



# NG-21 Mission

Delivering Cargo to the International Space Station



## Mission Parameters

**Launch Vehicle:**  
Falcon 9 Rocket

**Cargo Spacecraft:**  
Cygnus

**Launch Site:**  
Space Launch Complex  
40 (SLC-40)  
Cape Canaveral Space Force  
Station

**Ascent Cargo Mass:**  
Up to 3,750 kg (8,267 lbs.)

**Descent Cargo Mass:**  
Up to 3,850 kg (8,487 lbs.)

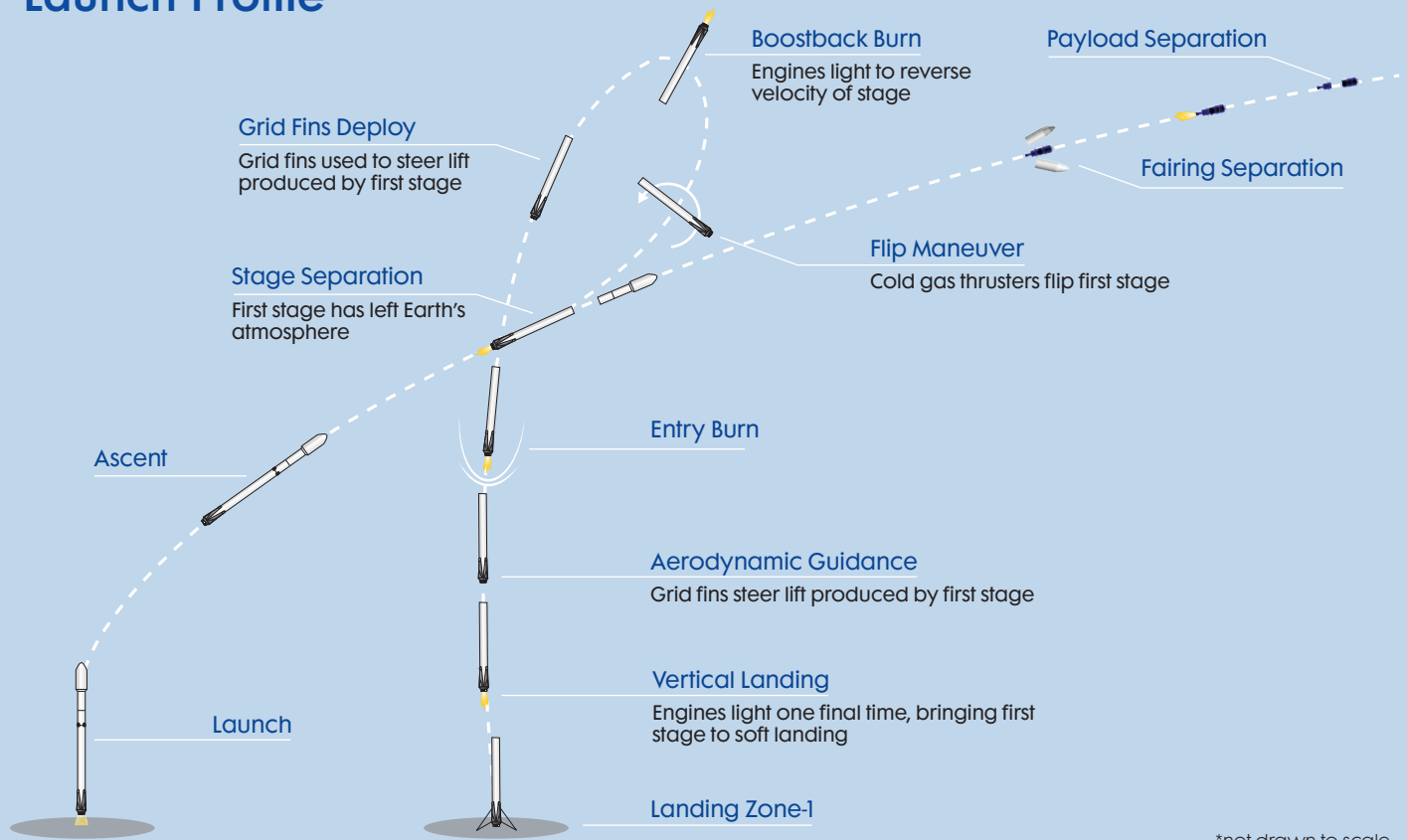
**Initial Orbit Altitude:**  
245 km x 245 km

