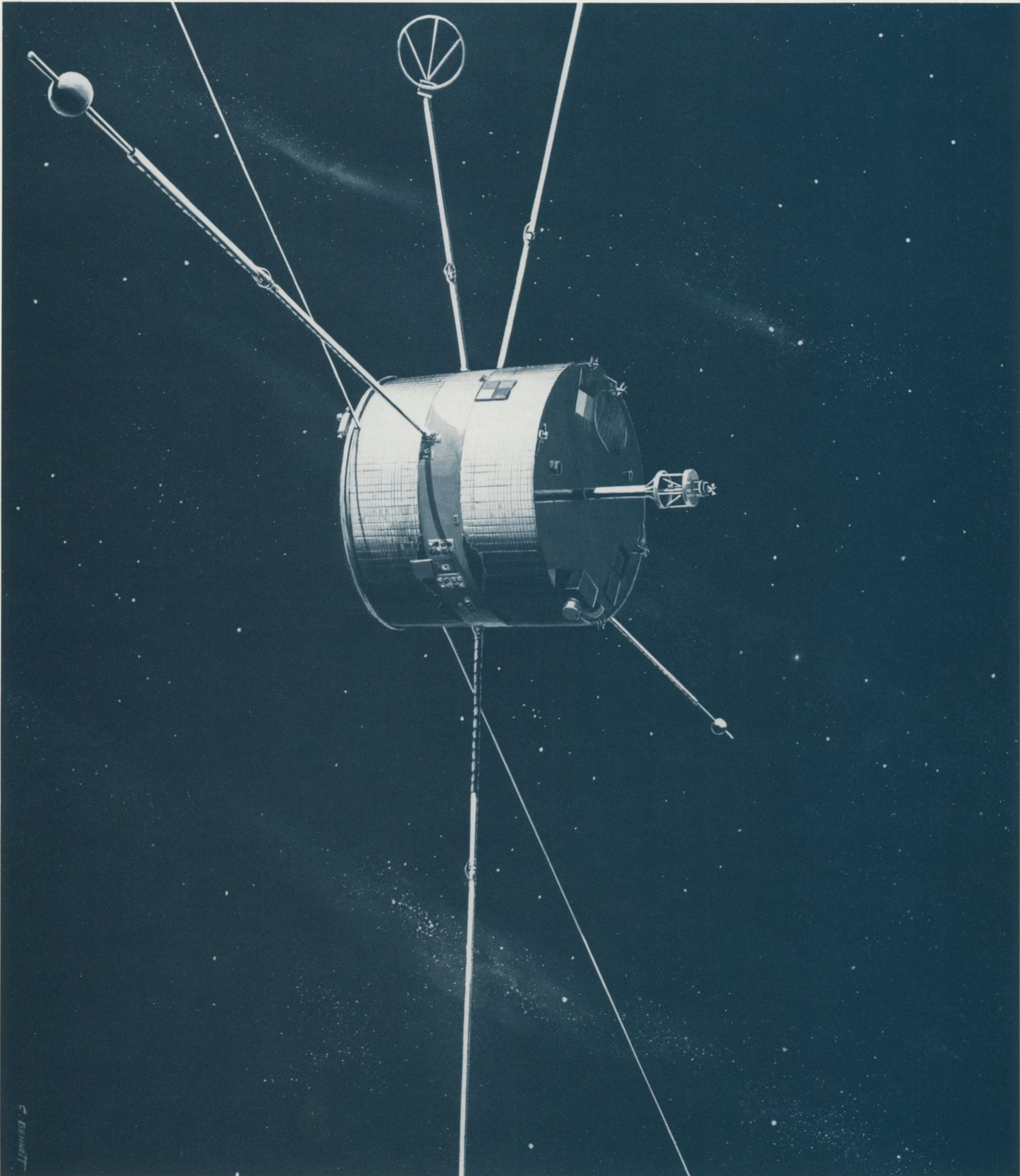


MARTIN MARIETTA

# news

DENVER DIVISION

NUMBER 1/1978



C. DENNETT



# Launch vehicles realigned to meet expanding role

"Launch vehicles organization responsibility is expanding and we are aligning our management staff to properly direct this expanding role," C. E. Carnahan, vice president for launch vehicles, reports.

