following the COBE briefing, Peter Burr and Dr. Carl Reber, Project Manager and Scientist, respectively, briefed on the Upper Atmosphere Research Satellite (UARS). Then, Ronald K. Browning, Deputy Director of Flight Projects for Space Station, discussed Goddard involvement in that project.

The final presentations were conducted at Building 5 by Len Arnowitz, Special Payloads Division Chief, and division members Jim Barrowman (Getaway Special); Morgan Windsor (SPARTAN-Halley), and David Shrewsberry (SPARTAN).

The day concluded with the Executive Council and speakers hosting a reception for the writers in the Management Conference Center.

The space and science writers attending the Goddard briefings represented Space World, Popular Science, Science News, Aerospace Daily and Reader's Digest magazines; the Baltimore Sun newspaper; and the American Association for the Advancement of Science, and the National Space Institute.

The April 3 event was the second in a series of Goddard mission briefings for select news media representatives. The first was held January 11 for writers with Aviation Week and Space Technology.



ATLANTIC CROSSING—The reconstructed 17th century vessel *Godspeed* is seen on the lower Chesapeake Bay during a recent sea trial. This spring and summer, she will re-enact the 1607 crossing from England to Virginia of the original *Godspeed*. (Jamestown-Yorktown Foundation Photo)

Goddard Supports Godspeed Voyage

Goddard will play a significant part in the reenactment now underway of the 1607 voyage of the Jamestown settlers.

As a matter of fact, there's a NASA shadow hanging over the entire mission.

Through the international COSPAS/SARSAT search and rescue operation, the 68-foot square-rigged replica of Godspeed will have a 406 megahertz transmitter on board so experts at Goddard can track the vessel's position throughout the 9,600-kilometer (6,000-mile), 61-day trip.

In addition, the skipper of Godspeed is George Salley, a computer scientist from NASA Langley. He leads a 14-member volunteer crew on the trip, sponsored by the Jamestown-Yorktown Foundation.

Godspeed was one of three ships that brought the English settlers to Jamestown in 1607, 13 years before the Pilgrims landed at Plymouth Rock.

Captain Salley and crew began their voyage from London on April 30. They will follow the same route used by the Jamestown settlers, sailing south to the Canary Islands, across to the Caribbean and then north to Virginia. They are expected to reach Virginia in July.

Mary Woodyard Serves Up Feasts To Raise Funds for Ethiopia Famine

By David Thomas

When Mary Woodyard began selling dinners to Goddard employees last year, she was unaware that eventually she'd be feeding starving Ethiopians, too—possibly saving some from death.

The plight of the thousands of famished people in Ethiopia is well known. But the untold story of how Woodyard began collecting money for them last February, and how funds now are raised monthly, shows how one person's enthusiasm touched the hearts of many and moved them to help her help others.

"At first everyone was surprised at what Mary was doing," said one friend who wishes to remain anonymous. "But once she started, support was tremendous and we hope the whole center catches on."

The monthly fundraiser originated in February 1984, during the annual tribute to Black History.

Soul Food Buffet

Woodyard, a Unified Services Inc. maintenance employee, raised money in her building for the United Negro College Fund (UNCF) by selling $3 tickets to a "Soul Food Buffet" as part of Goddard's celebration. More than 400 people attended, and those who contributed ate free.

"People like to eat," Woodyard said. "I had no problem getting help. There were hundreds of dishes, and we raised more than $200 last year."

Ironically, calling the dinner a Soul Food Buffet was a misnomer. So many people brought dishes that actually there was a smorgasbord of treats: Italian, Chinese, Mexican, Philippino and other ethnic specialties were consumed. The spread was even bigger this year, and so was Woodyard's heart. Said she:

"If we can feed people at Goddard, we can feed people in Ethiopia."

While helping the UNCF at home, proceeds from the dinner also could help those starving abroad. To feed a small Ethiopian village for a month costs only $96, according to Courtney Funn, a volunteer of the Prince George's County, MD chapter of the American Red Cross.

Feed a Village

Woodyard said they raised $150 for UNCF last February, and $108 for the "Feed a Village" food drive. People made donations to Ethiopia apart from buying tickets for the dinner, she said. Twelve dollars remained from the February Ethiopian kitty, so Woodyard began soliciting further donations in March.

