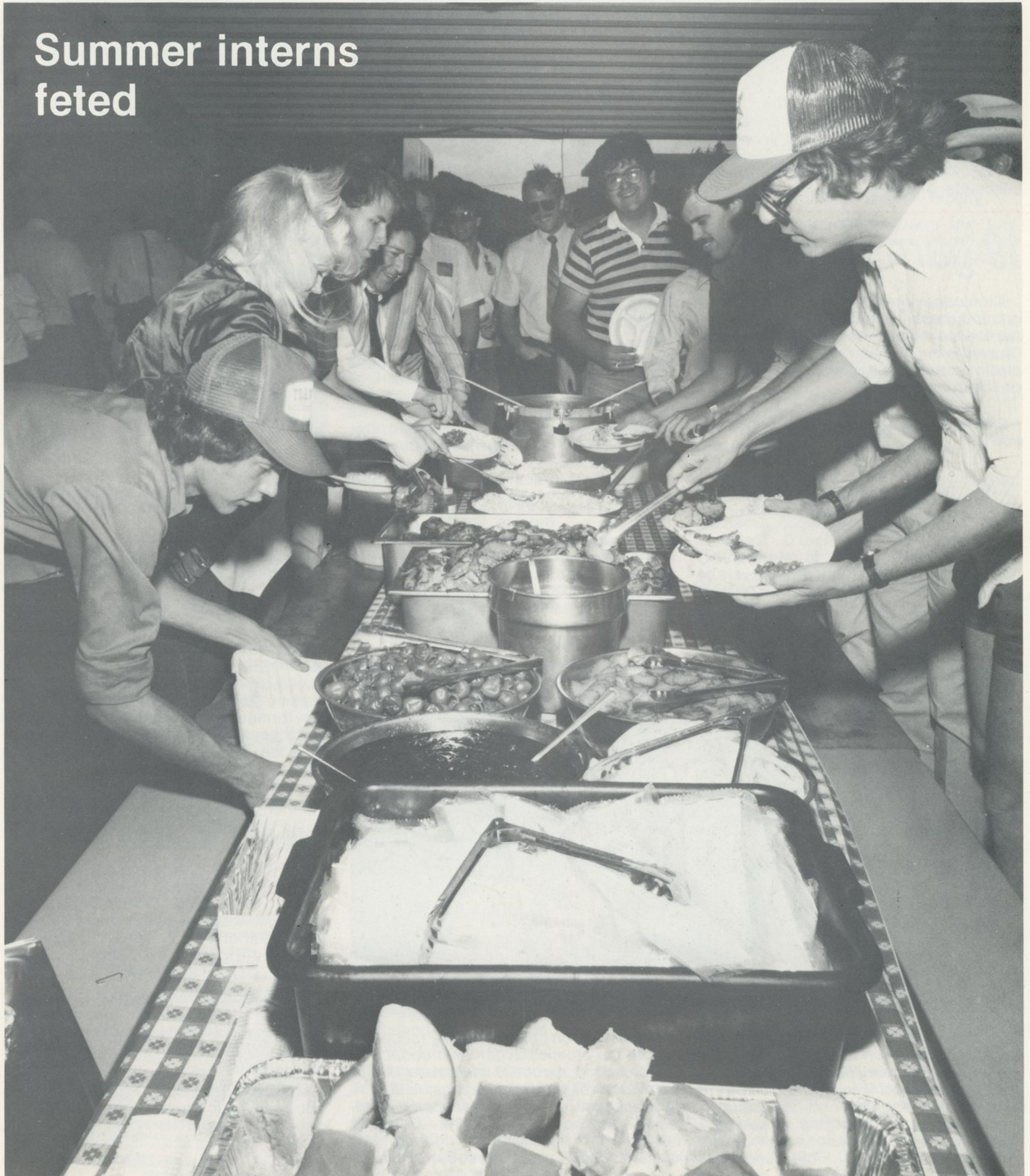


Number 16/1984

Summer interns  
feted





## Personnel, organizational changes

### Thorson named vp/gm of space systems division

Morris H. Thorson has been named vice president and general manager of the recently renamed space systems division.

Reporting to Norman R. Augustine, Denver Aerospace president, Thorson succeeds Robert J. Polutchko, president of the new Martin Marietta Information & Communications Systems Company (*Martin Marietta News* 15/1984).