"This is a happy circumstance and one we want to maintain," he said. "The Titan program has long been a mainstay of the division's business and will continue to be a major contributor to our stability. The launch vehicle organization has been assigned responsibility for key programs in the Department of Defense Space Shuttle effort, including ground support system (GSS) and the payload integration contract (PIC).

"To assure the proper attention and emphasis on each of our programs, we have made these management appointments:

*Thomas S. Fujiyoshi* has been named to the new position of deputy for expendable systems and will move to Denver from Vandenberg where he has been director of the division's Vandenberg flight operations.

*Otha L. Jones* will replace Fujiyoshi as director of Vandenberg flight operations. He has been deputy for space transportation system payloads and safety operations.

*Nelson G. Freeman* has been appointed manager of the programmable aerospace checkout equipment (PACE) program.

*W. E. Fields* has been named to head the launch vehicle production operations, with responsibility for the consolidation of all production operations. He has been in charge of production support.

*Thomas W. White* will report to Fields as manager of weld, assembly, and test. White, who has been manager of plant systems and telecommunications, replaces William T. Gansert, who is now leading the manufacturing functions at the Michoud operations.

Fujiyoshi, who has been with Martin Marietta since 1960, will have responsibility for Titan 34 D, Titan III C/E, Titan III B/D, and strategic systems.

Prior to his appointment as director of Vandenberg flight operations, Fujiyoshi was manager of quality assurance. His first assignment as field engineer.

Fujiyoshi, who has a BS in mechanical engineering from Oklahoma State University, is a member of the flight tests committee of the American Institute of Aeronautics and Astronautics and holds

