

# NUMBER 21/1983



## On the cover Peacekeeper program passes two milestone events

Two major events marked the progress of the Peacekeeper program in the past 30 days:

- The U.S. Air Force announced the second successful flight test October 14; and
- Earlier, on September 30, Denver Aerospace completed a major milestone with delivery of B-4 facilities design criteria specifications to the Ballistic Missile Office (BMO).

Launched from Vandenberg Air Force Base (VAFB), CA, the flight test missile covered the approximately 4100 nautical miles to the Kwajalein Missile Test Range in the Pacific Ocean in about 30 minutes.

Peacekeeper carried no warheads. The six unarmed test reentry vehicles impacted as planned in a target area north of Kwajalein. The missile was equipped with instrumentation to analyze its performance. It also carried an inflight command destruct system that would have enabled the missile to be destroyed had it deviated from its planned flight path.

That was the second of 20 planned research and development test flights to be conducted during the next four years. The first eight flights are launched from a canister on an aboveground pad at Vandenberg. The other 12 will be launched from an existing modified Minuteman test silo, also at VAFB.



Creations for Descales an enfortilities at Van dest and Air Fores Descurre delivered

Delivery of B-4 facilities specifications was in accordance with a demanding schedule established six months earlier. Completion of the specifications early in the program is essential to allow time for design, construction, equipment installation, and checkout of missile support facilities before delivery of the first missile.

Ada program scheduled

Martin Marietta will host a one-time live television transmission via satellite from Washington, DC, to Denver Aerospace next week on a new computer language for defense systems.

"The World of Ada<sup>®</sup>" will feature a panel of major policymakers from the Department of Defense and the commercial sector in a discussion of Ada<sup>®</sup> implementation strategies. Ada<sup>®</sup> is the registered DOD trademark for a new standard computer language for defense systems.

Members of the Armed Forces and academic communities will be among the guests invited by Norman R. Augustine, president, to join Denver Aerospace employees in viewing the milestone presentation Tuesday, October 25. Specifications for Peacekeeper facilities at Vandenberg Air Force Base were delivered on time, completing a major milestone in the program. At the delivery were, left to right, John Farris and Ray DeClue, of the Ralph M. Parsons Company, a subcontractor to Denver Aerospace; Art Rosenfelder of the Ballistic Missile Office facilities organization; and Elmo Blackwell, Denver Aerospace facilities engineering.

# MARTRON aircraft avionics maintenance contracts announced

Air-India and the Collins Air Transport Division of Rockwell International are the latest buyers of Martin Marietta Aerospace's MARTRON Automatic Test Equipment (ATE), which is capable of testing more than 200 avionics elements on board all current commercial aircraft fleets.

The two contracts are for \$1.4 million and \$712,000, respectively.

George B. Breen, program manager, added the corporation is currently in discussions with several potential other customers throughout the world and "we expect more new business in the coming months for MARTRON."

Breen noted the equipment is "probably in use by more airlines than any other comparable competitive equipment," and is used for such aircraft avionics maintenance chores as testing automatic flight control systems, air data computers, and inertial navigation systems. The equipment also is used by the U.S. Air Force and Navy. MARTRON ATE products also are scheduled for installation by late 1984 at Collins's product support center at Miami to test components of that company's L-1011 flight control system.

MARTRON—an acronym for "Martin Marietta" and "electronics"—is a registered trademark of the corporation.

MARTIN MARIETTA NEWS Published by Public Relations MARTIN MARIETTA AEROSPACE

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

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DENVER AEROSPACE

The equipment will be installed at the Bombay maintenance facility for India's national airline by early 1985, where it will be used to test avionics on board the carrier's fleet of B-747 and A-300 airplanes. P.O. Box 179-Denver, CO 80201

October 21, 1983

## **SRB recovery system** to get larger chutes

First operational use of gigantic new parachutes designed to recover the Space Shuttle's solid rocket boosters (SRB) is expected to be on flight 15, currently planned for mid-1984.

A first series of drop tests have been completed at the Naval Weapons Center near China Lake, CA. But two additional drops for the National Aeronautics and Space Administration's (NASA) Marshall Space Flight Center (MSFC) are expected before all scheduled testing is completed at the end of this year.

The new 136-ft diameter parachutes were developed to slow SRB descent and. thus, reduce water impact damage when they drop into the ocean after launch. SRBs are retrieved and refurbished for reuse.

