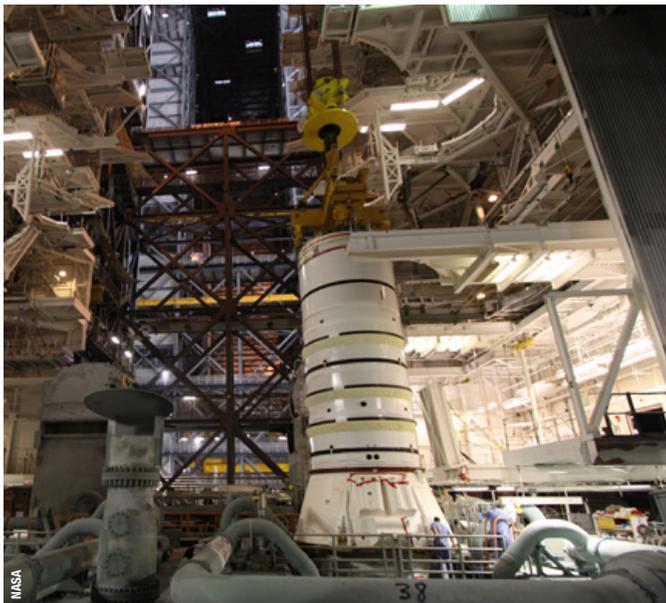




MARSHALL STAR

Serving the Marshall Space Flight Center Community

July 16, 2009



The Ares I-X team begins stacking the test vehicle in the Vehicle Assembly Building.

Ares I-X stacking begins

Following nearly three years of work and significant contributions by dedicated Marshall Space Flight Center team members, stacking operations for the Ares I-X rocket began July 8 in the Vehicle Assembly Building at the Kennedy Space Center, Fla. The operations will continue over the next several weeks.

The Marshall Center manages the first stage, roll control system and avionics projects for the Ares I-X mission. Part of the Constellation Program, the Ares I-X is the test vehicle for the Ares I rocket, which is the essential core of a space transportation system that eventually will carry crewed missions back to the moon, on to Mars and out into the solar system.

The giant 327-foot vehicle is set to roll out to Launch Pad 39B just four days prior to the targeted Aug. 30 launch. This is the first new vehicle in more than 25 years that has been stacked in the assembly building. For more information, visit http://www.nasa.gov/mission_pages/constellation/ares/flighttests/aresIx/index.html.

Marshall team to celebrate Apollo 11 mission July 20

By Rick Smith

As NASA this week celebrates the 40th anniversary of the launch of Apollo 11 toward its date with history, the Marshall Space Flight Center is set for its own historic celebration of that extraordinary mission – on July 20 at the U.S. Space & Rocket Center in Huntsville.

The event, to be held from 1-5 p.m., is free to all Marshall civil service employees and badged contractors, their families and center retirees.

Team members must show their NASA badges at the Marshall registration tables under the Saturn V rocket near

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Apollo 11 section

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See Celebration on page 7

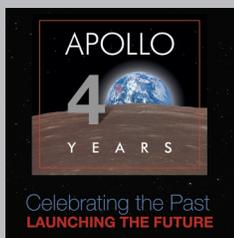
Space shuttle Endeavour mission to complete construction of Kibo laboratory

By Sanda Martel

At Marshall Star press time, space shuttle Endeavour was scheduled to launch July 15 at 5:03 p.m. CDT from the Kennedy Space Center, Fla.

Three previous July launch attempts were cancelled. On July 11, managers decided they needed time to evaluate lightning strikes that occurred July 10. Launch attempts on July 12 and 13 were cancelled due to poor weather conditions within the launch area at the Kennedy Center.

See Endeavour on page 8



Celebrating Apollo 11

40 years ago this week

Marshall's Saturn V launched first astronauts to lunar surface

Editor's note: This week the Marshall Star marks the 40th anniversary of Apollo 11, the mission that first carried humans to the surface of the moon. As part of the Apollo/Saturn program, team members at the Marshall Space Flight Center and elsewhere across the country demonstrated a level of devotion directly proportional to the epic nature of their accomplishment. Today's issue reflects on Marshall's role in the historic mission.

Telegrams, cables and brief notes distill great moments in history into a few words or short sentences.