Now it's a monthly fundraiser.

"All I have to say is 'give me your money,' " said the conscientious Woodyard, as her face beamed while discussing cooperation from contributors, "and they give it to me." Apparently, her enthusiasm has become contagious—many employees have "caught the spirit of giving."

Employees now eagerly anticipate the annual dinner. Woodyard said several who will retire soon have said "don't let me miss it next year." Meantime, many give monthly to help fight the Ethiopian famine.

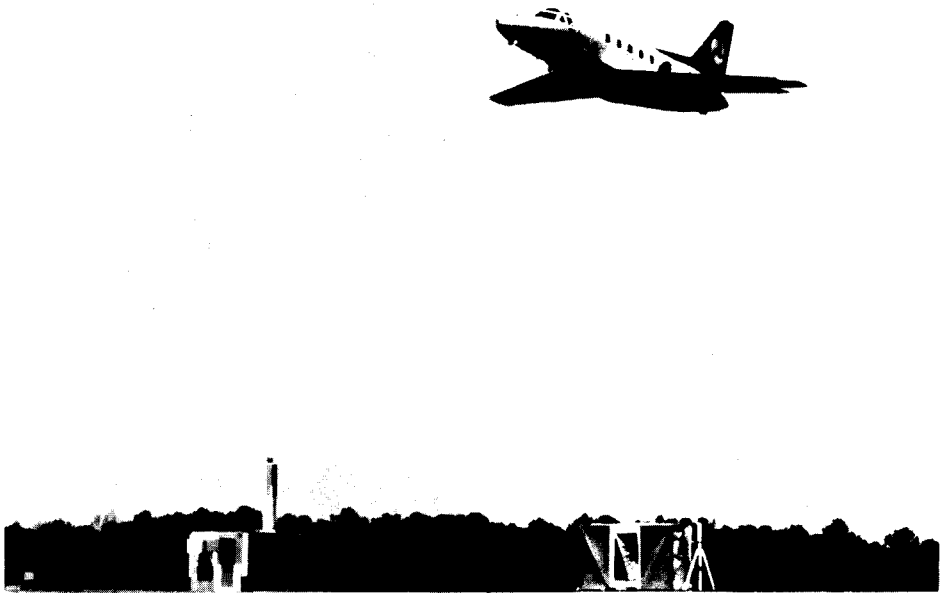
Pun intended, "it's a piece of cake," for Woodyard to manage successfully such big feasts. She has helped her mother, a retired caterer, to arrange many similar events.

Today though, their roles have switched.

"I remember preparations for Goddard's first dinner," she said, "Mom was up late the night before tasting everything to make sure it was right. She was a big help."

Woodyard, herself, has been a big help in pleasing palates at Goddard, orchestrating dinners offering a vast array of foods. The resulting composition by conductor Woodyard benefits those here and abroad. Villages in Ethiopia, beneficiaries of the UNCF and the growling tummies at Goddard have much for which to be thankful.

FAMINE MONEY—Mary Woodyard (l) presents Red Cross Representative Courtney Funn with a $96 check to feed an Ethiopian Village. Woodyard is the force behind what has become a monthly fundraiser at Goddard.



AIR TESTS—A Sabreliner flies over the Wallops Microwave Landing System at the Federal Aviation Administration's Technology Center in Atlantic City, N.J.

Wallops Tests, Evaluates Microwave Landing System (MLS) For Aircraft

By Joyce Milliner

Located on the Wallops research airport are several small, insignificant appearing devices, painted with red and white squares that house some unique aeronautical instrumentation—the Microwave Landing System (MLS). This system is the only system of its type in existence.

For those of you who are not familiar with operating an aircraft, this is a much improved, safer method for making instrument landings during poor or "zero" visibility.

The present Instrument Landing System (ILS) has been the international standard for approach and landing systems since 1949. ILS consists of two ground transmitters (localizer and glideslope) which radiate a beam in space which is three degrees wide in azimuth and centered on the runway centerline and is approximately 1.4 degrees wide in elevation and centered on a nominal 2.5 degree glide-slope.

