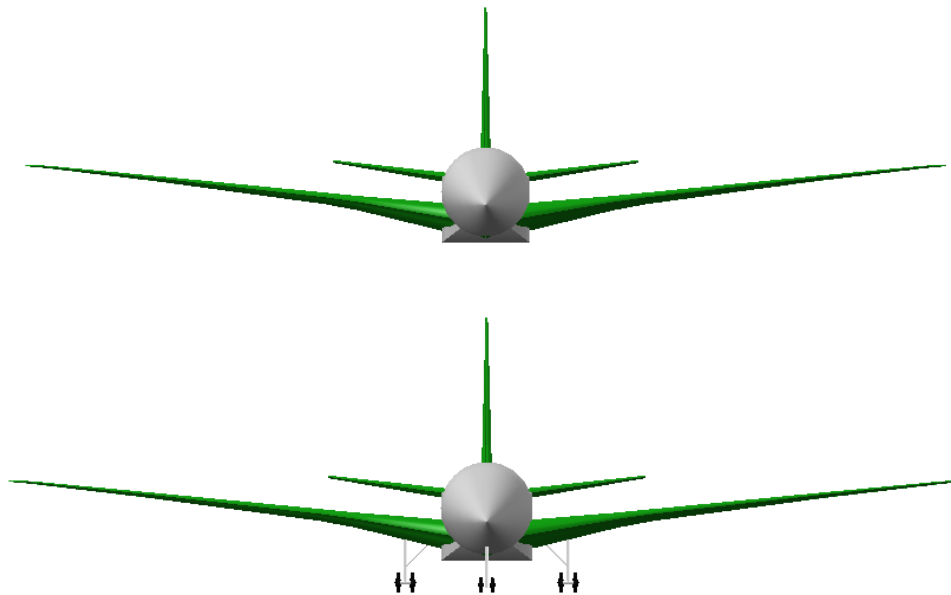


# VSP Workshop 2016

## OpenVSP – Variable Presets

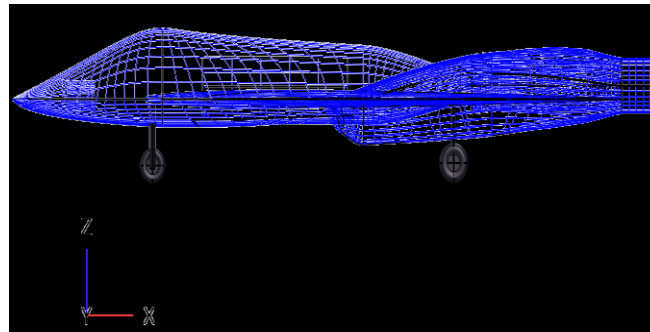
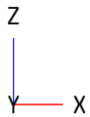
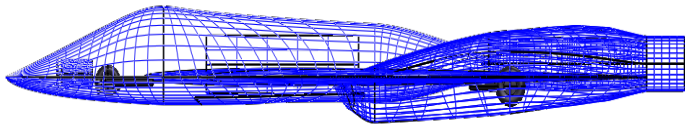


**Presented by:**  
Bryan Schmidt  
Empirical Systems Aerospace, Inc.

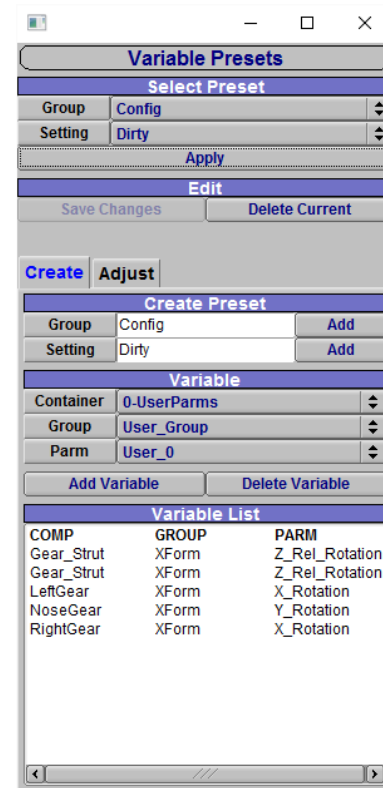
- To be used to quickly switch between different user made presets
  - Can be any variable including, Translation, Rotation and Tessellation

## Use Cases:

- Tessellation to fine tune Export files
- Different Configurations for comprehensive Aero analysis
- Varying specific design drivers