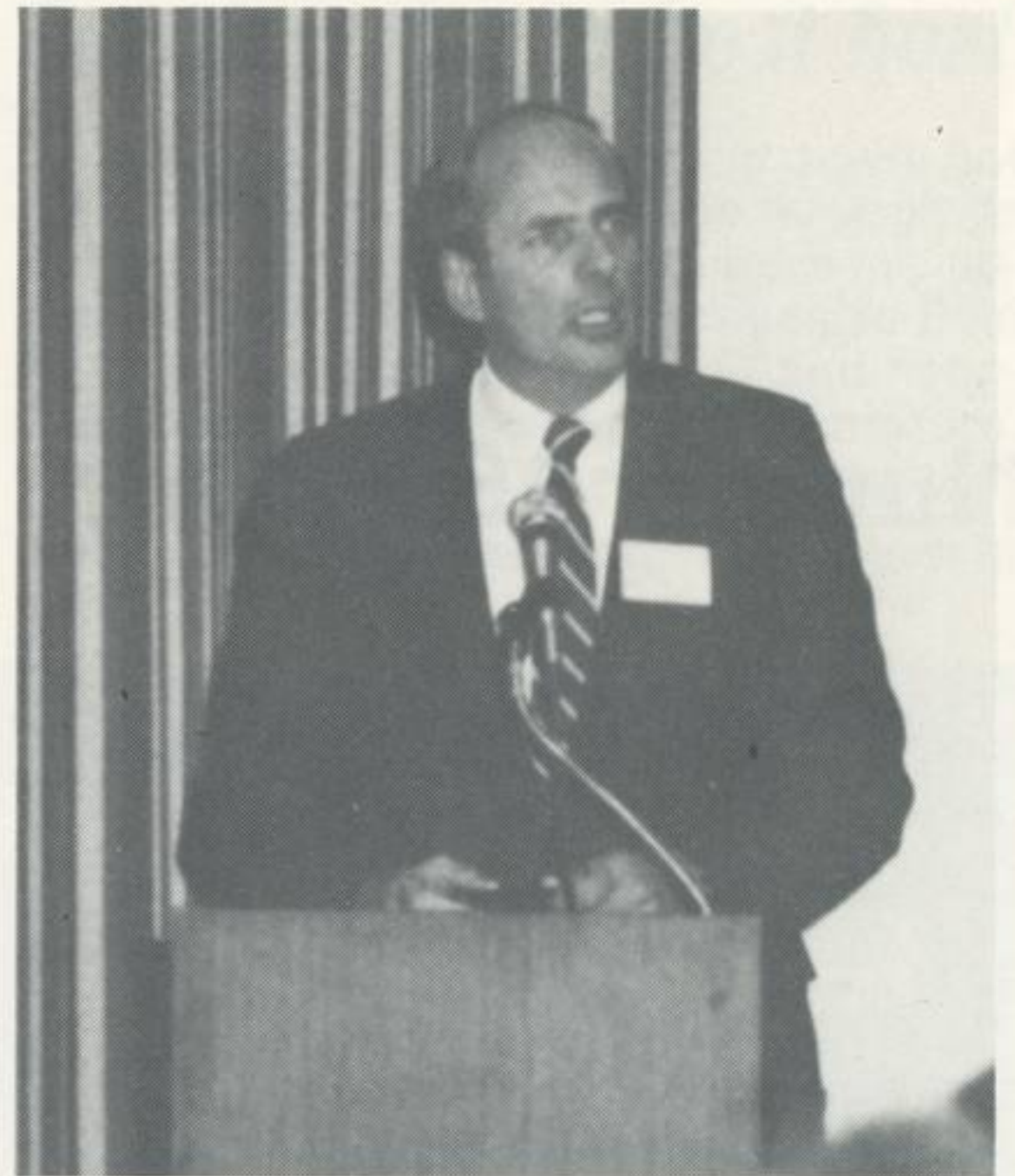
Succeeding Thorson in the space systems division as vice president, special programs is Rex W. Sjostrom. The division's new director of business management is Raymond J. Nalty, who succeeds Albert E. Hawkins, now vice

president of business management for the new Information & Communications Systems.

Augustine also has announced the system engineering organization has been transferred, effective September 1, to technical operations under Robert G. Morra, vice president.

Also in technical operations, Thomas J. Sisk has been named its director of business development.

Kenneth J. Coughlin has been named director of international business development, reporting to Richard E. Brackeen, vice president of business development.



*The eight key qualities of a successful manager—as listed in order by Norman R. Augustine, Denver Aerospace president, at a recent Denver Management Association (DMA) meeting—are: integrity, closely followed by ability, hard work, the need to be a team player, and judgment. Being people oriented, having the ability to anticipate events, and just plain luck round out his list. Augustine also outlined what he considers to be key to Denver Aerospace success—above all, ethical operations, continuing mission success, obtaining follow-on business, controlling cost, and, last but not least, winning all new business prospects. He added the greatest challenges to Martin Marietta managers in achieving those goals are limited personnel, capital, and overhead.*

### 19 garner new technology awards

Nineteen employees have been granted cash awards by the Denver Aerospace New Technology Evaluation Committee for their new technology disclosures submitted as a result of work on NASA contracts.

