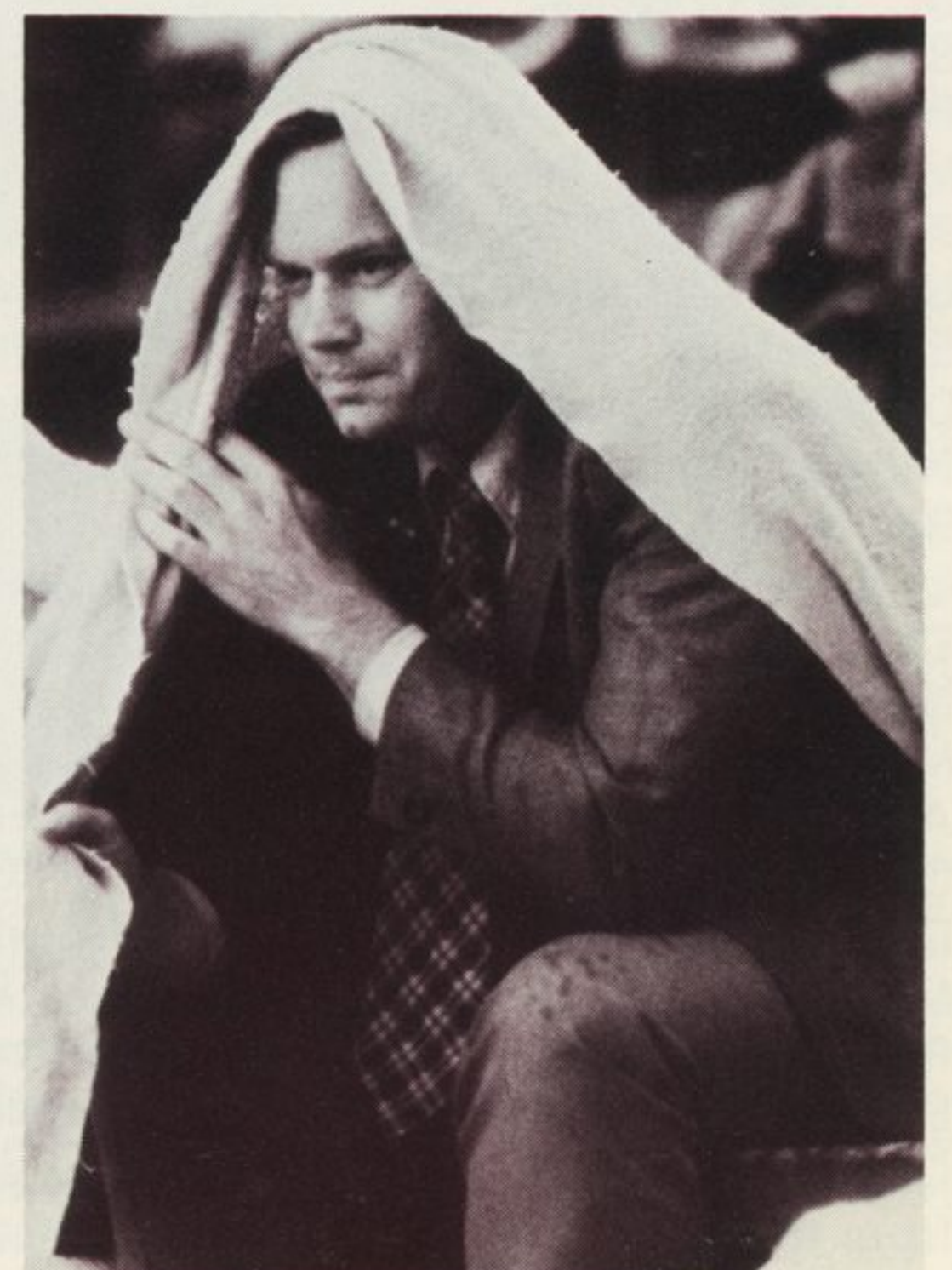
