



# Jetstream 31/ CAR Integration Status 21DEC05

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## Overview-

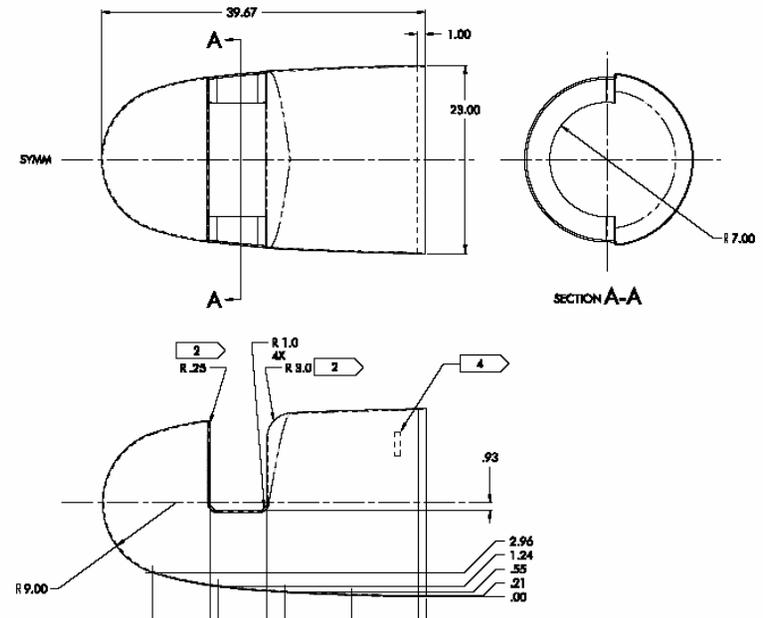
- Sections not included in this presentation are unchanged from previous
- CAR structural / aero integration
  - Aero load analysis complete
  - Structural attachment in redesign- higher pitch loads than anticipated
- CAR control
  - Rotating element indication and control defined
  - Motor defined

# Rotating elements

## → CAR and rotating fairing

### – 5SR05005 Rotating Fairing

- Drawing released for fab
- Estimate production start WE 06JAN06



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# Rotating elements



- Rotating element drive and control
  - Electric motor
    - Initial selection- Animatics ServoStep Motor ST343 Series
  - .1 degree resolution
  - 3 RPM normal drive rate
  - Fast slew
    - Deleted- no operational requirement
  - Computer control and indication
    - RS 232 interface- data format in work
  - Stow to 12:00 position
    - Protection for take off and landing
    - May change to 6:00 position due to air loads
  - Estimate torque requirement at 60 in-lb
  - 28 VDC power

# Rotating element indication and control

## → Operator control

- Rockwell Automation Versaview CE 700H

  - » [http://literature.rockwellautomation.com/idc/groups/literature/documents/pp/6182h-pp001\\_-en-p.pdf](http://literature.rockwellautomation.com/idc/groups/literature/documents/pp/6182h-pp001_-en-p.pdf)

- With Smartmotor and Versaview, no separate controller for motor required

- Specifics for display presentation and operator control input in work

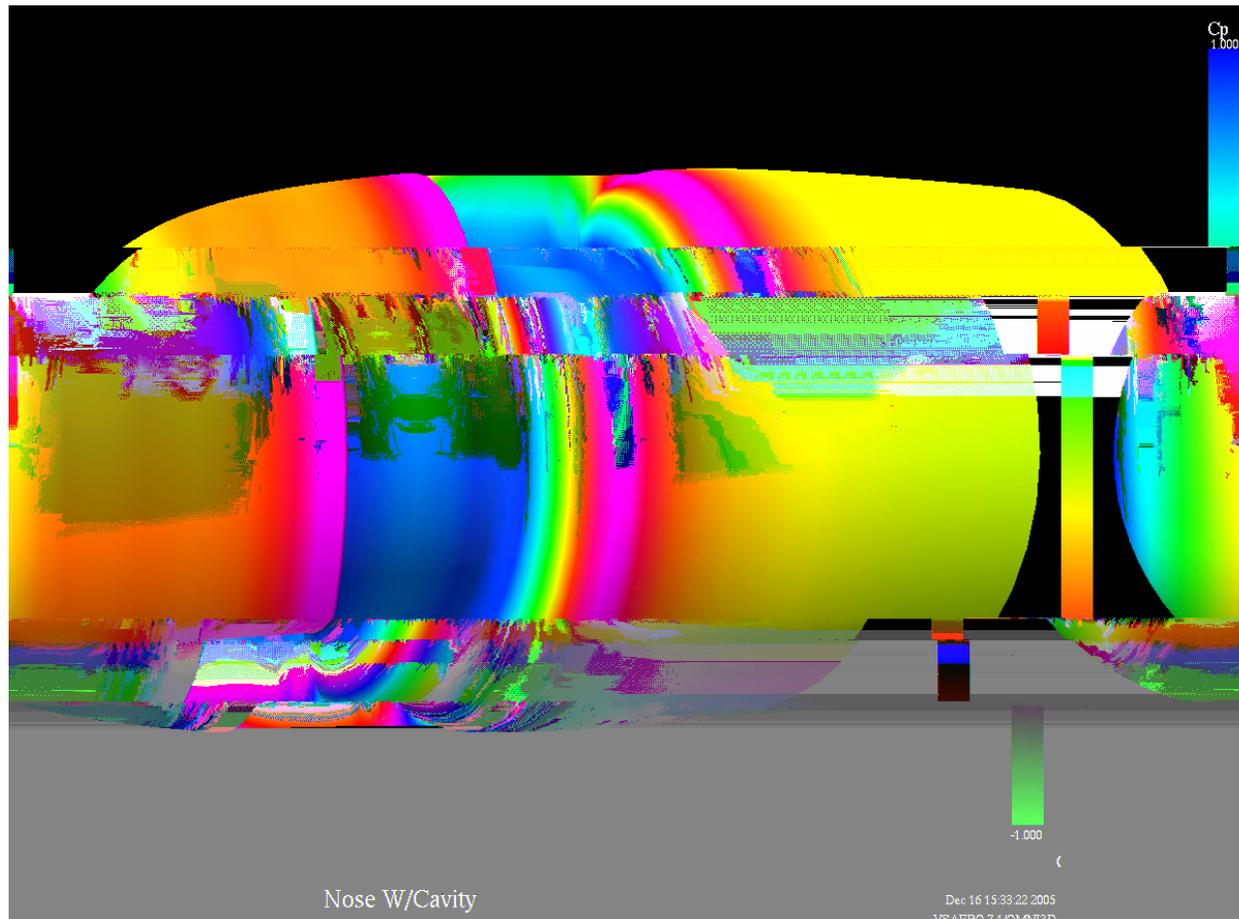
  - Likely a 4 digit display with softkey control:

    - L 155.2 “Left side, 155.2 degrees up”

# Aero

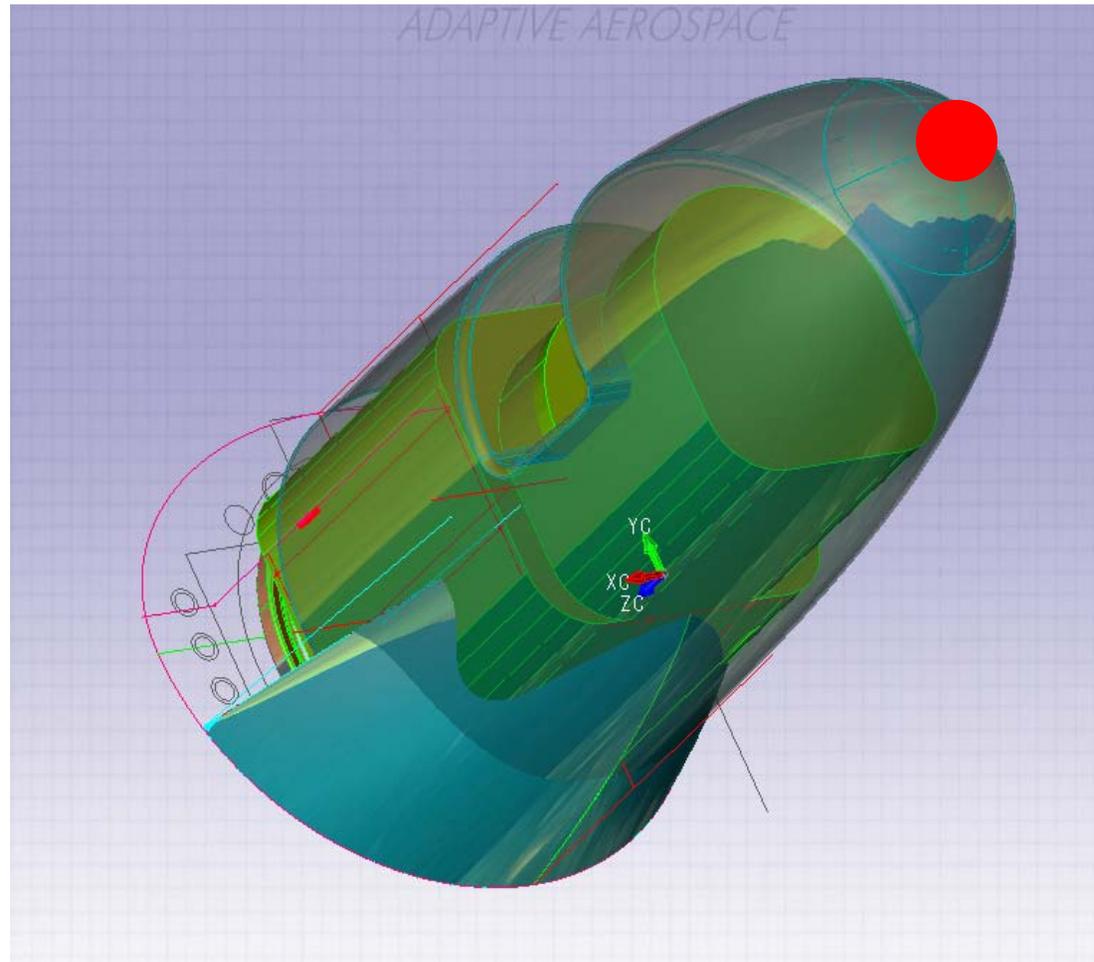
- ➔ Air loads evaluation complete
  - VS Aero run using current fairing design
    - Peak load at 230 KIAS, 3 degree alpha, sensor cavity oriented UP
      - Counterintuitive- seems that looking down should generate higher loads
      - Pitch load at base 1195 lb; ultimate is 2390lb
        - » A design driver
      - Structural design being revised to accommodate

# Aero



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# Have an Excellent Holiday!



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