

NUMBER 12/1977



Titan III/Centaur sends Voyager on planetary journey

A Titan III/Centaur lifted off the launch pad at Complex 41 at Cape Canaveral 44.88 seconds after 10:29 am EDT Saturday, August 20, sending Voyager II on its journey to Jupiter and Saturn.

Voyager I is scheduled to follow its sister spacecraft in early September. Voyage I, because of a different flight path, will reach the planets before Voyager II.

Eight minutes after launch, the Titan III launch vehicle, built by the Denver division, and its companion Centaur upper stage, built by General Dynamics, separated 905 miles down range at an altitude of 104 miles. Less than a minute later, Voyager II went into a parking orbit awaiting a second firing of Centaur that would send it on its interplanetary trajectory.

The two Voyager spacecraft will conduct comparative studies of the environment, atmosphere, surface, and body characteristics of the planets. The spacecraft will also observe some of the satellites circling each planet and attempt to determine the nature of the rings of Saturn.

A mission option exists for one spacecraft to continue on beyond Saturn for an encounter with the planet Uranus.

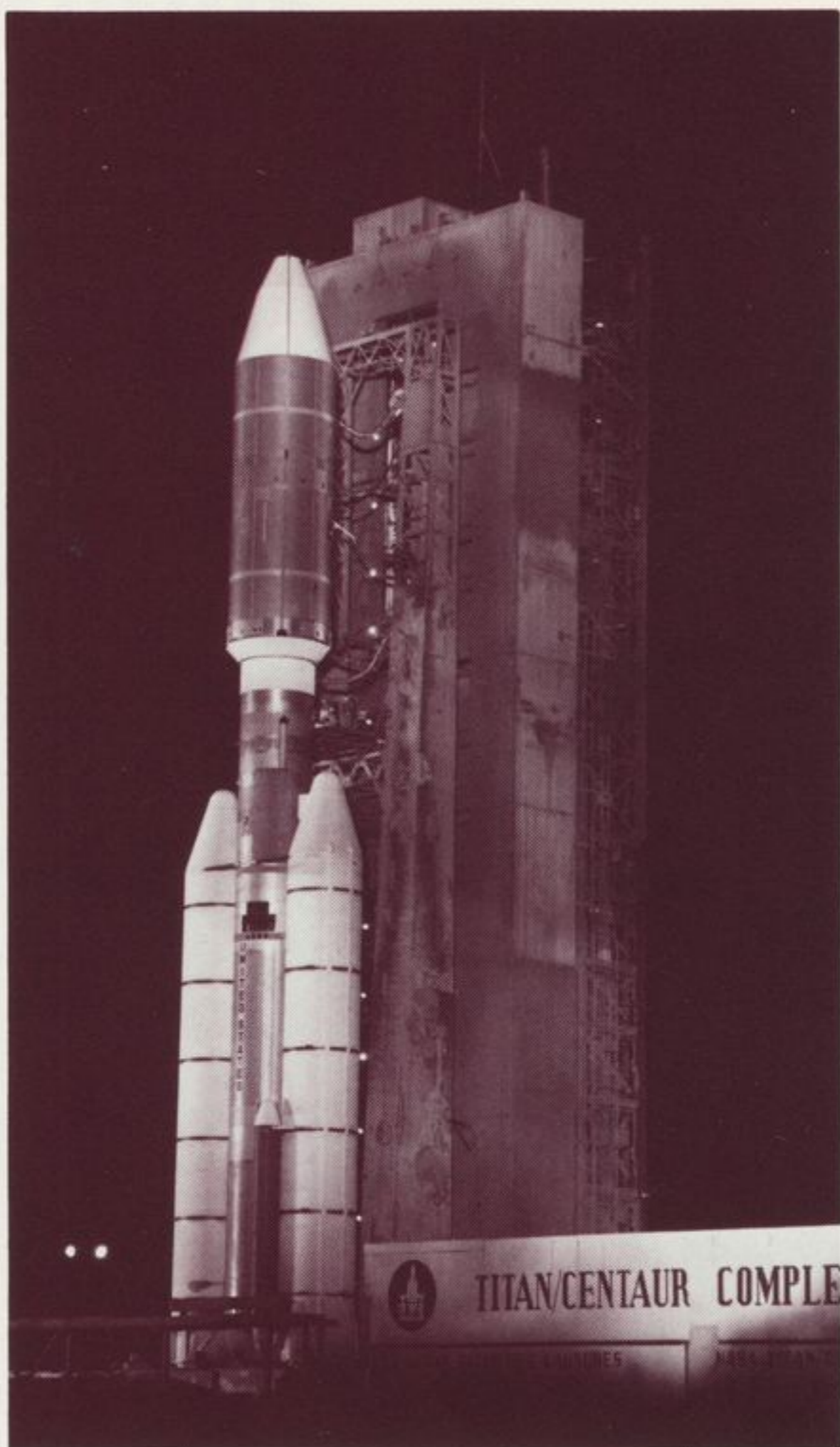
Two subcontractor employees are guests at launch