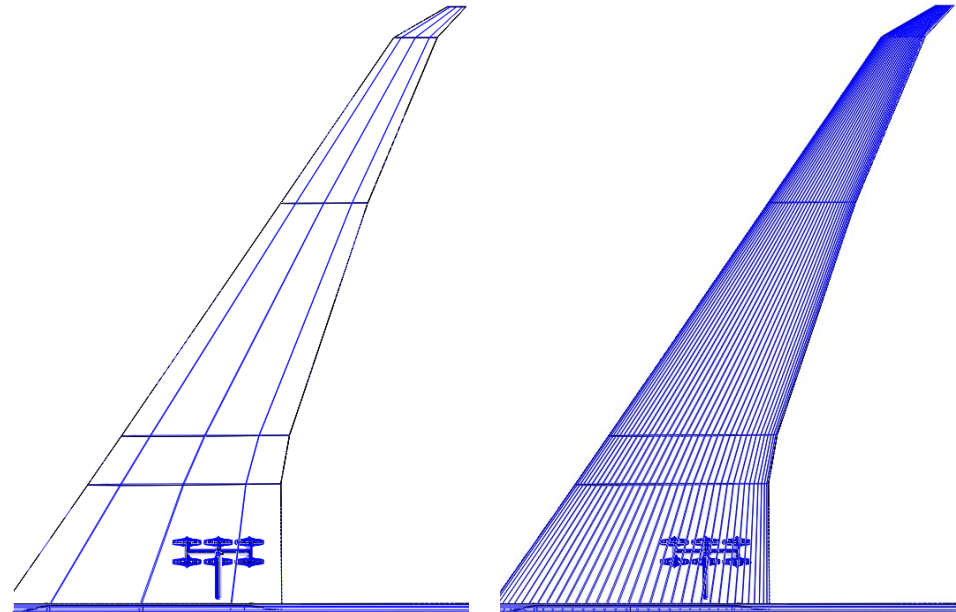


**Different Model Conditions Made Available by a Saved Parameters Option**



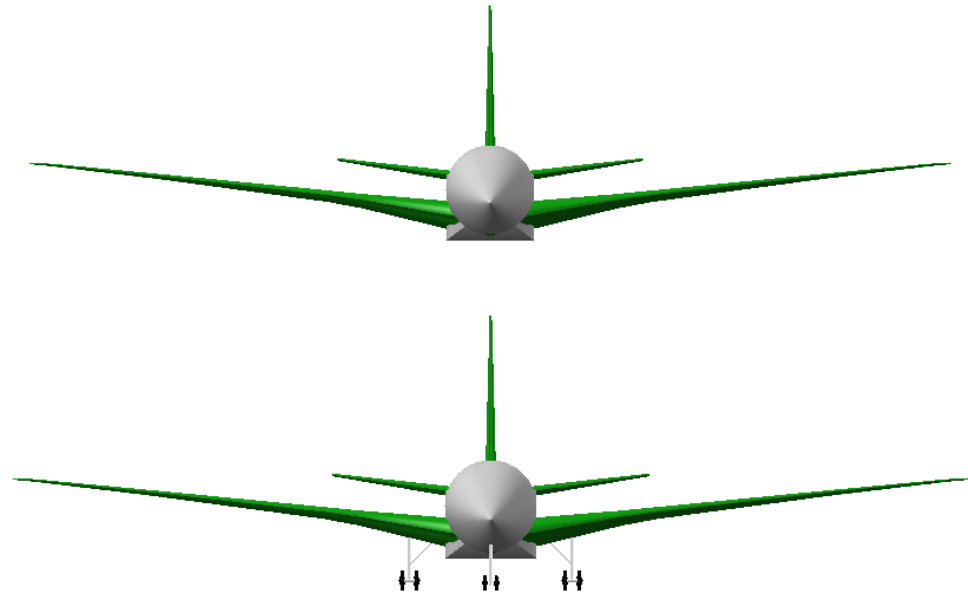
# Use Case: Tessellation

- Varying Tessellation can be useful for several purposes
  - Appropriate grid spacing for panel method analysis
  - Finer grids for exporting the files to be modeled in other programs
  - In tandem, with improvements to mass properties



# Use Case: Configurations

- Varying Configurations can be useful for several purposes
  - Completing Aero analysis between configurations
  - In tandem, with improvements to mass properties

