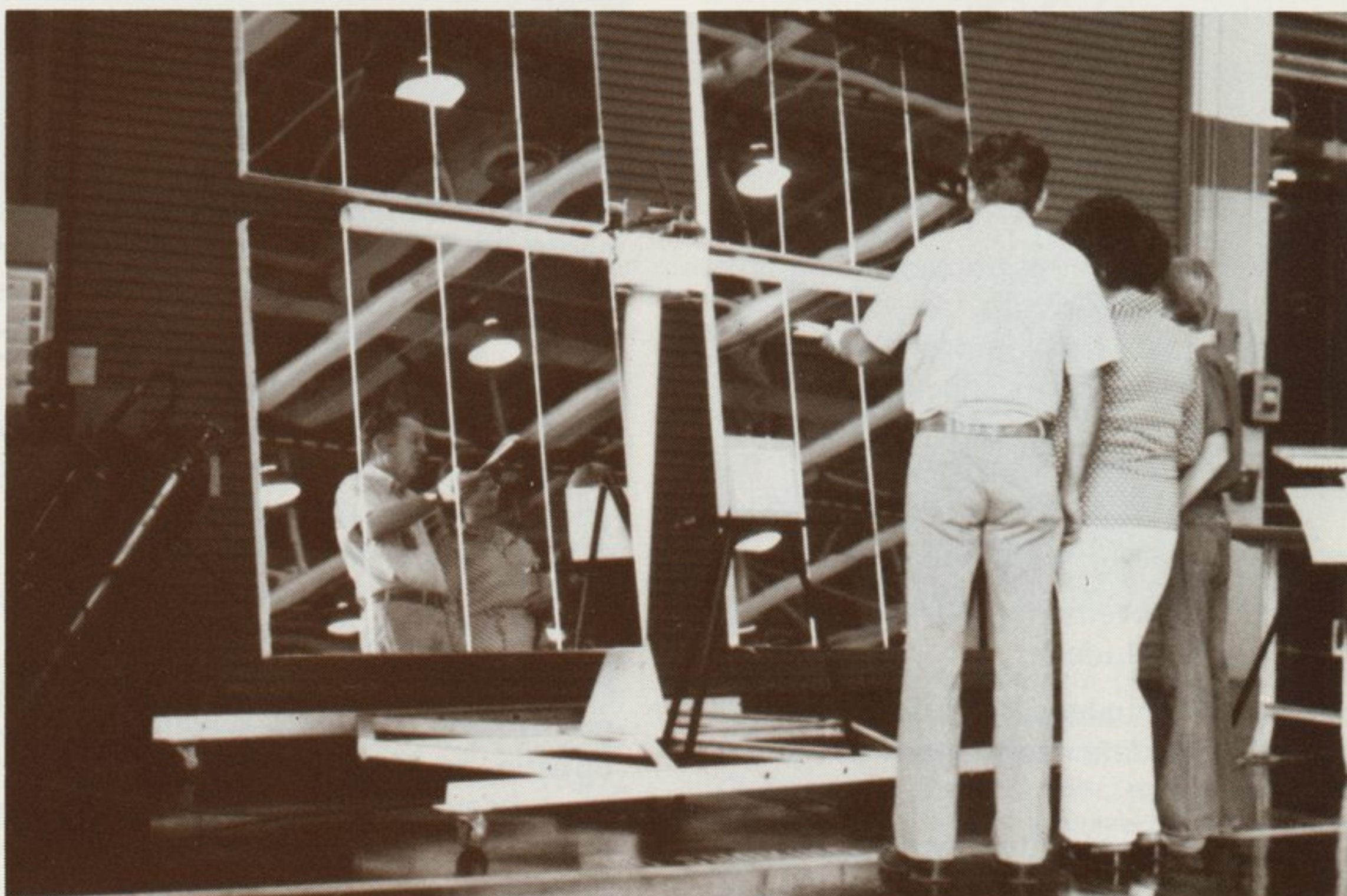
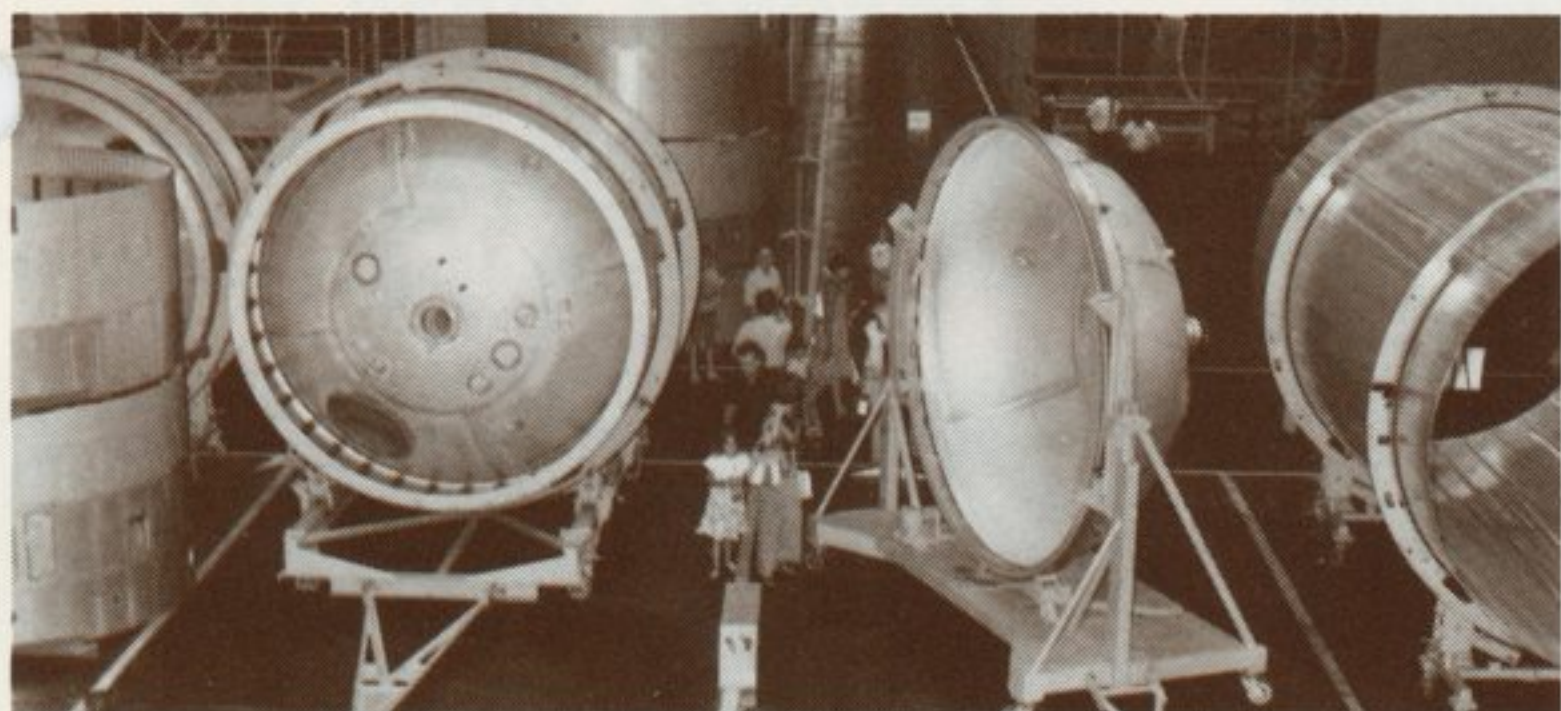
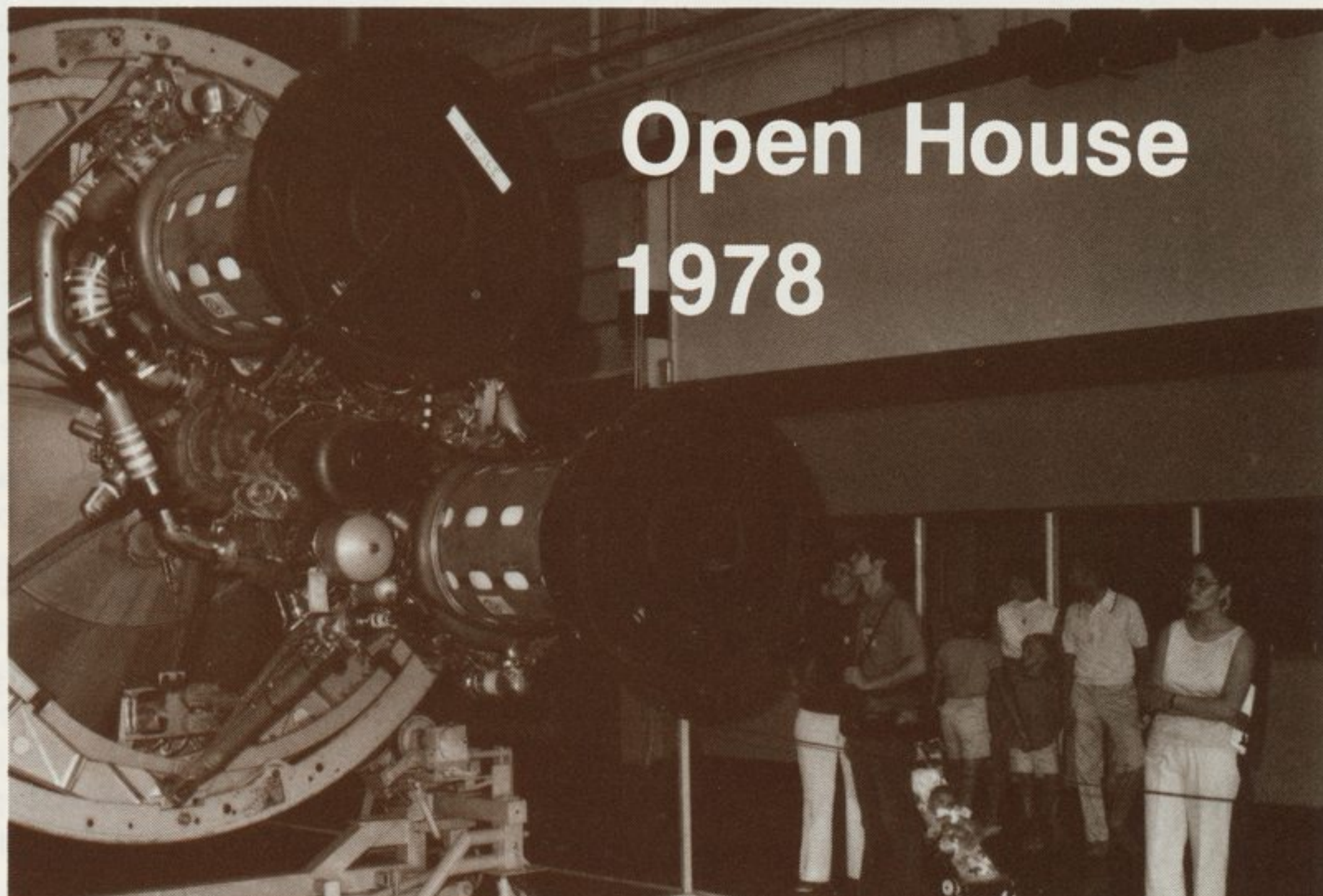
