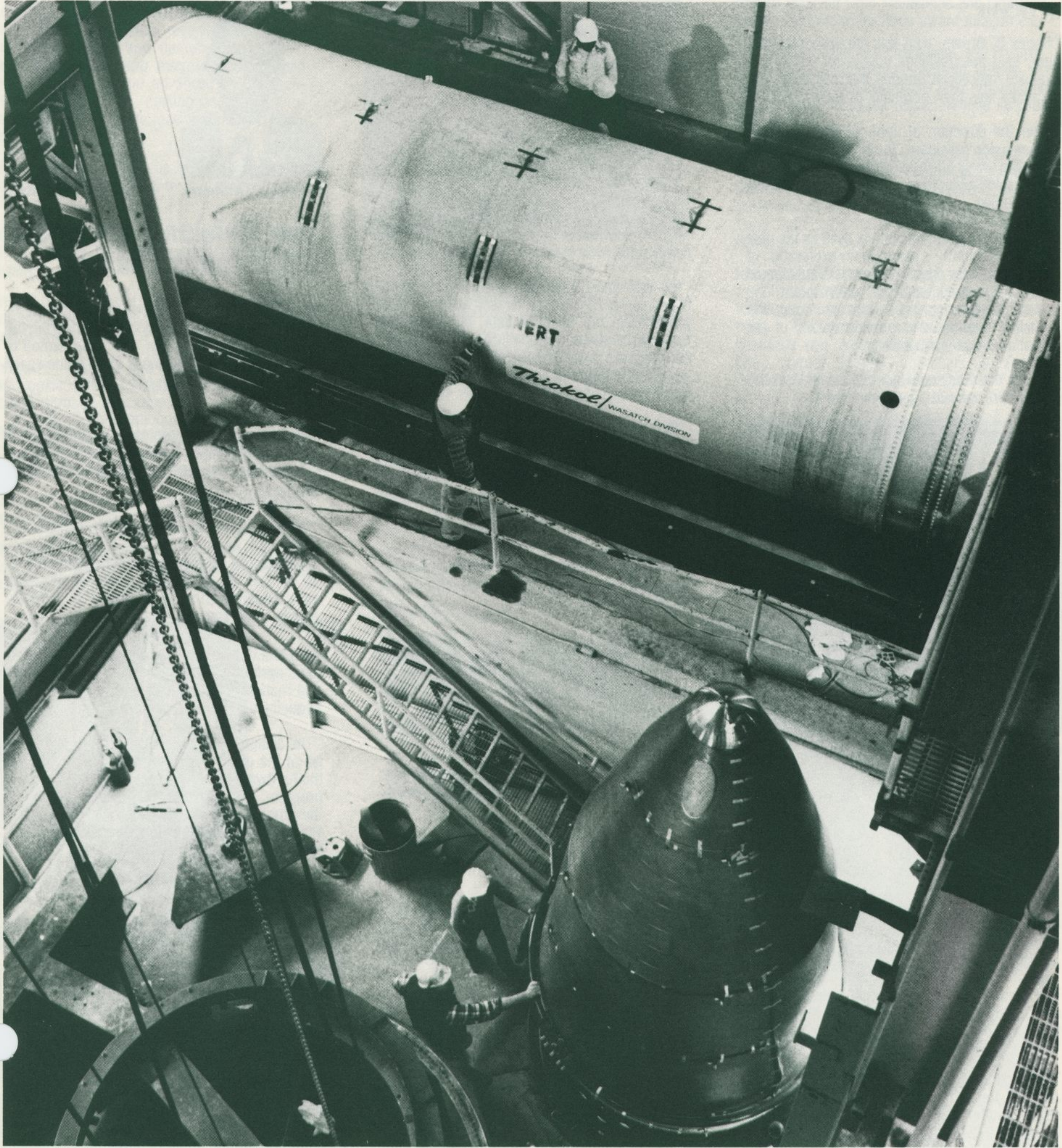


NUMBER 4/1982



# Denver Aerospace to study Venus spacecraft options

Denver Aerospace has been selected by the Jet Propulsion Laboratory to study spacecraft options for a potential Venus radar mapping mission.

