

Executive Summary (5 pts)

5

Summary of critical margins of safety (5 pts)

5

Documentation of geometry (5 pts)

5

Comments on validity of FEM (10 total points)

* T.E. rib web ?

Rib web mesh and elements (1 pts)

1

Spar web mesh and elements (1 pts)

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Spar caps mesh and elements (1 pts)

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Rib caps mesh and elements (1 pts) ID BEAM ELMs DEFINED

1

Materials and properties (3 pts) For "Rib CAPS" ✓

3

Loads and displacement boundary conditions (3 pts) ✓

3

Documentation of finite element model (5 pts)

? Calculated Force ≠ Defined Force

5

external loads, elements used, number of DOF b.c.?

↳ How? Low High? ↳? NOT DIFFERENT AT ALL.

Verification of finite element model (hand analyses, any mention of convergence, observation of load balance, strain energy ratio) (5 pts)

4

LATE, AT YOU CANNOT IN TIME TO PREDICT IT'S A POOR PREDICTION

Documentation of internal loads (see individual analyses) (5 pts)

4

specific reference to critical elements

→ NO FOC FILE SUPPLIED; THIS MAKE IT DIFFICULT FOR ME TO VERIFY YOUR EXPLANATION (WITHOUT RE-PUBLISH MODEL)

As a minimum, I expected the following analyses: (45 total pts)

← SOME FRAME PATTERN MARKER FOR MIXING MARKER FOR TYPE OF STRESS, SURFACE, DIRECTION

1) For a critical wing root section perform the following analyses:

- Upper skin buckling (4 pts) - Min. gauge for aerodynamic def.
- Lower skin sizing (4 pts) - Buckling (also see lower than it)
- Spar web shear buckling (4 pts) - DONT like your boundary conditions consistent
- Rib web shear buckling (4 pts) - MARKING DEF. HERE. GOOD
- Upper skin stringer crippling/buckling (4 pts) ← Frame plus do NOT identify type it
- Lower skin stringer sizing (4 pts) ← Don't use Average Stress. USE PEAK & MAX PRINC.
- Upper spar cap crippling/buckling (4 pts) ← Frame plus doesn't identify type it
- Lower spar cap sizing (4 pts) ← See MAX PRINCIPAL
- Fastener spacing along spars/ribs (assume 1/8" solid 2024-T31 rivets, with an allowable of 500 lbs shear per rivet) (4 pts)
- Greater dimension

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