

MARTIN MARIETTA

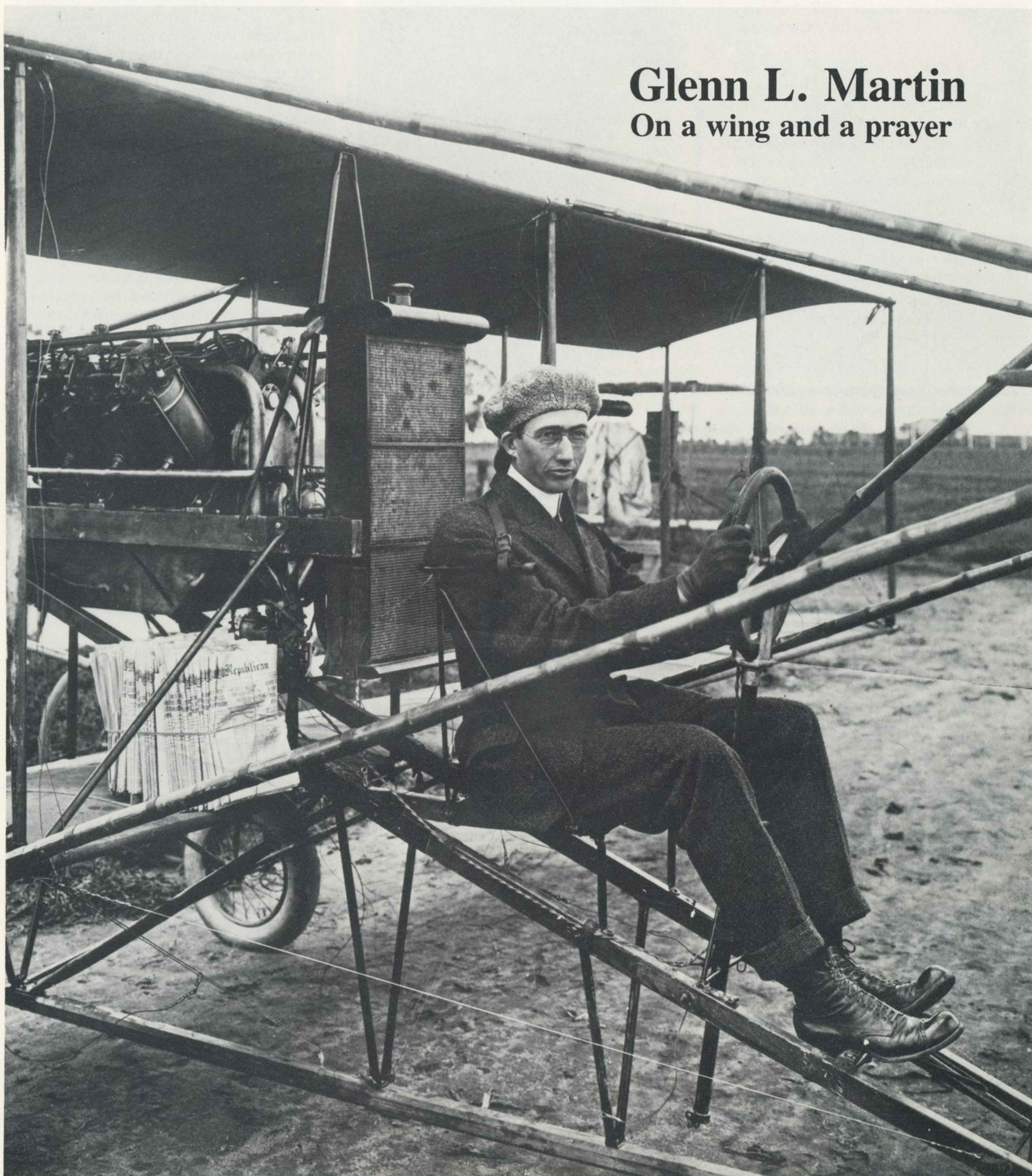
news

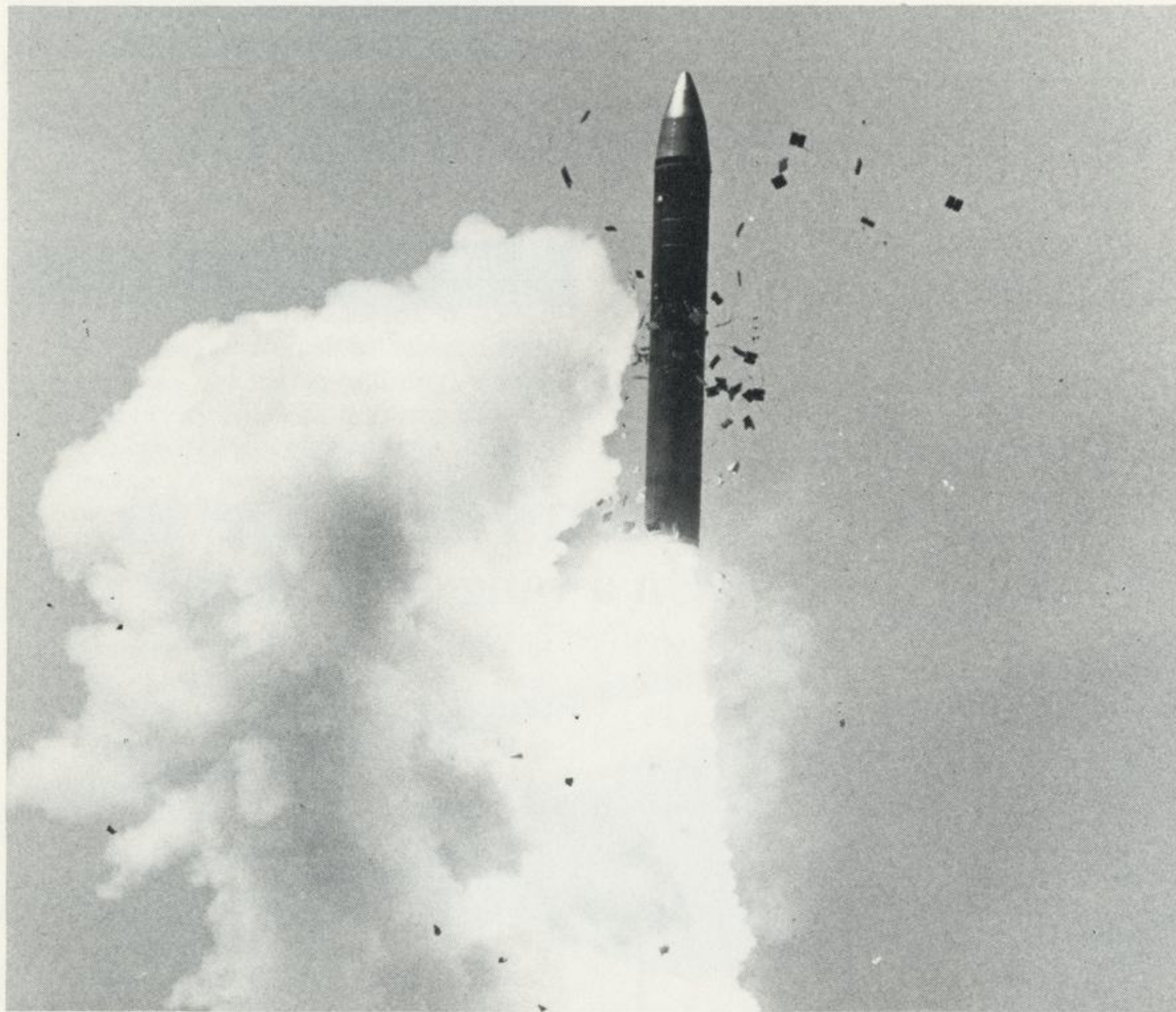
DENVER AEROSPACE

January 16, 1987

Number 1

Glenn L. Martin On a wing and a prayer





Peacekeeper lifts off from Vandenberg Air Force Base, Calif., on Dec. 5.

Air Force successfully completes 15th Peacekeeper ICBM test launch

The U.S. Air Force has successfully completed the 15th test launch of the Peacekeeper intercontinental ballistic missile (ICBM). The missile was launched at 8 a.m. PST on Dec. 5, 1986, and flew approximately 4,000 miles to a target area within the Kwajalein Missile Test Range in the Pacific Ocean.

The Peacekeeper carried 10 unarmed MK-21 re-entry vehicles on its 30-minute flight. The test was designed to verify the adequacy and military use of the Peacekeeper weapon system, incorporating both development and operational receipt-to-launch procedures, and implemented and evaluated the operational software. As with all Peacekeeper test flights, the latest missile contained a command de-

struct package to ensure it could be safely destroyed if it strayed from its planned flight path.