Winners, their departments, and their works:

Carl Guinta, engineering/Michoud, "Novel Tool for Applying Handpack SLA-561 to TPS Closeout and Repair Areas on the External Tank;" Michael G. Thornton and Dr. Benton C. Clark III, electronics, "Air Bubble Displacement for Analysis of Liquid Samples;" John S. Marino, William J. Bailey, Susan W. Pawlowski and Dale A. Fester, all of engineering mechanics, and Donald A. Stang, manufacturing, "Com-

posite Trunnion Supports for Cryogenic Tankage."

Also, Charles A. Brosemer, Huntsville operations, "Plasma Arc Torch Light Beam Adapter;" John R. Stanley and Charles W. Williams, engineering/Michoud, "NCFI 22-65;" Dr. Carl E. Carlston, electronics, "Monatomic Oxygen Flux and Fluence Computer Program;" Steven L. Levine, electronics, "Programmable Biphasic—L Bit Sync and Decoder."

Also, Lyle E. Bareiss, Frank J. Jarossy, both engineering mechanics, Steven D. Chinn, system engineering/S&LS, and Scot K. Anderson, electronics, "Device to Simulate On-Orbit Atomic Oxygen Environment;" Michael G. Thornton and Patrick S. Thompson, both electronics, "Porous Wheel Particle Dispenser."



*Significant improvements have been made to an existing ion gun test facility (shown in background), which now can be used to simulate the atomic oxygen environment to which orbiting satellites are exposed at altitudes above about 600 kilometers (372.84 miles). That capability, which also has several non-aerospace applications, is significant in simulating materials degradation and surface glow phenomena observed on recent space shuttle missions. Innovators of the new technology disclosure, "Device to Simulate On-Orbit Atomic Oxygen Environment," are (front row, left to right) Scot K. Anderson and Steven D. Chinn, and (back row, left to right) Lyle E. Bareiss and Frank J. Jarossy.*

### Employees in sand plant partnership lease

Martin Marietta Corporation has agreed to lease, with option to purchase, its only remaining industrial sand operation to Wedron Silica Company, a new corporation formed by a group of Martin Marietta employees and Best Sand Corporation of Chardon, OH. The lease-purchase agreement was effective August 1.

Charles D. Fowler, president of the industrial sand division of Martin Marietta Basic Products, will be president of Wedron Silica Company.

The 4 1/2-year renewable lease of the Martin Marietta plant at Wedron, IL, to Wedron Silica totally removes the company from the industrial sand business. Martin Marietta sold its other 10 industrial sand plants to Unimin Corporation of New Canaan, CT, last September.

The Wedron facility has an annual capacity of 1.5 million tons of silica sand, used primarily in metals forming, glassmaking, and in oil and gas field applications.

Martin Marietta Basic Products remains one of the nation's major suppliers of construction materials—crushed stone, gravel, sand, and concrete admixtures—and produces chemical magnesia and refractory materials.



## On the cover

Each year since 1981, when the program became formalized, Denver Aerospace hires between 95 to 120 college summer interns to work at its facilities in the metro area. This year, however, the program produced a bumper crop of about 130 plus four INROADS participants, a special program designed to prepare talented minority youth for positions of leadership in corporate America and the community. Summer interns have completed at least three years of undergraduate work and usually have work assignments in the general areas in which they will receive their degrees the following year. Typically, 80 percent of the interns are majors in an engineering field, 20 percent in some area of business study. Since the current summer intern program was initiated four years ago, Denver Aerospace has hired 63 graduating seniors from the program into full-time positions. Each year the company expects those hires to increase slightly to about 20 to 25 percent of each group. This issue's cover photograph was taken at the company's annual picnic for the interns toward the end of the 1984 summer program.



Robert S. Cooper, director of the Defense Advanced Research Projects Agency (DARPA), holds a model of Denver Aerospace's on-ground simulator of an advanced operational laser during a recent visit to the main plant. The simulator, known as rapid retargeting/precision pointing (R2P2), will evaluate performance of the space-based laser. R2P2 is scheduled to be ready for use by January 1986, but construction is expected to start the last quarter of this year under Louis A. Morine, project manager. The 12-month, \$874,237 add-on DARPA-sponsored contract through Army Missile Command (MICOM) at Huntsville, AL, moves the project from the preliminary design phase to the detail design phase, making the original July 1980 contract now worth \$2.2 million.

# Cast of thousands involved in 'Louisiana Purchases' for external tank program

Louisiana leads the list of 47 states and 9000 U.S. companies producing goods and services in the assembly of each external fuel tank for the space shuttle.

Expenditures at Michoud—cost of facility operation, construction, fabrication of component parts for the tank—arise long before the assembly process at New Orleans.