Airborne receivers process the ILS signals and provide course deviation indications to the pilot. Limitations to ILS include: user aircraft are limited to a straight-in approach on a fixed glideslope, there is a limited number of frequency channels (VHF/UHF) available, and it is often costly and difficult to install.

Adopted By ICAO

The Microwave Landing System (MLS) was adopted by the International Civil Aviation Organization (ICAO) in 1978 as the new standard for approach and landing guidance systems, and the Federal Aviation Administration (FAA) plans to begin installation of MLS at major commercial airports in late 1986.

It provides greatly increased volume coverage by scanning microwave beams (C-band) up to plus and minus 60 degrees in azimuth about the runway centerline and from one to 20 degrees in elevation. This increased coverage allows more aircraft to be handled in the terminal area with a variety of approach paths, including curved, segmented, and variable glide-path approaches.

Two MLS systems were installed at Wallops in the early 70's as part of a feasibility demonstration and technical evaluation program, prior to the selection of the Time Reference Scanning Beam (TRSB) approach by ICAO as the new international standard.

In the TRSB approach, the aircraft's angular position is determined by measuring the time interval between the "TO" and "FRO" scans from the azimuth and elevation ground equipment. The existing prototype TRSB system was installed in 1979 and has been modified several times. This system also includes Precision Distance Measuring Equipment (PDME), providing complete space position data to the aircraft.

This is a joint FAA/NASA/DOD program to evaluate the system parameters of a "full-capability" Microwave Landing System (MLS) having a conventional flight-director display and to acquire the data base necessary for establishing standards and criteria from which FAA procedures specialists may design MLS approaches.

During the past two years, approach techniques for wide body (C-141A) aircraft have been performed as well as data base and criteria for steep approaches. The acceptability for using MLS for departure, holding and course reversal operations.

Airport Capacity Increased

Using a new multi-approach technique allows a higher degree of flexibility for airports of the future. Curved and steep approaches can reduce the noise level at nearby communities as well as reduce aircraft fuel consumption. The FAA predicts that there will be airport capacity increases of from 10-15% using the MLS.

Several kinds of aircraft—Sabreliner, Convair, B-737 and others—have been used at Wallops during the past three years to test and evaluate the MLS and its modifications. A special receiver is installed in each aircraft to receive the transmitted MLS signal. During the tests, an FPS-16 precision tracking C-band radar and laser are used to provide position and velocity data for correlation with MLS data recorded on board the aircraft. Noise abatement tests using the system have also been conducted here.

Support of the MLS project is a continuation of NASA's aeronautical programs to enhance aviation, especially in the terminal operating area.

Flight of Fancy: Chuck Mason Builds An Airplane

By Charles Recknagel

Ever since he was a little boy whose uncle and grandparents lived near the Boston Airport, Chuck Mason wanted to fly.

Ages 6 to 15 were his hardest. All he could do was look at planes and wait.

When he turned 16, Chuck Mason finally got his chance. Climbing into a cockpit for the first time, he began soloing just four hours later, a record which still stands at the Bellerica, MA, airport.

That was 40 years ago. Today, Mason, an electronics engineer in the Experimental Instrumentation Branch (Code 674), flies thousands of miles every year, most recently in a high performance airplane he built entirely by himself in his home garage.

"I love to fly," Mason says simply. "The first plane I owned was a 1946 ER coupe. Next a 1956 Piper Tripacer, and later a 1957 and 1964 Cessna 182. I put a third of a million miles on the last Cessna in 10 years over the U.S. and the Caribbean."