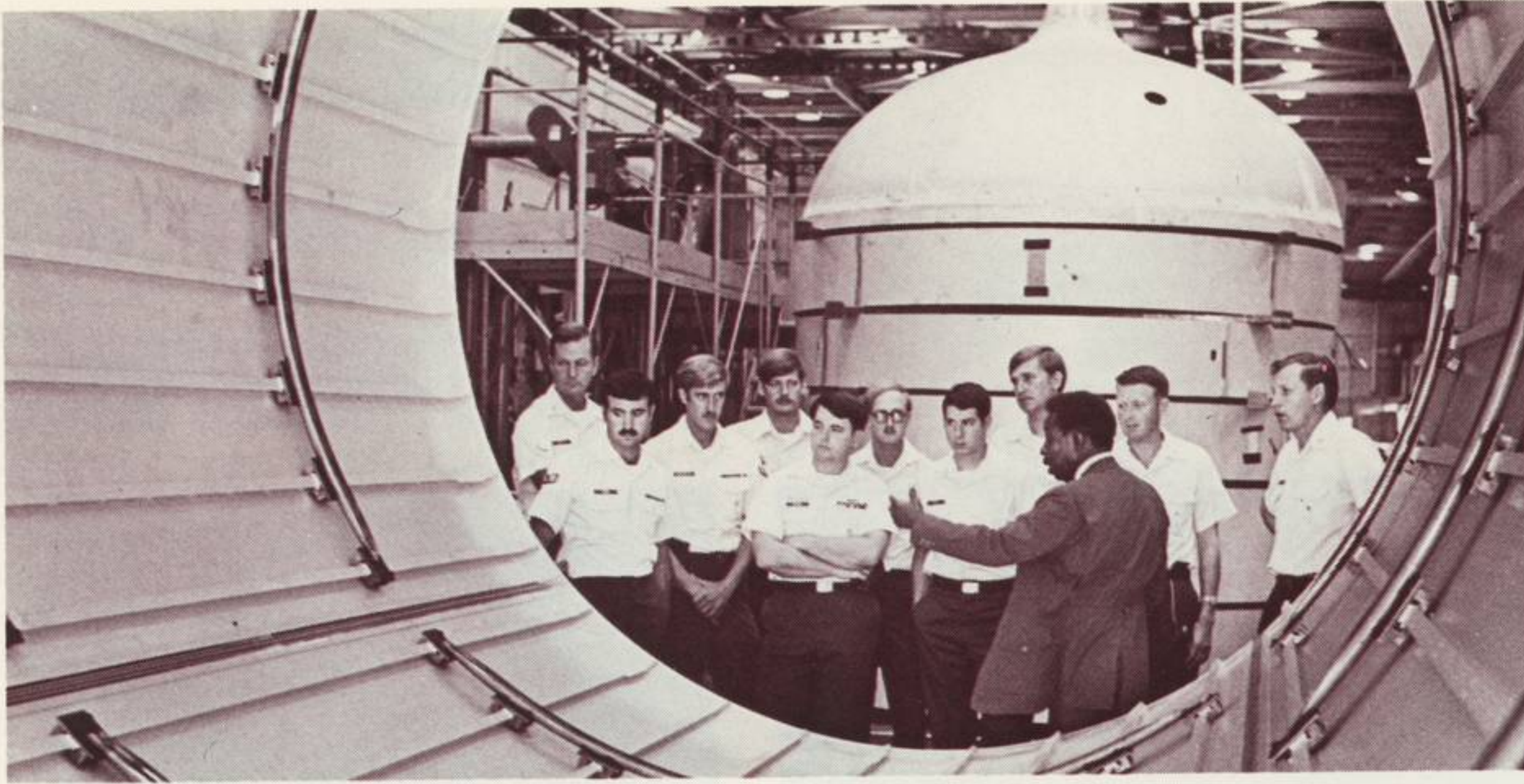


