MARTIN MARIETTA
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DENVER DIVISION

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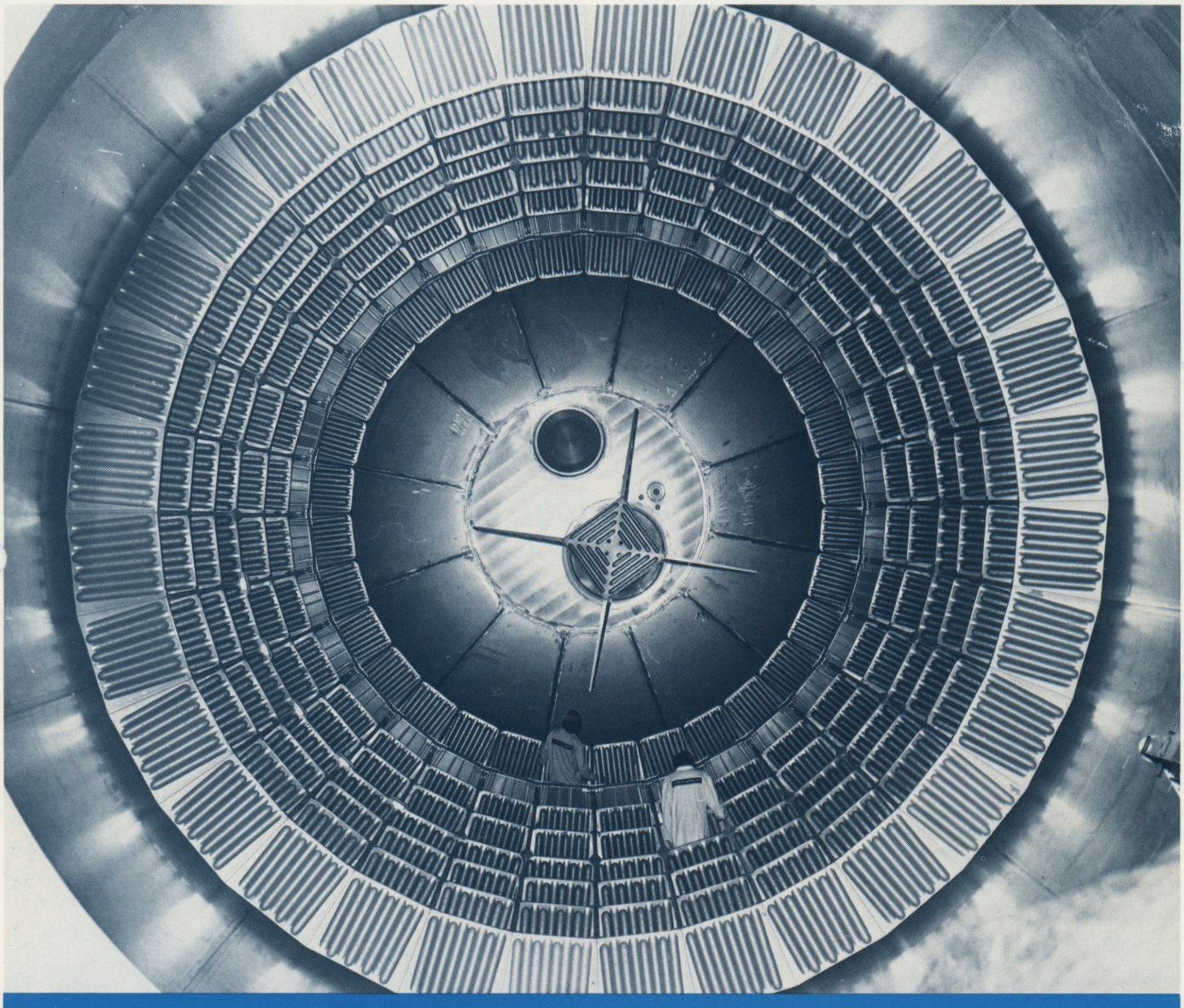
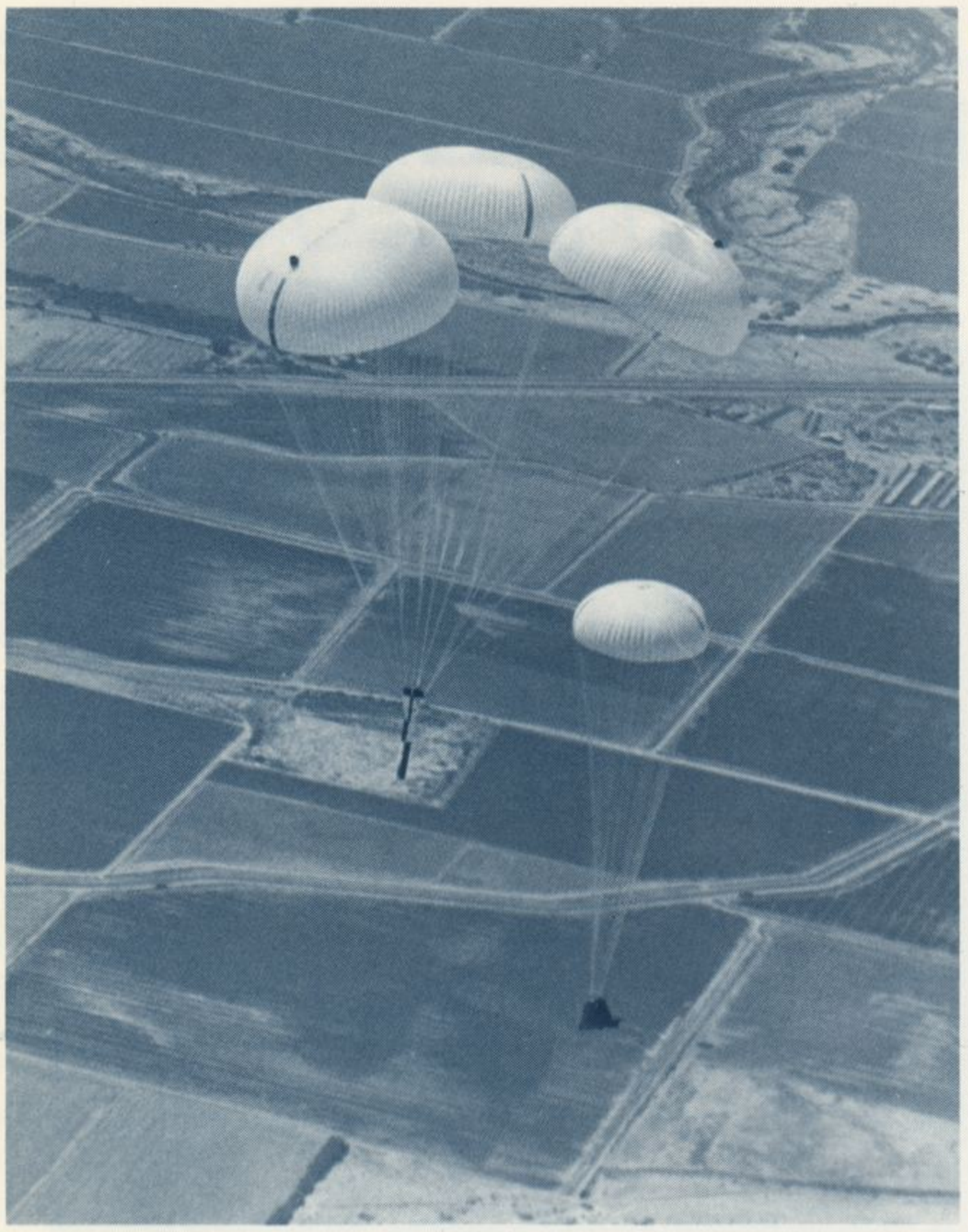


