MARTIN MARIETTA
news
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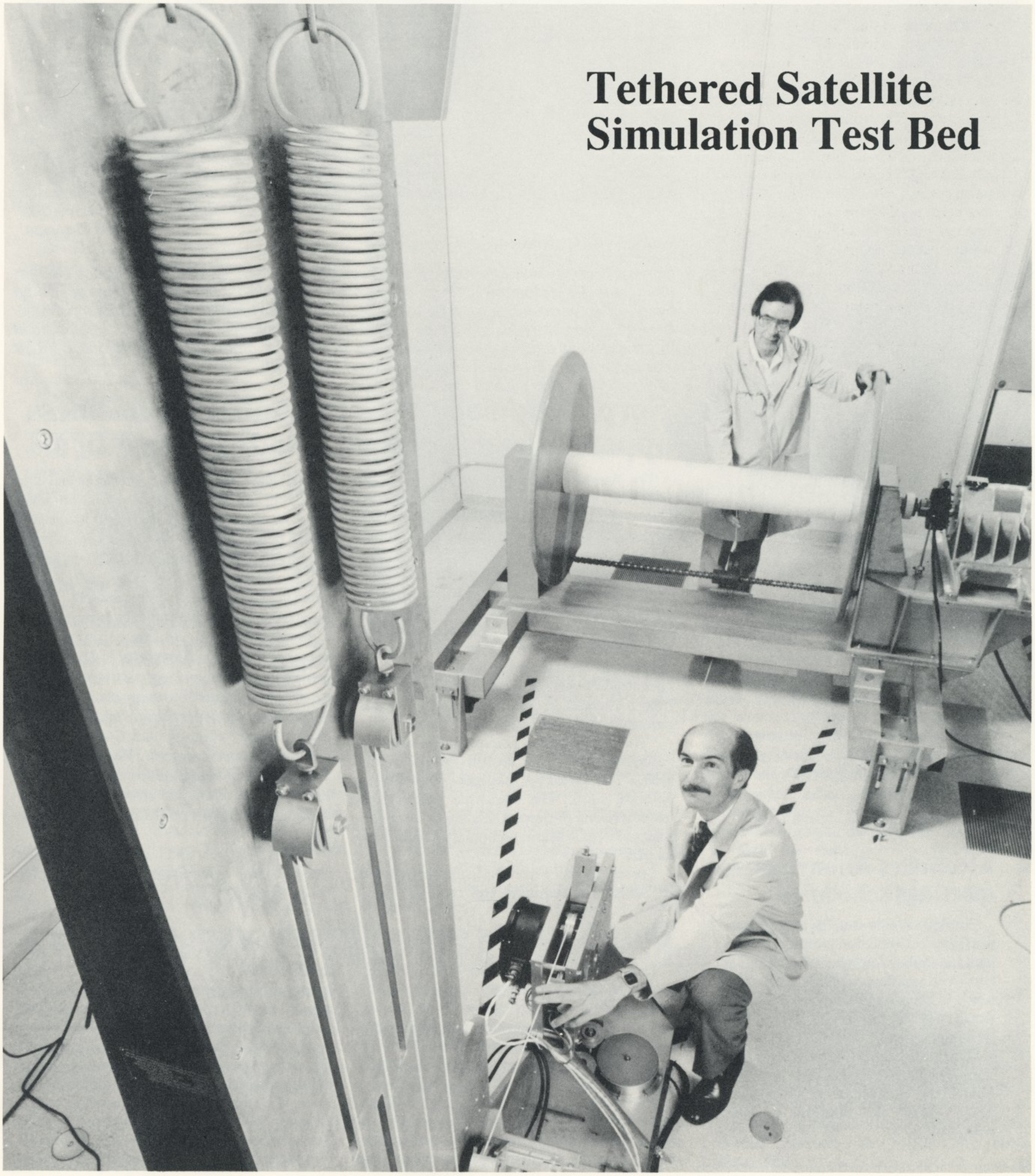
Tethered Satellite Simulation Test Bed



On the cover

Paul Scheffer (foreground) and Carl Bodley, NASA Systems employees, monitor the Tethered Satellite Simulation Testbed, a new facility at the Space Support Building which began operating recently. Scheffer, Tethered Satellite software manager, said the mechanism is being used to qualify flight software for the first mission in 1991 aboard the Space Shuttle. The testbed contains a duplicate of the flight spool (background) that will "reel out" the satellite on a tether. The structure in the foreground, called the compliance tower, simulates the satellite deployer's 41-foot-high boom, the length of the tether, the rate at which it moves, and the tension exerted by the satellite. Not pictured is a second spool onto which the tether is routed and stored.