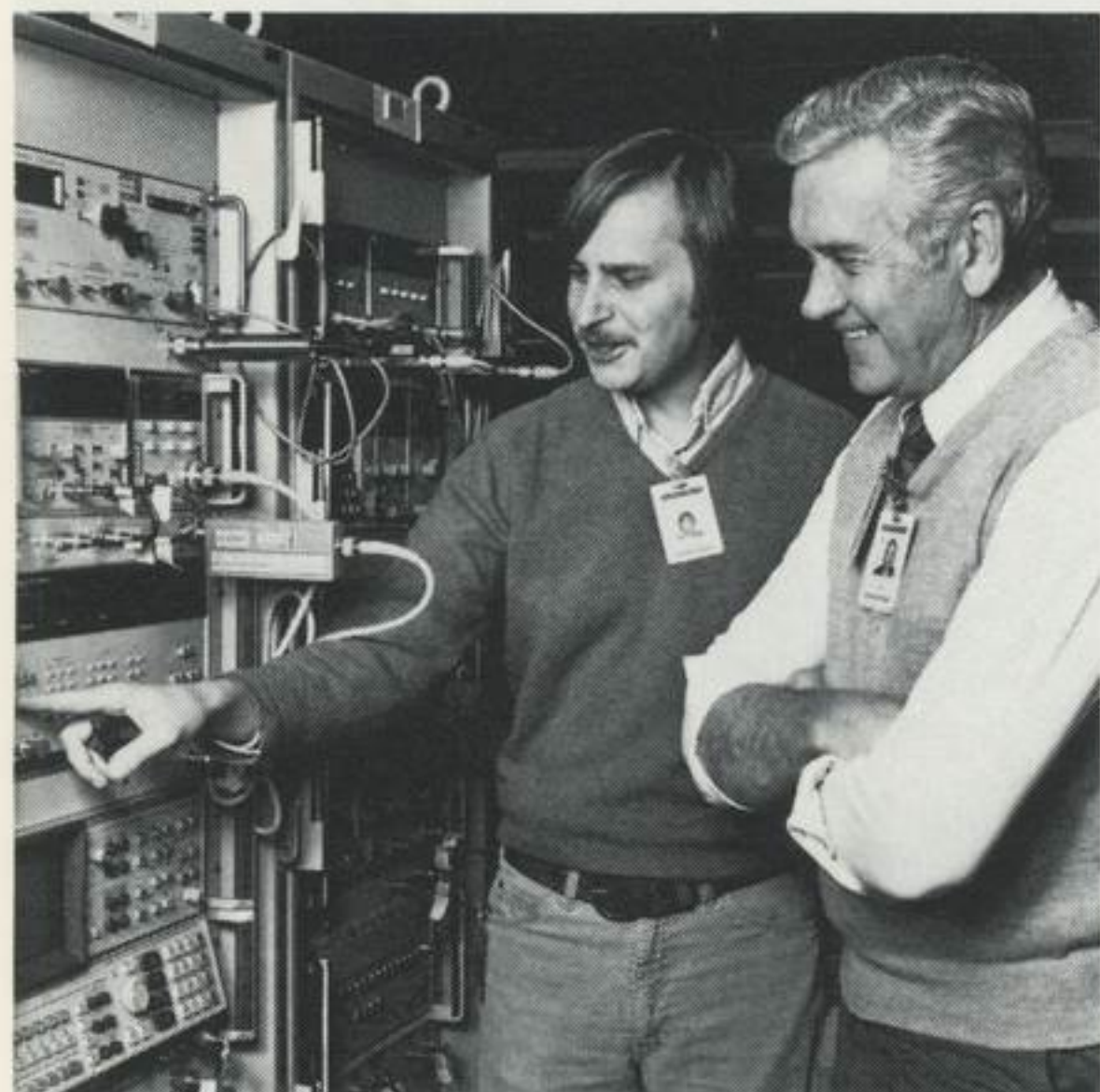
A proposal was submitted in September 1981 for the work.