NUMBER 11/1974





The winners of the Strategic Air Command's annual Titan II Missile Competition recently toured the division. Getting a first-hand understanding of Titan II manufacturing techniques were members of the 390th

Strategic Missile Wing from Davis-Monthan Air Force Base in Arizona. The tour and briefing was conducted by F. "Buck" Newsum, of the public relations department, himself a former Air Force Titan I site commander.

28% reduction in paper usage is goal set in drive beginning Sept. 3

A 28 percent reduction in the amount of paper used by the division during the coming year is the goal in a

School program sees 13 employees earn college degrees

Thirteen division employees received degrees in the first half of 1974 in Martin Marietta Corporation's Tuition Reimbursement Program.

The program is open to employees who qualify for approved graduate and undergraduate academic programs.

Those obtaining degrees in the period January through June 1974 include:

D. E. Clevenger, Masters Degree in Business Administration, University of Portland; C. F. Fital, Colorado School of Mines, PhD in Metallurgical Engineering; R. L. Hoffman, Colorado State University, Masters Degree in Mechanical Engineering; C. F. Cancalosi, Masters Degree in Urban and Regional Planning; R. W. Cooper, Bachelors Degree in Business; J. M. Stewart, Bachelors Degree in English; and R. L. Whitman, Masters Degree in Electrical Engineering, all from the University of Colorado; S. D. Dobby, Masters Degree in Business Administration; A. L. Dunklee, Masters Degree in Electrical Engineering; J. O. Dye, Masters Degree in Engineering Mechanics; J. G. Kriss, Juris Doctor; V. E. Riegert, Masters Degree in Electrical Engineering; J. L. Wright, Sr., Masters Degree in Business Administration, all from the University of Denver.

corporation-wide drive that starts Tuesday, September 3.

The division's present annual paper usage is approximately 137 million sheets, according to George W. Loving Jr. He will direct the paper reduction program for the division.

L. J. Adams, vice president and general manager, noted that, "... in our overall effort to improve our administrative systems, paper must be considered a vital target and be given major attention."

The program will be directed at inventory and audit of paper, exception reporting and equipment techniques, and content and requirements.

Supporting actions now underway, Loving said, include the change from Xerox to IBM equipment in the self-service reproduction areas at a sizable cost savings per month per machine.

Another substantial savings is anticipated with the installation of the first automatic, back-to-back printing press. This is expected to save six million sheets of paper per year.

Loving said that a Paperwork Hot Line (Extension 2586) has been established for employee use in calling in ideas and suggestions on ways to help cut down paper usage.

The degree of improvement required cannot be accomplished without people participation. Employees have a stake in the effort since the economic well-being and operating effectiveness of the division depend to a significant degree on a substantial reduction in the flow of administrative paperwork.

Division is awarded Space Tug contract; studies run 8 months

Martin Marietta Aerospace has been awarded a contract for studies involving the development of the Space Tug, an upper stage for the Space Shuttle.

The Space Tug, and its forerunner, the Interim Upper Stage (IUS), will be used in conjunction with the Space Shuttle by both the National Aeronautics and Space Administration and the Department of Defense (U.S. Air Force).

Martin Marietta will study Tug fleet and ground operations, schedules and controls. The study will develop concepts, techniques, and tools for application of fleet-type operation.

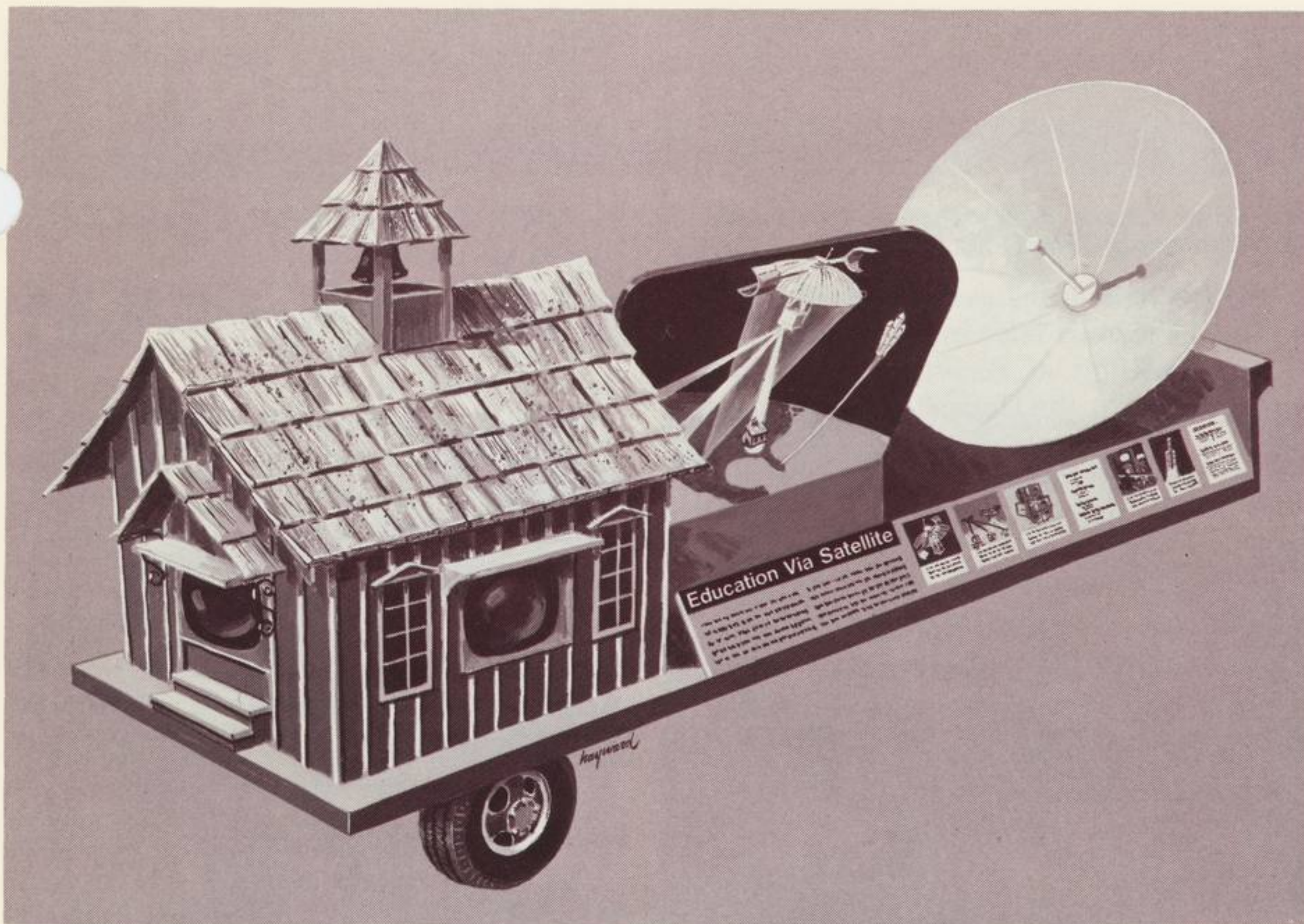
Consideration will be given to ground handling, missions, assignments, payload and orbiter integration, Tug scheduling, and physical status.