The Tethered Satellite Systems are undergoing final assembly and testing this year for shipment to NASA in early 1990. The first mission will release and retrieve an Italian-built satellite up to 12 miles above the Shuttle for electrodynamics experiments. Space Systems is prime contractor for NASA's Marshall Space Flight Center.

Komer visits Astronautics Group

Odessa Komer, UAW international vice president and director of the Aerospace Department, recently visited the Astronautics Group to meet with employees and to receive an overview of Astronautics Group operations. While at the Electronics Manufacturing Facility (EMF), Komer, right, spent time talking with Rose Weaver. Komer was accompanied by international union representatives Bob St. Pierre, Gordon Ingraham, and Bob Butler and local union 766 officials Bob Killian and Lee White.

Volunteers sought for museum exhibit

The Denver Museum of Natural History is asking for volunteers to help with the Soviet Union special exhibit, "Nomads: Masters of the Eurasian Steppe," to be presented June 4 through September 10.

Only Los Angeles, Denver, and the Smithsonian in Washington D.C., will display the exhibit of nearly 14,000 artifacts from eight Soviet museums.

Volunteers are needed for customer service and other general assistance. Employees with questions or wishing to volunteer should call 370-6419. ■

Alcoholics Anonymous meetings scheduled

Employees who want to address personal alcohol/addiction problems can attend Alcoholics Anonymous meetings at two work locations. Groups meet at 11 a.m. Mondays and Fridays at Waterton, Room 401 of the Technical Support Building, and at 11:30 a.m. Wednesdays at Littleton Systems Center, Room 201. Locations may change due to room availability. Contact the medical office, Ext. 7-4676, to confirm meeting locations.

Corporation commits to improving business opportunities for small disadvantaged firms

The Astronautics Group is keeping in step with a corporate initiative by implementing a plan to attract and expand the role of small disadvantaged business firms in the areas of procurement and subcontracting.

This action complies with the Department of Defense's (DOD) commitment to use small disadvantaged business firms. These activities are a direct response to a congressional mandate and Public Law 99-661. That law recognizes the fact that there are many qualified small disadvantaged business firms that could successfully participate in and compete in DOD procurement and subcontracting activities.

"The Astronautics Group is currently engaged in working to be fully active in this arena," Herb Watkins, manager of materiel operations, said. "The aerospace industry has taken a stance to support this important initiative, and Martin Marietta certainly intends to do its part."

Several industry leaders, including Norman R. Augustine, chairman and chief executive officer, and Caleb B. Hurtt, president and chief operating officer, support a resolution developed by the Aerospace Industry Association which places high priority on successfully and effectively implementing this DOD initiative.

The Astronautics Group recently participated in a conference of approximately 120 senior management representatives from Air Force Systems Command, Air Force Contract Management Division, Aerospace Industry Association companies, and representatives from the small disadvantaged business community. The conference, chaired by Brig. Gen. Kenneth V. Meyer, deputy chief of staff, Contracting, Air Force Systems Command Headquarters, was designed to solicit and solidify activities and actions to improve the procurement and subcontracting situation for small disadvantaged business firms.

"Many workable and innovative ideas were presented and agreed upon during the conference," Watkins said. ■

Data Systems gets software support contract

Data Systems' Field Services Division, headquartered in Denver, has received a $43.9-million contract for software support service from the Social Security Administration's Office of Systems Design and Development. The five-year contract includes a two-year base period and three one-year options.

Under the contract, Martin Marietta will provide software support in such areas as programmatic applications software development, database support, software improvement and maintenance, and software engineering technology and management. The work will include support in all facets of Social Security's programmatic systems.

The Social Security Administration's data processing operation in Baltimore is the largest of its type in the government outside the Department of Defense. It maintains earning records on every worker in the U.S. and processes all Social Security benefit claims. The facility handles more than 4.5 million transactions per day.