Charles D. Brown, who was the proposal manager, said the challenge now is to "study and evaluate spacecraft options that will cost substantially less than originally planned."

Under the direction of John Goodlette, space systems vice president, the group will develop concepts using off-the-shelf hardware, alternative mission objectives, and other cost-saving technologies.

The Venus mapping mission is seen as the next step in this country's program for exploration of the Earth's sister planet, Venus. It is anticipated that the synthetic aperture radar aboard the spacecraft will map the surface of Venus with sufficient resolution to provide details of the planet's surface and geology.

Cost for the study contract and duration of the work effort has not been determined.



Part of the electrical support equipment being built for the MX instrumentation and flight safety system is checked here by Ronald J. Loftus, left, and Harold H. Jones, members of the electrical support equipment group.

## Deliveries begin on MX IFSS equipment

Deliveries have begun—and will continue for the next six months—on equipment for the MX instrumentation and flight safety system to be used at Vandenberg Air Force Base.

The instrumentation and flight safety system equipment is an integral part of the MX missile flight test program scheduled to begin in early 1983.

The electrical support equipment group, under John G. Vega, has delivered 125 "significant items" under the development contract that began in 1979. Under the \$210 million contract, the group is developing and building 265 differ-

## Company information is a tool worth protecting

"Employees have always protected their tools and a company's equipment as a matter of protecting their jobs," says Michael A. Steuer, Denver Aerospace legal counsel.

"This principle also pertains now to more intangible matters such as information and data. More and more, the information we develop on our jobs is becoming a tool worth protecting for us and the company we work for."

Steuer pointed out that all employees agree, when they sign the Employee Patent and Confidential Information Agreement, to protect this confidential—or proprietary—information.

"It's just good business, especially in these highly competitive times, to keep our plans, our procedures, our financial data, our proposals for new business, and all other information confidential," he said. "We also have to protect information that other companies and the customer have authorized us to have.

"We have to be especially protective of computer software because it tells so much about us," he emphasized. "We read in the papers almost daily about thefts of information from companies through computers or their software. We have to be careful.

"There are times when we do have to discuss information with others, but we should do so only under terms of the agreement we all signed," he said.

"The importance of protecting our technology, our information, and our computer software cannot be overstated," Steuer said. "There are significant criminal penalties under Colorado law for those who misuse trade secrets. The owner—the company—is also protected under civil law."

Employees who have questions regarding proprietary information, should call the legal office, Ext. 6008.

ent racks and components of ground equipment, 400 components of airborne equipment, and 650 cables that will be used both on the ground and in airborne equipment.

The group is also responsible for conducting acceptance tests and supporting the missile preflight checkout tests. For this purpose, software is being developed to support 150 automated test sequences.

About 850 employees from all disciplines are involved in the electrical support equipment program.



James W. McCown



James A. Sterhardt



Stanley F. Albrecht



Robert B. Demoret

## Two divisions announce organization changes

James W. McCown, formerly vice president for program integration and systems support in the strategic systems division, has been named to head the major new business effort in the space launch systems division.

In announcing the appointment, C. E. Carnahan, space launch systems division vice president and general manager, said, "The appointment will provide the emphasis we need for the division's growth.

"We have been concentrating on successfully doing the work we have," Carnahan said. "While we do not intend to diminish that effort at all, we will add another dimension of new business thrust, with early emphasis on a higher energy upperstage for the Shuttle era."

With McCown's move, Howard F. Keyser, strategic systems division vice president and general manager, announced a realignment of responsibilities in his organization.

"The assignments reflect the changing character of the division's business as we move into the hardware delivery and test phase of the MX program," said Keyser. "We are also increasing the emphasis on the alternate basing studies. We expect a decision on the basing mode in mid-1983."

James A. Sterhardt is executive director of hardware design and fabrication. He is responsible for canister and launch systems, electrical support equipment, mechanical support equipment, production operations, quality assurance, and subcontract management.

Stanley F. Albrecht becomes director of systems integration and test. Under his direction are engineering support, weapons systems engineering, logistics, Vandenberg test program, deployment, systems safety, and facilities engineering.