Two employees of Moog, Inc. who battled a midwinter snowstorm to prevent a potential delay in the launching of a Titan IIIC early this year, spent August 20 as guests of C. E. Carnahan, division vice president for launch vehicles, at Cape Canaveral. They were there to see a Titan IIIE send the Voyager II spacecraft on its planetary journey.

Hank Streck and Bill Farrell, who work in Buffalo, N.Y. for the Domestic Controls Division of Moog, drove a four-wheel drive vehicle behind a snowplow to get to their plant to perform a failure analysis on a Titan IIIC vehicle actuator. Without their personal efforts, launch of the Titan could have been delayed.

The January snowstorm in Buffalo was one of the worst in the history of the city.

"The extra dedication and teamwork displayed by these gentlemen in performing the tests when the plant was closed and transportation at a near standstill are deeply appreciated," Carnahan said.



On the cover

A Titan III/Centaur lifted off from Complex 41 at Cape Canaveral Air Force Station August 20 to send an 1800-pound Voyager spacecraft on an odyssey through the outer planets. A sister spacecraft is to be hurled away from the Sun on a similar journey no earlier than September 1. The photo was provided by NASA.

Titan III/Centaur stands ready at Launch Complex 41 to hurl an 1,800-pound Voyager spacecraft away from the Sun on an odyssey through the outer planets.



Two Moog, Inc. employees were honored following the recent Titan IIIE launch at Cape Canaveral. F. J. Scheffler, left, director of Canaveral flight operations, presented Titan

Double Check awards to Bill Farrell and Hank Streck. At right is Ray Ernest, the Denver division contract administrator who handles the Moog, Inc. subcontract with the division.

Martin Marietta Aerospace featured in advertisements

The first in a series of magazine advertisements designed to make the capabilities of Martin Marietta Aerospace known to potential customers will be published in seven magazines in the next two weeks. Others in the series will appear through the remainder of 1977.

The first ad will feature the Viking project. Illustrated with drawings in the style of Leonardo da Vinci, the ad points out "... on Mars the Vikings are fulfilling a centuries-old dream of man to explore another planet. Here on Earth, Martin Marietta Aerospace has the experience and the success to help man in his further exploration of the universe."

This ad, and others in the series, will stress the preeminence of Martin Marietta Aerospace to participate in upcoming major systems projects like MX and the air launched strategic missile (ALSM).

Magazines in which the two-page advertisements will appear are Aviation Week, Air Force, Astronautics and Aeronautics, United States Naval Institute Proceedings, National Defense, and Armed Forces Journal.