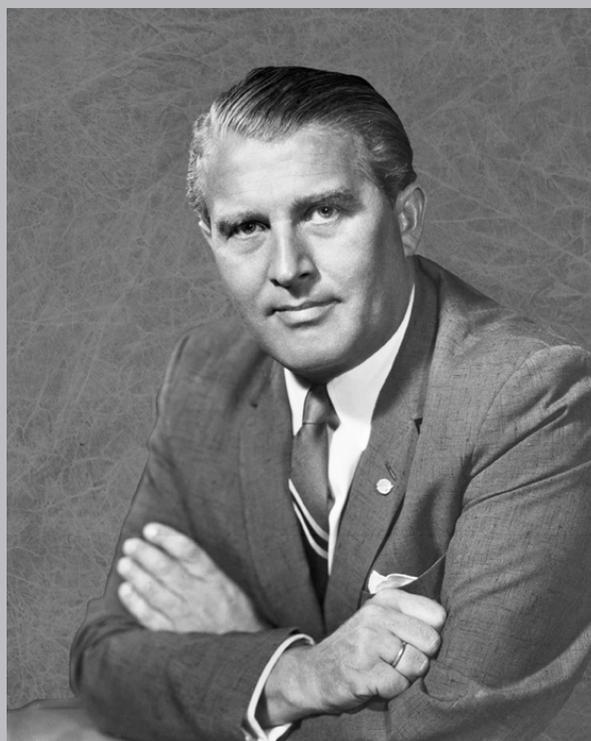
So it was on July 17, 1969 – one day after the United States launched a Saturn V rocket topped with an Apollo spacecraft that would enable the first humans to walk on the moon July 20. Dr. Wernher von Braun, then director of the Marshall Center, sent the note to Dr. George E. Mueller, NASA's associate administrator for the Office of Manned Space Flight.

Marshall executive Erich Neubert actually signed the note on behalf of von Braun, who had traveled to Florida for the launch. However, the seven-line summary reflected von Braun's to-the-point manner of communicating and managing the development of the most powerful rocket the world has ever known.

The note, an official formality, actually told Mueller what he and the world already knew: "AS-506 was launched from Kennedy Space Center Launch Complex 39A July 16, 1969, at 8:32 a.m. CDT as scheduled, and satisfactorily completed its mission of placing the Apollo 11 spacecraft on a lunar trajectory. Launch vehicle prelaunch operations were nominal with no problems occurring, which impacted countdown. All major launch event times occurred very close to predicted ... In summary, indications are that all launch vehicle mission requirements were met."

The first-stage engines for the three-stage Saturn V and its instrument unit generated 7.5 million pounds of thrust at liftoff, equal to the power of 25 Hoover Dams.

The note signaled that within days America would meet the challenge that President John F. Kennedy had presented to the nation in 1961, when he called for the United States to land a human on the moon before the end of the decade. And it marked a nationwide commitment on the part of thousands of engineers, scientists, support workers and managers to build the launch vehicle under the direction of von Braun and his Huntsville team.



Dr. Wernher von Braun

Marking a milestone from 40 years ago this month

A salute to all who built Saturn/Apollo



The Saturn V rocket lifts off July 16, 1969, carrying the crew of Apollo 11 to the moon.



Edwin "Buzz" Aldrin, Apollo 11 lunar module pilot, steps onto the moon shortly after Neil Armstrong, Apollo 11 mission commander. Armstrong took the historic first step onto the surface of the moon July 20, 1969.

CELEBRATING APOLLO 11

Astronauts, engineers, scientists, technicians, support personnel, industry partners, managers

