

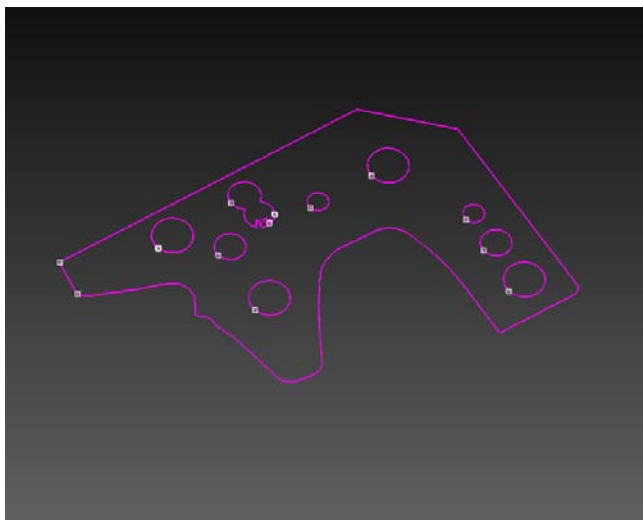
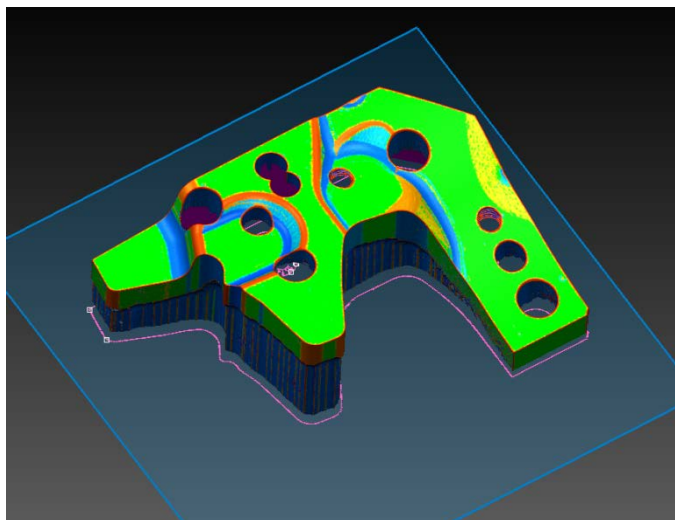
spScan 2020.1

Upgrade News

New Features

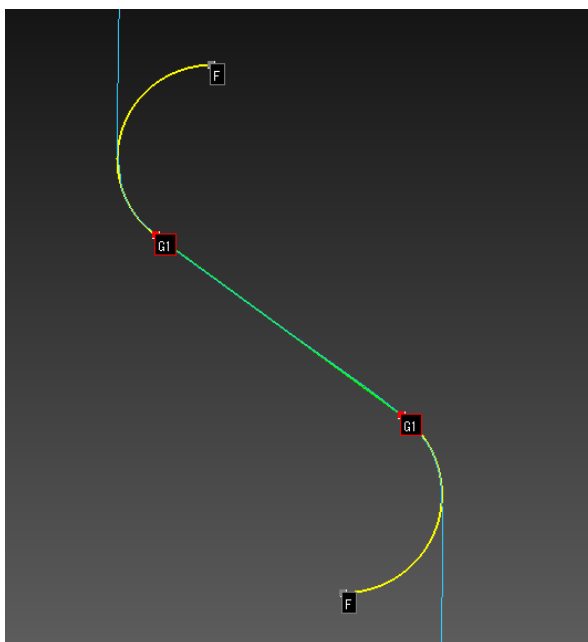
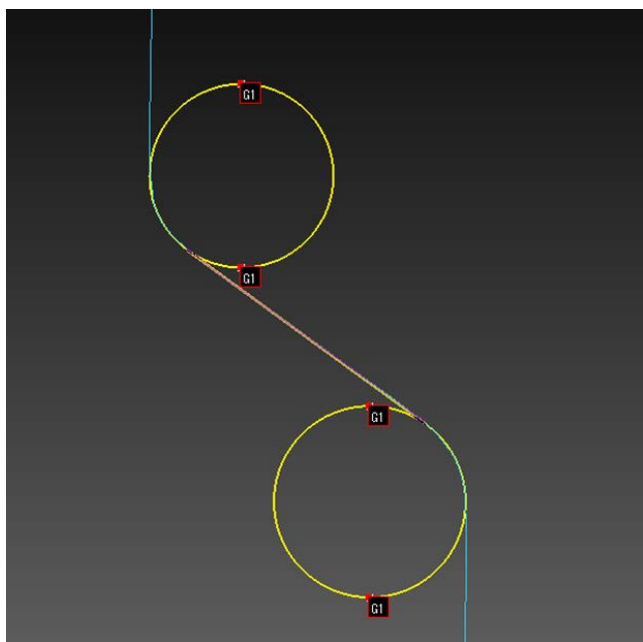
[Curve]-[Create Outline]

Create polygon outline on the plane.