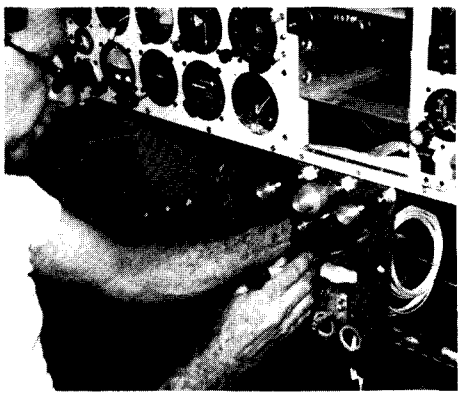
Something Faster

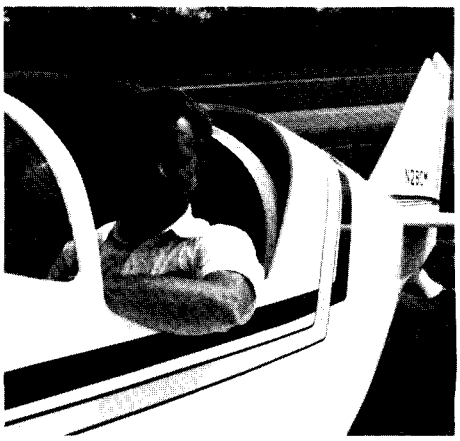
Two years ago, Mason began building his own airplane. He wanted something that was faster than his old Cessna and less expensive to operate. That way he could fly even more.

On September 8, 1982, the shell, wings and a pile of raw materials arrived in a box 24 feet long that weighed three quarters of a ton. Until last January 7, Mason worked every night and weekends, an average of thirty hours a week, in his garage to build the two-seat single-engine, high performance Glasair, which has a top speed of 230 mph.

"In all, the plane took about 3,000 hours to build," Mason recalls. "About three-quarters of the work was constructing the fiberglass airframe, including fitting all the control surfaces, i.e. for the ailerons, the flaps, rudder, elevators and the sliding canopies. The other quarter was installing the engine, the radio and instruments."

Just a few of the skills the job required included gas welding, riveting, fiberglass working, metal bending and cutting, plumbing, electrical wiring, hydraulics, and radio installation.





PLANE HARD WORK—Mason's airplane arrived in a box (top) but, with two years of work, became a graceful, high performance Glasair capable of a top speed of 230 mph.

Modifications Made

Additionally, Mason brought some of his mechanical engineering experience at Goddard to the project. Beyond the manufacturer's specifications, he added an autopilot capability, modified the rudder for more command in cross wind landings and increased the size of the gas tanks.

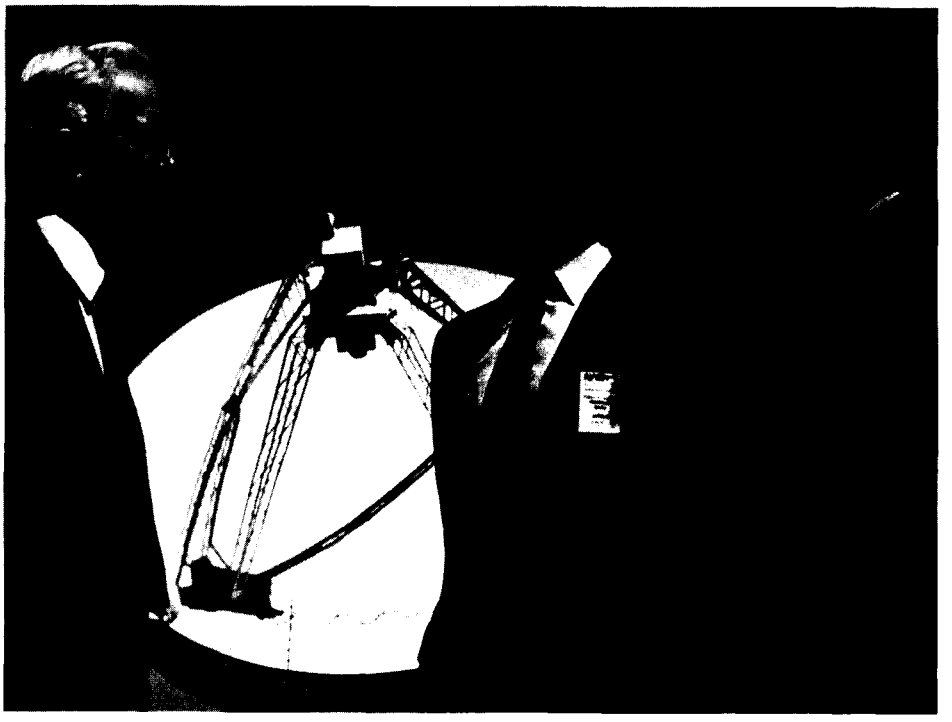
He finished in record time at a total investment cost of $39,000. Although Mason had bought the 308th airplane kit sold by the manufacturer, his completed plane was the 66th to take to the sky. In recognition of the speed with which he worked, the College Park Chapter 4 of the Experimental Aircraft Association awarded Mason the Builder of the Year Award for 1983.

