



MARSHALL STAR

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May 30, 2002

Engineering design challenge sends students' ambitions sky high

Earth to Orbit education program 'makes science cool'

by Celeste Atkins

Forget video games. Forget sports. Ditto for movies. Instead, two middle school students have been spending their time tackling some of the same challenges NASA engineers face when designing propulsion systems at the Marshall Center.

Before testing their engineering skills, Jeff Alden and Justin O'Connor were just a couple of "typical teens" from Portland, Ore. They spent much of their time thinking about sports and hip-hop music. Now, thanks to becoming involved in the Marshall Center's Earth-to-Orbit Engineering Design Challenge, their thoughts are centered on building rocket engines.

But the biggest change for these two young men is surprising even to them. They arrive at school most days to work on their propulsion project, at a time when many of their classmates are just getting out of bed.

The students' teacher, Joanne Fluvog of Lane Middle School, has seen a "tremendous, positive" change in all her students

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Photo by Marshall Imaging Services

Jeff Alden, left, and Justin O'Connor demonstrate their Earth-to-Orbit design challenge project at the Marshall Center.

Marshall helps enhance Space Station capabilities, moves science into high gear

by Tracy McMahan

When the Space Shuttle Endeavour returns to the International Space Station during the STS-111 mission, it will arrive with new equipment that enhances the orbiting outpost's construction and science capabilities and improves its safety.

"The new equipment ... to expand the orbiting outpost is ready to fly in part

because of excellent engineering work done here at the Marshall Center," said Renee Cox, a project manager with Marshall's Flight Projects Directorate. "The Shuttle's payload bay is filled with hardware and facilities that we helped prepare for delivery."

A major Space Station component riding in Endeavour's bay is the Mobile Base System, which allows the Station's robotic arm to "inchworm" up and down

the Station's trusses and aid in maintenance and assembly tasks. It is a piece of the Canadian Mobile Servicing System that will crawl along the truss railway, a portion of which was installed on the last Shuttle mission.

The Space Station Program Office at NASA's Johnson Space Center in Houston, asked the Marshall team to use their experience in preparing payloads for

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Students

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involved in the Earth-to-Orbit design challenge -- a hands-on educational program in which students are assigned a project to build an electrodynamic propulsion system capable of pushing a model train up an incline. Students attempt to move a model "satellite" along a track, using their own design with a specific set of materials. And they explore and discover the effects of wire in relation to size, shape, strength, direction of current, and its relationship to a magnetic field.

"The biggest change I've seen is in the students' motivation," Fluvog said, "and their belief in their ability to think."

Both Justin and Jeff say being involved in a real engineering project has made them realize that "science is cool." Instead of playing baseball or shooting hoops, the teen-agers are now focused on shooting for the stars.

Since becoming friends two years ago, they had talked about someday entering the medical field. Now, both are focused on a future in aerospace engineering.

"The Earth-to-Orbit program has benefited me in getting me interested in science, helping me figure out my career goals. It has given me a sense of responsibility," said Jeff, 13.

The same is true for his classmates involved in the project, particularly Justin.

"While I used to spend a lot of time playing sports, I now find

science interesting," said Justin, 14.

Their teacher found the project valuable because any student, and any teacher, even those without technical backgrounds, can use it. NASA uses such programs to support educational excellence while participating in educational outreach programs through centers around the country.

Fluvog said the program's versatility is an important point for her students. "Programs like Earth-to-Orbit, that are connected to a need in the outside world, help our students know that what they are doing is important," she said.

The Marshall Center provides the materials and support for Earth-to-Orbit at no charge to schools, which, Fluvog said, is vital to budget-conscious school systems. "Our school-wide test scores are generally low, and we no longer receive property tax money for our school system. So programs like this are desperately needed in our school," she said.

While Jeff and Justin can agree about the benefits of the Earth-to-Orbit program, they don't see eye-to-eye on everything. Justin said he will continue to root for the New York Yankees, but he hopes to one day "play" for NASA's team. Seattle Mariner's fan Jeff agrees with his friend, except, of course, for that part about the Yankees.

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

Students from 13 states share knowledge at Marshall

by Grant Thompson

Working with everyday materials in their classrooms, middle and high school students from 13 states have tackled some of the same issues NASA engineers face when designing spacecraft.