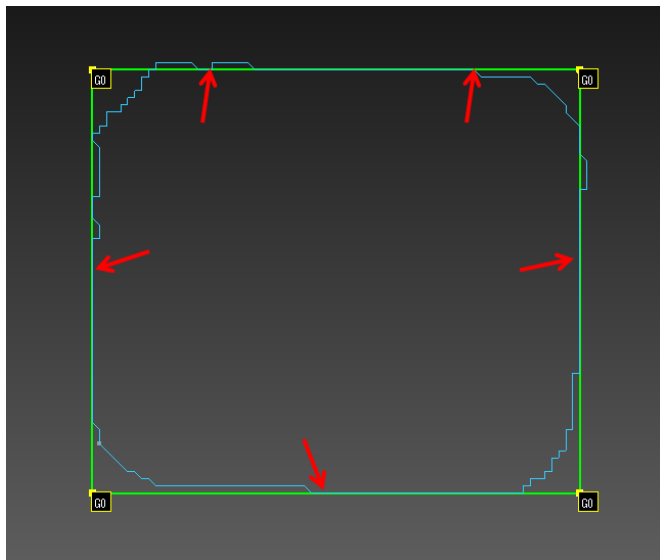
[Curve]-[Create 2D Curves]-[Tangent Line (2 Arcs)]

Create the tangent line between 2 circular arcs.



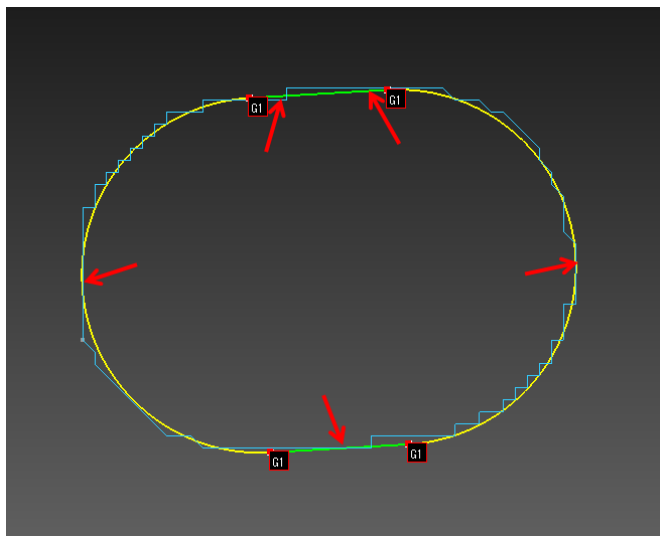
[Curve]-[Create 2D Curves]-[Square Hole (5 Points)]

Create a square hole by specifying 5 points.



[Curve]-[Create 2D Curves]-[Long Hole (5 Points)]

Create a long hole by specifying 5 points.

