

MARSHALL STAR

Serving the Marshall Space Flight Center Community

June 20, 2002

Vehicle decals at Marshall to be changed *Civil servants, contractors and retirees affected*

From the Protective Services Department

All Marshall Center employees will be required to change their vehicle decals in the coming weeks. The new, more distinctive decals will be placed on the more than 25,000 vehicles registered at Marshall.

The program is part of Protective Services' work to ensure that only authorized personnel are granted access to the Center to conduct NASA business.

The Department of Defense requires

updated vehicle and biographical information, and additional information on your insurance company, driver's license number, and other information. All on-site employees, government and contractor will have to update this information on vehicles currently registered.

The new decals will be valid for three years for civil servants and retirees, and expire on their birth month. Contractor decals will expire on their badge expiration date.

The updating process will be carried out through a secure Web site for on-site employees with e-mail accounts. The e-mails will be going out soon and processed incrementally in alphabetical order by employee name, rather than by organization, with instructions on linking to personal information to be reviewed and updated.

Once updates are complete, new decals will be sent to administrative officers or

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Marshall Center ships Earth-observing photo lab

by Martin Burkey

The International Space Station will become a better place to take pictures of Earth with the addition of a new Earth observatory manufactured and tested at the Marshall Center.

The Window Observational Research Facility, or WORF, will help Space Station crews take some of the best photographs ever snapped from an orbiting spacecraft by eliminating glare and allowing researchers to control their cameras and other equipment from the ground.

The WORF was shipped May 8 from Marshall to the Kennedy Space Center in Florida where it is scheduled for launch aboard the STS-114 Space Shuttle mission in January 2003.

"WORF is designed to make the best possible use of the high-quality research window in the Space Station's U.S. lab -- the Destiny laboratory module," said Rick Turner, WORF project manager at Marshall. "Once Space Station engineers developed the window, they needed a hardware system to mount payloads in front of it to make observations of Earth for a variety of research. They originally thought of a simple,



Photo by Dennis Olive, NASA/Marshall Center

Marshall engineers inspect the Window Observational Research Facility before shipment to Kennedy Space Center, Fla. From left, Rick Turner, Daryl Bates and Bryan Barley.

portable frame, but they decided they needed more things — like power and computers — than a simple frame could provide."

Engineers at the Marshall Center proposed a derivative of the EXPRESS experiment rack already used on the Space Station and were given the go-ahead. Designed and manufactured at Marshall, the EXPRESS rack can hold a wide variety of experiments and provide them with power, communications, data, cooling, fluids and other utilities — all the things that Earth-observing experi-

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WORF

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ments would need. WORF will supply payloads with power, data, cooling, video downlink and stable, standardized interfaces for mounting imaging instruments.

The refrigerator-sized rack can accommodate payloads up to the size of the largest aerial photography film camera with maximum dimensions of 21 inches (53.2 centimeters) wide by 20 inches (50.8 centimeters) deep and 30 inches (76.2 centimeters) long. Similar to specialized orbital observatories, the interior of the rack is sealed against light and coated with a special low-reflectance black paint, so payloads will be able to observe low-light-level subjects such as the faint glow of auroras, for example the Northern Lights around Earth's poles.

Cameras and remote sensing instruments in WORF can be pre-programmed, controlled from the ground, or operated by a Station crewmember by using a flexible shroud designed to cinch tightly around a crew member's waist.

Consisting of four panes of glass, the lab window is the highest quality spacecraft window ever flown.

The Space Station is an excellent platform for conducting Earth science. It flies over roughly 75 percent of the inhabited land surface of Earth and about 95 percent of the world's population. The presence of trained Station crews improves data collected by WORF experiments. The Space Shuttle's ability to re-supply the Station several times a year means WORF payloads can be deployed, recovered periodically for calibration, repair or maintenance and then re-deployed.

"The window quality is a benefit, but in order to use it to its fullest extent, you need to be able to mount large optics on a very stable platform so you don't lose what you gained in window quality by having your instrument jumping around," said Dean Eppler, WORF science manager at the Johnson Space Center in Houston. "The WORF represents the part of the observational system that provides stable mounting capability for even larger optics than Station crews can use now, as well as the electronics that will enable an investigator to run their payload from a ground location without needing extensive crew involvement. It also provides a restricted enclosure that eliminates glare on the window and provides a good ergonomic platform for crews to take pictures."