Martin Marietta was among five aerospace firms asked to conduct studies by NASA's Marshall Space Flight Center. The studies emphasize the critical areas needed to find the Tug concepts and support initial design efforts and analyses.

The eight-month study will be performed at the Denver division.



Miss Inez Regge is given a check for \$500 by representatives of Operation Santa Claus, an employee organization. The money was donated by division employees to assist Miss Regge, who has been paralyzed since she was four, in buying an electric wheelchair. Making the check presentation is Ken Sedlmayr and Walter Martynek. Operation Santa Claus funds come from an annual employee fund drive and money obtained from the sale of IBM paper and cards collected throughout the year by division employees.



This artist's rendering depicts the Little Red School House exhibit being built. It is

scheduled to go on display for division employees when completed.

Employees to see results of their efforts in Red School House exhibit

A Little Red School House will soon give division employees a first-hand look at what their efforts in producing the Titan IIC will mean to residents in the remote areas of the Rocky Mountains, Alaska, and Appalachia.

The ATS-6 communications satellite was placed into orbit May 30 by a division built Titan IIC launch vehicle.

Its basic purpose is to relay experimental health service and educational TV broadcasts for about a year to remote locations in eight Rocky Mountain states, Alaska, and Appalachia, where terrestrial television coverage is not feasible. It will also carry out more than 20 major meteorological, air, and sea navigation and traffic control experiments over a two-year period.

Dimensions of the Little Red School House are only 6 feet by 8 feet. The miniature structure will sit on a 24-foot trailer, along with a 10-foot receiving antenna. The school house contains a complete video tape recorder system and three 25-inch color television monitors.

