Release Notes

Javelin® software v6.6

Release date: September 2023

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Description of Changes

For more detailed information, refer to the help file included with the program. To access the help file, click the Help button in the quick access toolbar.

Updated Solid 3D View

Solid View is now upgraded to provide an improved 3D model experience. Some new tools are available.

In the Zoom section:

- The Home button will reset the camera, rotation, and zoom back to the default perspective when 3D view was opened.

- The Zoom Window button will allow you to draw a rectangle over the area to zoom into without changing the camera or the rotation perspective.

- The Zoom Best Fit button will zoom out or in to show the whole model without changing the camera or the rotation perspective.

In the Display group:

- The Show/Hide Grid and Show/Hide Origin and Axis lets you turn the display of these new items off and on.

In the Tools group:

- The Magnify button allows you to show a magnification of the area around the mouse as you move it over the model.

In the main window:

- The Navigation cube in the upper right corner will let you quickly zoom and orient the model to the desired position. Select a corner, edge, or face of the navigation cube and drag the cube to the desired orientation and the model will mimic the movement to that new position. Or simply click a location on the cube and both the cube and model will rotate to that selected position.

Also, as part of this upgrade, navigation in 3D View has changed.

- To rotate the model, engage the right mouse (used to be left mouse) button and move the cursor around the screen. This has the effect of grabbing the front of the model and pulling it around a central point: up, down, left, or right. The rotation is about the center of the visible objects, which may not be the full model. Note: The left mouse button is still used for selecting objects in 3D view.

- To zoom in and out of the model, scroll the mouse wheel. The camera will move in toward the location of the cursor. (This hasn't changed, but it is much faster.) For example: place the cursor on the left side of the screen and scroll the wheel. This moves the camera a step to the left and a step closer to the building. The feature on the screen enlarges where the cursor is located but leaves it at its original coordinates. To walk right up to a feature, you may have to rotate that feature to the center of the screen or rotate the camera.

- To pan around the model, engage the middle mouse button (commonly this is the scroll wheel) and move the cursor around the screen. This has the effect of grabbing the view at the point you click and moving it with the mouse. (Pan used to move it in the opposite direction instead of with the mouse.)

There is a legend in the upper left of the 3D View that details what each button does.

New formats for exporting and sharing the 3D model are also available. In the View ribbon, use Export Model to create a 3D version of the model that can be opened in graphics software, CAD Viewers, or a browser. The following file types are now available:

- A Collada (.DAE) file (This isn't a new file type. The option has just been moved to this location.)
- A WaveFront (.OBJ)
- A Stereolithography (.STL) file
- A WebGL (.HTML) file

Multiple Member Connections

Now design Multiple Member Connections and provide fastener schedules for multi-ply floor and roof beams. The Design Multiple Member Connections tool on the Analysis and Design ribbon uses the loading and product design information to determine all allowable fastener solutions for each member condition. The software then generates a fastener schedule on the layout for connecting each member together to create a multi-ply beam. Note: Selecting the Design Multiple Member Connections button will first perform Structure Check, Load Distribution, and Member Design if they have not already been completed.

Multiple Member Connections are provided for:

- Up to four ply beams oriented in either a flush or dropped condition.
- Trus Joist structural composite members only (No Glulam, Commodity Lumber or Premium Lumber).
- Residential building class applications.
- Individual ply widths of 1.75" or 3.5" only.
- Applicable member depths of 7.25" to 20".
- Non - sloping roof members
- Preservative Treatment equal to None

Two types of loads will be considered in the Multiple Member Connection solution:

- Uniform Distributed Loads: Factored uniform loads that extend along the member for a defined length.
- Point Loads: Factored point loads that exceed 1000 lbs. (IBC) or 1400 lbs. (NBC) will be evaluated separately from uniform loads and will be listed individually.

For a member to be included in Multiple Member Connection design, each member must have the Display Multiple Member Connections As property set to a value other than None. This property is located under the Multiple Member Connections section of each beam's properties. Setting this value to Full Length will provide a single Fastener Solution for the entire length of the member regardless of how many varying uniform distributed loads are on the member.

To choose fastener solutions for multiple member connections, use the Select Fasteners button which is also located on the Analysis and Design ribbon. First, select

one or more beams (or select nothing to see all connections in the job), then click the Select Fasteners button. A "Fastener Solutions" dialog will display:

- A list of available beam member connections in the model along with properties for each beam's current selected fastener solution in a table format

- Available fastener solutions for the beam member connection(s) selected in the table

- Properties for each fastener solution selected in the Available Fastener Solution list

Selecting the beam member connection(s) in the grid updates the Available Fastener Solutions list located below the grid on the left. You can then choose the desired fastener solution from this list to display the fastener placement requirements in the properties grid located to the right. Using that information, you can choose the highlighted solution in the list and click the Apply Selection button to update the fasteners for the selected beam member connection(s).

