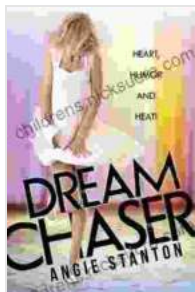


# Dream Chaser: A Detailed Exploration of the Future of Human Spaceflight

The Dream Chaser is a reusable spacecraft being developed by Sierra Nevada Corporation (SNC) for NASA's Commercial Crew Development (CCD) program. It is designed to transport astronauts and cargo to and from the International Space Station (ISS) and is intended to replace the aging Space Shuttle fleet. The Dream Chaser is unique in that it is a lifting-body spacecraft, meaning that it generates lift by using its own shape, rather than by relying on wings. This design gives it a number of advantages, including the ability to land on a runway like an airplane, which makes it more versatile than traditional spacecraft that must splash down in the ocean.



## Dream Chaser by Angie Stanton

★★★★☆ 4.2 out of 5

Language	: English
File size	: 1027 KB
Text-to-Speech	: Enabled
Screen Reader	: Supported
Enhanced typesetting	: Enabled
X-Ray	: Enabled
Word Wise	: Enabled
Print length	: 245 pages
Lending	: Enabled



## Design and Capabilities

The Dream Chaser is a sleek, cone-shaped spacecraft that measures approximately 30 feet (9 meters) long and has a wingspan of 23 feet (7 meters). It is made of a lightweight composite material and is designed to withstand the rigors of space travel. The Dream Chaser has a crew module that can accommodate up to seven astronauts and a cargo module that can carry up to 5,500 kilograms (12,000 pounds) of cargo.

The Dream Chaser is powered by a single Aerojet Rocketdyne AR1 engine that provides 33,000 pounds of thrust. The engine is fueled by liquid oxygen and liquid hydrogen, and it is capable of burning for up to 6 minutes. The Dream Chaser also has a set of four auxiliary thrusters that are used for maneuvering in space.

The Dream Chaser is equipped with a variety of avionics and sensors that allow it to navigate and control its flight. It also has a docking system that allows it to connect to the ISS. The Dream Chaser is designed to be able to stay docked to the ISS for up to 210 days.

## **History and Development**

The Dream Chaser was originally developed by NASA in the early 2000s as part of the Ares I-X program. The Ares I-X was a test rocket that was designed to launch the Orion crew capsule into Earth orbit. The Dream Chaser was intended to be the crew module for the Ares I-X, but the program was canceled in 2010.

In 2011, SNC acquired the Dream Chaser design from NASA and began developing it as a commercial spacecraft. SNC has partnered with a number of companies, including Boeing, Lockheed Martin, and United Launch Alliance, to develop and build the Dream Chaser.

The Dream Chaser has undergone a number of tests and milestones since its development began. In 2013, the Dream Chaser completed a successful glide test from an altitude of 12,000 feet. In 2017, the Dream Chaser completed a successful pad abort test, which demonstrated its ability to safely escape from the launch pad in the event of an emergency.

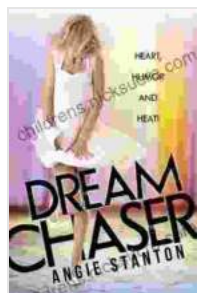
## **Role in the Future of Human Spaceflight**

The Dream Chaser is expected to play a major role in the future of human spaceflight. It is one of two spacecraft that NASA has selected for its Commercial Crew Development program. The other spacecraft is the SpaceX Crew Dragon.

The Dream Chaser is expected to begin operational flights to the ISS in 2024. It will be used to transport astronauts and cargo to and from the ISS, and it will also be used to conduct spacewalks and other maintenance tasks.

The Dream Chaser is also expected to be used for other missions beyond the ISS. It could be used to transport astronauts to the Lunar Gateway, which is a planned space station that will orbit the Moon. It could also be used to transport astronauts to Mars or other destinations in the solar system.

The Dream Chaser is a promising spacecraft with the potential to revolutionize human spaceflight. Its unique design and capabilities make it a versatile and adaptable spacecraft that can be used for a variety of missions. The Dream Chaser is expected to play a major role in the future of human spaceflight, and it is a testament to the ingenuity and innovation of the engineers and scientists who have worked on its development.



## Dream Chaser by Angie Stanton

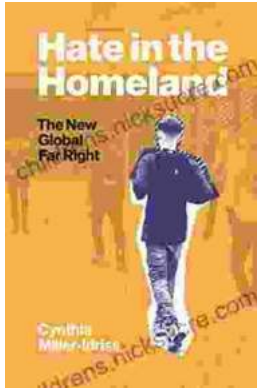
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