

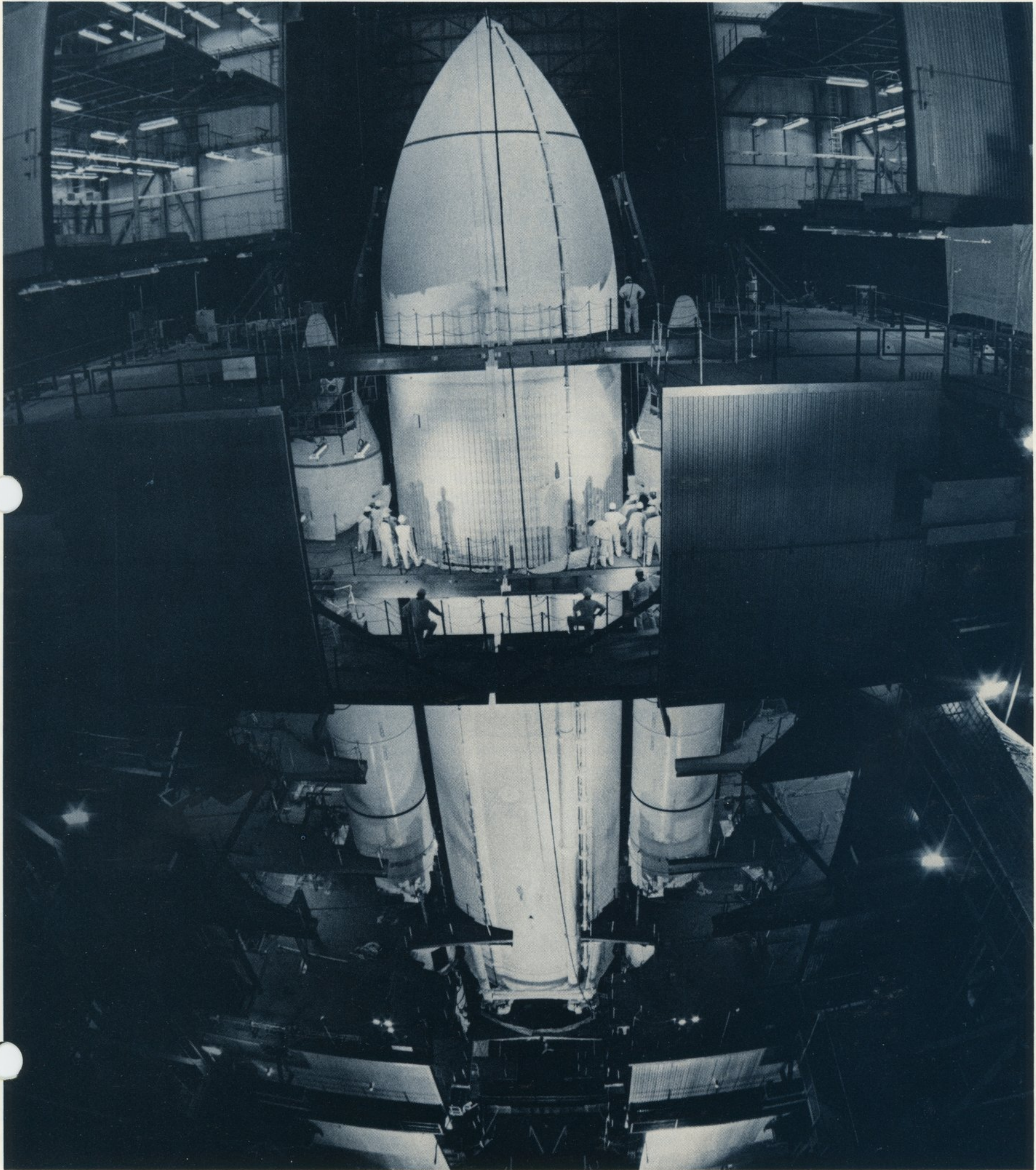
Employees of the Denver Aerospace Corporation are working on the Space Shuttle Challenger in the Vehicle Assembly Building.

MARTIN MARIETTA

# news

DENVER AEROSPACE

NUMBER 15/1980



# SCATHA team commended for mission success

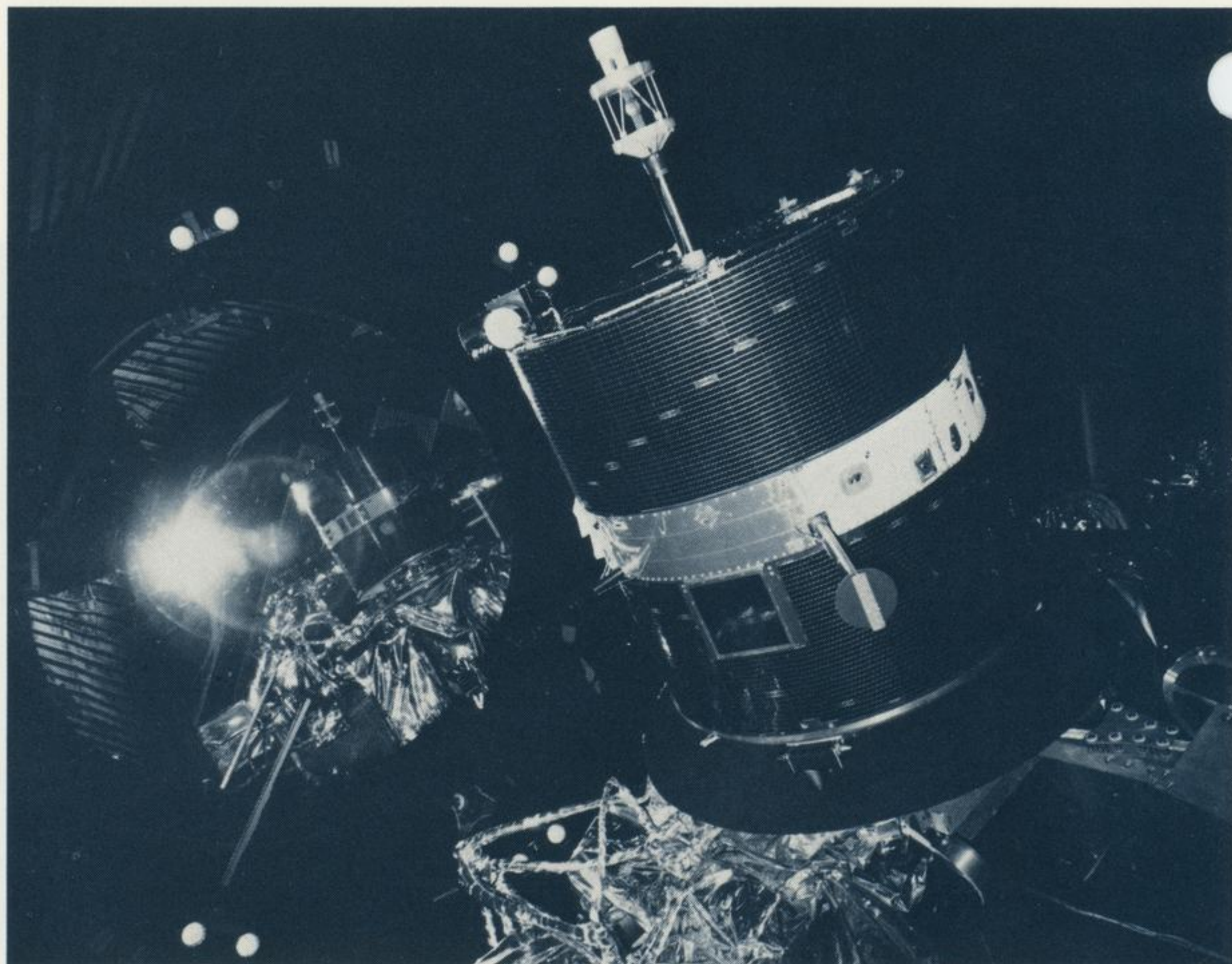
With the SCATHA spacecraft well into its second year of successful orbital operation, the Air Force Space Division has commended the Denver Aerospace employees who worked on the program.