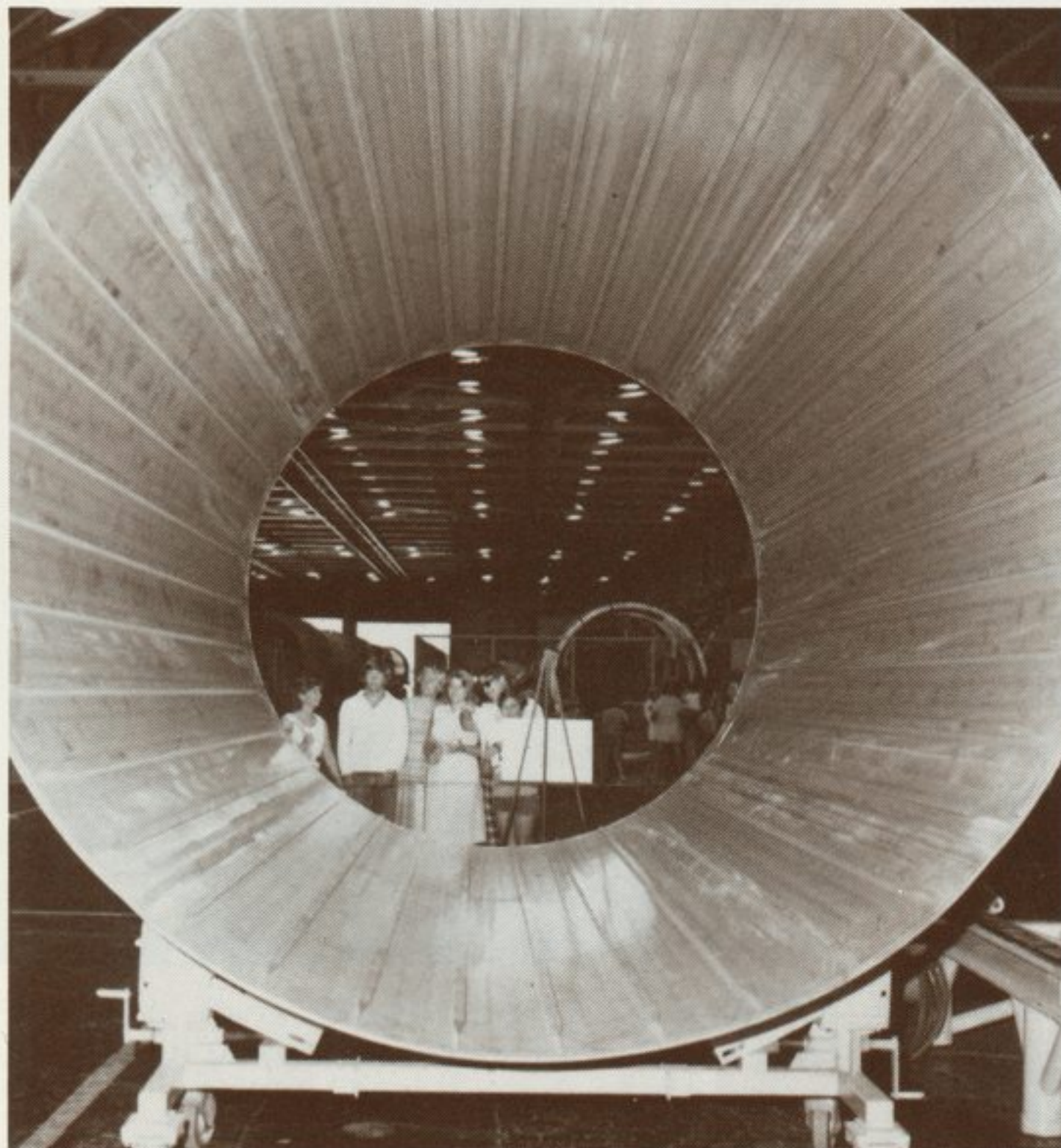
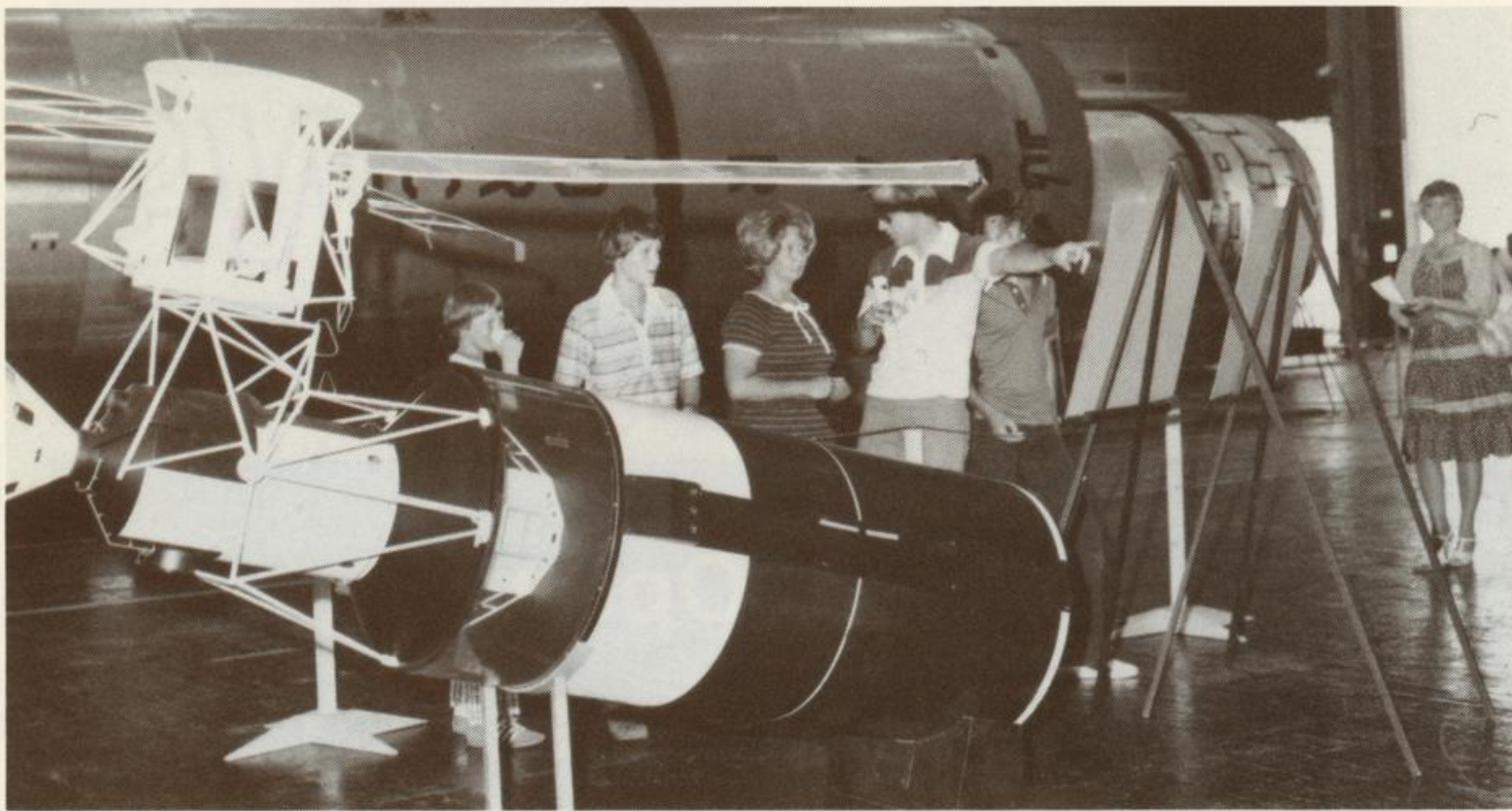


