

MARTIN MARIETTA

news

DENVER DIVISION

NUMBER 16/1978

**TRS design
is reviewed**



Cafeteria remodeling plans are unveiled

Denver Division people returning after the holidays will find the Engineering building cafeteria missing!

But food service personnel say, "Don't worry, the cafeteria will have been moved upstairs temporarily to make way for remodeling of the first floor facility."

Work will begin December 22 and continue through the holidays. The temporary second floor cafeteria will be ready January 1 and remodeling of the first floor facility will be completed in early April 1979 when the second floor will revert to office space.

Remodeling plans show a floor concept featuring round tables and booths as well as table rows and a serving area with grill, deli, hot food line, beverages, and soup n' salad bar. Carpeting and a new color scheme using earth tones, natural woods, hanging plants, and indirect lighting will enhance the cafeteria atmosphere.

Plant operations and food services personnel are making the changes as a result of employee suggestions to reduce noise and crowding, and to improve food selection and dining environment. Otto Rieth, manager, operations and services, said the new plan complements the overall Martin Marietta facilities plan and will enhance the present operation.

"We believe the new plan offers a quiet, attractive place to eat," said Rieth. "We will be able to accommodate people with shorter lines and less confusion. I'm looking forward to it."

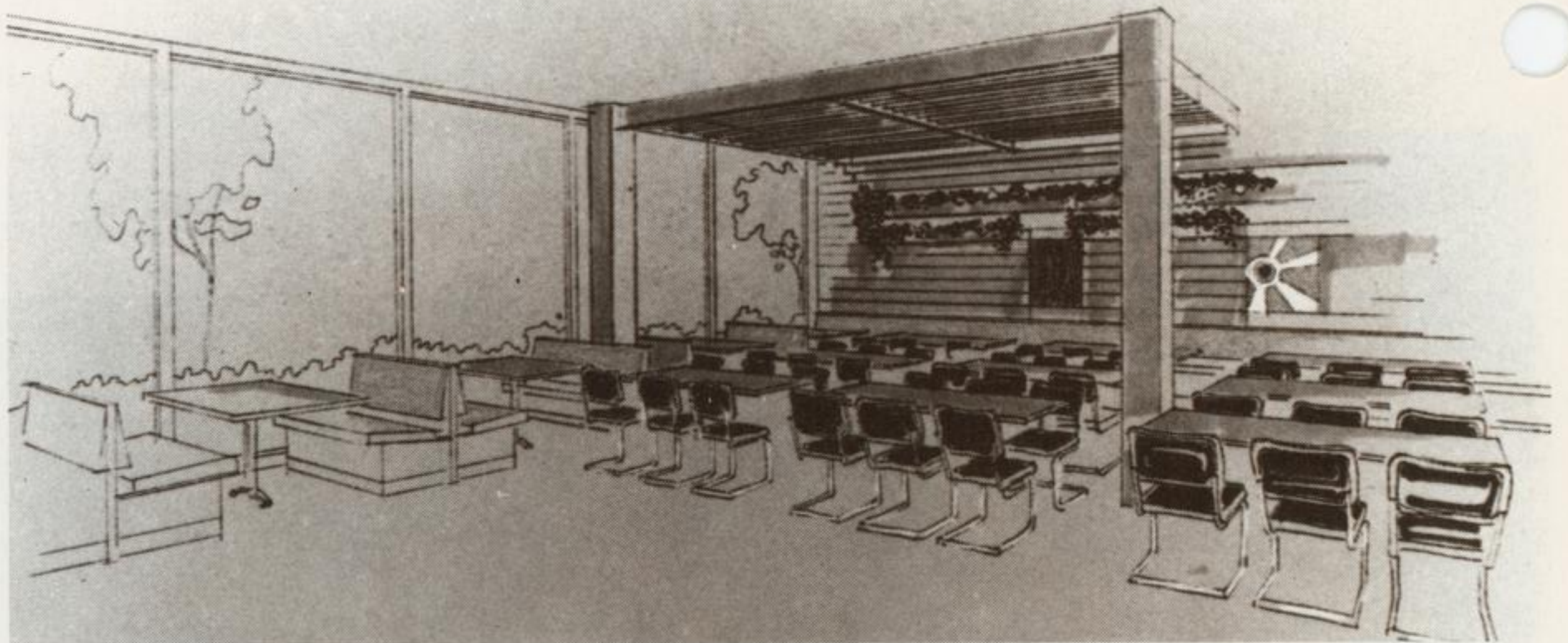
Food service manager, Phyllis Montgomery, said new lunch schedules based on employee's physical location will be issued before December 22.