The external tank program began 11 years ago. During that time, Michoud's materiel department has become seasoned and professional to meet the procurement demands in a complex subcontracting system for locating, purchasing, receiving, and tracking. That expertise has been attested to further through national awards—1975, 1979, 1982, 1983—for support of small and small disadvantaged businesses.

The department, headed by Jimmy Hughes, subcontracts an average of more than \$6 million a month for raw materials, supplies, services, and tooling. The subcontracts go to 133 main fabricators of some 1300 different component parts of tank flight hardware. An additional 82 suppliers provide raw materials for that hardware. Total purchases redistribute more than half of Martin Marietta's external tank contract value back into the economy. By early 1984, that contract value was more than \$2 billion.

During 1979, when NASA called for a lightweight tank to allow the space shuttle to accommodate more payload weight, design changes affected 80 percent of all structural parts. Effective planning and continued support of the subcontractors enabled assembly of the new lightweight tank to begin in the last quarter of 1980.

"The final dollar value of the tank—as delivered to NASA—has steadily decreased," said Hughes. "It's a function of our learning curve since we implemented assembly line production techniques over the past four years."

Hughes noted the complex procurement process begins two years before the assembly process. One year's lead time allows for the procurement of raw material. The second gives subcontractors time to fabricate hardware.

But the materiel department's responsibility doesn't stop with flight hardware. Of the 270 employed by the department, only about 20 percent actually buy flight hardware. Another 30 percent are involved with such other facility needs as new construction materials, building modification, new equipment, and maintenance—an average of more than \$4 million spent each month. The other 50 percent of the organization has total responsibility from receipt of a requirement until the material is issued to the user, including cost management, planning and expediting, transportation and shipping, receiving, and warehousing.



The external fuel tank en route to barge for shipping to Cape Kennedy and ultimate mating with the space shuttle.

During 1983, Martin Marietta assumed responsibility for operating the Michoud facility, which included medical services and supplies, photography, reproduction, food, and janitorial services. That "self-sufficiency" contract meant even more items to be procured "and a wider variety of items than one might normally associate with the aerospace industry," Hughes said.

The material organization's biggest challenge now is the major procurements in process to provide additional assembly tools required for the division to reach a production rate of 24 space shuttle external fuel tanks a year by 1989.

## Barber, hairstyling hours

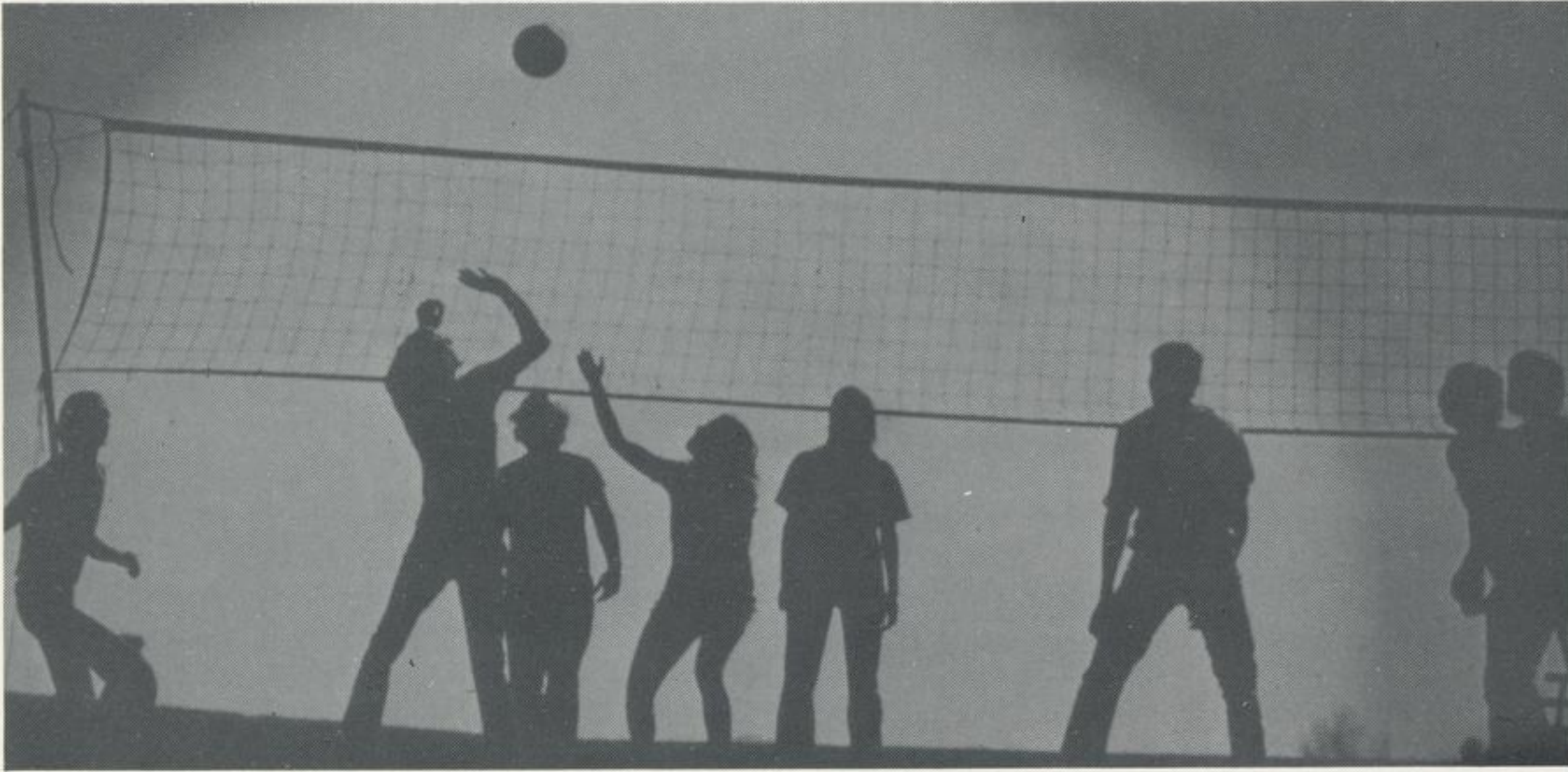
Barber and hair styling services for both men and women are available by appointment for salaried employees throughout Denver Aerospace.

