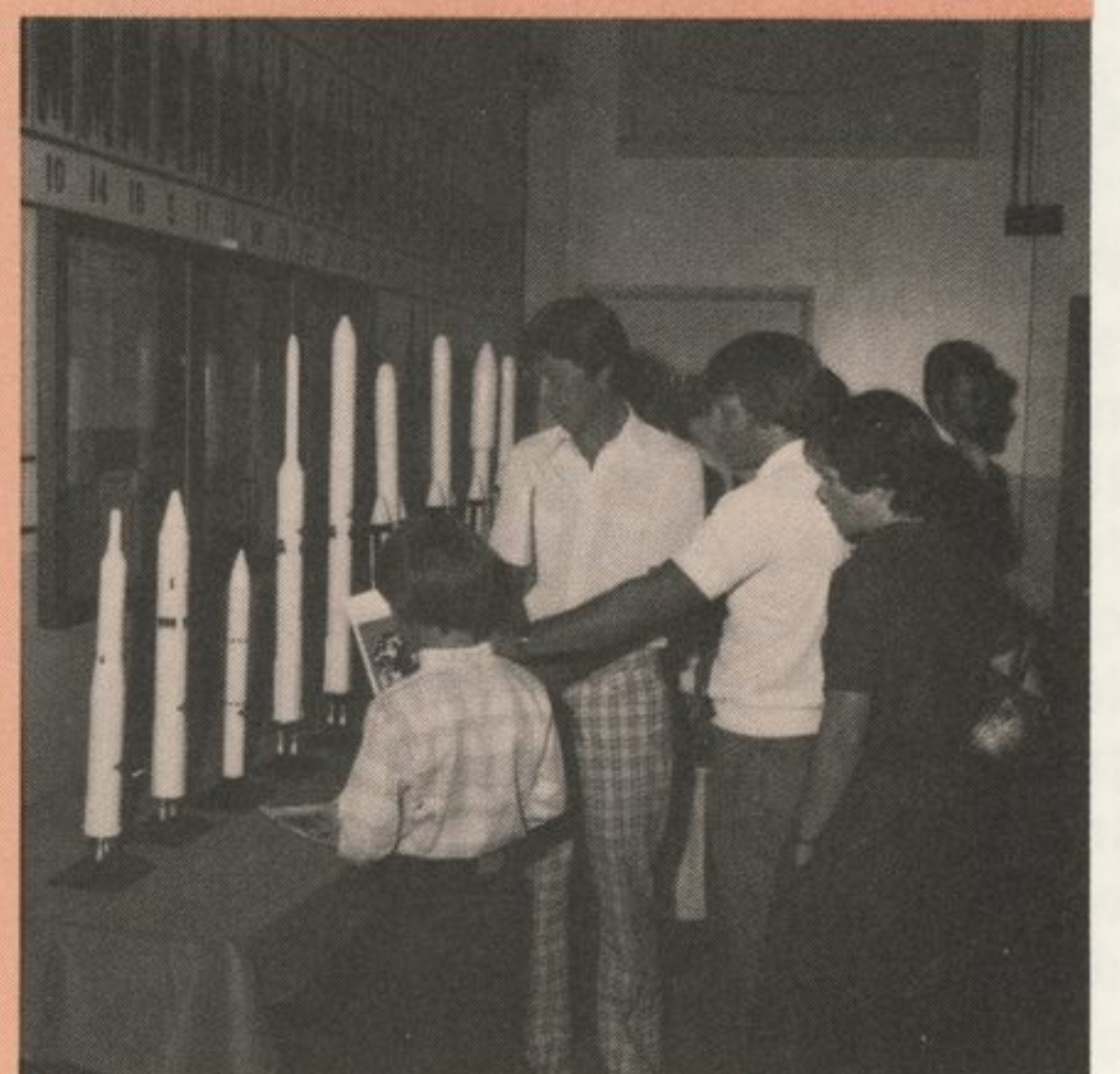