Inside the liquid oxygen tank of flight #1 external tank, Michoud operation's technicians inspect the aluminum slosh baffles that line the tank. These baffles diffuse movement of the heavy liquid oxygen during launch of the Space Shuttle to reduce guidance and balance errors that would otherwise be introduced into the system from sloshing propellant in the 140,000 gallon tank.

SRB parachute test successful



Three main parachutes lower test vehicle to check the Space Shuttle solid rocket booster recovery system. Drogue parachute at right also makes safe descent.

An airdrop test of the parachute system that will lower the Space Shuttle's reusable solid rocket boosters (SRB) to Earth after launch was successfully conducted at the National Parachute Test Range, El Centro, Calif., near the end of May.

The Denver Division is prime contractor for the recovery system with Pioneer Parachute company as subcontractor for the parachutes. C.W. "Bill" Spieth is heading the program for the division.

The recent test was the fourth drop test in which a dummy booster was carried aloft beneath the right wing of a B-52 aircraft. The recovery system's three main parachutes all were deployed. All systems functioned as expected and the dummy booster landed virtually undamaged.

When the Space Shuttle becomes operational, its two solid rocket boosters used on each launch will separate after burnout at an altitude of about 27 miles. The parachutes will lower them into the ocean for subsequent retrieval and reuse.

Employees honored for technical, operational performance

Seventy-eight employees were honored for technical achievement and operational performance at recognition dinners May 23 and May 31.

