MARSHALL STAR

Marshall Space Flight Center — Sept. 21, 2000

'We bring people to space — We bring space to people'

Thursday's anniversary events:

- 9 a.m. — Gen. Marshall tribute; 283rd U.S. Army Band; and Apollo 17 astronaut Gene Cernan will speak in Morris Auditorium. Refreshments will be served.
- 10:30 a.m. — Perspectives Forum in Morris Auditorium
- 11:30 a.m. — Employee lunch; performance by 283rd U.S. Army Band; and Gene Cernan book signing in Bldg. 4200 Courtyard
- 1 p.m. — Time capsule ceremony with Center Director Art Stephenson in Bldg. 4200 Courtyard
- 2 p.m. — 40th anniversary cake; performance by Latin Rhythms band in Bldg. 4200 Courtyard

Iowa Educator Resource Center opens Thursday

A new NASA instructional resource center opens its doors Thursday to Iowa educators — as well as those in nearby Nebraska and South Dakota, providing access to NASA expertise and educational materials in science, math and technology.

Iowa's new Educator Resource Center — at the Western Hills Area Education Agency in Sioux City, Iowa — is the first to be located in a regional educational service agency and not a university.

The Marshall Center selected the agency through a competitive application process that resulted in a two-year renewable agreement between NASA and the agency.

"Our Educator Resource Centers, like this newest facility serving Iowa and neighboring states, are part of NASA's initiative to create a place where teachers can experience and use NASA online resources, and receive professional development credits at workshops," said Alicia Beam, pre-college officer of Marshall Center's Education Programs Department.

NASA's national network of resource centers provides educators access to materials such as lesson plans, videotapes, compact discs, audio cassettes, reference books, activities for the classroom, posters and lithographs.

Each Educator Resource Center is sponsored by a NASA facility under a regional system. The Marshall Center is responsible for centers in six states: Alabama, Arkansas, Iowa, Louisiana, Missouri and Tennessee.

Shuttle Atlantis returns to Kennedy Wednesday; Next mission Oct. 5 to continue building Space Station

Space Shuttle Atlantis and crew landed safely at Kennedy Space Center in Florida at 4:56 a.m. CDT Wednesday, after a more than 11-day successful mission to prepare the International Space Station for its first crew.

The next Space Shuttle mission to the Space Station is set for Oct. 5.

As part of the STS-92 mission — NASA's 100th Shuttle launch — astronauts will install the first permanent latticework truss, the "backbone" of the Space Station, setting the stage for future Station construction.

During this mission aboard Space Shuttle Discovery, astronauts will connect the Z1 segment of the Integrated Truss Structure. The truss provides a framework structure to house communications and motion control equipment.

In addition, the astronauts will install the Pressurized Mating Adapter-3, which will provide a Shuttle docking port for solar array installation on the next Shuttle mission, as well as the Ku-band Communications System and the Control Moment Gyroscopes, which provide attitude (orientation) control.

Veteran astronaut and U.S. Air Force Col. Brian Duffy is commander of the mission and U.S. Air Force Lt. Col. Pamela Melroy is pilot. They will be accompanied by Mission Specialists Koichi Wakata of the National Space Development Agency of Japan in Tsukuba, Japan; Dr. Leroy Chiao; Dr. Peter "Jeff" Wisoff; U.S. Navy Cmdr. Michael Lopez-Alegria; and U.S. Army Col. William McArthur.

Agreement gives biotechnology research new dimension

NASA has entered into a groundbreaking agreement with the private sector to explore a new frontier in biotechnology, focusing on infectious disease research and developing a liver-assist device for patients in need of transplant surgery.

Inspired by a news article on NASA's efforts to commercialize space activities, Dr. H. Fisk Johnson, president of Wisconsin-based, private venture capital company Fisk Ventures Inc., approached the Agency about a partnership which culminated in an agreement to develop commercial medical products using NASA's Bioreactor technology.

"This is a great deal for the American people," said NASA Administrator Dan Goldin. "It's a symbol of the success that can be achieved when government, private industry and academia work together on the exploration of new frontiers for scientific, technological and economic growth."

Goldin and Johnson signed the agreement last Thursday in a ceremony at the U.S. Capitol.

"Some of the best minds from NASA and our group collaborated over three years, conducting an extensive analysis to determine what was technically possible and the most likely to succeed in the market," Johnson explained. "This led us to NASA's ability to conduct research on cell cultures in the microgravity environment of space, and its unique cell-culture technology on the ground, that bridges the gap between what you can do in the traditional lab and what you can do in a space-based lab."