They did so as part of a NASA program called the Earth-to-Orbit Design Challenge. To enhance their learning experience, 40 of these students recently visited the Marshall Center to share lessons-learned and see some of the space agency's work firsthand.

The NASA-sponsored educational program is aimed at letting students in their classrooms experience some of the challenges confronted by NASA engineers as they design the next generation of aerospace vehicles. It also helps students achieve national goals for developing science, math and thinking skills.

Using educational materials provided

by NASA, teachers decide the appropriate time during the school year for students to tackle the program's hands-on design challenge activities. The challenge is targeted at students in grades 6-9, and open to all schools.

Under their teacher's supervision, students documented their designs with sketches and written descriptions. The challenge culminates in the classroom, with each student team preparing a storyboard to describe the process and results of their work.

During their visit to the Marshall Center, the students presented their propulsion system designs and findings to NASA engineers and education specialists. The students' feedback will be used in refining details of a classroom project to be made available on the Internet for teachers and students nationwide.

The students — from schools in Alabama, Arkansas, California, Colorado,

Illinois, Missouri, Montana, New York, Ohio, Oregon, Tennessee, Virginia and Washington — also toured the Marshall Center and the U.S. Space & Rocket Center.

NASA uses its unique resources, whenever possible, to support educational excellence, since education is a key element in the Agency's overall mission. The space agency participates in educational outreach programs through centers around the country. More information on educational opportunities with the Marshall Center can be found at: <http://education.msfc.nasa.gov>

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

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Marshall Center names three to key positions

Ellis, Throckmorton and Jones promoted to Senior Executive Service

by Celeste Atkins

James M. Ellis, David A. Throckmorton and Carl Preston Jones, have been named to key positions at the Marshall Center.

Each of their new roles is a Senior Executive Service position – a corps of men and women who administer public programs at the top levels of the federal government.



Ellis



Throckmorton



Jones

Ellis has been appointed as Marshall's chief information officer. He will direct Marshall's overall information technology plans, set standards and oversee its staff. Ellis also will continue to serve as manager of the Information Services Department where he supervises approximately 62 civil servants and some 900 contractor personnel who provide computer and communications systems for Marshall.

Ellis began his NASA career at the Marshall Center in 1981 as a technical resources manager.

David Throckmorton has been appointed deputy director of the Marshall Center's Engineering Directorate. He joined the Marshall Space Flight Center staff in 2000 as deputy manager of the Structures, Mechanics and Thermal Department. In his new position, Throckmorton leads a workforce of approximately 1,200 civil servants and contract employees who provide engineering support and advanced technology to NASA space flight programs, including the International Space Station and the Space Launch Initiative.

Since beginning his NASA career in 1966 at the Langley

Research Center in Hampton, Va., he has received a number of prestigious awards including the NASA Exceptional Service Medal and the Silver Snoopy award.

Carl Preston Jones has been selected as manager of the Subsystems and Components Development Department of Marshall's Space Transportation Directorate. In his new position, Jones will oversee design and development of rocket engine components and provide analysis and engineering support for the Space Shuttle Main Engines and future space transportation engines.

Jones joined Marshall's Structural Dynamics Laboratory Component Assessment Branch in 1982. He has served in various leadership positions including manager, Propulsion Test Division, and most recently, as lead for the Space Shuttle Main Engine, systems and requirements team. He has received a number of NASA service awards, among them NASA's Exceptional Service Medal and the Silver Snoopy award.

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It could happen to you

Editor's note: The Safety Health and Environmental Communications Team Web site, "It Could Happen To You!" is a resource for Marshall team members to share personal experiences and "lessons learned." The following story was recently posted and provides a timely reminder for swimming pool users.

About 10 years ago, my wife and I took our two young daughters to Atlanta for a long weekend. We went down to the hotel pool, where my wife and I sat in lounge chairs just a few feet from where our children were playing

in shallow water. As we discussed plans for the next day, we were interrupted by, "Excuse me ... excuse me!"

We looked up to see a lady gesturing toward our youngest daughter, who was about 3 years old.

"Is this your child?" she asked, with a very perturbed look on her face. When I replied that she was, she went on to tell us that our daughter had gotten into water over her head, and couldn't get back, so she had pulled her to safety. We were speechless. We had diverted our attention for only a few seconds, and the child had never made a sound.