Locations, hours, and telephone extensions for the various sites:

- Main plant: Engineering Bldg south basement, 6 a.m. to 2:30 p.m., Tuesday, Wednesday, and Thursday, 6-11 a.m., Friday, ext 3029;
- Denver Systems Center (DSC): basement, 7 a.m. to 5 p.m., Wednesday, Thursday, and Friday, ext 9157;
- Littleton Systems Center (LSC): room 124B, 6 a.m. to 2:30 p.m., Monday, ext 0560;
- Greenwood Commons Facility (GCF): Bldg 6050, 7 a.m. to 5 p.m., Tuesday, ext 1321.



# More employee wins, places, shows in NESRA photography contest



*"A Time for Play,"* by Fred A. Luhman, Denver Aerospace administrator, contract technical requirements, recently garnered first place in the color open-prints category of the 1984 National Employee Service Recreation Association (NESRA) photo contest. His photograph also took second in the slides division. A total of 250 photographers, representing 45 organizations, submitted 541 entries for the contest. Winning photos were exhibited at the annual NESRA conference, which was held at Breckenridge, CO, this year.



*"Quit Shoving"* captured first place in the NESRA photo contest human interest slides category for Louis Poulter, group engineer in the environmental test area. The picture received a fourth in the slides division.

## Vehicle registrations, decals required

Each Denver Aerospace employee is required to register that person's motor vehicle with plant protection and display a decal on the front bumper of the driver's side of the vehicle.

"This will improve the access control of vehicles on Martin Marietta-owned or -leased property. It also will improve identification of vehicles involved in accidents or emergencies," said T.M. Crawford, director of personnel safety and security.

Deadline for acquiring and displaying bumper decals is September 1. After that date, any vehicle entering the Waterson facility without a decal properly displayed will be required to use the far right lane upon entering the main gate so plant protection personnel can assure those entering the area are authorized to do so.

As for parking, new decals will be issued by plant protection only for those Denver Aerospace employees who have reserved parking. New stickers will be sent through company mail and are to be affixed to the inside rear window on the driver's side of the vehicle. Operational and handicapped parking stickers will continue to be issued through plant protection.

All previous parking stickers will become void once the latest types have been distributed except the blue circle Share-the-Ride stickers, which will be reissued at a later date.

Anyone in need of a bumper or parking decal should contact plant protection, ext 4646.



Leonard Sobas' *"Hawaiian Sunset"* took a first in the NESRA scenic prints category as well as a third in the color prints division. He is chief of small programs support quality in production operations.

## SRM transporter makes new home

The space shuttle program's new solid rocket motor (SRM) transporter—to move solid rocket booster (SRB) segments from the SRB refurbishment facility (SRSF, V31) to the space launch complex-6 (SLC-6) launch mount—recently arrived at its new Vandenberg Air Force Base home in California.