NASA invented the rotating Bioreactor as a way to study the impact of microgravity on cellular growth both here on Earth and in space. Traditional cell-growth research often produces single-cell, pancake-like cultures. The Bioreactor works by spinning a fluid medium filled with cells. The spinning motion neutralizes most of gravity's effects, creating a near-weightless environment that allows cells to grow more freely, in a three-dimensional manner.

Fisk Ventures Inc. and In Vitro Technologies Inc. of Maryland have formed a joint venture to turn this market-driven model into a scientific and commercial success. The new venture — StelSys, based in Baltimore, Md. — will focus on commercializing microgravity research specifically in areas related to biological systems.

"NASA's Bioreactor technology is simply a tool box, and if you give a tool box to the right people, they can build a house," said Goldin. "We believe we've put this tool box in the right hands of the right people.

"The goal is revolutionary improvements in health care," he continued, "including:

- Biomolecule Production: Mature liver cells make unique biomolecules for the body. By using the Bioreactor to simulate the natural conditions within the body, we could potentially harvest the biomolecules and use them as a jump start on the road to new drugs or other therapies. This could help us to screen drugs, test them and get them to patients more quickly.
- Natural Vitamin D3 Production: People on kidney dialysis need Vitamin D3, but it is expensive to make and difficult to purify. The Bioreactor will allow StelSys to mimic the natural D3 production in kidney cells and assess whether D3 can be produced easily and inexpensively.
- Culturing Infectious Diseases: Some pathogens that cause disease cannot be grown effectively using traditional cell culturing technology. Use of the Bioreactor could allow us to grow pathogens under conditions similar to those in the body. When scientists have the means to study these pathogens, they may be better able to develop and test treatments for them.
- Liver assist device: Today, people with severe liver failure cannot survive without a transplant. The Bioreactor could lead to the development of a machine to bridge the wait time between diagnosis and transplant, giving hope to the 25,000 Americans who die from liver disease each year."

Johnson added, "Looking at this from both a scientific and business perspective, I am convinced there is great potential for microgravity and the Bioreactor to unleash new developments with significant social and commercial value."

Photo by Doug Stoffer, NASA/Marshall Space Flight Center

Owen wins 'Awareness Award'

The Space Flight Awareness Leadership Award was presented Sept. 6 to Marshall engineer Jim Owen of the Integrated Analysis and Design Office in the Engineering Directorate. On hand for the presentation are, from left, Astronaut Scott Horowitz; Owen; his wife, Elaine Owen; and Marshall Center Director Art Stephenson.

Marshall directorates implementing Dual Career Path Process

Marshall directorates are implementing the Dual Career Path Promotion Process developed last year by one of five Center Process Improvement and Development Teams supporting the Center's restructuring activities.

The team developed MPG 3300.1, Dual Career Path Promotion Process, which was approved Jan. 3. This guide provides a broad framework for implementing the process within various Center organizations.

The Dual Career Path Process provides an avenue for the promotion of scientists and engineers based on their technical expertise. In the past, promotion beyond the GS-13 level often required these individuals to become team leaders or supervisors. This process did not eliminate other previously available promotion processes such as the Competitive Placement Plan process or the Person-In-The-Job process.

The Engineering and Science Directorates have successfully developed and implemented a plan to utilize the process. Currently, three other organizations are developing process implementation plans.

For more information, call Kevin Plank at 961-0157.

Preparations under way for final phase of testing to qualify engine for X-33

Preparations are under way at Stennis Space Center, Miss., for the final phase of testing to qualify the innovative Linear Aerospike engine that will power the experimental X-33 rocket plane being developed by a Lockheed Martin-led industry team and NASA.

The Marshall Center manages the X-33 program for NASA.