The Peacekeeper is a four-stage ICBM designed to modernize the U.S. ICBM force. When operational, the missile will carry 10 independently targetable re-entry vehicles with a range exceeding 6,000 miles. It is significantly advanced over the existing Minuteman missile in range, accuracy, and payload capability.

Delivery by Martin Marietta of four emplacements to Francis E. Warren Air Force Base in Wyoming enabled the Air Force to achieve its goal of an initial operational capability of 10 Peacekeeper missiles for December 1986. ■

NASA selects inertial upper stage; still has option for Titan IV vehicle

NASA has selected the inertial upper stage (IUS), a launch vehicle that fits in the cargo bay of the space shuttle, as the baseline option to carry probes to Jupiter, Venus, and the sun. However, an option is being kept open until early next year to fly one of these missions on a Titan IV.

NASA Administrator James C. Fletcher selected the upper stage, built under Air Force

contract, for three planetary missions—Galileo, Magellan, and Ulysses—to be launched in 1989 and 1990. These missions will be the first to use an IUS to carry payloads to study other bodies in the solar system.

Martin Marietta is building the Magellan spacecraft under contract to the Jet Propulsion Laboratory and manufactures the Titan IV launch vehicle for the Air Force. ■

Counsel's Corner

The Defense Acquisition Improvement Act of 1986 (10 U.S.C. Sections 2397b, 2397c) prohibits former senior DOD employees from accepting compensation from a contractor for two years after separation from DOD if during the majority of the two years preceding such separation:

1) He performed a procurement function at a site of plant that is owned or operated by the contractor;

2) He performed procurement functions relating to a major defense system and, in the performance of such functions, participated personally and substantially, and in a manner involving decisionmaking responsibilities with respect to a contract for that system through contact with the contractor; or

3) He negotiated the award or settlement of a DOD contract in excess of \$10 million with the contractor.

The act provides monetary penalties of \$250,000 for the former DOD employee and \$500,000 for any contractor who should have known that the acceptance of compensation by such employee would violate this statute. Moreover, DOD contracts in excess of \$100,000 must now include a clause allowing liquidated damages for violation of the above prohibition equal to the greater of \$100,000 or three times the amount of compensation paid in violation of the statute.

Finally, contractors awarded DOD contracts in excess of \$10 million must submit to the Secretary of Defense, not later than April 1 of the next year, a list of all former senior DOD employees paid compensation within two years after their separation from DOD. The list must:

1) Identify the DOD department or agency that employed the person, the person's DOD title, and each major defense system on which the person worked during his last two years with DOD; and

2) Provide a complete description of any work done for the contractor, including any work done on a major defense system.

In the event that a contractor knowingly fails to file such report, a \$10,000 administrative penalty may be assessed.

Any questions concerning the scope and application of the above provisions should be addressed to the legal office.



Peter B. Teets, far right, Denver Aerospace president, congratulates Dale Fester, Kevin Rudolph, and Peter Abbott for their Tech Briefs awards. Erlinda Kiefel is not shown.

NASA awards four employees for their Tech Briefs publications

Four Denver Aerospace employees have been granted \$150 awards from NASA for developing and reporting a technical innovation that was subsequently published as a NASA Tech Brief.

Peter W. Abbott, a senior staff engineer, Technical Operations; Dale A. Fester, manager, space fluid systems, Technical Operations; Erlinda R. Kiefel, engineer, propulsion engineering, Technical Operations; and L. Kevin Rudolph, manager for science integra-

tion on the tethered satellite system, NASA Space Systems, received certificates of recognition and U.S. Treasury checks at the recommendation of NASA's Inventions and Contributions Board.

Fester, Kiefel, and Rudolph developed a Tech Brief entitled "Tank Configuration for a Tethered Propellant Depot." Abbott, Fester, and Rudolph collaborated on "Tethered Orbital Refueling Facility Minimum Tether Length."



Years of service honored

Employees with 40 and 45 years of service were honored recently. Left to right are Harrison Wroton (40 years); Richard E. Weber, vice president, Personnel, Facilities, and Services, who officiated at the recognition dinner; Ned Stephenson (45 years); and Jack Mumford (45 years). Other honorees unable to attend included William Krysiak and Kenneth Coughlin (45 years), and Carroll Curlander and John Youngquist (40 years).

