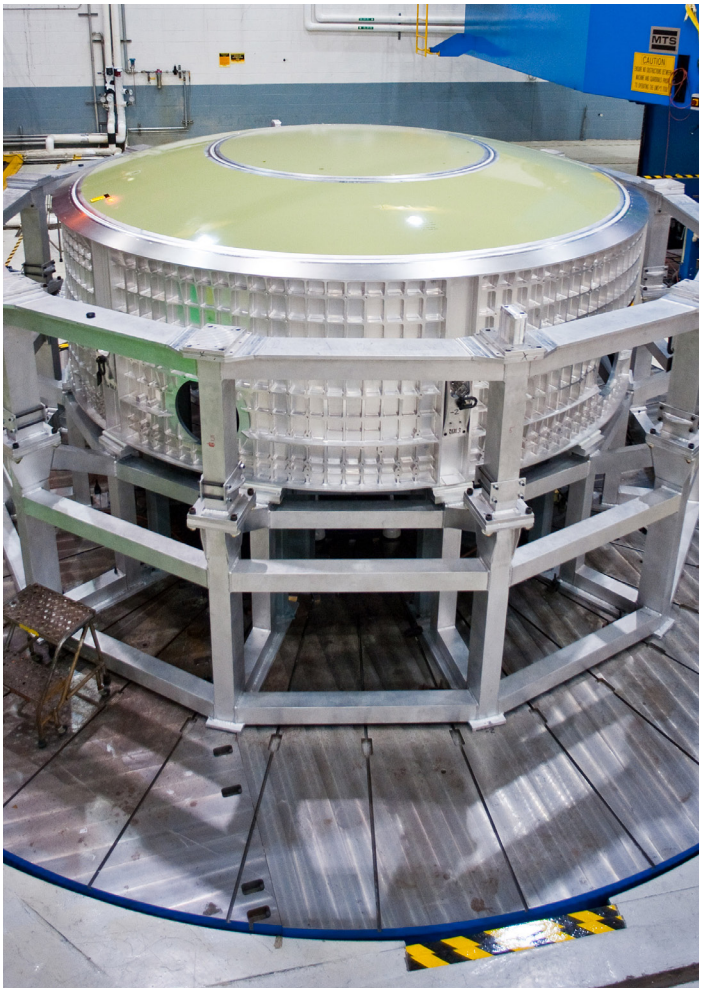
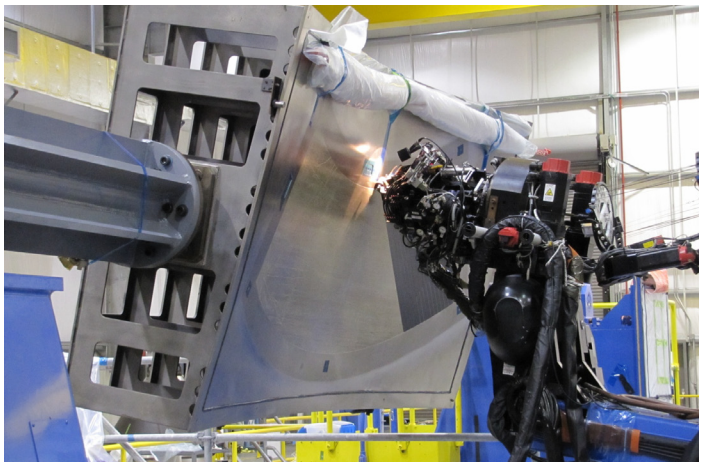
MONTHLY ACCOMPLISHMENTS
March 2012

orion





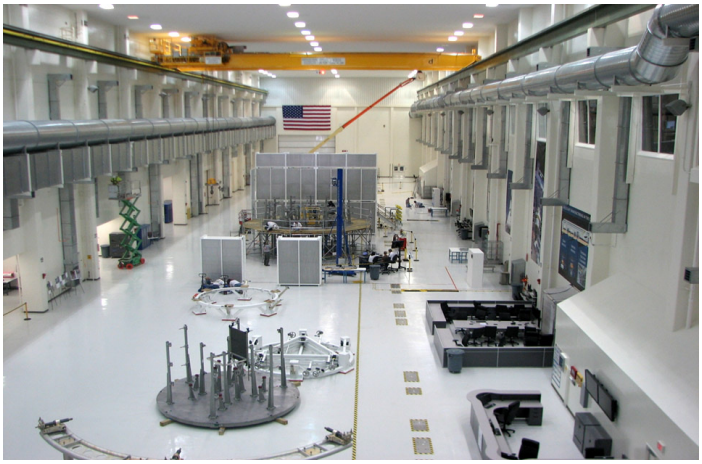
Progress continues on EFT-1 at MAF

The Orion team at the Michoud Assembly Facility in New Orleans continues to make good progress on the Exporation Flight Test (EFT-1) Crew Module (CM) and Service Module (SM).