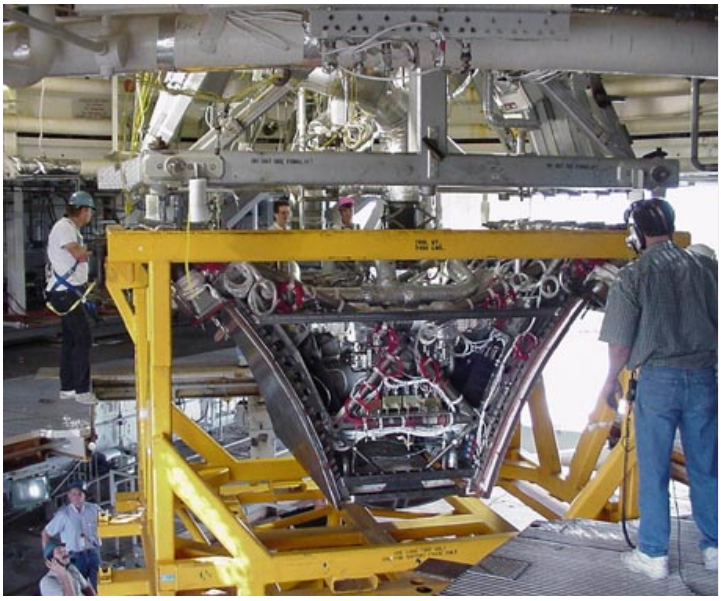
Having recently completed a successful series of single-engine tests, the engine has been removed from the Stennis test stand by a team from NASA and the Rocketdyne Propulsion & Power unit of The Boeing Co.

The stand is now being modified to accommodate two engines for simultaneous firings in their flight configuration. This phase of the program is scheduled to begin late this year. Following successful completion of dual-engine testing, these engines will be shipped to Palmdale, Calif., where they will be installed in the X-33 vehicle.

During the first phase of testing, the engine accumulated more than 1,500 seconds of operation — the equivalent of approximately seven X-33 flights.

"We are amazed and delighted at how smoothly the test program has gone so far," said Mike McKeon, program manager for the XRS-2200 Linear Aerospike Engine at Boeing Rocketdyne. "We conducted 14 tests and accumulated a wealth of vital data without breaking any hardware. For an engine development program of this magnitude and complexity, that is simply amazing."

For the next phase of testing, two engines will be mated together and operated in X-33 flight configuration. Approximately nine dual-engine tests are planned. This phase of testing will verify the seal between the two engines; dual-engine start, stop and operational parameters; and the ability for the engines to control the X-33's direction of flight by varying the thrust from side to side and engine to engine. The testing also will verify the ability of one engine's turbo-machinery to power both engines should a set of turbo-machinery fail during flight.



NASA Photo

A Linear Aerospike engine is removed from its test stand following successful completion of single-engine testing at Stennis Space Center, Miss.

"We are proud of the NASA/industry team that has so effectively brought this unique new engine to this significant milestone," said Gene Austin, Marshall's X-33 program manager. "The hardware worked well in this first test series, and we are eager to see how well it performs in the dual-engine testing. This engine has the potential to revolutionize our nation's space launch capabilities. It is just one of many cutting edge technologies the X-33 program is demonstrating."

The XRS-2000 engine was developed by Boeing Rocketdyne in Canoga Park, Calif. Final engine assembly was done by the NASA/Boeing Rocketdyne team at Stennis Space Center.

Two aerospike engines will power the X-33, a half-scale, suborbital technology demonstrator of Lockheed Martin's proposed commercial reusable launch vehicle called VentureStar™. The X-33 is being developed as a joint government/industry partnership under a cooperative agreement between NASA and Lockheed Martin Aeronautics Company in Palmdale, Calif.

Chandra clinches case for black hole discovery

There's new evidence the universe is home to a type of black hole that's not too large and not too small. As black holes go, it's a middleweight that may represent the missing link between its flyweight relatives and the super-heavyweight variety found at the center of most galaxies.

Using the Marshall-managed Chandra X-ray Observatory, several groups of scientists have zeroed in on a mid-mass black hole located about 600 light years from the center of galaxy M82. "This opens a whole new field of research," said Martin Ward of the University of Leicester, England, a lead author involved with the observations. "No one was sure that such black holes existed, especially outside the centers of galaxies."

The M82 galaxy got its name nearly 220 years ago when it became the 82nd entry in a systematic catalog of nebulae and star clusters complied by French astronomer Charles Messier.

The black hole found in M82 packs the mass of at least 500 suns into a region about the size of the Moon. Such a black hole would require extreme conditions for its creation, such as the collapse of a "hyperstar" or the merger of scores of black holes.