Expertise used to aid disabled

David Ward, of Baltimore County, Maryland, is an avid small-stakes poker player. When he wants to lay his cards on the table, Ward twitches a muscle in his shoulder. An EKG patch there sends a signal to a tiny electric motor attached to a flexible brace on his right hand. This allows Ward to open and close his hand—something he has not been able to do since a spinal cord injury in 1977.

Ward's motorized brace, called a servo-driven orthosis, was not designed by a medical firm, but by two members of a group called Volunteers for Medical Engineering.

Members of VME form teams that work with doctors and therapists on selected projects at rehabilitation centers. Projects at the Baltimore VME range from the design and construction of a standing frame (essentially a stand-up wheelchair), to research on electrically stimulating paralyzed limbs, and creating software to aid communicatively disabled persons.

VME was started in 1981 by John Staehlin, a Westinghouse engineer. Staehlin decided that he might be able to use his many years of aerospace experience to help disabled persons. Founded with only a handful of engineers and some physicians from a rehabilitation center, the organization has developed more than 50 projects. Membership comprises not only engineers and technicians, but machinists, draftsmen, artists, lawyers, accountants, and secretaries from a variety of companies.

A chapter formation meeting for Denver Aerospace employees will be at 5 p.m. Wednesday, Jan. 21, in the SSB Presentation Room.

"We've invited representatives from Craig Hospital and Sewall Rehabilitation Center to share their needs and to answer questions," said Dick Bisseger, systems engineer on the transfer orbit stage (TOS). "If any employees would like to put professional skills to a very rewarding use, please join us."

For more information, call Dick Bisseger, Ext. 1-5634.

MARTIN MARIETTA NEWS

Published by Public Relations
Editor Jan P. Timmons
MARTIN MARIETTA

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

Business Management	Daphne R. Gillison	3155
Business Development	E. W. Andrews	4619
Defense Systems	Norma I. Emerson	1-8089
Military Space Systems	Mary Lou Motsinger	7-6461
Personnel/Recreation	Leroy Hollins	6750
	Lori A. Sharp	6605
Production Operations	Guy R. Coombes	6911
Space Launch Systems	John H. LePenske	1-1400
Space Station	David J. Hughes	1-5946
Strategic Systems	Richard L. Kline	7475
Technical Operations	Floyd R. Teiffel Jr.	6872
Canaveral Operations	Robert V. Gordon	9108
Vandenberg Operations	Robert L. Ruck	2202

Prepared and produced by the publications department
DENVER AEROSPACE
P.O. BOX 179—Denver, CO

January 16, 1987

Long-term highway changes help to improve traffic flow

Driving to and from the Waterton plant will never be the same.

The Colorado Highway Department has begun making extensive changes to the Wadsworth Boulevard/Colorado Highway 75 intersection, as work proceeds on the extension of C-470 from its present termination at Wadsworth.

Eventually, the present intersection at Wadsworth and C-75 will be eliminated. C-470 will veer northwest to terminate temporarily at an intersection with Ken Caryl Avenue. Wadsworth will go underneath the new C-470 overpass and connect with the present road that leads into the Waterton plant. C-75, as a result, will cease to exist and the road leading to the Waterton plant will be redesignated Wadsworth Boulevard (or C-121).

Other changes include widening the intersection at Deer Creek Canyon Road and the present C-75; a new entrance into the Chatfield recreation area; and a diamond interchange where Wadsworth and C-470 meet.