Corporate news

Ash Grove buys Utah cement plant from company

Ash Grove Cement West, Inc., has purchased a cement plant at Leamington, Utah, from Martin Marietta Corp. The price was not disclosed.

George M. Wells, president and chief executive of the Portland-based subsidiary of Ash Grove Cement Company, said the acquisition includes the plant, property, and equipment of the Leamington plant; leases for distribution terminals at Murray, Utah and Farmington, N.M.; distribution services in Las Vegas; and offices in Salt Lake City.

Martin Marietta sells alumina plant

The corporation has completed the sale of its former alumina refinery on St. Croix, U.S. Virgin Islands, to Virgin Islands Alumina, Inc., a subsidiary of Clarendon Ltd.

Included in the sale are an alumina refining plant which Martin Marietta closed in 1985 when it withdrew from the aluminum business, approximately 1300 acres of land, power and water desalination plants, a deep-water bulk ocean port with cargo facilities, and storage silos.

Corporation appoints Hinners V.P., Strategic Planning

Martin Marietta Corp. has appointed Noel W. Hinners to be vice president for Strategic Planning.

Dr. Hinners, 53, has been Associate Deputy Administrator of the National Aeronautics and Space Administration since 1987 and earlier was director of the space agency's Goddard Space Flight Center.

At Martin Marietta, Hinners will report to Richard G. Adamson, vice president for Business Development, and will be responsible for formulating long-range corporate objectives and operational plans.

His career in aerospace engineering and management spans more than 26 years, including 14 years with NASA. Hinners joined the space agency in 1972 as director of Lunar Programs and was promoted to associate administrator for Space Science in 1979. He was director of the National Air and Space Museum in Washington, D.C., from 1979 to 1982 before returning to NASA as director of the Goddard center.

Teets receives award

Peter B. Teets, Astronautics Group president, received an Alumni Recognition Award from the University of Colorado, May 13, during the commencement address at Currigan Hall.

The annual award recognizes alumni of the university who are outstanding in their careers or community services.

Teets received his undergraduate degree from CU Boulder and his graduate degree from CU Denver, both in applied mathematics. ■

Space Systems wins spacecraft power study

Space Systems has won a 12-month, $6.6-million Air Force contract to design solar power panels for future spacecraft. Called the Survivable Power Subsystem Demonstration (SUPER) program, the contract covers Phase II preliminary design of a power system that can withstand both natural and man-made hazards in space, including space debris, lasers, and projectiles.

Last year, Space Systems was one of four companies awarded Phase I conceptual design contracts for SUPER. For Phase II, Space Systems and TRW were awarded contract. The Air Force is expected to proceed next year to Phases III and IV, which will cover detailed design, fabrication, test, integration and space test of the system.

Major subcontractors for the effort include General Dynamics and OAO Corp.

The study is being funded by the Strategic Defense Initiative Organization through the Air Force Wright Research and Development Center in Dayton, Ohio. ■

Spring's here

Linda S. Mannino, left, and Peggy E. Stark join other Astronautics Group employees in observing a family of great horned owls who recently began living in a pine tree between the Engineering building and the Research and Development Lab (RDL) at Waterton. Employees near that area say the family consists of two parents and two owlets.

Volunteers needed for trail building

Have you ever wondered how a hiking trail is created? Here's your opportunity to find out. Martin Marietta and Volunteers for Outdoor Colorado are asking for volunteers on June 17 and 18 to build the eastern side of the South Rim trail at Roxborough State Park. Registration will begin at 8 a.m., with trail building scheduled both days from 8:30 a.m. to 4:30 p.m. A free barbecue dinner will be served following the day's work.

Most of the brush has been cleared for the trail. Volunteers will work to remove stumps, roots and grasses, expose mineral soil, and smooth out the trail itself. An experienced crew leader will be assigned to every 8-10 people and will provide instruction for the many tools to be used.

Volunteers are asked to wear gloves and proper work attire (no shorts or sandals) and bring a lunch and one gallon of drinking water per person.

If you are unable to work on the trail but would like to pitch in, cooks and barbecue "chefs" are also needed.

Employees interested in volunteering should contact the office of Volunteers for Outdoor Colorado at (303) 830-7792. Please identify yourself as a Martin Marietta employee.

