



Jetstream 31/ CAR Integration Status 07DEC05

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Overview-

- Sections not included in this presentation are unchanged from previous
- CAR structural / aero integration
 - Forward fuselage modification
 - Structural attachment
- CAR control
 - Rotating element indication and control
- Flight safety
 - Structural analytical basis

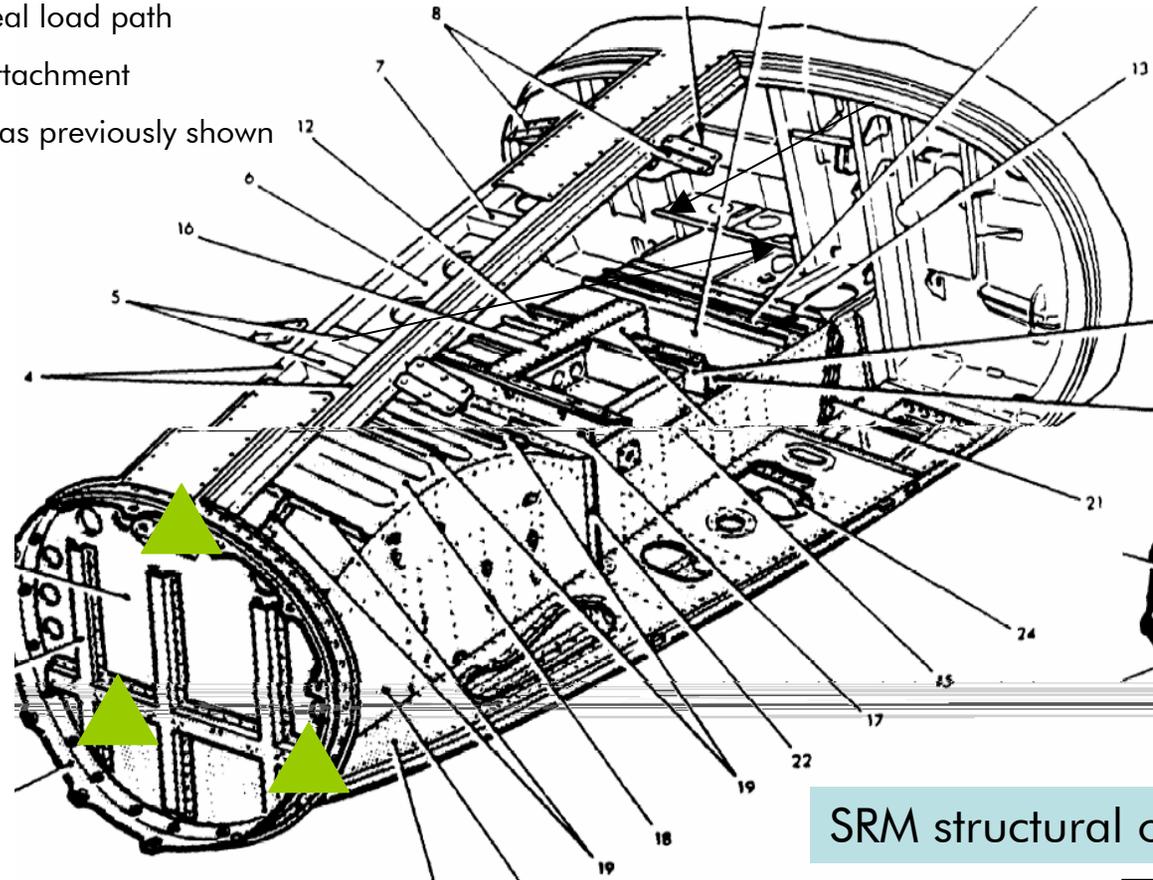
Forward fuselage modification

➔ Load path change

Design intent:

- Upper center structure is ideal load path
- Redesign uses three point attachment
- Lower corner fittings remain as previously shown

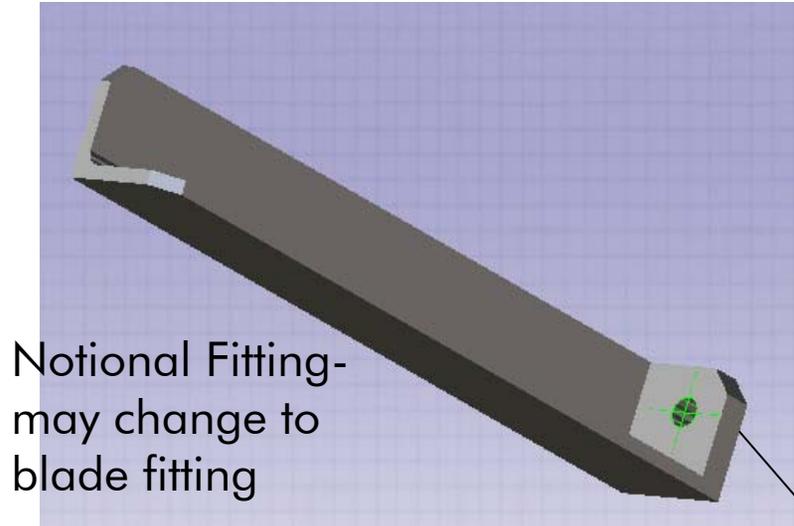
LH NLG box web



SRM structural overview

Forward fuselage modification

→ Utilize shear / tension fitting attachment



Notional Fitting-
may change to
blade fitting

Design intent:

- Shear loads into existing structure
- Reinforce locally
- Rapid front end structure installation- 3 bolt assembly is goal



Looking up and FWD at
inside of NLG bay

Rotating elements

→ CAR and rotating fairing

– Supported by thin section bearing-

- integral gear design may be too heavy- options being evaluated



Rotating elements

- CAR and rotating fairing requirements finalized
 - Electric motor gear drive
 - .1 degree resolution
 - 3 RPM normal drive rate
 - Fast slew
 - +/- 180 deg/sec
 - Computer control and indication
 - RS 232 interface
 - Stow to 12:00 position
 - Protection for take off and landing
 - Estimate torque requirement at 60 in-lb
 - 28 VDC power
 - Options in review

Rotating element indication and control

→ Flight deck control

– Control- STOW switch

- Positions CAR to minimize aero effects of opening
- Primarily for TO and landing / IFR cruise
- Selecting STOW locks out operator control

– Indication

- Amber “CAR UNSTOWED” light illuminates with operator console in control

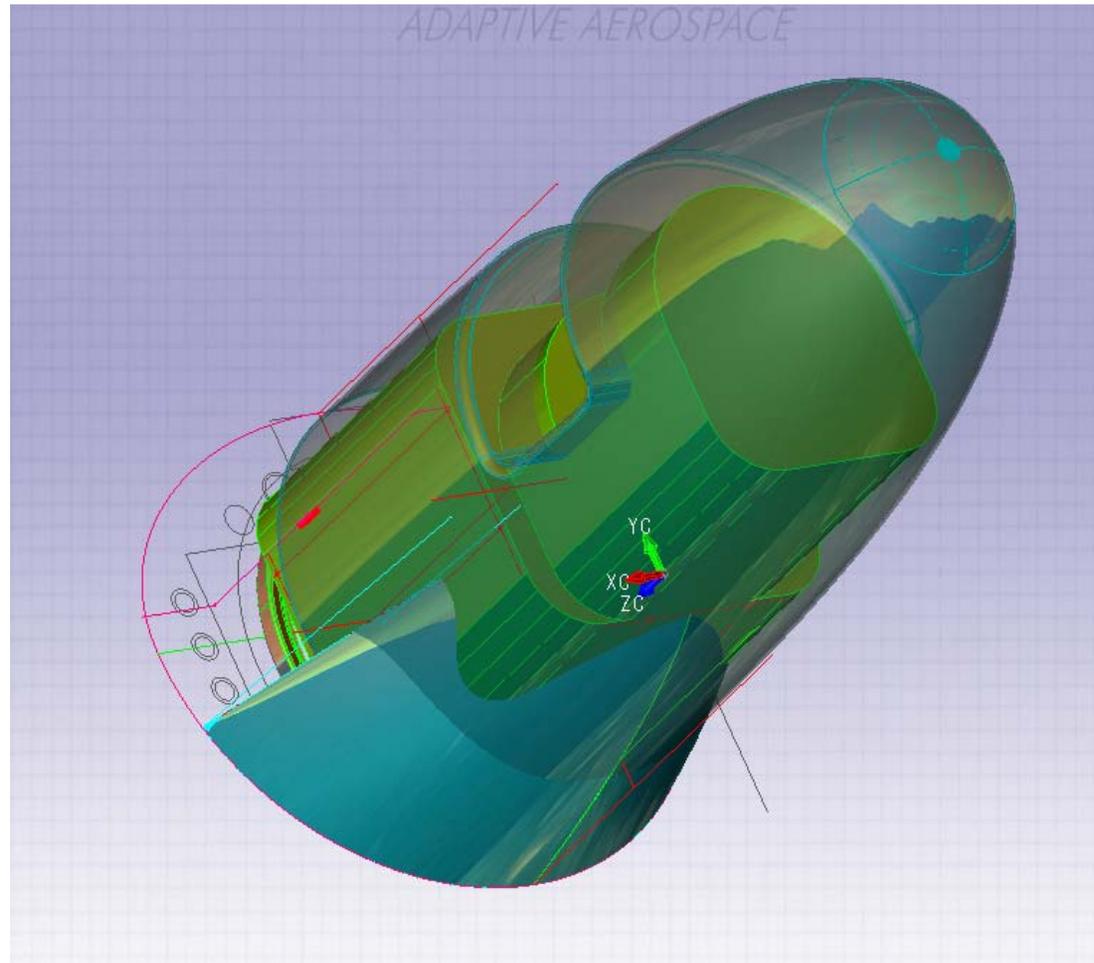
Flight safety

→ Structural / analytical basis

– Structural evaluation

- Substantiate existing structure 75.15 forward for added loads
 - Evaluate structure for actual capability
 - Determine reinforcement required
 - Evaluation in work
- Determine air loads for anticipated operation
 - In work- body of revolution pitching moment data identified

More to come!



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