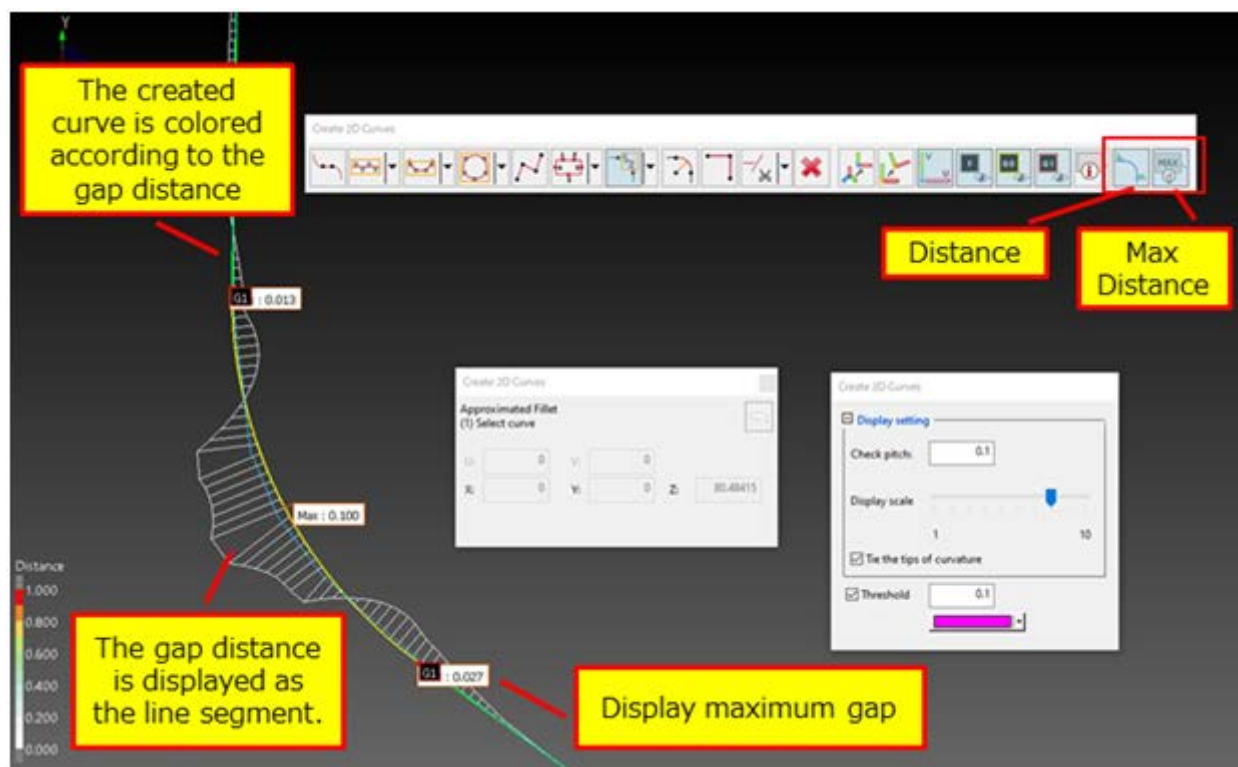


[Curve]-[Create 2D Curves]-[Distance]

The distance between the curve (line, circular arc) created and the reference curve is displayed as line segments. The created curve is colored according to that distance.

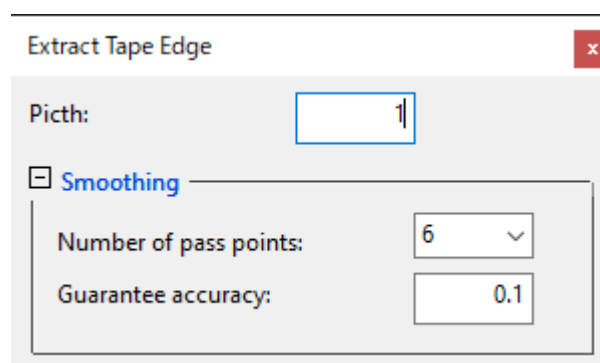
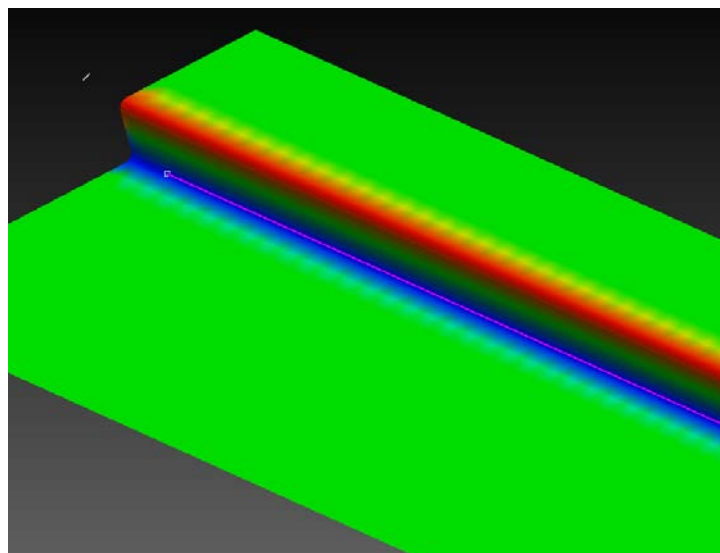
[Curve]-[Create 2D Curves]-[Max Distance]

The maximum distance between the curve (line, circular arc) created and the reference curve is displayed in a form of annotation.