In a letter to C.B. Hurtt, Lt. Col. John C. Durrett, SCATHA program manager, said, "The successful operation of the spacecraft beyond its design life is a clear indication of the personal commitment to mission success of every member of the Martin Marietta team ... I know that your people were trying to do more than just fulfill the terms of the contract. Their goal was to build a quality product which they could point to with pride. The outstanding performance of the SCATHA spacecraft should give them every reason to be proud."

Hurtt also offered his congratulations to Don Hobbs, the Martin Marietta program manager, and the entire SCATHA team: "Mission success, as exemplified by SCATHA's performance, is what Denver Aerospace is all about. We are tremendously gratified that we can attract the talented employees who have enabled us to achieve this record of mission success.

"For our part, we are dedicated to providing the work environment and facilities that will continue to make this high-quality performance possible," Hurtt added.

The SCATHA spacecraft, launched in January 1979, was required to have one year of on-orbit operation in gathering data on electrostatic charges at high altitudes. This information is expected to contribute to design guides that will prevent the failure or impaired operation of satellites due to electrostatic discharges.



The SCATHA spacecraft, now in its second year of on-orbit operation, is shown here before it was shipped. The spacecraft was launched in January 1979.

## Aerospace headquarters restructured

Martin Marietta Aerospace headquarters organizations have been restructured to complete changes begun with the establishment of a number of divisions in Denver and Orlando.

Key changes, announced by Laurence J. Adams, Aerospace president, are:

Marcus C. Bennett has been appointed vice president for business management and will be responsible for contracts and finance.

Frank H. Menaker will continue to be responsible for all legal functions and will report to Adams.

Norman R. Augustine has been appointed vice president for operations. His

responsibilities have been expanded to include production operations, a new strategic planning and development function, and a new productivity improvement function.

Herbert DeBrode will continue as vice president for production operations and will report to Augustine.

Richard E. Brackeen has been appointed executive director for strategic planning and development, reporting to Augustine.

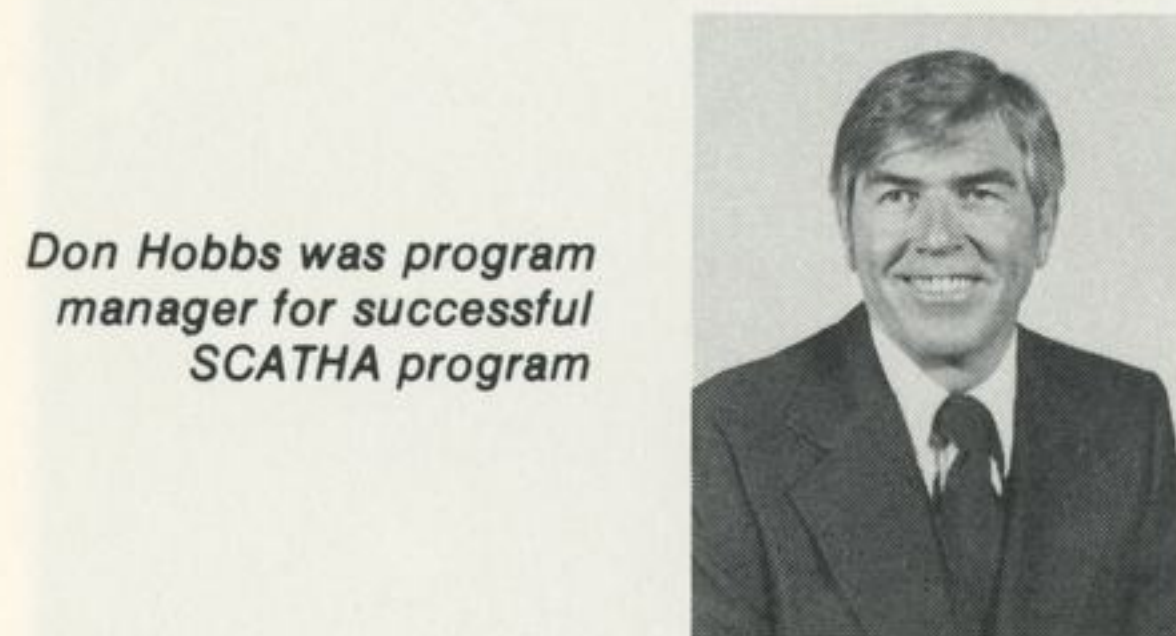
Donal R. Petersen will continue to be responsible for long-range planning, reporting to Brackeen.

Aerospace headquarters will assume a support role for international programs. George H. Perlman has been appointed director of the activity and will report to Brackeen.

Raymond S. Wiltshire has been appointed director of engineering, reporting to Augustine.