"We encourage employees to abide by the schedule," said Montgomery. "This way, lunch will be a more efficient and pleasurable time for everybody."

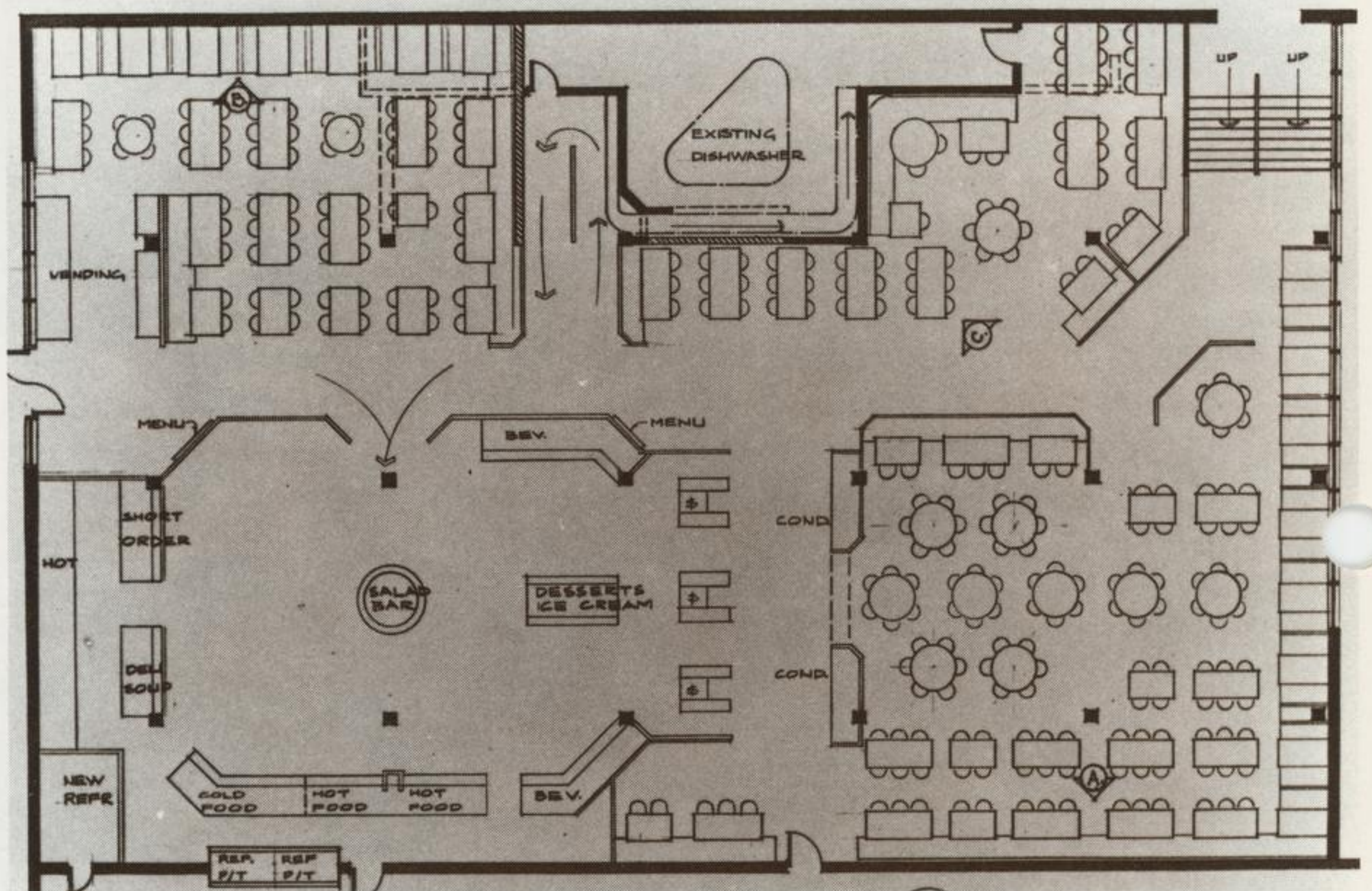
A grand opening will be held in April and people from other Denver Division locations are invited to attend. Suggestions or questions may be directed to food and vending services, extension 4373, mail 2830.