The CM barrel to aft bulkhead weld, and the aft bulkhead cap weld were completed this month. The team started the non-destructive evaluation (NDE) process and preliminary visual inspections look good. Three welds remain to complete the structure: the tunnel to forward bulkhead weld, the forward bulkhead to cone weld, and the final closeout weld joining the cone section to the barrel.

Progress also continues on fabrication of the composite service module panels. The team has made progress on shear panels, inboard walls, and forward walls. This month, four panels completed fiber placement, five completed non-destructive evaluation and one completed trim testing.

The CM and SM structural elements will arrive at the Kennedy Space Center (KSC) Operations and Checkout (O&C) facility in early June for final assembly and systems outfitting.



HEPA walls installed at Kennedy Space Center

The first deliveries of the High Efficiency Particulate Air (HEPA) wall filtering equipment was installed and powered up at the Operation & Checkout (O&C) facility at KSC. The remaining modules will be installed by the end of the month.

NASA celebrates space day with the Space Coast Stadium

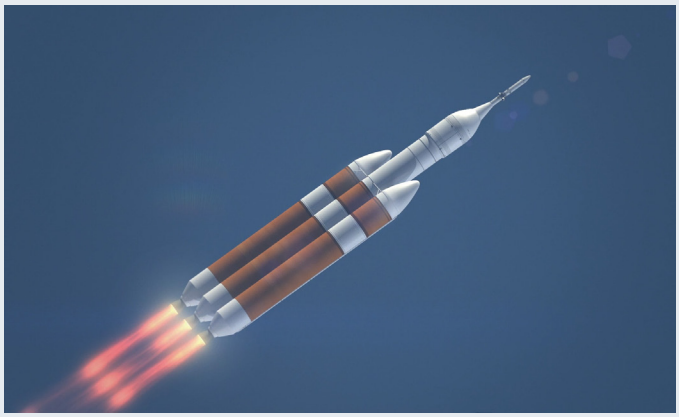
A full-scale test version of NASA's new Orion spacecraft was placed outside Space Coast Stadium in Viera, Fla. on March 8 as part of the Space Day celebration to show the public the spacecraft that will take astronauts farther into space than ever before.

Spacecraft tooling moves to KSC

The Ground Test Article (GTA) crew module work stands, which were shipped from Lockheed Martin's facility in Denver, were received at the Operations and Checkout (O&C) facility at Kennedy Space Center on March 20. The work stand will be used in the assembly of the Exploration Flight Test 1 vehicle scheduled to arrive at KSC in June.

Service Module longerons arrive at KSC

The second of six EFT-1 service module longerons have arrived from AMRO Fabricating Corporation in San Diego to the Operations & Checkout (O&C) facility at Kennedy Space Center. The longerons will provide structural support to the vehicle.



Formal proposal for EFT-1 launch services

Lockheed Martin Space Systems, which is under contract to NASA to perform the Exploration Flight Test (EFT-1), selected the Delta IV Heavy rocket, operated by United Launch Alliance, to launch Orion on its flight in early 2014. The unmanned flight will take Orion to an altitude that has not been achieved by a craft intended for human flight since the Apollo lunar landing missions.

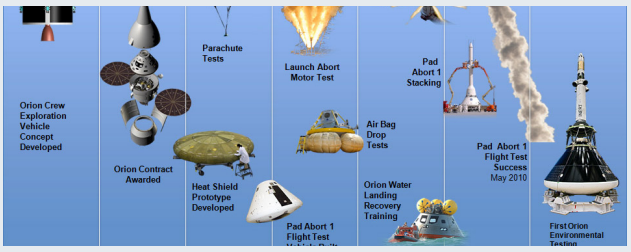
View the EFT-1 animation narrated by Jay Estes: **https://vimeo.com/38582552**

Preparations continue for next airdrop test

The CPAS team continued preparation activities for the Parachute Compartment Drop Test Vehicle (PCDTV3) airdrop test, scheduled for April 17, which will deploy the two drogue parachutes in the highest dynamic pressure environment to date, and will demonstrate a main parachute skipped second stage. Recent accomplishments include installing the main parachutes into the parachute compartment, including the use of updated design main parachute retention panels; programmer parachute installation; parachute compartment cutter bodies installation; and Mid-Air Release System (MDS) cutter bodies installation.

Thermal Protection System Arc Jet tests completed

The NASA Glenn Research Center Seal Team successfully completed the Orion backshell panel-to-panel Interface Thermal Protection System (iTPS) Parallel Flow arc jet tests in the NASA Ames Research Center Panel Test Facility (PTF). This test series built upon previous test series by orienting the interfaces parallel to the flow direction to determine whether the orientation affected the amount of flow and thermal ingestion into the interface.



Orion 101 @ JSC

Orion Program Manager Mark Geyer gave an Orion 101 presentation to approximately 300 attendees at the Johnson Space Center's Teague Auditorium on March 5.