Docket No. SA-542

Exhibit No.: 7-B

NATIONAL TRANSPORTATION SAFETY BOARD

Washington, D.C.

Boeing Supporting Material
(8 Pages)

NTSB Investigative Hearing Southwest Airlines 1380

Boeing Exhibit

Torben Syberg
Technical Fellow
Propulsion Structures
Boeing Commercial Airplanes

Inlet Structural Overview

Figures 1 & 2
Southwest Nacelle, with inlet Highlighted

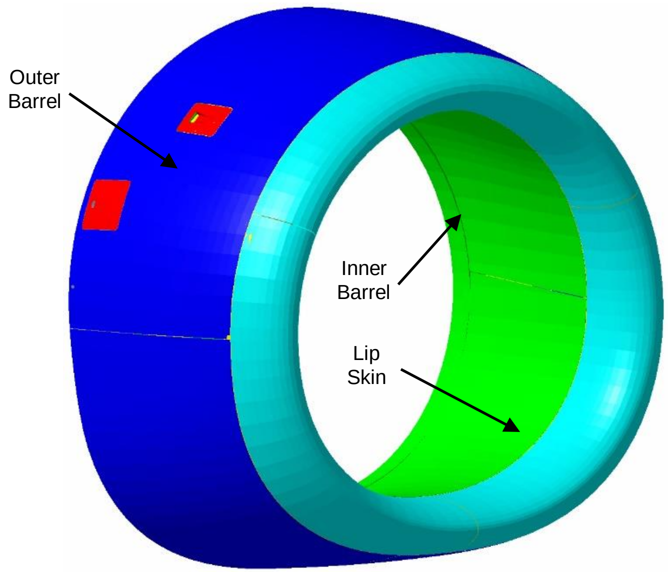


Figure 3
Inlet