On the cover

Robert Aller, (left), NASA director of the Skylab program, inspects the teleoperator retrieval system (TRS) full scale mockup with Robert J. Molloy, right, TRS program director. Aller and other NASA officials visited the division for the TRS critical design review.



Architect's drawing portrays new look planned for cafeteria.



Layout shows floor plan for cafeteria remodeling.

TRS design review completed

Designs for the unique space tug Teleoperator Retrieval System (TRS) received final review last week prior to the start of assembly.

Approximately 200 representatives of the National Aeronautics and Space Administration (NASA), Martin Marietta, and subcontractors were involved in the five-day critical design review.

On Friday, November 17, the review board headed by John Harlow, manager of the TRS project at NASA, gave its approval of the project with few recommended design changes. Robert J. Molloy is directing the program for the Denver Division.

The TRS is a small, unmanned craft carried into space in the cargo bay of space

shuttle. Piloted by remote control from the flight deck of the shuttle, the TRS has the capabilities to dock with, retrieve, inspect, service, and maneuver other spacecraft.

The first mission scheduled for the space tug will be to either push the 80-ton orbiting Skylab into a higher orbit, or to guide the craft onto a trajectory that will return the lab to earth. The Skylab mission has been planned for late next year.

Construction of the Teleoperator's main, strap-on propulsion kits and core is expected to begin on schedule, February. After testing, the craft will be delivered to Kennedy Space Center in Florida September 1 where it will be launched for the Skylab mission on the second flight of space shuttle.

Name change

Launch vehicles now space launch systems

Launch vehicles--a name used "at least 20 years" by the organization responsible for design and manufacture of the Titan III workhorse launch vehicle--has been changed to space launch systems.

"We have changed the name to more clearly reflect the expanded mission of the department," said C. E. Carnahan, who heads the organization. "Our involvement with the Air Force space shuttle system through the payload integration contract (PIC) and the ground support system (GSS) seemed to make the name change appropriate. It is a name that closely resembles the one the Air Force uses for its office through which we work."

Carnahan said the name change "does not mean any reduction in emphasis on our Titan work."