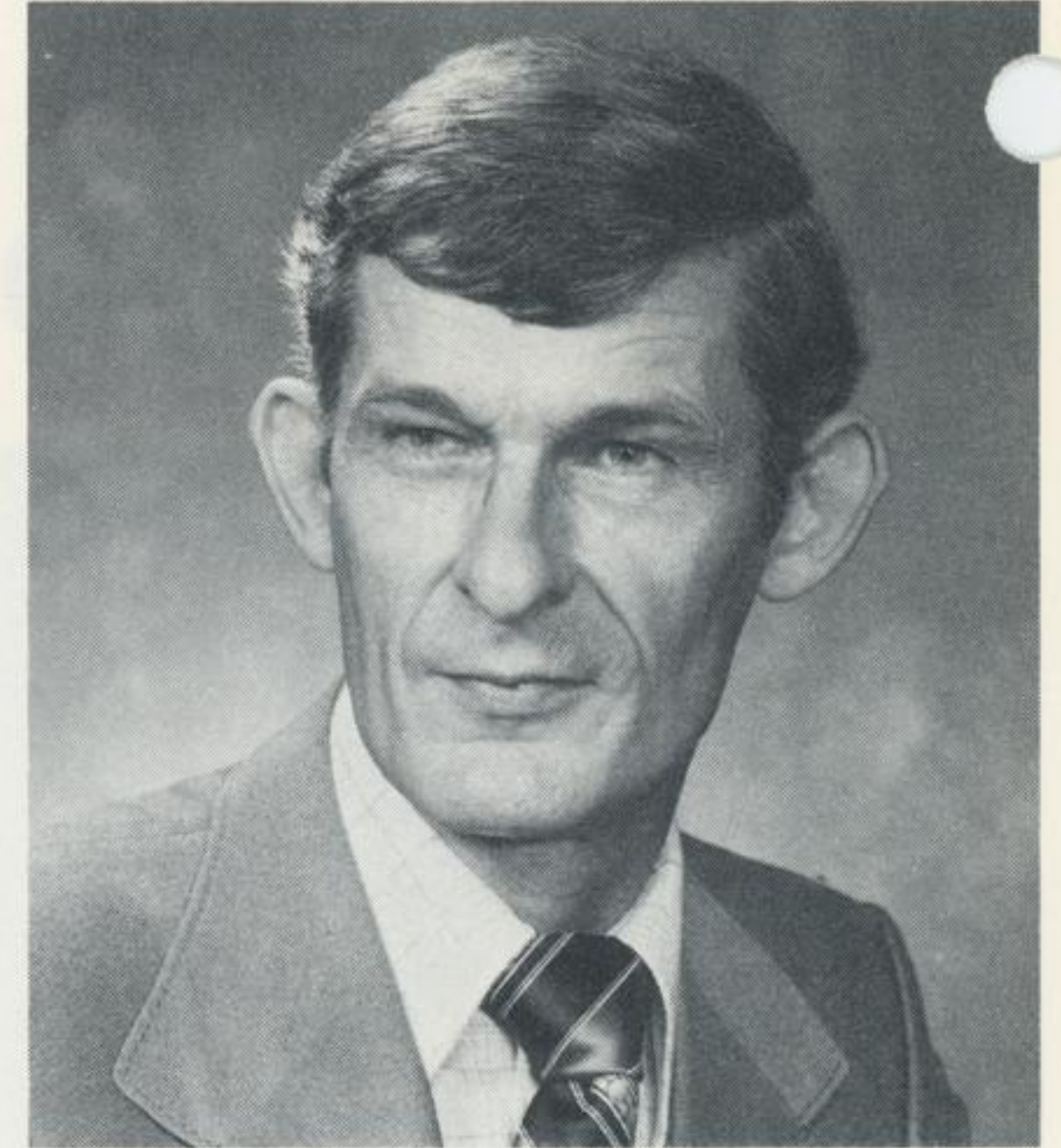


**Thomas S. Fujiyoshi**

memberships in the American Society for Quality Control and the National Management Association.

Jones, who replaces Fujiyoshi as director of Vandenberg flight operations, also began his Martin Marietta career as a field engineer at Vandenberg starting in 1962. He was chief for quality engineering and safety before becoming deputy for STS payload and safety operations. He has a BS in civil engineering from Texas A&M University and is a registered professional engineer in Texas. He is a member of the American Institute of Aeronautics and Astronautics.

Freeman joined the Denver division in 1961 and was assigned to the launch vehicle organization where his responsibilities includes project engineer for Titan IIIC-17 new digital flight control system and technical project engineer for launch vehicle electronics. He was named engineer of the year in 1970 for his contributions to the digital flight control development for Titan IIIC. He spent seven years on the Viking project, was then assigned to command and information systems, and rejoined the launch vehicle organization last fall. He has a BS



**Otha L. Jones**

in electrical engineering from the University of Illinois.

Fields has been with the Denver division since 1956 with a variety of assignments on the Titan program. He was a test conductor through both the Titan I and Titan II research and development firings; was chief engineer for activation of Titan II operational sites at Tucson, Ariz.; has had various test and logistics assignments; and was program manager for operational production for Titan II code switch. He has a BS in electrical engineering, a BS in business, and is nearing completion of work for an MBA degree through the Colorado State University SURGE program.

White, who has a BS degree in mathematics and business from Colorado State University, came to the division in 1965 to work in materiel control. Since then he has held various positions in materiel, special projects, advanced programs, proposal support, and finally as manager of plant services and telecommunications. He has completed an advanced business course at Alexander Hamilton Institute and is working on a degree in electrical engineering at the University of Colorado.



