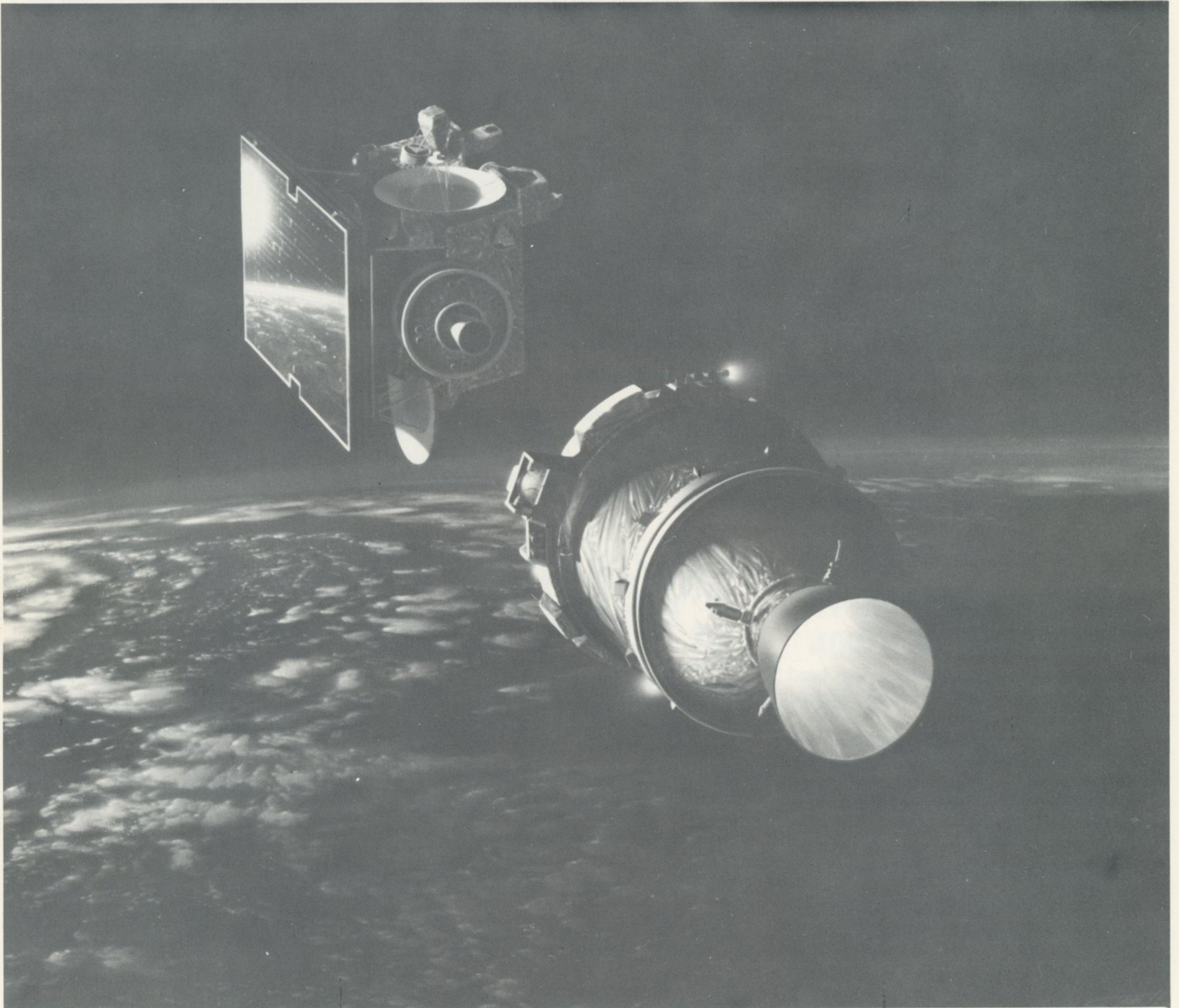


April 11, 1986

Number 7



Artist's concept of the transfer orbit stage as it launches a scientific spacecraft on a trajectory to Mars.

Transfer orbit stage chosen for Mars Observer

NASA has announced the selection of Orbital Sciences Corp. (OSC) of Vienna, Va., to provide the upper stage vehicle for use with the space shuttle to launch the Mars Observer mission in 1990.

The March 30 announcement detailed NASA's plans to enter into contract negotiations with OSC to use the privately financed

transfer orbit stage (TOS) for the Mars Observer and for options for additional upper stages to launch three follow-on planetary missions.

