Space Shuttle Discovery at Launch Pad For Return to Flight

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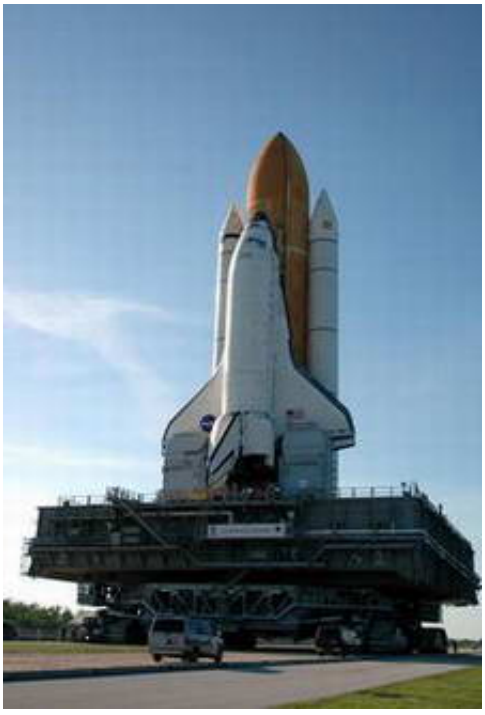

The Space Shuttle Discovery is at the launch pad. Following more than two years of safety modifications and vehicle upgrades, Discovery arrived at Launch Pad 39B at NASA's Kennedy Space Center, Fla., around 12:30 a.m. EDT today.

"This is a big milestone," said William Readdy, NASA associate administrator for Space Operations, "and what a welcome sight to see

Discovery at the pad, especially knowing the work we're doing to make it a stronger vehicle. But we're not finished yet. There are still some important milestones we're working toward before we're ready to fly," he added.

Launch of Discovery for its Return to Flight mission, designated STS-114, is targeted for May 15, with a launch window that extends until June 3. During their 12-day mission, Commander Eileen Collins and the rest of Discovery's seven-person crew will test new hardware and techniques to improve Shuttle safety, as well as deliver supplies to the International Space Station.

"Having Discovery on the pad puts us one step closer to resuming the Space Shuttle's important mission of supplying and assembling the International Space Station," said Michael Kostelnik, NASA deputy associate administrator for International Space Station and Space Shuttle Programs.

Discovery's journey to the launch pad from the Vehicle Assembly Building (VAB) was a slow and careful one. The fully assembled Space Shuttle Vehicle "stack" that includes the Orbiter, the External Tank and the twin Solid Rocket Boosters, was mounted on the Mobile Launcher Platform. The whole assembly was carried to the launch pad on a vehicle known as a crawler transporter. The crawler's maximum speed during the four-mile journey was less than one mile per hour.

Discovery's rollout was not without its challenges. Shortly before it moved out of the VAB, when Discovery and its propulsion elements were thoroughly inspected, engineers spotted a tiny, hairline crack in the External Tank's insulating foam. After reviewing the data, engineers determined the crack, on the opposite side of the tank from the Orbiter, was not in a location where it could become hazardous. The "go" was then given for roll.

"We plan to reassess the area during and after a tanking test we have planned for next week, but based on our preliminary analysis, we don't expect to have to repair the crack," said Sandy Coleman, External Tank Project Manager.

Several hours later, when Discovery neared the pad, the mechanism that keeps the Shuttle level as it moves up a ramp gave conflicting readings. The process was stopped, the issues addressed, and the Shuttle was moved securely onto the pad.

Now at the launch pad, the Space Shuttle will undergo final connections for launch, and a pressurized cargo container will be installed. The special "tanking test" on April 14 will check out Space Shuttle hardware associated with filling the External Tank with its cryogenic propellants. The test also will condition the main propulsion system.

"This milestone signifies an outstanding effort of thousands of people throughout the country who came together as a team to ensure a safe Return to Flight," said Bill Parsons, Space Shuttle program manager. "I have tremendous confidence in their work," he added.

In all, Discovery underwent 41 major modifications in response to the Columbia accident, including work to address the recommendations of the Columbia Accident Investigation Board. These include adding the new Orbiter Boom Sensor System; equipping the Orbiter with cameras and laser systems to inspect the Shuttle's Thermal Protection System, or heat shield, while in space; installing sensors in the leading edge of the Shuttle's wings, a new safety measure that monitors the Orbiter's wings for debris impacts; and adding a new digital camera to view the External Tank during launch. The External Tank will fly with several modifications, including two new forward bipod heaters at the forward attach fittings that connect the tank to the Orbiter.