At the May 23 dinner, Wayne D. Faber was singled out for special recognition for "providing outstanding technical leadership on the Central Valley program." Faber has headed the program which developed a computer-based information and control system for the Bureau of Reclamation's far-flung complex of water and power facilities in the Great Central Valley of California.

Others receiving technical achievement awards May 23 were:

T.E. Bailey, T.G.Bezdek, D.D. Bielenberg, C.S. Bodley, W.B. Collins, V.E. Crow, D.W. Dickinson, W.E. Dorroh Jr., G.L. Dummer, R.R. Foll, J.R. Garverich, R.J. Greenspun, R.J. Heyman, K.H. Hopper, B.J. Jambor, W.J. Kacena III, D.E. Kendall, M.W. Kuethe,

G.J. Lang, R.L. Lewis, D.E. Maas, J.P. Marcus, G.T. Marsh, D.L. Miller, L.W. Norquist, K.W. Peterson, H.H. Porter, N.H. Prentiss Jr., R.T. Schappell, Eric Scharm, W.E. Simon, L.R. Soderberg, H.F. Summers, J.C. Tietz, A.H. VandenBurgh, E.D. Vogt, Kay Yong, and V.F. Young.

Operational performance awards were presented May 31 to:

P.W. Abbott, E.F. Ahern, J.R. Beall, B.F. Bedinger, P.E. Bellis, C.O. Bennett, G.E. Bowman, R.F. Broderick, O.G. Burton, H.L. Childress, R.E. Ciepiela, M.G. Doty, T.G. Gavrilis, S.N. Hollis, K.R. Huling, A.W. Johnson, R.L. Kickerbocker, A.F. Knight,

D.E. Leck, Stanley Mayer, J.V. Mumford, R.E. Nemecheck, D.K. Ong, R.C. Rickhoff, P.C. Rockenbach, E.J. Rupert, T.C. Shupert, G.F. Spiering, L.W. Spietstoser, T.L. Tedrow, W.T. Teegarden, J.G. Tieleman, P.H. Todd Jr., S.L. Tolbert, J.C. Tsucalas, J.T. Tutchton, H.D. Wilkening, R.G. Williams, and F.H. Wilson II.

Family Day is Saturday

Martin Marietta Aerospace Family Day at Lakeside Amusement Park is scheduled for Saturday, June 17.

The park is reserved for employees and their families from 10:30 am to 5:30 pm. Rides and games are on the afternoon schedule.

In case of inclement weather, Lakeside management will determine if the Family Day is to be cancelled. Announcement of the cancellation, if necessary, will be carried on two Denver radio stations, KOA 850Kh AM and KDEN 1340Kh AM.

Wayne D. Faber, left, and his wife share congratulations from C.B. Hurtt, vice president and general manager. Faber was cited for his leadership on the Central Valley program.

Division long range plan first step to new business

The impact of Denver Division efforts to acquire new business is being felt throughout the division. New people are being hired, additional space is being acquired, and new facilities are being considered.

Most employees know that one step in getting new business is the preparation of a proposal. Many employees have been involved in the preparation of these documents.

However, few employees may be aware of the steps the division takes before reaching the proposal preparation stage.

Planning for some of the division's recently acquired business began at least five years ago when the project was listed as a business opportunity in the division's long range plan (LRP).

Each fall, division experts develop the LRP to cover the next five years based on an analysis of the market, government planning, and analysis of the competition, and an estimate of the cost to successfully pursue the new business opportunities.

The last item, cost to successfully pursue opportunity, is a significant one and gets special treatment and a special name — new business acquisition expenditure, better known by the initials NBAE.

While NBAE is a Martin Marietta term, the federal government recognizes the expenditure as essential to business and divides it into four accounting categories: research, development, studies, bid and proposals. The Armed Services Procurement Regulations (ASPR) have specific definitions for each category.

Each year companies doing business with the government negotiate a limit on these costs. Martin Marietta Aerospace negotiates its ceilings on these costs with the Air Force, the service designated by the Department of Defense to sign the Tri-Services agreement that includes the NBAE cost limitations. Certain of these ceilings are established for each division, while the research category is negotiated for all of Aerospace and prorated back to the divisions.

These NBAE limits become a major consideration in the preparation of the long range plan.

At the Denver Division, the Executive Planning Panel (EPP) under the chairmanship of Howard F. Keyser, vice president for program development, is responsible for the long range plan and for determining what business opportunities to pursue and now NBAE funds will be spent.

Members of the panel in addition to Keyser are C.B. Hurtt, vice president and division general manager; John D. Goodlette, vice president for technical operations; Daniel A. Linn, director of plant operations; and Albert E. Hawkins, director of business operations. Leonard G. Taigman, who heads new business management and planning, does the initial assessment and integration of data submitted to the EPP for consideration.