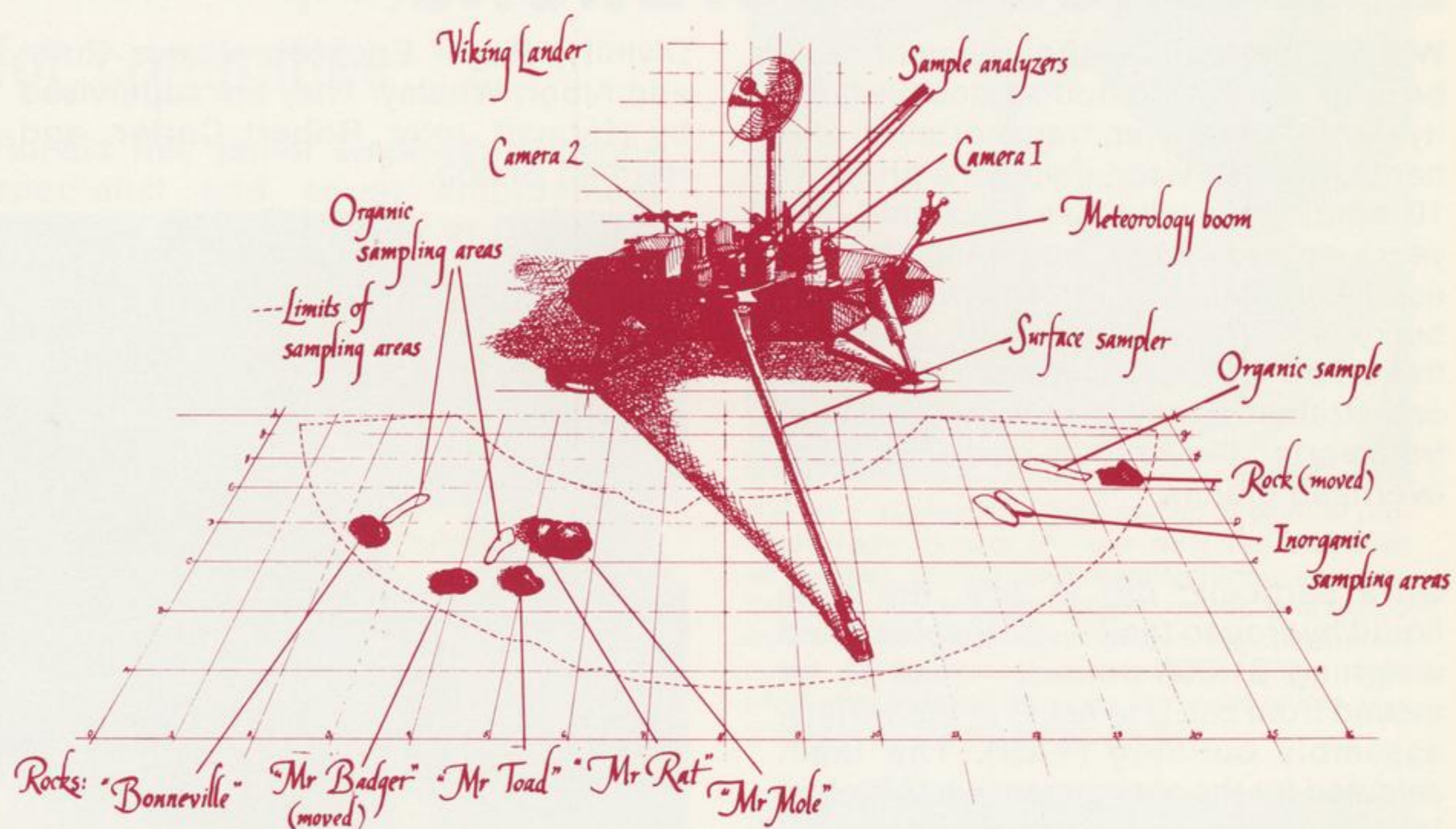
The advertising program was initiated by E. J. Adams, president of Martin Marietta Aerospace. The company-wide program is being prepared by the New York advertising agency Doremus Uptown under the direction of John H. Boyd Jr., director of public relations for the Denver division.

Corporation sales, earnings at new highs

Martin Marietta Corporation sales and earnings in the second quarter of 1977 reached new record levels with all operating companies contributing to the improvement. Net earnings increased to \$31,114,000, or \$1.31 per common share, for the second quarter, as compared with \$23,136,000, or 98 cents per share, in the corresponding 1976 period.

Net earnings for the first two quarters this year increased to \$53,264,000, or \$2.24 per share. This compares with \$32,549,000, or \$1.38 a share, for the comparable six months of the prior year.

Sales were \$370,659,000 in the 1977 second quarter, up more than \$54 million from the \$316,467,000 in sales in the corresponding period a year earlier. For



This Leonardo da Vinci style sketch of the Viking lander and its activity on Mars is featured in the first of a series of advertisements for Martin Marietta Aerospace. The series will appear in seven magazines throughout the remainder of 1977.

the first half of 1977, sales were \$680,076,000, up more than \$104 million from \$576,001,000 a year earlier.

The earnings for the second quarter and the first half are, like sales, Martin Marietta's best for these reporting periods. In 1974, the best prior year, Martin Marietta's second quarter net was \$25.2 million, or \$1.16 a share, and for the first half was \$36.6 million, or \$1.69 per share.

J. Donald Rauth, president of Martin Marietta, recalled that "we advised shareowners after the first quarter of this year that favorable economic trends in our businesses led us to believe that 1977 can be our best year yet. The results to mid-year reflect the continuation of those trends and increase our confidence.

"For the two quarters, contributions to earnings from our Chemicals, Aerospace, and Aggregates companies were at the highest levels ever. Our Aluminum company's results were better than in the corresponding period of 1976. Our Cement company's contribution in corporate earnings improved moderately over the first half of last year and are in line with our expectations."

