

## SuperSMITH® Software Revisions for Version 6.0

6.0AV - 28 Apr 2025 (File version 6.0.0.122)

Updated file import routines for old .Y files made with YBath 5.0

YBath reverts to W2P if data grid entries changed

Turn off Confidence when mixture selected.

Update Results menus to show more lines of results

Menu updates to improve load speed, formatting, and resizing. Now follow main program if moved to another screen.

Updates for pdf in SSY if data has suspensions

Batch Processing (MOLE) added Rank Table to file option [tfxxx].

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6.0AU - 15 Apr 2025 (File version 6.0.0.121)

File Import will show a preview of the data before you select the format.

Calculation Improvements for accuracy or timing.

- e.g. \*1.442 instead of /Log(2)

Updated Menu Structure and Icon layouts

- Weibull Dice moved to Sample

- File Comment (Under Options) content moved to Logbook

- Lock/Start from various menus moved to Setup Menu

- Logbook and Additional+ icons moved to "tombstones" above plot

- Orange highlight adjusted to clear tombstones

- Menu Format: "**= \*YES (/ No)**" changed to "**= YES (/ no)**" format

Selection **ALL CAPS,Bold** Font,No \*, Other options lower case.in ().

- Menus changed from all **bold** font

- Menu load routines optimized to be approximately 40% faster

- On large Icon menu, Up arrow to Home tab was replaced with Setup icon

- Fixed issue where menu items would be full height after a small menu was used

- Updated Test menu (L/N/R options) for if Test Type Changes

HELP FILE: Updated Icon Map. Added section for Icons in HELP program

Update references from WeibullNews.com to FultonFindings.com

Fixed issue where drag/drop file sometimes could not be saved with same name

Fixed issue where multiple files drag/drop to on desktop icon wouldn't load

Automatic Inspection #1 Updated.

- If data entry has many occurrences, such as "12x50000",

Inspection Option #1 is suggested, but user can decline.

- Was Automatic for large quantities of occurrences OR suspensions.

6.0AT - 23 Jan 2025 (File version 6.0.0.120)

Removed errant message code from logbook.

Return to Normal Window state when menus exit.

6.0AS - 16 Jan 2025 (File Version 6.0.0.119)

[Mixture Distribution Analysis](#) Updated to use "Goal" instead of "Limit".

Also added check for at least 3 occurrences in subpopulation.

Library can now store files with just lines (no data sets)  
Added MedRankDemo.xlsx to demonstrate Median Ranks to SMITHdat directory  
HELP FILE: Updated Icon Map, Added <alt> menu functionality  
Added more New Weibull Handbook figures to SMITHdat, now 127 figures.  
Also updated WLR\_Smithdat.csv to show current files.  
Moved [PlotsNotinHandbook.pdf](#) from help file to pdf in SMITHdat  
Update Special Sample menu for correct text  
Update Method menu so top icons can switch from KM to Probit easily  
Eliminated blank page on print plot to PDF  
Updated SSDice (wire fatigue Monte Carlo) with ability to set seeds  
Fixed Button highlight issues when equation Label changed.  
Locked out Dauser Shift if data set has suspensions  
Updated Visual Reports  
Updated Abernethy Risk Planned Replacement menu  
Add check for pve if  $r^2=1.00$   
Removed several public variables and routines that were no longer used  
If current method is Probit, now can generate a Probit Sample with dice icon  
Updated Language for "Seed", "Background", and "Transparent"  
Updated Marker Line selection and label  
Updated several secondary menus so they didn't have to be converted. Slightly faster menus.