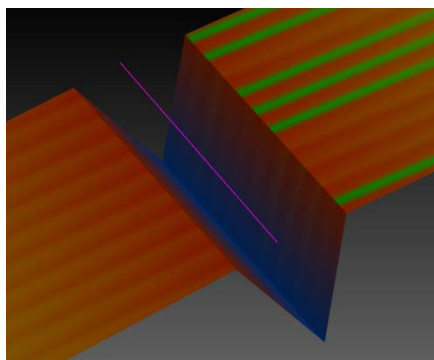
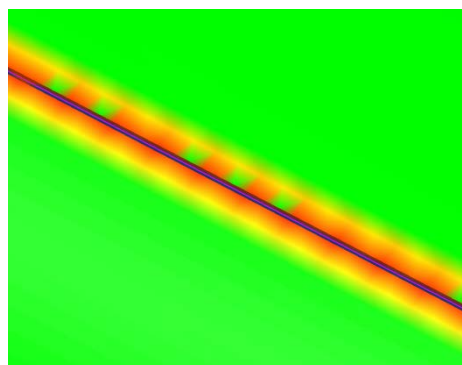
[Demo]-[Virtual Intersection Curve]-[Extract Tape Edge]

Extract a curve from a masking tape edge put on clay model.



[Demo]-[Virtual Intersection Curve]-[Extract Scribe Curve]

Extract a curve from a scribe mark on clay model.

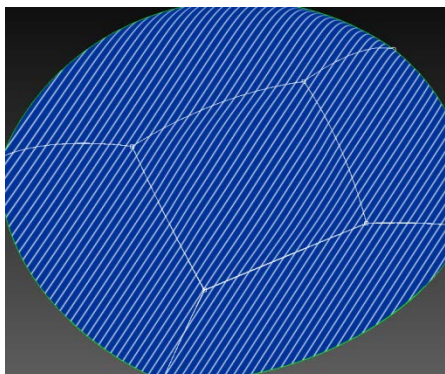
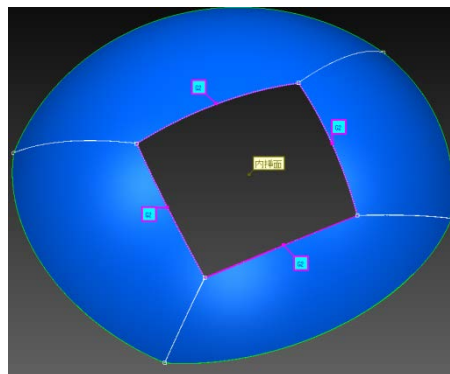


Extract Scribe Curve

☐ Use reversed polygon mesh
☒ Create Projected curves on virtual polygon mesh
 Pitch:
☒ Smoothing
 Number of pass points:
 Guarantee accuracy:

[Demo]-[G2]-[Create G2 Surface]

Create a surface that has G2 continuity with neighboring surfaces. (New logic)



Improved Features

[Surface]-[Create Multiple Base Surfaces]

- Now you can switch between “Linear” or “Natural” ways of edging, when setting the extension method of edging. Following this improvement, the menu “[Demo]-[Create Surface]-[Create Multiple Base Surfaces 2019 SP1]” is removed.
- The feature that extracts plane from polygon automatically is added.
- The time from selecting polygon to displaying elements preview is reduced.
- The button that inverts the vector direction of the primitive element normal is added.
- Automatic edging time is reduced.

Acceleration of the feature “Create multiple base surfaces”

The diagram illustrates the acceleration of the "Create multiple base surfaces" feature through a series of steps and UI changes:

- Step 1: Initial UI** - The "Create Multiple Base Surfaces" dialog box is shown with the "Polygons" tab selected. A red dashed box highlights the "Shrink without dividing automatically" checkbox, which is initially unchecked.
- Step 2: UI Change** - A yellow box indicates that the item "Shrink without dividing automatically" on the [Select by color] toolbar is added.
- Step 3: Selection** - A 3D model of a shoe sole is shown with a red arrow pointing to the "Shrink without dividing automatically" checkbox on the toolbar.
- Step 4: Result** - The 3D model is shown with a red arrow pointing to the "Shrink without dividing automatically" checkbox on the toolbar, indicating that 90% of the element analysis time is reduced.
- Step 5: Edging Method** - The "Create Multiple Base Surfaces" dialog box is shown with the "Edging" section expanded. The "Extension method" is set to "Natural" (selected) instead of "Linear".
- Step 6: Final Result** - The 3D model is shown with a red arrow pointing to the "Shrink without dividing automatically" checkbox on the toolbar, indicating that 50% of time spent in automatic edging is reduced.