Robert B. Demoret is director of alternate basing concepts.

## Inventor earns top cash award

William L. Leonard, electronics, has earned the maximum award for his invention of a "unique criteria for optimization of RF pulse receiver sensitivity."

The award of \$1500 was approved by the product development review board.

Leonard's prototype receiver has significantly better performance than receivers using previous technology, and demonstrates advantages of incorporating microwave integrated circuit techniques and advanced hybrid technology in fabrication, making possible manufacture of more reliable receivers more cheaply than before.

Eighteen other employees were also awarded cash for their inventions by the review board. They are:

John C. Fleming, electronics: wire bond transition pad for high temperature microelectric circuits.

Robert J. Richardson, electronics: aberration-correcting multibeam feed for a spherical reflector antenna.

Benton C. Clark III and Michael G. Thornton, electronics: self-metering semi-automatic quantitative filtration assembly.

Sidney Broadbent, electronics, and William C. Croucher, electronics manufacturing: improved substrate/interconnect/through system.

Marian H. Bryant, electronics manufacturing: faston terminal extraction tools.

William H. Tobey, systems engineering; John V. Coyner Jr. and Eric E. Bachtell, engineering mechanics: zero CTE cord design.



*A prototype receiver used to demonstrate his criteria for optimization of RF pulse receiver sensitivity is displayed by William L. Leonard who received the maximum cash award for his invention.*

Anders Corell and Russell G. Hanish, engineering mechanics; and N. Nolan Pass, mechanical and structural manufacturing: heliostat mirror module with flexures as supports for mirror panels.

Harold L. Gariety, mechanical and structural manufacturing; and Clarence E. Bunnell, MX production control: cutting tool index system.

Edsel L. Walitalo, facilities and services: automatic stop for trolley on rail.

## On the cover

**The fourth stage, background, and the re-entry system of a ground test MX are prepared by technicians here for a pre-test assembly of a full-size MX model. The model, lacking the propellants and warheads, weighs the full 195,000 pounds of an actual MX. It will be subjected to vibration simulating the stresses of flight.**

*In the photo at left, a welder prepares beams used in the construction of the 275-foot-high mobile service tower for the Air Force Space Shuttle launch facilities at Vandenberg Air Force Base. The service tower is only a small part of the launch facilities being developed by Denver Aerospace as integrating contractor for the Air Force.*

*In the photo at right, the huge sphere in the background is one of two cryogenic fuel tanks being built as part of the launch facilities. The completed tank, measuring nearly 70 feet in diameter, will hold 850,000 pounds of super cold liquid hydrogen used to fuel the Shuttle's external tank. The first Air Force Shuttle launch is scheduled for 1985.*

## Canaveral employees cited for performance

Twenty Canaveral operations employees have been honored for "very special and significant contributions" to space flight programs.

Wilson O. Torrence received the vice president's award for his performance in 1981.