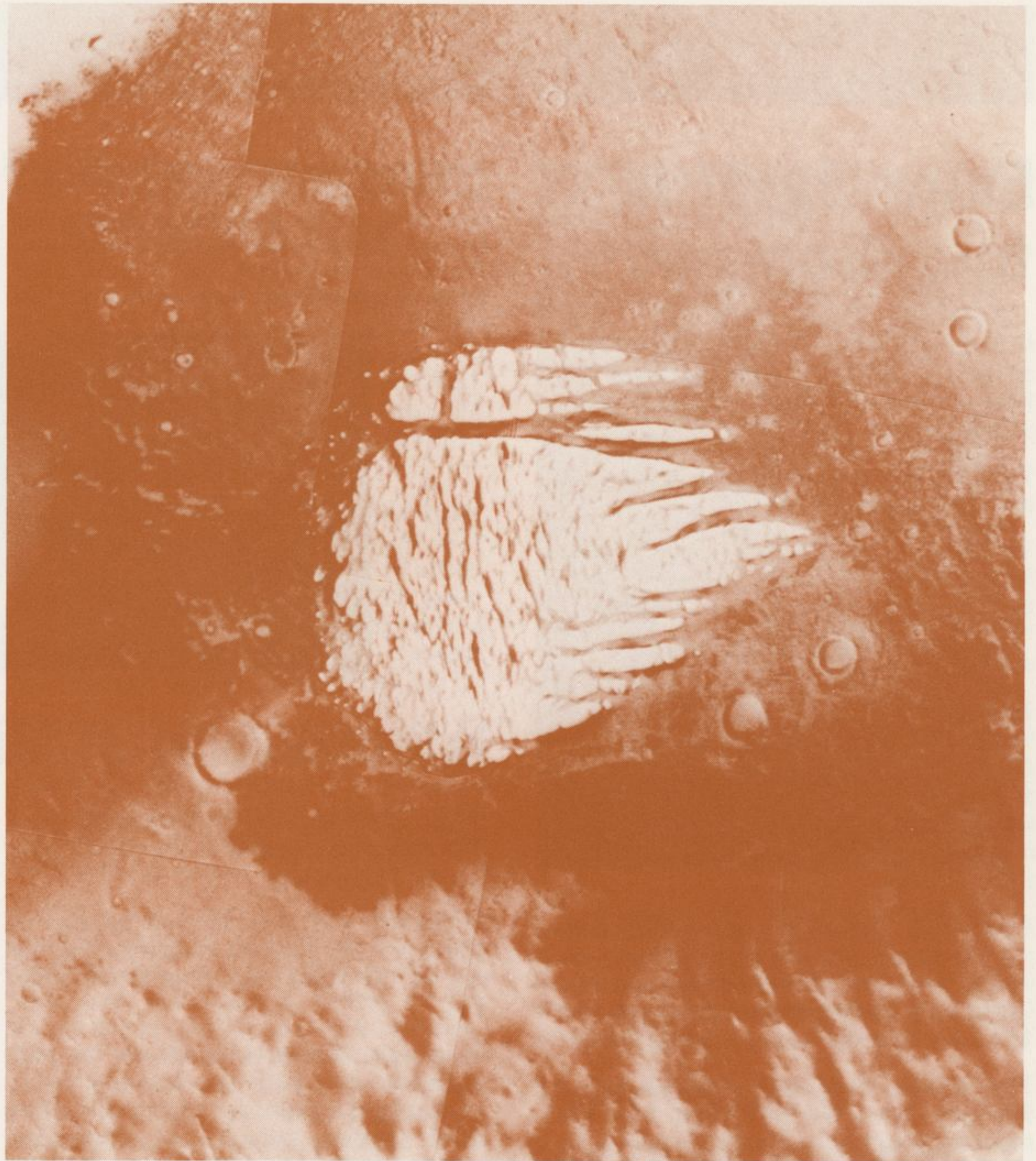
"We will continue to produce Titan," he said, "and as you know we have a new member of the Titan family that is about to become an important addition to the launch vehicle program. That is the Titan III/34-D."

The name change will not change the structure of the organization nor the names or functions of any of the department's sections.



Houston Waring, right, editor emeritus of the Littleton Independent, receives a copy of a film in which he is featured from C. B. Hurtt, vice president and general manager of the Denver Division. The division purchased the film from the National Archives in Washington DC and is donating it to the Littleton Historical Museum. The film, entitled Small Town Editor, was produced in 1951 by the U.S. Information Service.

When the film was made, the State Department feared West Germany would be dominated by one newspaper publisher. The film, produced in nearly 30 languages, was used to show the role played by America's independent weekly newspapers in democracy and was distributed in 83 countries.



A strange feature inside a Martian crater, the only such feature seen on Mars, will be the subject of a study for scientists on the Viking mission. Although nicknamed "White Rock," its composition is unknown. Scientists have deter-

mined it is neither snow nor ice because of its equatorial location. White Rock is 8½ by 11 miles long. It was first seen by Mariner 9 in 1972. This composite photograph was made by Viking orbiter September 1, 1978.

SCATHA arrives at Canaveral one week early

Moving through two sets of tests at Goddard Space Flight Center more quickly than anticipated, the SCATHA spacecraft has been delivered to Cape Canaveral one week early to begin preparations for launch in January 1979.

The mass properties and magnetic properties tests at Goddard were successful. There were no difficulties, and the contingencies built into the schedule were not used.

George L. Duvall lead the mass properties testing for the division. William S. Adams was in charge of the magnetic properties test.