I mumbled a hasty, "Thank you," and we left the pool soon after – embarrassed, but wiser. I still shudder to think of what could have happened, if not for the actions of a stranger.

It only takes a second for children to get into trouble in the water. Younger children, especially, may be too panicked to even cry out for help or take any action to draw attention to their struggle to survive. Never take your eyes off of them if you are close to a swimming pool or other water source.

It could happen to you, or to a loved one.

Space Shuttle STS-110 crew visits Marshall Center



Crew members of the Space Shuttle Atlantis STS-110 flight, who flew the first cluster of three improved Main Engines managed by Marshall, visited the Center on May 22. During their mission to the International Space Station, the astronauts installed the S-Zero Truss -- the 43-foot backbone for future Space Station expansion. They also delivered several new Marshall-managed experiments and returned others to scientists on Earth.

Commander Michael Bloomfield, Pilot Stephen Frick, and Mission Specialists Ellen Ochoa and Rex Walheim presented mission highlights in Morris Auditorium and presented "Silver Snoopy" and Space Flight Awareness Team awards to Marshall team members who contributed to the success of the Space Shuttle or International Space Station programs.



Photo from Marshall Imaging Services

Dan O'Reilly is presented a Silver Snoopy award from astronaut Ellen Ochoa.



Doug Stoffer, Marshall Center

Dave Seborg, left, and James Young, right, receive Silver Snoopy awards from astronaut Rex Walheim, center.



Terry Leibold, Marshall Center

STS-110 Commander Michael Bloomfield presents Silver Snoopy to Michael Butler.



Photo /Marshall Imaging Services

From left, Vance Davis, STS-110 Pilot Stephen Frick and Renee O'Neil with Space Flight Awareness Team awards.



Photo/Marshall Imaging Services

Patricia Winn receives Silver Snoopy from STS-110 Pilot Stephen Frick.



Photo/Marshall Imaging Services

Ricky James, left, and Dwight Link, right, receive Silver Snoopy awards from STS-110 Pilot Stephen Frick.



Doug Stoffer/Marshall Center

From left, Bill Powelson, Carolyn Drake, astronaut Rex Walheim and Charlie Gibson with Silver Snoopy awards.



Terry Leibold/Marshall Center

David Hall receives Silver Snoopy from STS-110 Commander Michael Bloomfield.



Terry Leibold/Marshall Center

STS-110 Commander Michael Bloomfield presents Silver Snoopy to John Ratliff.



Photo/Marshall Imaging Services

Astronaut Ellen Ochoa presents Silver Snoopy to Ricky Johnson.



Photo/Marshall Imaging Services

Jim McEuen receives Silver Snoopy from STS-110 Pilot Stephen Frick.



Photo/Marshall Imaging Services

Astronaut Ellen Ochoa presents Silver Snoopy to John Eaton.



Photo/Marshall Imaging Services

From left, Jay Kissel, Fred Brown, STS-110 Pilot Stephen Frick and Steve Henderson with Space Flight Awareness Team awards.

Station

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integration with the Shuttle to help the Canadian Space Agency as they readied the Mobile Base System for flight. Once the Shuttle docks with the Station, astronauts will perform two spacewalks to install the Mobile Base System on the Space Station's truss.

The engineering savvy of the Marshall team also enabled another payload to ride in the Shuttle -- the Service Module Debris Panels built by the Russians.

"These debris panels help protect Zvezda, the Russian Service Module where the crew eats and sleeps, from debris and dangerous objects," Cox said.

Marshall's team designed and built an adaptor plate to hold the debris shields to the sidewall of the orbiter.

"We started last summer," Cox said, "and delivered the new hardware in January. That's a remarkable turn-around-time for producing flight hardware."

Also in the Shuttle's payload bay, the Multi Purpose Logistics Module, Leonardo, will be loaded with new science facilities such as the Microgravity Science Glovebox as well as experiments

to kick off Expedition Five -- the next four-month research mission on the orbiting laboratory.

"These successful flights demonstrate the excellent teamwork between NASA and the Italian Space Agency, which built the module," said Jon Holladay, an engineering manager for Marshall's Pressurized Carrier Group.

The NASA-owned fleet of three logistics modules is managed by Marshall's Flight Project Directorate.

