

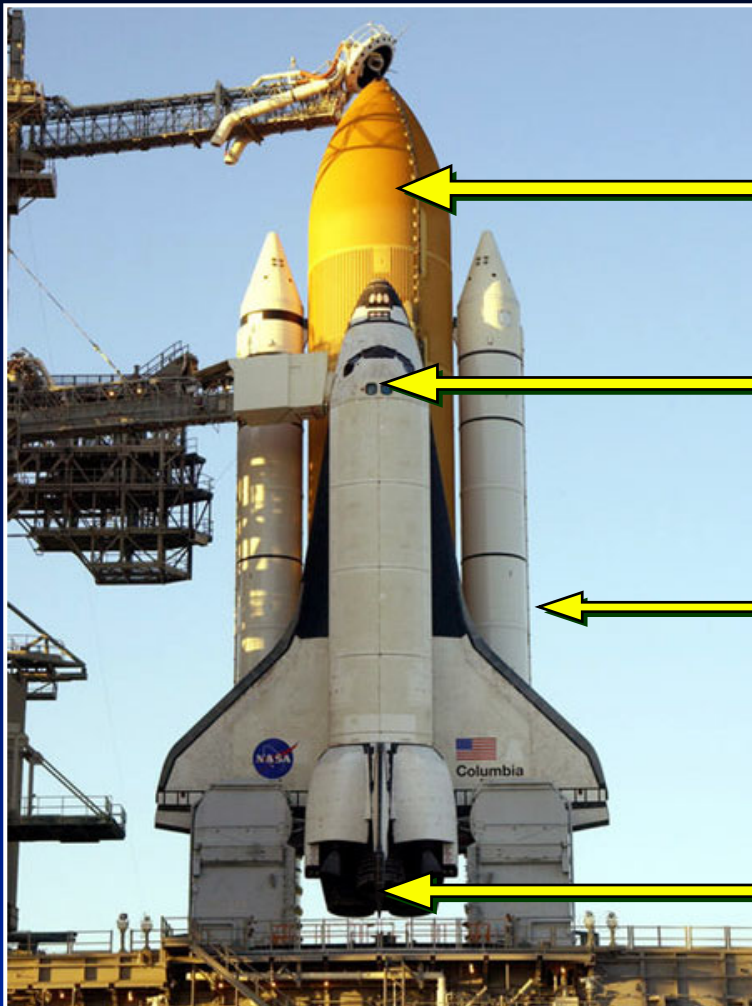


External Tank Overview

Wanda Sigur



The Space Transportation System (STS)



External Tank

Lockheed Martin

Orbiter

Boeing (Rockwell)

Solid Rocket Boosters

Alliant Techsystems (Thiokol)

Main Engines

Boeing (Rocketdyne)