SIP

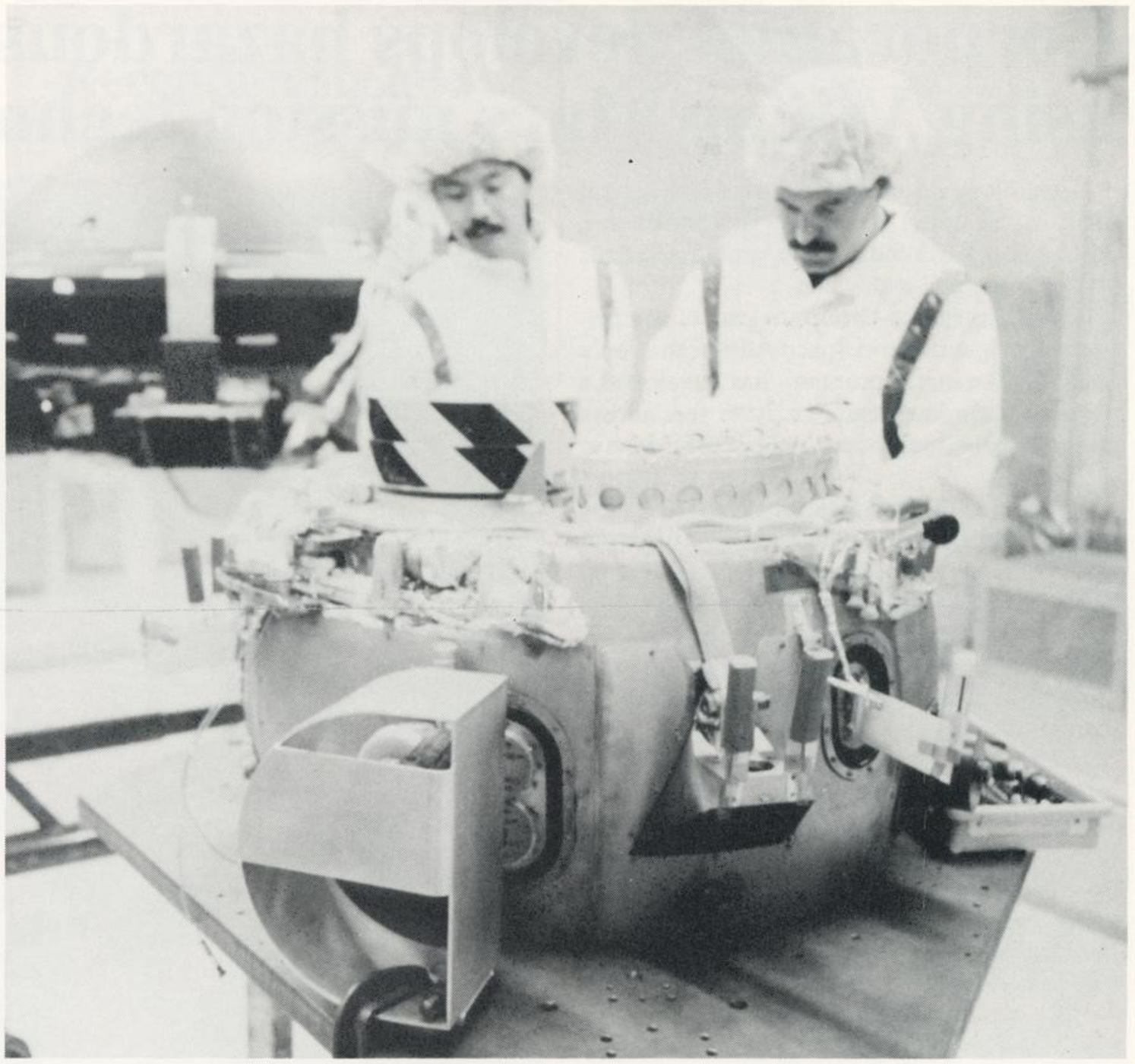
Unit values for the Savings and Investment Plan (SIP) for United Aerospace Workers (UAW) and United Plan Guard Workers of America (UPGWA) in April, 1989 (March, 1989 values in parentheses) are:

Fund A Indexed Equity	1.1168887936 (1.0630672518)
Fund B Fixed Income	1.1242869216 (1.1174385744)
Fund C Company Stock	0.9188838663 (0.9256118769)

PSP

Unit values for the Performance Sharings Plan (PSP) for Salaried Employees in April, 1989 (March, 1989 values in parentheses) are:

