

MARSHALL STAR

Serving the Marshall Space Flight Center Community

Oct. 14, 2004

‘DART’ moves closer to launch

By Sanda Martel

NASA is planning to launch the Demonstration of Autonomous Rendezvous Technology (DART) flight demonstrator no earlier than Oct. 26 from Vandenberg Air Force Base in California. The mission is an in-space demonstration of an autonomous rendezvous prototype system.

NASA successfully ground tested technologies that will enable unmanned spacecraft to rendezvous autonomously, something that has never been done in the history of U.S. space flight. The ground tests were performed at the Flight Robotics Laboratory at the Marshall Center.

The tests demonstrated the capability of hardware and software to communicate with each other and to drive the spacecraft autonomously to achieve a safe, assured rendezvous and close approach to a target.

Video guidance sensor and autonomous rendezvous guidance technologies have performed flawlessly, according to NASA managers. The tests verified critical autonomous rendezvous

See *DART* on page 2



Photo by Emmett Given, Marshall Center

Integrated Space Operations Summit meets

Five NASA center deputy directors met during last week's Integrated Space Operations Summit at the Marshall Center. The Summit's focus was to evaluate the Space Operations assets and recommend a set of strategic implementation plans that best support the Agency. Participants included deputy center directors, from left, Richard S. Christiansen of Glenn Research Center; Dr. Woodrow Whitlow Jr., of Kennedy Space Center; Rex Geveden of the Marshall Center; David Throckmorton of Stennis Space Center; and Col. Robert D. Cabana of Johnson Space Center.

Marshall Engineering Directorate test facilities make space flight safer

By Tracy McMahan

Materials with a variety of properties make up thousands of spacecraft components — from huge, sophisticated rocket engines to tiny wires. Before most materials ever fly, they are tested and certified in one of the Marshall Center Engineering Directorate's unique test facilities.

“Our tests ensure crew safety and provide the best materials for building spacecraft,” said Dennis Griffin, who supervises the chemistry group's tests for Marshall's Materials and Processes and Laboratory. “Current work is focused on returning the Space Shuttle to flight.”

See *Engineering* on page 3

Spacecraft designer Faget dies at 83

From NASA Headquarters Release

The man who designed the original spacecraft for Project Mercury and is credited with contributing to the designs of every U.S. human spacecraft from Mercury to the Space Shuttle has died. Dr. Maxime A. Faget, who in 1958 became part of the Space Task Group that would later evolve

into the NASA Johnson Space Center, died Saturday at his home in Houston. He was 83 years old.

“Without Max Faget's innovative designs and thoughtful approach to problem solving, America's space program would have had trouble getting off the

See *Faget* on page 5

‘One NASA Leader Led Workshop’ will be Monday

Marshall Center civil servants and contractors are invited to a One NASA Leader Led Workshop at 9:30 a.m. Monday in Morris Auditorium.

The workshop is an opportunity for all NASA team members to learn more about the Agency's ongoing transformation activities and Marshall's role in the Vision for Space Exploration. NASA officials will

give updates and presentations and host a question-and-answer session. Speakers for the workshop are Jim Jennings, associate deputy administrator for Institutions and Management; Craig E. Steidle, associate administrator for Exploration Systems; Lynn Cline, deputy associate administrator for Space Operations; and David King, Marshall Center director.

DART

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technologies, including the ability of the Advanced Video Guidance Sensor to combine with other technologies, such as the Global Positioning System and Automated Rendezvous and Proximity Operations calculations.

The video guidance sensor sees and determines a spacecraft's exact location, then feeds the information to Automated Rendezvous and Proximity Operations calculations, or algorithms, that function as a brain. The brain commands the spacecraft to turn, throttle, or brake, allowing it to rendezvous with another craft.

The tests were performed using mock-ups of the DART spacecraft and target satellite, demonstrating successful proximity operations with video guidance sensors for target

location. DART navigation guidance transitioned successfully from the Global Positioning System to direct use of the video guidance information. The DART spacecraft then moved progressively closer to the target satellite under direct video guidance.

A number of maneuvers were demonstrated in the simulated ground tests, including a collision avoidance maneuver, horizontal approaches toward the target satellite, transition to docking guidance, and docking-hold maneuvers to within five meters of the target.

