

California Science Center starts complex process to display Space Shuttle Endeavour vertically

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Technicians remove lifting lugs after placing the Space Shuttle Endeavour's Solid Rocket Aft Skirts on top of a seismic isolator pad in the Shuttle Gallery of at the Samuel Oschin Air and Space Center in Los Angeles, Thursday, July 20, 2023. The 20-story tall display which is currently under construction will stand atop an 1,800-ton concrete slab supported by so-called base isolators to protect Endeavour from earthquakes. Credit: AP Photo/Damian Dovarganes

A highly technical process began Thursday in Los Angeles to put NASA's retired Space Shuttle Endeavour on permanent display in the vertical launch position complete with external tank and two solid rocket boosters.

Workers used a crane to hoist the bottom segments of the boosters into the California Science Center's future Samuel Oschin Air and Space Center, which is currently under construction in Exposition Park.

The segments, called aft skirts, had to be precisely positioned so that the entire assembly can be stacked properly. Officials say it will be the first time the procedure has been done outside of a NASA facility.

The 20-story-tall display will stand atop an 1,800-ton (1,633-metric ton) concrete slab supported by six so-called base isolators to protect Endeavour from earthquakes.

Endeavour was built as a replacement for the destroyed Space Shuttle Challenger and flew 25 missions between 1992 and 2011.

When NASA's shuttles were retired, Endeavour was flown to California atop NASA's special Boeing 747 shuttle carrier in 2012, drawing crowds as it flew over locations in the state associated with the [space program](#).

After landing at Los Angeles International Airport, the shuttle was placed on a special trailer and then created a sensation as it was inched through tight city streets to the California Science Center over several days.



Workers used a crane to hoist the Solid Rocket Aft Skirts, the bottom segments of the boosters of the Space Shuttle Endeavour, before placing them on top of a seismic isolator pad inside the Shuttle Gallery at the Samuel Oschin Air and Space Center in Los Angeles, Thursday, July 20, 2023. Credit: AP Photo/Damian Dovarganes



Workers use a crane to hoist the Solid Rocket Aft Skirts, the bottom segments of the boosters of the Space Shuttle Endeavour, before placing them on top of a seismic isolator pad inside the Shuttle Gallery at the Samuel Oschin Air and Space Center in Los Angeles, Thursday, July 20, 2023. Credit: AP Photo/Damian Dovarganes



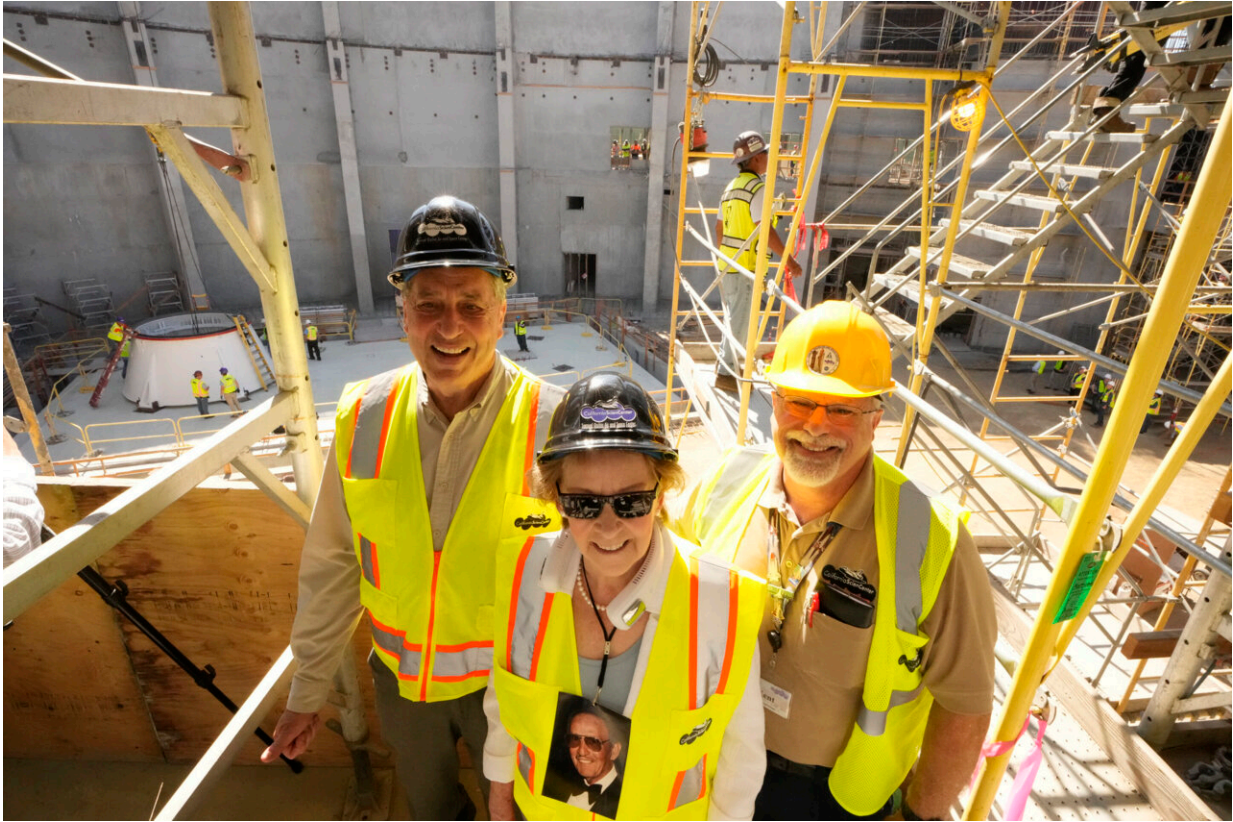
Braggs Companies General Foreman Jamie Holmes, left, supervises workers using a crane to hoist a Solid Rocket Aft Skirt, the bottom segment of the boosters of the Space Shuttle Endeavour, before placing it on top of a seismic isolator pad inside the Shuttle Gallery at the Samuel Oschin Air and Space Center in Los Angeles, Thursday, July 20, 2023. Credit: AP Photo/Damian Dovarganes