D. Max Heller will continue as director of research and development and will report to Wiltshire.

Marketing, industrial relations, and government affairs organizations will not be changed and will continue to report to Adams.



Don Hobbs was program manager for successful SCATHA program

## Share-the-ride sign-up planned

To encourage employees to join car-pools, special sign-up days have been planned at various Denver Aerospace buildings in mid-November.

Lori Sharp, share-the-ride coordinator, will provide information and accept car-pool applications. Dates and locations:

November 18: 8 am to 10:30 am, EMF lunchroom; 11 am to 1:30 pm, SSB lobby.

November 19: 9 am to 10 am, Cinderella City reception area; 11 am to 1 pm, DSC cafeteria.

November 20: 2 pm to 4 pm, South Lincoln facility.

November 21: 9 am to 10 am, Greenwood Plaza, second floor southeast Titan conference room; 10:30 am to 1 pm, Greenwood Commons, building 6100, classroom C.

## Robot takes on energy reduction

Denver Aerospace expects to reduce its energy consumption at least 20 percent in 1981.

There's no magic involved. However, a robot will be pressed into service—an "intelligent" sensor-computer system that will monitor and control heating, cooling, and lighting systems throughout most of the facilities in the Denver area.

Called a building automation system, the Honeywell Delta 5000 responds to temperature sensors to turn equipment on and off, and to select the most efficient operating modes for heating and air conditioning systems.

In another energy conservation move, the 72,000-square-foot office building being built next to SSB will use three-tube fluorescent lighting fixtures, rather than the conventional four-tube type. The new fixtures reduce power consumption by 11 percent, while reducing illumination only three percent.

In addition, the third tube in the fixture will be controlled by the computer, and will be shut off automatically if the electrical demand peak is reached.

Many work areas are also being wired so that lighting can be reduced manually when conditions permit.

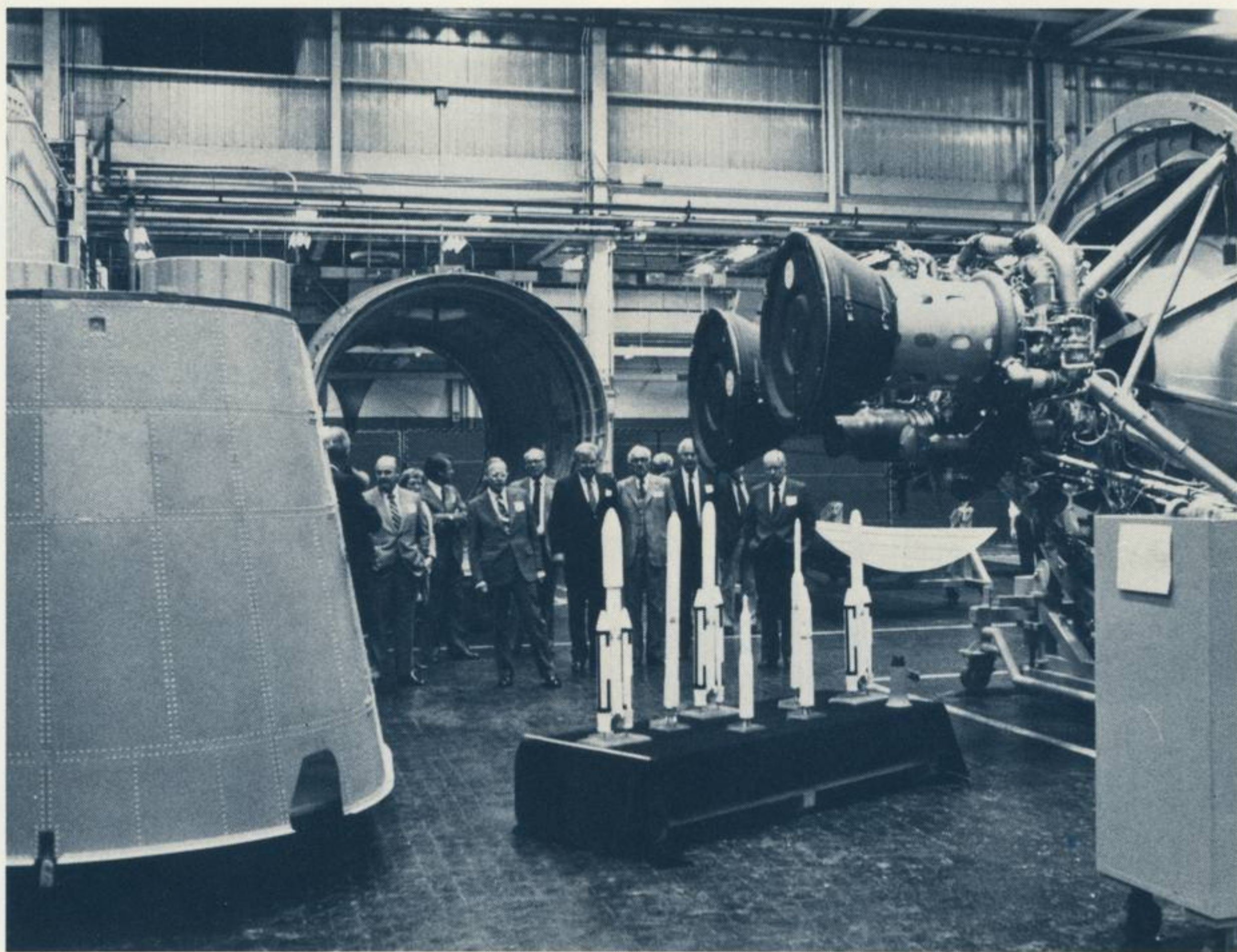
More modern air conditioning systems are also being installed in which the volume of cooling air is automatically regulated. Older systems reheated some of the air to regulate temperature.

According to Larry A. Dolan, the energy conservation coordinator, at least some air conditioning must be used year-round because of the space-temperature requirements of computers and other special equipment. "Other areas, like clean rooms, have critical air filtering and humidity control requirements, so air conditioning again is a must," he says.

