

MARTIN MARIETTA

news

DENVER AEROSPACE

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Solar one  
generates  
electricity



## MX modal survey testing complete

Components for the first MX missile ever assembled are on their way back to the associate contractors who built them after being used in the modal survey test in the vertical test facility.

Tests were successfully completed April 23 and the missile has been disassembled. The components will be refurbished by their manufacturers and used in other test programs planned for the missile.

Objectives of the testing here were to determine the missile bending characteristics in flight, to validate the dynamics models for use in loads analysis, to evaluate assembly and checkout, and to checkout the transportation and handling equipment.

"We did have a very successful test," said Michael Davis, director of MX weapon systems engineering. "The test was completed on the schedule set up nearly four years ago at the beginning of the full scale engineering development. We started on time and we ended on time."

According to Davis, all components for the test, coming from seven associate contractors, arrived on time and all fit together as planned when the full-size missile was assembled.

"We have had a detailed review of the test with the customer who is very pleased with the results," Davis said. "It was after this review that we received authorization to disassemble the test missile and ship the components."

The latest in computer hardware and software was purchased for the test and reduced the test time. It is available now for test programs for other projects at Denver Aerospace.

Richard W. Webb Jr. was the test manager; Darrell Devers was the lead dynamics analyst; John B. Bradford headed the test crew that assembled the missile; and Richard A. Vigil was the test conductor.

## Credit union to move

The Red Rocks Federal Credit Union will be moved by May 15 from Eng 240 to Eng 120. The telephone number, Ext. 6000, will remain unchanged.

During the move, some interruption of service may occur. Members are advised to call before visiting the office.



An Air Force management control system validation letter was recently presented Denver Aerospace. At the presentation were Brig. Gen. Wilma L. Vaught, deputy chief of staff/comptroller; Gen. Robert T. Marsh, Air Force System Command commander; Alan L. Grussaute, systems manager; and C. B. Hurtt.

## Denver Aerospace receives contractor validation



The 109th Air Force management control system validation letter has been presented Denver Aerospace in ceremonies at Andrews Air Force Base.

The validation letter is the final step of the Defense Department's cost schedule control system criteria process—a set of standards defining the capabilities a contractor's management system must have. The key part of the validation process is a series of in-plant reviews that demonstrate the operational system to a government team.

C. B. Hurtt, then Denver Aerospace president, received the letter from Gen. Robert T. Marsh, Air Force Systems Command commander.

The Denver facility was reviewed for its role as research and development contractor for the MX assembly, test, and system support.

*The newest Titan launch conductor, Clarence L. Culwell, right, completes his standboard evaluation under the critical eye of Melvin Wheeler, standboard chairman. Culwell, of the test operations department at Vandenberg operations, met the stringent criteria and was awarded the test conductor's label pin.*

## On the cover

A spectacular display of light is evident when dust or moisture in the air is lit by hundreds of solar energy system heliostats at Solar One in Southern California's Mojave Desert. The world's largest solar-powered electrical generating station began startup tests early

this spring and recently generated its first electric power. Each morning, heliostats reflecting the sun's rays are first focused on stand-by points, and then moved onto the receiver atop a 300-foot tower as required to create steam to operate the turbine-generator below.

## Employees combine jobs, city council duties

Keeping Littleton a good place to live for themselves, their families, and their fellow Martin Marietta employees is a major objective for two members of the Littleton City Council.

Samuel J. Harper, senior plant layout engineer, is in his second term on the council and Charles L. Emley, a finance manager in the space and electronics systems division, is in his first term.

Both said the goal of the city council is to maintain the proper balance between business and residential areas in the city while providing for the economic growth of the community.

"The city is consciously promoting growth," Emley said, "but not growth for growth's sake. We want quality business, desirable business and we want it in areas where it does not adversely affect the residential character of the city."

"We must expand the city's tax base," Harper said. "We are proud of the services we provide our residents. By balancing business and residential growth we can spread the costs of those services so they do not become a financial burden for anyone."