Report injuries

"Employees who are injured on the job must report immediately to the division's medical department," R. E. Weber, director of professional and industrial relations, has reminded employees.

"If an employee requires medical attention for a job injury during non-working hours, the employee should call the medical department through the division's switchboard (979-7000) or call security on extensions 2676 or 2476," Weber said. "The employee will be given medical assistance or instructions on where to get assistance."

Failure to notify the division of an injury may cause the employee to lose certain insurance benefits.

An employee who obtains medical assistance other than as directed must notify the division medical department on the next regular working shift.

MARTIN MARIETTA NEWS

Published by Public Relations
MARTIN MARIETTA AEROSPACE
Call Ext. 5364 with suggestions
or information for articles.

Denver Division
P.O. Box 179
Denver, Colorado 80201
August 1977

Employee directs NAB youth program

R. M. Rodriguez, a Denver division professional and industrial relations department employee, will soon complete a six-month assignment as a loaned executive to the National Alliance of Businessmen (NAB). He has been serving as director of NAB youth programs.

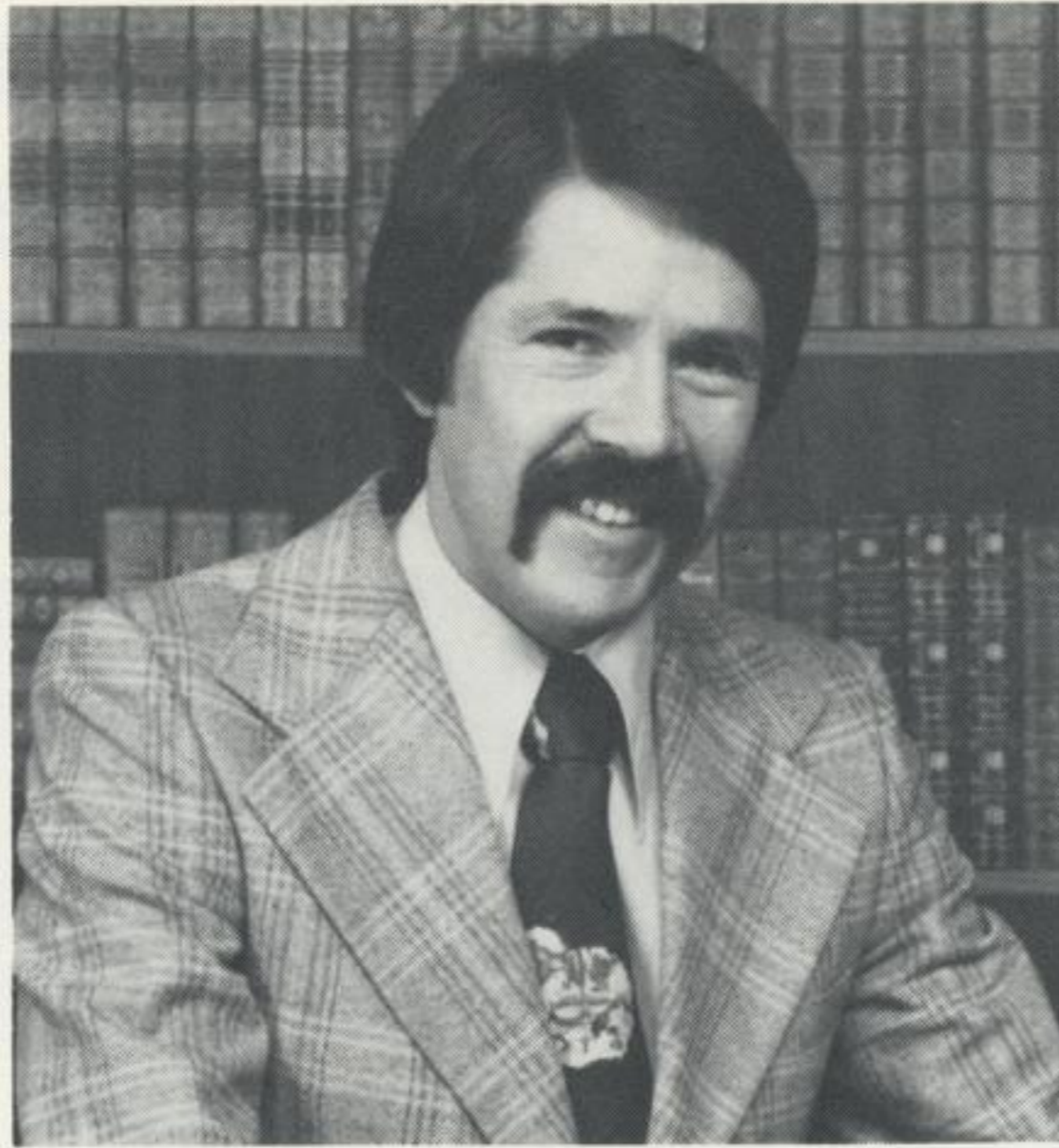
As part of his work for NAB, Rodriguez developed a summer Vocational Exploration Program (VEP) in which 220 disadvantaged young people from Arapahoe, Denver, Jefferson, Logan, and Morgan counties held career-oriented summer jobs.