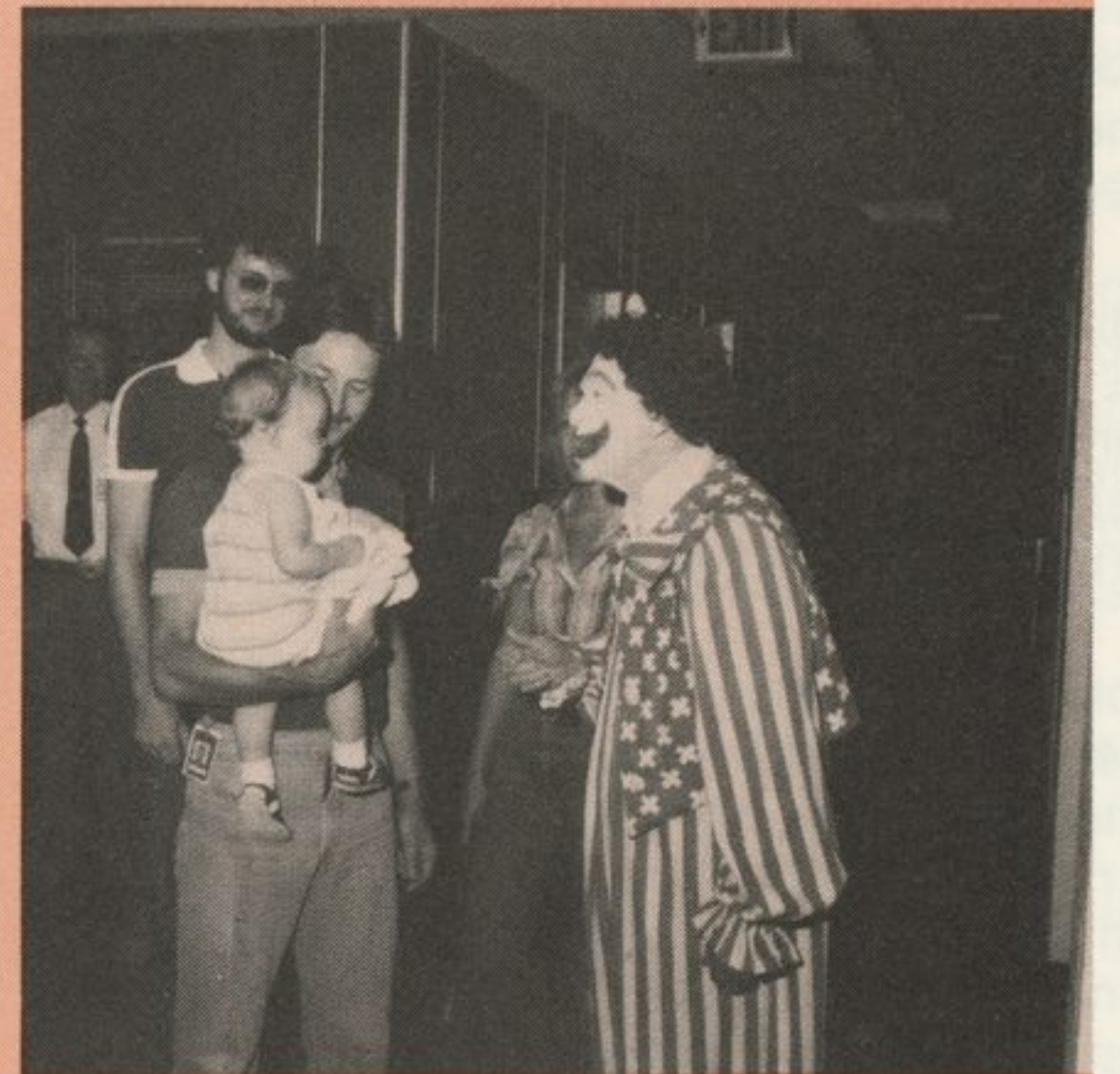
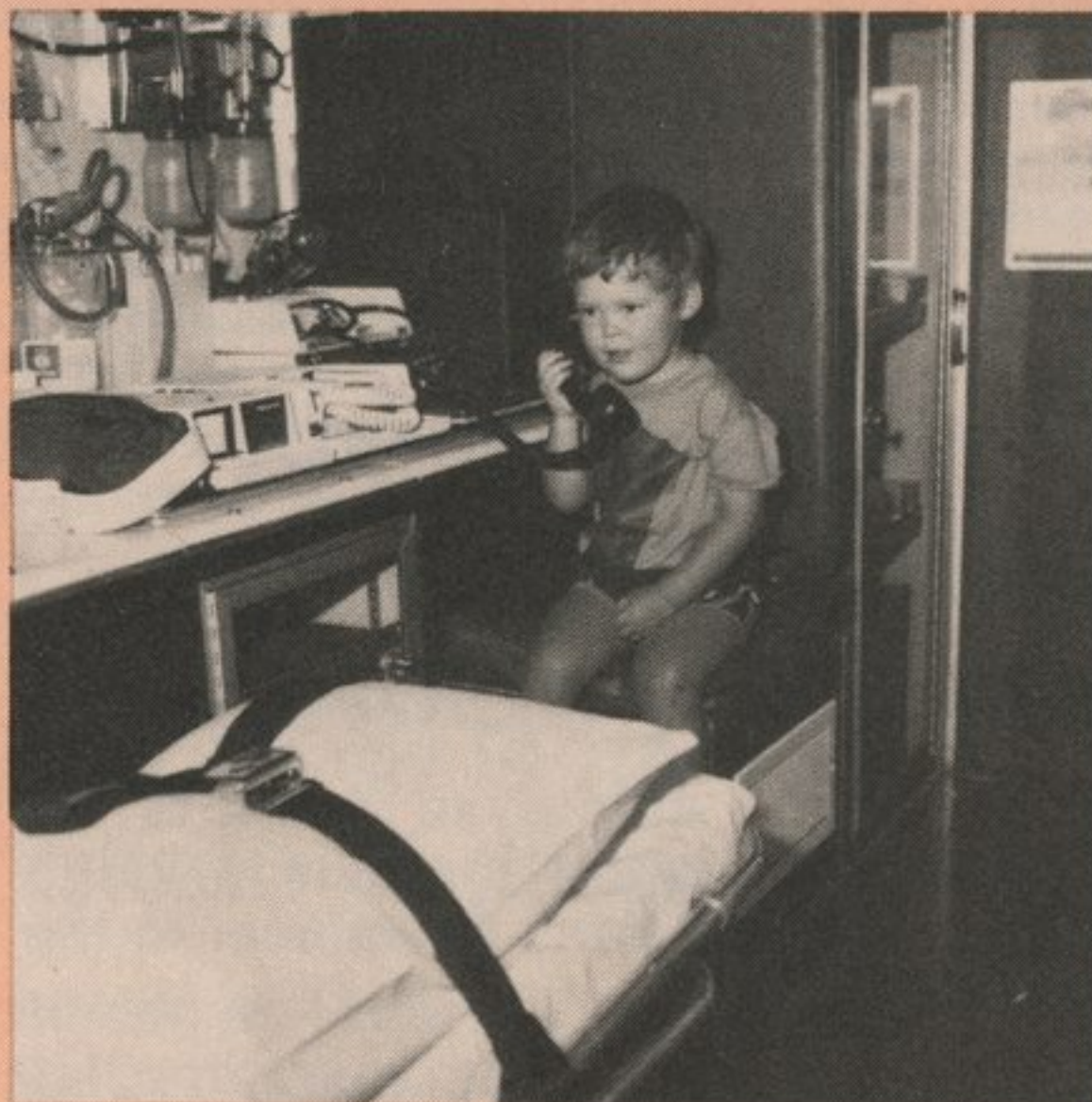
