

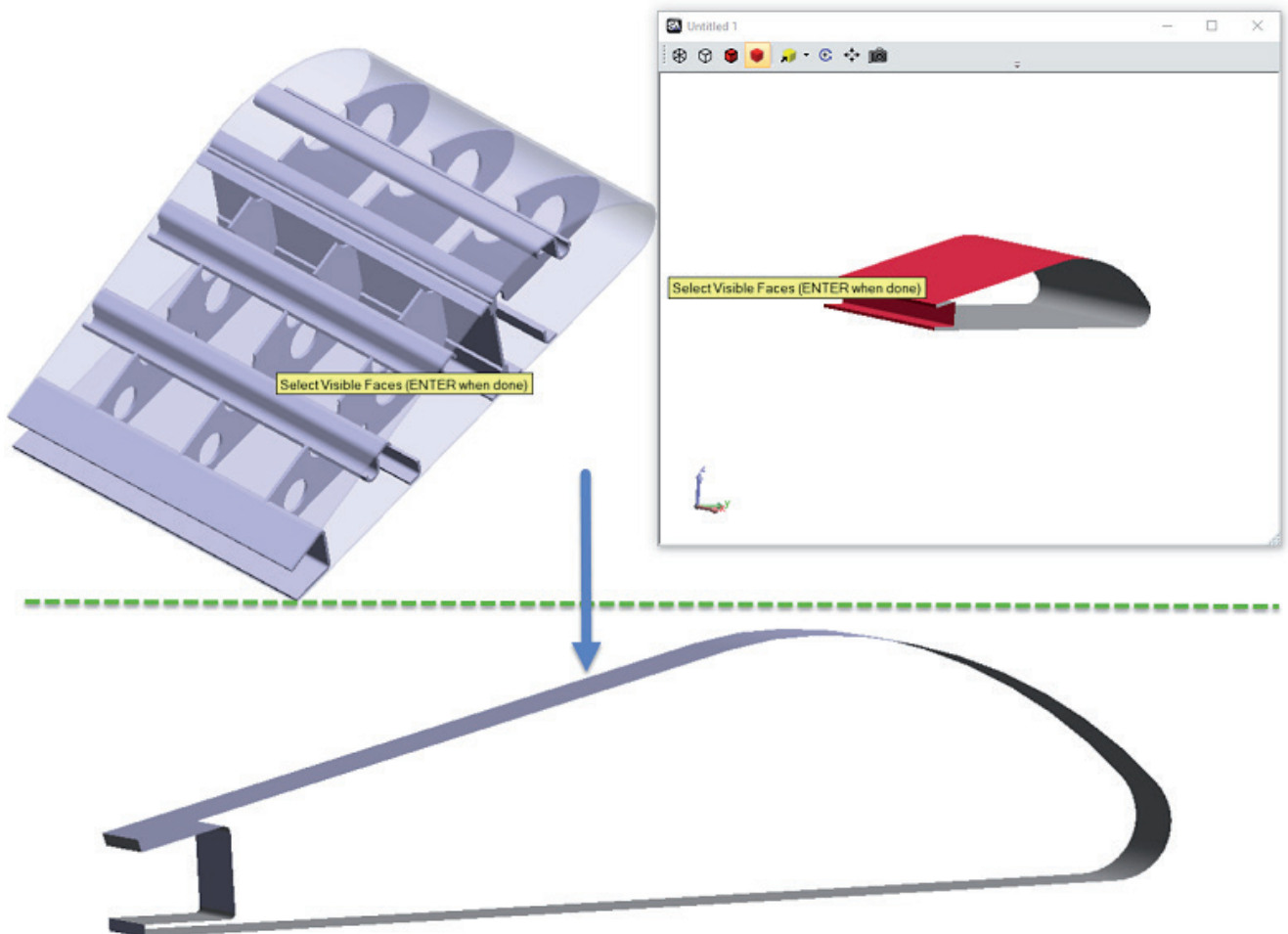
New SpatialAnalyzer Version: SA 2018.01.12

One of the very significant advantages of SpatialAnalyzer is that development occurs at a brisk pace. New feature requests, bug fixes, and changes are implemented quickly, giving you the opportunity to start taking advantage of new or requested features in a very short time.