"The successful automation of these types of maneuvers, demonstrated by DART technologies, will benefit future space systems development requiring in-space assembly, services or

other autonomous rendezvous operations," said Jim Snoddy, DART project manager. "This milestone moves us one step closer to a DART launch, where technologies proven on the ground will be demonstrated in space."

DART will be carried into space aboard a Pegasus rocket. The

Pegasus rocket will be launched from a Stargazer L-1011 aircraft at approximately 40,000 feet over the Pacific Ocean. The Pegasus will boost DART into an approximately 471-by-479-mile polar orbit.

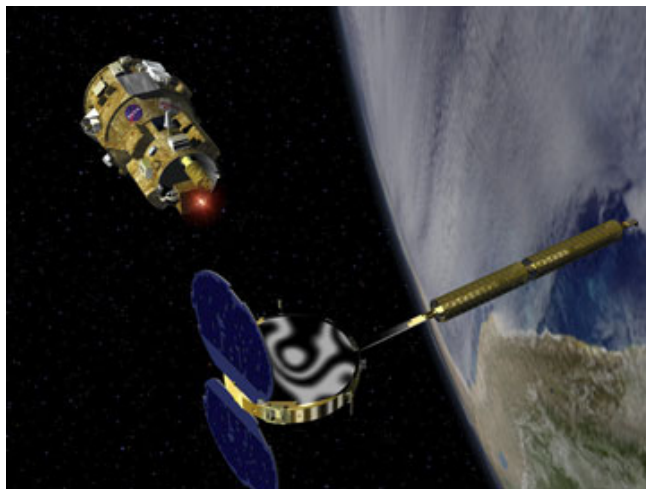
DART will travel around the Earth to rendezvous with its target, the Multiple Paths, Beyond-Line-of-Site Communications experimental satellite. The target satellite was designed for use with a video guidance system like the Advanced Video Guidance Sensor on DART.

While on orbit, DART will perform several close proximity operations, such as moving toward and away from the target satellite using navigation data provided by onboard sensors. DART will also test additional algorithms by calculating and executing collision avoidance maneuvers and will travel around the target. To conclude the mission, DART will fly away from the satellite. The entire 24-hour mission will be accomplished without human intervention.

DART and the Pegasus vehicle were developed by Orbital Sciences Corp. in Dulles, Va. NASA's Exploration Systems Mission Directorate in Washington funds the DART project.

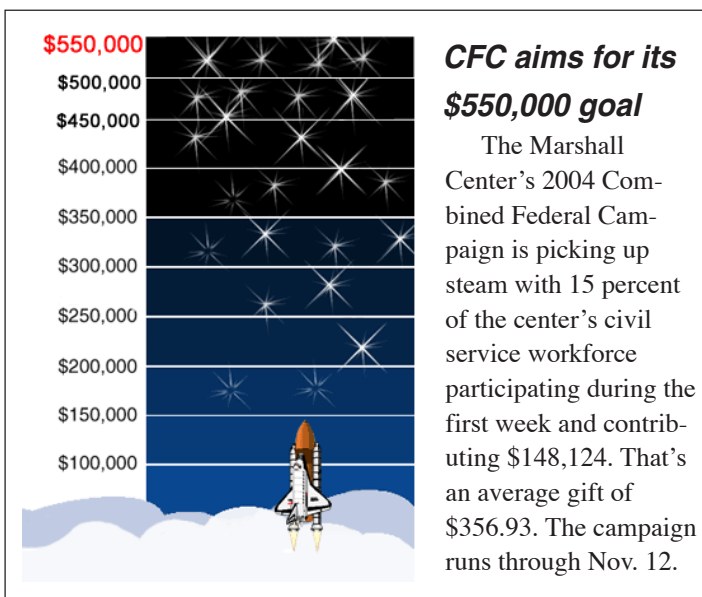
For more information about DART, go to <http://www.msfc.nasa.gov/news/dart/>.

The writer, an employee of ASRI, supports the Media Relations Department.



In this artist's conception, the DART flight demonstrator, top left, rendezvouses with the MUBLCOM satellite in orbit.