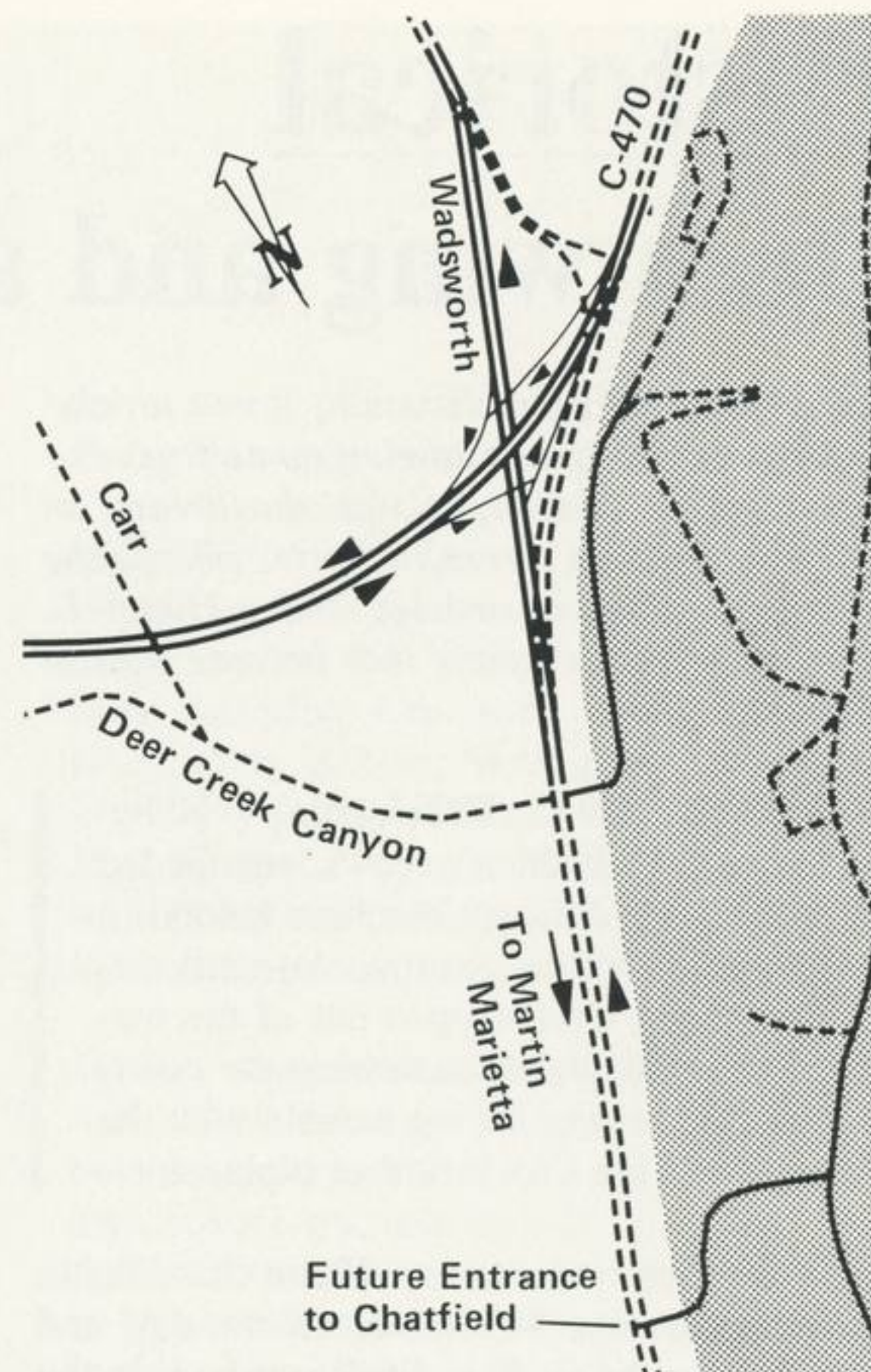
If all this sounds confusing, don't fret. State highway department officials say the changes will improve the traffic flow for people going

to and from Martin Marietta's Waterton facilities.

While work progresses, travelers will encounter a series of detours and bypasses as construction proceeds through various phases. At times, traffic also will be stopped while construction vehicles crisscross the highways, although highway officials will suspend operations during peak travel times for Martin Marietta employees.

All employees are urged to be alert for and to heed signals and flaggers during the construction. Obey signs about reduced speed limits and detours. Slow down as you begin to approach the Wadsworth intersection. Watch for vehicles crossing the highway. Remember, work will continue on two shifts, so even late night travelers to and from the plant should use caution.

The Wadsworth/C-470 interchange and extension of C-470 to Ken Caryl is expected to be completed in August of this year. Work then will shift northwest to begin a C-470 link south from Interstate 70. Completion of the entire C-470 loop from Interstate 25 on the east to Interstate 70 near Red Rocks is expected to be completed in three to four years.



Legend:

--- Existing
— Future

■ Chatfield Recreation Area

Corporate news

Corporation approves \$335 million for capital projects

The Corporation's board of directors has authorized new capital expenditures totaling \$335 million for its aerospace, information systems, and materials businesses.