CAD MANAGEMENT TOOLS

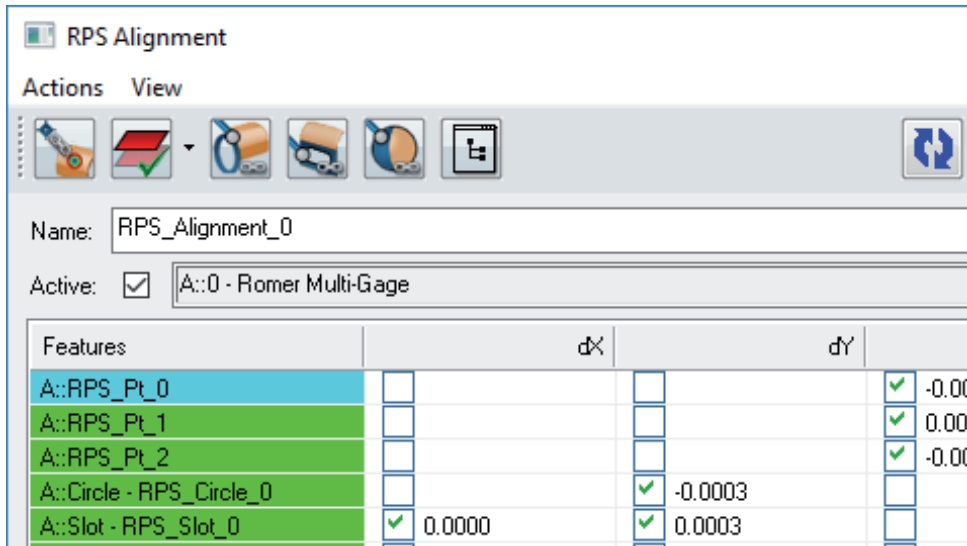
A new tool was added to remove unnecessary surface faces and reduce job file sizes: Edit > Remove Hidden Surface Faces



SA TOOLKIT ENHANCEMENTS

RPS Alignment Added

A new Reference Points System (RPS) alignment tool has been added to SA. This new alignment provides the means to control the influence of points or point reducible features on the alignment along a selectable number of axes. For example, you may want to measure points that are on different planes and use those to align the part along the Z axis, or use a circle to align the part in X and Y.



Saved Alignments in the Tree

The RPS alignment introduces the idea of a saved alignment in the tree. Doing so provides the ability to reopen, verify, and potentially re-apply alignments at any time during the measurement process. Events are still created in the tree when an additional alignment is applied.

Improved Slot Detection from CAD

The ability to extract slots from CAD has been improved including the top verses bottom selection.

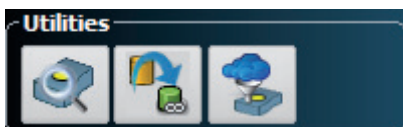
Detect Nominals by Proximity

A new tool has been added to easily detect nominal geometry from a CAD model once aligned, saving the need to manually select those nominal features. [Relationships>Geometry Comparison> Detect Nominals by Proximity](#)

Added a Utilities row to the Relationship Tab of the SA Toolkit

This row includes three very useful functions that were previously buried deep within the Relationship menu. They include:

- ▣ [Detect Nominals by Proximity](#). This allows you to measure features, align to a CAD model, and detect/extract the nominal geometry from that CAD within a proximity to the measured features.
- ▣ [Select Nominal Geometries](#). Which provides an option to build geometry relationships from constructed or imported nominal geometry.
- ▣ [Auto Filter to Nominal](#). A new tool ideal for feature extraction from a point cloud once aligned to a CAD model.