[Selection] toolbar [Select by color]

The item ON/OFF of “Shrink without dividing automatically” when using [Select by color] selection is added.

[Curve]-[Remove Curve]

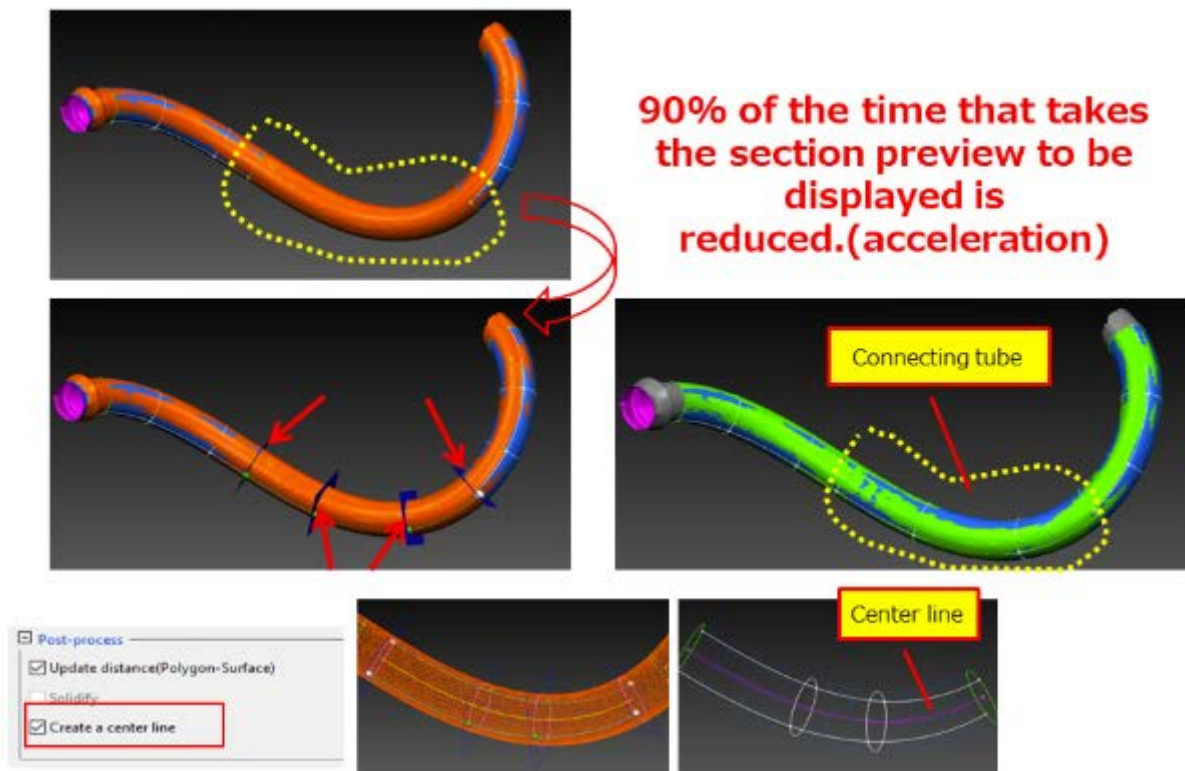
Acceleration of curve removal.

[Surface]-[Patch]-[Back to Polygon Mesh Phase]

Acceleration of the process.