The division's proposed long range plan normally goes to Aerospace headquarters for its first review in October. By this time, the government has approved or appropriated funds for the next fiscal year, giving planners at the division and at Aerospace headquarters data on which to base near-term (one to two years) plans.

Aerospace headquarters normally releases decisions on the long range plan in November so the division can publish its plan in December.

The long range plan as a published commitment does not change. However, it does not prohibit the division from pursuing unanticipated opportunities. There is a constant assessment of opportunities so the division can be in position to act. Requirements personnel monitor all activities outside the division that have impact on programs laid out in the LRP as well as on programs not initially in the plan.

Each year Aerospace headquarters measures the division's performance based on the long range plan which includes the division's ability to acquire new business.

To meet the LRP, the division pursues activities that provide the proper credentials and technology base that enhances our ability to obtain new business. We expend NBAE for research, hardware development, systems/conceptual studies, and eventually for a proposal response to a customer's request for proposal.

Orlando contracts moved to Denver

Three contracts recently have been moved from the Orlando Division to be performed by the Denver Division's command and information systems (CIS) organization. These contracts expand the role of CIS in the command, control, and communications intelligence market.

Contracts transferred are felixible intraconnect, Nellis Air Force Base Tactical Fighter Weapon Center range support activities, and support for integrated tactical communications systems analysis.

The range support contract includes hardware, software, and support for the wide variety of training and evaluation range operations at Nellis AFB at Las Vegas, Nev. The contract involves participation in electronic warfare and many other command and control activities that contribute directly to the technical base and capabilities of CIS. This program, along with the flexible intraconnect effort, are under Ray Herbert, director of communications and electronic warfare systems.

The resident program manager for the Nellis range support is Matt McCombe, a 19-year employee of Martin Marietta.

The flexible intraconnect program is being managed by William Bedsole. It is being conducted as part of support efforts for Air Force tactical command, control, and intelligence. The contract is in competition with a parallel contract with Hughes. Both the technology and the information distribution system to be developed have direct application to on-going CIS contracts, such as OASIS and to future opportunities in the command, control, and communications intelligence market.

The tactical requirements analysis support effort at Ft. Gordon, Ga. is headed by Roy Gilbreath under the direction of C.P. Harrison Jr., director of Army programs for CIS. Employees working on this contract have a close relationship with all Army command and control personnel. As a result, Martin Marietta will be a key contributor to solutions for emerging major command, control, and communicating intelligence system requirements.

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Division sponsors two students at science institute

Two Littleton area high school students are attending the 1978 Frontiers of Science Institute this summer at the University of Northern Colorado under scholarships from the Denver Division.

Selected for the eight-week program, which began June 11, are Stuart Elgin Goodnick of Arapahoe High School and Joanna Darlene Sawyer of Littleton High School.

The Frontiers of Science Institute is designed for high school juniors who have interest and aptitude in science. The activities are selected to give students a better understanding of the nature of scientific investigation, some of the problems and limitations, and to encourage them to continue with advanced study and a career in science.

Remodeling cuts cafeteria waiting

Thanks to remodeling, waiting time in the engineering cafeteria has been cut to three to five minutes during peak periods. According to Phyllis Montgomery, cafeteria manager, waiting time prior to remodeling had been 10 to 15 minutes.

The remodeling project added a new short order line and converted the old short order line to a second full service line. The new arrangement allows the cafeteria to serve 400 additional customers, raising lunch hour totals to 1600 daily.

Your Insurance

This is one in a series of articles in which the most common questions about the Martin Marietta insurance program are discussed.

Question: When does a dependent cease to be covered by my group insurance?

- When the dependent marries
- When the dependent ceases to depend on you for support
- On March 1 followng the dependent's 19th birthday, unless the dependent is a full-time college student (maximum age under the hourly plan is 23 and under the salary plan 28)
- Note: A dependent can continue to be covered after the age of 19 if the dependent is mentally or physically incapable of earning a living. Proof of this incapacity must be submitted to the insurance office at the Denver Division within 31 days after the child reaches age 19.

Janet Rauchfuss and Yvonne Burnett from the personnel department demonstrate the size and contents of the office supply packet now being issued to new employees during their company orientation. The packet was developed by Judith Ostrowski, inventory management, to help new employees with office supplies that otherwise might take weeks to accumulate. The packet contains a stapler and staple remover; tape and dispenser; scissors; three-hole punch; desk top calendar and base; a 12-inch ruler; ruled pad and scratch pad; and pen and pencil. Nearly 400 packets have been issued to new permanent employees since March.