Space Station crews to date have taken more than 13,000 pictures of our planet. Results published earlier this year in a peer-reviewed science journal concluded that the images were achieving 20-foot (6-meter) resolution, compared to 10- to 25-

meter resolution for higher-altitude commercial imaging satellites. The improvement is roughly equivalent to being able to see vehicles on a street from space instead of just buildings.

The WORF was designed and built by the Boeing Co. at the Space Station Manufacturing Building at the Marshall Center. The specially designed 900-pound (408 kilograms) rack has a payload shelf with 181 mounting holes and four tracks on each side for attaching payloads. It also includes a roll-down bump shield to protect the lab window during equipment setup, and an environmental system to prevent condensation on the window.

Marshall engineers from the Flight Projects Directorate subjected the rack and its materials to numerous tests to qualify it for flight, including light-leak, flammability, airflow mapping, electromagnetic interference, and human interface testing, as well as a vibration analysis.

"These tests ensured that the rack is safe, that it won't interfere with any other equipment onboard, and that the rack will enable the crew to take the best possible photographs," said Bryan Barley, WORF lead systems engineer at Marshall.

Kennedy Space Center engineers will do final testing and install the WORF in the Space Shuttle for launch to the Space Station. Once installed in the Destiny module, the WORF rack will host a variety of experiments.

The first will be the Earth Knowledge Acquired by Middle School Students (EarthKAM), an experiment with student participants in schools across America. EarthKAM allows them to control the camera from their classrooms on Earth and take pictures from the Space Station. Within hours, students receive -- via the Internet -- the pictures they snapped in space.

Earth observation experiments with the WORF and all other science research operations on the Space Station are managed by the Payload Operations Center at Marshall.

The Marshall Center is one of the primary Space Station manufacturing facilities, responsible for design and construction of critical Space Station components, such as the WORF.

The WORF/Lab Window Team earlier this year won one of five Stellar Team Awards presented by the Rotary National Award for Space Achievement Foundation. The awards were established to recognize outstanding individuals and teams from industry and government who have made significant contributions to the future of the nation's space program.

The writer, employed by ASRI, supports the Media Relations Department.

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contractor security officers for distribution. Administrative officers or contractor security officers will contact those who do not have e-mail accounts and off-site contractor support personnel for separate

decal processing.

Hard copy changes can also be processed. Civil service and retirees can use MSFC Form 4 (Revised Feb. 2002). Contractors can use MSFC Form 1739 (Revised Feb. 2002) for hard copy

changes.

Retirees can call and request the form be mailed to them, or obtain the form and decals in person at Bldg. 4312.

For questions, contact Becky Hopson at 544-4541 or Terry Odum at 544-4540.

External Tank contract extended

Marshall news release

NASA has extended to September 2008 its six-year, \$1.15 billion contract with Lockheed Martin Space Systems, New Orleans, to provide 35 Super Lightweight External Tanks for the Space Shuttle Program.

Under the modified contract, the 35 tanks will be produced at a rate of not less than six-per-year, versus the eight-per-year agreed upon in the original contract issued in October 2000. The modification adds \$341 million to the contract.

The contract includes the manufacture, assembly, test and delivery of the Super Lightweight Tanks and the operations and maintenance of NASA's Michoud Assembly Facility in New Orleans.

The contract also includes activities at the Marshall Center, and at Kennedy Space Center, Fla.

This is the sixth contract for production of tanks and the first to be comprised totally of Super Lightweight Tanks.