The glovebox - a sealed container with built-in gloves on its sides and front -- safely contains fluids, flames, particles and fumes, but still allows the crew to handle science equipments via the gloves.

In exchange for building the glovebox, the European Space Agency will be able to perform experiments inside Destiny until that agency's laboratory -- the Columbus Orbital Laboratory -- is attached to the Station in a couple of years.

EXPRESS Rack 3, also ferried inside Leonardo, will be the fifth EXPRESS rack built at Marshall and delivered to Destiny. These racks house experiments and provide them with power, fluids, cooling,

data and other basic utilities.

The Expedition Five research complement includes 24 new and continuing investigations.

Operation of the science experiments is coordinated from the ground at the Payload Operations Center at Marshall.

"One of our most challenging tasks early in Expedition Five will be to work with the crew in space to get the new glovebox facility installed and up and running," said Tina Melton, the payload operations director, who will lead the Expedition Five ground controllers.

Engineers from Marshall will work with the European Space Agency to evaluate the hardware and software performance as the new glovebox is readied for experiments.

For the STS-111 mission, Marshall engineers also worked with the Italians on the logistics module, the Canadians on the mobile base system, and the Russians on the debris panels.

"The Space Station's international character really shines on this expedition," Melton said.

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Job announcements

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

MS02C0112, Information Technology Specialist. GS-2210-12, Engineering Directorate, Structures Mechanics, and Thermal Department, Structural Design Group. Closes June 5.

MS02C0125, AST, Aerospace Metallic Materials. GS-806-14, Engineering Directorate, Materials, Processes & Manufacturing Department, Metallic Materials & Processes Group. Closes June 3.

MS02C0128, Supv., AST, Structural Materials. GS-806-15, Engineering Directorate, Materials, Processes & Manufacturing Department, Environmental Effects Group. Closes June 3.

MS02C0129, AST, Structural Mechanics Team Lead. GS-861-14, Engineering Directorate, Structures, Mechanics and Thermal Department, Strength Analysis Group. Closes June 3.

MS02C0130, Program Analyst. GS-343-13, Space Transportation Directorate, Business and Administrative Office. Closes June 7.

MS02D0131, AST, Technical Resources Management. GS-801-14, Second-Generation RLV Program, Program Planning and Control Office. Closes June 7.

MS02C0132, Supv., AST, Electrical Power Systems. GS-850-15, Engineering Directorate, Avionics Department, Avionics Systems Group. Closes June 3.

MS02C0141, AST, Solid Propulsion Systems. GS-861-14, Space

Transportation Directorate, Vehicle and Systems Development Department, Engine Systems Engineering Group. Closes June 10.

MS02C0142, AST, Liquid Propulsion Systems. GS-861-14, Space Transportation Directorate, Vehicle and Systems Development Department, Engine Systems Engineering Group. Closes June 10.

MS02C0126, Supv., AST, Technical Management. GS-801-15, Customer and Employee Relations Directorate, Technology Transfer Department. Closes June 4.

MS02C0139, AST, Electrical Systems. GS-850-14, Engineering Directorate, Avionics Department, EEE Parts & Packaging Group. Closes June 10.

MS02C0140, AST, Electrical Systems. GS-850-14, Engineering Directorate, Avionics Department, Avionics Systems Group. Closes June 10.

MS02N0136, AST, Aerospace Flight Systems. Lateral reassignment in the GS-13 level only. GS-861-13, Flight Projects Directorate, Flight Systems Department, External Carriers Group. Closes June 11.

MS02N0137, AST, Aerospace Flight Systems. Lateral reassignment in the GS-14 level only. GS-861-14, Flight Projects Directorate, Flight Systems Department, External Carriers Group. Closes June 11.

MS02N0138, AST, Mission Operations Integration. Lateral reassignment in the GS-14 level only. GS-801-14, Flight Projects Directorate, Flight Systems Department, External Carriers Group. Closes June 11.

Center Announcements

Huntsville Stars tickets available for Marshall team members

The annual "NASA Goes to the Stars" event is June 17 and free tickets to Marshall team members are available beginning Tuesday at the NASA Exchange, Bldg. 4203 cafeteria and the Wellness Center. Each ticket will admit four. The Huntsville Stars baseball team will play the Chattanooga Lookouts at 7:05 p.m. at Joe Davis Stadium in Huntsville. The first 2,000 children attending the game with a parent or guardian will receive a free coloring book. Watch for additional announcements on how to receive a free box seat for four.