MX blast plugs undergo tests

Martin Marietta has delivered two large-scale Missile X test blast plugs to the Air Force. The plugs are currently undergoing acceptance tests at Luke Air Force Range in Arizona. In early Fall, the plugs will be placed in tunnels at the Air Force Range and explosives will be detonated elsewhere in the tunnel to test the plugs' ability to stop shock waves traveling through the tunnel before they reach the missile and crew.

The 280,000 pound, 70-foot-long plugs were built for Martin Marietta by L&F Industries of Los Angeles under an Air Force Missile X Vehicle Design Critical Test contract.

Other Missile X tunnel concept components to be built and tested by Martin Marietta under the same contract include the breakout and erection actuators which will push the missile up through the ground and into launch position; the shock isolation system which will protect the missile and crew from the effects of a nearby nuclear blast or an earthquake; and a gas generator which will power the actuators. These components are in the final stages of production and will be shipped in mid-June to the test sites for assembly and test in late July or in August.

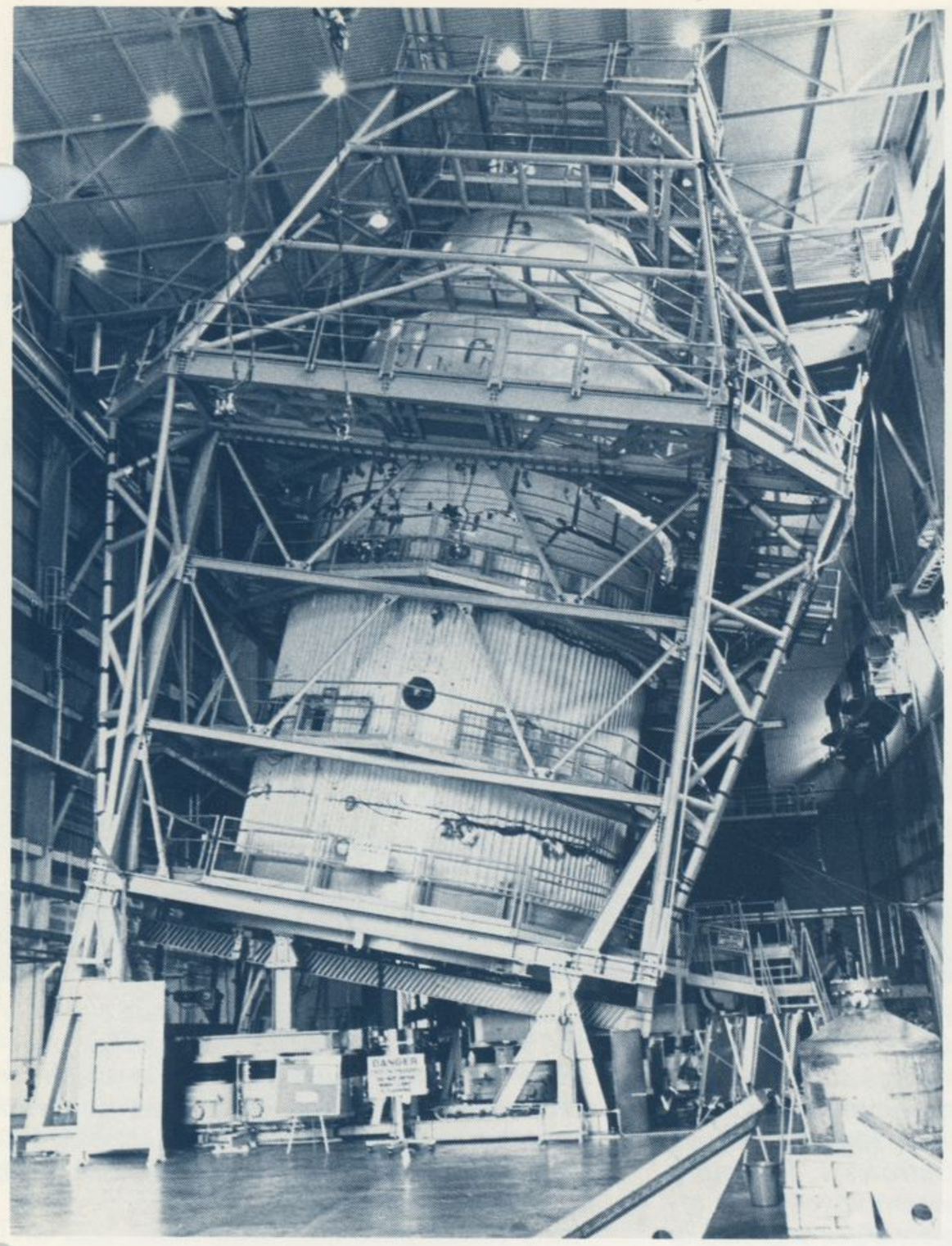
Data Systems gets BIA contract

Martin Marietta Data Systems has been awarded a $3-million contract to process several Bureau of Indian Affairs (BIA) computer programs. Under the 40-month agreement, Martin Marietta will process BIA programs from 13 remote sites in the U.S., including Eskimo census, land records, and several financial programs.

