Altair® Inspire™ Form 2021.2, 2021.2.1, and 2021.2.2

△ **ALTAIR**

New Features and Enhancements 2021.2

The Inspire Form 2021.2 release includes the following new features and enhancements.

Geometry

Extrude, Pattern, and Offset Geometry Tools

Three new geometry tools have been added that enable you to:

- Extrude sketch profiles in one or two directions. Create a new part of combine, subtract, or intersect the extruded shape with existing parts.

- Create a linear or circular pattern of parts or faces.

- Offset parts or surfaces. You can also thicken parts.

Feasibility

FE Mesh Support

FE mesh representation can now be used for model setup. The Orient and Constraint tools have been updated to work on mesh topology.

Orient

Draw direction orientation can be defined for FE mesh representation. Normal of FE mesh elements can also be selected to define draw direction.

Constraints

- The Blankholder constraint can be defined on a group of elements for FE mesh representation model setup.
- The Drawbead constraint can be defined on free and internal element edges for FE mesh representation model setup.
- The Pin constraint can be defined on free edge, internal element edge, and individual nodes for FE mesh representation model setup.

Blank Nesting

- Measure box has been added to get a better understanding of the overall size of the blank before blank fit or nesting.
- Blank can be custom rotated to user-preferred orientation before nesting to get optimal nesting pattern without rotation.
- Carrier has been added to strip layout in the report and to the layout exported as iges/dxf files.

Tryout

Gravity

- The performance of Gravity runs is improved with the solver running in MPI mode.
- Animation is supported for Gravity operation results.

Post-Processing

- Improvement has been made in performance when loading and animating large model results.
- Export formed part results in LS-DYNA format.
- Add callouts for Current and Max values in Time History Plot.
- New result types are supported:

  1. Delta thinning: Thinning due to deformation in the current operation only, ignoring history.
  2. Delta plastic strain: Thinning due to deformation in the current operation only, ignoring history.
  3. Curvature: Element curvature due to bending during forming. Includes principal and local values.
  4. Dominant deformation mode: Indicates dominant deformation mode during forming. Ranges from 0 to 1, with 0 indicating stretching, and 1 indicating bending.

Resolved Issues

The following issues have been resolved for the 2021.2 release:

- Blank shape prediction succeeding with no output has been fixed.
- Successive iterations of the blank shape predictions taking longer to run has been fixed.
- Trimming operation has been sped up when the pierce and trim boundaries are planar.
- You can now import multiple solver format mesh files.

New Features and Enhancements 2021.2.1

Inspire Form 2021.2.1 includes the following new features, enhancements, or resolved issues.

New Features

- Added a new Preference to set the mesh coarsening level for gravity runs.

Resolved Issues

- Fixed a crash when opening files saved in 2021.2 or earlier versions.

- Fixed a crash when starting a run from files saved in version 2021.2.

- Fixed a crash when generating reports in Feasibility.

- Fixed an issue where blank nesting failed for the locked rotation option.

- Fixed an issue where the run failed for models with line beads.

- Fixed an issue where mesh tools failed to continue from the second operation for models containing multiple operations.

- Fixed an issue restarting the run for models where the first operation was Gravity.

- Fixed an error in the blank position in second stage for models with a flat binder.

- Reduced the memory footprint for gravity runs.

- Fixed an issue with the formality plot missing failure points in Feasibility.

- Fixed an issue where loose material data was missing in formability plots.

- Fixed issues with adaptive mesh and gravity mesh coarsening.

- Fixed an issue with auto tool positioning for small planar tools.

New Features and Enhancements 2021.2.2

Altair Inspire Form 2021.2.2 includes the following new features, enhancements, or resolved issues.

Resolved Issues

- Integrated new log4j (version 2.17.1) files to address security vulnerabilities.

- Fixed an issue connecting to the Altair licensing system. [IN-26652]

- Fixed an issue where the blank failed to trim during the trimming operation.

- Fixed a multiple operation run failure with tailor welded blanks.

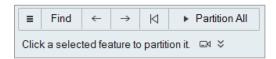- Improved the export performance of large mesh files.

Learn More About Inspire Form

You can learn more about new and existing features in Inspire Form using the following resources:
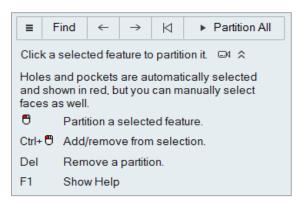
In-Application User Assistance

Inspire Form provides two types of user assistance. **Enhanced tooltips** appear when you hover over icons and other features. They describe what the tool does.

Workflow help appears when you select a tool that opens a guide bar or microdialog. The text prompts you what to do next.
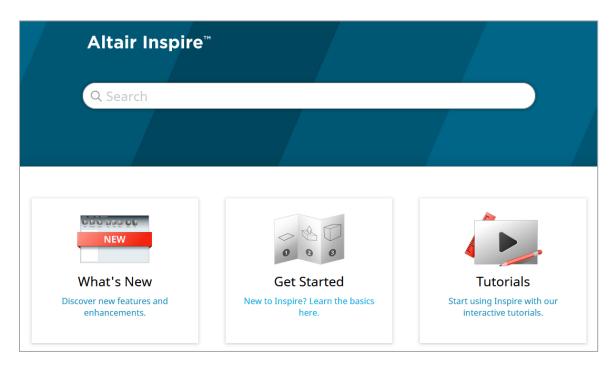

Click to view additional tips and shortcuts. Some tools also include a video .

Online and Offline Help

Press **F1** or select **File > Help > Help** to view the online help.

You can download an offline version by selecting **File > Help > Download Offline Help**. An internet connection is required to download.