Orbital Sciences Corporation



Memorial service to honor Cooper

The life of astronaut Leroy Gordon Cooper Jr., will be honored during a NASA memorial service at 10 a.m. CDT Friday at the Johnson Space Center in Houston.

NASA Administrator Sean O'Keefe, long-time associates and family friends will pay tribute to Cooper, who died last week at age 77.

Cooper was one of the original seven Mercury astronauts. He flew the sixth and final flight of Project Mercury in May 1963, and flew the third flight of the Gemini Program in August 1965. He was backup command pilot for Gemini 12 and backup commander for Apollo 10.

The memorial service will be shown on NASA TV and also Webcast at www.nasa.gov.

Engineering

Continued from page 1

Chemists and engineers are performing tests on External Tank foam and nose-cap materials, on new cameras for launch



Steve Herald, lead engineer, adjusts a camera that collects data from the Marshall Center's new Heated Promoted Combustion tester.

Photo by Emmett Given, Marshall Center

imaging and on Main Engine components. Materials for the International Space Station are being tested, including insulated wires being evaluated for flammability.

One goal is to ensure spacecraft materials do not undergo combustion — start or propagate fires. Since spacecraft often have a habitable atmosphere that is higher in oxygen, and rocket components can be exposed to 100 percent oxygen, materials must be tested in similar environments.

Until this year, these conditions were simulated using hundreds of pressurized gas cylinders that supplied oxygen to Marshall's Materials Combustion Research Facility. Last spring, a new Oxygen Delivery System — which converts liquid oxygen to pressurized gaseous oxygen — replaced the cumbersome bottles. The new system delivers oxygen to seven areas for a variety of combustion tests.

"Our new, on-site oxygen system is safer than handling lots of heavy gas bottles," said Eddie Davis, the NASA engineer who manages the combustion facility. "The system enhances our efficiency because there's less set-up time and down time between tests — no more waiting for bottles to be hooked up or delivered."

Most of the system's equipment is

located outside in a secure area. A huge, cryogenic tank keeps liquid oxygen, also known as LOX, at the proper -297 degrees Fahrenheit. A pump moves the liquid

oxygen to a vaporizer, which changes it to gaseous oxygen, or GOX, and sends it to two, 5,000-pound, cylindrical collection tubes for storage at 2,400 pounds per square inch. Inside the combustion facility, each test conductor controls the oxygen supply from consoles in their test areas, while another technician operates and monitors

the entire oxygen system from a master control panel.

"It's made the whole facility more productive," said Dean Byess, a Qualis Corp. engineering technician, who is often found at the control panel. "And who better to pioneer the first system of this type at the Marshall Center than the facility that tests materials exposed to oxygen?"

The oxygen system benefits another test apparatus that began operation this winter: the Heated Promoted Combustion tester — nicknamed "The Hulk." "The Hulk" makes the Marshall Center the only place in the world that can heat

materials up to 900 degrees Fahrenheit, while exposing them to gaseous oxygen atmospheres at high pressures up to 10,000 psi. Engineers are testing metals — called super alloys — often used in engine



Marceia Clark-Ingram, a Marshall materials engineer, loads a sample into the Ambient Impact tester at the Materials Combustion Research Facility.

Photo by Emmett Given, Marshall Center

design. Until now, there was no place to test metals under extreme temperatures and pressures that can change the combustion characteristics of even the strongest, most stable metals.

"We already have surprising results," said Steve Herald, the combustion facility's lead test



Lead technician Dean Byess, left, and lead engineer Steve Herald go over some technical points at the new LOX/GOX generator system. This is the first system of its kind to be built at Marshall.

Photo by Doug Stoffer, Marshall Center

engineer with Integrated Concepts and Research Corporation. "Our tests could affect vehicle engine designs for the Vision for Space Exploration."

The writer is the technology historian for Qualis Corp.

NASA education officer Alicia Beam helps inspire next generation by overcoming challenges, achieving degree

Celebrating Hispanic Heritage Month Sept. 15 – Oct. 15

By Grant Thompson

Alicia Beam's job at NASA is all about the students.

