



PROGRAM HIGHLIGHTS • OCTOBER 2014

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. For more information about GSDO accomplishments happening around the center, visit <http://go.nasa.gov/groundsystems>.

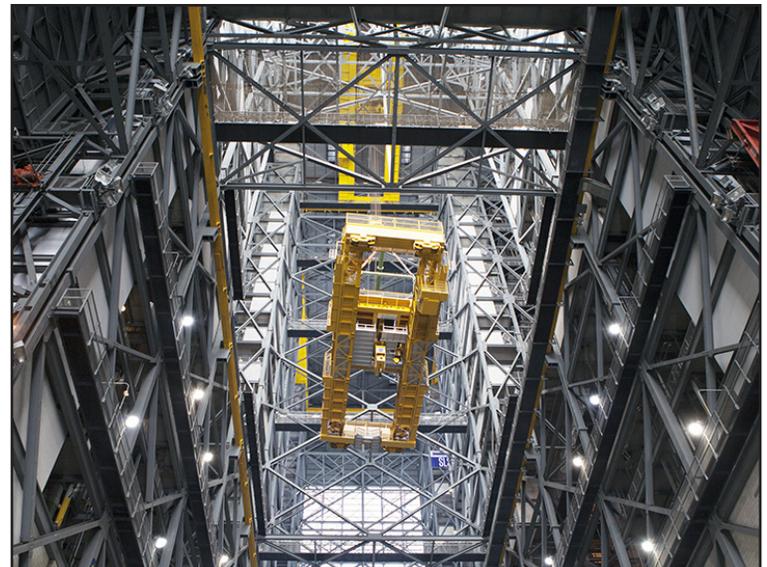
VAB Crane Undergoes Upgrades for Future Launch Processing

It was no small feat to lift and stack heavy Saturn V rocket segments and space shuttle components using the large cranes in the Vehicle Assembly Building (VAB) at NASA's Kennedy Space Center in Florida. The agency has successfully accomplished these processing tasks since the late 1960s. Now, one of the cranes that sits across the massive building's transfer aisle, the 175-ton bridge crane, is undergoing modifications and upgrades so that it can support lifting needs for future exploration vehicles, including NASA's Space Launch System and Orion spacecraft.

This crane, two 250-ton cranes, and several other smaller cranes and hoists were original equipment when the VAB was constructed. The two 325-ton cranes were added in the early 1990s. The 175-ton crane was one of the cranes used to stack the Saturn V rocket for the Apollo 11 mission to the moon. It also was the crane used to rotate the space shuttle from the horizontal to the vertical position for hoisting into position on the mobile launcher platform with the external fuel tank and solid rocket boosters.

"There's a lot of history here with the cranes in the VAB," said Larry Jones, a lifting equipment system engineer in Ground Processing at Kennedy. "They are great machines."

Construction workers removed a portion of the railing and walkway on either side of the 114-foot-wide transfer aisle so that the crane operator could lift up and turn the bridge crane at about a 90-degree angle to gain clearance. Then the crane was slowly lowered onto steel



The 175-ton crane was turned as it was lowered by crane Sept. 18 from Level 16 down to the transfer aisle floor in the Vehicle Assembly Building. Photo credit: NASA/Daniel Casper

support structures positioned on the ground floor of the transfer aisle.

Technicians and crane specialists with Advanced Crane Technologies in Redding, Pennsylvania, got busy removing the original cab that was used to operate the crane.

The cab's 45-year-old remote control system, cabling and wiring will be upgraded to improve its reliability, precision and safety.

For the complete story, visit <http://go.nasa.gov/10z8sdA>

New Platforms for VAB High Bay 3 Being Prepared

Modifications continue in High Bay 3 in the Vehicle Assembly Building at NASA's Kennedy Space Center in Florida to support NASA's Space Launch System vehicle.

The high bay is being prepared for delivery of the first new work platform early next year.

The steel platforms are being prepared at locations in Utah, Georgia, and various locations in Florida. The platforms are being formed, welded and painted.

Currently, one platform is being assembled, another is being painted, and another is in fabrication. In all, there will be 10 platform levels, with a total of 20 platform halves in High Bay 3.



Preliminary assembly of a platform for High Bay 3 is in progress in September at Sauer Inc. in Oak Hill, Florida.



One of the stainless steel rail hinges is being prepared in September for a platform at Peterson Inc. in Ogden, Utah.



Preliminary assembly of a platform for High Bay 3 is in progress in September at Sauer Inc. in Oak Hill, Florida.

Firing Room 1 Will be Site of Orion Flight Following

Firing Room 1 in Kennedy Space Center's Launch Control Center will be the site of flight following for Orion's first flight test in December. Details of the plan were presented Sept. 19 during a progress meeting.

During the launch of Orion on the first flight test on a United Launch Alliance Delta IV Heavy rocket Dec. 4, NASA, Orion Program and contractor engineers will monitor flight activities from launch through recovery. About 48 console operators and data observers will be stationed at 16 portal work stations in the completely new and reconfigured firing room.

The flight following will demonstrate current command, control, communications and range systems, exercise specific GSDO mission application software and allow GSDO to evaluate and exercise control room operations concepts.



Firing Room 1 in the Launch Control Center at Kennedy Space Center will be used for flight following during Orion's first flight test. Photo credit: NASA/Dimitri Gerondidakis

Employee Spotlight -- Ted Drake

Ted Drake is the core stage liaison for the Ground Systems Development and Operations (GSDO) Program at Kennedy Space Center. In this position, he works with the core stage element of the Space Launch System at Marshall Space Flight Center in Alabama.

As the liaison, his responsibilities include getting people connected to the right folks between the two programs, and working between the programs to understand issues and try to resolve those with cross-program teams and building synergy between the programs.

"The coolest part of my job in GSDO is getting to see the hardware that is going to be coming to Kennedy," Drake said.

One of the achievements that he's most proud of is being involved as the GSDO representative for core stage preliminary design review and critical design review. He was involved in making sure that the inputs were understood and incorporated into the design review.

"It really was rewarding to get to be the spokesperson for a lot of effort that went on here at Kennedy to help the flight article," Drake said.

Looking ahead, Drake hopes we go on to Mars and push the envelope a little bit further.

Drake's first car was a 1979 yellow Chevrolet Caprice Classic station wagon. He is married to wife, Tracy, and they have two sons, Davis, a student at the University of Central Florida, and Tanner, a high school student. They have two miniature schnauzers, Max and Lizzie.



Drake's hobbies include golf, home projects, cooking on the Big Green Egg, and Brane theory of the Ekpyrotic Universe.



Jeremy Graeber, Orion recovery director, participated in a preflight briefing to the news media Nov. 6 at the KSC News Center. The briefing provided details on what Orion's first flight entails. Also participating in the news conference, were William Hill, deputy associate administrator for Exploration Systems Development; Mark Geyer, Orion Program manager; Bryan Austin, Lockheed Martin mission director; Mike Sarafin, Orion flight director; and Ron Fortson, United Launch Alliance director of mission management.