The new parachutes have 40 percent more canopy area than the 115-ft diameter parachutes currently in use. The new parachute, in fact, could cover a baseball diamond infield easily with its 25 mi of 2-in. wide nylon ribbon.

Latest test results indicate the new parachutes reduce descent velocity at impact from 90 ft/s to 76 ft/s, or from 60 mph to 52 mph.

EDITOR'S NOTE: The correspondence shown here is an exchange between Patricia Schroeder, Colorado congresswoman, and Norman R. Augustine, president of Denver Aerospace. Schroeder's letter was prompted by a letter from Thomas G. Pownall, chairman and chief executive officer, to all 40,000 Martin Marietta employees, urging them to express their opinions on national defense and Peacekeeper to their elected representatives at Washington, DC.

TRICIA SCHROEDER		ARMED SERVICES COMMITTEE POST OFFICE AND CIVIL SERVICE COMMITTEE
D RAYBURN HOUSE OWNEE BUILDING WASHINGTON D C 20515		JUDICIARY COMMITTEE
(202) 225-4431	Congress of the United States	SELECT COMMITTEE ON CHILDREN, YOUTH &
DISTRICT OFFICE 1767 HIGH STREET DEMYSR, COLORADO 80218 (303) 837-2354	House of Representatives	FAMILIES CONGRESSIONAL CAUCUS FOR WOMEN'S ISSUES, CO-CHAIR
	Mashington, D.C. 20515	N. R. AUGUSTIN
September 29	, 1983	CCT 4 198 ·
	tine, President	
	pace Division	
Martin Marie P.O. Box 179		
Denver, Colo		
Dear Mr. Aug	ustine:	
I would like	to commend you for the mail campaign you	initiated
for your emp	loyees to lobby members of Congress on the	MX missile
issue. By t	he number of cards and letters I've receiv	ed, I'd
	paign was successful. By the effect those I'd say it was unsuccessful.	will have
I question y	our motives and methods, though. It's no tta is the recipient of over \$1 billion so	secret that
money for th So when I re	e development, testing and production of t ad employee letters arguing that the MX is	he MX missile. a crucial
weapon for o	ur strategic national security, I remain u	nconvincea.
More importa	ntly, though, I question the legality of t Acquisition Regulation (issued October 198	his campaign.

MARTIN MARIETTA AEROSPAC

The Honorable Patr House of Represent Washington, D. C.

Dear Representativ

I was disappoi correspondence you will have no effec

Speaking as a our state who are nation's defense. cause us to have b a number of years our elected repres

I realize that all defense progra employees, in fact Peacekeeper. I pe those on both side greatly respect ye position expressed President under Br my individual conc

You had asked was in violation o a letter encouragi cerning Peacekeepe you are aware, the about which you ar allowability again

To preclude an the time Mr. Pown: from Government co objected in commer McAnally, a Martin Pownall's letter. merely noting the suggesting to our hope you will, the approach is merit

A specially designed 48,000-lb test vehicle, about one-fourth the size of an actual booster, is being used in the current round of tests. Although a cluster of three parachutes is used for each of the Shuttle's two boosters in actual flight, a single parachute approximates recovery conditions in testing.

The test vehicle is dropped by a B-52 bomber from an altitude of 21,000 ft. During initial testing, the vehicle reached a speed of 633 ft/s (432 mph) at droguechute deployment. On deployment, the parachute slowed the rate of descent to 66 ft/s (45 mph) at impact.

Denver Aerospace also developed the original parachute recovery system for MSFC and the first eight Shuttle flights.

#### **Denver Aerospace exhibits** at upcoming ATC meeting

A multiple-projector slide show will be featured in Denver Aerospace's exhibit at the 28th annual Air Traffic Control (ATC) Association meeting at Arlington, VA, October 25 through 28.

The fast-paced show is tailored to this year's meeting theme, "Revitalization of the Air Traffic Control System." It demonstrates specifically the company's understanding of the National Airspace Plan and Martin Marietta's credentials to be the systems integrator for a major modernization of the country's ATC

activity is spelled out in 15-205.51 of the regulation (copy enclosed).

I would appreciate a response to my question of legality and whether any money earmarked by the Defense Department for any phase of the MX project was used for the mail campaign. I would also like to know how many personnel were used for the campaign and how many hours were spent in its preparation.

Your response will be helpful to my work on the Armed Services

any defense contractor that receives federal defense contracts

from engaging in lobbying activity. What constitutes lobbying

Committee.