At Cape Canaveral, the spacecraft will undergo further tests including a series of system functional tests and data tape recorder tests. Batteries will be connected and charged, solar arrays will be refur-

bished, and recalibrated and refurbished experiments will be reinstalled.

Later, SCATHA will be put through compatibility tests with the Air Force satellite control facility in Sunnyvale CA through real-time communication between the facility and the spacecraft.

Launch is scheduled for January 25, 1979.

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Employees who have assisted in preparing exhibits for the Metropolitan Science Center watch a pendulum that is part of one exhibit. They are posed in front of the DEC PDP9 computer that will be installed at the center. In the photo, standing left to right, Elliott Drayton, Robert L. Stanford, Gerald E. Simonson, and James Hardy; seated are Judy Gerlach, M. L. Clevett, John Ulrich, and Eliot Payson.

Employees aid in new science center

A hands-on science center at Denver's City Park pavilion is open, operating, and expanding through the efforts of Denver Division employees.

Gerald E. Simonson, chairman of the exhibit committee and a member of the board of trustees of the Metropolitan Science Center, said Martin Marietta employees are contributing ideas and materials, designing and planning exhibits, and serving as guides for the center.

The division has also contributed funds for the center through the Martin Mari-

etta corporate gifts program. A surplus DEC PDP 9 computer from the division was given to the center this past week and will be used to create programs visitors can operate. Installation of the computer will begin soon.

Simonson, who heads computer systems planning at the division, said, "The purpose of the center is to provide the community with three-dimensional scientific, technical, and educational exhibits and demonstrations.

"Most exhibits are designed so the visitor can participate in the experiment or observation," he said. "Signs tell visitors how to activate the exhibits and what to look for as the experiment progresses."

Employees who have helped prepare exhibits and are preparing to build others include Benton C. Clark, M. L. Clevett, David Davidson, Elliott Drayton, Judy Gerlach, James P. Hardy, Thomas Hawkins, James W. Lowrie, Eliot Payson, Robert L. Stanford, and John Ulrich.

"We are always looking for people who can spare a couple hours a week and like to build things," Simonson said. "If they give me a call, I am sure we can find a variety of things for them to do. The center's basement workshop is open from 10 to 4 pm each Saturday."

Walter O. Lowrie, vice president for technical operations for the division, was recently re-elected chairman of the Metropolitan Science Center's board of trustees.

The center is open to the public Wednesday through Saturday from 1 to 5 pm.

Galileo Jupiter program proposal due December 12

A proposal to build flight and support equipment and to develop flight software for NASA's Galileo Jupiter program is being prepared by the division for submittal December 12.

A. M. Sandoval is proposal manager.

Work being sought is for the Project Galileo altitude and articulation control subsystem electronics and includes altitude control electronics, propulsion driver electronics, and despun control electronics.

The award is expected in March 1979 for the 18 to 20-month contract.

Working with Sandoval on the proposal are James A. Kaehler, flight equipment; Arnold W. Ash, support equipment; Patrick A. Demartine, software; and Garland Roe, management volume.

Employee elected to post

S. L. Russak, manager of payloads, sensors, and instruments, has been elected treasurer of the League of American Wheelman, the nation's largest organization of touring bicyclists. He is also director of the League's Rocky Mountain region.

The league was founded in 1880 to promote bicycling and later was active in efforts to get the first paved roads in the United States—roads to be used by cyclists.



William Johnson, left, an industrial engineer in manufacturing, chatted with Timothy E. Wirth when the second district congressman visited the division before the November 7 general election. Wirth was successful in his bid to retain his seat in the U.S. House of Representatives. Also visiting were Kenneth B. Kramer, fifth congressional district and Patricia Schroeder, first congressional district. All candidates complimented employees for their interest, the quality of their questions, and their courtesy.

Division exceeds United Way goal

Employees in Denver have pledged \$253,338 in the division's recently completed Mile High United Way campaign, exceeding the \$222,000 goal established by the United Way organization.

Coupled with the Martin Marietta corporate gift of \$35,000 and employee cash contributions of \$559, the division will provide \$288,897 to support activities of the 70 United Way agencies in 1979.