Thanks to everyone for making it happen



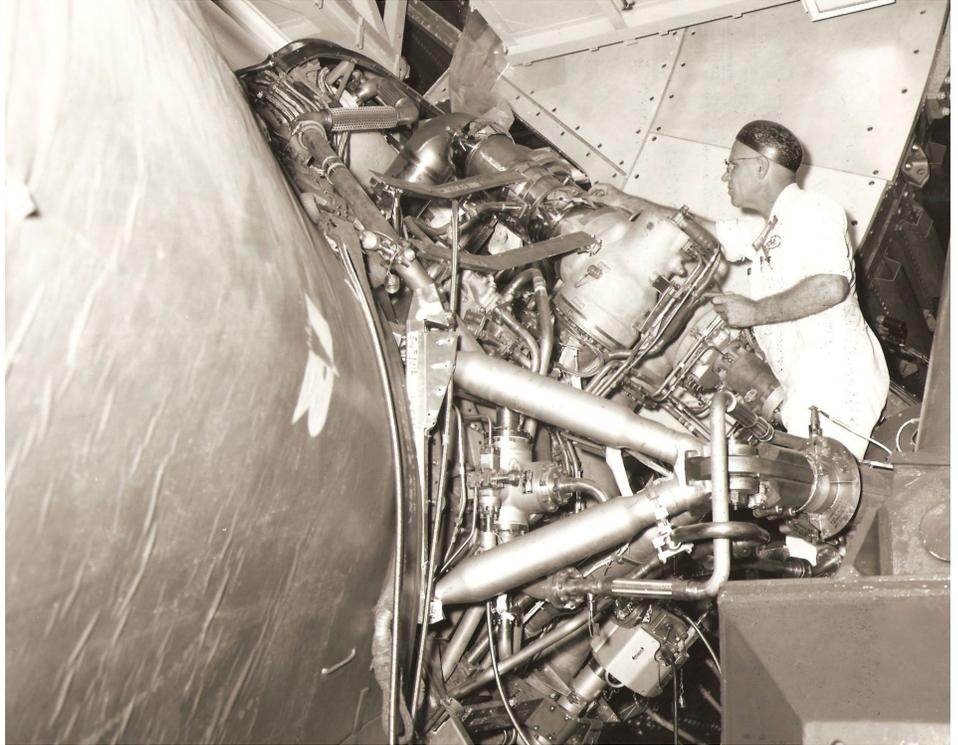
Apollo 11 mission commander
Neil Armstrong