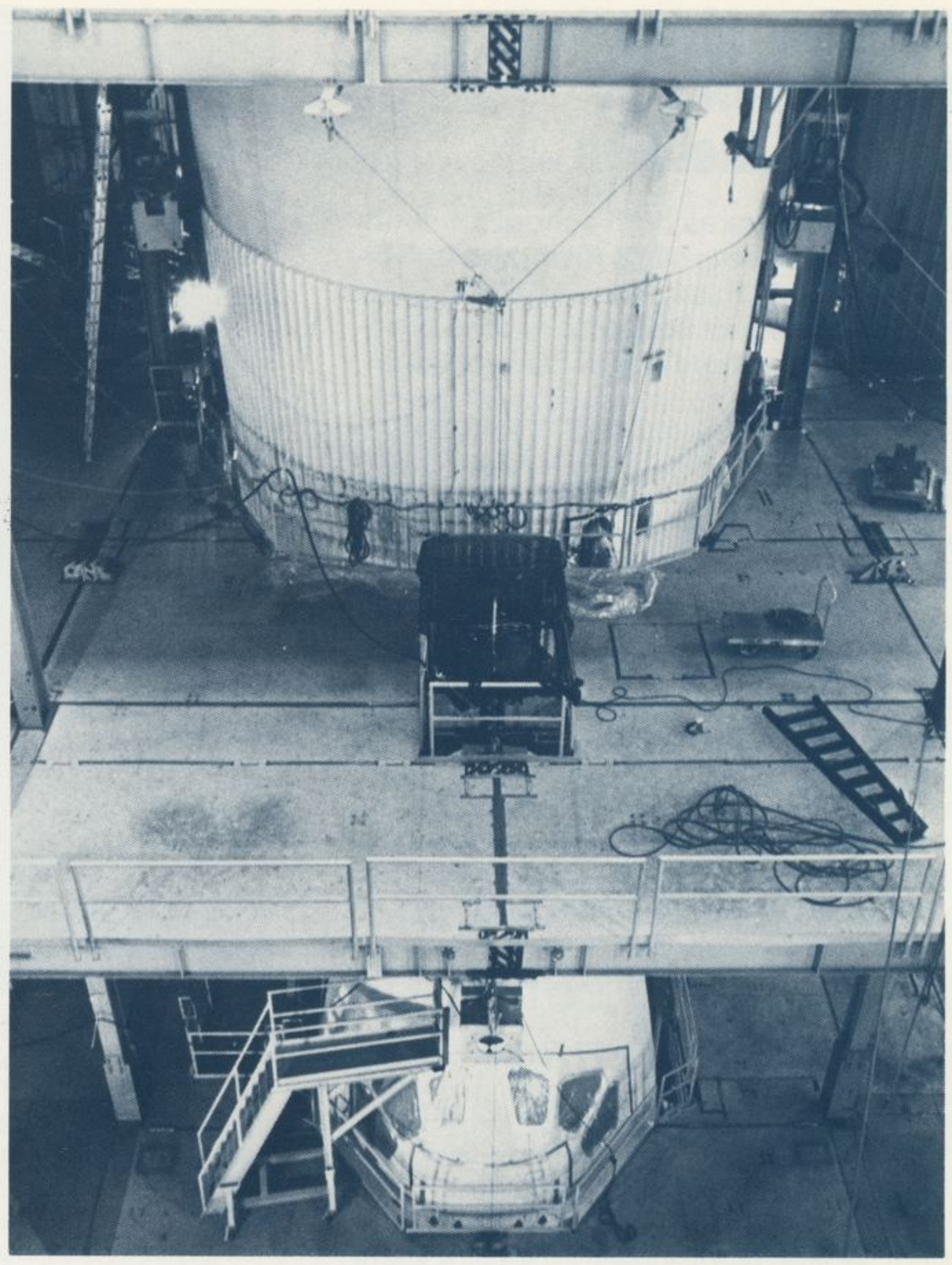
The data will be transmitted electronically from government computer terminals to Martin Marietta data processing experts from the Data Systems offices in Denver will manage the program, conduct training sessions, and establish the computer link-up.

The BIA contract is the fourth awarded to Martin Marietta under the General Services Administration's Teleprocessing Services Program since the first of the year. The other three were awarded by the Department of Housing and Urban Development, the U.S. Navy, and the Air Force. All four contracts feature remote data processing via telephone or satellite.