This latest version of the tank, which flew for the first time in June 1998, is the same size as the tank it replaces, but is about 7,500 pounds lighter. Since the tank goes almost to orbit, every pound of weight saved is equivalent to a pound of increased payload. The weight reduction

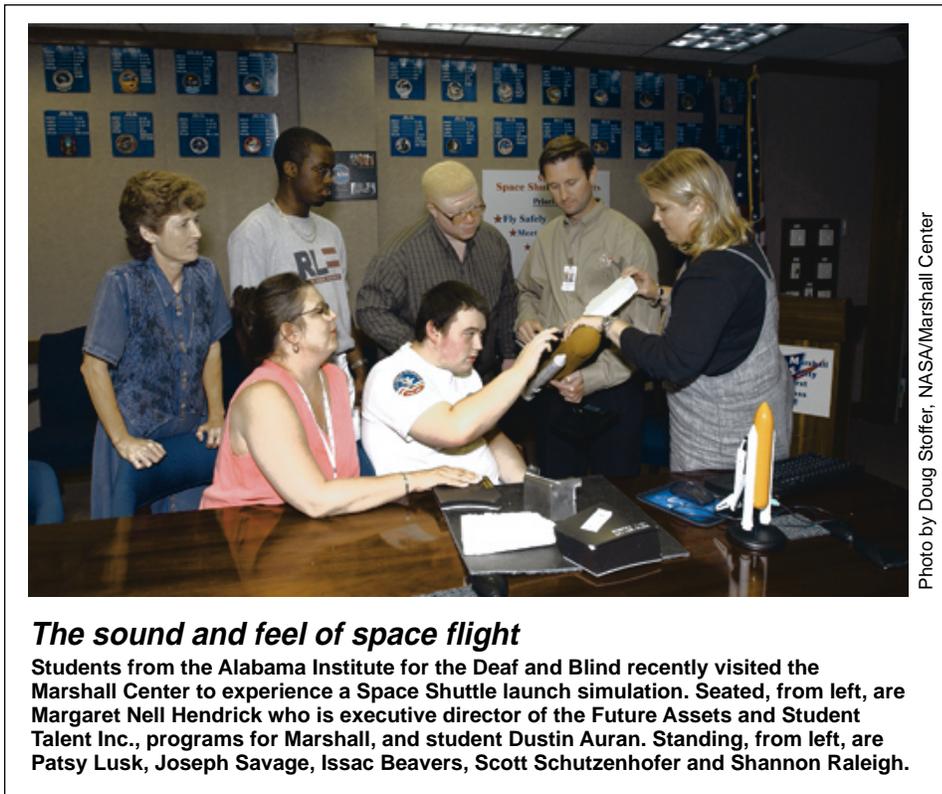


Photo by Doug Stoifer, NASA/Marshall Center

The sound and feel of space flight

Students from the Alabama Institute for the Deaf and Blind recently visited the Marshall Center to experience a Space Shuttle launch simulation. Seated, from left, are Margaret Nell Hendrick who is executive director of the Future Assets and Student Talent Inc., programs for Marshall, and student Dustin Auran. Standing, from left, are Patsy Lusk, Joseph Savage, Issac Beavers, Scott Schutzenhofer and Shannon Raleigh.

allows the Space Shuttle to carry more payload.

The Super Lightweight Tank features major changes in materials and design. Its liquid hydrogen tank and the liquid oxygen tank are constructed of a new aluminum lithium, a lighter, stronger material than the metal alloy used to manufacture previous External Tanks.

The External Tank, which holds the liquid hydrogen fuel and liquid oxygen for the Shuttle's three main engines, is the

largest single component of the Space Shuttle and the only part of the Shuttle that is not reused. Standing 154 feet tall, the gigantic rust-colored tank is taller than a 15-story building and as wide as a silo, with a diameter of about 27.5 feet.

During launch, the tank also acts as the structural backbone for the Shuttle orbiter and Solid Rocket Boosters attached to it. The first tank of the sixth production is scheduled for delivery to the Kennedy Space Center this year.

Teledyne to provide microgravity science support

Marshall news release

The Marshall Center has selected Teledyne Brown Engineering of Huntsville for a contract to provide services in support of Marshall's work in the field of microgravity science and applications.

In performing the work, Teledyne Brown Engineering will be supported by several subcontractor team members, all of which are small, Huntsville business firms. The subcontractors are: bd Systems, Madison Research Corporation and Tec-Masters, Inc. Currently, this work is performed across a variety of contracts, and this contract represents a streamlined approach to support microgravity science activities at Marshall.

This is a five-year contract with an option for an additional five years. Services are to be provided under the contract on an as-needed basis with reimbursement of the contractor on a cost-

plus award fee and performance-incentive fee system. The minimum contract value for the first five-year option is \$15 million. The maximum contract value could be up to \$568 million over the full 10-year period. This contract was awarded after a competitive selection process.