**Thomas W. White**



**W. E. Fields**



**Nelson G. Freeman**



# Major milestones ahead for SCATHA

With the launch of the SCATHA satellite scheduled for less than a year from now — the planned date is Jan. 11, 1979 — the program at the division is moving toward major milestones this year. SCATHA, for Spacecraft Charging at High Altitudes, will be used to gather data on the effect of electrostatic charges on spacecraft and their instruments when in orbit at high altitudes.

The SCATHA people basically achieved the major objective in 1977, Donald E. Hobbs, manager of the program, reported.

"These were to complete the design, build the basic structure, build and test all the Space Vehicle components.

"These were critical to our schedule which called for us to begin spacecraft assembly in early January 1978," he said. "This is January 1978 and assembly has begun."

Hobbs listed these major tasks for 1978:

- Finish component qualification
- Install flight hardware and test the subsystems
- Obtain, and integrate 12 GFP experiments into the spacecraft
- Conduct integrated system tests
- perform modal survey, thermal vacuum, acoustics and electromagnetic compatibility tests.

Work on these items will be done at the division.

Further tests will be conducted at Goddard Space Flight Center to measure magnetic properties, to precisely determine the weight of the spacecraft, and to determine its inertial properties.

"We have an extremely tight schedule," Hobbs says. "The spacecraft must be delivered to the Eastern Test Range early this fall for prelaunch checkout.

"It is a makeable schedule and the way the SCATHA team has performed, I am confident we will meet it," Hobbs said. "Some of our people worked over the holidays to enable start of spacecraft assembly in early January — that is what I call dedication."



*Pinkard Construction company representatives were recently presented a plaque in special recognition for the successful, on-time completion of the annex to the administrative building. Receiving the plaque from Donald A. Linn, director of plant opera-*

*tions for the division were, left to right, John Hawkins, Pinkard project manager; Jake Steving, project superintendent for Pinkard; and James Pinkard, president of the construction company.*

## MX proposal delivery not a simple move

When a proposal for a new contract is completed you simply mail it to the potential customer, right?

Wrong!

In the case of the MX proposal, its size and the sensitivity of the material in the proposal ruled out mail and commercial air freight.

Don Gray, who heads requirements on the MX project, said the MX proposal was one of the largest ever produced by the division.

"We had nine basic volumes with various annexes and appendices," he said. "In all, we produced 34 separate books with 8550 pages in the total proposal."

When packaged for delivery, the copies destined for the evaluation team at Norton AFB in California weighed about 1500 pounds.

"Since we could not use a commercial carrier," Gray said, "we chartered a Lear jet and had all but one of its seats re-

moved to make room for the proposal.

"That one seat was for me," Gray added.

A second jet was put on standby as part of the delivery plan.

"The second plane, with Bob Miller as courier and a duplicate set of the proposal documents, was to take off for Norton if I did not call before 11 am," Gray said. "There were to be no questions, no phone calls to see if I had arrived, and no check on why I might have been delayed. If I didn't call, the second plane took off."

Getting the proposal to the airport was also carefully planned. A trial run was made to check the route, the time required, and to determine any difficulties that might arise in getting to the plane.

On the day of the delivery, two trucks made the trip. One carried the proposal; the other was empty and served as a backup in case the first had mechanical trouble.

The proposal arrived at the airport without incident. Gray and the proposal left Stapleton at 7:30 am (MST) and arrived safely at Norton AFB at 9:45 am (MST) December 19. The proposal was due at 4:30 pm. The early arrival of plane one was planned so plane two would have ample time to meet the deadline.

Gray made his telephone call. The second plane never left the ground.



## Engineer tests hardware in zero gravity

"I get to touch my hardware and I get to test it — and that's something not too many engineers get to do," Debra A. Wilson, a systems engineer and acting program manager of the spacecraft utensil/hand cleansing fixture development, said as she talked about the program.

Testing in this case was more than the usual laboratory or test chamber activity. She participated in the flight tests aboard a KC135 and experienced the weightlessness of space when the plane achieved periods of zero gravity.

