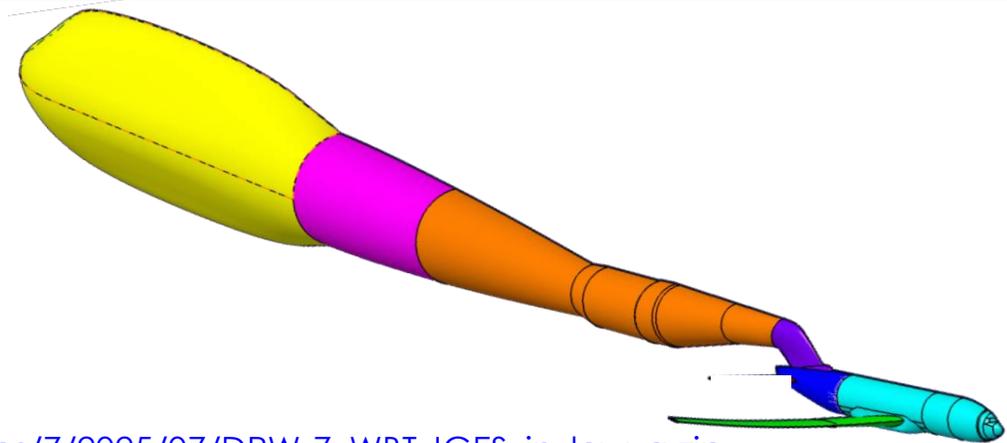


# Test Case 2a: T&I Study (Wing/Body)



- **CRM Wing/Body with Upper Swept Strut**

1. Wing/Body (2.7% model scale in tunnel)
2. Wing/Body + **Upper Swept Strut**
  - Wing deformed to matching condition (from DPW7)
  - Aft strut surface (shown in yellow) replaces interface to arc sector

- **Geometry**

- [https://commonresearchmodel.larc.nasa.gov/wp-content/uploads/sites/7/2025/07/DPW-7\\_WBT\\_IGES\\_in\\_low\\_q.zip](https://commonresearchmodel.larc.nasa.gov/wp-content/uploads/sites/7/2025/07/DPW-7_WBT_IGES_in_low_q.zip)
- [https://dpw.larc.nasa.gov/DPW8/Test\\_Environment/Test\\_Case\\_1/Geometry/Sting\\_No\\_Arc\\_Sector\\_Bulb\\_noRotation\\_2025\\_09\\_03.igs](https://dpw.larc.nasa.gov/DPW8/Test_Environment/Test_Case_1/Geometry/Sting_No_Arc_Sector_Bulb_noRotation_2025_09_03.igs)

- **Conditions & Reference Units**

Mach	Re <sub>c</sub>	T <sub>static</sub> (120° F)	$\alpha$
0.85	$5 \times 10^6$	579.67 R   322.04 K	-1.50°, 0.00°, 1.50°, 2.50°, 2.75°, 3.00°, 3.25°, 3.50°, 3.75°, 4.00°, 4.25°

Sref (semi-span grid)	Cref	Semispan	Moment Center
216.77544 sq.in	7.5195 in	31.23225 in	(156.0003, 0.00, -0.00035)

- **Comparison metrics**

- Forces / Moments
- Sectional C<sub>p</sub> distribution
- Residuals (Flow & Structural Solver)

### Comparison Data

NTF197: r44,r51,r53  
 NTF215: r43,r103  
 NTF229: r296,r300,r302  
 Ames216: r35,r126,r130,r133