Under a series of cooperative agreements with NASA, OSC is financing and directing the upper stage development program and serving as the exclusive marketing agent for

TOS vehicles.

Beginning in 1983, OSC contracted with Martin Marietta Corp. as its prime contractor and other aerospace suppliers for development and production of TOS hardware. The first TOS flight vehicle recently completed final assembly and is entering integrated system testing at Denver Aerospace. ■



Denver Aerospace receives Treasury award for bond participation

Peter B. Teets, left, Denver Aerospace president and vice chairman of the savings bond program, shares an award with Leroy Hollins, center, coordinator of the Denver bond program, and Stanley F. Albrecht, vice president of production operations and Denver Aerospace bond chairman. Katherine D. Ortega, U.S. Treasurer, recently presented the U.S. Treasury National Honor Roll Award recognizing outstanding support of the bond program in 1985.

"I Cannot Tell A Lie..."



...Bonds Are Better Than Ever"

U.S. SAVINGS BONDS
Paying Better Than Ever

Bond drive begins; savers could win extra \$100 bonds

The 1986 Denver Aerospace savings bond campaign began April 1 and will continue through May 2.

In addition to being a safe investment, U.S. savings bonds offer competitive rates. Savings bonds kept 5 years or longer will earn interest at 85% of the average return on 5-year marketable treasury securities.

All employees participating in the savings bond program are eligible to receive additional \$100 bonds in a drawing at the end of the campaign (vice presidents and directors are ineligible). Twenty-seven \$100 bonds will be awarded.

Employees are encouraged to purchase U.S. savings bonds by enrolling in the payroll savings plan.

"As United States citizens who derive most of our income from government-sponsored programs, we share a certain responsibility to reinvest in our government," said Peter B. Teets, president, Denver Aerospace, and vice chairman of the savings bond campaign for Martin Marietta. ■

Savings bond interest rate at 8.36% in recent period

The market-based interest rate for Series EE Bonds issued between Nov. 1, 1985, and April 30, 1986, is 8.36% for the first semiannual interest period. Older Series EE or E Bonds and U.S. Savings Note will also receive this market-based rate for 6-month interest periods that start between Nov. 1, 1985, and April 30, 1986.

The average yield for bonds held since the beginning of the market-based interest program is 9.69%. Average rates for all eligible bonds are shown in the table below. Average yields change each May and November. The minimum guaranteed yield on bonds kept 5 years or longer is 7.5%.

Semiannual Market-Based Rates

Bonds Purchased	Annual % Rates for Semiannual Periods							Average Rate
	1st	2nd	3rd	4th	5th	6th	7th	
Through April 30, 1983	11.09	8.64	9.38	9.95	10.94	9.49	8.36	9.69
May 1, 1983-Oct. 31, 1983	8.64	9.38	9.95	10.94	9.49	8.36		9.46
Nov. 1, 1983-Apr. 30, 1984	9.38	9.95	10.94	9.49	8.36			9.62
May 1, 1984-Oct. 31, 1984	9.95	10.94	9.49	8.36				9.69
Nov. 1, 1984-Apr. 30, 1985	10.94	9.49	8.36					9.60
May 1, 1985-Oct. 31, 1985	9.49	8.36						8.93
Nov. 1, 1985-Apr. 30, 1986	8.36							8.36

These rates only apply to bonds kept 5 years or longer and to bonds purchased before Nov. 1, 1982, when they are held to their first interest-accrual date beginning on or after Nov. 1, 1987.

Lost and found

Lost any personal items—wallets, glasses, watches—in the past year? Contact plant protection, Ext. 7-4646.

I&CS wins SDI contract for National Test Bed

Martin Marietta Information & Communications Systems (I&CS) has been awarded a \$1 million contract March 28 by the Strategic Defense Initiative (SDI) Organization for concept definition of the National Test Bed (NTB).

I&CS was one of four companies that received parallel study contracts. The NTB will evaluate and demonstrate computer hardware and software to assess potential battle management and command, control and communications for alternative strategic defense architectures.

I&CS leads a team that includes Hughes, IBM, Logicon, Parsons, Singer-Link, Geodynamics and Computer Technology Associates.

The three other contractor teams receiving similar contracts were Boeing, Rockwell and TRW.

The award is for a 3- to 6-month Phase I NTB concept definition study. Two of the four teams will be selected to perform a Phase II preliminary design, and a Phase III award is expected in 1987.