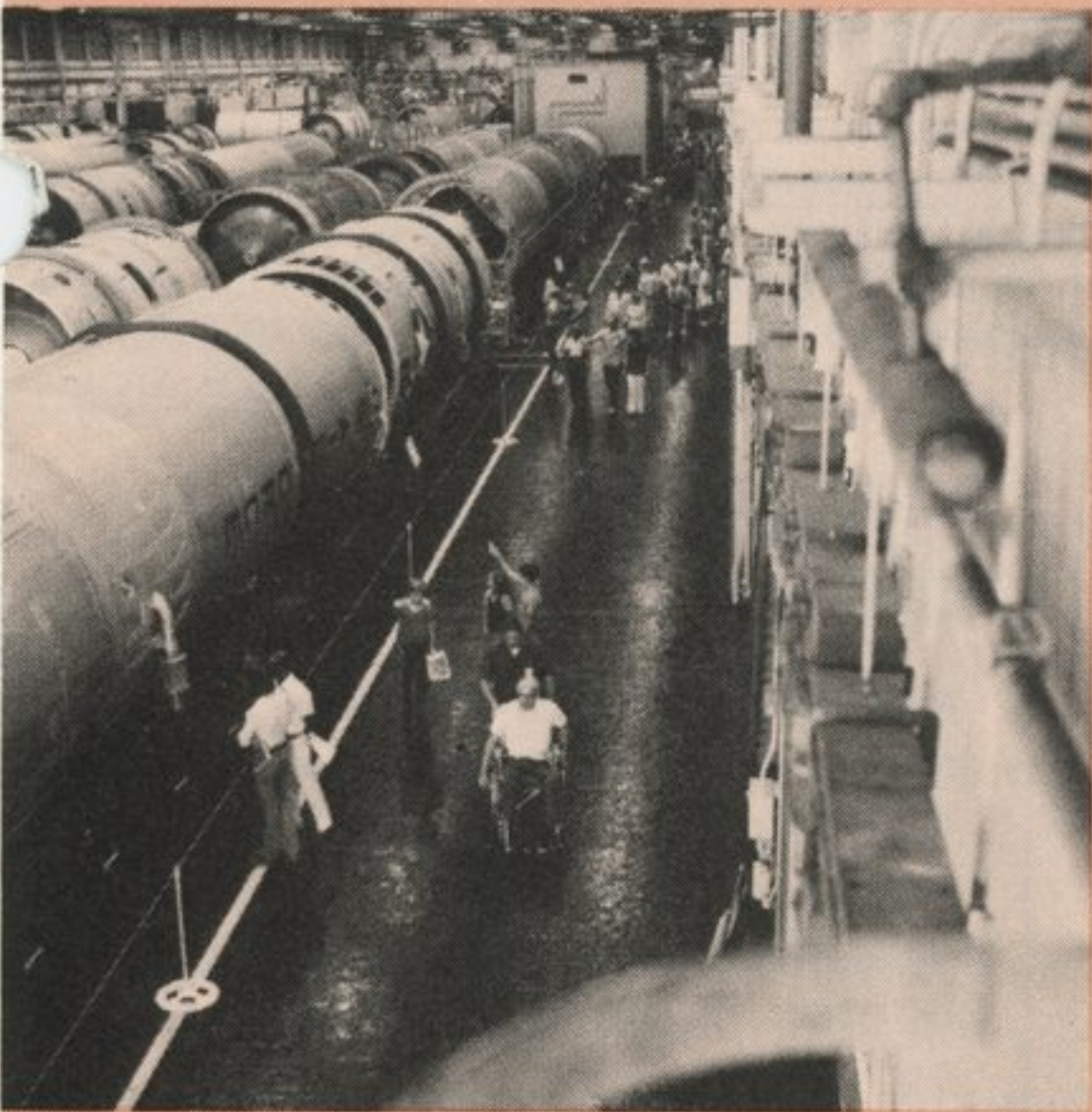