Although participation did not reach the hoped for 100 percent, the per capita giving by employees increased from \$37.72 last year to \$57.59 this year.

Public relations director to speak at conference

John H. Boyd Jr., division public relations director, will be the closing speaker at "Media '78--Colorado," a one-day conference December 5 that will bring news media representatives and business leaders together to discuss reporting of business and economics. The purpose of the one-day meeting is to seek an understanding between the two groups.

The conference is being sponsored by the Foundation for American Communications and the Colorado Association of Commerce and Industry's Project Confidence. The Colorado Broadcasters' Association, the Colorado Press Association, the University of Colorado School of Journalism, and the Keystone Center for Continuing Education are participants in the program.

"Business people are frequently critical of news media, accusing reporters and editors of being economic illiterates, of holding anti-business bias, and of providing inadequate coverage of complex topics," says Boyd. "On the other hand, reporters and editors are frequently critical of business, accusing executives of being over-sensitive, guilty of misrepresentation, and unavailable for comment when the heat is on."

In remarks prepared for the conference, Boyd will say, "...sound reporting on business and the economy is crucial because what happens in this area affects everything else that happens. Business and the economy are the source of our jobs and paychecks, the food we eat, the clothes we wear, the houses we live in, and all the other things we use in daily life.

"Here is the very wellspring of the nation's strength, of tax revenues for government programs, of our ability to compete in world markets, to defend freedom in an uncertain world, and to solve our many social and personal problems. Sound reporting is uniquely the key to sound public policies and the sound economy that forms the basis for a sound American future."

Employee named to chair society

George W. McGee, director of quality and safety, has been elected chairman of the Denver section of the American Society of Quality Control (ASQC).

ASQC is a 30,000-member national professional society devoted to the advancement of the theory and practice of quality control and allied arts and sciences. The Society is involved in educational certification programs for members.

At Vandenberg

Vandenberg employee is man of the hour

William Leary, who handles public relations for Vandenberg operations, was recently honored for his contributions in behalf of the U.S. Air Force at the California space launch site by more than 400 Air Force personnel and distinguished citizens.

In honoring Leary as man of the hour, Congressman Robert J. Lagomarsino read from the Congressional Record in which he cited Leary for "...service which greatly contributed to the present success of a productive relationship between the military base and civilian communities."

Secretary of the Air Force John C. Stetson said in a letter to Leary, "I am grateful for the opportunity to recognize a former, fellow naval officer for your outstanding contributions to the Air Force and our nation."

General Lew Allen Jr., U.S. Air Force Chief of Staff, in another of the many letters to Leary, congratulated him for his "long and distinguished service to the United States and for your efforts in behalf of Vandenberg commanders who continue to consider you a key member of their unofficial staff and to voice their praise for your energetic assistance."

At the close of banquet ceremonies, Maj Gen David L. Gray, commander of the 1st Strategic Aerospace Division at Vandenberg, presented Leary a plaque from the men and women of Vandenberg. The plaque was inscribed, "An attribute common to all great men is the motivation provided by their hearts that permits them to continually give so much of themselves and receive so little in return."



Congressman Lagomarsino and Leary



Otha L. Jones, right, director of Vandenberg operations, is shown accepting the commander's safety award from Brig Gen James H. W. Marshall, commander of the Space and Missile Test Center at Vandenberg Air Force Base.

Vandenberg operations earns safety award

Vandenberg operations recently received the Space and Missile Test Center (SAMTEC) commander's safety award for its operations over the past 12 years.

Otha Jones, director of Vandenberg operations, accepted the award from Brig Gen James H. Marshall, SAMTEC commander.

Martin Marietta's safety program was credited with 12 years of incident-free operation at SAMTEC's launch complex 4 on South Vandenberg. Sixty-nine vehicles have been successfully launched, involving extensive handling of ordnance, toxic propellants, cryogenics, and other potentially hazardous chemicals. An estimated 600 potentially hazardous tasks were performed in 1977. Also in 1977, 1,045,679 man-hours were worked without a significant or disabling injury.

A manager's safety committee, a supervisor's safety committee, and an employee's safety committee meet monthly. "Toolbox" safety meetings are held bi-weekly and attendance by all technicians is mandatory.