Harper first became involved in community affairs when he was a Martin Marietta employee in Baltimore more than 40 years ago. (He will complete 43 years with the company May 27.) He became a one-man ways and means committee to establish a fire department in two small communities near Baltimore. He and a half-dozen others, who also became one-man committees on other phases of the project, brought the



Samuel J. Harper



Charles L. Emley

department into being in a year. Only then did they learn that previous attempts had failed.

When Harper moved to Littleton to help in building what has become Denver Aerospace, he continued his community interest. He has served on the citizen's budget review committee, the codes review committee, and the planning commission in Littleton. He calls these assignments his apprenticeship for city council.

Emley, who came to Littleton from Kansas 24 years ago when he was hired as financial analyst, has been active in politics since his arrival, but not as a candidate for office. He has served in various political party positions and is a district captain for the Republican party. After his children were grown, he decided he had time to run for office. He was successful on his first attempt, winning a seat on the council in 1979.

Although Harper and Emley don't always see eye-to-eye on council matters, they do agree that Martin Marietta has never attempted to influence their decisions.

They also agree that other employees should be active in the community, but not necessarily in public office. Schools, churches, and civic organizations are always looking for volunteers, they said.

But, if there is an interest in government, Harper and Emley point out that there are a number of non-elective volunteer positions available on various boards and commissions.

Employees interested can talk to either councilman about appointments.

## Blood Unit to be here May 20, 21

The Belle Bonfils Memorial Blood Center mobile unit will visit the main plant from 9:00 pm to 2:45 pm May 20 and 21, and will visit DSC July 30.

During the mobile unit's visit to the plant last fall, employees donated 289 pints of blood — the most collected in one two-day visit since 1975.

Company participation assures credit by the Blood Center for all employees, retired employees, and family members, whether they have ever donated or not. Direct requests for donor credit to the medical department, Ext. 4676 or to Lori Sharp, blood bank coordinator, Ext. 6605.

Employees wishing to donate blood must be 18 to 65 years old, weigh at least 110 pounds, be in good health, and must have waited at least eight weeks since their last donation. Make appointments to donate through department secretaries, or call Ms Sharp.



Awards for outstanding performance in exceeding the small and minority business subcontracting goals are displayed by their recipients. Receiving the awards were, seated, E. J. Luzny, material manager for strategic systems division, and R. C. Simpson, socioeconomic administrator. Standing is Lurman A. Neal, chief of the Air Force Ballistic Missile office's small and disadvantaged utilization office.



Holding the conductive compartmentalized trays of their component handling and staging system, are inventors Dale J. Haberkorn, standing, and Donald F. McCulley, recipients of a product development cash award.

## Bond drive begins with 90 percent goal

The Denver Aerospace 1982 Savings Bond campaign, beginning May 10 and concluding June 11, is an opportunity to earn up to nine percent interest on savings while investing in the future of the United States.

The payroll savings plan for U.S. Savings Bonds offers a painless way to invest during economic times when saving is difficult. Once authorized, payroll deduction and investment is automatic. Nine percent interest is earned on even small sums invested in Savings bonds held eight years to maturity.

With the exception of the past two years, the division consistently exceeded 90 percent employee participation. This year's goal is to regain that level of participation.

Bond income is exempt from state and local income tax. Federal taxes can be deferred until the bonds are redeemed or reach maturity.

During the one-month campaign, department coordinators will enroll fellow employees and encourage increased savings by those already buying bonds.

### MARTIN MARIETTA NEWS

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#### MARTIN MARIETTA AEROSPACE

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

Technical Operations: Kenneth E. Sedlmayr 6872  
Solar Energy Systems: Leon E. Taylor 0660  
Business Development: Leonard G. Taigman 4466  
Space/Electronics Systems Division: J. H. Guilfoyle 6944  
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Michoud Division: Evan D. McCollum 3788  
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External Tank Operations (KSC): Melodie deGuibert 3160  
Vandenberg Operations: William Leary 2202

DENVER AEROSPACE

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## Cash awards go to eight inventors

The invention of a new component handling and staging system has earned a cash award for Donald F. McCulley and Dale J. Haberkorn, electronics manufacturing. The award was granted by the product development review board.