'Freedom to Manage' in place for employee suggestions

As outlined by Administrator Sean O'Keefe, NASA has begun the "Freedom to Manage" program to remove barriers to effectiveness and efficiency present in the Agency. Impediments of any kind are open to examination, analysis and possible elimination in this program. A Web site where employees may suggest ideas to eliminate barriers is at <http://f2m.nasa.gov/>

Memorial service for Dr. William Dye at Laughlin Funeral Home

A memorial service for Dr. William B. Dye, 73, of Huntsville, will be at Laughlin Service Funeral Home, 2320 Bob Wallace Ave., on Thursday, May 30. Visitation is at 5 p.m. followed by a service with military honors at 6 p.m. Dye died April 18 after serving as medical director at Marshall for 25 years.

Official badge notification

All Marshall Center team members wearing an "I Think Safe Because" badge must not display it in front of their official employee badge.

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 CD20 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. Those electing to enroll or increase funds in the plan can obtain a TSP-1 Form from www.tsp.gov. There are five different funds to choose from. For more information, call Ginger Martin at 544-5654 or Debbie Allen at 544-7536.

Blood pressure screenings available

Free blood pressure screenings for Marshall team members are available at the Medical Center, Bldg. 4349, workdays between noon and 3 p.m.

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. To be eligible, the student must be a direct descendant of a Marshall retiree or a direct descendant of a member of the NASA-MSFC Retirees Association. Qualifying students also must be an entering freshman enrolling full-time at UAH and majoring in engineering or the physical sciences. The award is based on academic merit, citizenship, leadership and a demonstrated interest in space-related engineering or science. For more information, call UAH Student Financial Services at 824-2755.

Information Technology Security conference set June 5-6

The U.S. Army Aviation and Missile Command and the Marshall Center are sponsoring an Information Technology Security and Assurance Conference and Exposition on June 5-6. The event will be from 7:30 a.m.-4:30 p.m. at the John J. Sparkman Center, Bldg. 5304. The conference theme is "The New World of Security: All Information is at Risk." Speakers will include those from the military, federal government and corporate leaders in the computer security industry. There also will be an exposition of more than 30 vendors demonstrating the latest in computer and information security hardware and software. Admission is free. For more information or to register, visit <http://www.TechnologyForums.com/redstone-nasa.htm> or call Sue Comer at 1-877-448-3976.

Clubs and Meetings

Huntsville Philatelic Club show honors anniversary of Pioneer 10

The 35th annual stamp show sponsored by the Huntsville Philatelic Club will be Saturday and Sunday. The event begins at 10 a.m. on both days at the Tom Bevell Center at the University of Alabama in Huntsville. This year's show will honor the Pioneer 10 spacecraft launched in 1972 -- the first spacecraft to travel through the asteroid belt and take close-up photos of Jupiter. A special philatelic cover and postal cancellation featuring Pioneer 10 will be available at the show. Admission is free. For more information, call Kathy Campbell at 881-0941.

MARS Tennis Club Mixed Doubles Tournament Saturday

The MARS Tennis Club will hold a Mixed Doubles Open Tournament on Saturday. Warm-up starts at 8 a.m. with the tournament at 8:30 a.m. Guests of members are welcome and there is a \$3 charge per guest. For more information, call Bill Boglio at 544-3806.