Mason flight tested his plane in January at Dulles airport, then moved to Frederick Airport, and finally to College Park, where the plane is now based. Because of its high performance characteristics, he wanted plenty of room to learn how to land it properly. Then he was ready for his first trip: to an air show in Lakeland, FL. The flight took just four hours.

Now what remains for an avid pilot who already has built and flown his own plane?

"My next goal," says Mason, "is to learn to fly the plane on instruments in bad weather conditions. Then I would like to learn sport aerobatics, such as loops and rolls and hammerhead turns."

At the same time, Mason is planning some long trips. For example, he hopes to go to the Canadian Maritimes, Mexico, the Caribbean—and even Alaska.



COUNTY EXECUTIVE VISITS—Prince Georges County Executive Parris Glendening (center) is shown here against the background of one of the giant antennas at Goddard's Network Test and Training Facility during a briefing and tour at the Center April 10. Pictured are (left) Bill O'Leary, Goddard Public Affairs Office and one of the briefers; Glendening; and (right) John W. White, Chief Administrative Officer for the county.

May Blood Donors

Recent Goddard donors who have given blood include:

	Code	Gallons
Beverly Bacon	532	1
Keith F. Brill	612	3
Carville Downes	226	1
Irven Errera	754	9
Ida Hakkarinen	612	3
Warner H. Hord, Jr.	470	6
Gene L. Jones	405	2
Lisa M. Kane	513	2
John Langmead	151	6
Adolf O. Lekebusch	302	4
Warren Leslie	539	1
Timothy McCain	271	2
Sue Prevost	250	1
Michael Prokopchak	513	6
Thomas Russell	285	1
Jerry Simpson	221	3
Mark Walther	201	2
John Young	731	6

Please note that the next Bloodmobile visit is scheduled for Wednesday, May 22, 1985, Bldg. 8 auditorium from 8:30 a.m. to 2:30 p.m.

NASA National Aeronautics and Space Administration
Goddard Space Flight Center

Goddard News

Greenbelt, Maryland and Wallops Island, Virginia

The GODDARD NEWS is published monthly by the Office of Public Affairs, Goddard Space Flight Center, Greenbelt, Md. 20771. Deadline for submitted material is two weeks before the date of publication. For additional information, contact Charles Recknagel 344-5565. The GODDARD NEWS staff is:

Executive Editor ..... James C. Elliott
Managing Editor ..... Charles Recknagel
Senior Editors ..... Carter Dove and Joyce Milliner (Wallops)

The Goddard Goals: Goal Number 4

This is the fourth of six goals, being published in each successive issue of the GODDARD NEWS, that the Center virtually has made its framework for daily decisions.

Collectively, these goals help structure the Center and can be viewed as a gauge by which Goddard measures its progress.

The first three goals concerned Space and Earth sciences; space flight projects and operational support systems and facilities.

The fourth goal regards Space and Ground System Technology. In concert with our responsibilities for spaceflight projects and operational support systems, it is a Goddard goal to excel in the research, engineering, development and application of technology for sensors, instruments, spacecraft and complete information systems for space flight and ground system use. To this end, we will:

- Strengthen our capabilities in technologies critical to the development of instruments, spacecraft (including sub-orbital payloads), and ground systems. In particular, we will enhance our expertise and leadership in the design, fabrication, and testing of technologically innovative scientific instrumentation, emphasizing optical, microwave and cryogenic applications.
- Lead in the development and application of data system technologies for the enhancement of scientific productivity.
- Pursue methods of reducing the costs of space experimentation and participate in the transfer of space-related technology to public and private sector applications.
- Enhance the technological competitiveness of the U.S. through active cooperation with the academic and industrial communities, including appropriate shared use of facilities.