NUMBER 11/1980



Open house gives families glimpse of products, facilities

The division's July 26 open house gave employee families a good look at products, the tools used to produce them, and the facilities that make it all possible.

But, if one young boy had had his way, at least one piece of equipment would have had a new home—his.

Gary Clift, who attended the open house with friends, was sitting proudly in the driver's seat of the division's 1000 gallon diesel-powered telesquirt pumper, when he decided he'd like to take it home. It didn't matter that his feet dangled far from the pedals—his hands fit the steering wheel and that was enough.

The fire truck and the paramedic rescue vehicle quickly became main attractions for youngsters, rivaling the SCATHA spacecraft, the huge Titan vehicles, and the manned maneuvering unit for attention.

Grownups didn't ignore the vehicles — especially when a small hand touched off a blast from the warning horn — or the Titans, SCATHA, or MMU, but found all the exhibits "interesting," "fascinating," "educational," and as one visitor put it, "the cleanest manufacturing plant I have ever seen."

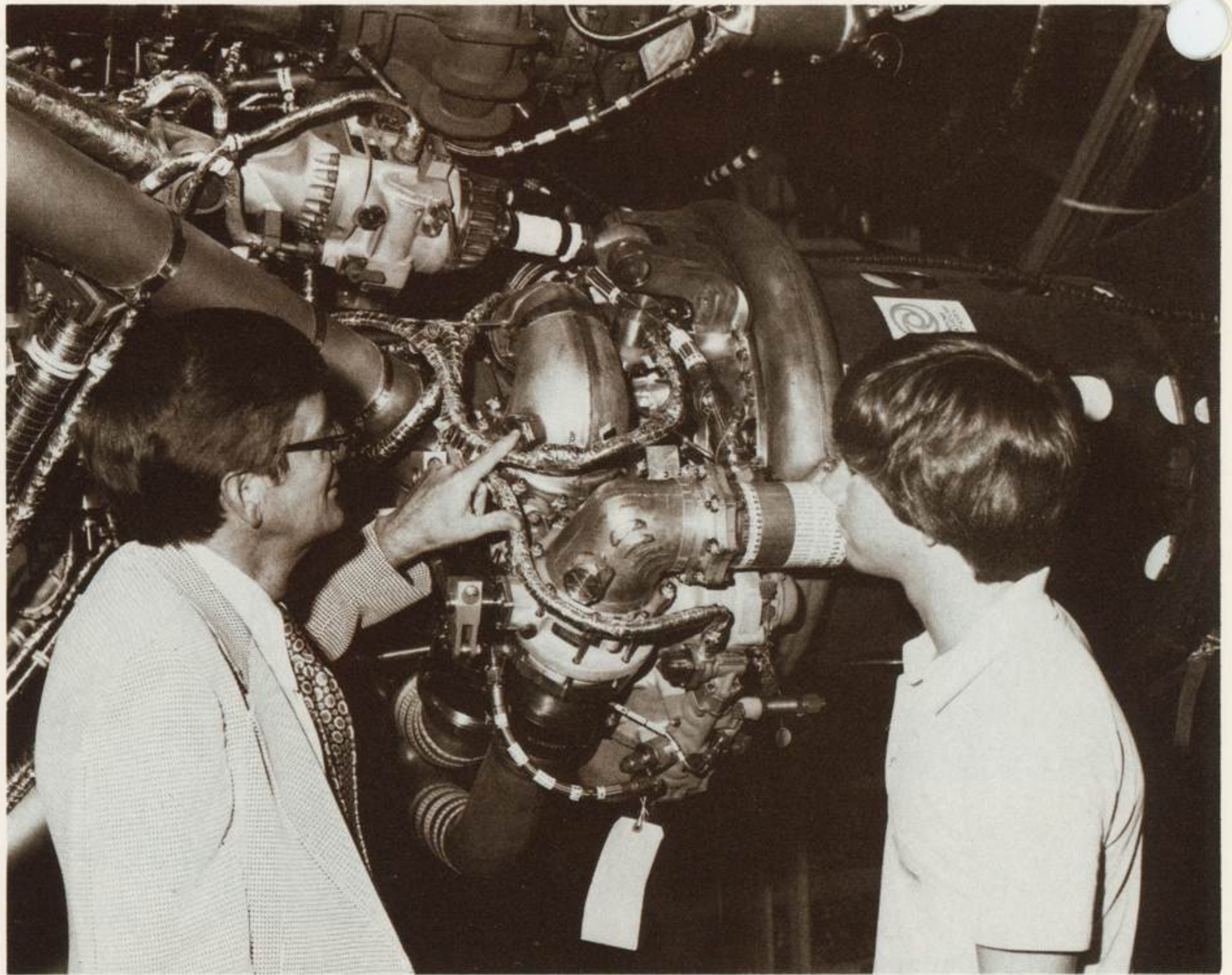
A guest from Sacramento commented on the size of the facilities. "This is a huge plant. I'm quite impressed with what I've seen." Then he added, "I am happy that I am applying for an engineering job here."

Along with division products, open house guests saw major product displays from other divisions in the Martin Marietta Aerospace exhibit. The Aerospace exhibit is used in major national and international exhibitions to make potential customers aware of the company's diversified capabilities.

More than 8000 persons attended the open house.

On the cover

Families came early and stayed late at the division's open house July 26. Greeted in the engineering building lobby—some by Shrine clowns—the visitors moved on to see a wide variety of division products. Youngsters looked intently at the displays, but were most happy exploring the division's fire and rescue vehicles.



Examining a Titan engine are Lee M. Gillespie, left, division manager of compensation, and his son, William. William, a senior at John F. Kennedy High School this fall, was among participants in the University of Northern Colorado's Frontiers of Science program who recently toured the division. The group was led by Professor William Koch, acting director of the program, and included Nancy Ondrake, Heritage High School, Littleton, and John Bishop, Lewis-Palmer High School, Monument, recipients of division scholarships for the program.

Benefits briefings are continuing for salaried employees

Briefings on employee benefits for salaried employees continue through August and into early September in the division.

In Denver, final sessions will be August 27; in Michoud, they will be concluded soon; briefings are complete in Vandenberg; in other offsite locations, the schedule goes into September.

As part of the meetings, each salaried employee will receive a new booklet that highlights the benefits. It is a companion to the handbook each salaried employee has received.

The introduction of the booklet reminds employees that at Martin Marietta benefits are more than a program, they are a commitment. "They are a dynamic, important part of our basic compensation. As a significant part of our compensation, benefits are reviewed on a continuing basis to make certain that Martin Marietta's total benefits package maintains its very favorable comparison with competitors within our various industries . . . and to insure that benefits are in line with needs."

Directors authorize dividend payment

A quarterly cash dividend payment of 58 cents per share on Martin Marietta common stock has been authorized by the board of directors. Payment will be made on September 30 to shareowners of record at the close of business September 8. The action continues the annualized rate of \$2.32 per share established by the board in its prior dividend action in May.

CU continues program

The University of Colorado program with the Denver division leading to a masters degree in aerospace engineering will continue in the 1980 fall semester.

Aero 517, "An Introduction to Fluid Dynamics," formerly "Macroscopic Physics of Fluids," will be offered on-site. To accommodate employee work schedules, Aero 501, "Atmospheric try," will be offered on the Boulder campus at 4 pm on Mondays and Wednesdays.

Employees interested in enrolling in the courses should call Bette Wooster, ext. 5698.

Martin Marietta display at Farnborough to show wide product variety

The Martin Marietta exhibit at the Farnborough air show will feature a tactical military message handling system, tactical weapon systems and sensors, and aircraft component manufacturing technologies.

Called the International Exhibit and Flying Display, the show will be held August 31 to September 7 at the Royal Aircraft Establishment southwest of London.

The company's exhibits are drawn from its three major aerospace operations in Denver, Baltimore, and Orlando.

Representing the company at the show will be L. J. Adams, Martin Marietta Aerospace president; Robert J. Whalen, Orlando division president; James A. Martin Jr., Baltimore division vice president and general manager; and Walter O. Lowrie, vice president for technical operations at Denver.

At Farnborough, the Denver division is introducing its commander's information management system (CIMS). CIMS, which uses currently available commercial hardware, is designed to provide a practical solution to tactical military message handling and to meet the challenge of interoperability among U. S. military forces, intelligence agencies, and the NATO allies.

The computer-based CIMS automatically formats messages, in many cases reducing processing times from hours to minutes. CIMS will typically be housed in two standard military shelters on two-and-a-half ton trucks.

In addition to command and information systems, Denver is a major supplier of launch systems and spacecraft and scientific instruments.

The Orlando exhibits include TADS/PNVS, an electro-optical system for the U.S. Army's new, advanced attack helicopter and the Copperhead laser-guided, cannon-launched projectile.

Martin Marietta and Diehl GmbH, Federal Republic of Germany, have formed a partnership called PGM Systems to produce the Copperhead artillery rounds in Europe, with participation expected by other NATO countries.