Fund A Indexed Equity	5.3482268093 (5.0838041870)
Fund B Fixed Income	3.2249412491 (3.2002609770)
Fund C Company Stock	4.8538886043 (4.8810042626)



Galileo probe readied for launch

NASA Technicians at Kennedy Space Center inspect the Galileo spacecraft probe, which contains three instruments built by the Space Systems company to investigate the atmosphere of the planet Jupiter. The probe will be launched on the shuttle Oct. 12 along with an orbiter spacecraft as part of the Galileo mission. Following a six-year, 2.4-billion-mile journey to Jupiter, the probe will separate from the orbiter and descend through the planet's atmosphere, taking measurements for 75 minutes before being consumed by the thick, poisonous atmosphere. The probe will relay the information to the orbiter, which will send it back to Earth. Scientists believe the planet's atmosphere contains a sample of the original material from which stars are formed. Space Systems also built the attitude and articulation control system for the Galileo orbiter.

Magellan maneuver right on the mark

On May 21, the Magellan spacecraft performed a near-perfect trajectory correction maneuver.

At 8 p.m. MDT, four of Magellan's eight 100-pound rocket engines fired for about six seconds to correct the spacecraft's trajectory toward Venus. The maneuver resulted in a velocity change of 9.7 feet per second, within less than one percent of the predicted result.

It was the first of three maneuvers planned to keep Magellan on course for its rendezvous with Venus in August of 1990. However, the maneuver went so well that the second maneuver in December will require much less fuel than originally planned. The third maneuver is set for early August 1990, ten days before the spacecraft is inserted into orbit around Venus.

"It was absolutely super," said Ken Ledbetter, Martin Marietta spacecraft team operations manager at Jet Propulsion Laboratory in Pasadena. "It went so well that we have fuel to burn."

The maneuver required burning only 4.2 kilograms of the liquid hydrazine fuel used by the rocket engines and thruster on the spacecraft, much less than had been budgeted. "That means that if we continue to conserve fuel, we should have extra fuel to prolong orbital operations around Venus," Ledbetter said.

He runs a team of about 40 Martin Marietta engineers who, along with several JPL engineers, make up the spacecraft team. Following the maneuver, the team returned to Martin Marietta facilities in Denver, where they will monitor of the spacecraft's condition and control its systems. A mission operations support control room in Denver is connected through JPL's mission control center in Pasadena to NASA's Deep Space Network of radio communications dishes.

Seven Martin Marietta employees will remain at JPL in Pasadena for the duration of the mission, and the whole team will return during major maneuvers. ■

Corporation develops hazardous waste analyzer using Viking Mars mission technology

Technology developed to analyze the soil on Mars in the mid 1970s is being applied to a problem on Earth today—detecting hazardous wastes in the soil and water.

The Astronautics Group, as part of the National Aeronautics and Space Administration's technology transfer program, has developed a portable hazardous waste analyzer that allows preliminary soil and water analysis to be done in the field.

Developed in conjunction with the U.S. Environmental Protection Agency, the analyzer uses technology developed for the twin Viking landers, built by Martin Marietta and launched in 1975. On each lander was an instrument that analyzed the chemical composition of the Martian soil and sent back valuable scientific information to Earth.

Dr. Benton Clark, who was the program manager for the Viking analyzer, worked with Warren C. Kelliher at NASA's Langley Research Center on ideas for several spinoffs of the analyzer technology, including a hazardous waste analyzer delivered recently to the EPA's Environmental Monitoring Systems Laboratory in Las Vegas.

"The hazardous waste analyzer can detect about 50 different elements in virtually any type of soil or material," Clark said. "Since it is easy to use and gives immediate readouts, it may prove to be very valuable for EPA field investigators seeking to identify areas contaminated with hazardous wastes."

Clark said the analyzer consists of a detector unit, an x-ray source, a lap-top computer, and a filtration system. The instrument works by bombarding a material with x-rays, causing a fluorescent emission from the material. The emission is measured and analyzed for the energy levels which distinguish each element.

"The idea behind this was to have something to do in real-time tests out in the field," Clark explained. "Right now, there is nothing as portable as this that analyzes for these particular elements."

Clark said the analyzer has worked well in field tests in the Rocky Mountains near Aspen.