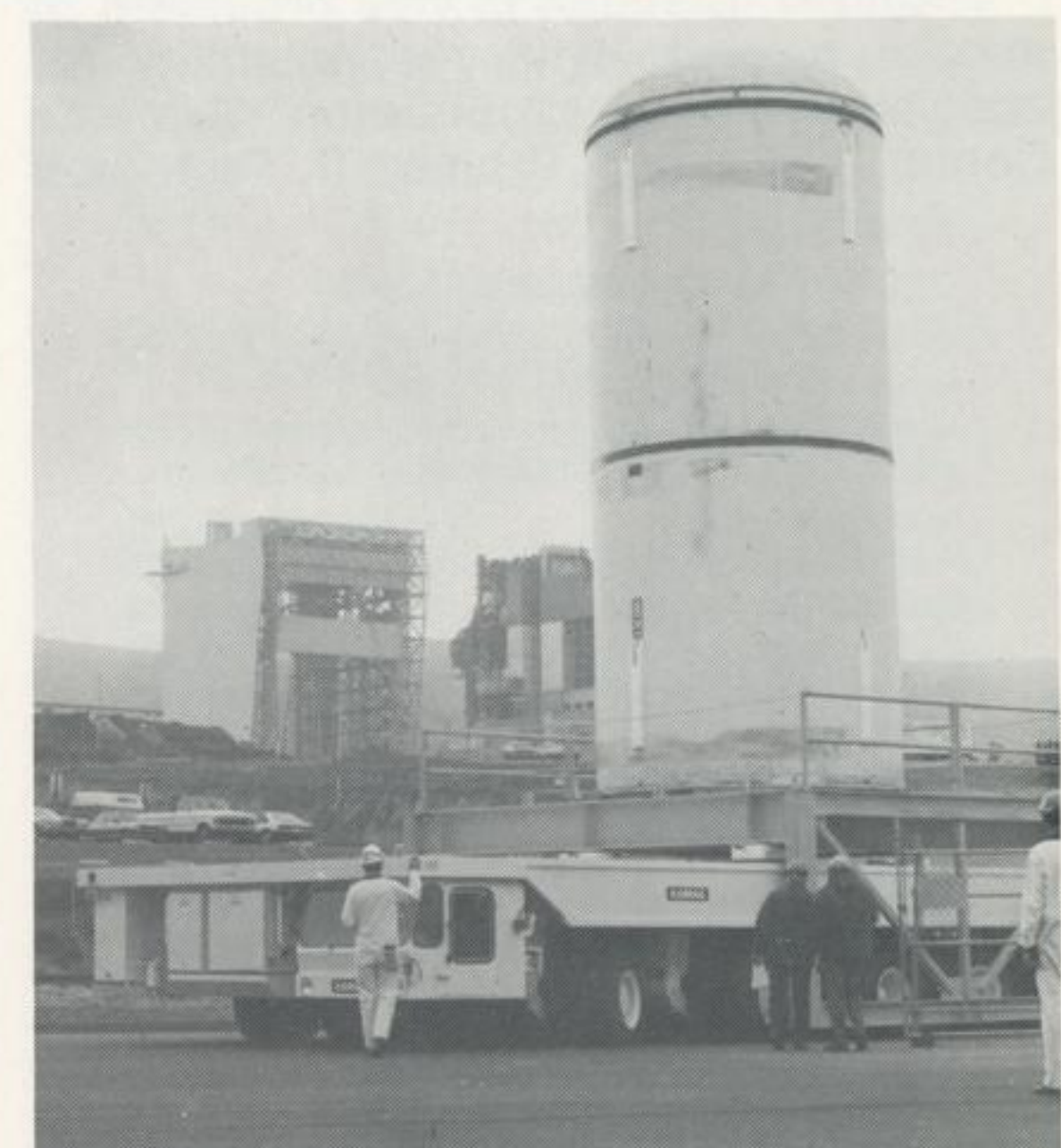
The transporter—built by KAMAG of West Germany and turned over to the Air Force June 18, following an extensive acceptance review—was designed by NASA's Kennedy Space Center and was approved by the Air Force and Martin Marietta.

The approximately 200-ton vehicle represents a three-year effort and thousands of man-hours on the part of the contributing organizations. The design

review process took nearly six months and the actual production process, nine months. Instrumental in developing the engineering of the transporter were Robert Burdick and Donald Indendi, both of Martin Marietta, Vernon Copeland of the space shuttle activation task force (SATAF), and Donald Burris of NASA.

Once at Vandenberg, the transporter was reviewed for acceptance by the same team of participants who developed the engineering.

There are now three of the massive transporters, two of them in use at Florida's Kennedy Space Center. Vandenberg's model is 51 feet long, 20 feet wide and five feet high; it has the capability of being raised seven feet, six inches from the ground.



SRM arrives at Vandenberg



## Y'all come!

# Remember family open house, Sat., Aug. 25th

The family open house at the Waterton plant for Denver Aerospace, Information & Communications Systems, and Data Systems employees, retirees, Air Force Plant Representative Office (AFPRO) personnel and their immediate families will begin at 9 a.m., Saturday, August 25 and continue until 3:30 p.m.