Orlando will also exhibit the Pershing II weapon system, and a wide range of navigational, guidance, fire control, and target identification devices.

The Baltimore portion of the exhibit includes fan reversers for commercial aircraft jet engines, structural components for both commercial and military aircraft, and lightweight composite structural materials for aircraft.

Recreation area use rules are set

Rules have been established for division recreation area and facilities use. The basic rules are:

- Reservations for use of facilities should be made 10 days before the date of use. Persons using the facilities without approval may be asked to leave.
 - Facilities are used at the users' risk.
 - A master schedule will be maintained by the recreation office to minimize schedule conflicts.
 - Clubs and organizations are responsible for control of their property and facilities used. The organization assumes liability for damage to buildings or property or theft of property.
 - All facilities and equipment must be left in good condition and lights turned off.
 - Littering is prohibited.
 - Speed limit is 15 miles per hour. Pedestrians have the right of way. Parking is permitted only in designated areas.
 - Campfires are prohibited. Barbeque pits are available.
 - Rattlesnakes are present. Do not climb in the foothills.
 - Emergency first aid and ambulance service is available. Call ext. 4646. A telephone is available in the main park area building.
 - Use violations should be reported to plant protection and the recreation office.
- Questions on rules and facilities use should be directed to the recreation office.

Tuition reimbursement policy is changed

A policy change regarding tuition reimbursement for study at private institutions recently was made by Martin Marietta.

Approval for study at private institutions will be given only if the degree program is not available at a state-supported school. However, if an employee wants to study at a private, accredited school, the tuition reimbursement will be based on a per credit cost charged by a state school with a similar program.

Individuals already approved for study under company auspices will continue to be approved; expenses for tuition and books will be fully reimbursed.

Some colleges and universities award credit for life and work experiences; tuition incurred for such credit will not be reimbursed by the company.

Employee survey is distributed

The division's employee survey has been distributed in Denver. Briefings and distribution have begun at Vandenberg, El Segundo, Houston, Michoud, Bay St. Louis, Cape Canaveral, and Wakefield.

Employees at Denver who have not received a questionnaire may obtain one from their department administrators or attend a makeup briefing August 26.

The questionnaires are to be completed in private and mailed to National Computer Systems in Minneapolis in the envelope provided. That firm will analyze responses and prepare reports showing group results. No individual employee can be identified with a response.

Employee views are significant. The opinions expressed through the survey can help the division keep pace with its rapidly expanding, more complex business.

Employees, whether recently hired or senior, more experienced workers, are valuable sources of information, impressions, and suggestions. Management will use the information to help in day-to-day operations, problem solving, and planning.

Results of the survey and actions planned will be communicated to all employees.

Tickets are to be distributed for Red Rocks concert

Tickets for the 5th Dimension concert at Red Rocks September 7 will be distributed the last week of August. The concert is exclusively for Denver division employees.

Employees who requested concert tickets early this year instead of Nuggets game tickets may pick up their tickets August 26 from 1 pm to 4 pm at the recreation office. More than 2200 tickets have been reserved to fill requests. The limit is two tickets per employee.

The remaining tickets will be allotted to departments based on the number of employees in the department August 21. Department administrators may pick up tickets August 27 from 1 pm to 4 pm.

Because of limited seating at Red Rocks, it is suggested that departments distribute the remaining tickets to employees who did not attend a basketball game.

Aggregates president named

J. Peter Dunston has been elected a corporate vice president by Martin Marietta Corporation and named president of the corporation's Aggregates company. He succeeds Donald B. Wendling, who has retired.

Canaveral earns top national safety award

The National Safety Council's highest award, the Aerospace Award of Honor, has been presented Canaveral operations for its 1979 safety record. This award, along with the Council's first place award, also was earned in 1977 and 1978.

Canaveral operations has received 29 other safety awards from industry and the Air Force during the past 20 years for its outstanding safety performance. During that time 173 vehicles and 20 astronauts were launched.

This safety environment is "maintained by the dedicated and motivated efforts" of Harold G. Senter and Theodore H. Allen, safety engineers, lead by Ronald N. Halcomb, quality department safety chief.

Halcomb, recipient of the 1976 SAMTEC commander's safety award as the individual making the "most outstanding safety contribution to an Air Force contractor" is chairman of the employee safety committee. Members of the committee are Ann L. Barnett, contracts specialist; Allen M. Cramer, traffic representative; Walter W. Kollosch, field engineer; Kenneth W. Girard and James W. Weddle, quality inspectors; Willie F. Cannon, Howard J. Earles, Robert J. Gibson, Charles E. Poe, Robert L. Simpson, James J. Stacharowski, John C. Stiene, Richard J. Tennis, and George W. Walters, test operations technicians.



Riding 34 miles daily commuting to work, Walter T. Teegarden is training for a national bicycle competition in Arizona.



Speaker at a recent meeting of the Vandenberg Air Force Base chapter of the Air Force Communications Engineering Association (AFCEA) was James W. McCown, center, vice president of the Missile X program at the Denver division. Shown with McCown at the meeting are Col. L. S. Dillard, commander of Vandenberg's 392nd Communications Group and AFCEA chapter president; and F. Charles Radaz, program manager for MX program support.

Bond campaign is success at Canaveral

Canaveral operations employees have increased participation in the U. S. Bond payroll deduction program by 15.7 percent, bringing total participation to 98.3 percent. Bond-A-Matic enrollments increased 10.7 percent.

Conducting the campaign were Walter R. Back, Juanita V. Barton, Claude R. Brazier, Walter W. Kollosch, Mary C. Minor, Sally J. Smith, and Kenneth H. Williams.

Cycling commuter prepares for race

Commuters between Santa Maria and Vandenberg Air Force Base are accustomed to seeing Walter T. Teegarden bicycling to and from work — a 34-mile round-trip.

His daily ride is part of his training for the United States Cycling Federation's national trip competition near Bisbee, AZ. He will compete for the first time in the Masters Age category and says, "This is the year to go for the brass ring."

The competition will require "superb physical conditioning and a precise pacing strategy," Teegarden reports. His objective is to finish exhausted and in first place. "If you feel strong at the finish, you didn't ride as hard as you should have," he said.