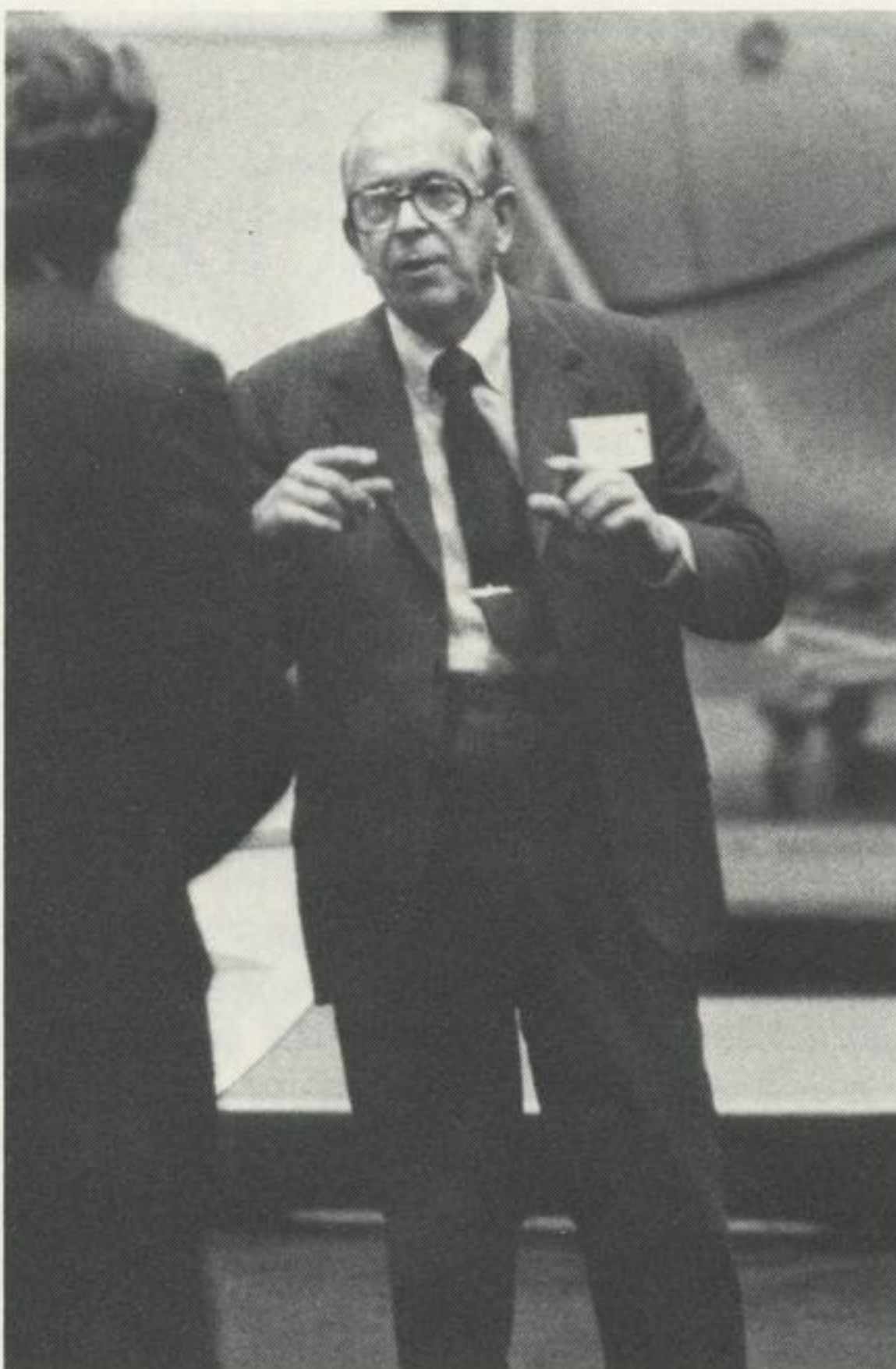
"We've been working the energy reduction problem for at least seven years, so all the easy steps already have been taken," Dolan points out. "We turn our thermostats to 65°F in the winter and up to 78°F in the summer. We've reduced or eliminated lighting wherever possible.

"We reduced electrical consumption four percent in 1979 compared to 1978. Consumption in 1980 is running about even with 1979, even though we have about 2000 more employees and quite a bit more factory work," Dolan added.

All new structures are designed with energy conservation in mind. Heating, lighting, and air conditioning systems are selected on the basis of energy efficiency. Existing buildings are being subjected to energy audits to determine the most cost-effective improvements to their energy systems.



Members of the Martin Marietta board of directors check Titan launch vehicle production while viewing models of the Titan family.



Martin Marietta Corporation board chairman, J. Donald Rauth, describes Denver Aerospace operation during tour of facilities by the board.

## Martin Marietta board of directors holds meeting here

Martin Marietta Corporation's board of directors held its October meeting at Denver Aerospace.

Members of the board arrived in Denver Wednesday evening, October 22, and spent Thursday, October 23, at the plant. The directors were briefed on Denver Aerospace operations and toured facilities. The regular board meeting was held following the tour.

Board members are J. Donald Rauth, chairman, Griffin B. Bell, Frank X. Bradley, John J. Byrne, James L. Everett III, Frank M. Ewing, William W. Hagerty, John L. Hanigan, Charles E. Hugel, Curtis E. Jones, Robert M. McKinney, Thomas G. Pownall, and David C. Scott.

Company officers attending, besides Rauth and Pownall, were Charles H. Leithhauser, Laurence J. Adams, Roy Calvin, and Mary Jane LaBarge.

## JA companies to sell products

Junior Achievement companies sponsored by Martin Marietta in Denver will sell products manufactured by the teenager operated businesses November 14.

The high school students will be at the engineering building cafeteria entrances during the lunch period.

The companies and their products:

**Rocky Mountain Woodchuckers:** Wood-

en, all-purpose, wall-mounted hat and coat racks.

**Genesis:** Bronco Babies and tow straps.

**Solar Mirrors Unlimited:** Make-up mirrors and model solar heliostats.

Employees interested in being JA company advisers for the second semester, January through May 1981, should contact Lori Sharp, ext. 6750.

## Winter coming; employees urged to be prepared

The Denver Aerospace safety organization is urging employees to prepare their vehicles, their driving habits, and their footwear for winter driving and walking.

"The crisp, cool morning air reminds us that winter weather soon will be upon us," said safety's Robert B. Morgan. "Reduced visibility, ice, snow, slush, and cold winds combine to take a heavy toll in vehicle and pedestrian accidents.

"Now is the time to take the precautions that will keep you from becoming a vehicle or pedestrian accident statistic," Morgan added.