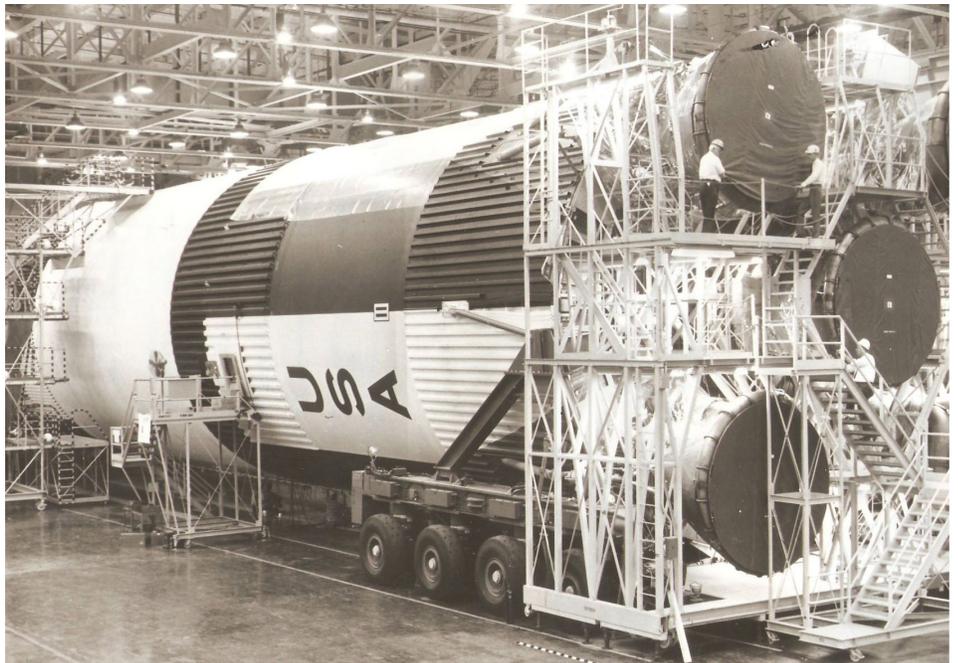
Lunar module pilot Edwin
"Buzz" Aldrin



Command module pilot
Michael Collins

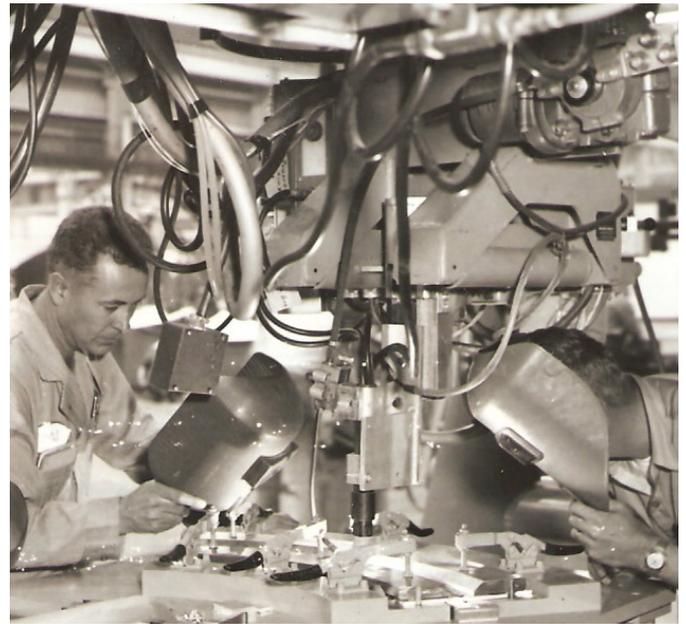
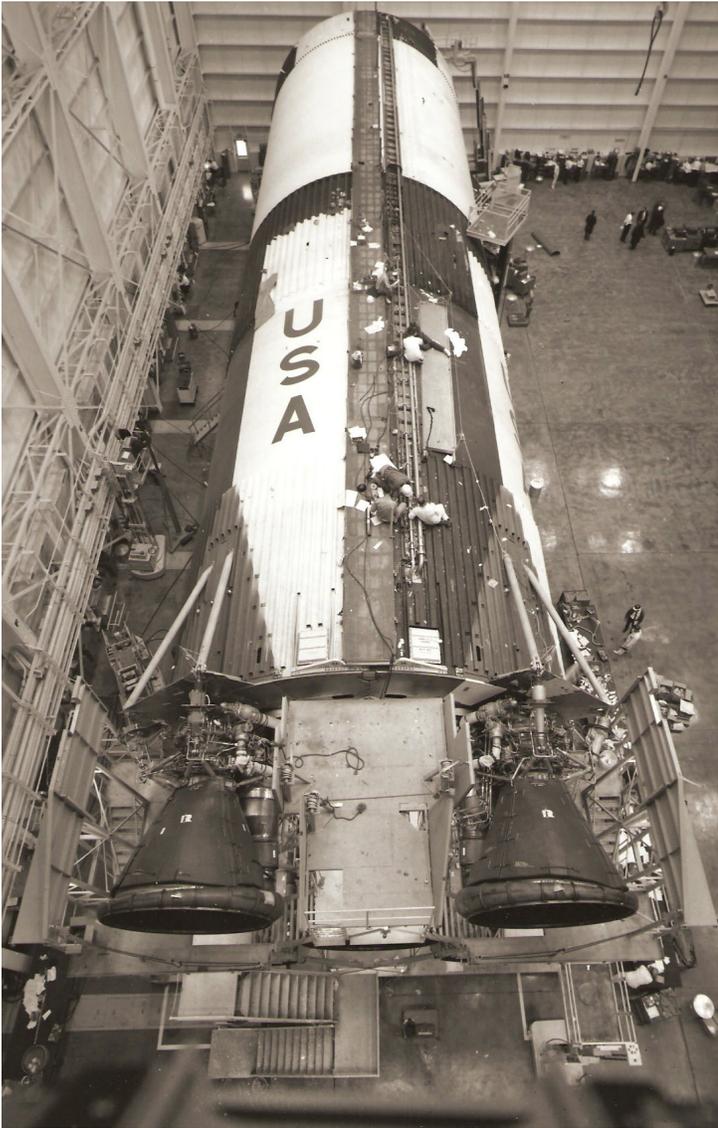


A worker assesses hardware on a Saturn V first stage in 1966 in the Marshall Center's Quality & Reliability Assurance Laboratory.



Engineers in the Marshall Center's Manufacturing Engineering Laboratory inspect a Saturn V first stage in the early 1960s.

Saturn hardware from across the U.S



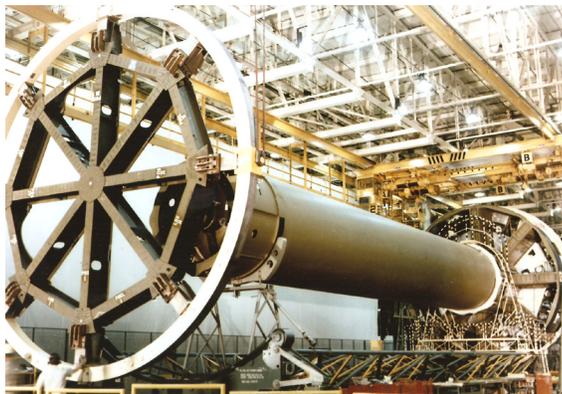
NASA and contract engineers at Marshall and other facilities conducted unprecedented welding operations – bonding massive components to build the rockets and countless hardware elements critical to successful flight operations.