At Canaveral

Extra 'bird' is found on pad

It isn't unusual to see a "bird" perched on launch pad 40 at Cape Canaveral Air Force station, but the "bird" is normally a Titan missile.

The Air Force recently found an extra bird on the pad--Pigeon 103.

As quoted in the Cocoa (Florida) *Today*, Master Sergeant Cecil Snipes of the 6555th aerospace test group reported, "He was just sitting there underneath the missile."

Master Sergeant John Corfield explained that the white bird appeared healthy but uninterested in flying. The bird was tame and carried metal bands on each leg and a blue band of plastic on one leg. Each metal band was imprinted with letters and a number.

A check by *Today* on a list published by the American Racing Pigeon Union revealed that the letters designated the Gulfstream Racing Pigeon Club and the 103 identified the owner, Charles Geraci.

The pigeon had been released for a 300-mile race--a five to six-hour trip--and apparently had been blown off course by bad weather.

Geraci guessed that Pigeon 103 was blown out over the Atlantic and that the launch pad on the coast was the first landmark it spotted.

Bird and owner have been reunited and launch pad 40 is again the exclusive domain of Titan.

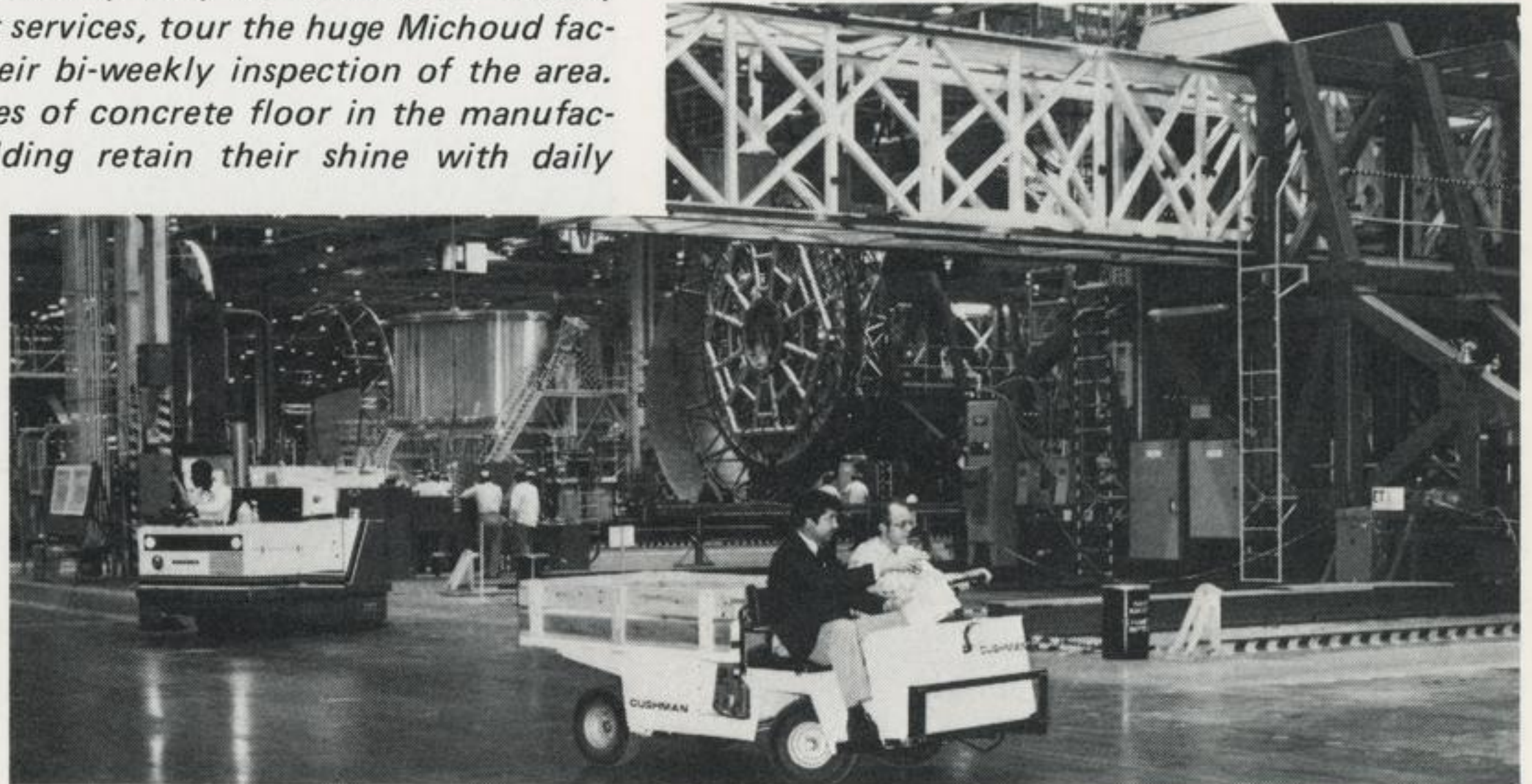
Canaveral employees reach 100 percent United Way goal