The component handling system eliminates unnecessary parts handling, allows staging of multiple builds in one container, and meets current electrostatic discharge requirements. Component parts are staged in sequence in conductive compartmentalized trays with lids, which are then stacked in tote bins with related logs and paperwork. Previously, parts were sealed in plastic bags, which had to be repeatedly sorted, opened, and resealed. The system may prove useful in many electronic and small parts assembly areas.

Other employees receiving cash awards for inventions are:

James C. Beblavi, engineering mechanics, and Laurence O. Williams, mechanical systems, Orlando: zero external leakage magnetic valve technology.

Lyle E. Berquist and Stephen M. Pompea, electronics: laser communications systems.

Dr. Robert K. McMordie, solar energy systems: phase change valve.

Gordon K. White, electronics: flexure spring-rate compensation scheme.

Cash award winning inventors announced in February included:

William H. Tobey, systems engineering, John V. Coyner, Jr. and William J. Gardner, engineering mechanics: deployable gate/frame truss for spacecraft panel arrays.

John V. Coyner and Eric E. Bachtell, engineering mechanics: zero CTE cord design.

## Reservations required for recreation area use

With the approach of summer, employee clubs, organizations, and families increase their use and enjoyment of the recreation area buildings and facilities.

To assure each group an equal opportunity to use the facilities, the recreation department maintains a master schedule of facilities use.

To reserve use of recreation facilities including picnic areas, a written reservation request should be submitted to the recreation department ten days before the planned date of use.

Reservations should include name of sponsoring club, organization, or activity; building or area desired; equipment needed; and date and time of the activity.



Saul R. Locke, manager of productivity at the Michoud division, was a seminar leader at the Massachusetts Institute of Technology April 30. The title of the seminar was "Producibility—Case Studies from the Space Shuttle External Tank Program." The presentation was a part of MIT's mechanical engineering seminar series.

## Recreation

**Hiking**—A spring bash and membership drive will be held May 22 at Mt. Falcon park. Contact Marc Brideau, Ext. 4111; Joe Mensch, Ext. 4989; or Steve Zaiontz, Ext. 3583 for details.

**Discount tickets**—Discount tickets for all Denver Bears home games are now available at the recreation office. General admission tickets cost \$2.10, and may be exchanged for reserve seating at the stadium for an additional 50 cents, or for box seats for \$1.00. Bear cub badges for \$5 admit children 12 and under to all home games for free when accompanied by a paying adult.

**Health club discounts**—Group discount membership rates for employees and immediate family are available for Nautilus Fitness Centers and the Holiday Health Club (formerly European Health Spas). Prices and memberships vary. Clubs are located throughout the metro area.

**Scuba**—The Fathom dive club will meet at 5:00 pm May 19 in GPL to see the neutral bouyancy facility and view a film on astronaut training. On May 23, a checkout session for certified divers is set at the Southwest YMCA pool at 5:00 pm. Single tank rental for club members at reduced rates.

**Photography**—Members and guests of the Photo club will view a slide presentation on whitewater rafting presented by Adventure Bound, Inc., May 20 at 7:00 pm, DSC room 200K.

**Rafting**—A family whitewater raft trip through Brown's Canyon near Buena Vista is planned for July 24. Cost of \$55 includes bus fare, full day of rafting, restaurant dinner. Make reservations at recreation office.

## Full company name use is encouraged

What is the correct abbreviation for Martin Marietta Denver Aerospace? Is it MMDA or MMCD? How about MM-Denver? MMC-Denver? None of the above?

Answer: None of the above.

A Martin Marietta corporate directive dated May 30, 1980 restricts the abbreviations of the company name. This is to avoid confusion in all forms of internal and external communication.

The policy emphasizes the Corporation's complete and legal name is Martin Marietta Corporation. It should be used in all initial references in correspondence, articles, contracts, and other documents. Subsequent references may be shortened to *Martin Marietta* or *the Corporation*, with a capital "C," provided there is no loss of clarity.

Initial reference to any of the five operating companies should include the corporate name, i.e., Martin Marietta Aggregate, Martin Marietta Cement, Martin Marietta Aluminum, Martin Marietta Aerospace, or Martin Marietta Chemicals. Thereafter it may be referred to by its company name, for example, Aerospace.