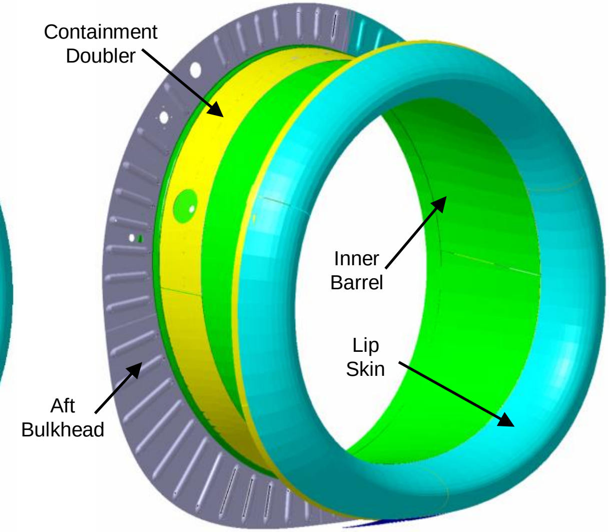


Figure 4
Inlet, with Outer Barrel removed

Inlet Structural Overview

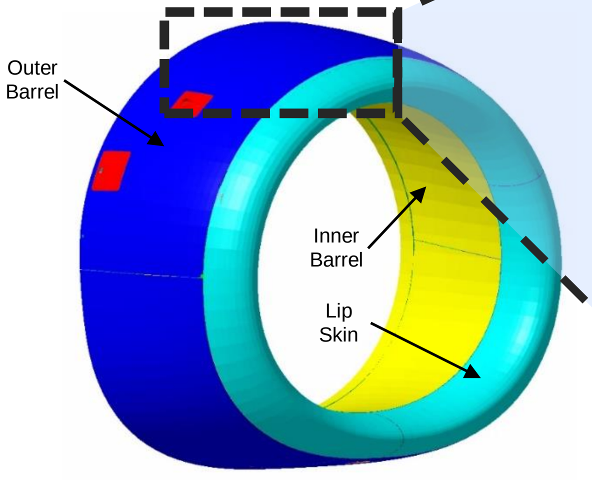


Figure 1
Inlet

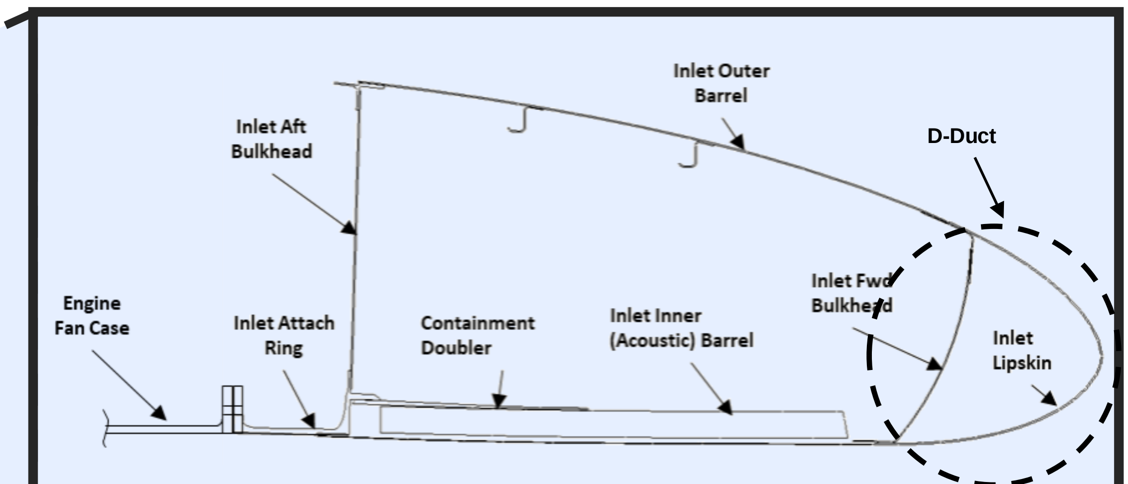


Figure 2
Inlet Cross-Section

Fan Cowl Structural Overview

Figure 1
Southwest Nacelle, with Fan Cowl Highlighted

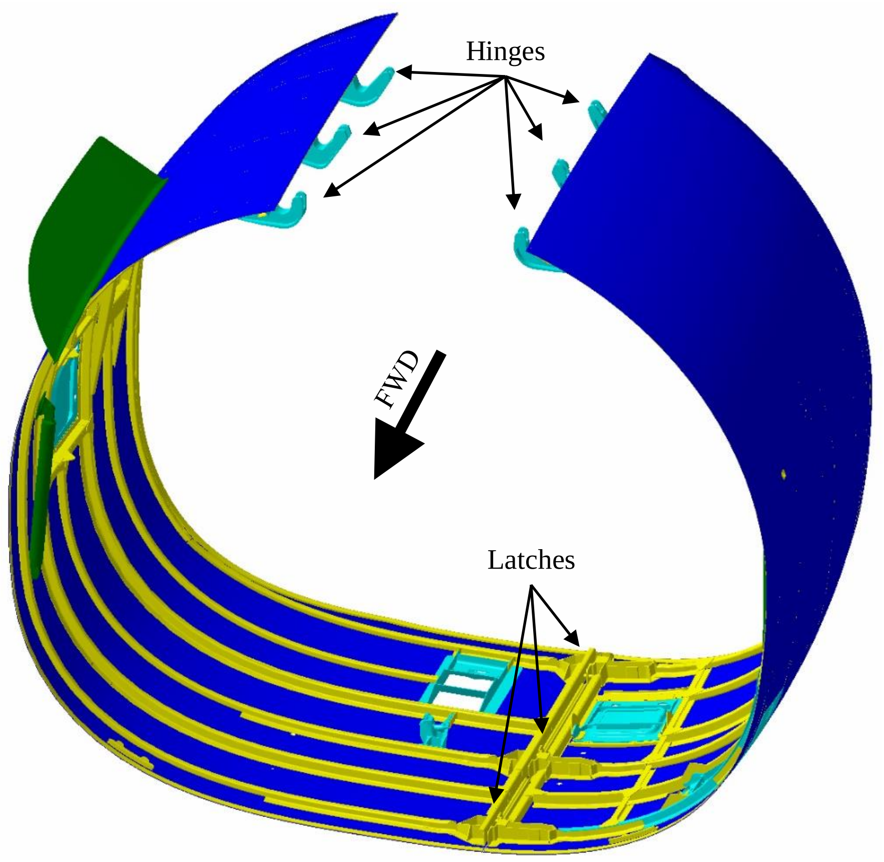


Figure 2
Fan Cowl Overview

FBO Timeline Overview: 737-700 Certification

1. FAN BLADE RELEASE (0.0 SECONDS)	2. IMPACT PHASE (0.0 – 0.02 SECONDS)	3. SURGE (0.02 – 0.2 SECONDS)	4. RUN-DOWN (0.2 – 2.0 SECONDS)	5. WINDMILLING (2.0 +)

Blade Impact Load to Fan Case
- 0.0 - 0.01 sec.

Blade Fragmentation
- fragment energies and trajectories
- 0.005 – 0.020 sec.

Figure 1

Engine Surge Pressure
- 0.02 - 0.2 sec.

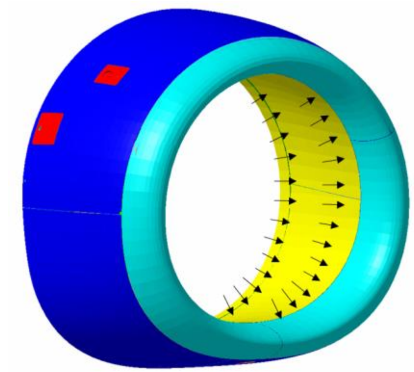


Figure 2

FBO Run-Down Loads
- 0.2 – 2.0 sec.

Windmilling
- 2+ sec.