The Fastener Solutions dialog allows you to quickly review and update fasteners solutions for all beams in one easy to use location. This dialog provides the ability to update multiple fastener selections at one time without closing and reopening the dialog. It allows easy identification of beam member connections in the model and gives detailed fastener information to help make decisions. Design tags are provided for beam member connections in the dialog to make it easy to match the beam(s) to the connection.

When selections are made inside the Fastener Solutions dialog the relevant beams are also highlighted in Plan view for reference.

A Fastener Layout Material List is now created along with the other Layout Material Lists when fastener solutions exist on the level and Input Material Lists is triggered. Reports are also updated to include Fastener information. Fastener summaries and reports contain the following information:

- Beam Label and Design Tag that requires the fastener

- Type of load requiring the fastener (e.g., Uniform or Point)

- Location of the fasteners along the beam (defined from the left end)

- Fastener description

- Placement (e.g., One Face or Both Faces)

- Rows (i.e., number of rows of fasteners)

- O. C. Spacing (i.e., distance between each fastener)

- Number (#) (i.e., number of fasteners at that location. For Point load types only)

- Details (i.e., construction detail reference number)

Fastener information is only provided in the Material Report by Application and is not listed on either the Material Report By Product or Material Report Product Totals report.

Fastener information is also included in the Member Report.

Miscellaneous

- Floor Opening schemes now contain the Input Method property.
- The E9 detail is now available to be manually placed as a construction detail and drawing.
- SQL Server 2019 is now installed with new instances of Javelin.
- Roof Members have updated deflection criteria limits to better align with building code recommendations.
- Service Levels and design values for Parallam Plus products have been updated.
- IBC 2021 and NBCC 2020 building codes are now supported.
- For NBCC, load combinations have been updated to match changes in the building code.
- For NBCC, the Vibration Modification Factor (Kspan) has been updated to use a value of 1.2.
- For NBCC, the check for point loads close to support now considers the bearing length of the entity creating the point load. The worst case (smallest) bearing size on the member is used for this check.
- Hanger design has been updated to include newer product offerings for Simpson Strong-Tie.

Material Changes

Materials with minor updates to design values:
- 9 ½" TJI 110
- All sizes of 2.0E Microllam LVL
- All sizes of Framer Series dimension lumber
- All series and depths of 8x dimension lumber now allowed in the post application

Materials with major updates to design values:
- All depths of 1 1/8" 1.3E TimberStrand LSL
- All sizes of 1.5E TimberStrand LSL
- All sizes of HF dimension lumber (as per O86-19)

Defects Fixed

The following defects were fixed in version 6.6 of Javelin software:

- Now focus is returning to the open dialog when user clicks back into the Javelin application after working in another application.
- Now the job name in Job Tree is correct when opening the original file after a Save As.
- Now in Job Properties Visibility Switches, changing Labels: Floor Framing/Roof Framing/Walls/Loads from Off to Shaded no longer jumps to the Objects switch.

- Now Top-Level Visibility Switches are collapsed on job open.
- Now in Solid View, the Visibility Switch tree stays expanded and retains position when clicking back in Solid View to rotate or select entities.
- Now changing the scale property of a PDF Trace Object updates the raster image size.
- Now during input of linear objects (like Beams), the stretchy line is still visible after canceling the Offset dialog.
- Now Redefine Left End and Vertical Offset commands are working every time instead of every other time.
- Now displaying the Elevation Reference Object property for Ledgers correctly when selecting a Ledger that is not on the current level.
- Now the accessories for cantilevers with short back spans (5' 5" or less) are placing correctly during AutoFrame.
- Now consolidating material is taking Cost Group instead of Consider List into consideration. Materials will now be split into separate rows when the Product, Cost Group or Length (for By Piece only) is different.
- Now Material Reports are showing the correct length of 5' instead of 4' 11 15/16" for members.
- Now Material Reports are showing prices with the expected two decimal points.
- Now when clicking on a row in the Connector Consolidation dialog when that row and others are selected, the clicked on row selects and the other rows deselect. This matches other applications selection functionality.
- Now Reset Label Text By Type and Reset Label Properties By Type are respecting the types picked in the dialog or selected in the model.
- Now when labeling connectors by product name, labels do not remain "Undesigned" after hanger design is run.
- Now Parallel Closure Joists are labeling as individual labels (By Piece) instead of grouping labels.
- Now Hanger Labels update when changing hangers.
- Now Header labels that have been edited are staying edited when changing the opening or header properties.
- Now loads are calculated correctly when a point load is located slightly off center over a bearing on both sides of the member.
- Now loads are distributed correctly when a job with a short cantilever is mirrored.
- Now warning the user when girder trusses have inappropriate reactions due to an additional plane included in the girder truss definition.
- Now AutoCAD exports are creating files compatible with older versions of AutoCAD.
- Now AutoCAD exports are displaying labels correctly (without rectangles).
- Now files install to the correct location (the new location) after using back button on the Confirmation screen and changing the install location.