Teegarden began serious cycling in 1971 while in Denver and rode in the Mount Evans road race and in the 110-mile Colorado state road championship race.

He transferred to California in 1978 to work on the development of the Space Shuttle ground support system.

Stranded driver says 'thank you'

Norfleet R. Johnston, a newcomer to Colorado, recently sent a thank you letter to the Denver division. In his letter, he said:

"Late . . . Sunday afternoon my [car] broke down on the highway near your main office. Tom (Thomas A.) Milligan of your antenna research lab kindly stopped and offered assistance. After about an hour or so we got the car running again.

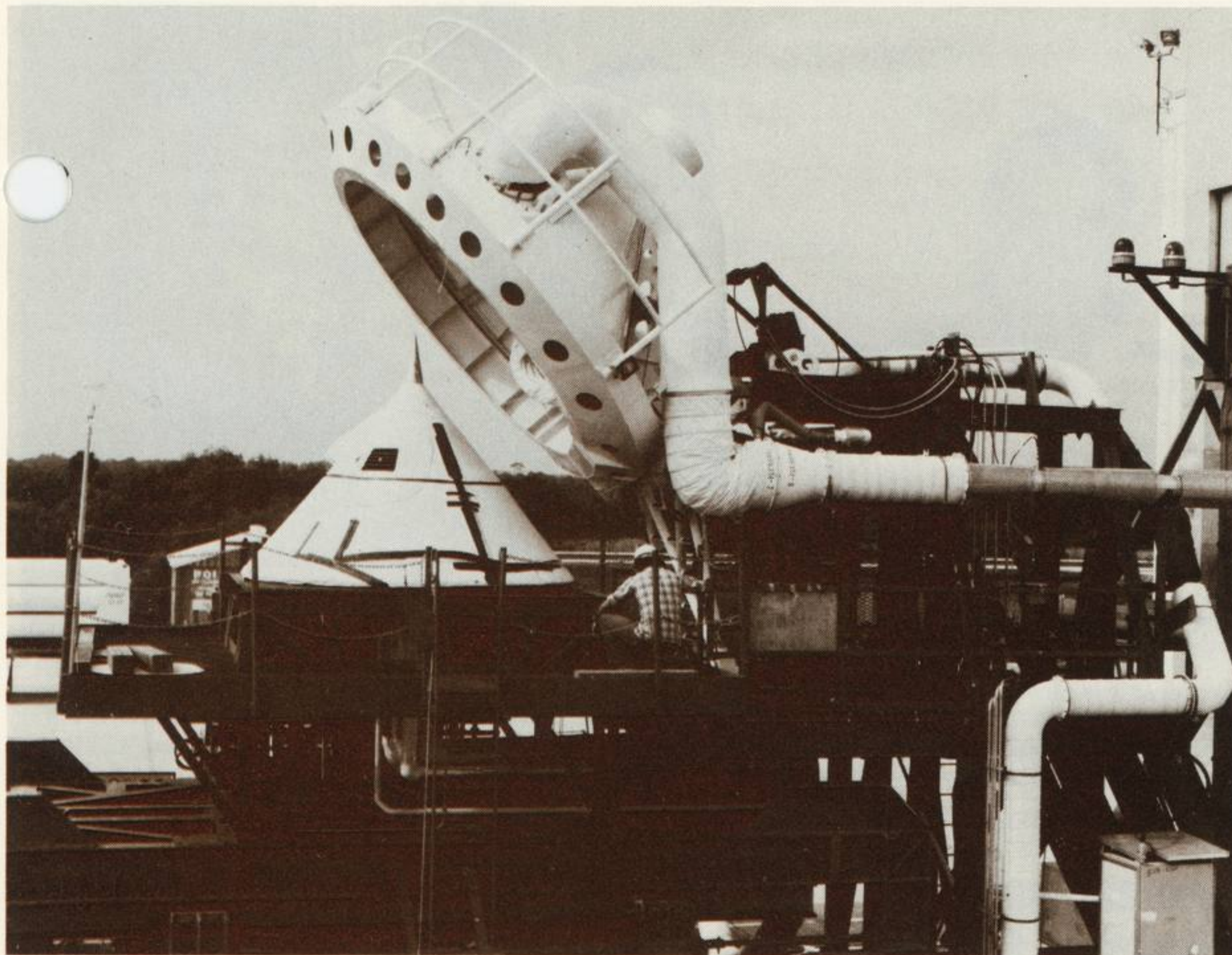
"I just recently moved to Colorado from Georgia, and I was very impressed by the helpful attitude and timely assistance which Tom gave me. This is a real credit to your organization to have people like Tom Milligan, and I just wanted to express a sincere thank you for his help."

Recreation

Tennis: The annual fall tournament of the tennis club will begin September 8 with play in singles, doubles, and mixed doubles. Entry deadline is August 26. The tourney is open to employees and armed services personnel and their spouses.

Golf: A few spots are available for the Annual Martin Marietta Open golf tournament August 23 and 24.

Bowling: The mixed bowling league will begin play August 26. There are still openings in the league.



At the Kennedy Space Center launch equipment test facility Donald F. Suarez Jr. performs a fit check on a full-scale mockup of a hood to safely vent oxygen vapors from the top of external tank before a Space Shuttle launch.

NASA photo

Tank vent system tested at KSC

A retractable hood to remove vapors from the oxygen vents atop the Space Shuttle external tank is being tested at Kennedy Space Center (KSC).

The hood was developed after early external tank tests showed that the released oxygen could form ice prior to launch. If the ice dislodged at liftoff, it might damage the orbiter's protective tile.

The Denver division's external tank operations at KSC is validating the system. Tests are being conducted under simulated launch conditions.

The hood is sealed over the tank's nose cone with inflatable bellows. This provides heat and the gas is vented through the bellows.

The computer software program developed by Martin Marietta permits one program to operate all remotely controlled components, providing automatic hydraulic pressurization, raising and lowering the hood, extending and retracting the access arm, and turning the pump on and off.

The hood will be attached to a swing arm on the launch stand later this year.