Sincerely, Patricia Schroeder

Congresswoman

Encl

I trust this you will agree the about half of whom process when we sl those who represe

Thank you for

NRA:qm

#### **Air Traffic Control division announced**

Three years of technical and managerial team effort have been formalized with the new Air Traffic Control (ATC) Division to coordinate modernization efforts on the nation's air traffic control system.

The Martin Marietta Aerospace team has been involved in advanced automation studies and preparation of a proposal to the Federal Aviation Administration (FAA) on system engineering and integration of the National Airspace System (NAS) Plan. The company's proposal was submitted in August.

Headed by Frederick H. Hudoff, vice president, the new division will report directly to C. B. Hurtt and will be headguartered at Washington, DC.

Martin Marietta's team of subcontractorsincluding Logicon, ARINC Research, R. M. Parsons, System Control Technology, Stanford Telecommunications, Inc, and Engineering and Economics Research Corp-will collocate with the new division at Washington.

The NAS Plan is a comprehensive program that will include replacement, in gradual steps during the next two decades, of 1960-vintage equipment with the latest technologies. It represents a major restructuring and modernization of ATC, navigation, and communications systems that constitute what is referred to as the National Airway System. FAA estimates demands on the nation's ATC system will more than double by the end of this century from its current 126 million yearly aircraft operations.

FAA is expected to award a NAS Plan prime systems integrator contract by February 1984. The contractor will provide management and technical support in all development and implementation phases.

system.

#### Key executives from Aerospace headquarters and Denver Aerospace will be at the sessions.

"We established this new division to enable us to go to work on this important project the day the contract is awarded," Hurtt said. Martin Marietta will continue to commit whatever resources are necessary to assure the success of the program."

DENVER AEROSPACE POST OFFICE BOX 179 DENVER, COLORADO 80201 TELEPHONE (303) 977 4488

NORMAN R. AUGUSTINE PRESIDENT

12 October 1983

cia Schroeder tives 1515

Schroeder:

ted to receive your letter in which you stated that the have recently received concerning the Peacekeeper program on your vote.

ative Coloradoan, I believe that there are those of us in onestly and genuinely concerned over the status of our The fact that some of us happen to be in positions which en students of both U.S. and Soviet defense activities for ould not, I hope, disgualify us from sharing our views with ntatives.

there are many sound arguments for and against virtually s certainly including Peacekeeper. Some Martin Marietta hold carefully considered views in opposition to sonally thoroughly appreciate hearing the views held by of this issue, and have in fact learned from many whom I who happen to hold opposing views. I personally find the by the diverse and quite qualified group assembled by the nt Scowcroft to be very compelling, however, that is simply usion.

or a position as to whether the Chairman of Martin Marietta the Defense Acquisition Regulation by virtue of preparing g our employees to write their elected representatives con-. The answer is that there is no violation. As I am sure Defense Acquisition Regulation does not prohibit the actions concerned. The regulation does, however, determine cost t Government contracts.

question regarding allowability, a decision was made at 1's letter was written to voluntarily exclude these costs tracts. Further, some of the letters to which your office s to the media (such as the one written by Mr. James Marietta Vice President) were written prior to Mr. Finally, our Chairman's letter was far from directive: ast effectiveness of groups opposing the Peacekeeper and mployees in the context of balance; "If you agree, and I Congressional implementation of President Reagan's ious, please let your Congressman know how you feel."

# **RTD** planning route, schedule changes

The Regional Transportation District (RTD) is currently holding planning sessions for March 1984 route and schedule changes that will affect riders to Martin Marietta Denver Aerospace locations.

Lori Sharpe of the recreation department is coordinating suggestions to be submitted to RTD regarding three route numbers: 76, 67, and 0.

"I have asked RTD if the No. 76 bus that currently arrives at 7:13 a.m. could arrive five minutes earlier since employees riding that bus to the west side of the plant have reported being late for their 7:30 a.m. shift," Sharpe said.

"Also, I'd like input on ridership for a 7:40 a.m. arrival time that would accommodate employees who start work at 8:00 a.m."

Proposed changes for the No. 67 route include trimming 15 minutes off the one-way trip to the main plant. The bus would continue as presently scheduled on

Arapahoe Road to Broadway. Then it would (a) operate nonstop to the main plant or (b) continue through south Littleton on Ridge Road to Santa Fe Boulevard and proceed nonstop to the plant.

For the No. 0 route, proposed changes include an extension south to Mineral Avenue during rush hours. The bus would go one block east on Mineral to Lincoln Street and west on Mineral to the Littleton Systems Center facility.