The 1987 approval continues the level of Martin Marietta's recent annual capital allocations at more than \$330 million. The Corporation expects to fund these expenditures from its existing cash and operating cash flows.

In 1986, capital expenditures for Denver Aerospace totaled \$76 million. Capital expenditures for 1987 are authorized at \$78.2 million.

Slaughter elected to Martin Marietta Board



Dr. John B. Slaughter, chancellor of the University of Maryland, has been elected to the Corporation's board of directors.

Slaughter has been the top academic and administrative officer at the university's College Park campus since 1982, and previously was director of the National Science Foundation in Washington, D.C., from 1980 to 1982.

Slaughter also is a director of the Monsanto Company, Baltimore Gas and Electric Company, and the Sovran Bank of Maryland.

Company to sell U.S. Virgin Islands property

The Corporation has signed an agreement with Omaha businessman Edmund H. Blankenau for the sale of Martin Marietta's facilities and property in St. Croix, U.S. Virgin Islands. Blankenau will be joined in the purchase by clients of Bain and Company, an Australian investment banking firm.

The \$45 million sale is expected to be completed by the end of March. Included in the sale are approximately 1,300 acres, a deep water ocean port with cargo facilities and storage silos, power and water desalination plants, and an alumina refinery, which Martin Marietta closed in 1985 as part of its withdrawal from the aluminum business.

3 workers earn awards for ideas

Hans Konstabel, Jack Snyder, and Timothy M. Steeples have received awards for their ideas from the Success Through Suggestions program.

Konstabel, an automatic machine welder in manufacturing, assembly operations, proposed modifying the king pin assembly on the Peacekeeper emplacer. His idea will assist an operator in controlling the heat input that controls distortion.

Snyder, a staff engineer in the manufacturing machine shop, suggested using a non-flammable, easily removable layout bluing agent used in the first-floor factory and model shop. His idea is safer, and saves labor, expensive disposal, and the initial cost of the agent.

Steeples, an electronic test technician in the manufacturing EMF test department, built a light box to save time locating and connecting wires used in the test tooling department that fabricates test tools and cables for all programs. ■

Security relocates

The security department moved to the fifth floor of the new RDL Annex Building on Wednesday, Jan. 14.

Office hours, telephone extensions, and mail stops for the various security department will remain unchanged.

Historical

On a wing and a prayer...

(Editor's note: *Flight. For many it was an elusive dream; for some a dream come true. For Glenn Luther Martin, it was the dream on which he built an aircraft empire. This is the first in a series of articles about Glenn L. Martin and the company that became Martin Marietta.*)

SANTA ANA, California, 1907—Farmer McFadden's cows stampeded today when a flying machine landed in the middle of his pasture. An unidentified young man stepped out of the machine, apologized for scaring the cows, and said he was having trouble with the engine of his Curtis pusher biplane.

On hearing this news, Glenn L. Martin closed his garage for the rest of the day, and with his mechanic Roy Beall, rushed to the scene. They made notes, pacing off and measuring every angle of the plane. Satisfied, Martin announced that he, too, was going to build an aeroplane.

His mother, Minta, was thrilled. His father, Cy, was furious. "Flying is for the birds," he said. He insisted his son's venture was an expensive and dangerous waste of time.

Martin built his first monoplane in the Martin Garage with the help of mechanic Beall and YMCA mechanics instructor Charlie Day. The machine was completely destroyed in its first test when the engine quit and Martin, being too impatient to wait for helpers to cross the field, got out of the plane to restart it.

A quick twirl of the propeller started the

engine and the plane began to move, without its pilot. The propeller sliced through his hat as Martin lunged for the throttle. But he pushed it the wrong way, and the plane, now completely out of control, wound itself in circles and dived nose-first into the ground.

SANTA ANA, California, 1908—Neighbors in the vicinity of the abandoned Southern Methodist Church reported an unusual disturbance coming from the church well after midnight. The commotion was described by locals as "banging and hammering."

An investigation revealed local garage mechanic Glenn Martin and his mother, Minta, hammering away to some fool contraption they insisted would fly.

Discouraged by the wreck of his first plane but still determined to fly, Martin and his mother began to look for someplace more private than the Martin Garage to rebuild. Someplace bigger, away from the gibes and jokes of gawking neighbors. Someplace quiet—like the empty church that stood in the next block behind the Martin Garage.

