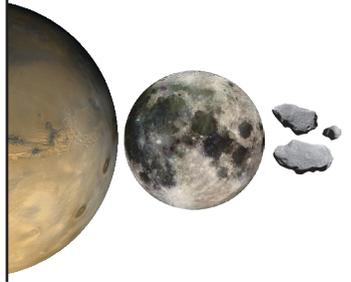


MONTHLY
ACCOMPLISHMENTS
June 2012

orion

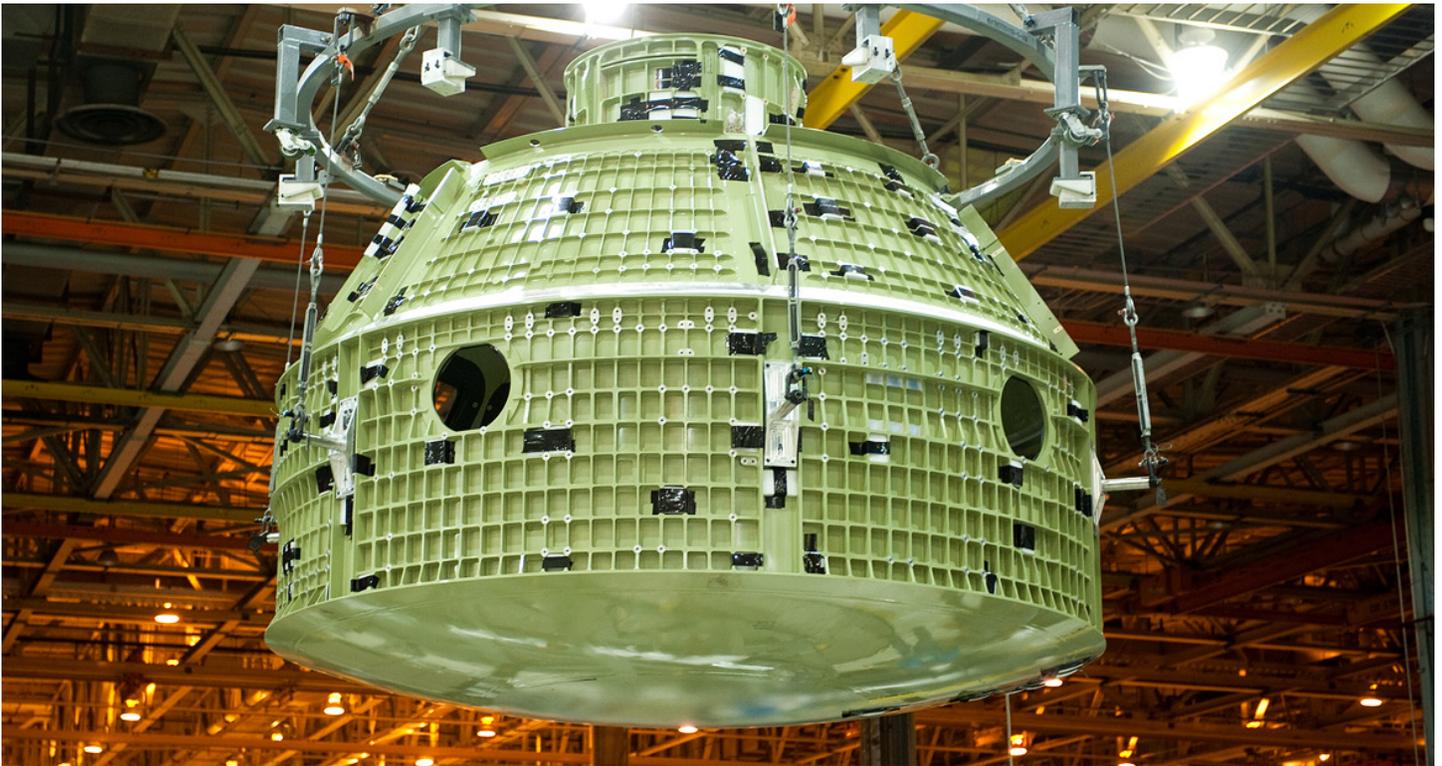


Final assembly of EFT-1 spacecraft begins with KSC arrival

With more than 450 people in attendance, the Orion Exploration Flight Test (EFT-1) flight vehicle was officially unveiled at a ceremony at the Kennedy Space Center (KSC) on July 2. Senator Bill Nelson (FL) was on hand for the capsule's arrival at KSC, as were representatives from the offices of Sen. Marco Rubio and Reps. Sandy Adams and Bill Posey. Many NASA officials were also in attendance and several spoke at the ceremony, including Lori Garver, NASA's deputy administrator. Space Flight Awareness honorees were also in attendance.

Immediately following the ceremony, NASA officials answered questions about the Orion spacecraft in a live television broadcast from followers of NASA's social media accounts. View the social chat session at: <http://bit.ly/NrSgks>

The Orion EFT-1 spacecraft, which will fly an uncrewed flight in 2014, will undergo final processing at KSC, including application of heat shielding thermal protection systems, avionics and other subsystems.