"Timing is critical," said Carl Fischer, launch equipment test facility lead engineer. "The sequence to retract and secure the hood begins less than three minutes before liftoff, and takes the

hood safely out of the Shuttle's flight path."

If the launch is delayed, Martin Marietta is responsible for reconfiguration of the system to minimize hardware damage.

Employee is named 'citizen of decade'

Ronald M. Holbrook, a flight operations staff engineer on the payload integration contract (PIC) program in Houston, has been named "outstanding citizen of the decade" by the city of Seabrook, TX.

In his proclamation, Mayor Jimmy C. White, said, "...Holbrook has given many years of outstanding service to the citizens of Seabrook and . . . has demonstrated his concern . . . by serving as city councilman, planning and zoning commission chairman, and city charter commission member . . ."

Holbrook also was cited for his concern for the community by his work with the Boy Scouts, Junior ROTC, his neighborhood homeowners association, and numerous other committees and projects.

The mayor ended his proclamation by calling Holbrook a "true leader among men."

This is the first award of its kind at Seabrook.

Michoud program provides recreation for 'hundreds'

Hundreds of Michoud operations employees are getting out of their easy chairs and onto recreational fields and courts around the metropolitan area. The exercise, they find, stretched more than just their muscles.

"Physical fitness is not only the cornerstone to employee health, but to productivity as well," said Janet L. Talley, administrator of recreation and services. "We're hoping our programs will help reduce stress.

"Exercise is a habit," she said, "and we hope to encourage physical activity as part of every day life. We offer the opportunities and hope everyone takes advantage of them."

Among the opportunities are volleyball and softball leagues; bowling, fishing, and hunting clubs; tennis, sailing, and racquetball organizations. More than 700 employees take part in these and other after-hour activities.

Teams play in a Martin Marietta league, a Michoud league with teams from other companies at the facility, or in the Greater New Orleans Athletic league. Ms. Talley says there is league play for every level of ability and competition.

An employee volunteer is in charge of scheduling activities for each team or organization. The recreation office acts as a clearing house for schedules, arranges for facilities, distributes equipment, and provides field and court rental fees.

The office has expanded its services to provide discount travel.

Organizations and their employee contacts:

Sailing: John Roman; *tennis:* Daniel Eccles; *coed volleyball:* Jeri Green; *men's volleyball:* Richard Martinez; *soccer:* Fred Houte; *cycling:* Dean Monitor; *chess:* Kamal Al-Jabi; *bowling:* Alvin Sheppard (New Orleans) and Anthony Rizza (Slidell); *brush and lens club:* Jesse Hardeman; *golf:* Paul Hayek; *travel club:* Janet L. Talley; *collectibles club:* John Sandrock; *coed softball:* Francia Sander.

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External tank weight reduction program progressing

The external tank is on a forced diet. It must lose 6000 pounds by the summer of 1982 to provide NASA with improved Space Shuttle payload-carrying capacity of almost the same amount.

Recently, NASA added \$42.9 million to the external design and development contract to cover the weight-reduction redesign and development and to modify production tooling. William F. Barrett is manager of the lightweight tank work.

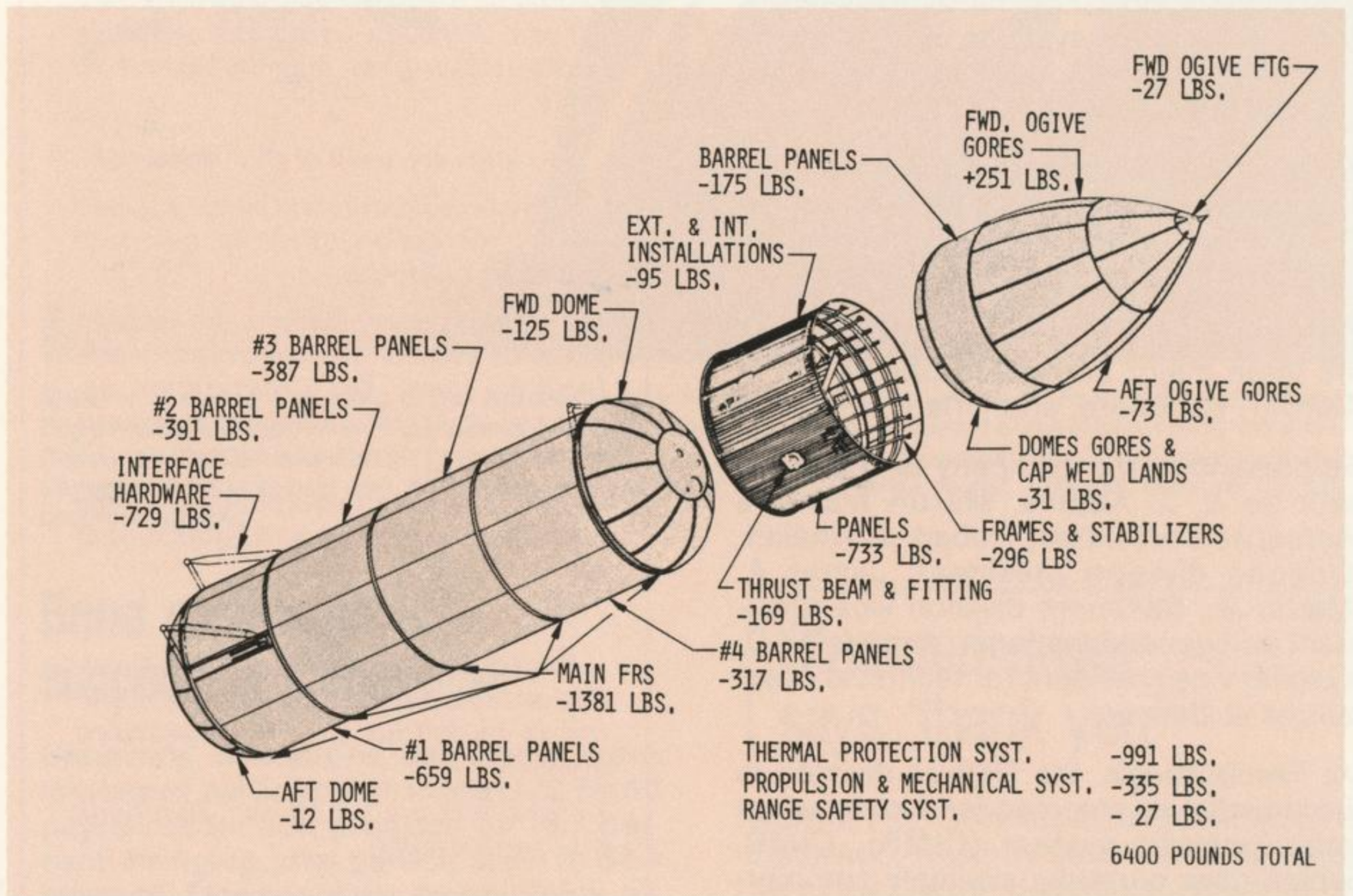
Richard R. Foll, Michoud operations deputy director of engineering said, "NASA asked us to trim 6000 pounds from the tank's weight. With 75 percent of engineering design work done, we are predicting a 6400-pound reduction, leaving a 400-pound margin for contingencies."

