

Shuttle Discovery counts down to final space voyage

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This photo provided by NASA shows the space shuttle Discovery on launch pad 39a early in the morning of Sunday, Oct. 31, 2010 at the NASA Kennedy Space Center in Cape Canaveral, Fla. NASA says space shuttle Discovery is finally leak-free and ready to blast off Wednesday, Nov. 3, 2010. (AP Photo/Bill Ingalls, NASA)

Discovery, the oldest space shuttle in NASA's fleet, is readying for its final mission Wednesday following repairs to leaks in a pressurization system that has twice delayed the launch.

"Work is on schedule. We completed flight pressurization and all went well. That is behind us now," Steve Payne, NASA test director, told reporters as the countdown to launch kicked off at 2:00 pm (1800 GMT) Sunday.

The mission, initially scheduled for Monday, was postponed so Kennedy Space Center technicians could repair quick-disconnect fittings in the system used to pressurize one of Discovery's orbital maneuvering rocket engines.

Discovery and its six American astronauts will now launch from Florida's Kennedy Space Center at 3:52 pm (1952 GMT) Wednesday bound for the [International Space Station](#) (ISS).

The [weather forecast](#) remains 70 percent for favorable conditions, Kathy Winters, Cape Canaveral's senior meteorologist, said at a press briefing, adding that there were slight concerns of possible rain and clouds in the launch area.

The flight to the orbiting ISS is the fourth and final shuttle flight of the year, and the last scheduled for Discovery, the oldest in the three-shuttle fleet that is being retired in 2011.

Discovery has been the busiest shuttle in history, with a record 38 trips into space since its first launch in 1984. According to NASA, it has traveled over 142 million miles (228 million kilometers) during that time, involving 5,628 orbits of the Earth over 351 days.

NASA has long relied on the Discovery spacecraft at key points along its 26-year career -- the launch of the [Hubble Space Telescope](#) in 1990, the first ever female shuttle pilot Eileen Collins in 1995, and in 1998 it carried US space icon John Glenn to become the oldest human to fly in space at age 77.

Its all-American crew on this voyage, including female mission specialist Nicole Stott, will deliver a pressurized logistics module called Leonardo, which will be permanently attached to the space station to give it more storage space.

The shuttle will also bring Robonaut 2, the first human-like robot in space, and a permanent addition to the orbiting space station, as well as spare parts.

Two space walks, for maintenance work and component installation, are scheduled.

The three US shuttles -- the other two are Atlantis and Endeavour -- are due to be sent off to become museum pieces after a final shuttle mission to the space station in late February.

That means Russian Soyuz spacecraft, a modernized version of which recently dropped off three fresh crew members to the ISS, doubling the crew to six, will for several years be the only vehicle for transporting humans into space.

However, NASA's recently approved 2011 budget has left the door open to an additional shuttle flight in June.

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