



GROUND SYSTEMS

Development and Operations

EXPLORATION BEGINS HERE



PROGRAM HIGHLIGHTS • JUNE 2012

At NASA's Kennedy Space Center in Florida, the Ground Systems Development and Operations (GSDO) Program office is leading the center's transformation from a historically government-only launch complex to a spaceport bustling with activity involving government and commercial vehicles alike. GSDO is tasked with developing and using the complex equipment required to safely handle a variety of rockets and spacecraft during assembly, transport and launch. This is the first issue of monthly updates about GSDO accomplishments happening around the center. For more information, visit: <http://go.nasa.gov/groundsystems>.

Young-Crippen Firing Room Revamped

The firing room of the future has undergone extensive renovations so that it can support a variety of rocket and spacecraft launches, including NASA's Space Launch System. Old monitors and computers have been replaced with modern off-the-shelf workstations, upgraded servers and modern cabinetry. Cables and other elements of the infrastructure have been removed and replaced with new materials. Old wiring that transmitted images from a single camera were pulled to make way for a tiny fiber-optic cable that carries the signals of more than 570 cameras from the launch pad to the control



room. For the complete story, visit: <http://www.nasa.gov/exploration/systems/ground/firingroomtour.html>

Former Apollo engineer meets Orion Spacecraft

On May 24, former Apollo engineer James Murphy and his family visited the Operations and Checkout (O&C) Building for a tour of the renovated high bay and viewing of the Orion ground test vehicle. The former AC Delco employee worked on the navigation systems used in the Apollo spacecraft. He worked on Apollos 8 through 14 in different capacities during his two years at Kennedy. For the complete story, visit: <http://www.nasa.gov/exploration/systems/mpcv/murphytoursoc.html>



Media Tour O&C high bay and Orion Test and Launch Control Center

On May 17, local, regional and national photographers and reporters toured the O&C high bay, which was upgraded by Lockheed Martin. They viewed the Orion Ground Test Vehicle, Orion processing stations and the new Orion Test and Launch Control Center. During the tour, United Space Alliance technicians demonstrated the process used to manufacture the wire harnesses that will be used on Orion. A trip to Launch Complex

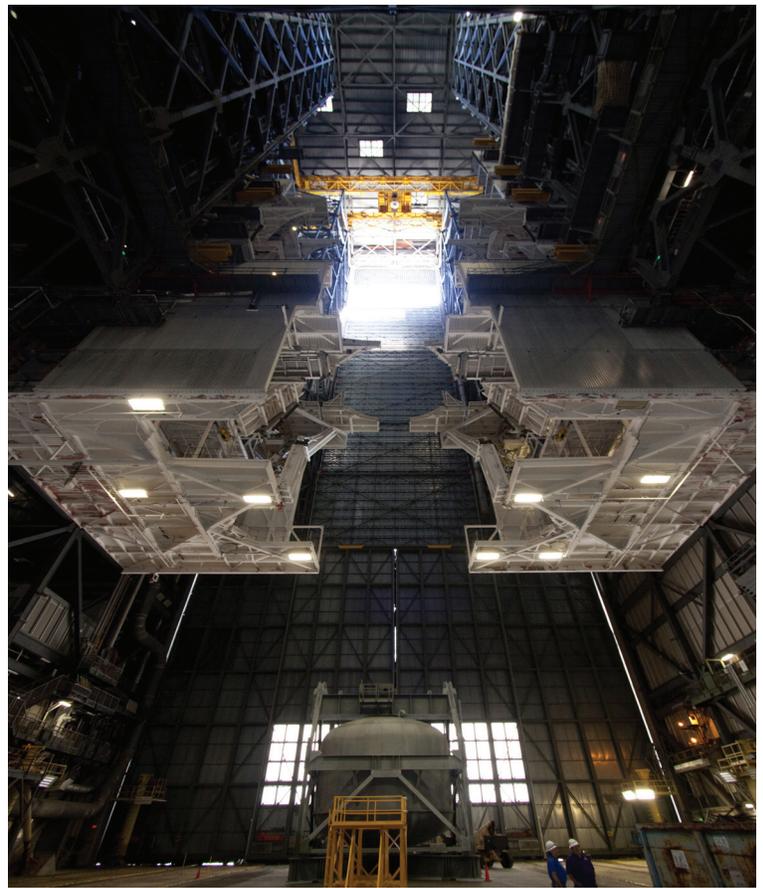
37 at Cape Canaveral Air Force Station in Florida provided viewing of the United Launch Alliance (ULA) Delta IV heavy rocket on the pad. ULA will complete some modifications to the launch pad in order to accommodate the unique configurations required for the Exploration Flight Test-1 launch on a Delta IV.

Vehicle Assembly Building Modifications Underway

Modifications to the infrastructure of the Vehicle Assembly Building (VAB) are underway to prepare the historic landmark so that it can accommodate various launch vehicles and different launch processing configurations. Upgrades will include installing new braking systems on the massive VAB doors, renovating infrastructure dating back to the 1960s such as water and drainage pipes, and modernizing the five primary overhead cranes. More than 50 miles of Apollo-era cabling will be removed and replaced with modern lines. Work platforms in High Bay 3, dating back to the Apollo era will be removed. For the complete story, visit: <http://www.nasa.gov/exploration/systems/ground/vabrefurbishment.html>

Vehicle Assembly Building Clean Room Testing

A test of a new kind of clean room that could be used to help protect NASA's Orion spacecraft from dirt and dust during processing, has been going on in High Bay 3 inside the Vehicle Assembly Building for several weeks. A full-scale Orion model is being used for testing. Developed by Astrotech in Titusville, Fla., the room has two, 10-foot-high walls of filter-equipped fans positioned 30 feet apart to push and pull the air in one direction across the capsule. Another set of two clear walls completes the box. It has no ceiling. This would allow the use of a large crane to lift Orion and its shell into place as it is assembled on top of the Space Launch System rocket. For the complete story, visit: <http://www.nasa.gov/exploration/systems/ground/vabcleanroom.html>



Crawler Transporter gets Upgrades

Work continues in High Bay 2 inside the Vehicle Assembly Building to upgrade Crawler Transporter-2 (CT-2) so that it can carry NASA's Space Launch System heavy-lift rocket, which is under design, and new Orion spacecraft to the launch pad. The Apollo era diesel engines were removed and new generator mufflers were installed. The crawler-transporters were used to carry the mobile launcher platform and space shuttle to Launch Complex 39 for space shuttle launches for 30 years. For the complete story, visit: http://www.nasa.gov/exploration/systems/ground/ct2_engines.html