Beam – an education officer for K-12 programs in the Academic Affairs Department at the Marshall Center – spends much of a typical workday on the phone or exchanging e-mails with high school teachers across the country about programs that help put NASA science and math materials into the classroom. Or she's on the road speaking to school groups across the region about NASA education programs and the ample learning opportunities for students who work hard and stay in school.

For Beam, a 21-year NASA veteran, her message of hard work and determination isn't just lip service – it's how she has lived her life from a young age.

Growing up in Corpus Christi, Texas, the daughter of a Mexican immigrant, Beam graduated in 1963 from W.B. Ray High School in Corpus Christi. But there was little money for college tuition. So she went to work, saving enough money to take one semester of classes at nearby Del Mar College. At the end of the semester, she returned to work, saving until she could afford another semester. Beam followed this formula for 22 years.

"It was a long process, but I knew I wanted to go to school, and that's what it was going to take," Beam, the mother of five and grandmother of six, recalled. "It might have taken longer than normal, but it helped me appreciate the things I was learning and the experiences I had."

She moved to Huntsville in 1976, later marrying Gene Beam, a NASA engineer. She enrolled at Athens State University in Athens in 1982 to continue work on her bachelor's degree.

Beam was accepted in the Marshall Center's Cooperative Education Program in 1983, allowing her to attend classes, work at Marshall and be mentored by experienced, veteran Marshall employees.

"Those years were a real balancing act with work, school and raising a family," Beam said. "All three were important, and I knew I wanted each as a part of my life."

Following graduation from Athens State in 1985, with a bachelor's degree in business administration, Beam was hired full-time as a budget analyst in Marshall's Information Systems Office.

Beam later served as manager of the Hispanic Program in the Marshall Center's Equal Opportunity Office, where she addressed Hispanic-related issues at the center and helped plan annual

heritage events. She went on to manage Marshall's Minority University Research Program, reviewing research grant proposals and overseeing budget matters of visiting researchers.

In 1999, Beam joined Marshall's Education Programs Department. Today, as a pre-college officer, she manages a number of NASA-wide education programs. She is responsible for NASA's Engineering Design Challenge, an annual contest that challenges middle and high school students to design and build a piece of hardware to specifications created by NASA engineers; and NASA's Explorer Schools Program – one of NASA's pathfinder programs in which NASA centers provide funds and materials to educators and students in lower-income schools across the country.

Beam also manages the NASA Educator Resource Centers in Alabama, Tennessee, Louisiana, Arkansas, Missouri and Iowa. Supported by Marshall, the resource centers provide materials and curriculums to teachers and schools in each state.

"All of these programs and opportunities give students the chance to achieve their dreams," she said. "And if they stick to it and work hard, they will. Their work and dedication inspires me too."

During her long career with NASA, Beam has been honored for her work on a variety of education programs. She's received 14 NASA Group Achievement awards, three Certificates of Appreciation, two Outstanding Performance awards and was a 1998 Space Flight Awareness honoree.

Not only is Beam inspiring people through her work at NASA, but in the community as well. She is a soloist in the choir at Valley United Methodist Church in Huntsville and participated in the Huntsville Community Chorus. She also is an accomplished artist and holds a certificate in interior design, with a goal to earn an art degree.

"I love to paint and sketch whenever I get the chance," Beam said. "It's another form of expression I've always enjoyed."

Yet Beam says her real joy comes from talking with students, especially those who share her Hispanic heritage. "Many of the students I work with come from the same background as I do," Beam said. "I tell them all to study hard, stay in school, and maybe one day they can work for an organization like NASA. I tell them if I can do it, with a little hard work and determination they can, as well."

The writer, an employee of ASRI, supports the Media Relations Department.



Beam

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— Alicia Beam
NASA education officer

Faget

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Faget

ground,” said NASA Administrator Sean O’Keefe. “He also was an aeronautics pioneer. In fact, it was his work on supersonic flight research that eventually led to his interest in space

flight. The thoughts and prayers of the entire agency are with his family.”

Faget’s career with NASA dates back to 1946, when he joined the staff of Langley Research Center, Hampton, Va., as a research scientist. He worked in the Pilotless Aircraft Research Division and later was named head of the Performance Aerodynamics Branch. He conceived and proposed the development of the one-man spacecraft used in Project Mercury.