NUMBER 10/1978





This photo—and the ones on the cover—show the wide range of exhibits and the employee-family participation in the July 15 Open House.

First six months significant business period

The first six months of 1978 was the most significant business period of the past three years for the Denver Division. The division won three major contracts, improved its position in several ongoing projects, and increased employment by 600.

"These are the result of a course we set upon some years ago," said C. B. Hurtt, vice president and general manager.

"We won a role in the nation's next strategic missile system, the MX. We continued to find programs for our space expertise with the Teleoperator spacecraft and Space Sextant, and we improved our competitive posture in the defense and command and information systems markets."

Employment in the Denver area is 4,600. Operations at Michoud, Vandenberg, Cape Canaveral, and other California and Massachusetts locations bring total division employment to 7,520.

Employment is expected to increase about 250 in Denver in the second half of 1978, with most new hires in engineering and technical positions.

Proposals for three important programs will be submitted in the last half of the year: (1) a spacecraft to orbit Venus and survey the surface with imaging radar; (2) the ground control segment of the global positioning satellite program; and (3) the mission operations portion of the Space Shuttle project at Vandenberg.

Technical achievements during the first half of 1978 included:

- Twin Viking landers still functioning and returning data from Mars two years after landing;
- External tanks for Space Shuttle proceeding on schedule through ground

tests and first flight tank nearing completion;

- Successful testing of the parachute recovery system for the Shuttle's solid rocket motors;
- Four successful Titan III launch vehicle missions, bringing to 112 the number of craft put into space by Titan since 1964.