Operating elements of the Aerospace company may be identified by their locations, for example, Baltimore Aerospace, Denver Aerospace, or Orlando Aerospace. No initials, please.



A computer printout from the recently installed CCMS equipment at the Space Shuttle launch control center is reviewed by Vandenberg operations technicians James M. Money and C. Gary Winsell.

## CCMS now 'on-line' at Vandenberg AFB

The U.S. Air Force west coast space center came a step closer to launching its first Space Shuttle with the recent installation of the check-out, control, and monitor subsystem (CCMS).

The equipment was checked out and delivered to the U.S. Air Force at Vandenberg.

Activation of the equipment marks a major milestone in the launch site development.

The 42,000-square-foot launch control center—similar to one at Kennedy Space Center—will monitor and control all launch preparations up to the point of liftoff through a complex computer system. The information system is the world's largest real-time distributive computer network, connecting the Vandenberg system with the Kennedy and the Johnson Space Center systems.

Designed to minimize Shuttle turnaround time from landing to launch, the CCMS is divided into north and south Vandenberg units.

In addition to the launch pad activities, the south system will monitor and control solid rocket booster checkout and processing of the Shuttle's external fuel tank.

The north system will monitor and control all Shuttle orbiter ground preparations from landing through maintenance and checkout.

The computer system is now being used to support software development for other Vandenberg Shuttle facilities.



NASA and Washington, D.C. press corps representatives gathered to discuss business opportunities in space at the invitation of the Aerospace Division of the American Society of Mechanical Engineers. From left are B. I. Edelson, NASA associate administrator for space science and application; John Robinson, Denver Aerospace and chairman-elect of ASME's Aerospace Division; and Carl Cannon of the Knight-Ridder newspapers. NASA has commended Robinson for his "significant role in organizing" the luncheon.

## Charter Shepherdder runs Boston marathon

Ross E. Speck, a 25-year employee and charter member of the Shepherders running club, ran his first Boston Marathon April 29. The 57-year-old group manufacturing engineer in tool design finished the 26 miles, 385 yards in 3:32:47, just 18 minutes off his best time.

"It was a real thrill. Every runner wants to run the Boston. There was amazing crowd support all the way from Hopkinton to the Prudential Center.

"I wore a Colorado shirt, and all along the route spectators yelled encouragement like, 'We love you, Colorado!' and 'Go, Colorado, you can do it!'"