The spacecraft utensil/hand cleansing fixture being tested was designed for the personal hygiene requirements of astronauts aboard Space Shuttle. The equipment provides a way for the crew to wash their hands, shave, brush their teeth, and clean dining utensils in the weightlessness of the space environment.

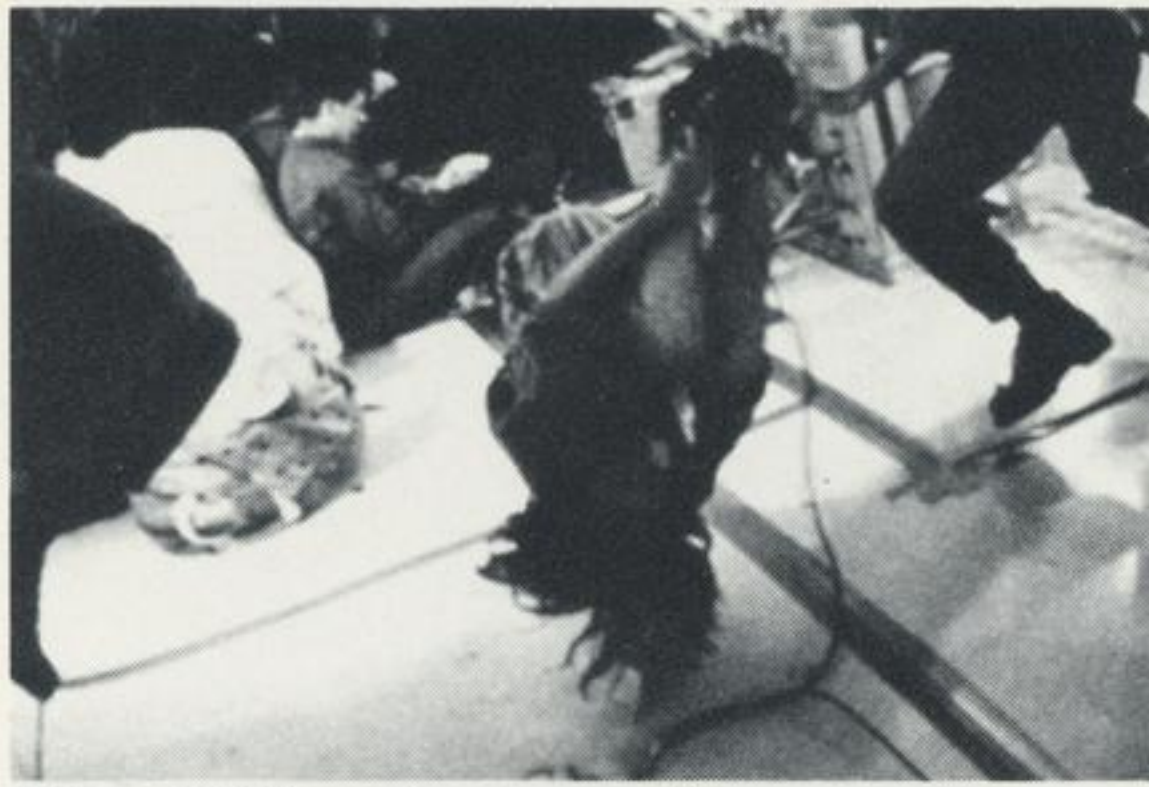
During the NASA-conducted spacelab mission development tests, it was determined the fixture would be a valuable addition to the laboratory so astronauts could clean instruments and themselves after performing biomedical, biological, and other experiments.

"The nature of these experiments expose the instruments and those handling them to more contamination than normal spacecraft activity," Miss Wilson said. "Some of the contamination is literally built into the experiments since we are interested in the effect of space on, for example, bacteria cultures.

"We have been asked to refine our cleansing fixture to handle this contamination," she said.

A unit similar to the one tested aboard the KC135 will still be used at a personal hygiene station in the galley on the mid-deck section of Space Shuttle.