Work on the massive Saturn V, which would stand 363 feet tall on the launch pad, was led by the Marshall Center, with support from NASA field centers and contractors around the nation.

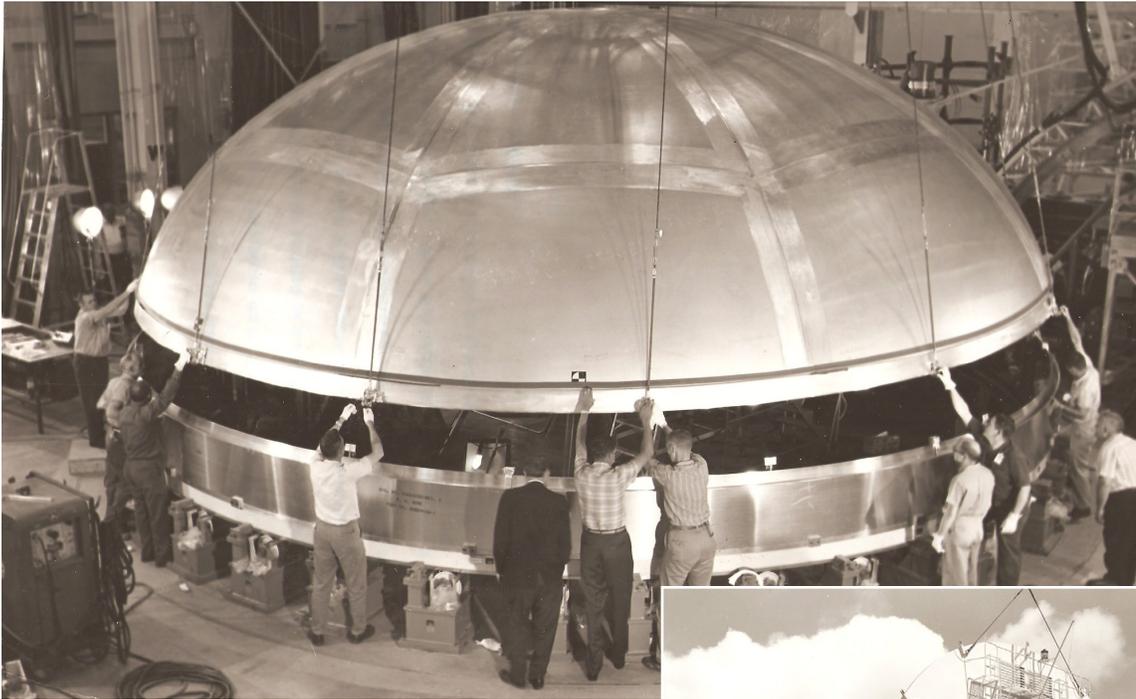


The Marshall Center's Dynamic Test Stand was built in 1964 to enable engineers to conduct mechanical and vibration tests on the fully assembled Saturn V rocket.

NASA's Michoud Assembly Facility in New Orleans, managed by the Marshall Center, conducted initial assembly of numerous rocket hardware, such as this Saturn IB first stage.



A team effort on the ground and in space



The upper dome of the Saturn V's fuel tank is readied for welding. Two tanks, with connecting skin segments, formed the main fuselage of the Saturn V first stage.



A massive crane lifts the door from a NASA barge, the "Promise," used to ferry rocket segments and other large hardware from NASA field centers to the launch facilities at Kennedy Space Center, Fla.



Mighty J-2 engines, slated to power the Saturn V upper stages, roll off the assembly line at the Rocketdyne facility in Canoga Park, Calif., in 1963.



Banks of computers like these in Marshall Center Building 4491 – now the center's Documentation Repository – were critical to launching the Saturn V moon missions.

the entrance to the Davidson Center for Space Exploration. A special table will be set aside for retirees and their families. All family members must be accompanied by a badged employee or contractor to gain free admission.

For details about employee and contractor leave for the event, see the July 9 issue of The Marshall Star or visit Inside Marshall.

Team members are encouraged to tour the Space & Rocket Center, talk with Marshall experts about Apollo-era work at Marshall, meet former space shuttle astronauts Jan Davis and Fred Leslie and enjoy live music by Tina Swindell and the Valley Cats.