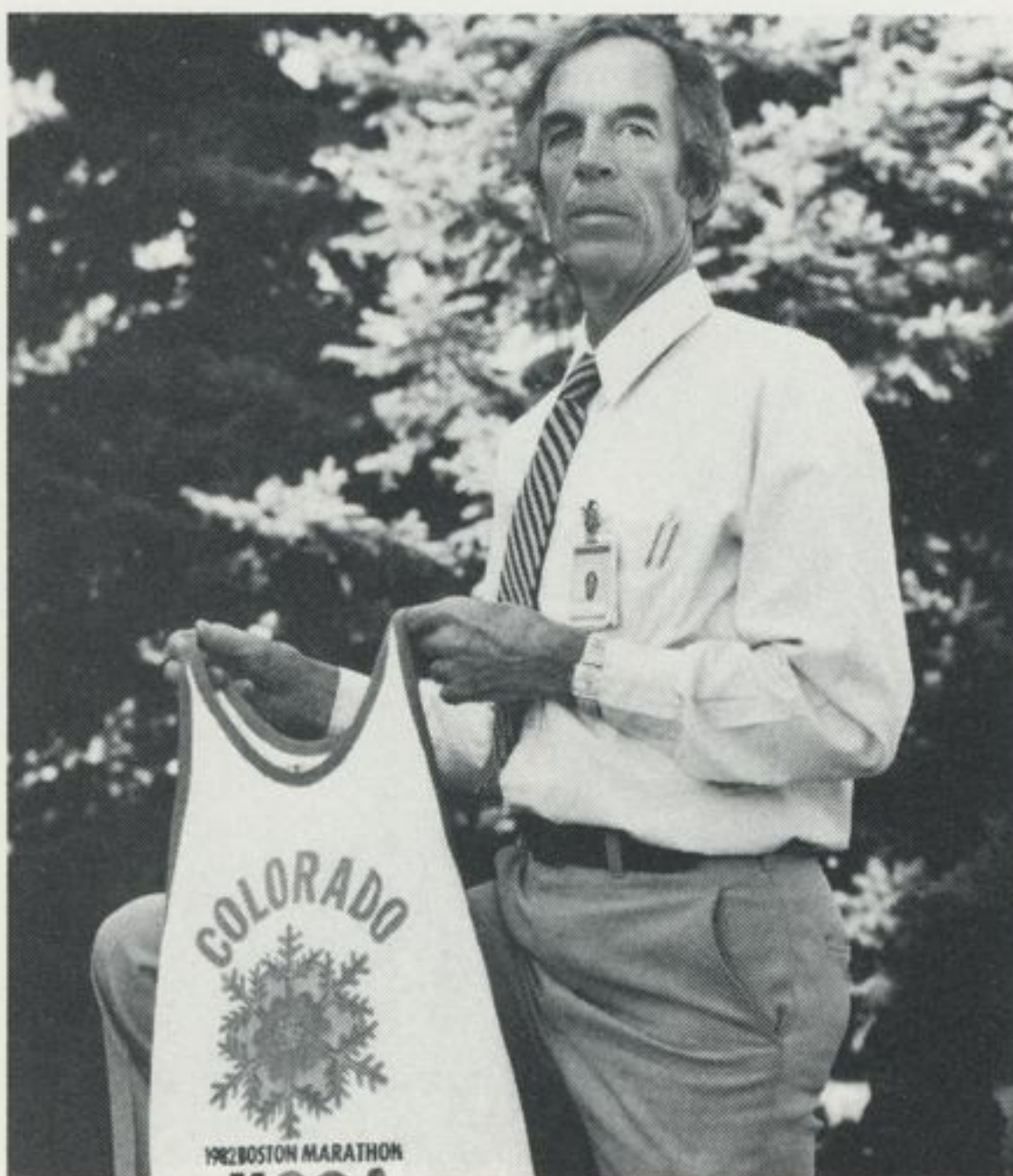
"There were so many people at the start that it took one minute after the starting gun to take just the first step, and four minutes more to reach the starting line. When we ran through Wellsley and Boston Colleges, the students crowded so tight we had to run single file."

The hardest parts of the race for Speck were the slow start, the 70-degree temperatures, the hot pavement, and the hills at mile 21. "They come right when you're ready *not* to have hills," the runner says.

Speck has run seven marathons. His personal record is 3:15:00 clocked at the Nike marathon in Eugene, Oregon, where he qualified for the Boston.

Speck's immediate plans are to ease off on his training and do some work around the house. Will he seek a personal best at next year's Boston marathon?

"You never know," he chuckles.



Holding the Colorado running shirt he wore in the Boston Marathon is Ross E. Speck, charter member of the Shepherders running club. Speck finished the Boston, his seventh marathon, in just over three and one half hours.



National Safety Council award plaques tracing the "best safety record" of Canaveral operations since 1970 are displayed by Harold G. Senter, chief of safety.