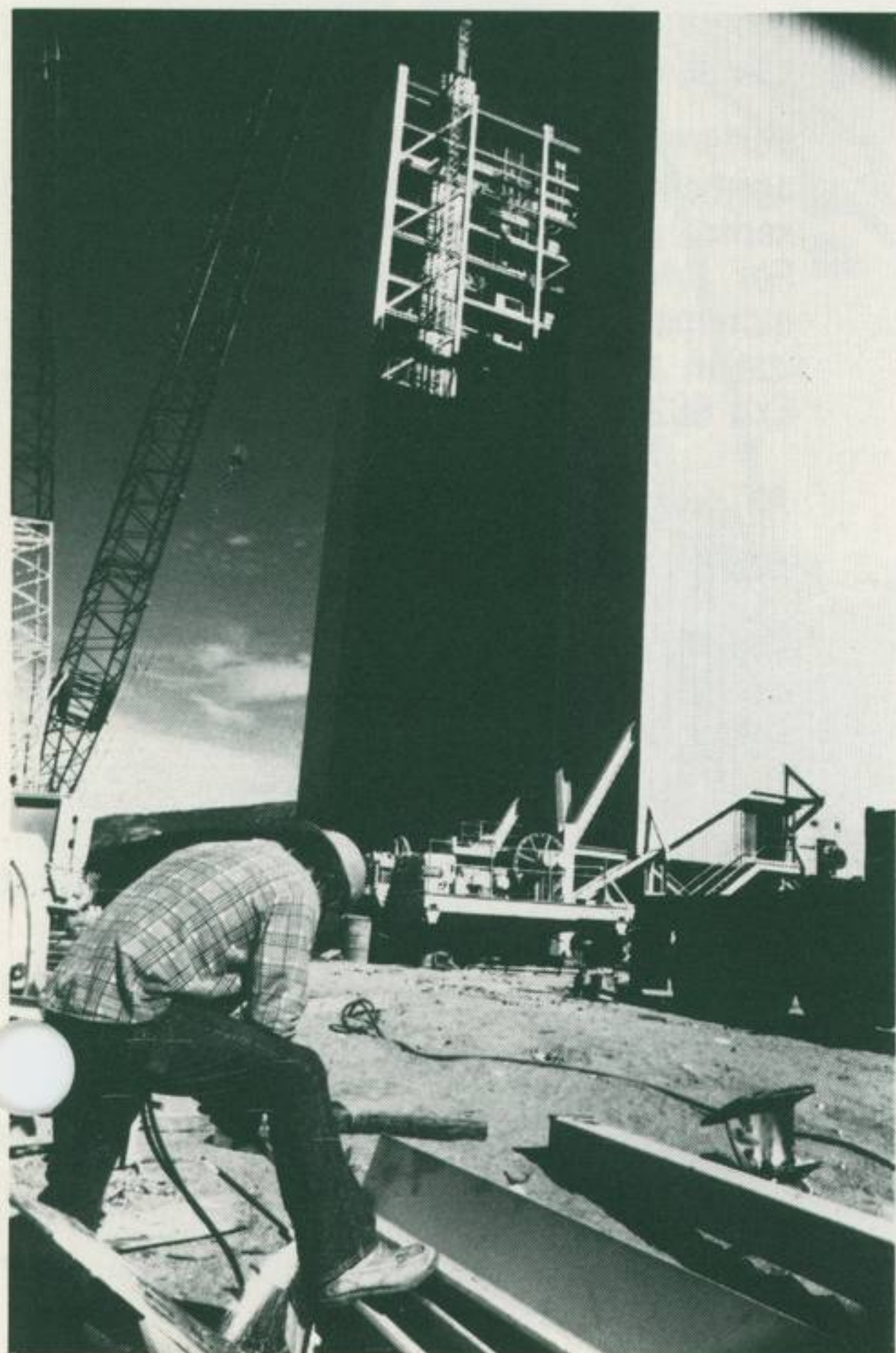
Others received Gold Medallions and Gold Medallion certificates in three award categories.

Nicholas J. Cruke, test operations, and Phillip E. Plemmons, engineering, received launch vehicle flight success awards for their outstanding contributions to space launch vehicle mission success.

Readiness awards were presented William V. Alderman and Gerald M. Poston Jr., test operations, and James G. Cotton, quality, for their performance and initiative in eliminating conditions that could have impacted readiness to launch.

Innovation/performance awards were presented to 14 employees for achievement or performance "over and beyond assigned functions." The recipients were Donald T. Beck, customer and public relations; Sharon A. Dill, Leo L. Karner, Samuel Roberts Jr., and Sidney J. Warren, business operations; Alfred E. Dorais and Jerry M. Teague, personnel; Clifton L. Gurr, Joseph C. Lohman, and James E. Madden, engineering; Charles F. Harris, test operations; Kathy M. Maddex, STS integration; Dewey M. Strickland, GSS; and Karl K. Welton, quality.

Presenting the awards were C. E. Carnahan, space launch systems division vice president and general manager; Felix J. Scheffler, launch vehicles director; and Robert D. Rhodus, Canaveral operations director.