The 1978 United Way campaign at Canaveral operations has been completed with 100 percent of the employees again participating.

With 43.6 percent of the employees increasing their contributions, the annual donation has increased to \$21,845.72 and the average annual pledge is \$79.44 per employee.

At Michoud

Randy Tassin, facility and plant services manager at Michoud, left, and James E. Cullen, chief, plant services, tour the huge Michoud factory on their bi-weekly inspection of the area. The 43-acres of concrete floor in the manufacturing building retain their shine with daily cleaning.



Housekeeping at Michoud is a big effort

If you think keeping the homestead clean is arduous, be thankful you don't have Randy Tassin's job.

As facility and plant services manager at Michoud, he oversees housekeeping for one of the largest buildings in the country.

Cleaning a 43-acre building calls for a lot of people and patience. Keeping the 2-million-square-foot factory and office space spotless calls for an 82-member cleaning crew.

The work is done in two shifts with the day shift cleaning offices, lab areas, and emptying trash baskets and the night shift waxing office and factory floors.

The task isn't quite as back-breaking as it sounds. Three \$40,000 industrial cleaning machines are used to clean the largest areas. One sweeps, one scrubs, and one does both chores.

The inventory of housekeeping supplies reflects a very busy clean-up crew. For example, last year they used 3,910 pounds of hand soap, 1,230,000 plastic trash liners, 480 cans of scouring cleanser, 275 gallons of disinfectant, and 820 dust mops.

Tassin devised new cleaning systems to keep efficiency up and costs down. One was to epoxy seal the floors. "Unless the floors are sealed, it is difficult to keep a facility this size clean," he said. "We remove foreign matter from concrete (with 935 gallons of stripper annually) before sealing with epoxy. The seal lasts from five to six years, then the process is repeated."

A lighter wax is used to touch up the everyday traffic of trucks, cars, scooters,

and people. Touch ups called for 330 gallons of wax last year.

In other Michoud areas, cleanliness is crucial. Four clean rooms were designed as sterile environments in which valves and tubing for external tanks are made. They are virtually germ free. Floors slope and corners are rounded to keep dust from collecting in cracks. Work tables are stainless steel to avoid paint-chip contamination. Full time crews in white "bunny suits" keep the clean rooms spotless.

Michoud engineers had to devise a dust free environment where the thermal protection system could be applied to the tanks. Ablators, applied in a thick spray, cover the tanks to protect against extreme heat during launch.

Another important cleaning job is the tanks themselves. Although Tassin's team does not directly clean the tanks, they do provide the facilities and materials for the task. To clean one tank requires more than 450,000 gallons of demineralized water, 72,000 gallons of alkaline cleaner, and 24,000 gallons of de-oxidizer.

The alkaline detergent is carefully used to clean inside and outside the tanks. An acid etch is used on the outside to remove oxides before coating takes place. Once the interior is cleaned, it is sealed and reopened only under near sterile conditions.

Whether tank-cleaning or office-cleaning, you can be sure the Michoud crew has plenty to do around the 43-acre building. In fact, they even do windows - at a tune of 48 gallons of window cleaner per year.