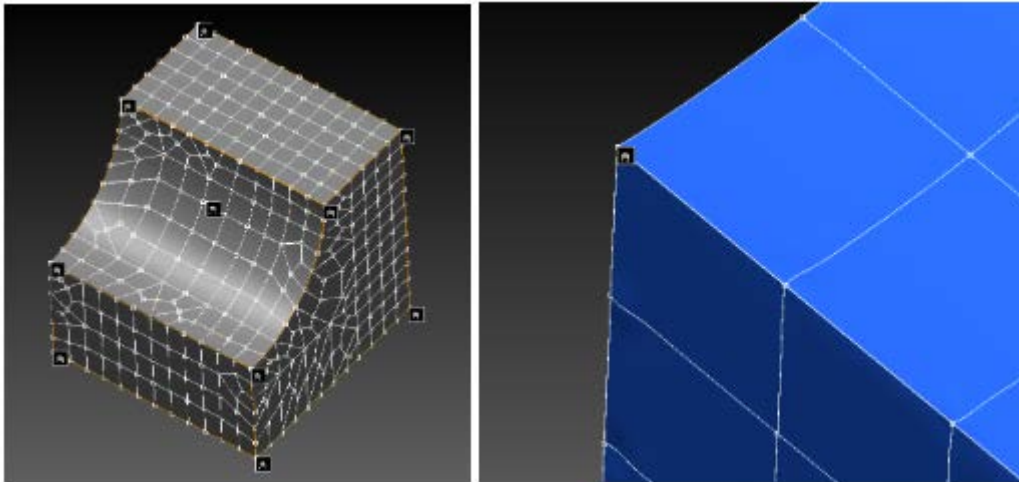
[Surface]-[Create Tube Surfaces]

- The message "Calculate polygon curvature" is displayed as a reminder in the case you execute this command before executing the polygon curvature analysis.
- The time from selecting polygon to displaying the section preview is reduced.
- When selecting polygons, you can now undo processes one at a time by pressing Ctrl + Z.
- You can now go back to specifying polygon mode by pressing Ctrl + Z during the section preview.
- You can now export the center line of the tube.
- You can now create a new tube that connects to the tube already created.
- You can now create half of tube.



[Surface]-[Patch]-[Create Patch Surface]

- You can now create patch surface with G0 continuity.
- Create the patch surface with G0 continuity in the user specified area [Surface Continuity Settings].



[Curve]-[Create 2D Curves]

- When selecting other commands before confirming the progress of curve creation in [Approximate Lines and Arcs (Auto)], a message is displayed to confirm whether to cancel the execution.
- You can now edit radius of circles/arcs and the center coordinates of circles/arcs after creation by using the following menu.
 - [Circle (3 Points)]
 - [Circle (2 Points and Radius)]
 - [Arc (3 Points)]
 - [Arc (2 Points and Radius)]
- You can now edit radius of circles/arcs and the center coordinates of circles/arcs by using the following menu.
 - [Approximated Circle]
 - [Approximated Arc]

[Demo]-[Polygon Estimated Deformation]

- You can now edit the angle threshold of the polygon and the surface-normal.
- You can now specify the surface to deformation.

[Curve]-[Create Reference Section Curves]

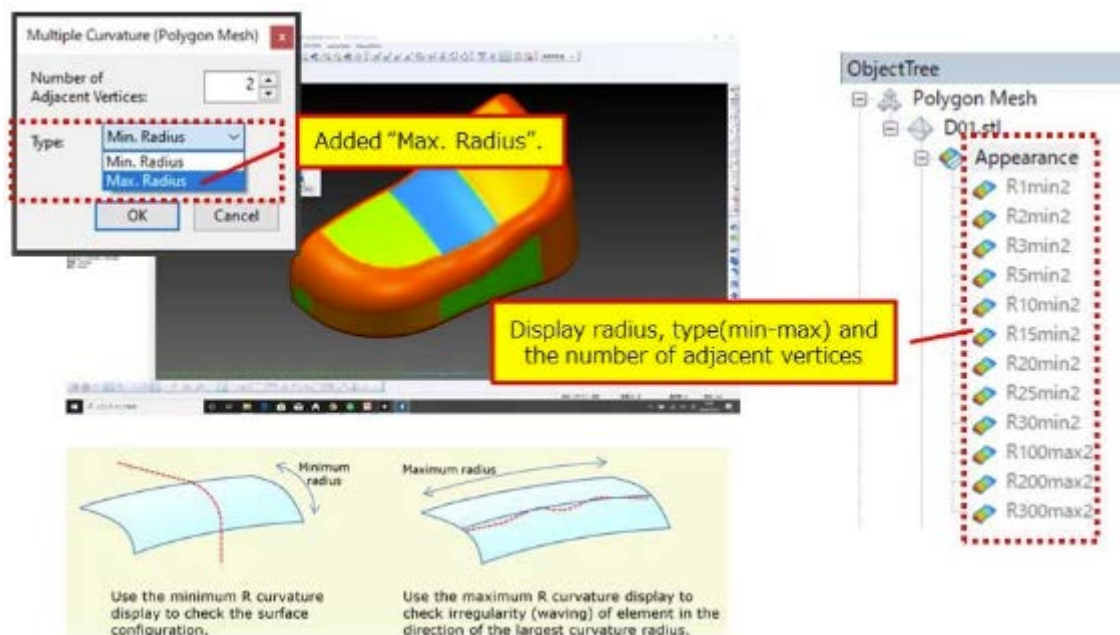
You can now select the type of curve from “Reference curves”, “Free curves” and “Reference curves and free curves”.