Although previous X-ray data from the German-U.S. Roentgen Satellite, and the Japan-U.S. Advanced Satellite for Cosmology and Astrophysics satellite suggested that a mid-mass black hole might exist in M82, the crucial breakthrough came when astronomers compared the new high resolution Chandra images with optical radio and infrared maps of the region. They determined that most of the X-rays were coming from a single, bright source.

Repeated observations of M82 over a period of eight months showed the bright X-ray source gradually peaking before dimming. Another critical discovery was that the intensity of the X-rays was rising and falling every 600 seconds.

"This flickering of the X-ray intensity is similar to the well-studied characteristics of black holes swallowing gas from a nearby star or cloud," said Dr. Philip Kaaret of the Harvard-Smithsonian Center for Astrophysics, lead author on the paper reporting the 10-minute variations. "Explanations other than a massive black hole for this object are implausible."

Observations with Japan's Nobeyama Millimeter Observatory by Dr. Satoki Matsushita of Harvard-Smithsonian and colleagues have revealed a large expanding superbubble of gas centered on the mid-mass black hole in M82. The energy of several thousand supernovae would be required to produce such phenomena.

In the past, our Milky Way galaxy could have produced mid-mass black holes during periods of vigorous star formation. Hundreds of these massive black holes may exist unseen in our galaxy, in addition to the dozen or so known stellar black holes and the supermassive black hole that is safely confined to the galaxy's nucleus.

Stahl named Next Generation Space Telescope program lead

Dr. H. Philip Stahl has been named senior optical physicist at Marshall, program lead for the Next Generation Space Telescope and project manager for the Advanced Mirror System Demonstrator. Additionally, Stahl is supporting several microgravity flight experiments and optical metrology tasks including Constellation X.

Stahl

Previously, Stahl was a senior staff optical engineer at Raytheon Optical Systems Inc. in Danbury, Conn., where he was lead optical engineer on the Space Based Laser Program and the Alpha/Lamp Integration Program among others. He also was president of Stahl Optical Systems Inc. in Newtown, Conn., where he supported several NASA microgravity flight experiments; assistant professor of physics and applied optics at Rose-Hulman Institute of Technology in Terre Haute, Ind.; and the optical products manager and a senior optical systems engineer at Breault Research Organization in Tucson, Ariz. During the summers of 1991-1993, he was a faculty fellow at NASA's Lewis Research Center in Cleveland, Ohio.

Stahl is a leading authority in optical metrology, optical engineering and phase-measuring interferometry. He received a bachelor's degree in physics and mathematics from Wittenberg University in Springfield, Ohio, and master's and doctorate degrees in optical sciences from the University of Arizona in Tucson.

He and his wife Karen have three children: Mike, Mark and Sarah.

College class seeks help with senior design projects

Marshall's Education Programs Department is working with a Grove City College, Pa., senior engineering design class.

Thirteen students are interested in working with a Marshall department or group in defining projects for their design course, culminating in a visit in January to Huntsville to work with Marshall personnel.

If you have interest in working with the class toward possible support of your department or group, send an e-mail to Frank Brannon at frank.brannon@msfc.nasa.gov

Obituary

Key, Carol M., 61, of Madison died Sept. 3. She retired from Marshall in 1994 where she worked as a secretary. She is survived by her husband, Murray Ray Key.

Photo by Emmett Given, NASA/Marshall Space Flight Center

Congratulations X-34 team

Team members from the Marshall Center and Summa Technologies Inc. of Huntsville traveled to Dulles, Va., this week where the MC-1 engine was successfully integrated with the X-34 technology demonstrator, built by Orbital Sciences Corp. of Dulles. The engine completed a series of tests at the Marshall Center before being sent to Virginia.

Employees asked to review school safety tips with children

The beginning of the new school year is a time of change and excitement, with old friends, new homework and the revival of after-school activities.

In the midst of these activities, it is important to review safety tips with your children and other family members. If you have children, please review the following tips from CIGNA Corporate Security & Investigations.

General safety tips

• Make sure children and their school(s) have home and work telephone numbers in case of an emergency.

• Teach children their address and how to use 9-1-1 in an emergency.

• Caution children to avoid abandoned buildings, construction sites, alleys and shortcuts as they walk to school.

• Warn children not to talk to strangers and not to approach or get into cars with someone they do not know.

• Avoid making child's name visible on the exterior of his or her clothing or book bag where strangers may see it.

• If you will not be at home when children get home from school, have them call to let you know they're home.

• Instruct children to respond to phone calls for you when you are not home saying, you "cannot come to the phone right now" — not that you are "not at home." Remind them to keep the doors locked.