Senior I&CS management for the program includes Jerry Zionic, project director; Larry Soderberg, mission analysis director; Dr. Harry Sauerwein, business development director; and Dr. Scott Gillis, chief systems engineer. ■

Heartline Dial 329-8019— free information

Heartline is a community education service of the University of Colorado Health Sciences Center in Denver. It is a phone number that offers the latest information on cardiovascular care, heart health tips and research breakthroughs.

Each week the cardiovascular staff updates the message, enabling you to learn more about your heart and how to avoid becoming a victim of heart disease. Dial 329-8019.



The final phase of the shuttle contract involves the facility's ground support systems at Vandenberg Air Force Base, Calif.

Company gets contract extension at VAFB

The Air Force has approved an 18-month extension of the ground support systems (GSS) installation and checkout contract at Vandenberg Air Force Base, Calif.

The initial contract modification for \$31.4 million covers April 1, 1986, through Sept.

30, 1986. The entire contract—through Sept. 30, 1987—will total an estimated \$76 million.

The extension involves approximately 700 Martin Marietta employees. It will bring the Vandenberg shuttle launch site to full operating capability. ■

Future MMU uses outlined to Air Force

Current and future uses of the Martin Marietta-designed manned maneuvering unit (MMU) were recently explained to two Vandenberg Air Force Base groups by lead MMU systems engineer Leslie Rogers.

The Vandenberg Section of the American Institute of Aeronautics and Astronautics (AIAA) and the American Society of Military Comptrollers, Space Center West Chapter, learned what makes this sophisticated flying machine work and how it is planned for continued use in various space programs.

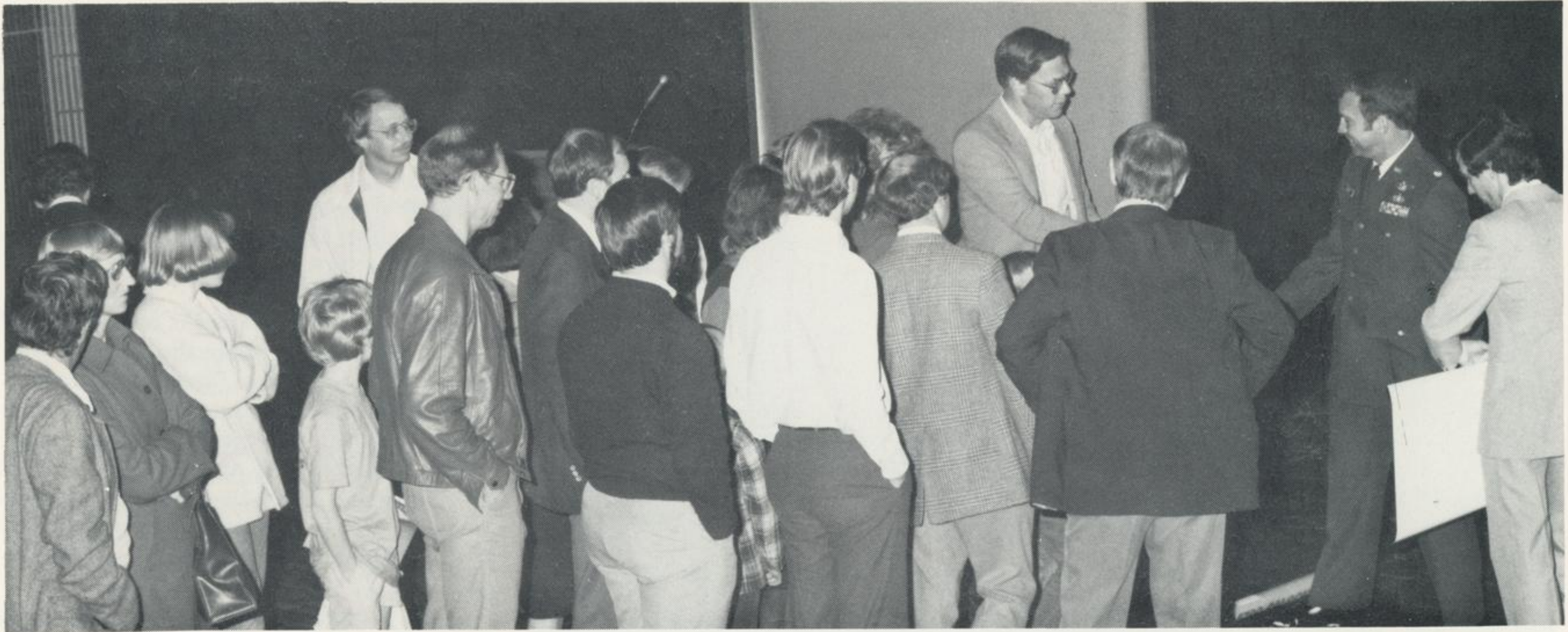
Some of the key features identified by Rogers included the MMU's fail-safe redundant systems and the fact that the push of a button can provide automatic attitude hold, a more efficient rotation stabilization. Propulsion of the MMU is also activated by astronaut hand controllers.