Recommendations for winterizing a vehicle include:

- Check all fluid levels, battery condition, windshield wipers, heater and defroster, the braking system, tires and chains, the exhaust system, lights, suspension and steering, and the ignition system.
- Carry survival and safety equipment, including booster cables, shovel, tow strap, window scraper and brush, flares, traction mat, sand or rock salt, tire chains, blanket, warm clothing, and a flashlight.

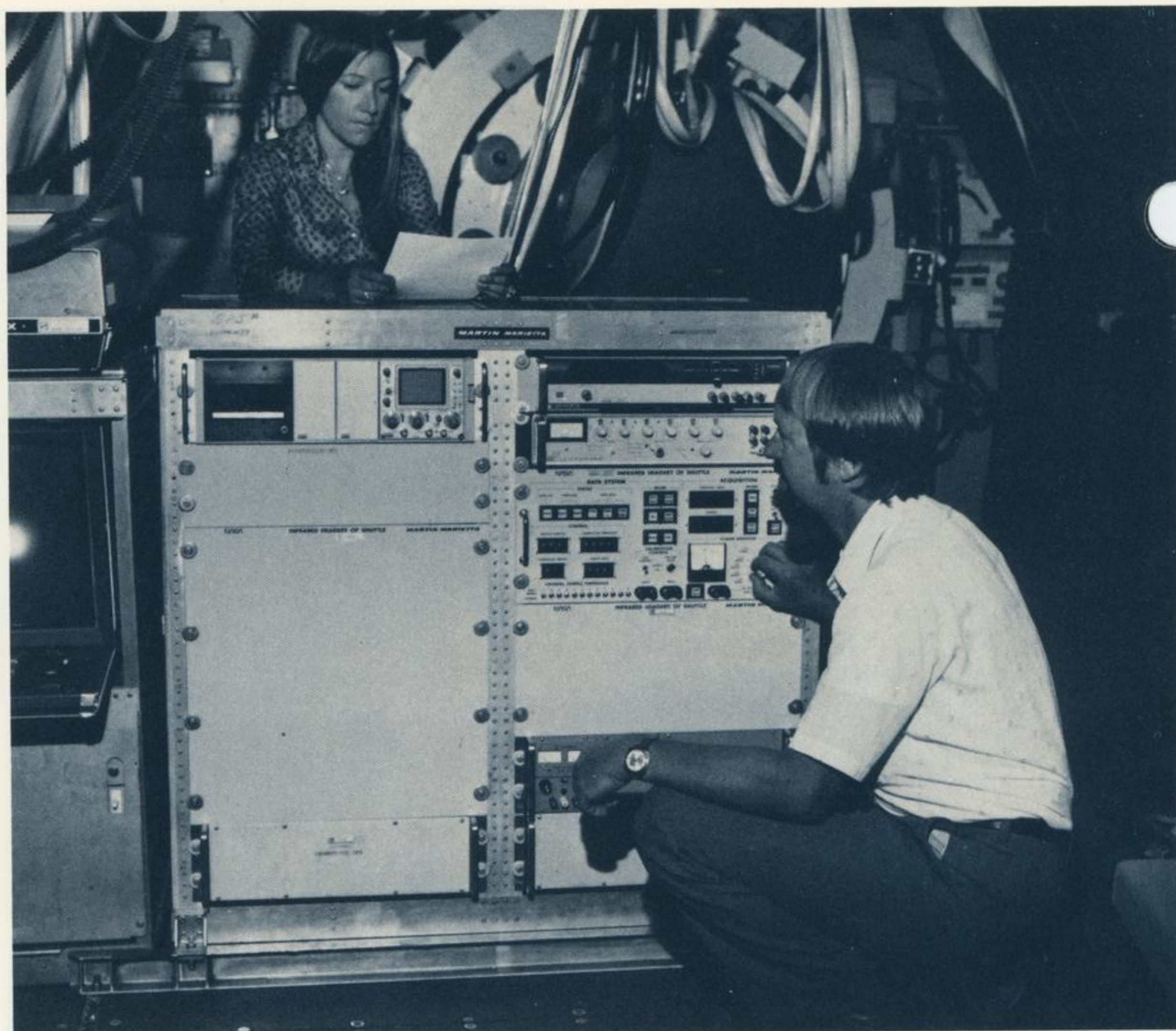
Driving habits need to be winterized, too, Morgan pointed out. Among his recommendations:

- Keep extra stopping distance between you and the car ahead.
- Plan ahead. Go slowly on slippery roads. Get up earlier and allow more travel time.
- Watch for icy patches, especially black ice.
- Pump brakes to stop on snow or ice; keep wheels rolling; don't lock brakes.
- Open windows slightly to maintain air circulation.
- Heavy rains can also make roads slippery.
- Don't brake on a curve; brake only when traveling in a straight line.
- Clean ice and snow off all windows.
- Run the defroster for a few minutes before you start to prevent sudden fogging of windshield.
- Use windshield wipers and washer to clean off road splatter.
- Correct skids by taking your foot off the accelerator; turn wheels in the direction the rear of the car is sliding; stay off brakes.

Icy sidewalks and roadways call for extra care in walking. Proper footwear can prevent accidents. Slip-over boots that grip on snow or ice can help prevent falls. Walk only in designated areas. Open-toed shoes invite frostbite and broken toes.

If you find a slick spot on sidewalks or roads at the plant, call ext. 4327 (HELP) to report it to maintenance.

Governor Richard Lamm was a recent visitor to Denver Aerospace for a briefing on operations and a tour of facilities. He is shown here with C.B. Hurtt, Denver Aerospace president, taking notes on the newest member of the Titan family of launch vehicles, the 34D.