Gary Elm of Data Systems' Federal Systems Group in Denver led the sales effort. Rodney Haas, also with the Denver office, is the project manager.



This liquid oxygen tank and intertank section of the structural test article is tilted at a 9-degree from vertical angle at the George C. Marshall Space Flight Center to simulate the correct angle of the vehicle during launch. This series of ground tests will confirm the structural integrity of the forward portion of the external tank.



The Space Shuttle orbiter peeks through a work platform in the test stand at the George C. Marshall Space Flight Center where it is mounted alongside the external tank, visible at the top of the picture. Both vehicles will be mounted in this fashion until July when they will be removed from the stand and the solid rocket boosters installed alongside the external tank to complete the launch configuration.

Don Suarez, right, a quality engineer on the external tank project at Kennedy Space Center, recently received the employee of the quarter award from Tom Wirth, left, external tank operations director there. Suarez has been a key contributor to the success of Michoud operation's work at Kennedy Space Center with the refurbishment, checkout, and operation of the liquid hydrogen and liquid oxygen systems which will be used to supply propellants to the external tanks at launch pad 39A.

At Michoud

Ground vibration tests underway on external tank

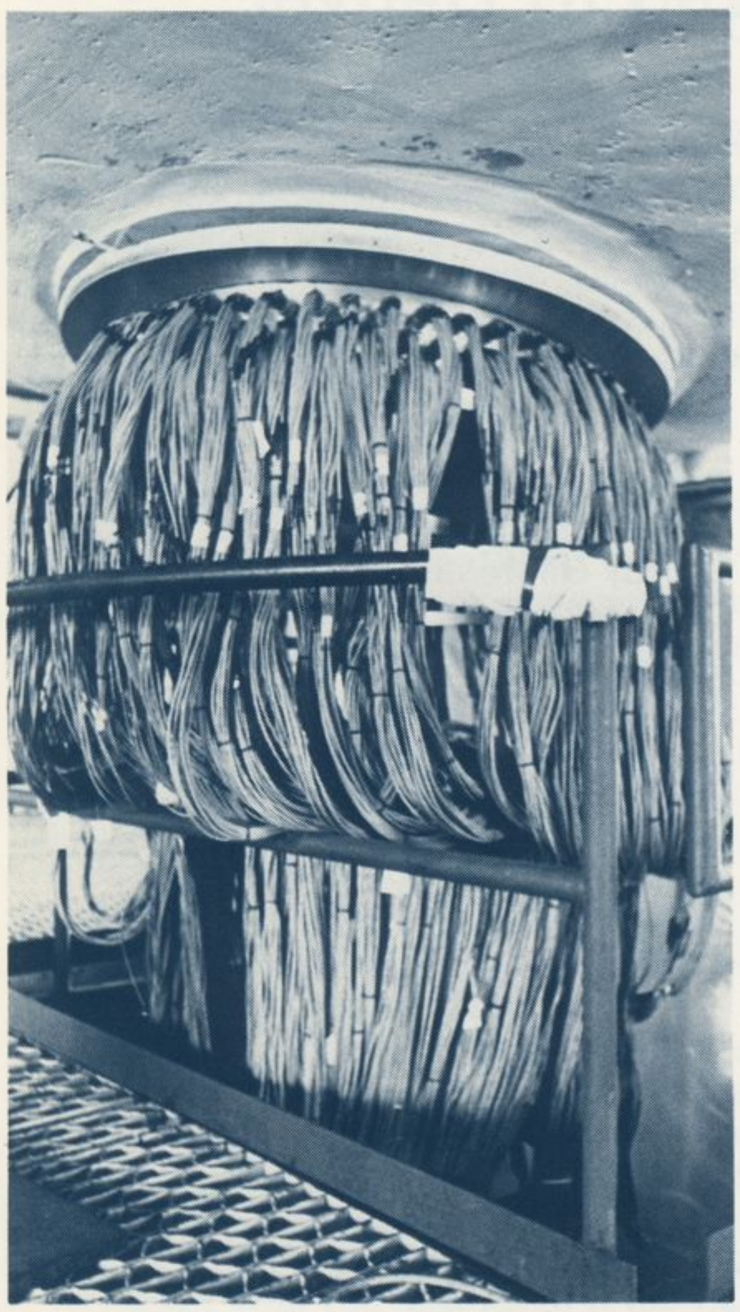
Ground vibration tests are underway on the ground vibration test external tank at the Marshall Space Flight Center, Ala. with the external tank and orbiter suspended together inside a 350-feet tall test stand.

A computerized shaker system was first turned on May 30 at 7:00 pm by engineers in instrumentation trailers located near the test site to officially begin the 6-month test program.

