

## Image: NASA engineers prepare game changing cryotank for testing

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Credit: NASA/MSFC/Fred Deaton

NASA and Boeing engineers are inspecting and preparing one of the largest composite rocket propellant tanks ever manufactured for testing. The composite cryotank is part of NASA's Game Changing Development Program and Space Technology Mission Directorate, which is innovating, developing, testing and flying hardware for use in

NASA's future missions. NASA focused on this technology because composite tanks promise a 30 percent weight reduction and a 25 percent cost savings over the best metal tanks used today. The outer shell of the 18-foot-diameter (5.5-meter) cryotank is the same size as propellant tanks used on today's full-size rockets.

The tank was manufactured at the Boeing Developmental Center in Tukwila, Wash., and like artists, the team demonstrated their passion and commitment by signing their work. The silver signatures of the NASA and Boeing team members are visible on the black dome end of the tank. NASA's Super Guppy delivered the tank in March 2014 to NASA's Marshall Space Flight Center in Huntsville, Ala., and the Kmag, a 96-wheeled cargo truck, transported the tank to a Marshall Center test area.

The 28,000-gallons (105.992- liter) tank will be insulated and placed in a test stand where it will be loaded with liquid hydrogen cooled to extremely cold, or cryogenic temperatures. The orange ends of the tank are made of metal and will attach to the test stand so that structural loads can be applied similar to those the tank would experience during a rocket launch. This advanced composite cryotank could benefit many of NASA's deep [space](#) exploration spacecraft including NASA's Space Launch System, the largest most powerful rocket ever built.

Provided by NASA Image of the Day

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