Services under the contract will be performed at Marshall facilities in Huntsville and will extend from June 14, 2002, through June 30, 2007. If NASA exercises the five-year option, work will continue until June 30, 2012.

A major component of the work will consist of developing, operating and providing sustaining support of flight and ground systems used in Marshall-managed microgravity research. Microgravity investigations conducted in Earth orbit further our understanding of critical biological, chemical and physical processes, opening doors to commercial development of space.

'NASA Goes to the Stars' a hit for baseball fans



Photos by Dennis Olive, NASA/Marshall Center

"Astronaut" James Turner welcomes Stephen Brandon on Monday outside the Starship 2040 exhibit at Joe Davis Stadium.



Bill Hicks, Marshall's chief counsel, throws the first pitch as the Huntsville Stars prepare to play the Chattanooga Lookouts on Monday.



Calvin Drake, a CSC employee, sings the national anthem.



The Huntsville Stars' mascot "Homer" greets Joshua Sanchez, left, and his dad, Jose Sanchez, during the evening's festivities.



Marshall team members, from left, Marvin Williams, and his son, Colby Williams, get ready for the game to start.



Kevin Meier and Joyce Meier with their daughters.



Free NASA gift bags are given out to arriving baseball fans.

COBRA completes milestone review

Engine an option for Space Launch Initiative propulsion

by Amie Cotton

COBRA, one of the engines being considered for the next generation reusable launch vehicle, has recently completed its preliminary design review for NASA's Space Launch Initiative -- a technology development effort to establish reliable, affordable space access.

COBRA, short for Co-optimized Booster for Reusable Applications, is a reusable, hydrogen-fueled liquid booster and second-stage engine with a thrust level of 600,000 pounds of force. Pratt & Whitney-Aerojet Propulsion Associates -- a joint venture of Aerojet of Sacramento, Calif., and Pratt & Whitney Space Propulsion of West Palm Beach, Fla, are developing the engine.

The preliminary design review is a lengthy technical analysis that evaluates the engine design to ensure achievement of system requirements and Space Launch Initiative (SLI) goals of improved safety, reliability, cost and operability. The review is conducted when the engine design is approximately 50-percent complete and engine drawings are approximately 10-percent complete.

"The review is the first of several major system engineering control gates to evaluate where we are, and to make sure we are on the right path to produce a rocket engine prototype that will be simple to operate and inherently reliable and thus low cost," said Jim Snoddy, project manager for COBRA at the Marshall Center.

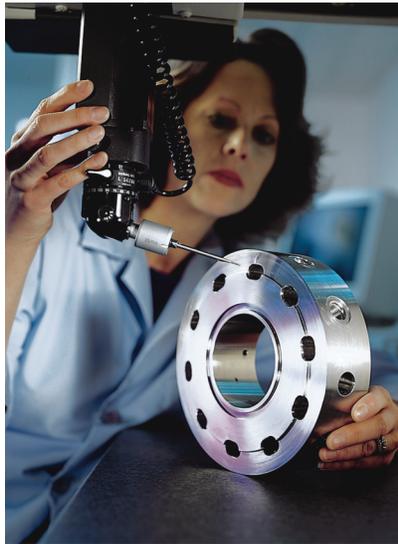


Photo courtesy Pratt & Whitney -- Aerojet Propulsion Associates

An Aerojet technician completes inspection on a preburner chamber for the COBRA hydrogen engine.

COBRA is a single fuel-rich preburner, staged combustion engine using liquid oxygen and liquid hydrogen as propellants. The engine aims to provide a 100-mission life span with a 50-mission maintenance check-up interval. Using an inherently reliable engine cycle and numerous state-of-the-art technologies derived from the Space Shuttle Main

Engine, the COBRA engine fuses the knowledge and experience of the first generation Space Shuttle Program with advancing second generation research and technology development.

"COBRA utilizes several Space Shuttle Main Engine technologies, including the advanced turbopump design for both of the high-pressure turbopumps and key sensors for advanced health management," Snoddy said. "In addition, COBRA has taken on development of the channel wall nozzle to help meet second generation goals. Combining the lessons learned from the Shuttle program with advancing technologies will enable us to develop an advanced engine candidate for the second generation reusable launch vehicle."