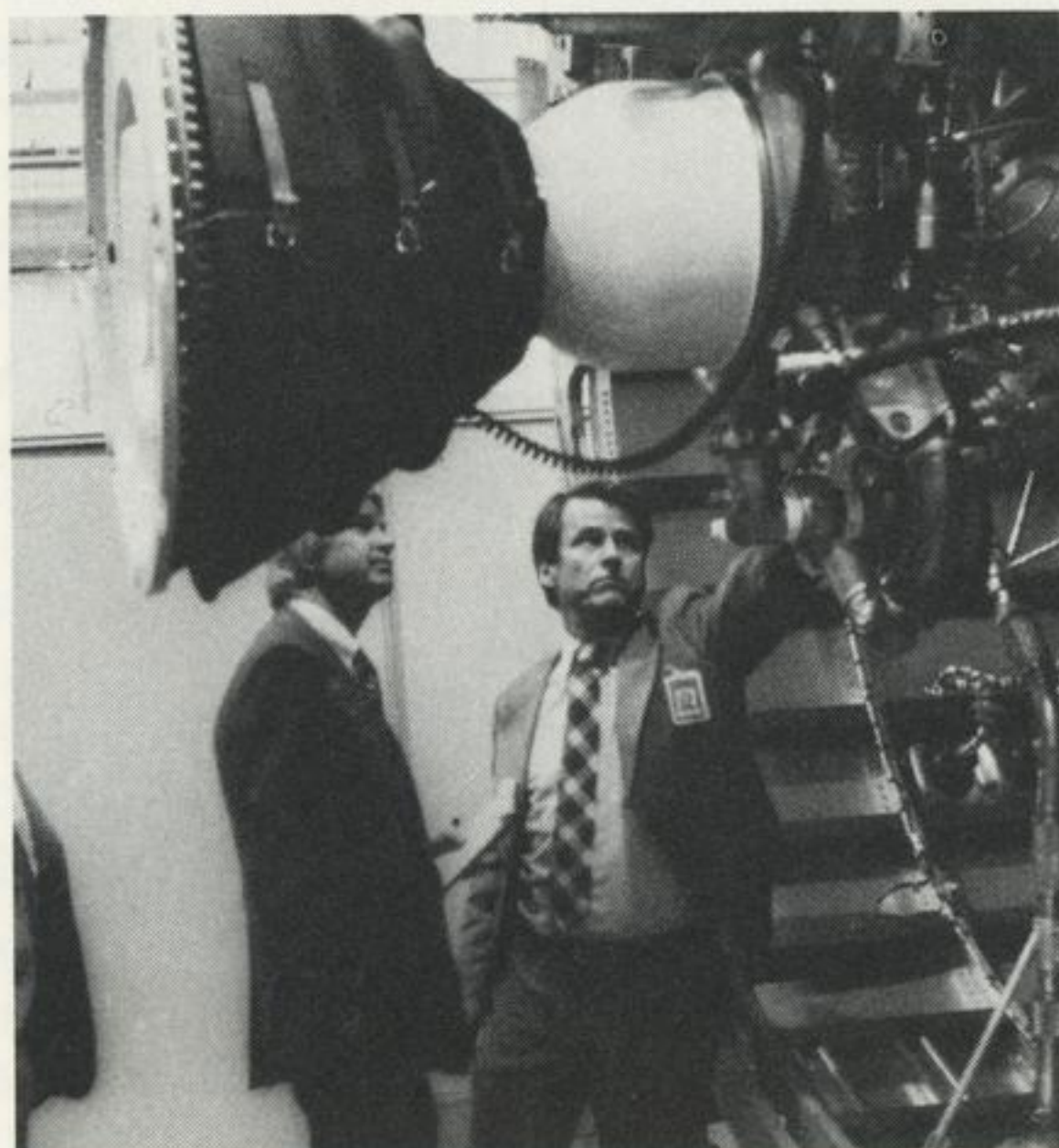
IRIS (for infrared imagery Shuttle) equipment is tested aboard a C-141 aircraft. Conducting the tests are Deborah A. Strange and Clifford J. Choccol.

### Weather-related plant closings to be broadcast

Radio stations KOA and KHOW will carry plant closing announcements for Denver Aerospace.

During severe winter weather, employees are encouraged to listen to these stations for information regarding possible work schedule changes.

KOA is at 850 on the AM dial and KHOW is at 630.



### IRIS ready for use on shuttle

The infrared imagery of Shuttle (IRIS) equipment is ready to measure orbiter re-entry heating. Denver employees have completed a series of tests on IRIS under the direction of NASA Ames Research Center.

IRIS will be used to measure the complete underbody of Shuttle orbiter as it re-enters the atmosphere on its first flight. The information obtained is expected to allow reductions in the orbiter's thermal protection system, thus increasing Shuttle's payload. The program is under the direction of Clifford J. Choccol, a senior research scientist in the payloads and sensors section.

Flight tests have been conducted at 41,000 feet in a C-141 aircraft to determine background levels of infrared radiation. Tests also have been performed on the ground, tracking a helicopter with a heat source to simulate orbiter re-entry heating.

### On the cover

The Space Shuttle external tank is lowered between twin solid rocket boosters shortly before it is attached to them at Kennedy Space Center. This milestone in preparing the Shuttle for its maiden voyage next spring was accomplished November 4. Assembly of the first Space Shuttle vehicle will be completed in late November when the orbiter Columbia will be connected to the external tank.

## Employees' guide is revised, distributed

The Employee's Guide has been revised and distributed to all exempt and non-exempt salary employees.

New employees who did not receive the book during orientation have been sent the guide binder and loose leaf contents. Employees who earlier had received the guide have received the loose leaf contents and inserts for the binder cover.

The update of the guide was prepared by Walter Martynec of professional and industrial relations.

Employees who have not received their new guide should contact their supervisor or may call professional and industrial relations on ext. 4699 or ext. 6650.

The guide provides a ready reference on the company; organization; facilities; personnel, technical, and business services; and on employee responsibilities.

## Employee commands Naval Reserve unit

R. Steven Tucker, manager of quality, reliability, and safety for the Michoud division at Kennedy Space Center (KSC), has been named commanding officer of a Naval Reserve intelligence unit at the Jacksonville, FL, Naval Air Station.

Tucker, a 20-year veteran in the Naval Reserve, holds the rank of commander. He previously was executive officer of a technical intelligence unit at Patrick Air Force Base, FL.

His new unit is responsible for preparing intelligence documents in support of Navy installations in the greater Jacksonville area.

Tucker has been with external tank operations since 1973, transferring from Michoud to KSC in 1976.

## Recreation

**Dinner Theater:** Center seating has been reserved for employees at the matinee performance of "The King and I," Saturday, December 6, at Boulder's Dinner Theater. Luncheon, with a choice of four entrees, will be served at the table from 12:15 pm to 1:30 pm. The performance begins at 2 pm. Reservations, at \$13.45 per person, may be made by November 14 at the recreation office.

**Discount Tickets:** The recreation office has a variety of discount offers for sports events, entertainment, and restaurants.

## Canaveral United Way campaign under way

Goals of \$27,000 and 100 percent participation have been set for the Canaveral operations United Way campaign. The dollar goal is a 10 percent increase over 1979. Fred Marshall, quality, is the campaign chairman.