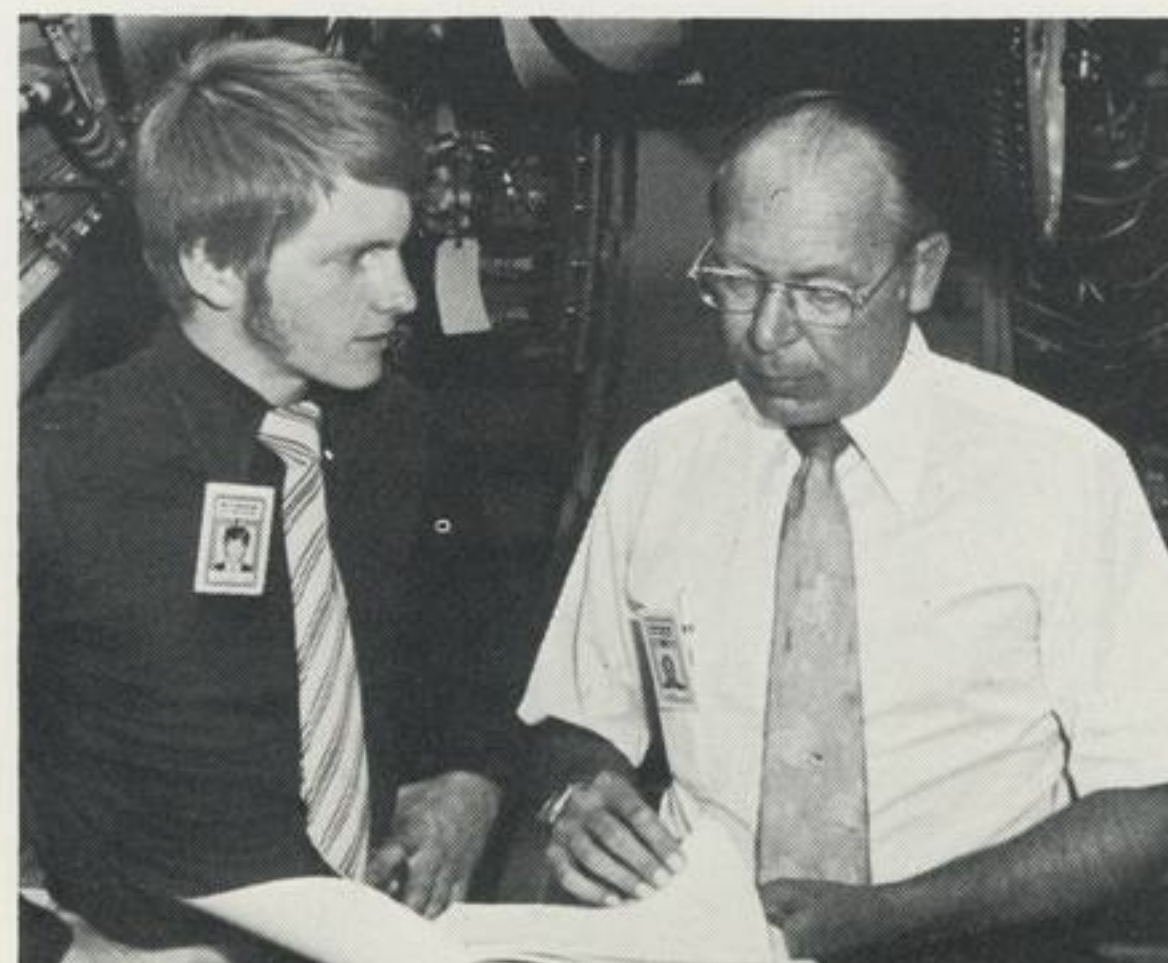
The exhibit will go on display at the Waterton plant for employees when

completed. Employees are invited to see the exhibit during lunch hours or before or after work. They will be able to view programs on the monitors that are transmitted from Morrison, Colorado.

However, this is only after those programs have been beamed 22,300 miles into space to the ATS-6 communications satellite then rebroadcast to the antenna sitting next to the Red School House.

The Little Red School House will be displayed throughout the Rocky Mountains in the coming months. Cooperating with the division on the project is the Federation of Rocky Mountain States made up of the following states—Colorado, Idaho, Montana, New Mexico, Utah, and Wyoming.

Programs beamed from Morrison to the ATS-6 and back to the Red School House will be produced by the Satellite Technology Demonstration Unit, a department within the federation.



Division program lets five employees couple their work, schooling

Five Denver division employees have the chance to see both sides of the coin.

As participants in Martin Marietta's Co-operative Student Employee Program, each youth attends school and works at the Denver division full-time on alternating schedules.

This permits the students to earn their degrees in approximately five years. It also helps them earn money for college expenses while gaining invaluable on-the-job training.

Following graduation, it is hoped the student will join the company full-time.

Division mentors provide communication and guidance for each student while employed at the division.

The student employees, their schools, degrees being sought, and their company mentors include:

Ronald Korsch, University of Washington, electrical engineering (Merv Bauer, test integration); Cynthia Tollerson, University of Colorado, accounting (Mary Goldman, accounting and treasury); Michael Tonemah, University of Oklahoma, electrical engineering (Al Gibson, electronic systems); May Zenk, Iowa State University, aerospace engineering (Paula Lewis, planetary systems mission analysis and operations); and Robert Lopez, University of New Mexico, electrical engineering (John Vega, RF systems).



