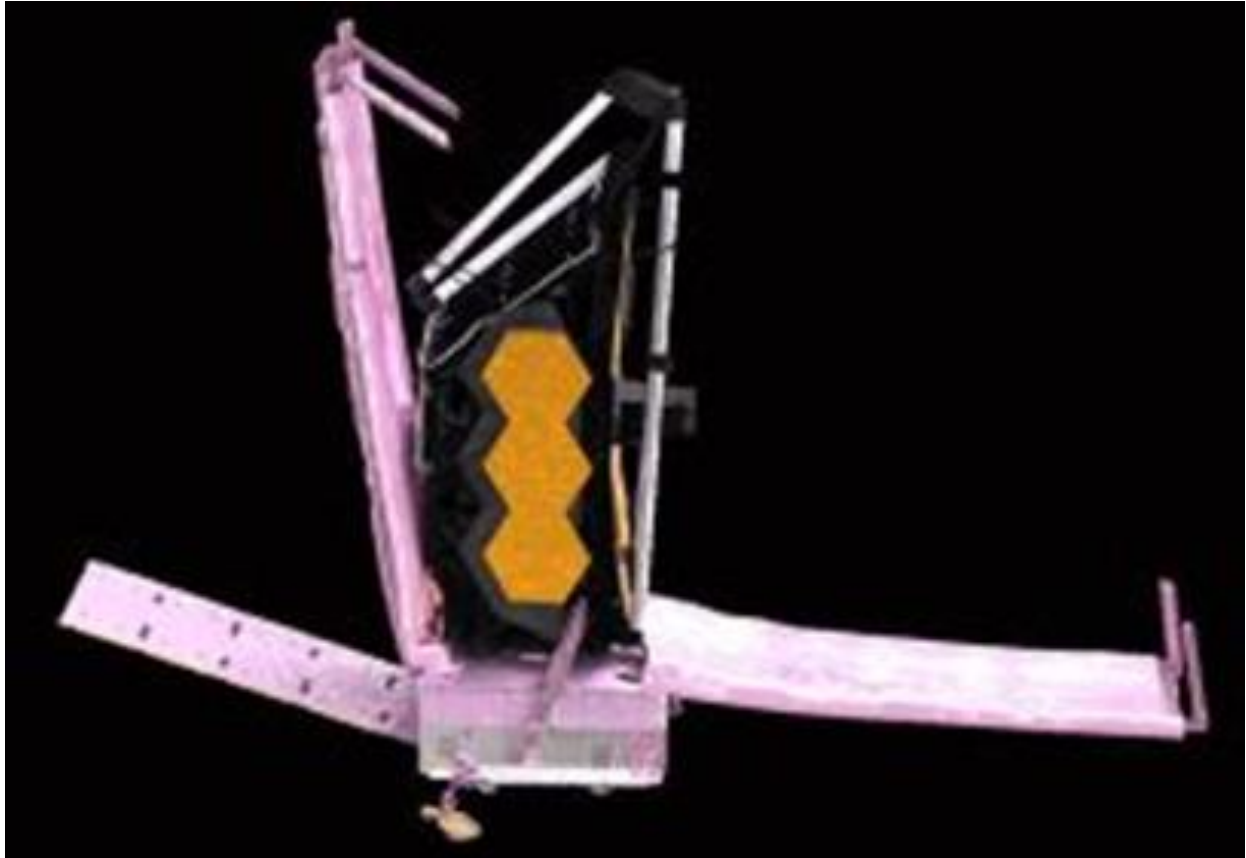


FEATURE

James Webb Space Telescope begins unfolding delicate, massive sunshield

By [Meghan Bartels](#)

<https://www.space.com/james-webb-space-telescope-sunshield-deployment-begins>



A NASA graphic shows the James Webb Space Telescope with its forward sunshield pallet deployed. (Image credit: NASA)

NASA's massive new space observatory has entered its most perilous phase yet as it begins the careful process of unfurling its delicate sunshield.

The [James Webb Space Telescope](#) launched on Saturday (Dec. 25) and will be a revolutionary new observatory focused on studying the universe in infrared light. But first, it has to survive a monthlong trek out to its final

post and a carefully choreographed deployment process.

On Tuesday (Dec. 28), the spacecraft notched another key step in that deployment as it unfolded the Forward Unitized Pallet Structure (UPS) of its vast sunshield, according to a [NASA statement](#). The process took four hours and concluded at 1:21 p.m. EST (1821 GMT), according to the agency. Webb then mimicked that process with the Aft UPS, which finished

deploying at approximately 7:27 p.m. EST on Tuesday (0027 Dec. 29 GMT), the agency said in an update.

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Unfolding the forward UPS included dozens of individual steps, NASA officials wrote. The successful maneuver marks the first step in the five-day-long process of preparing the sunshield, which will protect Webb's sensitive instruments from the sun's radiation.

"While the actual motion to lower the forward pallet from its stowed to its deployed position took only 20 minutes, and the lowering of the aft pallet took only 18 minutes, the overall process took several hours for each because of the dozens of additional steps required," NASA officials [said in a statement](#). "These include closely monitoring structural temperatures, maneuvering the observatory with respect to the sun to provide optimal temperatures, turning on heaters to warm key components, activating release mechanisms, configuring electronics and software, and ultimately latching the pallets into place."

The sunshield deployment process will likely finish around Jan. 3, although each stage of the deployment sequence is controlled from the ground and the timeline can be adjusted as NASA and its partners see fit.

After unfolding the two UPS structures, Webb's next key steps will be to unfold the Deployable Tower Assembly, release the sunshield cover and begin unfurling the sunshield itself.

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If all goes according to plan, the observatory will be in its final configuration and orbit within one month of launch. The spacecraft will orbit [Earth-sun Lagrange point 2](#), or L2, a point located nearly about 930,000 miles (1.5 million kilometers) away from Earth on the side opposite to the sun. Like the delicate sunshield, this location is crucial for allowing the instruments to gather infrared observations.

Editor's note: This article was updated with confirmation of the deployment of the Aft UPS.

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