The two MMUs have 10 hours and 22 minutes of in-space flight time to their credit, accumulated during their initial checkout flights, the Solar Max repair mission, and the Westar and Palapa satellite retrieval missions.

Possible future uses of the MMU include crew member rescue, satellite servicing and refueling, inspections and photography, and in-space construction, Rogers said.

Rogers has been with Martin Marietta for 8 years, 5 years assigned to the MMU and Solar Max repair mission. She has a bachelor of science degree in aerospace engineering from the University of Colorado and is working on a master's degree in systems management at the University of Southern California.

Rogers is the author of several technical papers, including one on the use of the MMU as a rescue vehicle for astronauts, which she presented during the International Astronautical Federation Congress in Stockholm, Sweden, in October 1985. ■



Astronaut presentation benefits Challenger crew children

Air Force mission specialist Gary Payton, second from right, greets an audience of Martin Marietta employees during a recent slide presentation of his shuttle mission. Payton flew space shuttle mission 51-C with Ellison Onizuka, one of the seven Challenger astronauts who died in January. The attendance fee and the corresponding match by the Martin Marietta Corp. went to the Space Shuttle Children's Fund to aid the 11 children of the Challenger crew.

\$2M awarded ASTAR study

The thermophysics section in the Technical Operations engineering mechanics department has received a \$2 million award for the advanced spacecraft thermal analysis routine (ASTAR) program. The award came from the Air Force Wright Aeronautical Laboratories. Carl Jensen, proposal manager, has been named program manager for the 3-year project at Denver Aerospace.

The program will examine specific thermal loads and temperature control requirements for power systems aboard spacecraft. The Air Force requires rapid and accurate determination of thermal system design. ASTAR will be a design tool to develop preliminary design configurations for spacecraft thermal control systems.

Technological advances made in cryogenics and thermal management generated the need for determining the best mix of thermal control components for spacecraft. ASTAR will define an efficient and cost-effective method to do so within overall size, weight and power constraints.

Although thermal analysis programs exist, the objective of ASTAR is to design a unified software package capable of analyzing the entire system. The program will lead to more efficient and cost-effective preliminary designs for spacecraft thermal control.

Corporate news

Corporation acquires Iowa aggregates producer

Martin Marietta Corp. has acquired 100% of the common stock of Weaver Construction Co. of Alden, Iowa, which will be operated by Martin Marietta Aggregates.

Weaver is the largest producer of construction aggregates in Iowa. Martin Marietta Aggregates, with 1985 sales of \$200 million, is one of the principal U.S. producers of crushed stone, sand and gravel. It operates from more than 100 locations in the Midwest and Southeast.

"This action will further improve Martin Marietta's position in the construction aggregates business," said Stephen P. Zelnak, president of Martin Marietta Aggregates.

Specialty chemicals joint venture formed

The Dow Chemical Co. and Martin Marietta Corp. have announced their intent to form a new joint-venture company to market specialty chemical products in the steel, chemical, and snow and ice removal industries.

Dow will contribute its magnesium hydroxide and calcium chloride production facilities at Ludington, Mich., to the joint venture. Martin Marietta will contribute its Manistee, Mich., production facilities for magnesium chemicals and specialty products, and its dolomitic limestone plant at Woodville, Ohio, plus other assets at River Rouge, Mich., and at Bridgeport, Connecticut.

The joint venture will produce products including refractory specialties, innovative ice removal materials, oil additives and dust suppressors. Initial annual sales of the joint venture are expected to be more than \$200 million. ■

Breathe easier this spring

Employees who want to stop smoking are encouraged to participate in the next stop-smoking class.

The company-sponsored class is offered by Presbyterian-Saint Luke's Hospital at Goddard Junior High School, 3800 W. Berry Ave.