Major programs in progress include:

- Assembly, Test, and Support Services contract for MX. Congress is expected to approve full-scale development.
- Teleoperator Retrieval System, a free-flying, remotely controlled NASA spacecraft to survey, stabilize, and maneuver other spacecraft in low Earth orbit. First flight is scheduled in the fall of 1979 to reboost Skylab.
- Design, assembly, and test of SCATHA, an Air Force spacecraft that will collect data on the accumulation of static electric charges on satellites.
- Work continues in Michoud on external tank, with three tanks in ground tests and first flight tank to be delivered early in 1979. In Denver, testing continues on the parachute recovery system for the solid rocket motors for Shuttle.
- Production continues on three versions of the Titan III launch vehicle along with the design and engineering of Titan 34D, a more powerful member of the Titan Family for use in orbiting special spacecraft until Space Shuttle is operational with the Air Force.
- Production of command and control monitoring ground systems for Space Shuttle at Vandenberg. Similar systems have been designed, built, and installed for NASA at Cape Canaveral and at the Manned Spacecraft Center near Houston.

10,000 visitors make Open House successful

The first of 10,000 visitors to the July 15 Open House moved through the main gate at 7:22 am, and the last began the factory tour at 5:05 pm.

Between those times, visitors looked at, touched, and read about division products in 25 exhibit and work areas.

R. E. Burnett, manager of employee-labor relations and chairman of the Open House committee, said, "I couldn't talk to all visitors, but those with whom I did chat were pleased with what they saw.

"It would be difficult to say which exhibit or product area was most popular, but the production of biorythm charts in EMF certainly drew much attention."

The full-scale painting of the external tank for Space Shuttle also drew its share of oohs and aahs, according to committee members who monitored the exhibit areas.

Deadline today for Denver Bears tickets

Today—July 28—is the last day to get your request in for tickets for Martin Marietta Night with the Denver Bears. Requests should be taken to the employee relations office, module 125A, in the Engineering building. Invitations and ticket order blanks were mailed to employees in mid-July.

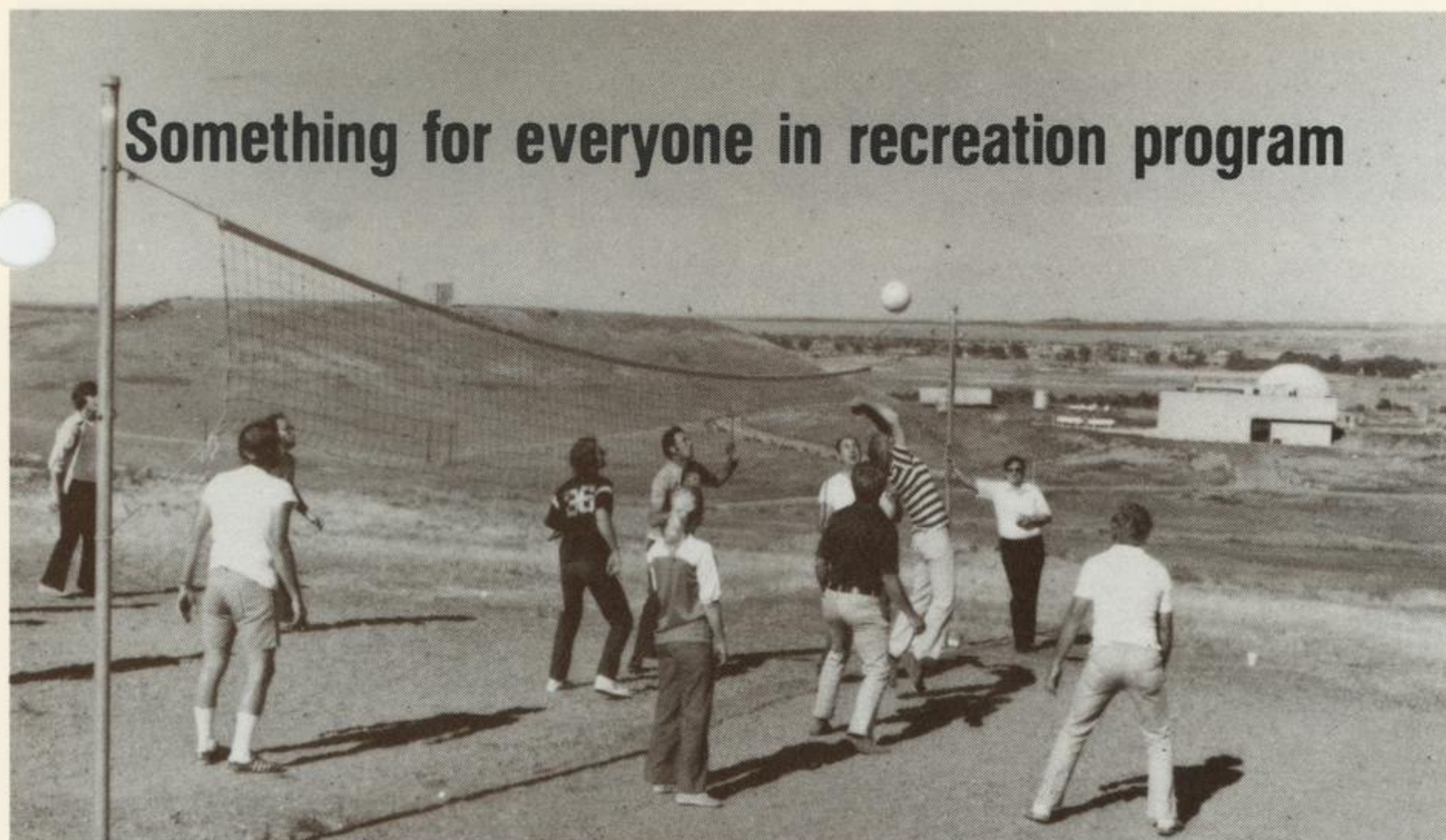
Employees and their immediate families are invited to attend the Friday, August 4, game between the Bears and the Evansville Triplets.

Pregame events include Bob Feller, baseball Hall of Famer and former Cleveland Indian great, pitching to Denver press and Martin Marietta volunteers.

The El Jebel Shrine clowns will meet the Bears in a three-inning fun game before the game between Denver and Evansville.

Feller will appear at 6 pm, the clowns and Bears will take the field at 6:30, and the league game will start at 7:35.

Something for everyone in recreation program



SCATHA employees play volleyball during a project picnic at the recreation area.

Summer, winter, spring, fall—the only difference the season makes to the division's recreation program is the size of the ball and where the clubs meet.

"We have something for everyone—or at least we try," said R. E. Burnett, manager of employee-labor relations. "The company provides the coordination and sponsorship of the activities, but success depends on employee participation and employee leadership."

The recreation office, in module 125A of the Engineering building, is the focal point for the program, with announcements, schedules, and equipment issued from there. The office is open from 8 am to 4:30 pm. Telephone extension is 5736. All reservations for recreation facilities and activities are made by the office. Briefly, here are recreation facilities and activities:

Recreation area—Softball diamonds, volleyball court, picnic and barbecue pavilion, horseshoe pits, body building facilities (including a Universal Gym Set), shower room, and club meeting rooms are in the area north of the plant off Highway 75 at the Linde plant turnoff.