The COBRA engine is one of two hydrogen-fueled engine designs being evaluated as a first- or second-stage option for the next generation reusable launch vehicle. Kerosene-fueled engines are also being considered for the first-stage booster. Engineers at the Marshall Center will narrow engine options based on SLI requirements.

The Space Launch Initiative is the beginning of a new era of human space flight for NASA by furthering technologies needed to develop the next generation launch vehicle. The Marshall Center manages the Space Launch Initiative for NASA's Office of Aerospace Technology.

The writer, employed by ASRI, supports the Media Relations Department.

Solid Rocket Motor test planned Thursday at Marshall

The Space Transportation Directorate will test a 24-inch solid rocket motor -- a versatile, quick- turnaround, low-cost test bed -- at 2 p.m. Thursday, June 20, at the East Test Area, Test Stand 500. The test, which is being conducted for the Reusable Solid Rocket Motor Project Office, will be broadcast on Marshall Television.

The baseline test motor will be used to proof thermocouple plugs designed for use in the Engineering Test Motor 3, to show how the improved two-piece throat design on the exit cone performs. The test also is to evaluate how erosion induced by molten aluminum oxide particles affect a longer exit cone.

Accessibility training on SOLAR Web site

From the Equal Opportunity Office

Phase 1 of the Agency-wide Accessibility Training Program is now available on the NASA Site for on-Line Learning and Resources (SOLAR).

The voluntary training, for all NASA employees, supervisors and managers, covers disability accessibility education, and information and awareness training for all employees.

Those who complete the training will receive a certificate that will become part of their personnel records.

The Training Program will be done in three phases over the next two fiscal years.

Phase 2, with a planned launch of fiscal year 2003, will be a mandatory program for NASA supervisors and managers. Aimed at addressing issues such as sensitivity training regarding persons with disabilities and supervisors' responsibility for providing workplace accessibility, this training is expected to include SOLAR and classroom training.

Phase 3, scheduled for implementation in fiscal 2004, will provide programmatic and functional managers with training on equal opportunity, human resources and education, information technology, procurement, public affairs and facilities.

This multi-phase program is designed to provide all employees with disability

awareness education and information related to Section 501 (employment), Section 504 (reasonable accommodation and facility/program accessibility), and Section 508 (electronic and information technology accessibility) of the Rehabilitation Act of 1973.

The federal government has a mandated responsibility under the act to ensure that this law is enforced, in order that people with disability are not discriminated against, and that the workforce is informed and educated about the legal requirements related to individuals with disabilities.

For more information and access to the course, visit the Web site at:

<https://solar.msfc.nasa.gov/solar/delivery/public/html/crslist.htm>

Select (HR-001-02D) Accessibility Awareness Training Course. Press OK and enter user name and password. If you do not have a user ID and password, click the link below to request one: <https://solar.msfc.nasa.gov/solar/delivery/public/cgi-bin/request1> and select complete list of courses, under training disciplines.

Energy Tip

When shopping for a new clothes dryer, look for one with a moisture sensor that automatically shuts off the machine when clothes are dry to save energy.

NASA one of top five agencies with low credit card delinquency

The spring edition of *The Visa Exchange* reported that individually billed accounts — travel credit cards, for example — in government agencies continue to be delinquent. NASA, however, is one of only five government agencies that had delinquent payments “that accounted for only 4 percent or less of their outstanding bills in January,” according to the report.

This is good news for Marshall Center travelers.

The travel credit card program at Marshall is managed in the Travel Office of the Office of Chief Financial Officer. For questions regarding the card, please call 544-7312.

Sympathy

The family of Dr. William B. Dye would like to express their sincere appreciation for the many words and acts of kindness, caring and support given by so many of the Marshall team during the tragic loss of their loved one. Further, the staff of the Medical Center also deeply appreciates the concern and compassion expressed by so many deeds, flowers and thoughtful words from the many Marshall personnel who also experienced this loss.

Job announcements

MS02D0056, AST, Technical Resources Management. GS-801-07/09/11, Space Shuttle Projects Office. No closing date.

MS02C0153, Budget Analyst. GS-560-14, Office of Chief Financial Officer, Agency Core Financial Office. Closes June 21.