The first 5,000 Marshall visitors will receive 40th anniversary-themed souvenir cups and NASA bags containing commemorative keepsakes.

Refreshments, the souvenir cups and free admission for all Marshall guests are provided courtesy of funding generated by the Marshall Exchange.

The Exchange generates non-taxpayer funding to support special employee events through its vending, gift shop and retail sales, auto repair, snack bar and banking services, said Exchange operations manager Edwin Jones.

Jones, who also manages the Performance & Capabilities Management Office, part of Marshall's Office of Strategic

Analysis & Communications, said the Exchange worked with vendors around the country to design and produce the reusable cups, provide refreshments at the event and sell commemorative 40th anniversary T-shirts and collectibles.

"We hope all Marshall team members will bring their families to share in the excitement," Jones said, "and recognize the great accomplishments of the Apollo program – and those we continue to make."

Parking for the event

Parking will be available at the former Chrysler Building at 103 Wynn Drive across Interstate 565 from the Space & Rocket Center. Shuttles will take visitors back and forth every 15 minutes during the event, beginning at 12:45 p.m.

To get to the parking site from westbound I-565, take Exit 15, cross Sparkman Drive and turn right onto Old Madison Pike; then turn right onto Wynn Drive and immediately turn right into the parking lot. From eastbound I-565, take Exit 15 and turn left onto Old Madison Pike; then right onto Wynn Drive and right again into the parking lot.

For the latest 40th anniversary celebration updates, visit Inside Marshall or "NASA Marshall" on Facebook.

Smith, an AI Signal Research Inc. employee, supports the Office of Strategic Analysis & Communications.

Classified Ads

To submit a classified ad to the Marshall Star, go to Inside Marshall, to "Employee Resources," and click on "Employee Ads — Submit Ad." Ads are limited to 15 words, including contact numbers. No sales pitches. Deadline for the next issue, July 23, is 4:30 p.m. Thursday, July 16.

Miscellaneous

Polarizing and UV filters, for DSLR, Nikon, Canon, Rebel, 55mm, canvas bag, \$20. 527-8116

Creative Zen Stone MP3 player, accessories, \$25. 527-8116
Sunvision commercial tanning bed, hot bulbs, requires 220V outlet, \$1,500. 755-1580

Benjamin pump pellet rifle, \$150; Benjamin pump pellet pistol, nickel, \$150; both 177 caliber. 975-0256

Cement mixer, 5 cubic feet, spare motor, \$200. 652-5902

AKC Pugs, three females, two males, fawn, wormed, first shots. 509-4687

Stepper exerciser, \$75. 651-4723

18HP Scott riding mower, needs front wheels adjusted, \$200. 679-8499

36-inch Magnavox digital TV, tube, \$250 obo. 425-8467

Couch, chair, ottoman, light green, recently recovered. 722-9989

Tomato cages, made from concrete sea bar wire, \$5 each. 722-9989

Hotpoint HDA3220 dishwasher, black, \$50. 830-0248

Four tickets to AMP Energy 500 NASCAR race, Talladega, Nov. 1, \$75 each. 374-9607

Hotel 5-Star Collection by Stearns & Foster "Grand" Cushion Firm Euro pillowtop king mattress set, \$999. 881-7000

Vehicles

2008 Harley Road King Classic, anti-lock brakes, backrest, \$16,900. 881-7000

2007 Sidney Outback 28-foot fifth-wheel camper, \$19,500. 679-2410

2006 Mallard 180CK travel trailer, sleeps 5-6, full kitchen/bath, 22'8" long. 777-7228 ask for Greg

2006 Chrysler Pacifica Touring, red, third row, 24k miles, \$14,500. 797-1300

2006 Dodge Ram Quad Cab, Big Horn package, tow package, 61k miles, \$14,500 obo. 527-6655

2006 Chrysler Pacifica Touring, loaded, DVD, leather, 100k-mile warranty, 63k miles, \$12,500. 566-4412

2005 Yamaha V-Star 650 Custom, black, extra chrome, 50 mpg, 950 miles, \$5,000 obo. 828-4452

2005 Honda Element EX, 2WD, five speed, gray, service records, 74,500 miles, \$11,000. 278-1974

2005 Ford F-150 Lariat, extended, bed cover, \$16,700. 722-8064

2005 Fisher 22.5-foot pontoon boat, 115 HP Mercury 4-stroke motor, trailer, \$16,000. 655-0599 or 582-8559

2004 R-Vision 33' Class-A motor home, workhorse chassis, extended warranty, \$55,000. www.thewilletfamily.com/rv. 883-7021