In addition to financial support, several Canaveral employees are contributing their time to the campaign:

Felix J. Scheffler, Canaveral operations director, is chairman of the drive's aerospace division; and

H. Ritchie McConahy, test operations, is serving as a loaned executive for the fifth consecutive year.

Three employees are members of the budget review panel: Victor S. Butkis, industrial relations; and James R. Forham and Sally J. Smith, material.

## Aerojet employees earn safety award

Aerojet Service Company employees stationed at Denver Aerospace have earned their company's President's Award for 683 days without a lost-time accident. The company's year-round safety goal is zero lost-time accidents.

For achieving the safety-goal, each of the 17 employees has received a \$50 gift certificate at a store of his choice and a nylon jacket.

Col. Kenneth G. Haug, the U.S. Air Force plant representative here, commended the safety record in a letter to the company's president. He said, "Mr. Issac Jacobs' positive attitude toward safety has flowed down all levels of the organization, resulting in one of the safest facilities here at Martin Marietta. Congratulations for your success in the field of accident prevention." Jacobs is Aerojet base manager.

Aerojet employees service the Titan engines from the time they arrive in Denver until they are shipped to launch sites. The engines are manufactured by Aerojet Liquid Rocket Company in Sacramento.

## Interest increased on savings bonds

A one percent increase in the interest rate has been approved for U.S. Savings Bonds and Savings Notes.

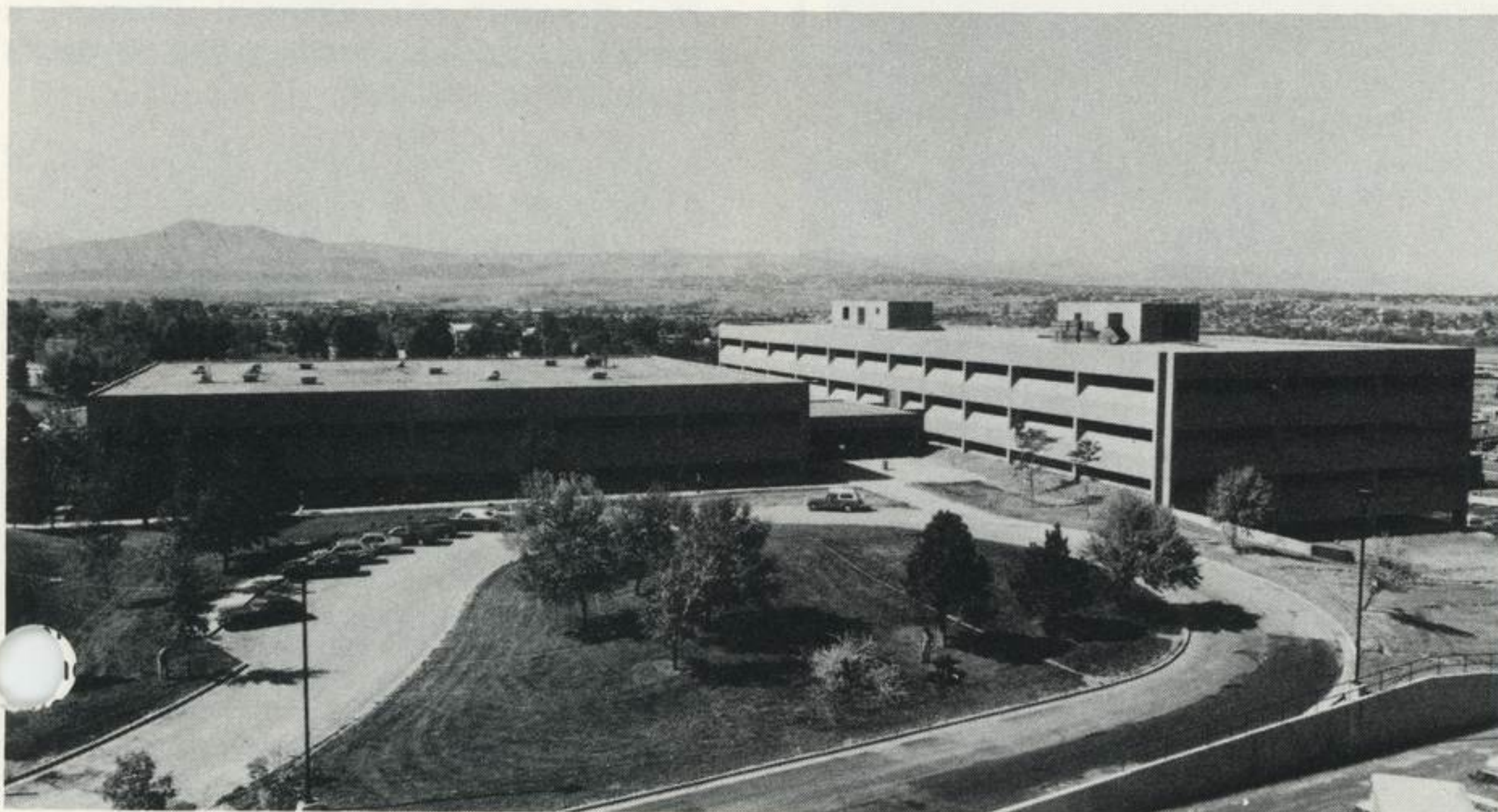
The increase was approved under new legislation that permits the Secretary of the Treasury, with the President's approval, to raise interest rates by up to one percent in any six-month period. Previously, the interest rate ceiling was fixed by statute.

The interest rate on Series EE bonds purchased on or after November 1 was increased from seven percent to eight percent, compounded semiannually, when the bonds are held to original maturity. The term to maturity is being shortened from 11 years to nine years.

The interest rate on Series HH savings bonds purchased on and after November 1, was increased from six and one-half percent to seven and one-half percent to their original maturity, which remains at 10 years. Interest on these bonds is paid semiannually by check.

All outstanding Series E, EE, H, and HH savings bonds, as well as outstanding savings notes (Freedom Shares) also benefit from a one percent increase to their next maturities.

The new eight percent rate for EE bonds and the seven and one-half percent rate for HH bonds will be guaranteed minimum yields to their original maturities.