Division mentors and two of the five students in Martin Marietta's Cooperative Student Employee Program are seen above and at left. In photo at left, Ronald Korsch (left) discusses an engineering problem with his mentor, Merv Bauer, test integration. In photo above, student employee Cynthia Tollerson (left) is seen checking things out with her mentor, Mary Goldman of accounting and treasury.

On the cover --

A capacity crowd of employees and their families turned out for the special Pops Concert held at Red Rocks Amphitheater by the Denver Symphony Orchestra. The enthusiasm with which the performance was received is reflected in the faces of some of those attending.

Better knowledge of Earth expected from 1978 Pioneer probes

When two Pioneer spacecraft begin probing the atmosphere of Venus in 1978, the information they gather may also help us learn more about Earth.

NASA believes the study of weather patterns on other planets—and on Venus in particular—can provide clues to the mysteries of our own weather system.

A new interest in understanding weather has been generated by concern over the increasing pollution of Earth's atmosphere. Some scientists feel that atmospheric pollution, if not corrected, could eventually evolve into a kind of global smog, similar to the present atmosphere of Venus.

Many factors complicate Earth's meteorology. Mixing of oceanic and continental air masses, cloud formation, axial tilt, and rapid planet rotation make our atmosphere difficult to study. Venus is simpler to study because it has a basic atmosphere that is 95 percent carbon dioxide, a very slow rotation (243 Earth days = 1 rotation of Venus), very little tilt to its axis, and no oceans.

The mission is comprised of an orbiter and a multiprobe spacecraft, launched in May and August, 1978, to arrive at Venus in December. Because of different trajectories, the orbiter will arrive five days before the probe-carrying spacecraft.

The orbiter, carrying 185 pounds of instruments, will study the Venusian atmosphere over one 243-day period. Its elliptical orbit will bring the spacecraft to within 125 miles of the surface and out as far as 37,300 miles from the surface.

The second spacecraft will carry four separate probes, each targeted to different locations on the planet.

The probes will measure atmospheric pressure and temperature, record speed of fall, measure cloud extent and altitude, record changes in cloud densities and the exchange of heat energy between the Sun and the atmosphere and study atmospheric components.

Trajectories of the two spacecraft scheduled for launching in 1978 to study the planet Venus are shown in the diagram to the right.

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Executive Management Profiles

[Tenth in a series of sketches of the division executive management.—Ed.]

J. Lee Burris is a man whose training has led from a Kansas farm in his youth to his present position as director of facilities and support for the Denver division.

Technically, Burris has basic division responsibility for facilities, planning and engineering, plant services, support services, and policies and procedures.

He describes it more simply: "My job is to see that we provide all operating projects and departments at the division with the necessary facilities and equipment needed to get their respective jobs done properly and on time."

Burris' general stance, the set of his jaw, and the way his eyes appear to scan the horizon remind you of generations of Kansas farmers who built their farms and sought a livelihood from the harsh, but fertile soil.



J. Lee Burris

Actually, the initial "J," which stands for the month of June, is a constant reminder to him of just how hard it was sometimes for the Kansas farmer.

Burris laughingly explains: "My parents, of course, were farmers and, since I was all they had that year (he was born June

1, 1927 in Bush City, Kansas), they named me accordingly."

Burris served in the Army Air Corps from 1944 until 1947. He earned a B.S. degree in business administration from the University of Nebraska in 1950. After a short period with Great Western Sugar Company and five years with Ryan Aeronautical, Burris joined the Denver division as a cost estimator in May 1957.

In 1967 he became estimating manager and, in 1970, assistant controller. He held that post until 1972 when he entered facilities and support services as manager of support services.

Burris explained that ever since his youth he has had a strong interest in this type of work... dating back to construction, railroad, and oil field jobs performed in earlier years.

In November 1973, he became acting director of facilities and support and, in early 1974, became permanent director.

Burris is constantly seeking out challenges, both in his work and in his off-duty hours. He has succeeded in felling an elk with bow and arrow, but one challenge he still faces is to complete a par round of golf. "I came close one time... within six strokes. But, just as with the elusiveness of providing perfect plant services, I intend to keep trying."

Burris and his wife, Betty Lou, reside in Littleton at 6199 South Elati. They have three sons and a daughter.

PIONEER VENUS TRAJECTORIES