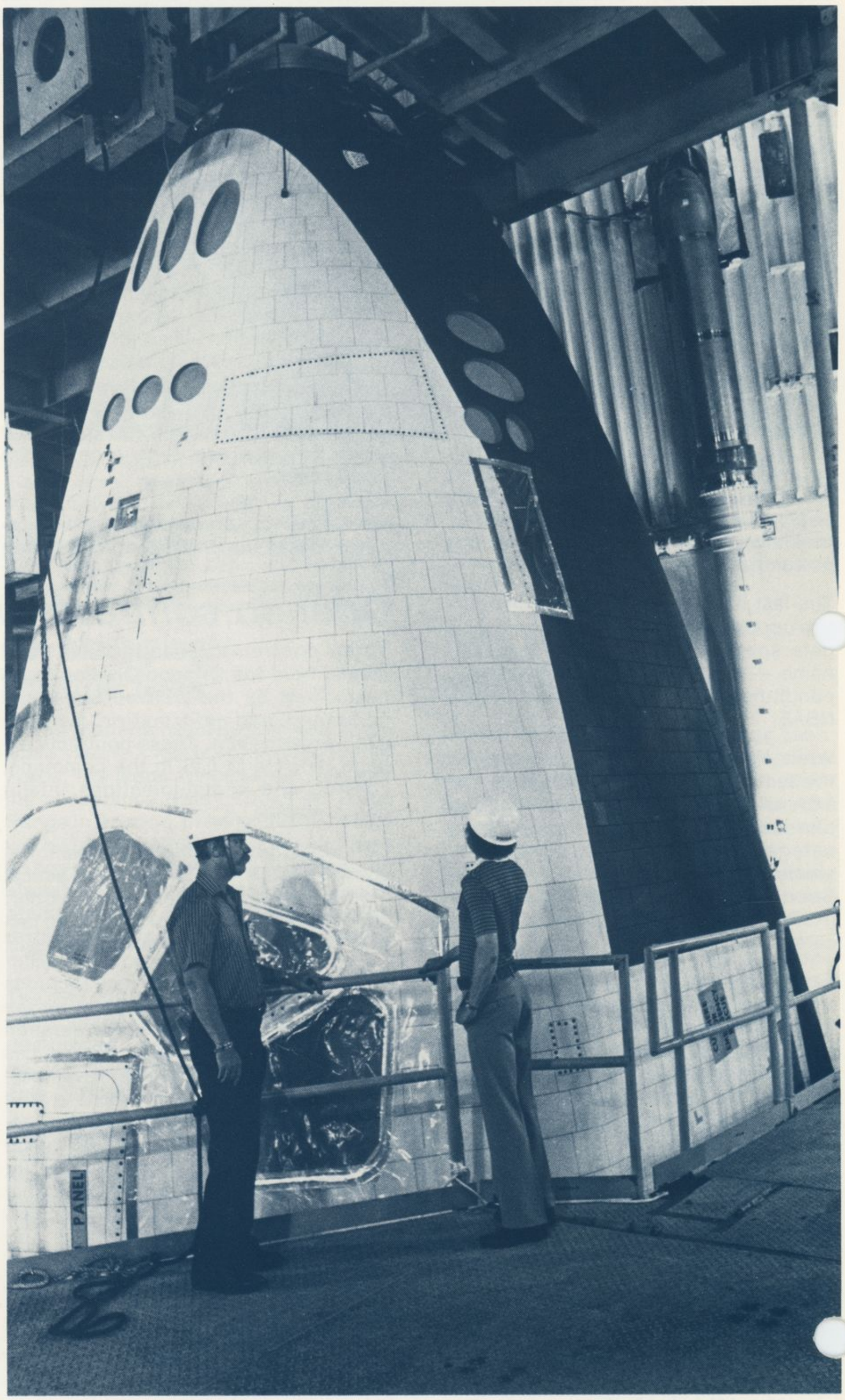
During the tests, engineers will examine various vibrational modes of the two vehicles and compare the response to previously prepared mathematical predictions.

Using this information engineers can verify their predictions on how the Space Shuttle will react to the much more severe vibrations expected during launch in 1979.

William F. Barrett is manager of test operations for Martin Marietta at the Marshall center.



This bundle of wires connected to the bottom of the external tank is indicative of the millions of bits of information which engineers are gathering during the ground vibration tests in Huntsville. Each wire is connected to a sensor on the tank to record vibrational characteristics of the vehicle.



Only the nose of the Space Shuttle orbiter is visible from this work platform where the spacecraft is mounted alongside the external tank, rear, in the test stand at the George C. Marshall Space Flight Center during ground vibration tests now underway.