Faget was selected as one of the original 35 engineers as a nucleus of the Space Task Group to carry out the Mercury project. The group also devoted a lot of time to follow-on programs and Faget led the initial design and analysis teams that studied the feasibility of a flight to the Moon. As a result of his work and other NASA research, President John F. Kennedy was able to commit the U.S. to a

lunar landing by the end of the 1960s. Time magazine credited Faget, Dr. Wernher von Braun and others for engineering the first human-tended lunar landing in 1969. Von Braun was the Marshall Center’s first director.

“Max was a genuine icon,” said NASA’s Associate Administrator for Space Operations William Readdy, “a down-to-earth Cajun with a very nuts-and-bolts approach to engineering. He contributed immeasurably to America’s successes in human space flight. His genius allowed us to compete and win the space race to the Moon.”

“Max Faget was truly a legend of the manned space flight program,” said Christopher C. Kraft, former Johnson Space Center director. “He was a true icon of the space program. There is no one in space flight history in this or any other country who has had a larger impact on man’s quest in space exploration. He was a colleague and a friend I regarded with the highest esteem. History will remember him as one of the really great scientists of the 20th Century.”

Faget was part of the original feasibility study for the Space Shuttle. His team then focused on Shuttle development. He retired from NASA in 1981 following the

second shuttle mission (STS-2). His government service career spanned four decades.

After retiring from NASA, Faget was among the founders of one of the early private space companies, Space Industries Inc., established in 1982.

Born on August 26, 1921, in Stann Creek, British Honduras, Faget graduated from Louisiana State University with a Bachelor of Science degree in mechanical engineering in 1943. He joined the U.S. Navy where he saw considerable combat as an officer in the submarine service.

Faget’s numerous accomplishments include patents on the “Aerial Capsule Emergency Separation Device” (escape tower), the “Survival Couch,” the “Mercury Capsule,” and a “Mach Number Indicator.”

He received numerous honors and awards, including the Arthur S. Flemming Award and the NASA Medal for Outstanding Leadership. He was inducted into the National Space Hall of Fame in 1969 and the National Inventors Hall of Fame in 2003. Faget was the first recipient of the Rotary National Award for Space Achievement in 1987.

Team Redstone celebrates Hispanic Heritage Month with special event



Photos by Doug Stoffer, Marshall Center

Members of the Mariachi Juvenile America band, above, perform at the 2004 Team Redstone Hispanic Heritage Month program Oct. 5 at the Richard Shelby Center. Guillermo Bonilla, right photo, plays the cello during the program featuring food and entertainment. Armando E. Rodriguez, chief of Diversity Management and Equal Opportunity for the Defense Intelligence



Agency, spoke. On Friday, Project Mi Futuro will present the Hispanic Youth Conference aimed at motivating and inspiring Alabama’s Hispanic high school students to earn college degrees. Volunteers are needed for the conference. Contact Jose Matienzo at 544-1545 to sign up.

NASA Exchange taking orders for annual nut sale

Again this year, the NASA Exchange is offering Marshall team members and retirees the opportunity to purchase nuts through pre-orders. Orders will be

accepted through Oct. 26. Expected delivery date is Nov. 19.

The order form should be completed and mailed or delivered, along with

payment, to the NASA Exchange Space Shop, Attn: Teresa Davis, CD01XX, Bldg. 4203, Marshall Space Flight Center, AL. 35812



Marshall Exchange

“NASA EXCHANGE ANNUAL NUT SALE”

Order Form

NAME: _____ Office Symbol: _____

Office Phone: _____ Email Address: _____

SPECIFY QUANTITY AND TOTAL PRICE

Product (16 oz. Unless noted):	QUANTITY	TOTAL PRICE
Slivered Almonds (11 oz.) @ \$4.00	_____	\$ _____
Cashews @ \$6.25	_____	\$ _____
Chocolate Covered Pecans @ \$7.00	_____	\$ _____
Crunchy Praline Pecans @ \$7.00	_____	\$ _____
English Walnuts @ \$4.50	_____	\$ _____
Natural Almonds (12 oz.) @ \$4.00	_____	\$ _____
Pecan Halves @ \$6.25	_____	\$ _____
Pistachios @ \$4.50	_____	\$ _____
Raw Peanuts @ \$2.00	_____	\$ _____
Roasted & Salted Pecans @ \$7.00	_____	\$ _____
White Chocolate Pecans @ \$7.00	_____	\$ _____
Totals		\$ _____