Among the day's highlights will be live narrations by Vance Brand of Longmont, Colorado's native astronaut, of a film on the first use in space of the Martin Marietta-designed and -built manned maneuvering unit (MMU). Those shows will be at 10:30 and 11:30 a.m. in the cafeteria on the first floor of the Space Support Bldg (SSB) and again at 1:30, 2:30, and 3:30 p.m.

Admittance to the open house will be by employee badge; at least one employee must accompany each vehicle entering the main gate. Special access passes are available to retirees and families of employees who will have to work that Saturday.



Parking may pose problems, but to reduce them to a minimum all visitors are requested to use a single automobile per family, even to car pool with others if possible.

Special parking arrangements have been set up at the south door of the factory with security guards to assist those visitors using wheelchairs. Vehicles carrying wheelchair users should go directly to Engineering Bldg lobby, where they can pick up badges and special instructions, and will then be taken by special van to the start of their tour. It should be pointed out there are many difficult stair-

ways throughout the Waterton facility.

Visitor transportation along the tour route will be by shuttle bus. Nonetheless flat-heeled shoes and cool, comfortable clothing are suggested.

In addition to special giveaways, including a commemorative booklet on the two space shuttle flights in which the MMUs were used, free food and soft drinks also will be served.

Alternating between 20-minute intervals, the musical group, "Rare Moment," and the unicycle juggling trio, "AirJazz," will perform from 11:00 a.m. until 3 p.m.

Pedestrians and drivers alike are urged to use caution while on company property and to observe plant protection personnel who will be directing traffic.

## Executive structure announced for new company

Seven men have been named to head various functional areas of the company Martin Marietta Corporation formed two weeks ago.

Robert J. Polutchko, president of the new Martin Marietta Information & Communications Systems, has announced Albert E. Hawkins is the vice president of business management. Hawkins will relocate to the new company headquarters at Bethesda.

Other appointments announced by Polutchko:

—Reid H. Clausen is vice president of special projects with responsibility for special projects at Littleton Systems Center (LSC), and Thomas D. Patterson

will report to Clausen as director of program 630;

—Frederick H. Hudoff continues as president of FAA/ATC (Federal Aviation Administration/Air Traffic Control) at Washington, DC;

—Robert H. Ammerman becomes director of the communications modal control element (CNCE) at Orlando, FL;

—Wayne D. Faber continues as director of the ORB program at Waterton;

—Albert R. Schallenmuller is director of the all source analysis system (ASAS) at LSC; and

—Gerald A. Zionik becomes acting director of command, control, communications, and intelligence (C<sup>3</sup>I) programs with responsibility for the ground electronic programs (GEPS) and command & information systems (C&IS) at LSC.

## KSC team wins NASA award

Denver Aerospace's checkout and control monitoring system installation and test team at Florida's Kennedy Space Center has been awarded the NASA Aerospace Awareness Team Award for "outstanding performance" during installation of firing room 4.

Team members included: Tom Rokicki, Ted Miller, Joe Armfield, Chuck Biby, John Passamonte, Ron Bragg, Dave Halcomb, Wayne Hazel, John Poole, George Schultz, Jim Snook, Matt Tucker, Bill White, Boyd Winans, Bill Williams, Paul Yorkovich, and George Zaffery.

## New address for Denver, Vandenberg dental claims

Effective immediately, dental insurance claims for all Martin Marietta personnel at Denver and Vandenberg Air Force Base should be sent to: Connecticut General Life Insurance Company, One Grand Centre, 4th floor, One Grand Ave, Sherman, TX 75090. The toll-free telephone number for that office is 1-(800)-527-2171.

Any dental claim forms sent to the old Connecticut General office at Santa Monica, CA, after the August 15 effective move will automatically be forwarded to the new Texas office. Questions or problems regarding dental claims filed with the old California office before August 15 should be referred to the new address.

Those employees paid out of the Michoud division and Cape Canaveral are not affected by the change. Also, Vandenberg and Denver medical insurance claims will continue to be processed through the Connecticut General claims office at Denver.

Dental claim forms are available from the offsite employees' claim sources or from the benefits office in module 125, Engineering Bldg at the main plant, ext 3009. Office hours there are from 10:30 a.m. to 12:30 p.m., and from 2 to 3 p.m., Mondays, Wednesdays, and Fridays.

### MARTIN MARIETTA NEWS

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DENVER AEROSPACE  
P.O. Box 179—Denver, CO 80201

August 17, 1984



## Recreation

(Editor's note—Martin Marietta Denver Aerospace's Recreation Department, ext 6750 and 6605, is located in Engineering Bldg, module 124. Flyers on sports and other extracurricular activities, discounted tickets, special sales, and trips are available from that office and from the department's information racks throughout the company.)