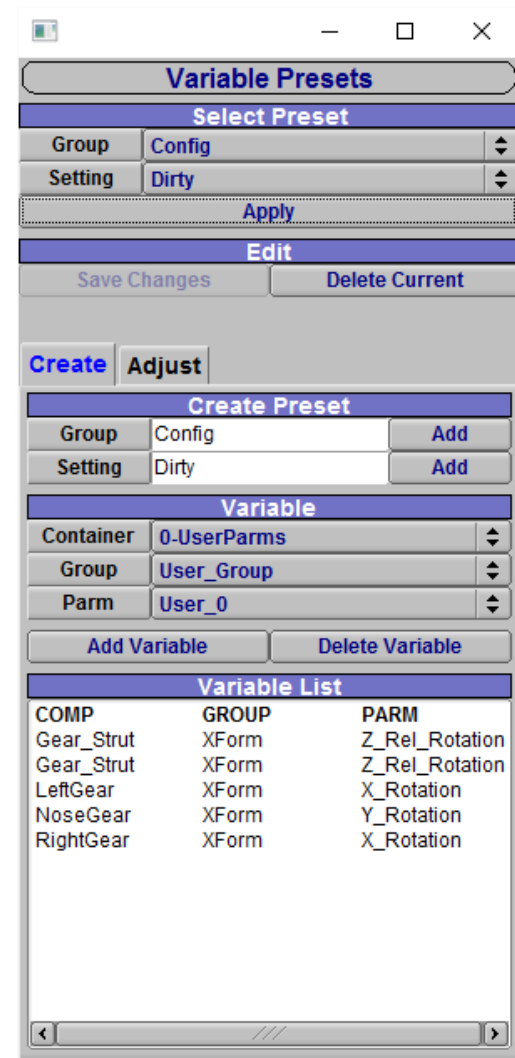


# Use Case: Design Differences

- Using Variable Presets, one VSP model can contain several different variations on the same model
  - Can contain the entire 737 family of aircraft in one vsp file
  - Able to quickly switch between the different models to perform quick and easy comparisons



- Groups are a collection of Parameters
  - Defining which parameters will be changing between the different settings
- Settings are different values for the Parameters within groups
- Variable Presets GUI shown to the right
- Create Tab used for to create new groups and settings as well as add parameters to the groups
- Adjust Tab used to alter the values of parameters within the setting




# Order of Operations



# Order of Operations – Cont.

OR

3



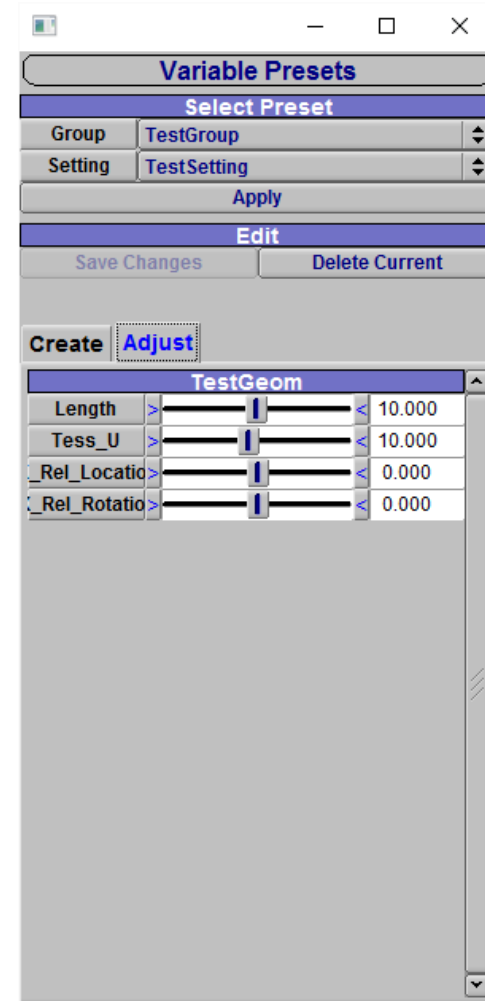
The image illustrates the process of adding a variable to a list in the Variable Presets dialog box. It shows three sequential screenshots:

- The first screenshot shows the 'Create Preset' section with 'User\_0' selected in the 'Parm' dropdown. The 'Variable List' table is empty.
- The second screenshot shows the 'Create Preset' section with 'User\_0' selected. The 'Variable List' table is empty.
- The third screenshot shows the 'Variable List' table populated with data:

COMP	GROUP	PARM
TestGeom	Design	Length
TestGeom	Shape	Tess_U
TestGeom	XForm	X_Rel_Location
TestGeom	XForm	X_Rel_Rotation



- Once Group, Setting, and Parm's have been added the adjust tab is available to edit values
- Once changes have been made they can be saved to the setting
- The user can then switch between groups and setting by choosing the desired and clicking the apply button



# DEMO

# Questions?

## Contact Information

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