• Teach children that if they are threatened over money or other possessions, they should hand over the items. They should then promptly report the incident to you, school officials or other authorities.

• Tell children if they feel threatened they should proceed to a public area, such as a fire station, convenience store or other facility where there are people who can assist them.

Riding the school bus

• Pick a safe place to wait for the school bus away from the street and traffic.

• Wait until the bus comes to a complete stop and the bus driver indicates it is safe to board the bus.

• When exiting the school bus, step away from the bus (10 feet), so the bus driver can see you.

• Avoid bending down to pick up any dropped items; the bus driver may not be able see you.

• Be aware of drawstrings on jackets, sweatshirts and book bags. They can become caught on handrails and can result in the student being dragged by the bus.

Walking or riding a bike to school

• Use the buddy system when walking or riding a bike to school.

• Remember to use a safety helmet when riding a bike to school.

• Ride your bike on the right side of the road with traffic, and have safety reflectors and a light on your bike.

• Obey all traffic signals.

Parents driving students to school

• Observe posted speed limits for school zones.

• Ensure students wear their seat belts.

• Watch for students darting into the street from between parked cars.

Note to parents

We sometimes cannot avoid giving conflicting instructions to children. We tell them to be polite, have good manners and be courteous to the new people they meet. We also tell them to avoid talking to strangers. We warn them not to lose the new jacket, book bag or their schoolbooks. In turn, when placed in a dangerous situation, they may hesitate to get away if they have to leave or abandon these articles. This may slow their escape from a dangerous or threatening situation.

Parents should take the time to explain the differences in these situations. Remind children their lives and safety are most important. Books and clothing can be replaced.

Marshall's Safety Bowl continues Wednesday

The next round of competition in Marshall's Safety Bowl will be the Elite 8 on Wednesday in Morris Auditorium. Matchups include the Procurement "Terminators" vs. Chief Counsel's "Marshall Law" at 10 a.m., and the "Safety Cops" of the Center Operations Directorate vs. the Flight Project Directorate's "Health Nuts" at 10:30 a.m. "Elite" and "Hazard Busters," both of the Engineering Directorate, square off at 2 p.m., while the Chief Financial Office's "Allocators" meet the Transportation Directorate's "Safety Dogs" at 2:30 p.m.

Safety Day T-shirts are on sale until Sept. 29 from the Marshall Exchange. The order form is posted on "Inside Marshall."

Sample Safety Bowl questions:

1. This addictive drug affects the central nervous system, alters the chemistry of the brain, and increases the risks of heart disease and stroke. Yet about 1/3 of adolescents and about 1/4 of adults use it on a daily basis. What is it?

2. What type of electrical outlet should be installed in bathroom and kitchen areas?

3. According to the Marshall Principles of Safety, unsafe conditions are:

A) regrettable

B) unpredictable

C) acceptable

D) correctable

4. According to the Hazardous Waste Disposal Guidelines, what specific types of batteries will be disposed of as hazardous waste?

5. Who should clean areas or items contaminated with someone else's blood?

See **Answers** on page 7

'Care Enough to Share Enough'

Bus tours Tuesday kick off CFC events

It's Combined Federal Campaign (CFC) time again, and the Marshall Center has several events planned for Marshall employees and contractors.

Bus tours to participating agencies will be next Tuesday through Thursday and also Oct. 17-19; the campaign kickoff will be 9 a.m. Oct. 5 in Morris Auditorium; the Agency Fair at 10:30 a.m. Oct. 5 at Redstone Arsenal's Sparkman Center; and Community Service Days will be Oct. 9-13 and Oct. 16-20.