Employee Ads

Miscellaneous

- ★ Youth vans, new, in box, size 2, \$15; youth vans, used, in box, size 1, \$10. 533-5942
- ★ StarCraft StarMaster pop-up camper, new canvas, windows, screens, countertops, a/c & battery, sleeps 8, \$1,695. 464-9232
- ★ Glass top patio table, dark green edges, new in box, 38"x60", \$65. 837-6776
- ★ 1983 Yamaha Venture XVZ 1200, ridden daily. 256-851-6746
- ★ Nikon N70 w/28-100mm and 100-300mm Tamron AF lenses, case & filters included, \$500. 205-647-4949
- ★ Entertainment center, holds 27" TV, \$30; solid wood dresser w/matching stand, \$200; 2-dolphin lamps, \$30. 726-9244
- ★ Speaker cabinet: Ampeg SVT-410HLF classic series bass enclosure, 400w @ 4ohms, \$600. 256-539-7260
- ★ Guitar amp: 60 Watt Line 6 Flextone II with floorboard, \$600. 420-8222
- ★ New hard-shell guitar case, fits Martin D28 or Gibson, \$100 firm. 722-9989
- ★ Two 1992 Yamaha jet skis with double trailer, \$4,000. 423-2662
- ★ Wedding dress w/train, & veil, size 12, \$300 obo; Evenflo infant car seat w/ base, \$25. 858-5552
- ★ Craftsman tractor, 15HP, includes grass catcher and trailer, \$1,200. 837-8020
- ★ York heat pump, 3T w/heatstrips, ducts & thermostat; Trane 3-1/2T gas-pack; Heil, 2T split a/c; bird cage. 881-6040
- ★ 1986 Yamaha 350 trials bike, \$1,200; 1992 Waverunner III ski w/trailer, \$2,300. 256-837-6879
- ★ Antique German crystal punch bowl and cups; wooden fish platters. 882-6832

- ★ Classic 1975 Honda Gold Wing, custom paint, \$3,000 obo. 256-259-2347
- ★ Nordic-Trac Classic skier, new in original box, \$400; Spirit Freedom F800 treadmill, \$600. 776-3424
- ★ Chrome Craft kitchen table, leaf, 4 chairs, \$85; Men's Sears 26" bike, 10-speed, \$30. 881-9421
- ★ Iomega-100 external zip-drive, \$50; Koss-HD50 computer speakers, \$20; 3Com-cradle for Palm IIIe, no soft ware, \$10. 658-2471
- ★ Entertainment center, dark oak finish, 1-wood & 4-glass doors, 50"Wx72"H, \$75. 461-8721
- ★ Early American Lazy Boy rocker/recliner, gold fabric, wood arm rests, \$70. 256-881-1249
- ★ Tool box (black poly) for small truck, \$45. 830-6584

Vehicles

- ★ 1987 Mercedes 190E, auto, 107K miles, sunroof, new tires, \$2,990 firm. 961-9533/325-6920
- ★ 1988 RX-7 convertible, red, gray leather, 5-speed, best offer. 337-0075
- ★ 1993 Ford Bronco XLT, 4x4, 5.81, auto, cruise, a/c, well maintained, \$5,100. 837-2003
- ★ 1998 Dodge Grand Caravan \$8,900. 233-6197/564-6225 beeper
- ★ 2002 Cadillac Escalade, green, 18K miles, leather, loaded, \$47,900. 883-0282 after 6 p.m.
- ★ 1999 Pontiac Trans Am, 6-speed, all-power, chrome wheels, T-tops, 47K miles, \$17,500. 830-4846
- ★ 1997 Ford Ranger XLT, 5-speed, 70K miles, CD player, alloy wheels, \$4,950 firm. 256-753-2278
- ★ 1995 Toyota Camry LE, 4-door, 4-cylinder, tan, 111K miles, \$8,250. 883-

7695

- ★ 1996 Mazda Millenia, sunroof, Alpine CD changer, all-power, 80K miles, gold/gray, \$8,700. 880-9025
- ★ 1973 El Camino (big block), silver, straight body, interior rough, \$6,000 obo. 651-3802, 7 a.m.-8 p.m.
- ★ 1997 Pontiac Firebird convertible, black, automatic, 36K miles, CD changer, all-power, \$11,500. 256-325-1490
- ★ 1988 RX-7 convertible, red, gray leather, 5-speed, best offer. 337-0075
- ★ 1987 Toyota 4-Runner, manual, 4WD, equipped for hunting, \$1,800 obo. 256-650-0959/leave message
- ★ 1994 Honda Accord EX, 101K miles, \$7,800. 830-0854
- ★ 1993 Dodge Grand Caravan SE, one-owner, \$2,995. 895-9520

Wanted

- ★ Patio furniture and children's swing set in good condition. 859-2633
- ★ First day of issue stamps. 881-6595

Found

- ★ Men's coat near Bldg. 4471. Call 544-7686 to identify/claim

Free

- ★ Kitten, 7 wks. old, handled by children. 461-7823
- ★ To good home, small 8-month old black/tan pup, loving, 13 lbs., shots, kept outside. 852-0799

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