Miss Wilson, who has a BS degree in systems engineering from the University of Arizona, has been with the division for two and a half years. She is working primarily on man-machine interface efforts along with her responsibility as acting program manager for the cleansing fixture.



Debra A. Wilson in zero gravity.

## Division cited for savings bond effort

Charles C. Gates, chairman of the Take Stock in America U.S. Savings Bond program in the Denver area, has commended division employees for their participation in the program.

In a letter to C. B. Hurtt, division vice president and general manager, Gates said:

"Please accept my personal congratulations and thanks in recognition of the excellent results achieved by Martin Marietta in the 1977 U.S. Savings Bond campaign. Your rate of participation — 97.7 percent — which again leads all other companies and organizations in Colorado is truly a significant accomplishment.

"Martin Marietta has contributed greatly in helping make our 1977 Denver area U.S. Savings Bond goal of 17,000 new savers and increases."



William F. Blue, left, chief of reliability and maintainability for Shuttle ground support systems, and

## At Vandenberg

## Blueprints, Bible play major role in employee's life

For William F. (Bill) Blue, chief of reliability and maintainability for the Shuttle ground support system (GSS) at the division's Vandenberg flight operations, blueprints and the Bible play major roles in his life.

The blue prints are part of his job in which he is responsible for the development of the reliability program plans and the design of GSS equipment for high reliability and ease of maintenance.

The Bible is part of his activity as associate pastor of the Grace Temple Baptist Church — and of his daily life.

Blue, a native of Rocky Mountain, N.C., was reared in New York and earned an associate in science degree from Erie County Technical Institute before moving to Colorado.

Since transferring to Vandenberg, Blue has continued his education, working towards a BA in business administration at LaVerne College. He is a director of the Martin Marietta management club and a member of the National Management Association.



Charles Rice, requirements definition engineer, discuss program reliability requirements.

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Joanne Nagel, left, and Juanita Barton, right, are continuing to develop their computer use skills at Canaveral flight operations through a series of training programs. Martin Blankfield, center, computer services chief, is also doing advanced educational work. Ms Nagel and Ms Barton have participated in a Digital Equipment Corporation indoctrination pro-

gram on the PDP-11, model 34 in Washington, D.C.; have completed night courses in computer operation at a local college; and undergone on-the-job training in computer operation. Ms Barton is also working on a BS degree. Blankfield is working towards a masters degree in management.

## Canaveral employee is college lecturer

Ronald Hill, senior employee relations specialist at Canaveral flight operations, was guest lecturer at a personnel management course at Livingston College, Salisbury, N.C. in December.

Hill's lecture was part of a series of presentations coordinated by the National Urban League's Black Executive Exchange Program (BEEP). The program is providing 200 black professionals and executives as guest lecturers in 35 courses at 32 traditionally black colleges and universities to share with students practical applications of classroom principles as used in the "real world of work."

Since 1969, BEEP has sent 800 black professionals to 56 black colleges through the cooperation of participating corporations, government agencies, and professional organizations.

Hill handles employment, equal employment opportunity, and training activities for Canaveral flight operations.

He has a bachelor's degree in social science from the University of South Dakota and a master's degree in human relations from the University of Oklahoma.

## MIOC proposal team moves to DSC building

The team working on the proposal for the mission integration and operations contact (MIOC), formerly known as labcraft, has moved to the reopened division building on Wadsworth near Hampden.

The former administrative complex has been renamed the Denver systems center.

Robert B. Demoret, who is heading the MIOC proposal effort, and all those working on the proposal will remain at the DSC until the proposal is complete.

Next group scheduled to move to the DSC is the MX project, except for those working on the portion of MX under James A. Sterhardt. That move is planned for February 10-17. Sterhardt and his organization will move to the DSC when the MIOC proposal is complete.

A division telephone directory supplement has been issued listing new numbers at the DSC.