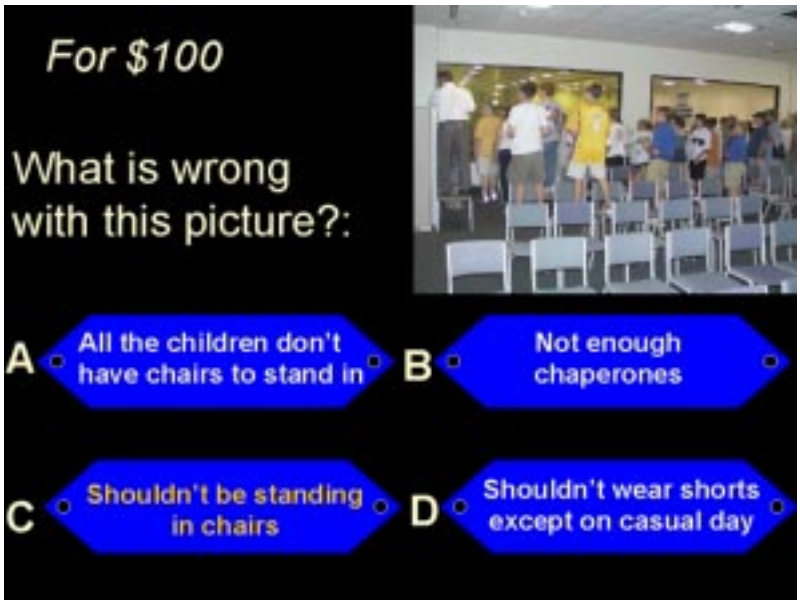
The bus tours next week will leave Bldg. 4610 each morning at 8:15 and Bldg. 4203 at 8:30 a.m. Passengers should arrive at least 10 minutes prior to departure.

Tuesday's tours will visit Christmas Charities Year Around from 8:15-9:30 a.m. and United Cerebral Palsy of Huntsville and Tennessee Valley Inc. from 9:45-10:45 a.m. On Wednesday, the tour includes Huntsville Hospital and Children's Hospital. The Senior Center and Harris Home for Children will be visited on Thursday.

In October, the bus tours will visit the Senior Center, Harris Home, Christmas Charities, United Cerebral Palsy, Huntsville Hospital and Habitat for Humanity.

The Combined Federal Campaign — "Care Enough to Share Enough" — runs Oct. 5 through Nov. 17. Marshall's goal is to raise $435,000.

For more information, visit the Web at: http://cfc2000.msfc.nasa.gov



'Who Wants To Be a Millionaire?'

The Flight Projects Directorate Safety committee, with representatives of each department, did a take off of the game show "Who Wants To Be a Millionaire" at its Sept. 11 safety meeting to illustrate good housekeeping policies. Axel Roth, director of Flight Projects, was the contestant and Paul Gilbert, a group leader, was the game show host. The game show portion of the presentation included canned applause and sound bites recorded earlier. Roth "phoned a friend" for help — Jim Kennedy, director of the Engineering Directorate. After the show, Roth and Judy Milburn of the Industrial Safety Office, talked about good housekeeping policies.

Four Alabama firms selected for NASA research proposals

Four Alabama companies are among 97 firms selected by NASA for negotiation of Phase 2 research contract awards in NASA's Small Business Innovative Research program.

The companies are Plasma Processes Inc., Plumetech, and SRS Technologies, all of Huntsville; and Diversified Scientific Inc. of Birmingham.

The four firms offered promising research proposals during Phase 1 of the 1999 awards, and have now been selected for negotiation of Phase 2 contracts. Plasma Processes, SRS Technologies and Diversified Scientific turned in proposals for work that would be performed at the Marshall Center.

Plasma Processes' proposal involves materials processing in microgravity; SRS Technologies proposes technology for large aperture membrane optics; and Diversified Scientific's proposal involves high-throughput micro-crystallization systems.

Plumetech's proposal is for unified test stand design and environmental model work to be performed at NASA's Stennis Space Center, Miss.

Marshall's Technology Transfer Department manages NASA's local Small Business Innovative Research program, which is designed to stimulate technological innovation, increase the use of small business – including women-owned and disadvantaged firms – in meeting federal research and development needs, and increase private sector commercialization of federally funded research results.

Total value of the new awards is expected to be more than $66 million. Selection criteria include scientific and technical merit, future importance and eventual value of the innovation to NASA, company capabilities and commercial potential.

A listing of all companies selected for Phase 2 of the awards can be found on the Web at: http://sbir.nasa.gov

Answers

Continued from page 6

1. Nicotine
2. One with a Ground Fault Circuit Interrupter (GFCI)
3. D) correctable
4. Nickel Cadmium (also Lead Acid batteries that have been damaged)
5. Only personnel who have completed the bloodborne pathogens course