Forty-six businesses, industries, labor unions and community organizations participated in the VEP, providing jobs for young people.

The Denver division was one of the industries hiring young people enrolled in the program.

Through Rodriguez's efforts, plans are being made to establish an NAB Career Guidance Institute for teachers and counselors in public and private schools. The institute will sponsor a series of seminars and industrial plant visits to acquaint educators with industry needs and the career opportunities these needs open for students.

NAB is also planning to implement a Youth Motivation/Living Witness program designed to bring into the Denver public schools persons in a variety of occupations to speak to students. The speakers will describe requirements for the jobs they hold and how they obtained the education, skills, and experience to meet the requirements. Aim of the program is to prevent underachieving and disadvantaged students from dropping out of school.



R. M. Rodriguez

Centrex training sessions planned

The division's new Centrex telephone system is installed and is being tested. It will be in operation October 17.

To acquaint employees with the features and operations of the system, a series of training sessions has been planned for the week of October 3. The sessions, to be conducted by Mountain Bell representatives, will be held daily at 8:15 am, 9:30 am, 10:45 am, 1:00 pm, and 2:30 pm in three locations: the management action center in the administration building; the management conference room in the engineering building; and in the management conference room in the SSB.

A 12-minute slide presentation will open each session and will be followed by a short question and answer period. Telephone equipment will be available to demonstrate features of the system.

Employees will be notified of the time and location of their training.

Division to sponsor JA companies

The Denver division will again sponsor "several companies during the 1977-78 Junior Achievement business year," according to R. M. Rodriguez, coordinator of the program for the division.

"The exact number of JA companies we will sponsor depends on a number of factors," Rodriguez said. "One of them is the number of volunteer advisers we can recruit."

JA companies are operated by their teenage members, but each must have adult advisers. Purpose of the program is to teach high school students the principles of the free enterprise system through participation in the operation of their own miniature businesses.

Advisers receive seven to ten hours of training from the professional JA staff, usually in one or more weekday meetings. Advisers then assist groups of up to 20 students form a business and meet with them one night a week for two hours from October through May.

Company activities include sale of stock to obtain funds; election of officers; selection of a product to manufacture or a service to perform; developing marketing plans; setting up financial records; production, promotion, sale of product; payment of salaries, rent, taxes, supply costs, and for other expenses; publication of an annual report; payment of dividends to shareowners; and liquidation of the company.

Division employees participating as JA advisers last year included Robert Ancell, Charles Bird, Wallace Goodwin, Kay Herder, Colleena Linzy, Dan Padilla, Rodriguez, Nancy Sipes, and Ralph Trujillo.

Employees interested in volunteering as advisers or those who want more information should call Rodriguez at ext. 4513.



Three Frontiers of Science Institute participants, sponsored in the summer program by the Denver division, as shown with an instructor in the institute on the University of Northern Colorado campus at Greeley. The students are Patricia Griffith, Priti Popat, and Derek Straub. The instructor, at right, is Dr. Donald Adams, professor of education at UNC. The program provides an opportunity for students to explore careers in science.



Ronald Hill

Florida governor selects employee for committee

Ronald Hill, senior employee relations specialist and equal employment opportunity administrator at Canaveral flight operations, has been named to a three-year term on the Governor's committee on employment of the handicapped. He will also serve on the 16-member executive council of the 95-member committee.

