Dawn Arrives in Florida - A Little After Dawn

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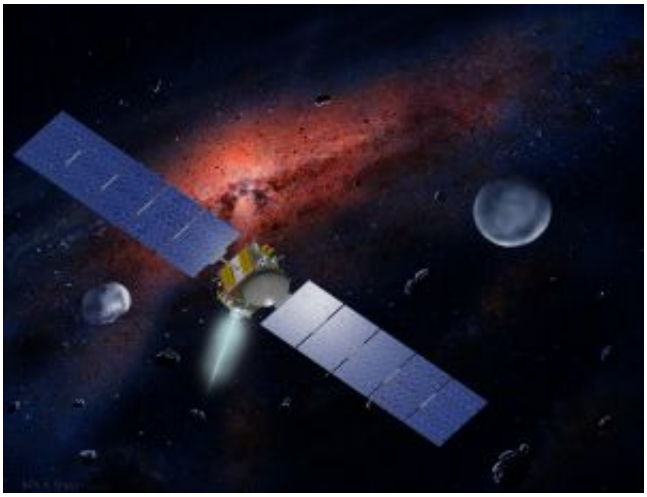

Artist concept of Dawn. Image credit: William K. Hartmann Courtesy of UCLA

The Dawn spacecraft arrived at Astrotech Space Operations in Titusville, Fla., at 9 a.m. EDT today. Dawn, NASA's mission into the heart of the asteroid belt, is at the facility for final processing and launch operations. Dawn's launch period opens June 30.

"Dawn only has two more trips to make," said Dawn project manager Keyur Patel of NASA's Jet Propulsion Laboratory in Pasadena, Calif. "One will be in mid-June when it makes the 15-mile journey from the processing facility to the launch pad. The second will be when Dawn rises to begin its eight-year, 3.2-billion-mile odyssey into the heart of the

asteroid belt."

The Dawn spacecraft will employ ion propulsion to explore two of the asteroid belt's most intriguing and dissimilar occupants: asteroid Vesta and the dwarf planet Ceres.

Now that Dawn has arrived at Astrotech near NASA's Kennedy Space Center, final prelaunch processing will begin. Technicians will install the spacecraft's batteries, check out the control thrusters and test the spacecraft's instruments. In late April, Dawn's large solar arrays will be attached and then deployed for testing. In early May, a compatibility test will be performed with the Deep Space Network used for tracking and communications. Dawn will then be loaded with fuel to be used for spacecraft control during the mission. Finally, in mid-May, the spacecraft will undergo spin-balance testing. Dawn will then be mated to the upper stage booster and installed into a spacecraft transportation canister for the trip to Cape Canaveral Air Force Station. This is currently scheduled for June 19, when it will be mated to the Delta II rocket at Pad 17-B.

The rocket that will launch Dawn is a Delta II 7925-H manufactured by the United Launch Alliance; it is a heavier-lift model of the standard Delta II that uses larger solid rocket boosters. The first stage is scheduled to be erected on Pad 17-B in late May. Then the nine strap-on solid rocket boosters will be raised and attached. The second stage, which burns hypergolic propellants, will be hoisted atop the first stage in the first week of June. The fairing which surrounds the spacecraft will then be hoisted into the clean room of the mobile service tower.

Next, engineers will perform several tests of the Delta II. In mid-June, as a leak check, the first stage will be loaded with liquid oxygen during a simulated countdown. The next day, a simulated flight test will be performed, simulating the vehicle's post-liftoff flight events without fuel

aboard. The electrical and mechanical systems of the entire Delta II will be exercised during this test. Once the Dawn payload is atop the launch vehicle, a final major test will be conducted: an integrated test of the Delta II and Dawn working together. This will be a combined minus and plus count, simulating all events as they will occur on launch day, but without propellants aboard the vehicle.

Source: NASA/JPL