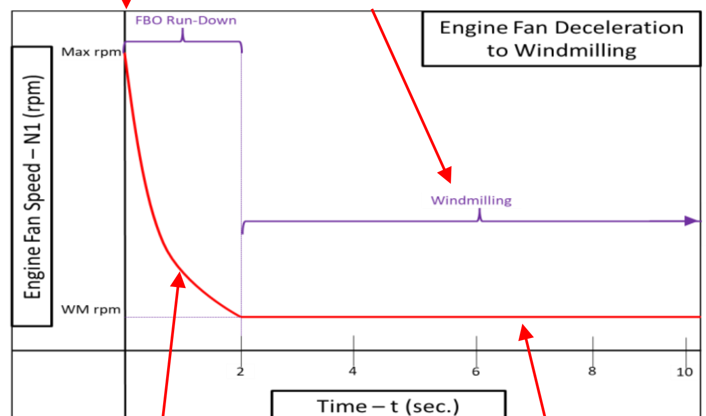


Figure 3

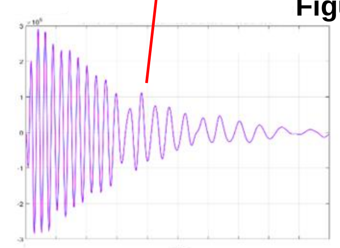


Figure 4
FBO Transient Run-Down Loads

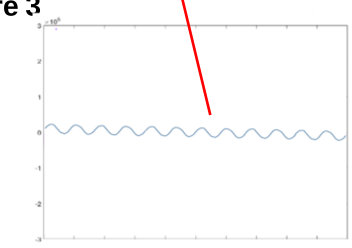
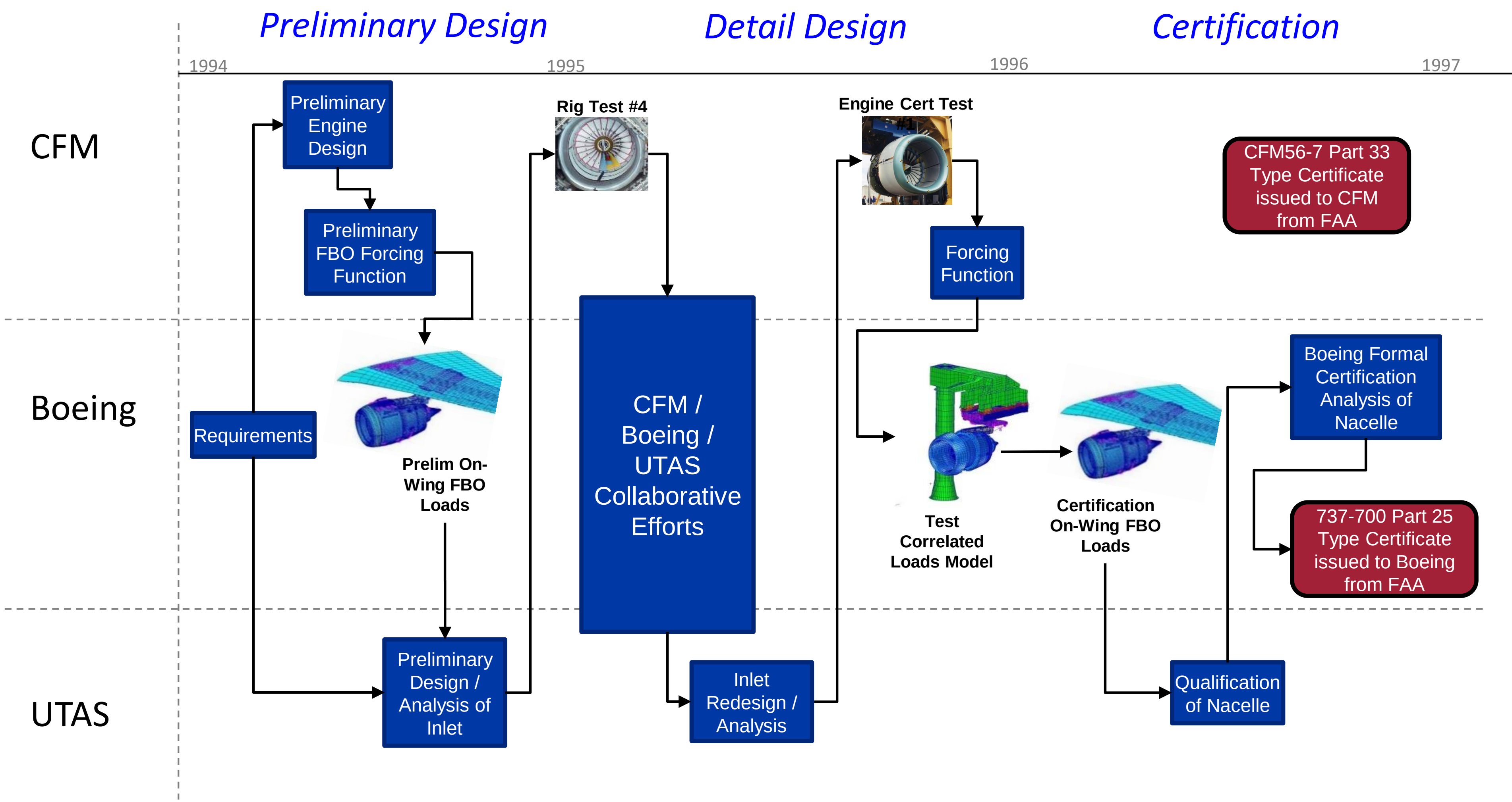


Figure 5
Windmilling Loads

FBO Collaborative Development and Compliance Timeline for 737-700 Nacelle Structure



737-700 FBO Compliance Activities