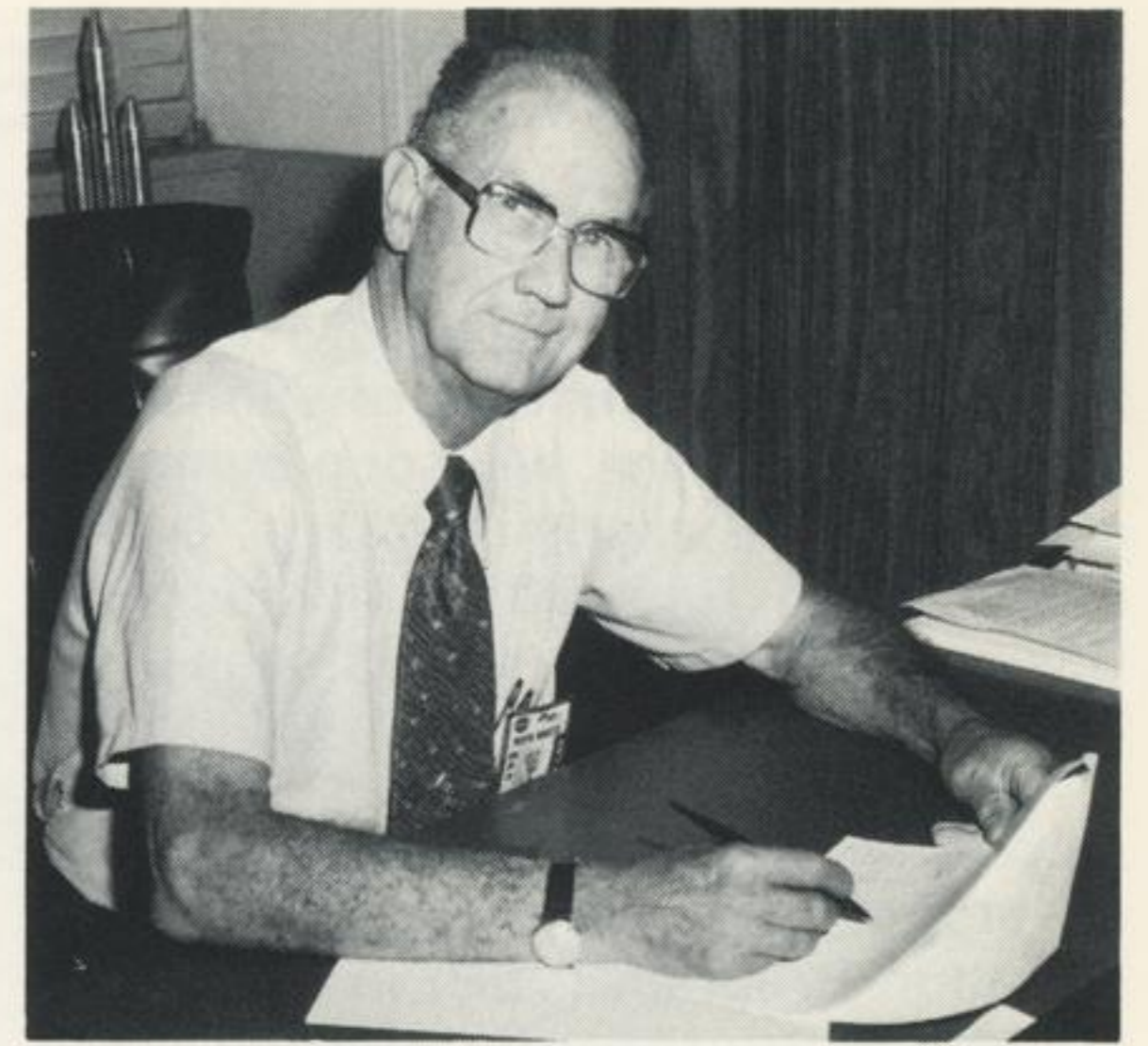
The appointment to a three-year term was made by Florida Governor Reubin O'D. Askew.

Purpose of the governor's committee, according to the executive order establishing it, is "to promote and encourage employment of handicapped persons so that they may achieve their optimum vocational, economic, and social potentials, thereby also providing employers with an additional source of qualified workers."

The committee conducts educational and promotional programs throughout the state and reviews the performance of the public and private agencies serving the handicapped.

Hill has been employed at Martin Marietta since 1972. He has a BS degree from the University of South Dakota, has done graduate work in psychology at Chicago State University, and has completed course requirements for a masters in human relations degree at the Patrick Air Force Base branch of the University of Oklahoma.

He is a member of the Cocoa/Rockledge Civic League subcommittee on employment; Brevard County equal opportunity committee; Big Brothers/Big Sisters of Brevard, Inc.; Cocoa Beach Area Chamber of Commerce board of directors; executive committee of the Central Brevard chapter of the NAACP; and is vice chairman of the board of directors of the Brevard County Training and Employment Center, Inc.