****PAYMENT MUST ACCOMPANY ORDER****

Make Checks Payable to: NASA Exchange - MSFC

DEADLINE FOR ORDERING IS: October 26, 2004

PLEASE MAIL CHECK & ORDER TO: CD10X, ATTN: TERESA DAVIS, NASA EXCHANGE SPACE SHOP, BLDG. 4203. Payment may be made by Cash, VISA, MasterCard, Discover, or American Express by taking your order form to the NASA Exchange Space Shop located in Building 4203.

Received by: _____ Date _____

MSFC One-Time Form ()

Announcements

Mikhail Gorbachev to discuss change in Monday broadcast

Mikhail Gorbachev, former president of the Soviet Union, will discuss his challenges and struggles in bringing about changes that have affected the world during a live broadcast from 10 a.m.-noon Monday in the Self-Study Learning Center, Bldg. 4200, Room G13-E. For more information or to register, call Denise McCaul at 544-6125.

NACA Reunion set for fall 2005

The 11th National Advisory Committee for Aeronautics Reunion is scheduled for September 2005 and will be hosted by NASA Ames Research Center. This reunion will celebrate the 47th anniversary of the transition from the NACA to NASA. Invitations have been mailed to individuals who were employed by NACA. Any former employee not receiving an invitation should e-mail the organizing committee at nacareunion11@mac.com or call 650-604-1032.

Political activities restricted for federal employees on, off duty

Federal employees are reminded that the Hatch Act restricts political activities both at home and in the workplace. Political activities are described as activities directed at the success or failure of a candidate or a political party. Federal workers cannot engage in political activities while in a government office or vehicle, wear clothing or buttons promoting a candidate or political party, or place posters or political cartoons on office walls. The government computer is also off-limits for such activities. For questions regarding the Hatch Act, go to www.osc.gov or contact the Marshall Center Human Resources Department. See the complete policy on "Inside Marshall."

Applications for Mike Mansfield Fellowship now available

Applications are now being accepted for the Mike Mansfield Fellowship. The fellowship is a two-year program where

fellows spend a year working full-time in a Japanese government office and a year of full-time language and training in the United States. These fellowships were created by the U.S. Congress to build corps of federal employees who can manage the U.S.-Japan relationship more effectively. For more information, call Vanessa Suggs at 544-7527 by Dec. 31.

Bldg. 4610 cafeteria reopens Monday

The Bldg. 4610 cafeteria will reopen Monday. For more information, see "Inside Marshall" or call Steve Chrisman at 544-5699.

Flu Vaccine availability for Marshall Center uncertain

Because of uncertainty as to whether flu vaccinations will be offered at the Marshall Center this year, all team members are urged to obtain flu shots from their personal physician or any community facility offering the vaccine. Marshall's distributor is attempting to obtain vaccine, but the Centers for Disease Control is overseeing what vaccine is available and prioritizing distribution throughout the country. Do not wait to see if Marshall will get the vaccine, since it is uncertain whether any will be available this year. For more information, see "Inside Marshall."

NASA TV program to feature weekly Agency updates

A new program on NASA TV will feature weekly updates and top developments from across the Agency. "This Week@NASA" begins Friday with showings at 9 a.m. and noon CDT. Encore presentations will be shown throughout the week. Each week, the program will highlight what's making news and what's making history at NASA. For programming schedules, go to <http://www.nasa.gov/ntv>.

Process change for travel receipts now in effect

The Marshall Travel Office will begin

processing travel vouchers through a statistical sampling audit. Receipts still are required for all extended, constructive, invitational and foreign trips. Foreign travel receipts still should be forwarded to the JSC/CTO office. All other vouchers will be statistically sampled at the end of each month. Travelers whose vouchers are chosen will be notified by e-mail to submit required receipts for that trip.