2004 Rockwood 28-foot Ultra Lite travel trailer, smooth fiberglass exterior, \$13,950. 738-0302

1998 Oldsmobile Olds 98, white, cold air, \$1,500. 468-9377

1981 Ford F-100, 6-300 engine, brakes, suspension, rough body, needs transmission, \$400. 520-5014

31-foot fifth wheel camper, 14-foot slide out, sleeps eight, \$11,900. 721-1260

Wanted

1994-1997 Chevrolet LT1 engine, transmission, engine control unit, less than 80k miles. 617-1519

Old iPhones, working, good condition, will purchase. 694-5658

City Select Software Version 5 or greater to load in Garmin GPS 5 Receiver. 616-1562

Homes to clean, elderly and children assistance, reasonable rates. 651-4723

Free

8-week-old kittens, black, black and white, chocolate Siamese, five males, one female. 751-4043

Found

Set of GM/Buick car keys on a green snap link, Building 4600 area; gray Motorola Bluetooth ear bud, Building 4600 area; pair of brown frameless reading glasses, Building 4200 area, July 6; set of three brass keys on a red key tag with number 1710, north parking lot, Building 4200, July 6. 544-4680

'Focus on Marshall' highlights LRO/LCROSS launch

By Lori Meggs

NASA recently took the first steps back to the moon with the June 18 launch of the Lunar Reconnaissance Orbiter, or LRO, and the Lunar Crater Observation and Sensing Satellite, or LCROSS – and the “Focus on Marshall” team was there.

On the July episode of the Marshall Space Flight Center’s monthly video program, “Focus on Marshall” travels to Kennedy Space Center, Fla., for the rollout and launch of LRO and LCROSS.

The rollout of the Atlas V rocket – carrying the two spacecraft to the

launch pad at Cape Canaveral Air Force Station, Fla., – is documented for viewers. You’ll learn about the contributions of the Marshall team to these missions and see how education and public outreach activities help the general public learn more about them.

LRO is scheduled for a one-year exploration mission at a lunar polar orbit of about 31 miles, the closest any spacecraft has orbited the moon. Its primary objective is to conduct mapping and survey investigations to prepare for future lunar explorations. LCROSS will search for water ice on the moon.

On Oct. 9, it will send its spent upper-stage – a Centaur rocket – to impact in a polar crater that lies in permanent shadow. LCROSS will fly into the plume of dust left by the impact, analyzing the plume for signs of water vapor, before also colliding with the lunar surface.

“Focus on Marshall” airs on Marshall TV on July 16, July 28 and July 30 at 11 a.m., noon and 1 p.m. It also is available on NASA TV, Inside Marshall and on the NASA Portal.

Meggs, an AI Signal Research Inc. employee, supports the Office of Strategic Analysis & Communications.

Approval process for scientific and technical information publications

Any publication that includes scientific and technical information for release by NASA or under the direction of NASA must be reviewed and approved prior to being published, released outside the agency or made available to foreign nationals, as required by NASA Policy Directives 2200.1 and 2200.2.

Such publications include abstracts, conference papers and presentations, journal articles, scientific and technical

information documents for a Web site and final reports produced under a contract or grant. NASA approval shall be obtained by using NASA Form 1676.

For additional information and links to the directives and form, visit <http://inside.msfc.nasa.gov/announcements/sti-pub.html>, or contact Kim Narmore, Marshall document availability authorization representative, at 544-4512.

Endeavour *Continued from page 1*

Shuttle Endeavour also failed to get off the launch pad on June 13 and 17 after a hydrogen leak was detected during the two launch attempts. A tanking test conducted at Kennedy on July 1 revealed no gaseous hydrogen leaks, verifying that repairs to the

Ground Umbilical Carrier Plate, where the previous leaks occurred, were successful.

The 16-day mission to the International Space Station will feature five spacewalks and complete construction of the Japan Aerospace Exploration Agency’s Kibo

laboratory. Astronauts will attach a platform to the outside of the Japanese module that will allow experiments to be exposed to space.

Martel, an AI Signal Research Inc. employee, supports the Office of Strategic Analysis & Communications.

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The Star does not publish commercial advertising of any kind.

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