The owner of the Southern Methodist Church building charged Martin \$12 a month rent with the stipulation that he was not to damage the church. For the next year, Martin worked by day at the Martin Garage and Sales Agency. By night he worked in the church to make his dream of flight come true.

SANTA ANA, California, Aug. 1, 1909—Glenn Martin defied gravity today when his biplane leaped eight feet in the air in its first test flight. In the 100-foot flight, Martin was airborne for a record 12 seconds.

On July 31, 1909, more than a year after they started, the first Martin biplane was ready to fly. Except for one minor detail. To get the plane out of the church, the front of the building would have to come off.

Naturally, the owner reminded Martin of the "no damage" clause. Martin promised to rebuild the front of the church and add a wider vestibule.

Ready at last, Martin, Beall, and Day moved the plane to the bean field of a nearby ranch. After hours of taxiing up and down the field, Martin was ready. Slowly he pushed the throttle forward; the engine revved. His flying machine bumped down the field as he pulled back on the control wheel.

Suddenly the bumping stopped. He was airborne! Then, with a bump, he fell back to earth. But for a few seconds he had soared. His plane worked! He could fly!

Martin's dream of flight took him from one side of the continent to the other. From its beginning in a small church in California to a nationwide multifaceted corporation, the Martin legacy far exceeded its founder's imagination. ■

Shuttle tribute looks to future

On Jan. 28, the anniversary of the Challenger shuttle explosion, the Denver Aerospace L5 Society will cosponsor a tribute to the NASA crew that died in the tragedy. "Honoring Their Dream—Onward in Space" will address the future of a civilization living and working in space.

Speakers from Martin Marietta and Ball Aerospace will give presentations on space station living modules and on the space telescope.

A U.S. flag recovered from the Challenger 51L mission will be presented by the honor guard of the Scout troupe which originally gave the flag to Mission Specialist Ellison Onizuka. Robert Stack, a Greeley, Colo., finalist in the Teacher-in-Space program, will participate in the presentation.

The event will be from 7-9 p.m. at the Denver Public Library. The public is invited to attend. Those wishing to take part in a candlelight ceremony honoring the Challenger seven should arrive at 6:30 p.m.

For more information, leave your name, number, and a brief message at 750-8948. ■

Performance Sharing Plan News

Unit Value

September 1986

Fund A: 3.6468909766

Fund B: 2.4968562680

Fund C: 4.4525798763

TCESOP: 1.7423937200

(Tax Credit Stock Ownership Plan)

October 1986

Fund A: 3.8490182170

Fund B: 2.5207189956

Fund C: 4.0852870677

TCESOP: 1.5976069910

November 1986

Fund A: 3.9440975533

Fund B: 2.5448523555

Fund C: 4.5117715694

TCESOP: 1.7698198087

Annual Rate of Return

(Compared with September 1985)

31.8

12.2

32.8

(Compared with October 1985)

33.18

12.09

21.50

(Compared with November 1985)

27.43

12.07

28.50

Recreation/employee services

Scuba diving—The Scuba Diving Association will conduct a kick-off meeting during the first quarter of 1987. Employees interested in scuba diving activities, including training, diving safety seminars, local and international dive trips, or assisting with the association as an officer, should attend this meeting. Flyers will be in the recreation racks in February. Contact Marty Chrastil, 971-7075.

Archery—The Red Rock Bowmen invite archery enthusiasts to join the non-competitive open indoor league on Monday nights through March 9 at Rocky Mountain Bowhunters Supply, 10 S. Potomac St., Aurora. The league meets from 6:30-9:30 p.m. The cost is \$5 per night. Professional instructors and club instructors will be available. Contact Jim Gilmore, Ext. 7-4203, or R. C. Ciepiela, Ext. 7-1097.

LSC Toastmasters—The group meets at 4:30 p.m. Wednesdays in Room 103 at LSC. All interested employees are welcome. Contact Henry Evans, Ext. 7-0575.

Commodore Users—The group will meet at 5 p.m., Tuesday, Jan. 20, in the clubhouse at the recreation area. Contact Joe Presta, Ext. 7-4220, or Chuck Barton, Ext. 7-7433.