"Are YOU too Busy for Safety?"
— Safety slogan submitted by
Laura Groce, CD20

Center Announcements

- ***Hard-hats recalled —*** In the fall of 1996, a Safety Bulletin was issued recalling all RAM hard-hats with NSN: 8415-00-585-6531. The hard-hats were white with a black suspension. The harness had the name "American AllSafe" imprinted in the plastic. Industrial Safety had been notified that the tabs or hanger keys used to secure the suspension to the shell were breaking. On a recent Program Critical Hardware move, it was discovered that some employees are still wearing these hard-hats. All employees who wear hard-hats should check for this particular suspension system. These hard-hats must be turned in to the sub-store where they will be replaced. The company has since modified the suspension system with a stronger white tab.
- ***Deaf Awareness Day —*** Deaf Awareness Day will be from 10 a.m.-3 p.m. Sept. 30 at Madison Square Mall. Come and enjoy activities while you explore the world of the deaf community. Kathleen Ryan Peavy, Miss Deaf Alabama will appear, and activities include entertainment; a children's poster contest; exhibits and awards.
- ***EDTec Center closed —*** The Employee Development Technology Center (EDTec) in Bldg. 4203, room B303 is closed until the grand opening of the Marshall Institute on or about Oct. 6 in Bldg. 4200, room G13.
- ***Asian-Pacific pot luck picnic —*** An Asian-Pacific American pot luck picnic will be from 11 a.m.-sundown Saturday at the Marshall Picnic Grounds. The picnic is open to civil servants and on-site contractors. Bring your favorite dish. For more information, call Alan Chow at 544-7107, Brenda Sands at 544-5032, Diep Trinh at 544-6797, Jason Chuang at 544-3114, or William Ly at 544-6064.
- ***Shuttle Buddies —*** The Shuttle Buddies will meet for breakfast at 9 a.m. Monday at Mullins Restaurant on Andrew Jackson Way. For more information, call Deemer Self at 881-7757 or Gail Wynn at 852-8189.
- ***Big Spring Jam —*** The Marshall Space Shop in Bldg. 4752 has reduced rate tickets on weekend passes to the Big Spring Jam Friday-Sunday in Huntsville. Price for the three-day event is $25 each. Admission at the gate will be $15 per day or a weekend pass for $30. Children 11 and under are admitted free when accompanied by an adult. The last day to purchase tickets is Thursday.
- ***Foxtrot, Samba Lessons —*** The MARS Dance Club is offering foxtrot and samba lessons Mondays at St. Stephens Episcopal Church on Whitesburg Drive. Intermediate lessons are from 7-8 p.m.; beginner lessons from 8-9 p.m. Cost is $6 per person. For more information, call Woody Bombara at 650-0200.

Employee Ads

Miscellaneous

★ Ceramic supplies, large assortment including glazes, one gallon clear glaze, mold for pitcher, $30. 837-6776
★ Craftmaster formal sofa and loveseat with two cherry end tables, $720. 256-586-1195
★ Kenmore refrigerator, white, large, approx. 17 cu. ft., 2-door, left hand hinged, $150. 881-0354
★ First Flight golf clubs, $85; down sleeping bag, $15 ; sofa, $75; drapery rods, $15. 883-1055
★ Sofa, loveseat, and ottoman, brown tones, $200, La-Z-Boy rocker-recliner, swivel rocker, rust, $150. 773-2774
★ Dog kennel, portable, 20'x20'x4', $250. 232-2696
★ Canon BJ200 computer printer, b/w; bath tub bench; tub safety handle; walker, walking canes. 534-4450
★ Whirlpool washer, $275; Whirlpool dryer, $150; $350 for set. 881-2027
★ Two chests of drawers, reasonably priced. 880-6267
★ Pine straw, clean, no leaves or twigs, $3 per 40 gal. bag. 880-2290
★ Runabout boat, 15'6", with galvanized trailer, $600; Evinrude outboard motor, 50HP, needs work, $100. 351-7804
★ Kashan Persian rug, red/navy, 5'x7.5', hand knotted wool, $1,500 obo. 880-2295/leave message
★ Jon boat, 14', with 10HP outboard motor, 6-gallon gas tank, camouflaged for hunting, $400 obo. 882-0461
★ Weight bench w/attachments, $75; step machine, $35. 880-9487
★ Motorguide hand control trolling motor, 72-lb. thrust, 42" shaft, new in box, $450. 233-5032
★ Labrador dogs, two, 8 years old, both spayed females, obedience trained, indoor or outdoor. 464-0667
★ Storm door, 36"x80", left-hand, bronze, $125; Schwinn men's 10-speed bicycle, $25; pull-down staircase, $50. 881-6040
★ Computer desk, 2-pieces, desk and hutch, $200. 895-8385
★ Sofa, velvet, w/2 chairs, $200 obo; queen-size sofa sleeper, $100 obo; apt. size stackable washer/dryer, $50 set. 534-3393
★ Murray riding mower, rear engine, 30" cut, electric start, $325. 464-5819
★ Wet suit jacket, $20; diving fins for wet suit, $10; wet suit glove, medium, right hand. 534-1461
★ Treadmill, $25; desk, $50; office chair, $50; headboard, $20; entertainment center, $20; sofa, $125. 534-0939
★ Sears Craftsman 14.5 Briggs/Straton, 42", 5-speed, $350. 726-0243
★ Twin Pokemon comforter/sheet set, $40; white chest/changing table, $95; handing lamp, $50. 922-9387
★ Sony VAIO desktop computer, 266MHz, 96MB, 4.3GB, 24X, K56, monitor, color printer, scanner, free ISP, $1,000. 722-9483