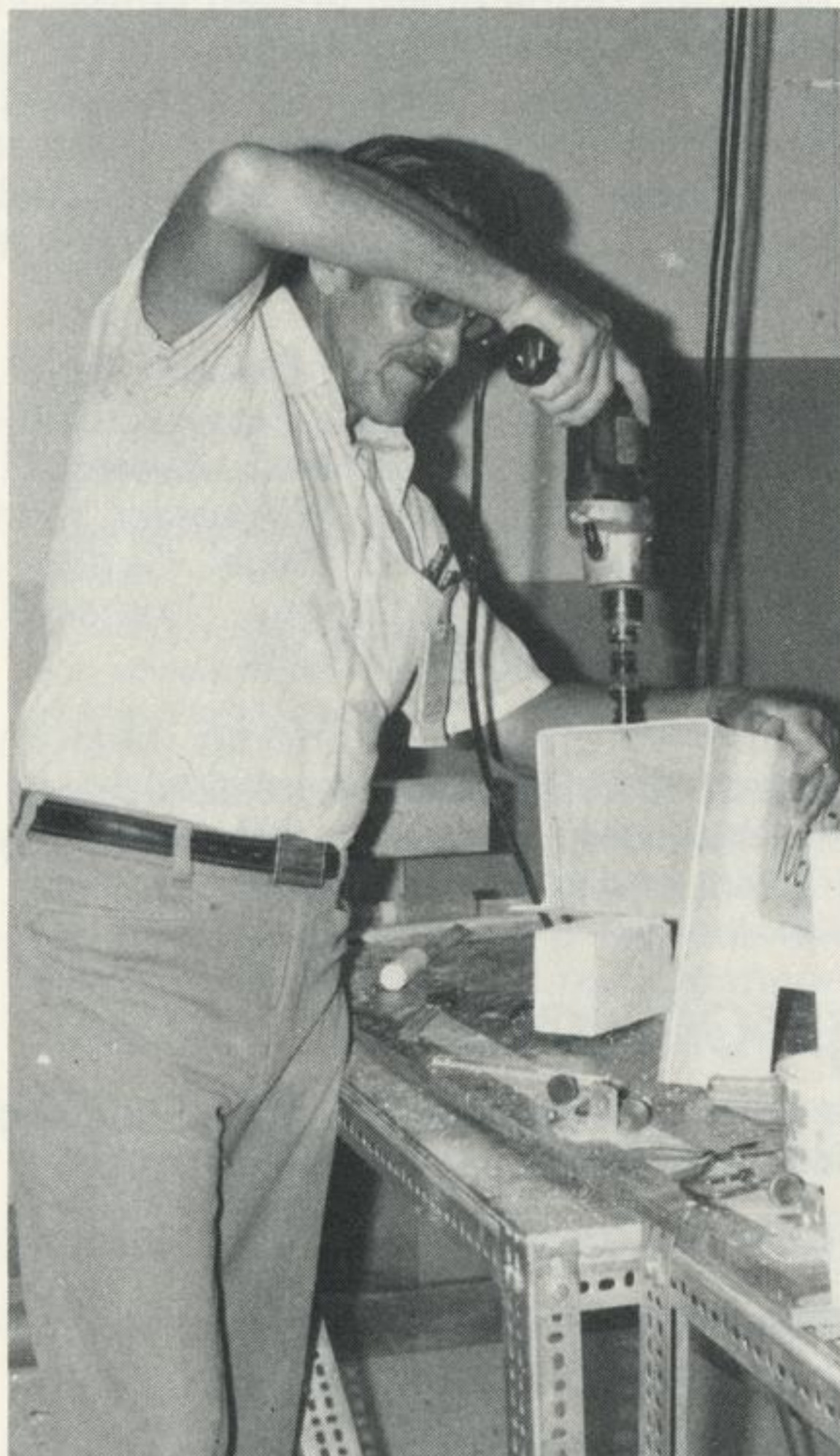
The 142,000-square-foot, four-story addition to the Denver System Center, at right, should be ready for occupancy in the first quarter of 1981. Work is on schedule, most of it now being done inside the building.



Checking on the dimensions on a plexiglass mold is Thomas Blythe.



Epoxy is spread on a styrofoam form before fiberglass cloth is applied to build a mold for external tank modification. Fred Burlew is preparing the mold.



Finishing touches are put on a fiberglass mold for the ice debris modification to external tank by John O'Reilly.



Taking a Kaman reading on a vertical strut on the first flight external tank at Kennedy Space Center is Charles Owens, a Michoud division technician on temporary duty at the division's external tank operations at KSC. The meter is used to electrically measure the thickness of the thermal protection system (TPS). The thickness varies depending on the area of the external tank and must meet strict design standards.

## External tank ice debris change difficult

One of the most difficult modifications required on the Space Shuttle's external tank has been the ice debris modification—known as "blue streak."

Since the modification was a late requirement, the work on the first flight tank has been done by Michoud division's operations at Kennedy Space Center (KSC). The work began in September 1979.

The modification is necessary to prevent ice from forming on the external tank when it is loaded with its super-cold propellants. If ice formed, it might dislodge at liftoff and damage the orbiter's protective tiles.

Additional foam insulation is being applied to the external tank by several methods, including injecting it into molds. Molds are used around more complex areas to provide better configuration control.

Approximately 100 molds, formed from plexiglass and fiberglass, have been fabricated at KSC.

Plexiglass molds are used where possible to allow technicians to see voids forming in the foam. Fiberglass molds are used in the more complex areas because plexiglass is not flexible.

Molds are built from tool drawings and take from two hours to six weeks to construct. They weigh from a few ounces to more than 80 pounds.

## Michoud completes United Way drive

The recently completed United Way campaign at the Michoud division ended on an upward trend from 1979 with 98 percent of employees contributing, up from 94 percent in 1979. Employees also increased the amount of pledges, from \$62,000 in 1979 to \$83,000 in 1980, an increase of 25 percent.

Department campaign coordinators were commended for their work. They were Sharon Hursey, Suzette Archie, Linda Anderson, Beth Bourgois, Kay Seaner, Sally Kehm, Shirley Kirk, Janet Alvarez, Ruth Drum, Richard Ryan, Sharon Reed, Susan Law, Janet Maupin, Claudia Stein, Joe Litfin, Howard Houlemard, Joleen Rauch, Betty Campbell, Shirley Phelps, Vern Brett, and Myrna Bowling.

**MARTIN MARIETTA NEWS**  
Published by Public Relations  
**MARTIN MARIETTA AEROSPACE**

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Denver Aerospace  
P.O. Box 179 • Denver CO 80201

November 1980