NASA closes Chamber A door to commence Webb telescope testing

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Engineers watch as Chamber A's colossal door closes at NASA's Johnson Space Center in Houston. Credit: NASA/Chris Gunn

Though the Webb telescope will be enveloped in darkness, the engineers testing the telescope will be far from blind. "There are many thermal

sensors that monitor temperatures of the telescope and the support equipment," said Gary Matthews, an integration and testing engineer at NASA's Goddard Space Flight Center in Greenbelt, Maryland, who is testing the Webb telescope while it is at Johnson. "Specialized camera systems track the physical position of the hardware inside the chamber, monitoring how Webb moves as it gets colder."

In space, the telescope must be kept extremely cold, in order to be able to detect the infrared light from very faint, distant objects. To protect the telescope from external sources of light and heat (like the sun, Earth and moon), as well as from heat emitted by the observatory, a five-layer, tennis court-sized sunshield acts like a parasol that provides shade. The sunshield separates the observatory into a warm, sun-facing side (reaching temperatures close to 185 degrees Fahrenheit) and a cold side (400 degrees below zero). The sunshield blocks sunlight from interfering with the sensitive telescope instruments.

The James Webb Space Telescope is the scientific successor to NASA's Hubble Space Telescope. It will be the most powerful space telescope ever built. Webb is an international project led by NASA with its partners, ESA (European Space Agency) and the Canadian Space Agency.

Chamber A's sealed, vault-like door towers over engineers at NASA's Johnson Space Center in Houston. Credit: NASA/Chris Gunn

Provided by NASA