Vehicles

★ 1993 Buick Park Avenue Ultra, champagne, leather, 140K miles, newly rebuilt transmission, $6,295 obo. 379-4496
★ 1995 Mazda 626 LX, 4-door, light blue, auto, a/c, 93K miles, $5,900. 721-0358
★ 1997 Volvo 850, gray, 4-door, tan leather seats, keyless entry, alloy wheels, 44K miles, $17,000. 971-9482/464-0337
★ 1995 Ford Aerostar XLT, 107K miles, 4.0L/V-6, tow package, pw/pl, dual air, Quad/captain, $8,250. 852-0996
★ 1984 Chevrolet Monte Carlo, auto, a/c, 117K miles, new tires, $1,650. 351-0196
★ 1985 Buick Electra, estate wagon, all power, $500. 830-0854
★ 1994 Buick Regal, V-6, one-owner, 80,150 miles, $6,500. 859-5242
★ 1977 Porsche 924, 4-speed, sunroof, 2nd owner, 147K miles, $2,000 negotiable. 828-6213
★ 1995 Nissan Pathfinder, 4WD, all power, ABS, keyless entry, towing package, $13,000. 830-8956
★ 1987 98 Olds, new paint, headliner, engine rework, 4-door, $1,975. 256-753-2583
★ 1990 Mitsubishi Galant, 4-door, auto, air, p/s, am/fm/cassette, $2,950. 883-2982
★ 1997 Mercury Tracer LS, <26K miles, 4-door wagon, auto, pw/pl, ac, ABS, am/FM tape, cruise, keyless entry, $11,000. 883-9875
★ 1985 Chevy S-10 pickup, 157K miles, manual transmission, $800 obo. 430-6145
★ 1992 Taurus GL, 6 cyl., auto., all power, one-owner, $2,950. 859-3940
★ 1991 Mazda Protégé DX, blue, a/c, 5-speed, high miles, $2,950. 851-2929
★ 1993 Pontiac Bonneville, V-6, all power leather, sun roof, hunter green, 131K miles, $4,800. 851-8491

Free

★ Puppy to good home, chocolate lab mix, female, 5 mos., sweet natured. 837-5785

Wanted

★ Ride to work, 7 a.m.-3:30 p.m., Governors Drive/Huntsville Hospital area, will pay $6 per day. 534-5398
★ Auburn/Mississippi State tickets, 2 or 4. 539-0123

Found

★ Two pairs of glasses, lobby of Bldg. 4200. Call 544-4758 to identify/claim

Sports

MARS Fishing Club — Results of the Sept. 16 bass tournament on Wheeler Lake in Decatur are: first place — Billy Gonterman and Les Cunningham, 6.18 lbs.; second place — Deon Smith and Charlie Nola, 5.04 lbs.; third place — Don McQueen and Tim Smith, 3.08 lbs.; Big Fish — Les Cunningham, 3.86 lbs. The next tournament will be the classic on Oct. 14. Location will be determined by draw.
For information, call Ross Evans at 961-2305, Don McQueen at 544-9073, or Charlie Nola at 544-6367.

Letter of Thanks
I would like to thank everyone for their thoughts, prayers and donated leave, which has allowed me to take care of myself. I am greatly moved by your outpouring of support. Your thoughtfulness will not be forgotten. Again, thank you, your help has and always will be appreciated.
— Teresa C. Smith, PS40

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