## New technology award winners honored at lunch

John D. Goodlette, division vice president for technical operations, hosted a special recognition luncheon recently to honor 16 employees for their outstanding contributions to the NASA new technology program during 1977.

Goodlette expressed his appreciation for employee support in meeting contractual requirements to identify and report new technology.

Plaques were presented to the honored employees, who previously had received cash awards for their contributions. Those honored were:

L.E. Bareiss, J.R. Beall, W.H. Cash Jr., W.L. DeRocher Jr., G.R. Hollenbeck, M.A. Hetrick Jr., M.S. Imamura, J.T. Josephson,

G.M. Kyrias, R.B. Michaud (Houston), E.M. Phillips, J.T. Polhemus, J.W. Ruttle Jr., J.A. Shepic, F.G. Sholes, and D.A. Strange.

Others present at the luncheon were W.L. Kershaw, manager of IR&D programs; new technology evaluation committee members W.D. Rummel, J.M. Wilson, J.R. Lager, and A.f. Knoke; and J.R. Watson, who is responsible for submitting new technology reports under research and development contracts.



## Program manager, public relations director are named

The midsection of Space Shuttle's external tank, the intertank, has successfully completed structural tests at NASA's Marshall Space Flight Center (MSFC) at Huntsville, Ala.

During the test, loads as high as 4.35 million pounds (1.97 million kilograms) were applied to the cylindrical intertank, which is 22.5 feet (6.85 meters) long and 27.5 feet (8.38 meters) in diameter.

Loads placed on the intertank reached 140 percent of design limits.

The Denver division's Michoud operations designed and fabricated the intertank and is responsible for the entire external tank.

This phase of testing was important to the Shuttle program because the intertank contains the forward attach points for the Space Shuttle's two solid rocket boosters. Heavy loads will be exerted at the attach points, both when Space Shuttle is resting on the launch pad and during flight when the boosters are thrusting.

Engineers at MSFC are preparing for a second phase of external tank testing in which they will turn attention to the liquid oxygen tank, which is the forward portion of the external tank. The intertank, available because of structural test completion, will be attached to the liquid oxygen tank.

The combined liquid oxygen tank and intertank will initially undergo vibration tests in late January or early February with structural tests to follow later in 1978.



James W. McCown



Daniel G. Robertson

## Intertank tests successful; oxygen tank tests are next

James W. McCown has been named a division vice president and program manager of the Space Shuttle external tank project at Michoud. He will report to George E. Smith, vice president and general manager of the Michoud Operations.

Daniel G. Robertson has been named director of public relations. He, too, will report to Smith.

In announcing the appointments, C. B. Hurtt, vice president and Denver division general manager, said, "Now that we have successfully completed the first tanking of the external fuel tank and the initial structure tests, it is important to shape the Michoud Operation to meet the demanding needs of producing and flying operational tanks."

McCown will be responsible for external tank project engineering, production, and business management operations.

McCown has just completed the Advanced Management Course at the Harvard School of Business in Cambridge, Mass.

Before his promotion, McCown had been deputy program manager on the external tank project since 1973. From 1968 to 1973 he had directed Space Shuttle technology and proposal activities for the Denver division. From 1967 to 1968 he was technical director for division studies of maneuverable spacecraft for the Air Force, leading initial design activities for the X-24B reentry and flight research craft. He had worked on the precision recovery including maneuvering entry (PRIME) and X-24A vehicles from 1964 through 1968.

Robertson was manager of media relations for the Denver division before moving to Michoud. He is a recipient of the NASA public service medal for his work in public affairs on the Viking project.



Astronauts Fred Haise Jr. and Gordon Fullerton who flew orbiter 101 during the flight test program were recent visitors at Michoud. During a walking tour of the facilities, the astronauts stopped frequently to talk to employees who are building the external tank for the Space Shuttle. In this photograph, Haise is shown autographing a photograph of himself, Fullerton, and orbiter 101.