Softball—Twenty-six teams in two leagues play slow-pitch softball on Monday, Tuesday, and Wednesday afternoons beginning at 4:45. National League commissioner is Floyd Teiffel; Jerry Signorelli heads the American League.

Spring Tennis Tournament—Champions will be crowned this month from among the 180 employees who began play in May. A fall tournament is being planned by tournament directors Don Allayaud and Mark Angelo.

Golf Leagues—Seven departmental golf leagues involve about 75 employees. Public courses are used for after-work play.

Clay Tournament—Adams County Municipal Course at 124th and Henderson Road in Brighton will be the site August 26 for the tourney. The 7:30 am shotgun start will be for the 160 first-come first-served entries. Details and entry forms will be available soon.

Distance Running—The Waterton "Sheepherders" are looking for runners interested in handicap runs of two to six miles on a route in the Chatfield Recreation Area. Races are usually held on Thursdays beginning at 4:30 pm. Contact Tom Bailey, ext. 7742 (DSC) or Glenn Greisz, ext. 3749.

Volleyball—A nine-team league concluded play in April, with plans to resume in the fall. Coed teams play at Sheridan Middle School gym.

Basketball—Play will begin again this fall. Nine teams completed league play in April, with a tournament following. Games were played at the Ken Caryl Junior High gym.

Bowling—To reinstate division-sponsored bowling leagues, contacts have been made with area bowling establishments. Time and space are available for the fall. If you are interested in mixed, all-male, or all-female leagues, contact the recreation office.

Soccer—Efforts to form a soccer league are under way. Contact Ali Zanjani, ext. 5590.

Formal clubs are also part of the recreation program. Active clubs are:

Skyline Hunting and Fishing Club—The club offers boating, fishing, hunting, hunter safety, skeet and trap shooting, rifle range, ammo loading, and muzzle loading. Facilities for some activities are at the plant. Club president is Lee Burris. Contact Fred Sunderland, ext. 4922, for membership information.

Ridge Riders Saddle Club—Employees and families use their own horses in riding clinics, parades, trail rides, o-mak-sees, and gymkanas. Call club president Irene Woodzell, ext. 4488, for information.

Amateur Radio Club—The club maintains long-distance transmitting and receiving gear at the recreation area. A station is being built to use the OSCAR satellite. Contact Dave Roberts, ext. 5689, for information.

Red Rock Bowmen—Archery range and targets at the plant are maintained for competition and hunting practice. Marv Huddleston, ext. 4997, can furnish information.

Chess Club—Monthly meetings are held at the CCMS facility on Federal Boulevard and provide casual, competitive, and tournament play. Dave Moffett, ext. 3784, or Bill Vobejda, ext. 5312, will provide information.

Ski Club—Membership provides wholesale transportation and reduced-price lift tickets for four weekend trips planned for the coming season. Skip Scown, ext. 3018, can give you information on trips and other activities.

Employee-Family Activities—Family Day at Lakeside June 17 and the August 4 night with the Denver Bears are examples of division-sponsored events for employees and their families.

Employees earn degrees

Three employees have earned advanced degrees in division-sponsored educational programs.

John E. Anderson, a staff engineer in propulsion engineering, received a PhD from the Colorado School of Mines in chemical and petroleum—refining engineering.

Richard J. Burtzlaff received an MBA from the University of Denver. He is a staff engineer in the electronics department.

Albert G. Nemes received an MS in civil engineering from the University of Colorado. He is a senior engineer in the stress analysis group.

Service awards presented

Eight division employees who completed 30, 35, or 40 years of company service in the first half of 1978 recently received service awards.

They were:

Andrew J. Starkey (Michoud), 40 years in January;

Ben T. Graham, 35 years in January;

D. W. Chrisman, 30 years in January;

N. C. Chadbourne, 30 years in January;

M. Louise McFadden, 30 years in March;

E. C. Payson, 30 years in March;

J. L. Burrige, 35 years in April;

E. A. Schumacher (Vandenberg), 30 years in April.

In addition to the selection of tie tacks, tie bars, belt buckles, rings, brooches, charm bracelets, and necklaces for service awards, employees who complete 30, 35, 40, or 45 years of service may now choose a wrist watch.

Landers continue effective missions as third year on Mars begins

As they begin their third year on Mars, both Viking landers "continue to provide effective missions," according to K. Z. Bradford, recently named Martin Marietta's resources manager for the extended mission. Bradford is also deputy director for lander science operations.

"The landers have exceeded primary mission objectives," Bradford said. "Despite some difficulties, they are expected to continue returning valuable scientific data until December, the end of the present mission phase, and possibly through solar conjunction and beyond."

Lander 1 began its third year on Mars July 20; lander 2 completes its second year September 3.

Since mid-June, the landers have been in cyclic automatic modes, requiring minimum attention from Earth. Most data are being returned through relay links with orbiter 1.

The amount of scientific data returned is limited by a data storage memory failure in lander 2. Use of redundant systems has minimized the impact of other problems.

All power and thermal subsystems are operating perfectly.