[Demo]-[Edit Curve]-[Project Curve (Specified Plane)]

You can now select the type of curve from “Reference curves”, “Free curves” and “Reference curves and free curves”.

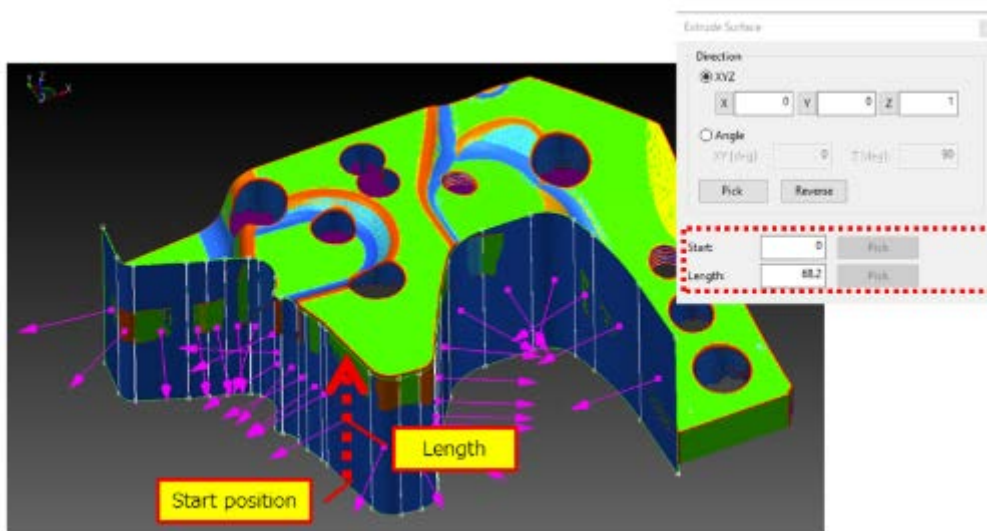
[Analyze]-[Multiple Curvature (Polygon Mesh)]

- You can now select “Max. Radius” when setting the type of analysis.
- In addition to the radius, the type (minimum radius/maximum radius) and the number of adjacent vertices are added to the names in the “Appearance” section. (e.g. R100min 2)



[Surface]-[Extrude Surface]

- You can now create the extrude surface by specifying “Start” and “Length”.
- You can now specify the position of “Start” and “Length” by selecting an element.



[Surface]-[Create Surface]

You can now create the base surface along the direction of the surface.

[Demo]-[Virtual Intersection Curve]-[Auto Create Virtual Intersection Curve]

Acceleration of the extraction time.

Grouping

Acceleration.

[Surface]-[Create PinPoint]

Took measures to solve the error of bending the seam edge when executing "Create PinPoint" at the intersection between cylinder/corn and the plane.

[Edit]-[System Settings]

The default value of "Number of times of Undo" is changed to 30 from 10.

[Demo]-[Context Menu Settings]

The default value of "Menu count" is changed to 9 from 5.

Resolved Issues

[Surface]-[Fit Surface to Polygon Mesh]

Addressed the issue of the surface inverted after fitting.

[Surface]-[Expand Base Surface]

Addressed the issue of spScan going down when pressing the arrow keys (←, →) before selecting the surface.

[Surface]-[Create Multiple Base Surfaces]

Addressed the issue of the polygon selection range changing to be different from the original selection range, when going back to polygon selection mode from preview mode.

[Curve]-[Project Curve]

Addressed the issue of the error that occurs when projecting the arc.

[Polygon Mesh]-[Fill Hole]

Addressed the issue of the polygon invalid shape when filling hole.

Developer

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