Employees can attend an introductory seminar 5-6:30 p.m. Monday, April 21, or Tuesday, April 22. Those who enroll will meet nine

times during the next three months.

Martin Marietta covers the cost of the class for Denver Aerospace, Information & Communications Systems, and Data Systems employees. Spouses and dependents of employees can attend the class at the \$175 corporate discount rate. Forty-five employees are enrolled in classes that began in January, February and March. ■

Hear a rattle?

With the arrival of warmer temperatures and spring weather, plant protection warns employees that the danger of rattlesnakes is again a consideration. Small rattlesnakes are as dangerous as large ones.

In addition, employees who walk from the upper SSB trailer modules to the Engineering building by crossing the hogback take an unauthorized route, and risk encountering rattlesnakes.



Strategic Air Command officers visit Denver

Maj. Gen. John J. Doran, center, deputy chief of staff for logistics, Strategic Air Command, meets with William E. Rogers, left, director of logistics, and Warren G. Beery, technical operations vice president. The general and members of his acquisition plans staff visited Denver Aerospace for a technical discussion on the Reliability and Maintainability 2000 Action Plan.

Emergency drills begin May 2; fire evacuation procedures set

It's important for employees to know safe evacuation procedures in an emergency.

For that reason, fire evacuation drills will begin May 2 for Denver Aerospace employees. Conducted by plant protection, auxiliary fire and security personnel, the drills are scheduled for the following buildings:

May 2	12:30 p.m.	LSC
May 2	1:30 p.m.	SouthPark, Bldg. I
May 2	2:00 p.m.	SouthPark, Bldg. II
May 7	1:00 p.m.	SSN/SSN-A
May 7	2:00 p.m.	SSB/Near
May 9	1:00 p.m.	EMF I & 2
May 9	1:30 p.m.	SSL
May 9	2:00 p.m.	AVL
May 21	1:00 p.m.	ORB
May 21	2:00 p.m.	Eng. Bldg.
May 23	11:00 a.m.	West Point
May 23	12:30 p.m.	DSC I & II
May 23	1:30 p.m.	ASC I
May 23	2:00 p.m.	ASC II
May 28	11:00 a.m.	GWC Bldg. 8100
May 28	1:00 p.m.	GEPS I
May 28	1:30 p.m.	GEPS II
June 4	12:30 p.m.	I Bldg.
June 4	1:30 p.m.	GPL/VTF
June 5	1:30 p.m.	Ad. Bldg.
June 5	2:00 p.m.	RDL

In cases where the schedule conflicts with critical activities, the time and date of the evacuation drill can be rescheduled by management by contacting Lt. Hessel, Ext. 7-3333 or 7-4646.

When the alarms are sounded, all employees must evacuate their work areas unless specific arrangements have been made. Plant protection, auxiliary fire and security personnel will monitor all areas to assure complete evacuation of the buildings.

Date changed for Pops concert

In cooperation with the city of Denver and Feyline Productions, the Sunday, June 1, Denver Symphony Pops Concert for Martin Marietta employees has been changed to Sunday, June 15.

Feyline Productions wanted to schedule a top-name entertainer at McNichols Arena on June 1 and asked Martin Marietta to change the date of the family pops concert. Because Denver would have lost money, Martin Marietta agreed to the date change.

Artists, writers cited by society

Awards for art and technical publications went to eight Denver Aerospace employees during the recent Society for Technical Communication competition.

In the regional publications competition of the society's Rocky Mountain Chapter, winners of the Distinguished Technical Communication Award for a space station brochure were John Tieleman, designer, and Judy Herb, writer. Winners of the Award of Achievement for "Strategic Defense: A Martin Marietta Commitment" were Robert Murray, designer; David Whitaker, editor; and Barry Daniels, author.

In the regional art competition, two artists tied for Best of Show—Charles O. Bennett for his space station painting, and Robert Blackaby for his orbital spacecraft, consumable re-supply system in the shuttle painting. Those winning Award of Merit were Thomas Burns for his rendering of the autonomous land vehicle, and John Tieleman for his rendering of space habitats.

Those who won International Competition Awards in the Rocky Mountain Chapter for Award of Achievement in Publications were John Tieleman and Judy Herb for the space station brochure. Charles O. Bennett's space station painting won the Award of Merit in Art.

Women's group adds 400 new members

The Career Women's Association (CWA) has recruited more than 400 members in its first year.