**Alpine**—The Rocky Mountain Alpine Club (RMAC) plans a full moon scenic trip into the Mosquito Mountain range, south of Fairplay, with a hike up Marmot Peak September 7-9 (Dan Hawkins, ext 3518 or 973-5533).

**Photography**—Members and guests are asked to bring favorite recipes to share at the Platte Canyon Photo Club picnic following the nature photography meeting in Estes Park at 7:30 a.m., Sunday, 19 August (Tim Sobotka, ext 4432).

**Riding**—The Ridge Riders Saddle Club will round out the month with two more O-Mok-Sees, an Indian word for a variety of horse racing competitions that include barrel and flagpole events. The open O-Mok-See will begin at noon, Sunday August 19, in pasture #13 at the Martin Marietta recreation area. The August 26 competition will be at the same time and location (Frank Roe, ext 9592).

**Tickets**—Discounted ticket information and coupons to such various events as Denver Bears baseball games, Water World, Lakeside Amusement Park, and stock car races are available from the Recreation department, recreation representatives and the information racks.

## FSI scholarships announced

Two 16-year-old high schoolers from Brush and Evergreen will spend an intensive eight weeks this summer in a unique science study learning experience for mature and talented juniors.

Debbie Lunn Ciszek of Evergreen High School and Lisa Rene Woodward of Brush High School will share the \$2000 Denver Aerospace 1984 Frontiers of Science Institute scholarship administered by the University of Northern Colorado (UNC) at Greeley.

Martin Marietta has participated with other Colorado firms in the statewide program—aimed at fostering science education through hands-on laboratory and equipment experience in an advanced academic environment—since 1973. Each year about 32 high school juniors enter the UNC summer program.



Anyone recognize this tyke on the paramedic's radiotelephone in the ambulance during the last Denver Aerospace open house?

## 1984 bond drive up 12.4 %

More than 14,500 employees of Martin Marietta Denver Aerospace have signed up to participate in the U.S. Savings Bond payroll deduction program.

Total percentage of employee participation increased from 70.6 percent at the start of this year's campaign to 83.0 percent when the 1984 campaign ended officially during June.

As in previous years, Denver Aerospace personnel at Cape Canaveral, FL, and the Michoud division at New Orleans again were the pacesetters with 95.7 percent and 92.8 percent, respectively. Participation was up at Vandenberg Air Force Base, CA, with 71.8 percent, as compared to 64.9 percent last year. Denver participation also was up 10 percent from a year ago with 82 percent.

Employees who did not sign payroll deduction cards during this year's campaign may still elect to join the program by contacting department administrators or secretaries or the recreation department, ext 6750 or 6605.

## Quality circle newsletter wins national honors

The Colorado Front Range Quality Circle chapter's quarterly newsletter recently won the national award for excellence during the International Association Quality Circles convention at Cincinnati.

Harold L. Gariety, head of Denver Aerospace's quality of work-life programs, is co-founder of the 60-chapter front range group and is chairman of its quarterly.

## Running tips to beat heat

Although summer is winding down, hot days will drag on in Colorado through its famous Indian summer. Runners are advised, therefore, to avoid excessive fluid loss—known as dehydration—and hypothermia, or increased body temperature, while jogging.

Other guidelines for hot weather running:

—Drink plenty of cool water 20 minutes before exercising; continue to drink moderate amounts of water during and after exercising.

—Avoid drinking sugary solutions—such as Kool-Aid and Gatorade—because they retard the body's ability to absorb water that hinders the body's own natural cooling system.

—Lightweight, loose-fitting clothing allows air to circulate between the human skin and the environment.

—Cottons, linens, and fishnet material absorb the most moisture and allow the best air circulation.

—Plan running routes along shaded areas and allow frequent stops for water breaks.

—Best times to run are the early morning and early evening hours.

—A final word about clothing—rubber and vinyl jogging suits are always dangerous, but that hazard is augmented during hot weather; neither material allows the body's heat to escape, forcing the runner to perspire more profusely and raising body temperatures while lowering fluid reserves.

## Election calendar

- Aug 27 — Earliest day absentee may cast primary election vote in county clerk's office.
- Sept 7 — Last day to apply for primary absentee ballot; last day absentee may cast primary election vote in county clerk's office.
- Sept 11 — Primary election 7 a.m. to 7 p.m.; absentee ballots to be in county clerk's offices by 7 p.m.
- Oct 5 — Last day to register to vote in general election.
- Oct 22 — Earliest day absentee may cast general election vote in county clerk's office.
- Nov 2 — Last day to apply for general election absentee ballot; last day absentee may cast general election vote in county clerk's office.
- Nov 6 — General election 7 a.m. to 7 p.m.; absentee ballots to be in county clerk's office by 7 p.m.