Retired Space Shuttle Rocket Booster engineer Larry Clark holds a specialized "lifting lug kit" used to be able to hoist the Solid Rocket Aft Skirts, the bottom segments of the boosters of the Space Shuttle Endeavour, before placing them on top of a seismic isolator pad inside the Shuttle Gallery at the Samuel Oschin Air and Space Center in Los Angeles, Thursday, July 20, 2023. Officials say it's the first time the procedure has been done outside of a NASA facility. Credit: AP Photo/Damian Dovarganes



Technicians attach specialized lifting lugs to the top ring of the Solid Rocket Aft Skirts, the bottom segments of the boosters of the Space Shuttle Endeavour, before using a crane to place them on top of a seismic isolator pad inside the Shuttle Gallery at the Samuel Oschin Air and Space Center in Los Angeles, Thursday, July 20, 2023. Credit: AP Photo/Damian Dovarganes



President and CEO of the California Science Center Jeffrey Rudolph, left, Lynda Oschin, wearing a picture of her late husband Samuel Oschin, the principal donors of the Samuel Oschin Air and Space Center, middle, and Vice President Retail Operations at California Science Center Foundation Kent Jones visit the construction of the Samuel Oschin Air and Space Center in Los Angeles, Thursday, July 20, 2023. A highly technical process began Thursday to put the retired NASA space shuttle Endeavour on permanent display in the vertical launch position complete with external tank and two solid rocket boosters. Credit: AP Photo/Damian Dovarganes



Lynda Oschin, wife of late Samuel Oschin, both the principal donors of the Samuel Oschin Air and Space Center, smiles as she tours the Samuel Oschin Air and Space Center in Los Angeles, Thursday, July 20, 2023. A highly technical process began Thursday to put the retired NASA space shuttle Endeavour on permanent display in the vertical launch position complete with external tank and two solid rocket boosters. Credit: AP Photo/Damian Dovarganes



Workers use a crane to hoist one of the two Space Shuttle Endeavour's Solid Rocket Aft Skirts bottom segments of the boosters into the California Science Center's future Samuel Oschin Air and Space Center in Los Angeles, Thursday, July 20, 2023. The shuttle will be moved across Exposition Park and lifted by a crane to be intricately mated to the external tank. Construction of the Air and Space Center will be completed around the full shuttle stack. Credit: AP Photo/Damian Dovarganes



Workers use a crane to hoist one of the two Space Shuttle Endeavour's Solid Rocket Aft Skirts bottom segments of the boosters into the California Science Center's future Samuel Oschin Air and Space Center in Los Angeles, Thursday, July 20, 2023. The shuttle will be moved across Exposition Park and lifted by a crane to be intricately mated to the external tank. Construction of the Air and Space Center will be completed around the full shuttle stack. Credit: AP Photo/Damian Dovarganes



Media gather under the Space Shuttle Endeavour for a news conference at the California Science Center in Los Angeles Thursday, March 3, 2016. The lengthy process of putting the retired space shuttle Endeavour on display in the vertical launch position will begin this month in Los Angeles. The California Science Center announced Thursday, July 6, 2023, that the six-month process will get underway July 20 at the future Samuel Oschin Air and Space Center currently under construction in Exposition Park. Credit: AP Photo/Richard Vogel,File



The Space Shuttle Endeavour lifts off pad 39-B with a crew seven at Kennedy Space Center, Fla., Sept. 12, 1992. The lengthy process of putting the retired space shuttle Endeavour on display in the vertical launch position will begin this month in Los Angeles. The California Science Center announced Thursday, July 6, 2023, that the six-month process will get underway July 20 at the future Samuel Oschin Air and Space Center currently under construction in Exposition Park. Credit: AP Photo,File



A crewmember waves the U.S. flag as the Space Shuttle Endeavour taxis to an airline maintenance hangar aboard a NASA Boeing 747, at the conclusion of its last flight at Los Angeles International Airport, Friday, Sept. 21, 2012. The lengthy process of putting the retired space shuttle Endeavour on display in the vertical launch position will begin this month in Los Angeles. The California Science Center announced Thursday, July 6, 2023, that the six-month process

will get underway July 20 at the future Samuel Oschin Air and Space Center currently under construction in Exposition Park. Credit: AP Photo/Reed Saxon,File

A groundbreaking ceremony for the Air and Space Center was held last year on the 11th anniversary of Endeavour's final return from space.

Dec. 31 will be the last chance to see Endeavour as it has been displayed—horizontally in the landing position—for years since arrival at the California Science Center.

The shuttle will be moved across Exposition Park and lifted by a crane to be intricately mated to the [external tank](#). Construction of the Air and Space Center will be completed around the full shuttle stack.

The center's foundation has raised nearly \$350 million of the \$400 million goal for the project.

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