The association was developed early in 1985 as a forum for women to enhance their careers by exchanging information and ideas relevant to professional and personal development. The association is an officially sanctioned entity of the Martin Marietta Employee Services Department. Any Martin Marietta employee is eligible to apply for membership.

Barbara Dash, CWA president and training and education manager with Data Systems, believes the organization will become a positive force in the Martin Marietta professional environment.

"After a very successful first year, we recognize the continuing challenge to understand our members' interests and respond with effective programs and opportunities for personal and professional development," Dash said.

CWA officers include Donna Sexton, vice president; Evelyn Hagedorn, secretary; and Toni Little, treasurer. The officers, board of directors and committee chairs represent Denver Aerospace, Data Systems, and Information & Communications Systems.

For membership information, contact Karen Bujaci at Mail Stop 0093.

Employee services/ recreation

Public speaking—LSC Toastmasters meet at noon every Thursday in Room 103 at LSC. Contact Kathy DeWitt, Ext. 7-2555, or Terry Allen, Ext. 7-2358.

Hunting—Hunter education classes will be 7-9:30 p.m. April 15, 16, 17, 18 and 21 at DSC I (Wadsworth Bldg.) and 8 a.m.-12:30 p.m. April 19 at the Skyline Hunting and Fishing Club Range. Students must attend all six classes. The cost is \$7. No preregistration is necessary, but 10 or more students are needed. The course is required for all trappers. For more information, contact Dick Bensen, Ext. 7-5241 or 985-3728, or the recreation office, Ext. 7-6605 or 7-6750.

Photography—The Platte Canyon Photography Club will meet at 7 p.m. Wednesday, April 23, at DSC, Room G58. Wildlife photographers Robert Rosinski and Wendy Shattil, who specialize in photographing birds and mammals, will show slides, offer advice to enhance picture taking and demonstrate equipment. Rosinski was a winner in the 1984 National Wildlife photography competition and is a frequent lecturer and trip leader through the Denver Museum of National History. Shattil was the grand prize winner in American West magazine's first photo competition.

Computers—The Martin Marietta Commodore Users Group meets at 5 p.m. the third Tuesday of each month at the recreation area clubhouse. At every meeting members have access to the software library and can purchase name-brand diskettes at a \$1 discount. For more information, contact Les Medlock, club president, Ext. 7-2575, or Tom Williams, club vice president, Ext. 1-8885.

Tennis—The qualifying tournament for the Denver Corporate Games will be May 3 and 4 at Arapahoe Community College tennis courts. The entry fee is \$4 per person per event. Events include men's singles and doubles, women's singles and doubles, and mixed events. This tournament is for A and top B players only. All qualifiers for the Denver Corporate Games, scheduled June 6 and 7, must be Martin Marietta employees and must be 18 years or older. Make checks payable to Martin Marietta and mail check and entry blank to recreation, Mail Stop 1344, by April 18. Entry forms are available in the recreation racks.

Softball umpires—Employees interested in becoming umpires for the Martin Marietta softball leagues should attend a meeting at 9 a.m. Saturday, May 19, at DSC in Room 200A.

Weight Watchers—An information meeting will be at 5 p.m. April 15 in Executive Dining Room II in the Engineering Bldg. Those interested in starting Weight Watchers classes at Martin Marietta should attend. If 20 or more employees register by April 22, weekly classes will begin at 5 p.m. April 29.

Softball tournament—The third annual Martin Marietta preseason softball tournament will be April 25, 26 and 27. The entry fee is \$75 per team, payable at registration. The roster deadline is Wednesday, April 16. Forms are in the recreation racks.

Softball leagues—Denver Aerospace, Information and Communications Systems (I&CS), Data Systems and onsite military personnel and spouses are eligible to play in Martin Marietta softball leagues. Rosters are due in the recreation area by 5 p.m. April 25 with a \$5 per person player fee. A 10-person roster minimum is due when the roster is submitted. The first 32 teams per league to turn in their rosters and fees may specify desired times. Players cannot play on two nights in the same league, but can play in two different leagues. Coed or open league teams have a limit of three competitive league players. Play begins the week of May 5.



Ice Capades draws thousands

Scott Hamilton, center, Olympic gold medalist and star of the recent Ice Capades performances in Denver, signs autographs for Martin Marietta employees. More than 25,000 employees and family members attended the year's first company-sponsored family event April 6.

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Call Ext. 5364 with information or suggestions for articles, or call one of the following coordinators.

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