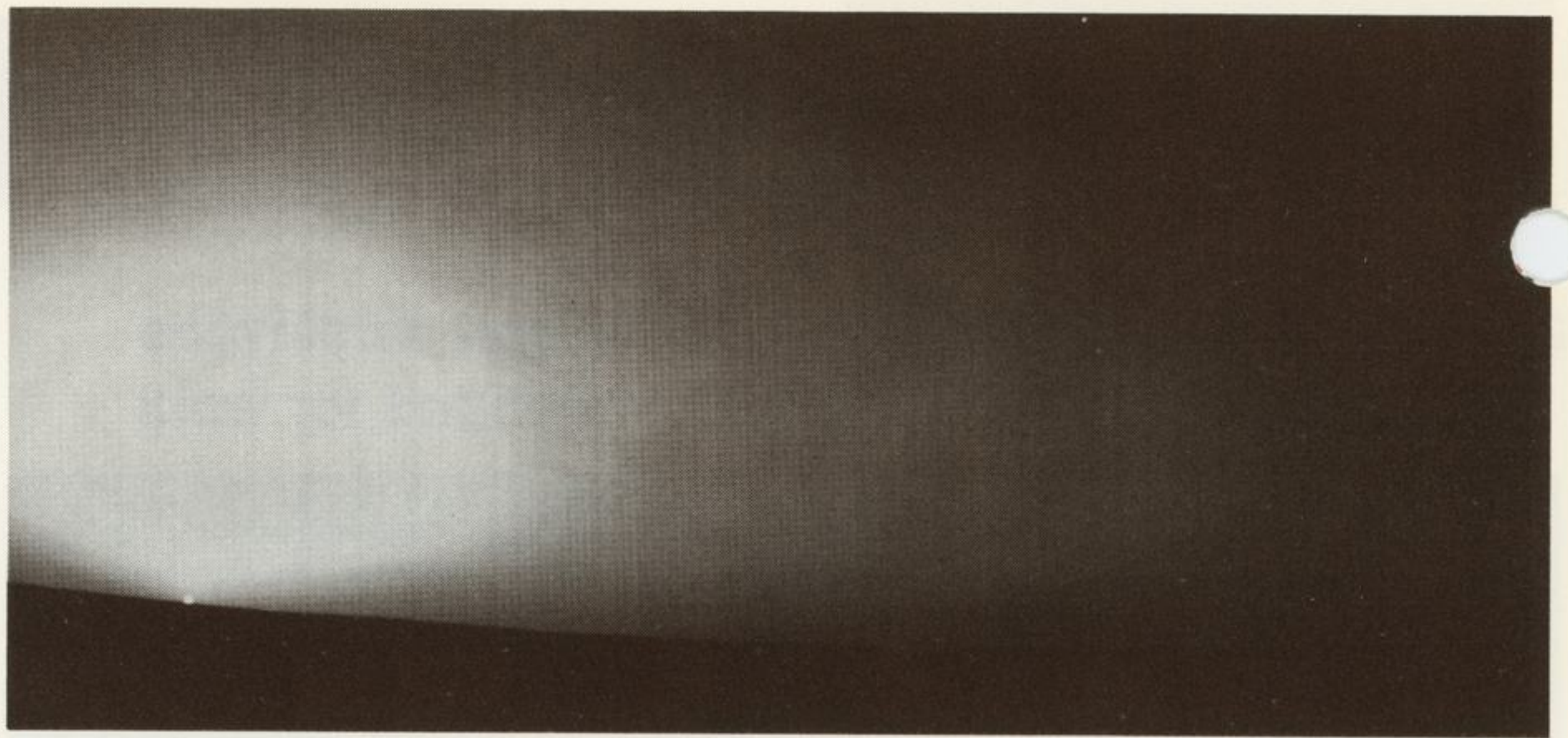
With few exceptions, the status of science instruments is essentially unchanged since the end of the primary mission.

All four cameras remain healthy and have taken more than 4,000 pictures—two-thirds of them taken after the primary mission.

The x-ray fluorescent spectrometers are healthy and returning data from samples taken before automatic missions began. Each has operated more than 10,000 hours.

Soil samplers, not in use now, have traveled more than 1,000 yards extending and retracting and have rotated 74,000 degrees in azimuth and about half that in elevation.

Orbiter 1 is healthy. However, an attitude-control gas leak on orbiter 2 has reduced its expected lifetime. There have been no major problems with any orbiter science instruments.



The 631st sunrise of the Viking 2 mission shows the Sun as a pinpoint of light on the horizon at left. The glow in the morning sky results from scattering and reflections in the Mars atmosphere.

Division awarded Air Force Space Shuttle ground integration contract

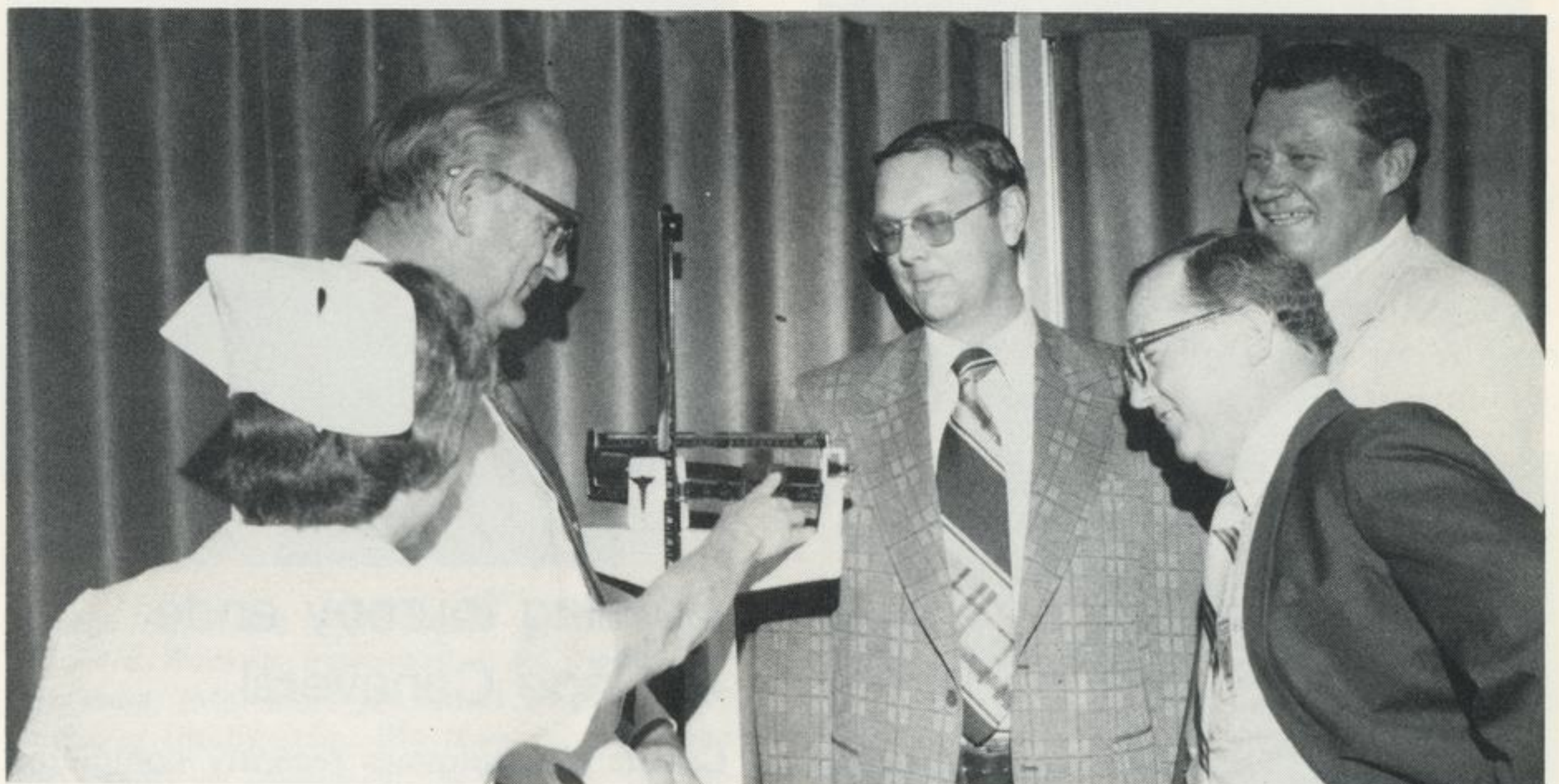
The Denver Division has been selected by the Air Force as the ground support system integration contractor for the Space Shuttle program at Vandenberg Air Force Base.

Work will begin immediately and extend through October 1981. R. D. Rhodus is the program director.

"This new work is a substantial reflection of our increasing role in Air Force Space Shuttle programs," said C. B. Hurtt, vice president and general manager.