- Now the installation process will only update local databases to prevent inadvertent updates to shared databases.
- Fixed multiple crashes.

System Requirements

Minimum System Requirements:

- CPU: Core2 Duo 2.00GHz 1066Mhz FSB
- L2 Cache: 4MB
- RAM: 2GB DDR or RDRAM
- Video: 1280x1024 256MB, full support for DirectX 9
- Mouse: Scroll Mouse
- Storage: 50GB free storage (average 6,000–8,000 jobs)
- Supported Operating Systems:
    - Microsoft® Windows® 11 64-bit
    - Microsoft® Windows® 10 64-bit

Note: The software only supports the English language version of Windows.

Recommended System Requirements:

- CPU: Intel Core i5 or Core i7 2.66Ghz 1066Mhz FSB or better
- L2 Cache: 6MB
- RAM: 16GB DDR4 or SDRAM or better
- Video: 1900x1080 60Hz w/512MB dedicated video card, full support for DirectX 9 and newer
- Mouse: Optical Mouse w/scroll wheel
- Storage: 100GB free storage (average 12,000+ jobs)

Note: Testing has determined that meeting or exceeding these recommended system requirements will provide the designer with improved software performance across a broad range of file sizes.

SQL Server

A minimum of SQL Server 2014 is required to run the Javelin application. If SQL Server 2014 or newer exists on the computer, it will be used for the Javelin database. When no valid version of SQL exists, SQL Server 2019 will be installed.

Microsoft Excel

A minimum of Excel 2007 is required to use the Export to Excel function. Microsoft Excel is not installed with the Javelin software.

Tips on Buying a New Computer:

When considering a new computer system to run Javelin software, here are some points to think about:

- **Processor:** Processors have the biggest overall impact on the performance of Javelin software. Select the best processor you can afford. In general, it is better to select a processor with:

  o Higher maximum clock speeds - at least 2.93 GHz with automatic overclocking like Turbo Boost or Turbo Core technologies
  o Larger amounts of shared cache - at least 4MB
  o Integrated Memory Controllers
  o Compatibility with faster memory - DDR3 1066 MHz or faster
  o 2 or more cores
  o Recommended processors include Intel® Core™ i5 and Core™ i7 (Quad Core) or equivalent AMD processor.

  Multi-core processors will typically help improve performance when running multiple applications alongside Javelin software. Javelin uses limited Hyper Threading technology to enhance performance when appropriate.

- **RAM:** In general, you want to buy the fastest RAM you can afford which is compatible with your processor. At least 16GB is recommended for systems. This is typically the cheapest option to increase hardware performance.

- **Video Card:** In general it is best to avoid integrated graphics for Javelin or any CAD application. Select a professional graphics card that:

  o Supports multiple monitors
  o Has at least 512MB of dedicated video memory
  o Fully supports DirectX 9 and newer
  o Intended for use with CAD applications

  Cards based on the NVIDIA Quadro series or ATI FirePro series are intended for use with CAD programs. High-end graphics cards may be a worthwhile investment for a designer who regularly works on large custom homes, multi-family and light commercial projects to improve "Plan View" navigation performance.

- **Hard Drive:** Hard drive upgrades (for example, 10,000 RPM SATA drives or Solid State Drive) may help reduce the time to load or save a job but provide little overall improvement to Javelin software performance for most users.

Javelin Program Settings Which May Affect Performance

Undo – Redo Level: Changing this setting to "Off" can reduce memory usage as well as speed up performance. For example, turning off Undo-Redo during plot cleanup allows each label and hex move operation to complete sooner because an undo save is not performed with the move of each label or hex.   However, when operating without the Undo safety net you may have to do quite a bit of rework if you accidentally make an unwanted change.

Save Preferences\Auto Save: Auto Save can make some operations take much longer than expected. Turning off Auto Save or increasing the Auto Save interval can reduce the amount of time you wait for an auto save to complete. The downside to these adjustments is that you may lose work if you forget to periodically perform a manual save.

View and Selection:

    a. Dialog Settings: Changing this setting to "Always" can make the system seem slower as you are waiting for dialogs to display and close.

    b. System\Prevent Label Collisions: Setting this to "Yes" can cause dramatic slowdowns. Never turn this on with large jobs.

Warnings and Messages: Choosing to show all messages can make the system appear slower as you are waiting for message dialogs to open and close. Customizing warnings to only display messages you want to see can improve perceived performance.

Walls\Wall Update\Auto Renumber: Setting this to "Yes" can have a negative impact on performance.