6.0AR - 24 August 2024 (File Version 6.0.0.118)

Updated warranty input formats  
Icon Mixture labels updated to be consistent between SSW and SSY  
Life-Usage Interaction updated for SSV plot  
Forty plots from New Weibull Handbook added to SMITHdat directory  
Allow Big Titles in SSV for plots called from SSW (such as pdf/cdf plots).  
File Open will paste clipboard text if valid file name (Useful for PlayTIME)  
Can select FileName in Library to fill prompt on file open (useful for finding/reviewing a file)  
Add default B values for Report Table  
Updated error handling to reduce cryptic responses  
Added Timegate to Mixture calculations  
Updated mixture calculations for improved efficiency  
Updated LogNormal and Interval MLE for special test data sets.  
Confidence Menu now shows when Automatic Confidence is turned off  
Added "(Gaussian)" to Normal Equation selections  
Corrected Mixture Time Limit  
HELP File: Updated [Crow/AMSAA Barringer Fit](#)  
HELP File: Updated [Barringer Process Reliability \(Output\)](#)

6.0AQ - Skipped

6.0AP - 24 Apr 2024 (File Version 6.0.0.116)

Update initial plot that sometimes had black plot background  
Update Batch commands for -a, -k license key options  
Added header to results when copying to clipboard, logbook, or printing  
Mixtures now default to mle, improved exit criteria and speed  
Update data grid vertical scroll bar when data pasted or deleted; or dragging to select  
On Logbook paste, made Rich Text Format the default (Was plain text)  
Updated mixture estimates. Restricted early Likelihood Ratio Tests.  
[Mixture Distribution Analysis](#). Detail on comparing yb7, yb5, yb4, and SSW/wm.  
- Added underlines for easier comparison of parameters  
- Add note if <40 occurrences  
- Use LR Test % selected on Mixture Icon  
Update header placement on midsize results  
Updated calls to equation selection to one common form

Updated Calculator Option V  
Add checks when Mixture is active, equation is Weibull  
Add error handling if file path is invalid  
Minor updates in Languages  
Update Report and Dist Analysis if showing pve% and r<sup>2</sup>  
HELP: Add Fulton Findings Logo splash at startup while file loads

6.0AO - Skipped

6.0AN - 18 Mar 2024 (File Version 6.0.0.114)  
Update Abernethy Risk and Fulton Risk for other time periods (Days, weeks, etc)  
Update Missing Data to allow Interval MLE for Source data  
Missing Data summary now in Report  
Update report formats in SSV  
Added option for [pve%/r<sup>2</sup>](#) on plot. Show more digits on r<sup>2</sup> on [report](#)  
Update [printer setup](#) for portrait/landscape options  
Updates on Nelson Recurrent Events grid updates and precise reading exit  
Auto-hide simple Print/Export OK messages ("Plot on clipboard") after 1 second  
Assurance Add'l Plot Display: Clarified set label  
Ir Confidence w/ 3p solution: Gives message to change confidence method  
Fit Method: Added logic to ensure recalculation upon change  
Updated simple Results form (Like Binomial Output) with icons  
Added checks for when user turns tablet to portrait orientation.  
HELP: Updated Printer options  
HELP: Add big Highlight under Home Icon  
HELP: Press <enter> while entering search text to start search  
HELP: System Files Check lists API files: advapi32, gdi32, kernel32, shell32, user32  
HELP: System Files check shows Windows 10 or Windows 11 versions of files provided by Microsoft.  
HELP: Updates to text for Missing Data, Weibull Library, and Mixtures.

6.0AM - 11 Jan 2024 (File Version 6.0.0.113)  
Updated Mixture menu for consistency between SSW and SSY  
Fixed "Results header overwrites OK button" on some screen resolutions.  
<ctrl> mouse wheel now adjusts font size on grid, library, and most Result screens  
Updated Barringer Process Reliability menus and results screens  
Data Grid height now consistent with plot height for various screen resolutions  
Fixed file dialog box flag which sometimes showed Win 3.1 dialog box  
Fixed SSV plot which was blank for some confidence changes  
Updated data Grid Vertical Scroll bar range  
Update Export/Report menu for Plot, Rank Table options  
Changed Menu preload (6.0AK), which sometimes caused phantom menus and unexpected messages  
    Moved many buttons from "MouseDown" to "MouseUp" to reduce phantom menus  
    Updated Weibull Library menu load  
    Most main menus now have a static menu preloaded to improve menu speed.  
    Restored Method/Input menu to way it was in 6.0AJ  
    Menu preload re-done if language changes  
Update message box to show truncated message, instead of no message if too long.  
Last file opened is now listed in header of Former Files List.  
Binomial Routine: Upgraded to avoid nuisance messages  
Method/Input Menu: Menu item "J" wording sequence clarified  
Data Format: Automatic conversion from Grouped to Inspect Option 1 improved  
Parameter Input: Restored ability for Normal/Gumbel negative central tendency  
Parameter Input: Restored true bottom limit for SigF to 1.0  
Parameter Input: Added message to clarify when input outside acceptable range  
X-Value Input: Restored ability to analyze true negative values for Normal/Gumbel  
Demo Code Message box updated if 5.0 code used