William T. Gansert has been named director of production operations at Michoud. He is responsible for all facilities, tooling, tank manufacturing, and tank final assembly and test. Gansert moved to Michoud from Denver where he had held a variety of manufacturing management assignments, including manufacturing program manager for Skylab and factory manager during the Viking project.

Long-silent Pegasus satellite comes to life

A NASA Marshall Space Flight Center (MSFC) satellite, quietly traveling in its orbit for the past 10 years, has been heard from again — in a startling manner.

In late June, MSFC was notified by network operations at NASA's Goddard Space Flight Center that a beacon transmitter on Pegasus I was on and intermittently interfering with data transmission from another satellite.

Pegasus I, launched Feb. 16, 1965, deployed its 96-foot wings in Earth orbit and exposed 2,300 square feet of instrumented surface to gather meteoroid data and transmit to receiving stations on Earth. The system was closed down Jan. 13, 1968 and not expected to transmit again.

MSFC officials authorized network operations to take control of the transmissions. A command was sent from Ororal, Australia, that turned off the satellite's AM beacon. It was then discovered that the FM beacon was also transmitting.

The transmitters operated only when the vehicle was in sunlight and both signals were strong. Signal strength recordings were made of both transmitters before the off command was given.

Officials are not yet sure why the transmitters turned on. The incident is being investigated from circuit drawings that are still available.



Highest award for superior job performance at Martin Marietta's operation at the Kennedy Space Center (KSC) was presented recently to Mrs. Jacqueline Childers, an executive secretary. Making the award is T. C. Wirth, external tank director for Michoud operations at KSC. Mrs. Childers was commended for continuing excellent work, her cheerful attitude, and the "can do" approach to her many and varied assignments.

In Michoud

Call Ray Lacombe at 3606 with suggestions or information for articles for Martin Marietta News.

Recreation contacts

Employees interested in participating in Division recreation programs may contact employees listed for each activity:

Skyline Hunting and Fishing Club — Ken Boettcher, 4214; Tom Cox, 4959; C. H. Smith, 3857.

Ridge Riders Saddle Club — John Schlemmer, 3891.

Tennis — Don Allayaud, 4745.

Radio Club — Whitey Dohner, 4636.

Long Distance Runners — Bill Bevington, 2252.

Chess Club — David Moffett, 2274.

Basketball League — Ned Stephenson, 3916.

Softball League (slow pitch) — Bob Baker, 4954.

Gun Club — Ted Smith, 3857.

Golf — Bob Garcia, 2236.

Bowling — Bob Garcia, 2236.

Physical Fitness — Bob Garcia, 2236.

'Prime movers' active at Michoud operations

When a large piece of equipment must be moved at the Michoud assembly facility (MAF), Bill Jester, transportation and handling supervisor, calls on a group of 10 employees who have accrued 100 years of experience operating the unusual equipment required to move large, bulky, and heavy equipment. They are the prime moving equipment operators crosstrained to operate the external tank transporter, the straddle carrier, and the overhead cranes.

On a particular day in July, the huge liquid hydrogen tank — 97 feet long and weighing 31,600 pounds — had to be moved from cell B to cell C in the vertical assembly building (VAB). The team selected for the assignment was Mitchell McAllister, who would operate the 180-ton overhead crane from a cab located at the top of the building, and Leo Veron, who would assume the role of floor talker.

The day of the move, McAlister clocked in, received a briefing, and took the elevator to the 127-foot level. From there it was a steady climb up the stairs and the wall ladder until he reached the 205-foot level and the cab from which he would operate the crane. After entering the cab, McAlister turned on the main power switch to insure he had air conditioning. The operation would have been delayed if the air conditioner had not been operating since temperatures above 120°F are not uncommon under the VAB over-head lights.

Two toots of the horn, whose principal purpose is to alert employees that a load is coming into or across an aisle, was a signal to the floor talker that all systems were operating.

