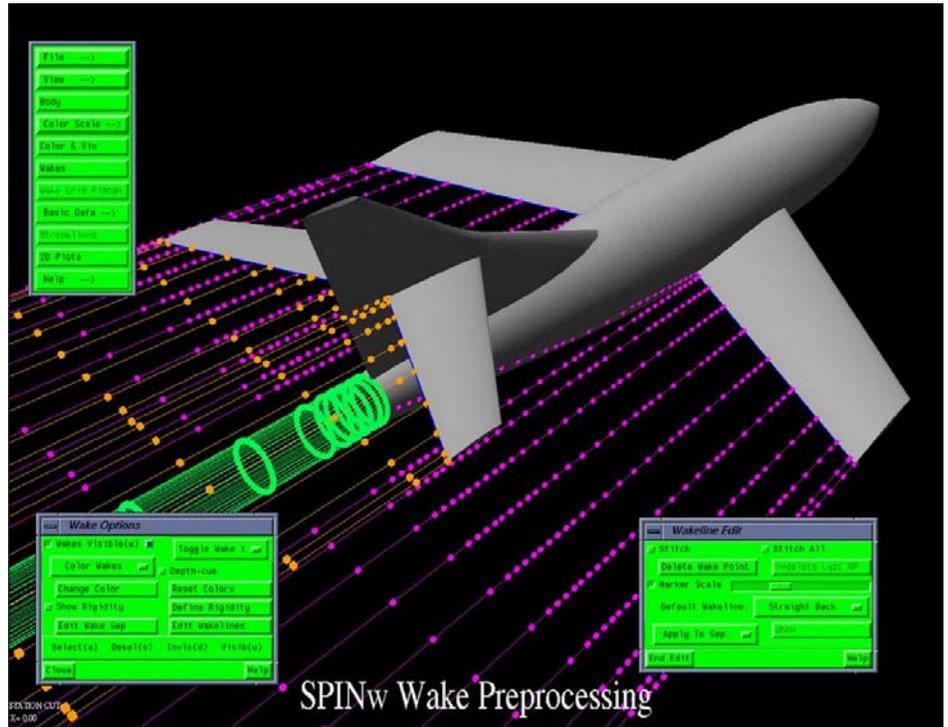


# SPIN(w)<sup>TM</sup>

## Pre-processor

### SPIN(w)

- Completes VSAERO and USAERO input data
- Basic Data and Boundary Condition Groups
- Wake Definition
- Streamline Data
- Off-body Velocity Scans



AMI Aero, LLC  
P. O. Box 25881  
Federal Way, WA 98093  
Voice: 425.643.9090  
Email: [info@amiaerollc.com](mailto:info@amiaerollc.com)  
Website: [www.amiaerollc.com](http://www.amiaerollc.com)



P. O. Box 25881, Federal Way, WA 98093 ♦425.643.9090♦ [techinfo@amiaerollc.com](mailto:techinfo@amiaerollc.com)

## **SPINw RELEASE NOTES VERSION 6.0**

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SPINw is a wake and basic data preprocessor for VSAERO. SPINw version 6.0 creates VSAERO input files compatible with version 8.0 or higher. SPINw comes with a set of executables, a manual, context-sensitive help files, and a sample Xdefaults file.

### **SYSTEM REQUIREMENTS**

SPINw uses OpenGL graphics and a Motif graphical user interface. SPINw version 6.0 is available on Linux operating systems. SPINw requires a high performance 3D graphics card with a minimum graphics resolution of 1024x768 pixels, 1280x1024 recommended. At least 512 megabytes of memory are recommended. SPINw requires OpenGL and Motif/X version 11.

### **NEW FEATURES IN SPINw 6.0**

The following features are new for version 6.0. Most are described in more detail in the *SPINw User's Guide* or the context-sensitive help files within SPINw.

Panels maybe be selected by dragging out a bounding box while holding down the **CTRL** key; patches by holding down **CTRL+SHIFT**.

The `Order Patches` by X, Y, or Z options now allow ordering of selected patches.