6.0AL - 26 Aug 2023 (File Version 6.0.0.112)

HELP: If search canceled, show "Search: (Click Here)" instead of null line in Tree View

HELP: Added note on life cycle support

HELP: Removed contact information for Dr. Abernethy (1930-2021)

Updated Mixtures in Report and Distribution Analysis

Add Error checking to license processing

Help File: Updated links on [Missing Data](#)

Update "No Data" message

Added /C to Data Wizard Transform to Divide by Constant

ACH added solution for 4 parameter mixture

Updated Fisher Matrix menu heading

Crow-AMSAA report - Fit info on separate line

Update screen variables for larger than 2560x1440 screen resolution

- (was not showing zoom/label/print icons on plot)

Added drag/drop files on grid or plot to open them

Double-click file now opens with confidence bounds in file

- (was opening file, but not showing confidence bounds)

Updates on license management

- Site License with exe files

- Check license date and software compile date

- Can revert to site license file with blank license key

6.0AK - 14 Jul 2023 (File Version 6.0.0.111)

[Abernethy Risk](#): Added Event Probability to option B

"Standard" adds a unit when probability >0.5

"Event Probability" adds a unit when probability > 1

SSHelp: Updated version check in Help/System File Check

YBath: Improved mixture initial estimates, solution speed, pdf plots, parameters to clipboard

Add capability for timed licenses. [View/Change with Setup Option W](#)

Created Student Version via license key

Improved SSV for startup data set manipulation

Several items added on calculator

Increased # occurrences to 1,000,000 per data set

Add Units option on test menu

Start pre-loading menus with mouse move for faster menu displays

Improved label and icon layout alignment

HDF (Hazard Distribution Function) can now be on log-log scaling

Improved menu navigation for arrow keys, Home/End/PgUp/PgDn

Alt Key menus can now cycle with left/right arrows

Minor updates to Weibull Dice form and message boxes

6.0AJ - 11 Jan 2023 (File Version 6.0.0.110)

SSHelp: Add version check to Help/System File Check

SSHelp: Updated menus to match "look and feel" of main program

Add EULA to About dialog box, updated FF Logo

<alt> keys now turn off after 3 seconds of no action

6.0AI - Skipped

6.0AH - 14 Dec 2022 (File Version 6.0.0.108)

SSHelp: Add 000 separator and decimal separator to System File Check, Update Plots not in handbook

Fixed error with decimal/comma for decimal separator in version number

Improved response for file drag/drop on smithw.exe, or -H (Linger) in batch call

Set colors don't change when new file is opened with existing data

AR (Abernethy Risk) set Wauben Modified if in a batch call  
Updated Curve Fit in SSV (cubic, polynomial, etc)

6.0AG - 19 Nov 2022 (File Version 6.0.0.107)

BatchOp - Duplicated batch operation code from Sub-FyIDin to Sub-FyIDinSSW  
Dice Icon - Special MC - Menu item "F" made active again for MC type MPV  
AR (Abernethy Risk) - Removed leading and trailing spaces for variable sequence input  
NRE (Nelson Recurrent Events) - Added box around "Nelson" on plot  
Set Delete - Removed requirement to recalc for remaining data sets  
BPR (Barringer Process Reliability) - Deleted "Wilkins Modified" option  
Menu Update - Allow 1- and 2-line menu items if short list to avoid need to scroll