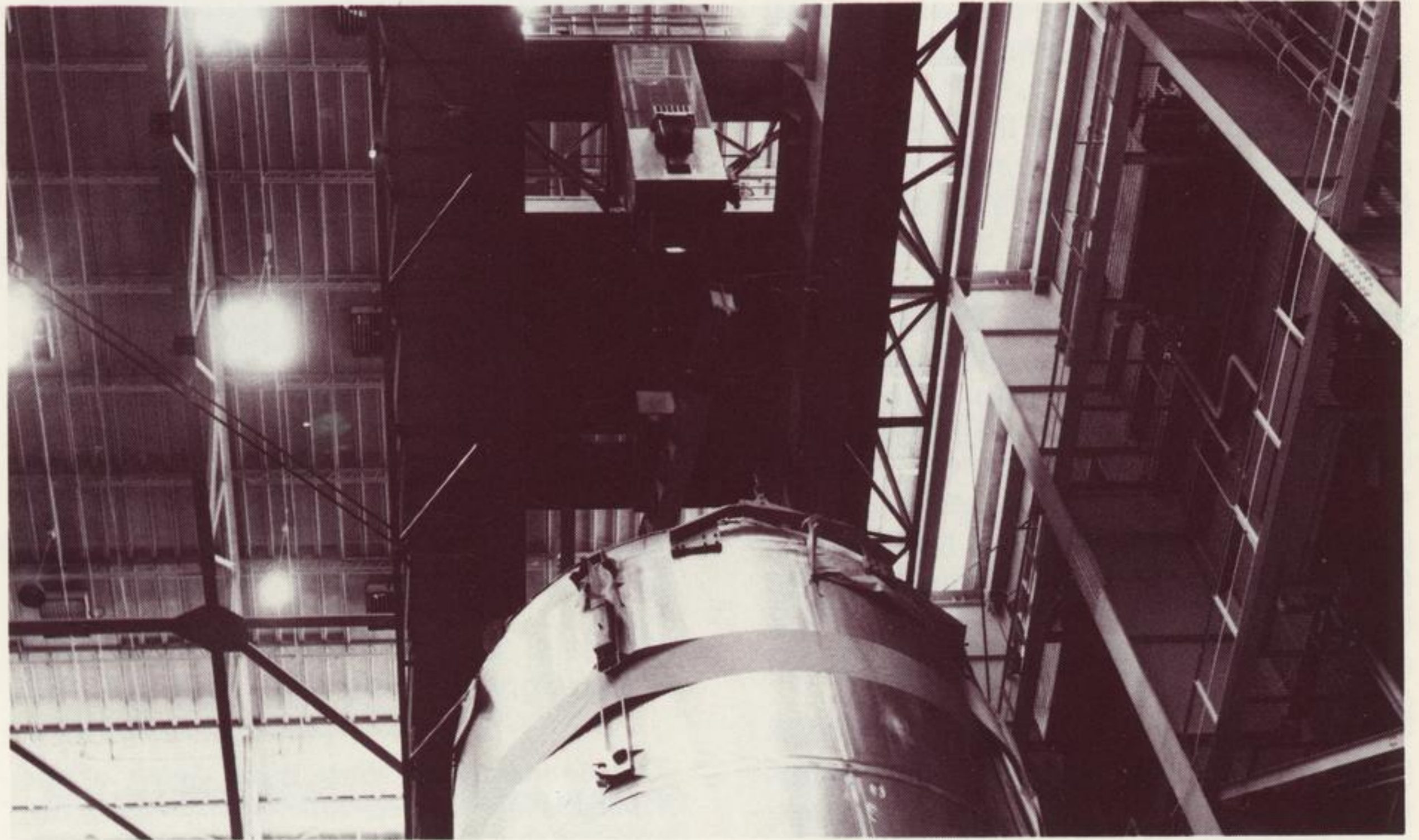
The crane is always operated by a two-man team, with crane riggers helping out. A high degree of skill and coordination exists between the two-man team since the cab operator must follow implicitly the floor talker's instructions.

Sway is a major concern when moving articles as large as the external tanks. On this particular day, as on previous occasions, the move was completed in a professional manner as McAlister followed the instructions of Veron.

The other eight employees who can be called on to handle such moves are Oliver Pierre Sr., Homer Buffalo, Oliver Pierre Jr., Newton Degelos, Leroy

Divinity, Roger Erickson, James Ruth, and Albert Whaley. They are supervised by Herman Jolly, Robert Carter, and Herman Shiloh.

MARTIN MARIETTA
news
MICHOUD OPERATIONS



The overhead crane operated by Mitchell McAlister moves the huge liquid hydrogen tank into cell C.



Floor talker Leo Veron, right, gives radio instructions to Mitchell McAlister who is more than 200 feet above him in the overhead crane cab. At left is Herman Jolly, who supervised the move of the liquid hydrogen tank from cell B to cell C.

Michoud receives certificate for program

Michoud operations recently was awarded a Certificate of Participation for its role in a Vocational Exploration Program.

The certificate was presented by the National Alliance of Businessmen, Delgado College, and the AFL/CIO Human Resources Development Institute.

The program is designed to educate disadvantaged young people about the world of work by providing them an opportunity to explore different occupations while summer employees.

Michoud operations employed five of the young people in the program.