## Michoud cited for small business subcontracting

The Michoud division has been cited for an outstanding achievement in subcontracting to small and small disadvantaged businesses in connection with its Space Shuttle external tank program.

NASA credited the division with "exceeding goals in 1979 and 1980." The Defense Logistics Agency, which handles contract administration for NASA, says the recognition is the first of its kind to a government contractor in the United States.

During the period, the division awarded \$41 million in subcontracts to the small and small disadvantaged firms.

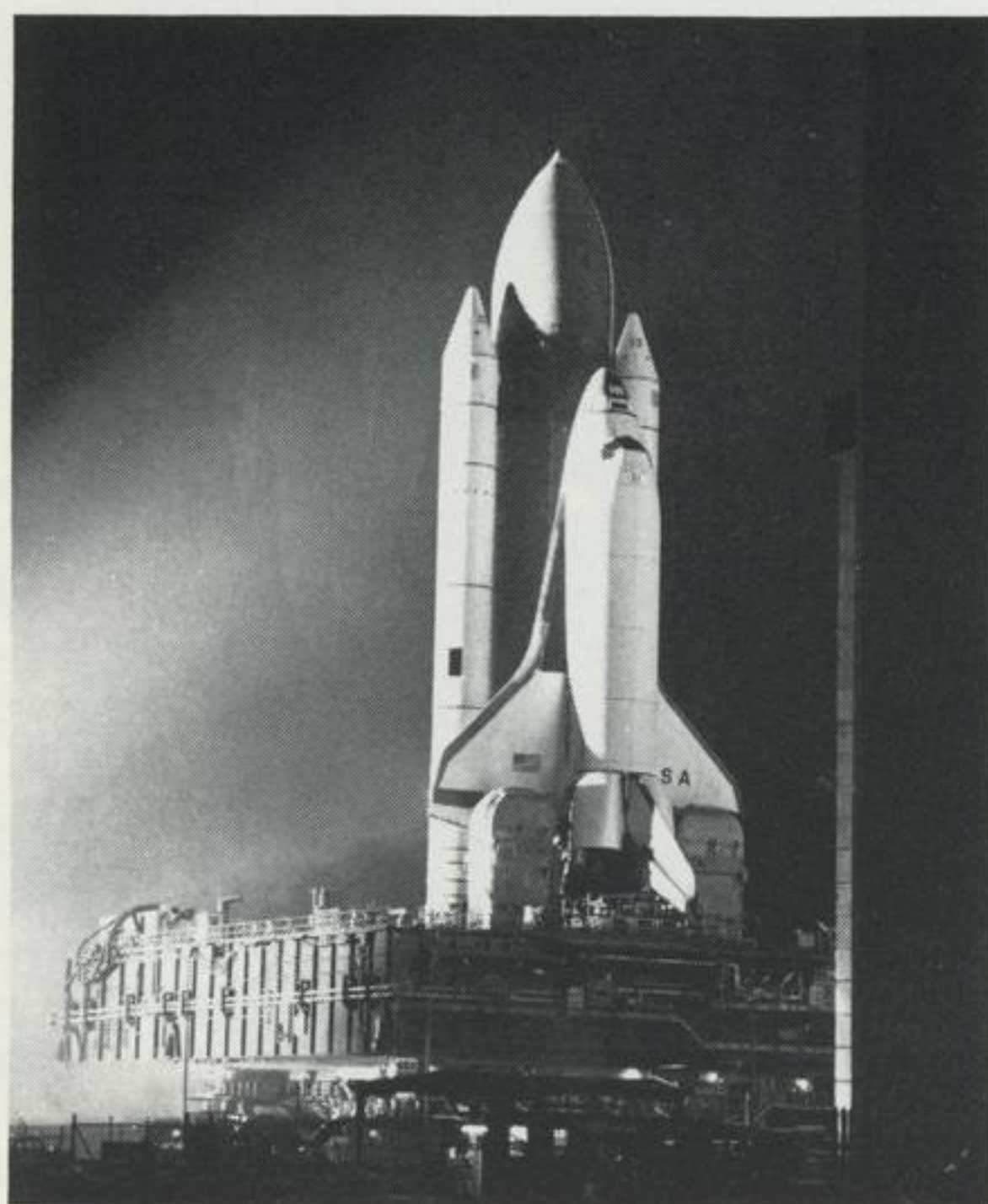
The subcontracts included local construction, re-roofing the manufacturing building, small machine shop work, and the procurement of sensors, vent lines, seals, and valves. About 30 percent of the work was done by small firms in Louisiana.