RTD also is considering inaugurating service into Greenwood Commons (south of Orchard Road on Ulster Street).

Employee meetings will be held by RTD the week of November 7. (Exact date, time, and place to be announced.) Employees are encouraged to submit their suggestions in writing to Lori Sharpe, mail stop No. 1321, who will relay the information to RTD planners.

#### **Employment needs up, recruiting effort set**

Projected contract growth means increased hiring requirements for some critical job skills at Denver Aerospace.

"But to increase our referrals, we are in the final stages of designing a new employee referral program," he said.

formation will alleviate your concerns. I also hope that the 17,000 of us in Martin Marietta Denver Aerospace, reside in Colorado, do in fact contribute to the democratic re our considered personal views, whether pro or con, with us in our nation's government.

our letter.

Sincerely,

## Aerospace names VP for new business development

Dan A. Peterson has been assigned to the newly created position of vice president for new business development at Martin Marietta Aerospace headquarters.

C. B. Hurtt, president, said Peterson will be responsible for all the company's new business acquisition activities.

Among those reporting to the new vice president will be John Blanchard, who recently joined as vice president for International Operations. He was formerly assistant deputy general for research, development, and acquisition for the U.S. Army Materiel Development and Readiness Command.

"We're examining all avenues for recruiting new employees for those targeted jobs," said Charles J. Meno, manager of staffing. "As we now gear up to meet those requirements, we are once again turning to our employees for assistance."

Dwaine Schilling, head of a new employee referral program, noted referrals have traditionally provided a steady source of excellent employees.

The previous referral program, The Name Game, was not only popular, it generated about half the professional hires during 1981.

"It is hoped that the new program will prove equally successful," Schilling said.

Details will not be final until early November, but the new program will probably feature incentives similar to those used in The Name Game.

#### **Contracts and Proposals**

Tethered orbital refueling study-The National Aeronautics and Space Administration (NASA) recently awarded a \$287,000 contract to Denver Aerospace to study using a tether with an orbital refueling station.

According to proposal manager Richard Rozycki, a tether between a refueling station and a space station will result in a small g-force, enabling the liquid fuel to concentrate in a predetermined place so that it can be withdrawn. Normally in the vacuum of space, it would be impossible to determine the liquid's position in the tank.

Project manager Dale Fester will lead the 22-month engineering mechanics department study for Technical Operations.

week in November for a Phase A study effort. A series of studies is expected on the project, according to project manager Robert Demoret.

The orbital transfer vehicle is designed for use in both groundand space-based operations to lift payloads to geostationary orbit.

Long-term plans call for use of the vehicle by 1992.

Manned maneuvering unit (MMU) thermal vacuum tests-The MMU underwent several NASA tests at Houston recently to determine how it will function at temperature extremes in a vacuum.

Manned by astronauts Bruce McCandless and George Nelson during those tests, the unit turned in an excellent performance and will be transported to the Kennedy Space Center next month for installation aboard Space Shuttle.

Others reporting to Peterson will be Joseph Kremonas, vice president for marketing; George Dalferes, vice president for government affairs; and Donald Petersen, director of long-range planning.

Orbital transfer vehicle—A proposal request is expected from Marshall Space Flight Center by the first

# Addresses, committee assignments of Alabama congressmen

Listed below are committee and subcommittee assignments, plus addresses and telephone numbers, of the appropriate elected representatives at Washington, DC, of those Martin Marietta employees who reside in Alabama.

Sen. Jeremiah Denton (R) Suite 510, Bank of Huntsville, 1010 Governor's Drive, Huntsville, AL 35801, (205) 895-5105; 516 Senate Hart Office Building, Washington, DC 20510, (202) 224-5744.

- Judiciary Committee—Subcommittees: security and terrorism, chairman; juvenile justice; separation of powers.
- Labor and Human Resources Committee—Subcommittees: family and human resources, chairman; aging; education, arts, and humanities; labor.
- Veterans' Affairs Committee—No subcommittee assignments.

Sen. Howell Heflin (D) Cardiff Hotel Building, Main Street, Box 228, Tuscumbia, AL 35674, (205) 381-7060; 728 Senate

### Correction on AIAA nominations

Hart Office Building, Washington, DC 20510, (202) 224-4124.

- 1) Agriculture, Nutrition, and Forestry Committee—Subcommittees: agriculture credit and rural electrification; agricultural research and general legislation; soil and water conservation, forestry and environment.
- Commerce, Science, and Technology Committee—Subcommittees: merchant marine; science, technology, and space.
- Judiciary Committee—Subcommittees: administrative practice procedure; courts; immigration and refugee policy.