Travelers also are required to maintain travel receipts in case of future audits. For details, see "Inside Marshall."

AIAA sponsoring 11th annual Great Paper Airplane Contest

The American Institute of Aeronautics and Astronautics will sponsor the 11th annual Great Paper Airplane Contest from 3:30-5:30 p.m. Nov. 5. The event will be in the University Center Exhibit Hall at the University of Alabama in Huntsville. There are categories for every age group. For complete rules or more information, call Kevin Connell at (256) 235-0722 or see "Inside Marshall."

Shuttle Buddies meets Oct. 25

The Shuttle Buddies will meet at 9 a.m. Oct. 25 at Mullins Restaurant on Andrew Jackson Way. For more information, call Deemer Self at 881-7757.

Job Announcements

NA04C0143, General Engineer, AST, Technical Management, GS-14 (promotion potential to GS-15). This is a position for a senior systems engineer in the Systems Engineering Office at the NASA Engineering and Safety Center (NESC) at Langley Research Center in Hampton, Va. Applicants should use Resume Builder through NASA STARS to apply. If unable to apply electronically, resumes and supplemental questions can be submitted to the NASA Resume Operations Center, CD10, Marshall Space flight Center, AL., 35812. Contact: Harriett B. Holloway, (757) 864-2567 or h.b.holloway@larc.nasa.gov.

Classified Ads

MISCELLANEOUS

Two Michelin MX4 tires w/30k miles, 215/65R16, \$15 for both. 256-348-2306

Computer, 1.2Ghz, 17" monitor, kbd/ms/modem/speakers, 20GbHD, 12mb RAM, \$325. 882-1779

Girl's bedroom suite: twin poster bed, headboard, footboard, rails, double-dresser w/mirror, \$125; Chest, \$45. 890-0799

Princess style double-bed, 4-poster princess style, dresser/mirror, desk/chair, white w/gold trim, comforter, curtains, \$250. 772-7262 after 6 p.m.

One ticket to BTL's "42nd Street", Sunday, Oct. 17, 2 p.m., Row H. \$45. 256-881-0755

Buck Stove wood-burning fireplace heater insert w/multi-purpose blower, \$165. 683-9364

Glass table top w/rounded corners, 3'x5'xl/4" glass table top, \$60; Reusable heat-pump filter, \$20. 722-8404

Cable, 100 amp, 70 feet, \$50. 508-5416

Bear Whitetail II bow w/case, sights, arrows, \$160; rare Bach Stradivarius trumpet, mint, \$1,200. 851-8085

AKC registered miniature Schnauzer puppies, vet checked, parents on premises, 4-females, \$400 each. 256-961-1059

Couch/loveseat, \$200/pr.; washer/dryer, \$200/pr.; twin bed, \$50; 2-dressers, \$100/pr. 468-4406

Two Alabama vs. Southern Miss. Tickets, Section U3-p, row 21, \$40 each. 655-3065

New violin, full size w/case & bow, \$100. 722-9989

Baby swing, double jogger stroller, Baby Born carrier, stroller/carseat system w/2 bases. 658-8275

Antique wardrobe, \$150; Antique dining buffet w/carving, \$150. 679-0485

Two front row tickets to BTL's "42nd Street", Saturday, Oct. 16, \$90. 256-337-2801

Tree climbing stand, 2-piece, \$30. 508-0691

Color printer, HP Deskjet 697C ink-jet, \$50. 355-6648

Braunmuller piano, pre to early 1900s, player conversion 1911, \$5,400. 256-796-9467

GM service manuals, 3-volume set for 98 Pontiac Grand Prix, includes all schematics, \$50. 721-3945

CKC registered female Yorkie. 256-778-9583

Boxer dogs, neutered male, housebroken, 4-yr. old, fawn or 8 yr. old brindle, \$50. 420-8101

Honda Harmony self-propelled mower, 2 hrs. use, w/manual and bagger, \$300. 325-6000

Solid Kincaid Cherry 3-piece entertainment center, 6'Hx8'W, \$1,200. 828-0756

Whirlpool side-by-side refrigerator, water & ice in door, \$395; John Deere STX38 mower, \$275. 971-0571