MS02C0149, AST, Aerospace Flight Systems. GS-861-15, Second Generation RLV Program Office, Systems Engineering and Integration Office. Closes June 20.

MS02C0150, AST, Aerospace Flight Systems. GS-861-15, Second Generation RLV Program Office, Systems Engineering and Integration Office. Closes June 20.

MS02C0151, AST, Technical Management. GS-801-14, Second Generation RLV Program Office, Program Planning and Control Office. Closes June 20.

MS02C0156, AST, Mission Operations Integration. GS-801-15, Flight Projects Directorate, Payload Operations and Integration

Department, Payload Operations Director's Office. Closes June 21. Competitive Placement Plan.

MS02C0157, AST, Experimental Facilities Development. GS-801-14, Center Operations Directorate, Facilities Engineering Department, Design & Construction Group. Closes June 24. Competitive Placement Plan.

MS02C0159, AST, Engineering Project Management. GS-801-14, Second Generation RLV Program Office, Architecture Definition Office - Houston, Texas. Closes June 28. Competitive Placement Plan.

MS02C0160, Facilities & Property Utilization Specialist. GS-301-12, Center Operations Directorate, Facilities Engineering Department, Planning & Integration Group. Closes June 28. Competitive Placement Plan.

MS02N0158, AST, Flight Systems Test. GS-861-14, lateral reassignment of Center employees at the GS-14 level only. Second Generation RLV Program Office, Flight Demonstration and Experiments Integration Office. Closes June 26.

Center Announcements

University scholarships available

Two university scholarships sponsored by the Marshall Association are available for incoming freshmen in September. Both technical and non-technical scholarships will be awarded. The Association will accept applications for the scholarships until July 31. Completed applications should be submitted to Cliff Bailey in AD01 or call 544-5482.

Thrift Savings Plan for Marshall employees open

Marshall employees can change their contributions to Thrift Savings Plan accounts until July 31. Employees also may begin contributions to their accounts during this period. There are five different funds to choose from. For more information, call Ginger Martin at 544-5654 or Debbie Allen at 544-7536.

Marshall Retirees Association offering university scholarship

Students who are descendants of a Marshall Center retiree can apply for the NASA-MSFC Retirees Association Scholarship at the University of Alabama in Huntsville. The \$1,000 scholarship will be awarded for the academic year beginning in the fall. For more information, call UAH Student Financial Services at 824-2755.

Wellness Center grand opening

A grand opening ceremony for the Wellness Center, Bldg. 4315, is at 10 a.m. June 27. All Marshall team members are invited to attend.

NASA Performance Evaluation Profile Survey required

All Marshall team members, civil service and contractor, are required to complete the Performance Evaluation Profile Survey. A training module is at the Safety, Health and Environmental Web site. The training module can be completed in about one hour. For assistance, or for more information, call Dennis Davis at 544-8628, or Kristie French at 544-7474.

'Latin Dance Night' set June 29

The Alabama Hispanic Association will present "Latin Dance Night" Saturday, June 29 at the Huntsville Senior Center, 2200 Drake Ave. S.W. Dance lessons will be from 7-8:30 p.m. followed by Latin dancing until midnight. Door prizes also will be awarded. Tickets are \$8 in advance or \$10 at the door. To purchase a ticket or for more information, call Elia Ordonez in the Equal Opportunity Office at 544-6658.

Blood Drive Friday

The American Red Cross blood drive is from 8 a.m.-1:30 p.m. Friday in the Wellness Center, Bldg. 4315, on Digney Road. All blood types are especially needed. Donors will receive a T-shirt and pizza and sandwich coupons. For details, call Nancy Jane Fitzgerald at 544-7561.

Post office hours for Friday

The post office in Bldg. 4200 will be open Friday from 9:15 a.m.-noon only. Drop mail will be picked up at 3 p.m. as usual.

Industrial water outage Friday-Monday in Marshall buildings

An industrial water outage will start at 8 a.m. Friday for buildings 4200, 4201, 4202, 4203, 4241, 4244, 4249 and 4250. Employees should minimize water use during this period. The outage will last until midnight Sunday. Chillers in buildings 4566, 4483 and 4646 could be valved off as well.