**Inclination:**  
51.64°

**Transit to Station:**  
Two Days

**Duration at Station:**  
Up to 180 Days Berthed

## Launch Profile



\*not drawn to scale

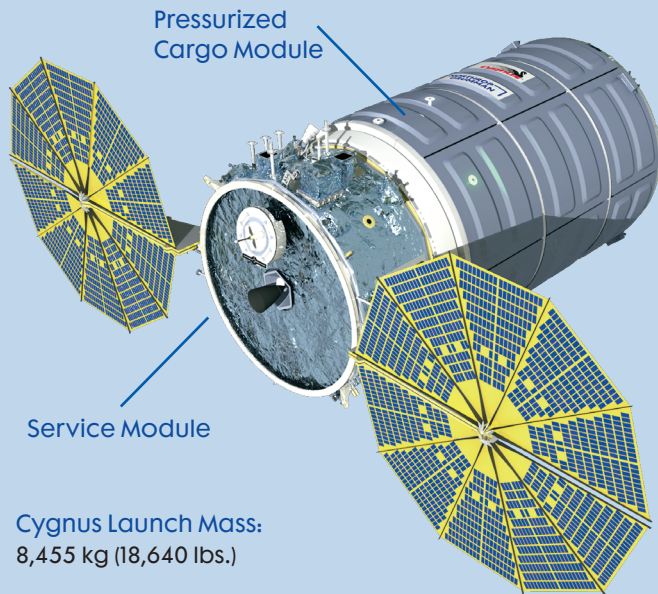
# Mission Description

For the NG-21 mission, the Cygnus spacecraft will deliver more than 3,700 kg. (8,200 lb.) of cargo to the International Space Station. Cygnus is comprised of two primary components, the Pressurized Cargo Module and the Service Module. In keeping with company tradition, each spacecraft is named after an important figure in the aerospace industry. Northrop Grumman is honored to name the NG-21 Cygnus spacecraft after NASA astronaut

Francis R. "Dick" Scobee, an accomplished astronaut and pilot who lost his life in 1986 when he commanded the Challenger. The S.S. Francis R. "Dick" Scobee will be launched into orbit using a Falcon 9 rocket from Space Launch Complex 40 at Cape Canaveral Space Force Station in Florida. Northrop Grumman will once again load critical, time-sensitive cargo into Cygnus 24 hours before the scheduled launch.

Upon arrival at the International Space Station, the cargo will be unloaded from Cygnus. First conducted on the NG-17 mission, Cygnus offers the capability to perform routine reboost services as needed while berthed to the station. Once its mission has been completed, Cygnus will perform a safe, destructive reentry into Earth's atmosphere.

## Cygnus Spacecraft



**Cygnus Launch Mass:**  
8,455 kg (18,640 lbs.)

**Propellant Mass:**  
1,218 kg (2,685 lbs.)

**Ascent Cargo Mass:**  
Up to 3,750 kg (8,267 lbs.)

**Pressurized Volume:**  
27 m<sup>3</sup>

**Height:**  
6.39 m (21 ft.)

**Power Generation:**  
2 fixed wing UltraFlex™ solar arrays,  
ZTI gallium arsenide cells

**Descent Cargo Mass:**  
Up to 3,850 kg (8,487 lbs.)

## Falcon 9 Launch Vehicle



**Diameter:**  
3.7 m (12 ft.)

**Height:**  
70 m (229.6 ft.)

**Mass:**  
549,054 kg (1,207,920 lbs.)

**Payload to LEO:**  
22,800 kg (50,265 lbs.)