## Canaveral operations safety record is best

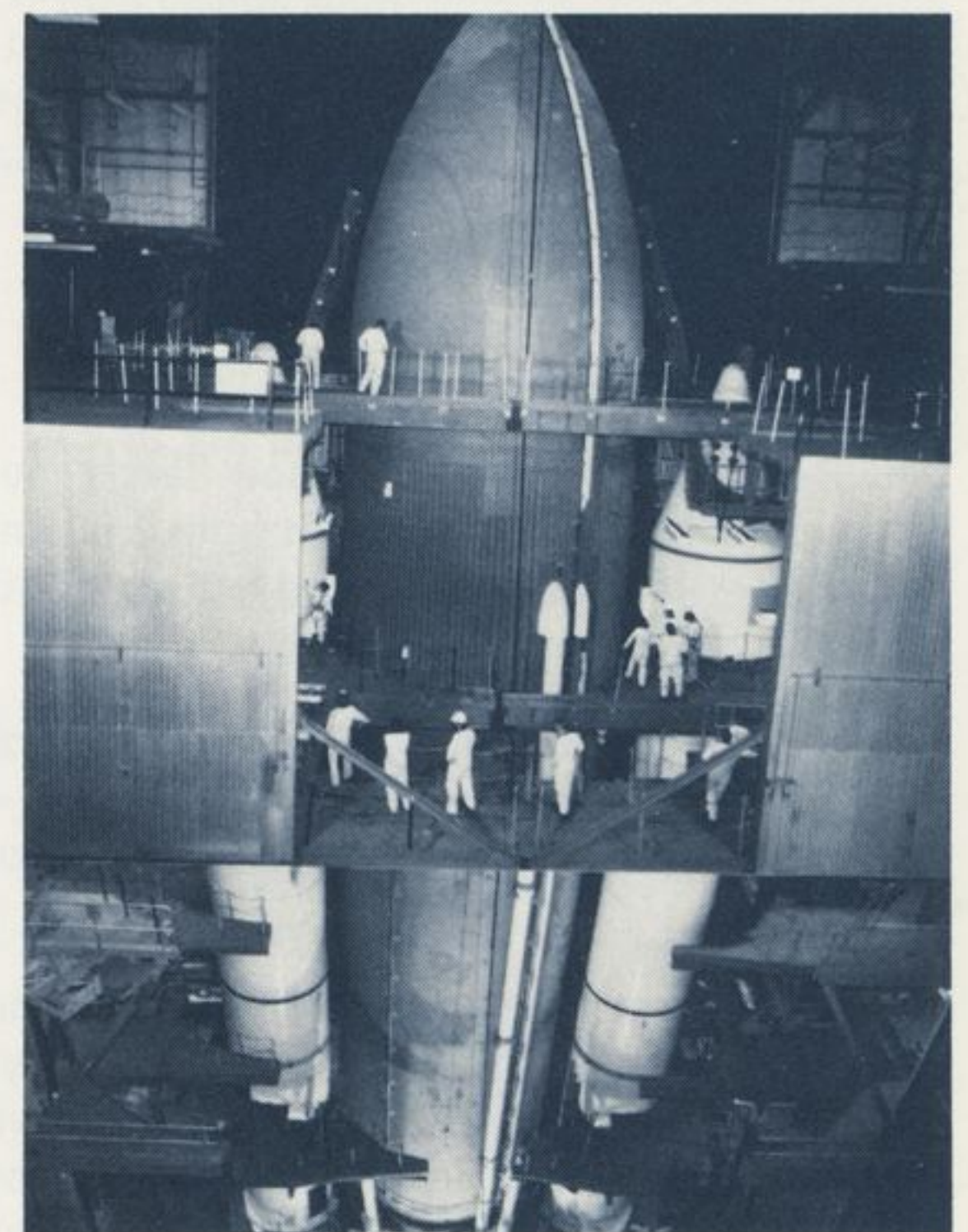
Canaveral operations has been recognized by the National Safety Council for its on-the-job safety performance for 1981.

Besides receiving the Council's highest award — the Award of Honor — Canaveral operations was singled out for having the best record for the Guided Missiles and Space Vehicles Aerospace section.

The award recognized "7,176,966 employee-hours without occupational injury or illness involving days away from July 1, 1971 to December 31, 1981."

Harold G. Senter, chief of safety, said the record actually is nearly eight million employee-hours beginning in July 1970, about one year before the Council's safety contest rules were established.

National Safety Council President Vincent L. Tofany said, "You have set an example for your community and your industry that should serve as an incentive for others to emulate."



External tank was attached to twin solid rocket boosters April 17 at Kennedy Space Center in preparation for the fourth Space Shuttle flight planned for June 27. The orbiter Columbia is scheduled to be attached to the tank May 16, completing the assembly on the mobile launch platform. The vehicle will be rolled to the launch pad May 25.