6.0AF - 01 Nov 2022 (File Version 6.0.0.106)

Marker line logic improved to see added line immediately  
Batch operation speed improved

6.0AE - 20 Sep 2022 (File Version 6.0.0.105)

Commercial Release (6.0AA-6.0AD were beta versions)  
Updated Sample Menu - show parameter values, list options.  
Updated YBath estimates for faster solutions. Likelihood ratio check updated  
SSV report shows corresponding axis info  
SSV Optimum Replacement shows Optimum, Planned, and Unplanned  
Optimum Replacement Value plot now includes planned and unplanned costs.  
Monte Carlo Sample from Sample updated for Interval MLE and print to file  
On Screen Keyboard icon added on main input menus  
Updated User display options and allow user to save 2 configurations  
Weibull Dice updated for languages, and saving data when exiting.  
Data paste from clipboard defaults to next set.  
Updated Abernethy Risk and Optimum Replacement headers.  
Larger menu symbols in Weibull Library.  
Updated number menu for data input symbols  
Hide Form2 during batch processing.

6.0AD - 24 Jun 2022 (File Version 6.0.0.104)

Added click menus on tab labels when small icons showing  
Add setup items to switch between Touch and Device (mouse) quickly  
Changed default to small icons (not Big Touch screen)  
pAD now indicates "---", not "0.100" when Suspensions  
Reduced menu flicker  
Improved Batch operation

6.0AC - 06 May 2022 (File Version 6.0.0.103)

Added Filipino, Romanian Language  
Added <alt> menu so most actions can be done with keyboard  
See [First Time User](#) for details  
Reduced messagebox size  
Updates to Windows Batch functions  
Updated Print/Export Menu  
Add space on menu so Touch/Drag can highlight choice  
Large Tool-tips when small icon is active  
Updated Rank Table output for better alignment  
Help program updated for start-up

6.0AB - 11 Apr 2022 (File Version 6.0.0.102)

Added [White on Blue](#) Menu highlights with mouse movement  
<Enter> on main form will do Monte Carlo, even if Monte Carlo is not on the visible tab

#### Options on Setup, Main Display Options

- Big/Small icons
- Select tab with mouseover
- Data grid edit Keyboard/Menu
- Windows OSK (On Screen Keyboard) for text editing
- Menu bar size Normal or 1 line
- Options on Big Plot (Was on Setup menu)
- Show Y value on Data grid (Was on Setup menu)

Reviewed Font names/sizes, Aligned font on main tabs.

Results window can be resized

Updated yellow highlight feature

Changed default start to full screen. (Change in Setup, Start/Lock)

Common File Open/Close Routine

Updated Monte Carlo Parameter selection for mixtures

Improved Likelihood Contours

6.0AA - 31 Dec 2021 (File Version 6.0.0.101)

This is a major upgrade which includes:

#### **Overall Program:**

Improved touch-screen usage with common large icon interface and large scroll bars

- Menu scrolling with mouse wheel, touch/drag, or arrow keys

Number input includes [on-screen number pad](#)

Integration of SSW/SSV/SSY/SmithDice/HPGL2WMF/YBMacro into one core program.

Menu forms remember last screen and location

Updated Playtime with new cases

#### **Software Functions/Features**

New [Missing Data Estimate](#)

New [Library Features](#)

New [Logbook](#) to store notes and results

New [Report Form](#) for tables of data output, rather than overwriting plot.

Improved MLE  $t_0$  calculations

New Path of Steepest Ascent algorithm for Mixture analysis

New Inspect Option #1 for Mixture Analysis

Improved Mixture analysis/choices in SSW

Combine data sets for overall reliability

Updated  $r^2$  calculation for Weibayes plots

SuperSMITH Key for Full/Demo/Student use.

Special Instructor features for class use.

Increased points for contour plots

Help file shows current screen resolution

#### **Plotting:**

Common plot layout in all 3 programs