Production of the first lightweight tank will begin in November, with delivery in the summer of 1982.

"We have used several methods to trim the 6000 pounds," Foll said. "One was to change materials. For example, the aft solid rocket booster attachments on the lightweight tank will be made of a stronger, lighter, and, surprisingly, a slightly cheaper titanium alloy.

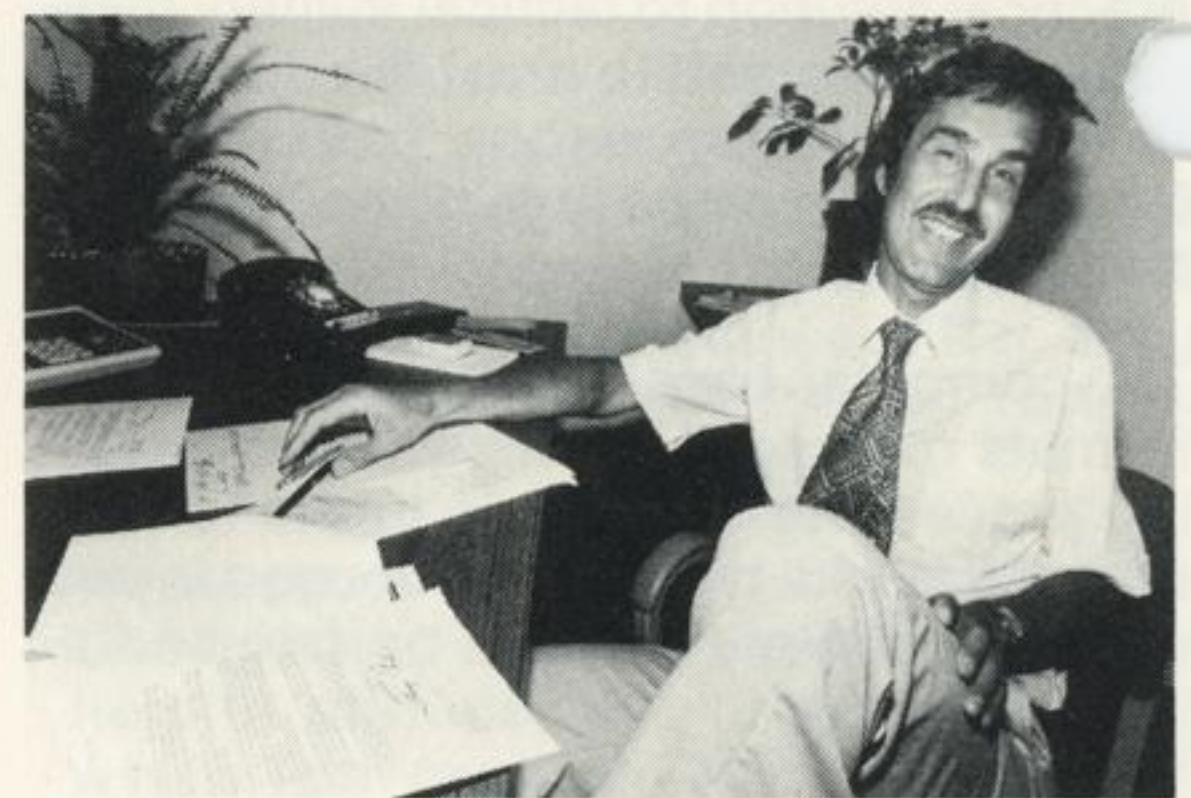
"Also, we have analyzed load distribution," he said, "and where we expect lesser loads, we have trimmed weight."

Parts fabrication techniques have been changed. Dome caps on the first tanks were chemically milled on only one side. Now the caps will be milled on both sides.



Design changes have been made, including using fewer ring stiffeners in the liquid hydrogen tank.

Tool modification began in May. New drill plates are being made because the drilled hole arrangement has been altered. Tool locators — metal pieces on which tank parts rest — are being shortened or lengthened because lightweight tank parts will be thicker or thinner. Weld schedules and parameters are being updated.



A "thank you" letter from President Carter brings a smile to David Tanzer, Michoud operations personnel manager. The President said, "I want to thank you for your efforts to help establish the Private Industry Council in new Orleans . . . These councils are ensuring the reality of a strong public/private partnership in our employment and training programs." Tanzer has been council chairman since early this year and also is on the Mayor's economic development board executive committee.

Michoud Family Day Saturday, Sept. 6

The Pontchartrain Beach amusement park will be open exclusively for Michoud operations employees and their families Saturday, September 6. The annual Family Day begins at 10 am with rides scheduled to start at noon.

Each employee will receive four admission and ride tickets.

The park features more than 100 rides, games, and attractions. Park concessions will sell food and beverages.



Martin Marietta corporate executives were at Michoud operations recently to discuss the work of system management teams (quality circles). In the photo, David S. LeVine, left, Martin Marietta senior vice president for operations, and L.J. Adams, center, corporate senior vice president and Martin Marietta Aerospace president, listen as John M. Kehm, manager of external tank operations, describes achievements of the teams. Executives from throughout Martin Marietta accompanied Adams and LeVine on the visit to Michoud.