"With this instrument, we were able to go to a site and tell them where high levels of contamination were and what kinds of contaminants were present, and then go to other areas and say 'this area looks pretty clean'," Clark said.

Mike Thornton, an Astronautics Group engineer who designed and built the EPA unit, said that one very important potential use of the analyzer will be in connection with a hazardous waste accident or spill. Normally, samples are taken at the site and then must be transported to a laboratory for analysis, causing potentially serious delays. With the analyzer, "hot spots" can be located very quickly on site.

Clark said that several major changes had to be made to the Viking soil analyzer to make it suitable for hazardous waste analysis. They included providing the capability to analyze water, which it didn't do on Mars; building in a portable computer system to provide results on site; and increasing the instrument's sensitivity to look for very low concentrations of pollutants. ■

Mike Thornton, left, Warren Kelliher, center, and Benton Clark demonstrate how the hazardous waste analyzer system works. The system is designed as an on-site analysis tool for detecting the elemental composition of soils, rocks, and water.

Area universities plan Masters briefings

The University of Denver coordinator for the master of science degree in systems management will brief employees on the degree program at company facilities during June. Interested employees should see Sheila Bell at 11:30 a.m.-12:15 p.m. at these locations:

Date	Place
Tue., June 6	Deer Creek—Wolfcreek Conf. Rm. (R Level)
Thur., June 8	LSC—Conf. Rm. 136A in SCOE area
Thur., June 15	Waterton—TSB Conf. Rm. 501

Students pursuing this degree can register for the July/August 1989 term on the above dates from 12:15 to 1:00 p.m.

University of Colorado at Colorado Springs (UCCS) will offer Satellite and Space Communications as a graduate level telecourse in electrical engineering at Martin Marietta facilities this summer, beginning June 12.

See Steve Ellis of UCCS on Wed., June 7, at LSC in Conference Room 136A in the SCOE area between 3:30 and 5:00 p.m. New students and continuing students in the UCCS master's program in electrical engineering may register or get more information at that time. Call Educational Services at 7-3736 for more information. ■

NMA plans conference

The Colorado Council of the National Management Association is sponsoring a one-day conference, "Building for Today; Managing for Tomorrow," Thursday, June 8, at the Denver Auraria Campus, North Classroom Building.

State leaders will focus on Colorado's economic and work force challenges of the future and how to prepare for them.

For registration information, call (303) 744-4638. ■

Receptionists and tour guides needed

Employees interested in participating in the 1989 Family Open House, Aug. 5, as receptionists and/or tour guides, should contact Irma Jean Guire at Ext. 7-5343, before June 15.

Mile High United way

Employee services/recreation

Fitness Classes Starting—Openings remain in the morning and afternoon low-impact aerobics and body shapers classes that begin June 5 and 6 at the Deer Creek Wellness Center. Fees are $22 for classes meeting Monday, Wednesday and Friday and $15 for Tuesday and Thursday classes. Employees should register at the Employee Services Office, Room 3B314 at the Deer Creek Facility. For information, call Ext. 7-6605, or 7-6750.

Smoking Cessation Classes—Enjoy a breath of fresh air. The American Cancer Society's "Fresh Start" program is available free to all Martin Marietta and Air Force personnel, their spouses and dependents. Classes consist of four meetings from 5-6:30 p.m., June 5, 8, 12 and 15, at the Deer Creek Facility, Independence Room. To register, call Employee Services at Ext. 7-6750.

Colorado Corporate Games—The ninth annual Colorado Corporate Games are slated for Friday and Saturday, June 9 and 10. More than 120 employees will participate as athletes or volunteers at several locations. Spectators are encouraged at these events:

- Track, 5 p.m. Friday at Jefferson County Stadium, W. 6th Avenue and Kipling;
- Volleyball, 5:30 p.m. Friday, continuing on Saturday, at Green Mountain High School, 13175 W. Green Mountain Drive;
- Tennis begins at 6 p.m. Friday and continues on Saturday at Morris Park, 20th and Allison, and Lakewood Park, Kipling and Cedar;
- Bowling, 8 a.m. Saturday at Holiday Lanes, 10350 W. Colfax;
- Bicycle—time trials, 8 a.m. Saturday at the Denver Federal Center, 2nd and Kipling, followed by the criterium races at 11 a.m. Enter through Gate 1;
- 5K Race and Racewalk, 9 a.m. Saturday at the Denver Federal Center, 2nd and Kipling. Enter through Gate 1;
- Swimming, 9 a.m. Saturday at Green Mountain Recreation Center, 13198 Green Mountain Drive;
- Trap Shoot, 9 a.m. Saturday at Mile Hi Shooting Park, 1745 Highway #7, Erie, Colo.;
- Golf, 12 p.m. Saturday at Foothills Golf Club, W. Hampden and S. Carr Street; and
- Racquetball, 1 p.m. Saturday at The Point Athletic Club, 533 VanGordon St.