`Delete Patches` allows you to `Cancel` the delete any time prior to clicking the `OK` button.

A new wakeline `Stitch Forward` mode allows automatic stitching to the edge of the patch.

You can now join two or more waketines downstream of a user-specified point.

SPINw now supports editing and display component transformations.

VSAERO `INCLUDE` files are supported on input. However, SPINw will not write out `INCLUDE` files; all data will be written to a single `.IN` file.

Graphical rendering has been added for many of the panel or patch lists in the VSAERO 8.0 optional basic data.

## CHANGES IN SPINw 6.0

Within SPINw, select `Changes` from the `Help` → menu to see a list of the changes in reverse chronological order.

SPINw version 6.0 writes basic data and associated comments for VSAERO version 8.0 to the .IN file. SPINw parses most older format basic data and where possible, converts it to VSAERO 8.0 format and prints a warning. SPINw recognizes comments generated by previous versions of SPINw and does not duplicate them.

The `Stitch` mode selection in the `Wakeline Edit` menu has changed to add `Stitch Forward`. `Stitch All` has been renamed `Stitch Between`.

The `Visib` and `Invis` menus are now called `Hide` and `Unhide`. These menus, as well as `Select` and `Desel`, bring up a selection prompt which stays up until you click `OK` to indicate you are done selecting.

The `Patch Edit` menu has been rearranged and changed to add new ordering options. `Order Patches X/-X`, `Order Patches Y/-Y`, `Order Patches Z/-Z` have been replaced with `X`, `Y` and `Z` radio buttons and `Order Selected XYZ` or `Order All XYZ`. The `Order Patches Manual` button has been renamed `Order All Manual`. `Delete Patch` has changed to `Delete Patches` and allows you to delete multiple patches by clicking on them, until you click `OK`.

When inserting a list of sorted patches, you can type `0` for the patch number to indicate the sorted patches should be inserted before any other patch.

Menus and I/O for the following VSAERO optional basic data groups have changed to reflect VSAERO 8.0 supported options: `BLAYER`, `NMLSOL`, `PRNTNL`, `SPCONL`, `SQUEEZL`, `TRIMNL`, `WBUNDL`, `WKRLNL`.

The normal rotation angle color scale label has changed from `NROT` to `DELT`.

VSAERO namelist data not explicitly supported by SPINw is written to the .IN file unchanged.

Streamlines and boundary layers are now rendered triple-wide when the `Wide Lines` toggle is on.

The `Undo` button allows you to undo the last manually reordered patch or the last deleted patch.

## BUGS FIXED IN SPINw 6.0

The `bugfixes.hlp` file in the SPINw help directory is a text file listing bugs which were fixed in this release. The following is a brief list of bugs fixed in SPINw version 6.0.

In the .IN file, SPINw now parses floating point numbers with leading, but without trailing spaces correctly.

A number of minor graphics bugs were fixed, including several places where the graphics window wasn't refreshed after a change, where items were rendered in the wrong color, and where selected wakeline was not wider than unselected when `Wide Lines` toggle was on.

A number of bugs were fixed where menus resized unexpectedly after button clicks, where menu text was not readable.

Bugs were fixed where SPINw continued in `Delete Patches` or `Reorder All (patches)` `Manual` mode, or one of the selection modes, when the user closed the prompt window from the window manager (clicking the X button instead of `OK`).

Large unstructured patches took a very long time to initialize due to inefficient calculation of normals.

Empty error messages are no longer displayed from file selection widget when .IN file does not exist or contains errors, or when print file already exists.

Unstructured patch copy reversed the panel normals.

In some cases, SPINw did not recognize `PROPFAN` data and reflected the blade rather than rotating.

The following program crashes were fixed in 6.0:

- Infinite loop when parsing unknown `BLAYER` optional basic data.
- Crash when `Print to File` was clicked twice.
- Crash when file not found and a second file name was entered.
- Crash when 2D plots `Upper surface` toggle is turned on.
- Crash when applying the default wakeline, undoing, then applying again.