Computer log-in change

Beginning Monday, the NASA computer warning banner displayed during log-in will be changed. Users will be required to click "OK" to acknowledge understanding the banner message prior to entering their user ID or password.

'Lunch-N-Learn' landscaping seminar set for Monday

Ken Creel with the Alabama Cooperative Extension Service will speak on "How to design your landscape and care

for your lawn" from noon-12:45 p.m. Monday in Morris Auditorium, Bldg. 4200. The event, sponsored by the Employee Assistance Program, is open to Marshall team members. Participants will receive free landscaping booklets and lawn care materials.

Clubs and Meetings

Shuttle Buddies meet Monday

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.

Author James N. Chiles to speak at Marshall Association meeting

The Marshall Association will meet at 11:30 a.m., Thursday, June 20, in Bldg. 4203, Room 1201. James N. Chiles, author of "Inviting Disaster: Lessons from the Edge of Technology," will be guest speaker. Attendance is limited. For information, e-mail, or call, Cliff Bailey at 544-5482. Cost of lunch is \$8. Chiles also will speak from 10-11 a.m. in Morris Auditorium, Bldg. 4200 and all Marshall team members are invited.

IAAP meeting Tuesday

The Huntsville Chapter of the International Association of Administrative Professionals will hold a business meeting and luncheon Tuesday from 11:30 a.m.-1 p.m. at Von Braun's Hall, Room M-50, 301 Sparkman Drive at the University of Alabama in Huntsville. For more information, call Rene Holden at 961-7721 or Rhonda Griner at 824-6101.

Marshall Engineers and Scientists Association meeting

A membership meeting of the Marshall Engineers and Scientists Association will be at 11:30 a.m. Thursday, June 20, in the Union Office, Bldg. 4471, Room C-105.

Employee Ads

Miscellaneous

- ★ Round cherry wood dining table with four chairs, \$200 obo. 726-9244
- ★ Cherry daybed w/o mattresses, opens to king size, \$200. 883-2503
- ★ Antique Treadle sewing machine in oak cabinet w/owner's manual and attachments, \$150. 830-4477
- ★ Alto saxophone, Vito by LeBlanc, played once, \$950. 772-1843
- ★ Electric lawn mower; Sears steel garden cart; Honda 21" power-drive rear bagger, won't start. 881-6040
- ★ 500 MHZ Titanium G4 Powerbook, 20gb-HD, much software, Mac Office 2001, \$2,100. 778-8893 evenings
- ★ Health rider exerciser; Laser printer; presto cooker/canner; jars; caller ID and amplifier; dumbbells. 852-3314
- ★ Linksys 10/100 8-port hub, \$40; Two robotics 56K external modems, \$25 each. 881-7953
- ★ 1989 Yamaha YZ250, needs coil, new tires, \$400. 325-6000
- ★ Kawasaki ZRX1100 motorcycle, street bike with numerous extras, \$4,000. 882-9407/Ron
- ★ Kenmore washer & dryer, large capacity, \$150; two sets of stereo speakers, \$50 per set. 851-2929
- ★ Black hard-top for 1974 Jeep, fits many other models, make offer. 461-8369
- ★ 1997 Buell S1 motorcycle, low miles, 107HP, \$6,500. 837-6109
- ★ Bose 501 Series 3 speakers, \$100 for pair; Lazy Boy recliner, early American, mauve fabric, \$50. 883-8340
- ★ Complete "Hooked on Phonics" set, tapes and books, \$150. 325-0989
- ★ Antique solid mahogany vanity-desk with mirror and matching chair, \$300. 971-1414
- ★ Two Jetskis and double trailer, \$3,400. 961-9611
- ★ Leather recliner, beige, 3 months old, \$399. 881-0755
- ★ Kitchen-Aid washer and Kenmore dryer, \$175. 838-3181 anytime
- ★ Wheel-Horse riding mower, Kawasaki 12.5HP, 37" deck, hydro-transmission, 336 hrs., \$850. 830-6584