### Michoud employee on governor's commission

Gibson P. Van Alstyne, manager of financial services for the Michoud division, is serving on the Louisiana governor's cost control commission.

The commission, staffed by 65 executives loaned from major corporations, will spend three months examining state functions to achieve maximum economy of operation.

Van Alstyne's assignment is to review and evaluate Governor David Treen's office.



The Space Shuttle Columbia begins its trip to the launch pad in preparation for the third Shuttle mission scheduled for March 22. The external tank is no longer white. Six hundred pounds of white latex paint have been eliminated because the thermal protection system was adequate without the paint. The tank is now light brown.



Employees at Aircraft Hydroforming, Inc., inspect a chord section the company machined for the Space Shuttle's external tank. The Gardena, CA company is one of several small firms the Michoud division has subcontracted to make parts for Shuttle tanks. The division was recently cited by NASA for its subcontracting to small and small disadvantaged businesses.

### Recreation

**Radio**—A course in amateur radio theory, regulations, and Morse code sponsored by the Waterton Amateur Radio Society will begin March 9. The course is preparation for the FCC novice class license. Call Harold E. Beaver, Ext. 6051, for information.

**Volleyball**—Team representatives will meet March 1 at 5 pm in the engineering presentations room to sign up for spring league play. "C" level coed competition will be on Monday nights, with recreation coed play on Thursday and Friday nights.

**Bridge**—The Duplicate Bridge club will hold its club championship March 2 in the second floor lunch area at DSC I. For information call Jerry L. Newcomb, Ext. 7623.

**Running**—The Waterton Shepherders spring handicap series is under way with seven races and a make-up remaining. Employees and their families are eligible to participate. Call Stanley Barrett, Ext. 9185, or John Huleatt, Ext. 7708.

**Golf**—Golf league chairmen will meet March 8 at 4 pm in the engineering presentation room to register leagues with the recreation office.

### Performance Sharing Plan unit values set for January

Unit values for the Performance Sharing Plan reported as of January 31, 1982, were:

Fund A (Indexed Equity):	1.5117416905
Fund B (Fixed Income):	1.4565685371

### MARTIN MARIETTA NEWS

Published by Public Relations  
MARTIN MARIETTA AEROSPACE

Call Ext. 5364 with information or suggestions for articles, or call one of the following coordinators.

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Vandenberg Operations:	William Leary 2202

DENVER AEROSPACE

P. O. Box 179—Denver, CO 80201

February 26, 1982

### Effective supervisor course is held here

Effective Supervisory Practices, one of the three courses being offered in the management development program, was held February 15-19.

The five-day session was conducted by Richard Mizell of Orlando Aerospace management development. Future sessions will be conducted by organization and management development staff here.

Effective Supervisory Practices, based on the Martin Marietta Corporate course for first line supervisors, is designed to prepare the 35 participants for supervisory success and accomplishment of organizational goals. The course emphasizes communication with and motivation of subordinates, direction of the work of others, and evaluation of performance. The course will be offered again in May and August.

Performance Management and Project Management, the other two courses in the core series, also are scheduled for future months. For information about programs and requirements for participation, call the organization and management development office, Ext. 6620.

### Michoud division sets safety record

The Michoud division has set an aerospace industry safety record, according to the National Safety Council.

From August 9, 1979 to January 19, 1982, division employees worked 13,613,223 consecutive hours without a job-related injury that involved days away from work.

Thiokol Corporation had held the record with just over 11 million hours worked without such an injury.

"All those hours showed that our employees are doing something right," said Earl McNail, safety department manager. "Since we did this well once, we can do it a second time and beat our record."