Rep. Ronnie G. Flippo (D) P.O. Box 6065, Huntsville, AL 35806, (205) 772-0244; 405 Cannon House Office Building, Washington, DC 20515, (202) 225-4801.

 Ways and Means Committee—Subcommittees: oversight; select revenue measures.



The Aerospace Industries Association (AIA) Distinguished Colleague award has been presented to George G. McGee, director of mission success, for his many years of outstanding national service in the field of quality assurance. The award is the highest honor bestowed by the AIA's Quality Assurance committee. McGee was formerly director of product assurance and system safety.

#### Congressman names two to advisory board

Rep. Dan Schaefer of Colorado's sixth congressional district recently announced the appointment of 23 constituents, including two Denver Aerospace employees, to his military academy advisory board.

agement systems in the Strategic and Launch Systems division, will serve on the board, which interviews military academy candidates nominated by Schaefer.

Last issue's article on American Institute of Aeronautics and Astronautics (AIAA) inadvertently listed persons serving currently on the 1983-84 Technical Committee as nominees for the 1984-85 committee. That report also omitted George Heyliger, software systems, from the list of current members.

Nominations for the 1984-85 committee will be submitted to AIAA headquarters by November 1. Contact Floyd R. Teiffel, Jr., for more information at ext 6872. Norman R. Augustine, president of Martin Marietta Denver Aerospace, and George H. Podrasky, chief of Peacekeeper manAugustine, who also was recently named to the Air Force Academy Foundation Board of Directors, is a resident of Littleton. Podrasky resides in Aurora.

#### Employees attend Harvard for special programs

Two employees are attending Harvard University this fall for 15-week programs to enhance their management skills.

Parker S. Stafford, director of the Technical Operations software department, is participating in the senior managementlevel Advanced Management Program.

E.D. Vogt, Defense Systems software manager, is in the Professional Management Development Program for middle-level managers.

#### Manufacturing time, costs reduced on external tanks

New manufacturing procedures, automated processes, and "coming down the learning curve," have reduced the time and costs of external tank manufacture for Space Shuttle at the Michoud division by some 160,000 man-hours and about \$75 million.

A year ago, the division projected it would reduce the number of hours to produce an external tank from 322,000 to 213,000. Actual reduction was from 266,000 hours to 162,000 hours.

To illustrate, since 1979 the division has delivered 13 external tanks to NASA for Shuttle flights, but six of those have been delivered just since September 1982. Of those savings, \$23 million were onetime and \$51 million are recurring savings. Ultimately, cost savings may exceed \$400 million as program results are implemented on all future external tanks manufactured for Shuttle.

#### New product area formed for Command and Information Systems

A new Command and Information Systems product area will "place still greater focus on the command, control, communications, and intelligence areas as key avenues to the continued growth of Denver Aerospace," said Norman R. Augustine, president.

Reid H. Clausen, who as vice president heads the newly formed organization, will report to Augustine. Other assignments in the new group include Gerald A. Zionic, director of program development (beginning December 15); O. E. ''Joe'' Cummings, ASMPS program director, and continuing as program development director until December 15; Curtis D. Brudos, engineering director and acting tactical systems director; Henry J. Summers, MSR van program manager; Harry L. Kottcamp, acting director of communications systems; and Jerry G. Lewis, surface systems program manager.

The division cut \$75 million from the price of future Space Shuttle tanks as a result of a cost reduction program begun in 1979. Program objectives were to trim \$66 million from the projected cost of the first 54 flight tanks.

Supplemental engineering and business operations support will be provided by the Space and Electronics Systems division.

New assignments in Space and Electronics Systems also were announced. 'Them is us'

# United Way campaign your chance to help

Have you already filled out United Way pledge cards and turned them in to department coordinators? Then this article is not for you.

But this article, and a United Way public service film that features an introduction by Norman R. Augustine, Denver Aerospace president, may provide others with needed additional information before making decisions on their contributions. The film will be shown in company cafeterias and lunchrooms during the week of October 24.



#### Thanks to you, it works for all of us.

The United Way brings together a cross section of citizens and agencies to provide quality social service and health programs in the most efficient and effective way.

1,571,186 people in the five-county area, a 76.7 percent increase from 1981.

Individual contributions will help ensure

that vital services are available when persons are most in need. Paraphrasing the comic strip "Pogo": "Them is us," and the United Way works for all of us.