For additional information, contact the Employee Services Office, Ext. 7-6605 or 7-6750.

Rocky Mountain Regional Corporate Cup Track and Field Relays—June 17 at the University of Colorado's Potts Field in Boulder. Male and female employees are needed to participate in sprints, relays, high jump, long jump, shot put, and 5K and 10K road races. Prospective participants should call Stratty Cunningham, Ext. 1-4048.

Mile High L5 Space Society—The group meets at 7 p.m., Monday, June 5, at the Public Service building, 10001 W. Hampden Ave. For information, contact Barry Tuell at Ext. 7-9018.

Saddle Club—Ridgeriders Club members meet at 7 p.m., Tuesday, June 6, in the clubhouse at the recreation area. For more information, contact Mary Smith, Ext. 1-8154, or Joe Carroll, Ext. 1-7800.

Radio Club—The Waterton Amateur Radio Society will meet at 5 p.m., Tuesday, June 6, in the hamshack at the recreation area. For further information, call Jeff Owings, Ext. 7-3629 or 7-6898.

Hunting and Fishing Club—The group will meet at 5 p.m., Monday, June 12, in the clubhouse at the recreation area. For more information, contact Mel Smith, Ext. 1-8655.

Red Rock Bowmen—Archery club members will meet at 4:45 p.m., Tuesday, June 13, in the clubhouse at the recreation area. For further information, call Dave Unruh, Ext. 7-0477.

Hunter Education Classes—Class dates are set for June 13, 14, 15 and 19 at the VFW hall, 3860 S. Jason St., in Englewood, from 7-9:30 p.m. The range date is from 8 a.m. to 1 p.m. June 17 at the club's shooting range. Students must attend all class sessions. Registration is at the first class, and a minimum of 10 students is required to continue meetings. The cost is $7. Employees, family members, and friends are welcome to attend.

Parapsychology Club—Will meet Thursday, June 15, 5-7 p.m. in the Littleton Systems Center (LSC) cafeteria. Terryll Nemeth, director of the School of Metaphysics in Lakewood, will speak on "Dreams—Their Meaning and Significance." All employees and guests, who must be at least 16 years old, are welcome. Non-employees must reserve a name badge by calling Helen Hussander, Ext. 1-7344. The club will not meet in July or August.

Shotgun Safety Class—The Skyline Hunting and Fishing Club, Inc., will conduct a class in basic shotgun safety and shooting fundamentals June 19, 21, 28, and on a range date to be announced. Students who successfully complete the class will earn an NRA certificate and safety card. This is not a hunter education class. Class fees are $10 for club members and $15 for non-members and are due with registration by June 12. Enrollment forms are in the information racks. For further information, call Roger Guinn, Ext. 7-3161, or Raymond Ray, Ext. 1-5167.

Toastmasters Clubs—The Deer Creek club meets at 4:15 p.m. every Wednesday in the Center Bridge Conference Room on the second floor. Contact Pat Roybal, Ext. 1-5762, for more information. LSC Toastmasters meets at 4:30 p.m. Wednesdays in Room 209G of LSC. The contacts are Jim Harrer, Ext. 7-6509, or Alex Hubert, Ext. 7-6527. Titan Toastmasters meets at 6 p.m. Mondays, at Mission Trujillo Restaurant, 181 Ridge Road (Broadway and Ridge Road). Contact Mark Willey, Ext. 1-6183.

National Management Association—The Association will meet June 13 at the Ken Caryl Ranch House to discuss manufacturing initiatives. This will be a panel discussion on the status of MRPII, SPCC, process simplification, variability reduction, CIM-LINK and CAD-CAM, and electronics MFG robotics. For more information call Dave Stover at Ext. 7-5107.

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