Division employees will perform the ground support systems engineering, design support equipment unique to Vandenberg Air Force Base, and provide surveillance for the facility architectural, engineering, and construction phases. The contract also covers development of test sequences, computerized checkout, and launch systems for the Shuttle.

Division employment at Vandenberg will increase about 200 at a rate of 20 per month in engineering and computer software positions.



How do you motivate people to lose weight? H. Wayne Terbush, on the scale, says "greed is the answer." Terbush organized a weight reduction program for himself and 12 other employees with each putting \$250 "in the pot" to assure adherence to the program. Those who didn't make their assigned weight lost their \$250. So far, Terbush is the only one who didn't make the goal. In the photo with him are Helen Williams of the division's medical department

who kept score, Howard Schue, who lost 28 pounds against a goal of 23; Marvin Hein, 44 pounds with a goal of 35; and Robert Curtis, 21 pounds with a goal of 18. Others in the program, Stephen Ducsay, Charles Gunnison, Robert Morra, Richard Farrell, James Martin, Daniel Linn, Ivan Jaszlics, and Cynthia Johnson. All made their goals except Ms Johnson, who has been given an extension because of a hospital stay and a high-calorie diet.

MARTIN MARIETTA NEWS

Published by Public Relations
MARTIN MARIETTA AEROSPACE
Call Ext 5364 with suggestions
or information for articles

Denver Division
P.O. Box 179 • Denver CO 80201
July 1978

At Vandenberg



Richard L. Barry, quality engineer, left, accepts the Launch Vehicles Double Check Award from Otha L. Jones, director of Vandenberg operations. The award was given to Barry for his outstanding effort displayed during the Aerojet thrust-chamber pressure-switch modification for Titan vehicle B-49 (34B-2). The launch vehicles award is given to outstanding employees as special recognition for superb performance in conjunction with the Mission Success Program.



The 150th Titan booster launch from Vandenberg Air Force Base into the Western Test Range occurred on 14 June when Martin Marietta's test conductor, R. B. (Dick) Hooley, received a "green for launch" signal from the Space and Missile Test Center Range Safety Officer. The 150 total includes three generations of Titans—Titan I, II, and III.

At Canaveral

Canaveral employees commended for work

Recent recipients of Canaveral operations' Double Check program plaques were Jack A. Cunningham and Howard J. Earles of the test operations department.

Cunningham was commended for his assistance in resolution of the Vehicle C-35 Transtage hydraulic reservoir visual fill indicator anomaly. He witnessed the initial occurrence and provided numerous accounts of his observations during the investigation. Cunningham was commended for his continued effort in helping to maintain product integrity.

Earles' inspection of the cables before installation of the covers resulted in discovering a condition that could have led to a flight failure. He was commended for his thoroughness in the inspection and his attention to detail.



Jack A. Cunningham and Howard J. Earles

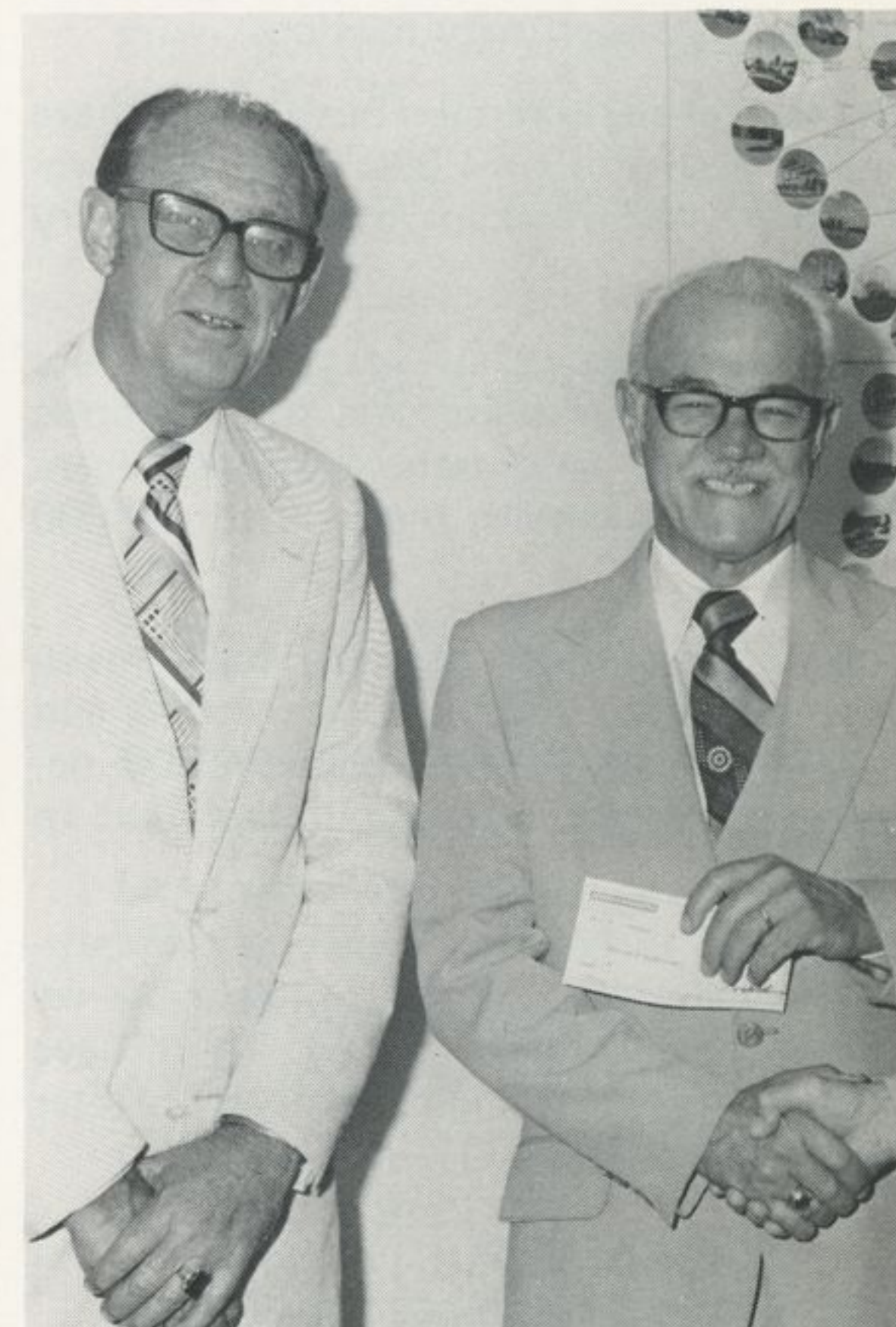
Bowling tourney ends at Cape Canaveral

Canaveral employees recently completed the Spring Bowling Tournament. Winners in the events and their total pins (including handicap):

All Events—Men: Jerry Richards, 1185; Singles: Gus Williams, 656; High Game—Men: Harold Kidd, 241; All Events—Women: Marti Morawski, 1197; High Game—Women: Mary Pettus, 223; Doubles: Carl Stewart Sr. and Carl Stewart Jr., 1242.