Michoud team completes EFT-1 welding, ships vehicle to KSC

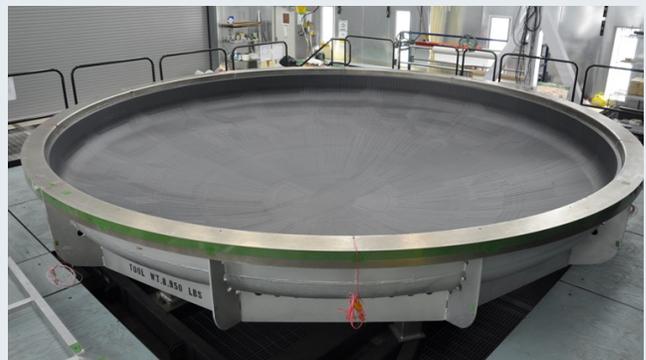


The Orion team at the Michoud Assembly Facility (MAF) in New Orleans (photo left) completed a major program milestone with the final closeout weld activities for the EFT-1 flight vehicle structure. The final weld joined the cone to the barrel, which completed the pressure vessel structure of the spacecraft. Following welding operations, the vehicle was shipped to KSC for final assembly and systems outfitting for flight.

Program Manager Mark Geyer and Lockheed Martin Orion Program Manager Cleon Lacefield recognized the outstanding work by the Orion team at MAF with Orion Program Commendations and Space Flight Awareness (SFA) Team and Leadership Awards. Space Launch Systems (SLS) Program Manager Todd May also shared an update on SLS program progress. Orion Program Manager's Commendations were given to Kevin Schuengel, Paul Cooper and Ray Ziblich. An SFA Management award was presented to Jimmy Doll and the SFA team award went to the Orion EFT-1 Crew Module Welding Team.

Successful completion of heatshield laminate

The composite carrier structure for the EFT-1 crew module heatshield has completed the layup and curing process ahead of schedule. Preparations for removal of the skin from the tool have begun. The next step is assembly of the titanium skeleton assembly, which will then be integrated with the skin. The heat shield will provide ample protection for the crew module as it re-enters the Earth's atmosphere at 25,000 mph.



Team conducts final preparations for airdrop test

The parachute team continues preparation activities for the next major airdrop test on July 18 at the U.S. Army's Yuma Proving Grounds in Arizona. The test will be conducted using the parachute test vehicle (PTV) representing the Orion Spacecraft capsule and will examine the effects of one main parachute skipping their first reefing stage. Recent accomplishments

included installation and final checkout of carriage platform separation system pyrotechnics and avionics, installation of the PTV programmer parachute and final checkout of PTV avionics. Pictured are the Capsule Parachute Assembly System (CPAS) test build-up team in Arizona.



Parachute wind tunnel testing at Texas A&M

The parachute team completed the final entry for the subscale drogue wind tunnel test series performed at Texas A&M University. The testing was focused on measuring the pressure distribution in the drogue canopy and characterizing the stability of the drogue in the wake of a fixed Orion capsule. The testing was performed for all stages of the drogue at varying angles

of crew module attack. The data collected from the testing is the first available to the Orion Program with this fidelity in a controlled environment. Pictured are the Subscale Drogue Parachute Wind Tunnel Test support group.



Zero-G suit testing at Johnson Space Center

The Crew and Service Module Suit Systems team completed the first round of Active Response Gravity Offload System (ARGOS) testing in Building 9 at the Johnson Space Center in Houston. The testing was performed to characterize the zero-g mobility of the existing government furnished equipment suit design. The ARGOS system allows suspension of the test subject simulating zero-g motion and reaction.



Data flow test helps mitigate risk

This month marked a successful data flow test from the Exploration Development Lab – Houston (EDL-H) to the Mission Control Center (MCC). The test proved that telemetry can flow properly between the two locations, mitigating the risk for the upcoming complete test on Orion communications and tracking equipment between the Integrated Test Lab in Denver and the MCC in mid August.



SSANS students deliver hardware to NASA, receive RNASA nomination

Students from Brookhill High School and T. K. Gorman High school in the Tyler, TX area recently visited the Orion Medium Fidelity Mockup at Johnson Space Center on June 6 to present their Orion lighting control design and hardware to be used in the mockup. The students are participants in the Students Shaping America's Next Spacecraft, or SSANS program. The program, developed by NASA and Lockheed Martin, gives students the opportunity to get real-world engineering experience, learn more about what NASA is doing, and to contribute to NASA's spacecraft that will take astronauts beyond low-Earth orbit.

Additionally, Lockheed Martin nominated SSANS Science, Technology, Engineering and Math (STEM) schools for the prestigious Rotary National Award for Space Achievement (RNASA) Stellar award. The hard work and enthusiasm of the students and their faculty advisors, has allowed this innovative initiative to succeed far beyond the team's original vision.

Pictured below are the students, University of Texas at Tyler faculty and Orion SSANS leadership in front of the Orion mockup.



NASA engineer teaches students about Orion

Stu McClung, NASA's Orion Landing and Recovery Operations manager presented an overview of the Orion program to more than 30 Camp KSC students at the Astronaut Hall of Fame on June 29. The students, ranging from 4th to 9th grades, were finishing up their weeklong camp when they had the opportunity to experience, imagine, and interact through simulations and hands-on space activities. "The students presented lots of good questions," stated McClung. "We probably had a couple of future engineers or astronauts in the crowd."

Orion participates in KSC's 50th anniversary celebration

An event was held at Kennedy Space Center's Visitor Complex on July 1 to commemorate KSC's 50th anniversary. The event celebrated the center's past, present and future and included a presentation by Orion Landing and Recovery Operations manager, Stu McClung, on the history and the dynamic transformations underway to support the next generation of exploration.