Computers—The Waterton Computer Club is opening access to its computer bulletin board to all Denver Aerospace employees. The board has approximately 30 megabytes of public domain software available for download. The board communicates at 2400/1200/300 baud, no parity, 1 stop bit, using XMODEM (checksum or CRC), and Kermit protocols. The phoneline is 977-7995 and is accessible after 5 p.m. weekdays, and 24 hours on weekends and holidays. Your first call will log your user name and password. The SYSOP, Ken Beaudrie at Ext. 7-7991, will then verify your identity and give you full access.

Rocky Mountain Alpine Club—The fourth annual ski/tubing trip to Jim Creek will be Saturday, Jan. 24. It will be one day and evening for all levels. Contact Brian Gallagher, Ext. 1-8706. A one-day cross-country ski trip for beginners to Jefferson is planned for Sun-

day, Feb. 1. Contact Larry Espelage, Ext. 7-6156.

Lodging Discounts—Rent condos in Keystone, Frisco/Dillon, Copper Mountain, or Breckenridge at a 12-percent discount to Martin Marietta employees. Identify yourself as an employee and request the discount. The toll-free number is 1-800-525-9801, or 534-9046 in Denver.

The Beaver Run Resort is a 500-room condo/hotel in Breckenridge that offers 10 percent off one night, 15 percent off two nights, and 20 percent off three or more nights. Identify yourself as a Martin Marietta employee and state that your company belongs to DAESRA (Denver Area Employee Services/Recreation Association). The number to call from Denver is 573-5313.

Colony Resorts offer a 20-percent discount at the Mountainside in Silver Creek, Colo., 1-887-2571, and at the Silverado II in Winter Park, 1-800-223-7677. Obtain a Colony Resorts employee card from the recreation office.

Soda Springs Ranch at Grand Lake offers a 15-percent employee discount. Contact Lana Pierce, 1-627-8127, and identify yourself as a Martin Marietta employee.

Winter Park Vacations offer a 20-percent discount on stays of three nights or more, and a 15-percent discount on two-night stays at four resorts in Winter Park through April 19, 1987. Identify yourself as an employee to obtain the discount. Call 825-0705 from Denver.

Ski Club—The Satellite Ski Club plans the following trips: Telluride I, Feb. 6-8, cost \$120, contact Alan Rice, Ext. 7-9474 or 973-8344. Telluride II, Feb. 20-22, cost \$120, contact Jane Baumann, Ext. 7-4977. Jackson Hole, March 12-15, cost \$117, contact Phil Penningroth, Ext. 7-5860 or 798-7125. Prices will be slightly higher for non-ski club members.

Football—Champions of the Wednesday Night Competitive Flag Football League, B Division, were the Hard Mobile Launchers team. The team included Henry Ciancio, Dave Hicks,

Steve Sweet, Gary Pierce, John Ritz, Craig Bocard, John Cole, Tim Sieg, Chris Hatanaka, John Ortiz, Jr., and Mike Pettit. Winners of the Monday Night Coed Recreational Flag Football League were the Wild Turkeys. The team included Lee Ann Posey, Phil Hong, Amy Britton, Steve Richardson, Teresa Ford, Jenny Woeste, Mark Scott, Russ Tanner, Ashton Britton, Garry Brauer, Haywood Nolan, Terry Lasky, James Sutherland, and Dean Spieth.

Junior Achievement—The organization seeks volunteer employees with business savvy to become advisers to high school students in a JA company. Students learn to run their own business in 14 weeks by electing officers and selecting a product to manufacture and sell. Employees function as a team as executive, finance, and production advisers. The JA company will meet one day a week from 3-5:30 p.m. from late February to late May.

Training will be Feb. 5. Interested employees should call the JA coordinator, Lori Sharp, by Thursday, Jan. 22, at Ext. 7-6605.

HRD moves to RDL

The human resources development department will move to the fifth floor of the RDL Annex on Jan. 19.

Information about specific programs may be obtained by calling the following numbers:

- Evening Institute: Ext. 7-6837 and 7-5226;
- Study under Company Auspices (tuition reimbursement): Ext. 7-3736, 7-4050, 7-5698;
- CATECS (Center for Advanced Training in Engineering and Computer Science): Ext. 7-3736 and 7-5698;
- SURGE (Colorado State University Resources in Graduate Education): Ext. 7-4050 and 7-5698;
- Employee Suggestion Program: Ext. 7-4332.

The CATECS classrooms will be in Rooms 503 and 504; the SURGE classrooms will be in Rooms 529D and 529E.