The External Tank

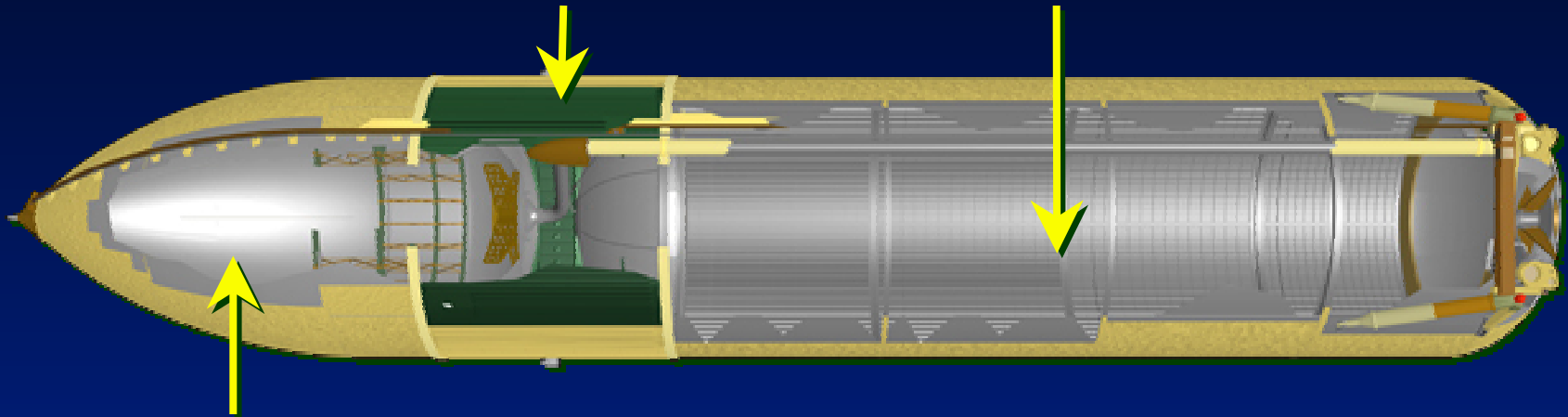


Intertank

- Unpressurized Structure

Liquid Hydrogen Tank

- 231,000 lbs. / 309,139 gals. Fuel
- - 423 Degrees Fahrenheit



Liquid Oxygen Tank

- 1,385,000 lbs. / 145,138 gals. Oxidizer
- - 297 Degrees Fahrenheit

Length = 153.8 Feet; Diameter = 27.6 Feet

External Tank Structural Interfaces



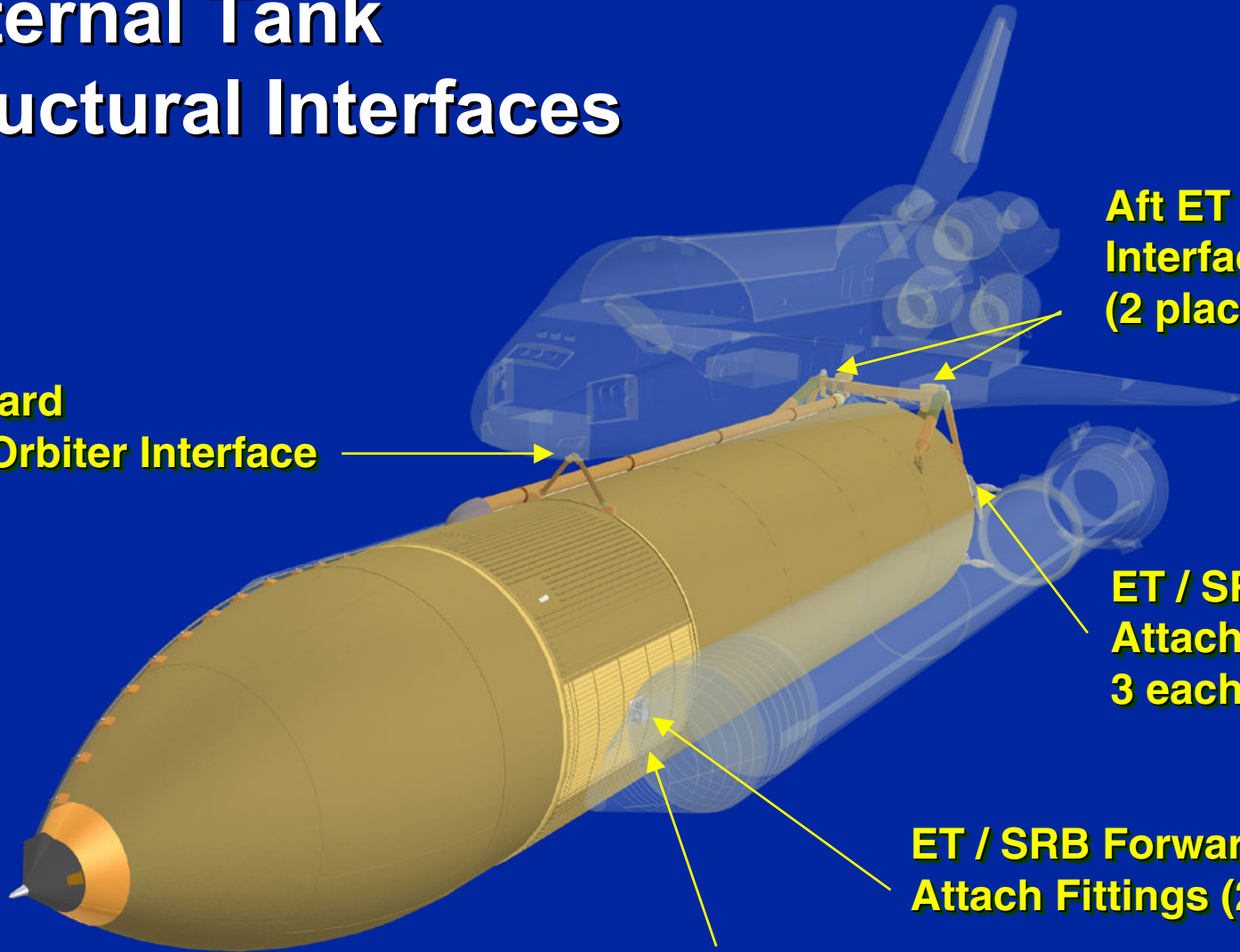
**Forward
ET / Orbiter Interface**

**Aft ET / Orbiter
Interface
(2 places)**

**ET / SRB Aft
Attach fittings
3 each (2 places)**

**ET / SRB Forward Thrust
Attach Fittings (2 places)**

**ET / Ground Interface
Ground Umbilical Plate**



ET Production History

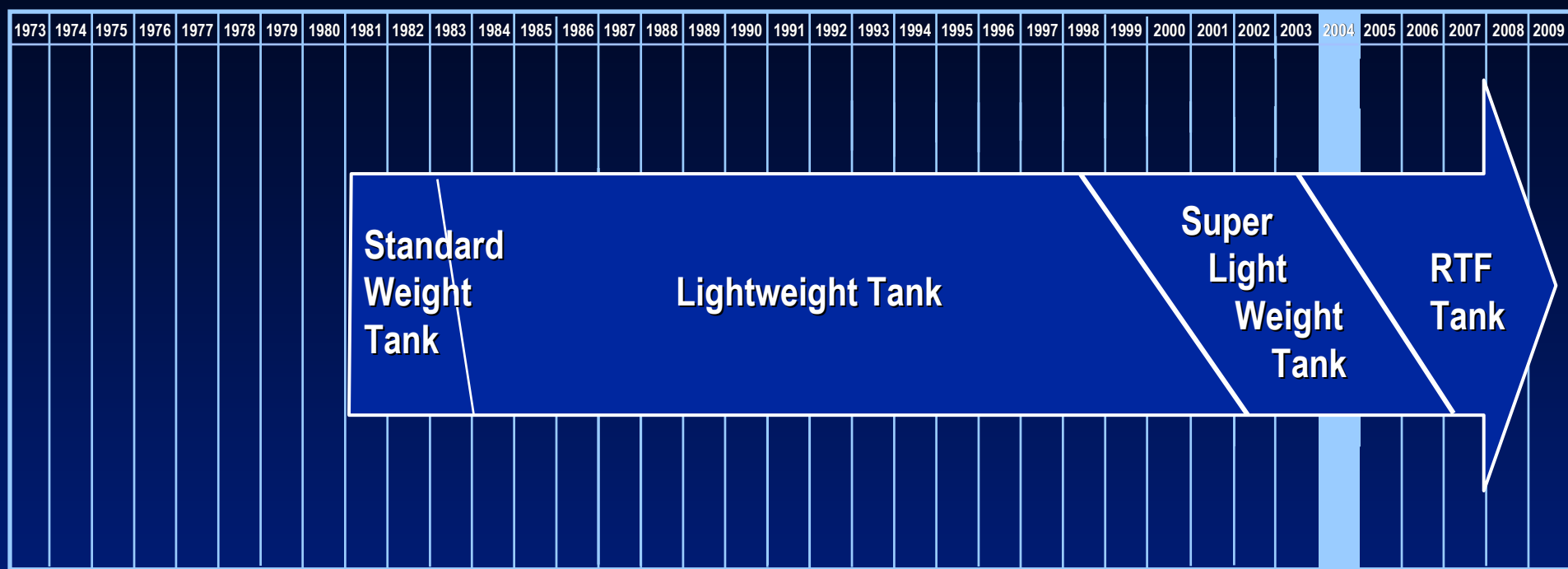


- **121 Units Delivered to Date**
- **Three Versions**

	Delivered	Flown
<ul style="list-style-type: none"> • Standard Weight Tank – Al 2219 (Al = Aluminum) – Dry Wt. 77,099 lbs. <i>(actual ET1)</i> 	6	6 (1981 - 83)
<ul style="list-style-type: none"> • Lightweight Tank – Al 2219 – Dry Wt. 65,767 lbs. <i>(actual ET71)</i> 	87	86 (1983 - 98, 2002, 2003)
<ul style="list-style-type: none"> • Super Lightweight Tank – Al 2195 (Al-Li = Aluminum Lithium) – Dry Wt. 58,319 lbs. <i>(actual ET96)</i> 	28	21 (1998 - present)

-
- **Substantially Completed Tanks** 4

ET Production History



Since the Shuttle Program began, the ET has successfully undergone several redesigns to meet the changing needs of our Nation's space program