# **Coordinators for United Way**

Listed below are the volunteer United Way campaign coordinators for Denver Aerospace employees. Each volunteer will provide employees pledge cards and information about United Way for their assigned areas. Questions regarding United Way, or pledging, will be answered by those volunteers.

#### NAME

Joy Archibald **Jim Beckett** Kenneth L. Brumbaugh Horace W. Clair Norma I. Emerson Dale Flood Roselyn A. Foran Barbara E. Gomnes **Roy Hall** Della I. Hemelstrand Barbara L. Hoeft M. Nadine Holder Cheryl L. Howard

Marlene J. Johancen

AREA

EXT

4802	Manufacturing
2816	GEPS Facilities Department
8400	Program Security
3803	Test Department
8406	Defense Systems Product Area
0276	Space and Electronics Systems
6587	Engineering Mechanics
4488	Executive Department
3451	Electronics Department
6190	Spacecraft Systems
4242	Production Operations/Materiel
7886	Technical Operations/Peacekeeper
7104	Business Operations/Strategic and Launch
	Systems
5221	Greenwood Commons

"Our Mile High United Way helps support 90 human-care agencies in the five-county Denver metropolitan area," said Augustine in a recent letter to employees.

"United Way programs cover a wide spectrum-health services; emergency services (such as food, clothing, and shelter); employment services, and so much more."

Even for those who may never need any of the services offered by United Way agencies, chances are everyone knows someone who has or will.

The United Way concept of giving to many charities through one fundraising campaign began in Denver in 1887. That first fund drive-then known as The Community Chest-raised \$21,700 for 23 humancare agencies. Last year's fund drive raised \$17,811,552 for 90 agencies. In 1982, Mile High United Way served more than

Lynn Johnson Andrew J. Kancir, Jr. Sandra L. Konkright Shadine V. Manzer George E. McCone

Mary Lou Motsinger Claude H. Potter Judy Peek Donna J. Petersen Robert A. Powell Geneva R. Purdy Martha A. Reif

Barbara A. Roepke Teri R. Schuetz **Diane Snodgress** Beverly J. Thompson Jeremiah M. Turco

6936	Cape Canaveral
4821	Special Programs
5364	Public Relations
9356	Contracts
5221	Space and Electronics Systems/Engineering Department
6461	Space and Electronics Systems
4646	Plant Protection
5115	Security
5944	Central Finance; Central Planning; Central Legal
4444	Personnel Safety
3148	Software Department
9666	Integrated Logistics Engineering; Engineering Communications; Logistics Engineering and Sup- port
5511	Facilities and Services
3181	Personnel, Security, and Safety
4605	Business Operations
6628	Quality and Safety
3685	Technical Operations/Business Operations; Solar Energy Systems; Management Information Systems

#### Library adds DU library cards, new books, AIAA conferences

The research library recently secured two borrowers' cards to the University of Denver (DU) library. These provide the same privileges to Martin Marietta employees as DU faculty and students.

Jay McKee, librarian, urges "all those interested to take advantage of the library cards and to make use of the added research and information sources available at DU."

To check out a card, McKee suggested stopping at the circulation desk of the library, located in Room 226 of the Engineering Building, or call ext 6363.

well as several new reference books.

Among the conferences added are The Sixth Computational Fluid Dynamics Conference, Guidance and Control Conference, Atmospheric Flight Mechanics Conference, Lighter-than-Air System Conference, and Applied Aerodynamics Conference.

Books added include: Composite Materials: Quality Assurance and Processing, edited by C. E. Browning; Composite Materials: Testing and Design (Sixth Conference), edited by I. M. Daniel; Handbook of Remote Control Automation Techniques, by John E. Cunningham; Damage in Composite Materials, edited by K. L. Reifsnider; The Ada Programming Language, by Ian C. Pyle. An Attribute Grammar for the Semantic Analysis of Ada, by J. Uhl.

#### Recreation

Alpine club-All are welcome to a general membership meeting, 7:00 p.m., Wednesday, October 26, at DSC, Room 200K. Chuck McConnell of the National Forest Service will give a presentation on winter survival, including a 25-minute movie. Contact Marc Brideau, ext 8190, or Brian Gallagher, ext 7224.

Photo contest deadline-Friday, November 4, is the deadline for entries in the Platte Canyon Photo Club's contest. Details in recreation racks.

He also said his department has added several 1983 American Institute of Aeronautics and Astronautics (AIAA) conferences to its microfiche collection as