Sony CLIE PEG-S360 Palm OS, \$70. 256-508-8358

2000 PSE Carroll Intruder hunting bow, let-off 60; draw length 29-30", \$150. 830-0889

Recliner, dark blue, 3-way power, lift/recline, w/heat system & 5 motor massager, \$800. 256-837-3844

Pennsylvania House entertainment center, Cherry, up to 30" TV, \$750. 931-427-2059

Fender Hot Rod Deville guitar tube amp, 60W, 4x10" speakers, <2 hrs. use, \$600. 762-8493

Two Alabama vs. Southern Miss. tickets, Section U3-P, row 21, \$40 each. 655-3065

Two Futon mattresses, X-long/twin (together make king), cotton, brand new, \$150 ea./both \$250. 520-3874

Artesano classical guitar, 1987, made in Spain, \$160. 464-9408

Above ground pool, 16' with filter & ladder, \$40. 682-2043

Two solid maple single beds, slats, w/one box spring, \$100. 256-232-4168

Three tickets for Alabama homecoming, Section N, Row 33, aisle seating, \$35 each. 256-586-2384

VEHICLES

2001 Procraft fish and ski boat w/all accessories, \$14,900. 348-4899

GoKart, 5 hp, one seater, \$75. 828-0756

1993 Hyundai Excel, 62K miles, 4-speed, 2-door hatchback, new battery, \$700. 961-7047

1998 Mustang GT, new auto. transmission w/warranty, loaded, leather, 133k miles, \$5,750. 256-586-7181

1984 AMC/Jeep Cherokee, 4-cylinder, needs engine work, 256-325-7139

1998 Suzuki RM125, garaged, \$1,800. 256-233-7207

1986 Lincoln Town car, silver, 113k miles, new tires and battery, \$1,300. 722-9989

1990 Camaro RS w/350TPI, interior need work, motor needs tuning, \$2,500. 931-762-5846

2003 Infinity G35 coupe, red, 6-speed manual, 22k miles, \$29,500. 931-438-2876

1999 Honda XR100 dirt bike, \$1,100. 434-0073

2001 Honda Nighthawk CB250, 1,900 miles, \$2,350. 883-1667/evenings

1997 Mercedes Benz SL500 Roadster convertible, red/cream leather, hardtop, v8, 57k

miles, loaded, \$26,500. 256-683-2209

1999 Chevrolet 2-door Cavalier, gold, 86k miles, sunroof, \$4,500. 256-883-1003

1999 Chevy Tahoe LS, 2WD, 67k miles, front & rear a/c, sound system, one owner, \$13,500. 656-9527

1998 Lincoln Continental, low miles, pearl white, \$6,800. 837-1774

1973 Corvette, 350, auto, ps/pb, air, T-top, white w/black leather, \$11,000. 256-964-5312

2001 Honda 4-wheeler, Ranch TRX 350 TEIFT, electrical shift, 2x4, 224 miles, \$2,795. 883-2948

2000 Lincoln Navigator, 4x4, green/tan, 105k miles, sunroof, new tires, \$19,725. 256-882-2973

1997 Harley Davidson Road King, 23k miles, solid red, hard saddlebags, \$14,500. 256-420-2906/before noon

2000 Ford Taurus, new brakes, Michelin tires & battery, 113k miles, \$5,500. 256-776-5542

1968 Chevy truck, SWB, 95% restored, white on white, new cedar wood bed, \$6,000. 679-0694

1998 Chevy S10 pickup, v6, auto, air, LWB, \$2,995. 256-232-5809

1999 Pontiac TransAm, navy blue metallic, charcoal leather, 5.7L/V8, auto, T-Tops, 70k miles, \$16,500. 256-353-9020

2001 Ford Focus, black/gray interior, 70k miles, \$6,000. 256-289-3905

1994 Lincoln Mark VIII, 225k miles, needs air suspension work, \$1,800. 520-3874

2000 Cadillac SLS, one owner, 70k miles, loaded, dark blue, \$11,995. 881-3061

Fishing/duck hunting boat, tilt trailer, 18hp Evinrude, trolling motor, \$1,000. 351-6996

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