- ★ Single waterbed, honey maple with brass trim, includes, heater comforter and bedding, \$140. 859-0729
- ★ Living room set, 3-piece sectional, thick cushions, 12 matching throw pillows, \$900 obo. 772-6469/783-6469
- ★ Graco inline double stroller, 2-years old, navy and white, \$100. 464-3300
- ★ CONN 21M alto saxophone, hard case, cleaning accessories & extra reeds, \$750 obo. 882-1779
- ★ LP gas grill w/side burner, propane tank and utensils, \$120 obo. 539-4508
- ★ Waterbed, queen-size w/soft sided mattress, 2 months old, \$700 obo; Nestel accessories and phone. 990-1653
- ★ Peugeot touring bikes: men's & women's, new tires & tubes on men's, \$75 each. 772-1974
- ★ Monarch aluminum boat, semi-V, 18HP Johnson, MinnKota foot-controlled trolling motor, trailer, \$1,100. 353-5106
- ★ Jim Banks Probate Business video training kit, full set, \$500 obo. 858-0700
- ★ "The Eagles," four concert tickets, July 4, 8 p.m., Knoxville, \$125 each. 256-379-3546

Vehicles

- ★ 2000 Honda Accord EX, 4-cyl., sunroof, CD, 4-wheel ABS, loaded, \$17,400, 5.5 PR for 5-years. 325-3304
- ★ 1992 Maxima GXE, burgundy/tan, one-owner, a/c, new tires and brakes, 166K miles, \$3,550 obo. 650-5895
- ★ 1984 Honda Prelude, 153K miles, 5-speed, new tires, used daily, \$1,250. 883-8340
- ★ 1991 Acura Legend, leather all-power, sunroof, \$6,100. 830-0966 after 6 p.m.
- ★ 1999 Camaro, teal color, 55K miles, new tires, power locks/windows, CD player. 971-2243
- ★ 1992 Plymouth Voyager SE, 3.3L V6, ABS, power windows/locks/mirrors, 127K miles, \$2,000. 881-5522
- ★ 1992 Camaro RS, V6, purple, 106K miles, cruise, AM/FM cassette, \$3,200. 256-931-6991
- ★ 1996 Chev. Coachman motor home, 350, 44K miles, self-contained, a/c & central heat, \$20,300. 256-772-8620/256-682-4810
- ★ 1996 Honda Prelude SI, red, 5-speed, 108K miles, am/fm/CD, \$8,500. 772-8712

- ★ 1997 Ford Ranger XLT, 5-speed, 55K miles, am/fm/cassette, bedliner, alloy wheels, garaged, \$4,950 firm. 256-753-2278
- ★ 2001 Nissan Pathfinder SE, V6, 26K miles, power windows/doors, CD changer, factory warranty, \$22,900. 837-4524
- ★ 1974 Chevrolet truck, a/s, p/s, straight shift, \$1,950. 256-355-1730
- ★ 1995 Nissan King Cab XE pickup, V6, extended cab, 71K miles, automatic, a/c, \$6,500. 895-9589
- ★ 1983 Ford Fairmont, 53.4K miles, new tires, exhaust, rack & pinion, battery & plugs, \$1,400. 881-3379
- ★ 1991 Honda Accord Coupe, 208K miles, burgundy, automatic, a/c, cassette, power windows, \$2,500 obo. 773-7730
- ★ 1988 Chevy Suburban K20, 4x4, _-ton, 350 engine w/4-speed manual, \$2,950 obo. 774-5716
- ★ 1996 Dodge Grand Caravan SE, Infinity sound system, \$6,000. 461-8050
- ★ 1991 Ford Lariat XLT pickup, low mileage, camper shell, a/c, auto, cruise, \$4,500. 256-859-4140
- ★ 1983 GMC S15 Jimmy, 2WD, V6, auto, tow package, \$1,800. 880-2373
- ★ 1994 Chevy S-10 Blazer LT, 4WD, 1-owner, \$6,500; 1992 Firebird, 8-cyl., T-Tops, 1-owner, \$5,000. 653-0406

Wanted

- ★ 100th Shuttle bookmark. 256-306-0700

Found

- ★ Two keys. Call 544-3623 to claim/identify

Free

- ★ Black Lab, 2 years old, needs a good home, friendly, includes shots and doghouse. 534-3779
- ★ Kittens, black calico, grey, white. 852-0799

Lost

- ★ Palm Pilot M505 w/soft black cover, I know serial number, lost May 6-10. 895-9592/Paul

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