A \$2,000 check has been presented as a Martin Marietta contribution to Wuesthoff Memorial Hospital in Cocoa, Florida. Felix J. Scheffler, Canaveral operations director, right, presented the check to Harold Conn, assistant hospital administrator.



A \$2,000 Martin Marietta corporate contribution has been made to the 1978 Campaign of the United Way of Brevard County. Champaign Chairman Ed Brewer, right, received the check. Kenneth W. Traut, Canaveral customer and public relations representative is shown with Brewer.

Long-lead items authorized for 27 external tanks

Long-lead procurement for 27 additional external tanks to be authorized in the next phase of the External Tank program is well under way with a purchasing plan and schedules issued for raw materials for ten tanks and hardware for six tanks.

In February, NASA gave the go-ahead for purchase of long-lead-time items, in advance of the next phase of the External Tank contract.

Estimated value of purchases is approximately \$16 million. It includes propulsion, structural, and electrical items that require supplier evaluation board action before placing the fixed-price contracts with suppliers.

In addition, authority to proceed has been issued to purchase barrel panel, gore, ogive, and thrust-panel raw materials for the new tanks. This purchase will involve about \$2 million.

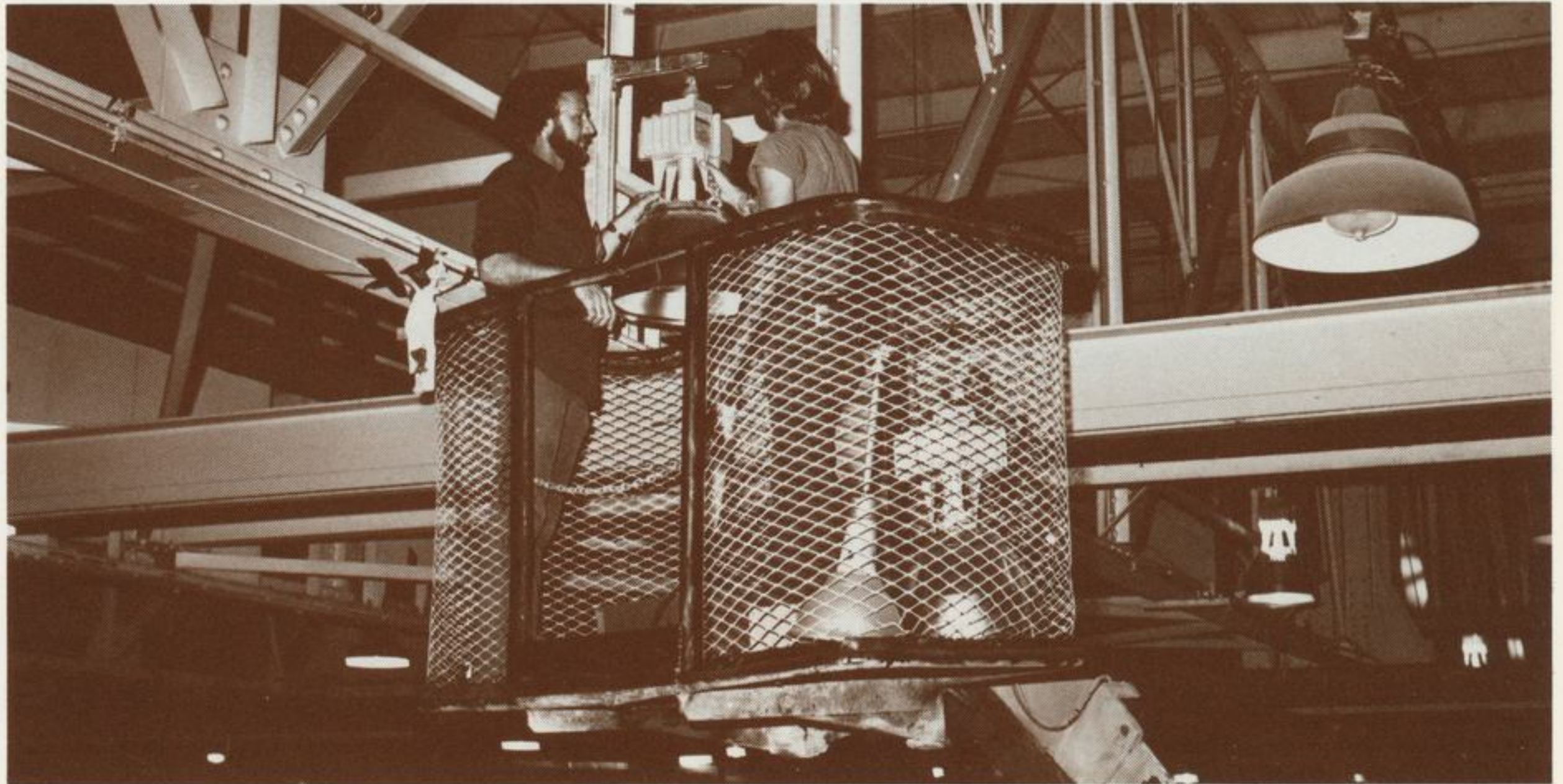
A plan is being developed for the remaining purchases for the contract, which will be let by NASA sometime this fall. Deliveries of hardware will stretch from this fall until the end of 1981 and will exceed \$50 million, most of which will be under contract with suppliers by the year's end.

Michoud operations is building six flight tanks and has completed three test tanks under Increment I of the External Tank program.

New Orleans food center gets boost from Michoud employees

Michoud employees recently contributed more than 2,000 items of food for the New Orleans Food Distribution Center. The center collects food from local residents and distributes it through 15 agencies in the New Orleans area to families in time of crisis or hardship.

The goal was one can or box of food donated by each employee. The goal was exceeded by almost 200 items according to Michael O'Hern, food drive chairman.



Forty feet above the Michoud factory floor, subcontractors install new high-pressure sodium lights that will double the light level while reducing energy consumption by two-thirds. The

complete changeover will be done in three phases over a three-year period. The old mercury-vapor lights, right, will be turned off as the new lights are installed.



George Roberson, right, coach of the Martin Marietta Rockets basketball team, helps Ray Lacombe, left, place the latest trophy in the Michoud trophy case. The team recently won the trophy as champs of the Western Conference of the Greater New Orleans Athletic League. Season record was 12-2.

At Michoud

Call Ext. 3788 with suggestions or information for articles.

Michoud analyst chosen as United Way loaned executive

Janet M. Alvarez, a Michoud operations administrative analyst, has been selected to be loaned executive to work in the 1978 United Way effort for metropolitan New Orleans.

During her two-month assignment she will be working with unit and section chairmen making contact with corporations and organizations regarding their 1978 community contribution plan.

Mrs. Alvarez has worked for Martin Marietta for five years. She works for William Gansert, director, production operations.



Janet M. Alvarez