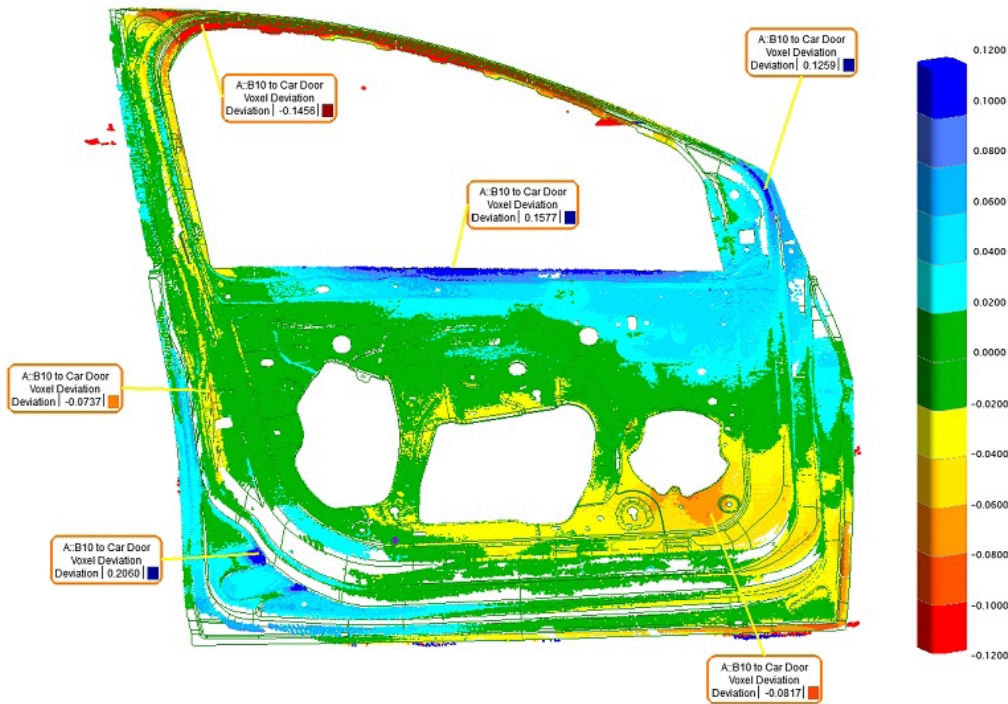
POINT CLOUD OPERATIONS

Live Feature Extraction

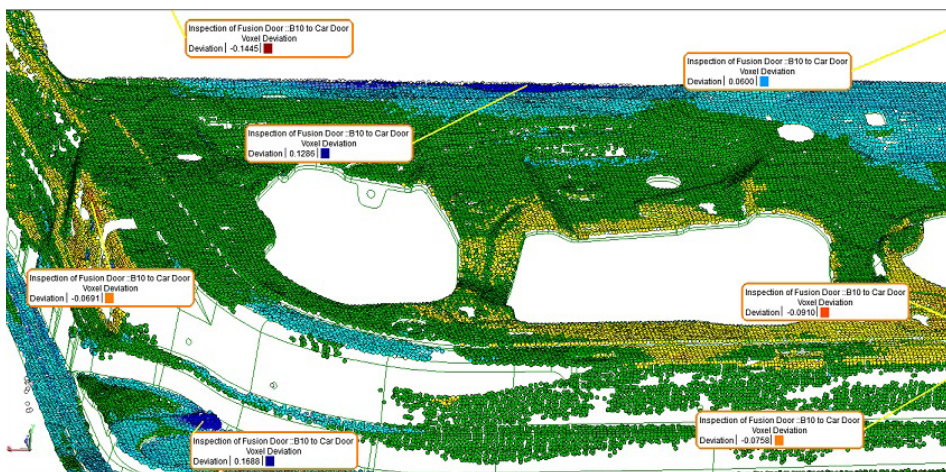
An on-the-fly auto-filtering option was added to extract cloud data as compared to nominal relationships that are built from a CAD model. This live processing makes it easy to identify and extract features from a cloud based upon their proximity to a CAD model.

Voxel Clouds

A new display mode for point clouds has been added called a Voxelized Cloud. It provides the ability to display only a single colored dot (or blotch) for each volume of a specified size. The measured cloud point closest to the average for the entire voxel or computation volume will be displayed, and the size of the voxels can be recomputed at any time. This provides a convenient way to display a uniform distribution of cloud data. When tied to a CAD model or other object by using a cloud to CAD relationship, these voxel clouds can be colored to easily display deviation statistics.



A new voxel callout has also been added to identify the deviations in a region.



Several additional cloud deviation surface analysis displays are available to help explore surface and measurement variation.

GD&T IMPROVEMENTS

GD&T Status Icons added

Status Icons have been added to GD&T feature checks to provide a quick and easy way to identify the status of checks in both the tree and the Inspection Tab of the SA Toolkit.

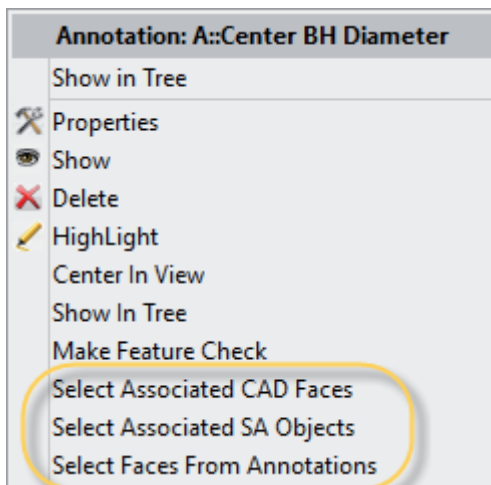
- ▶ Annotations
- ▶ Datums
- ▶ Feature Checks
 - ✔ Angularity Check1 (11 meas) (P)
 - ✔ Surface Profile Check1 (153 me)
 - ✘ Surface Profile Check2 (123 me)
 - ✔ Flatness Check (6 meas) (PASS)
 - ✔ Parallelism Check (60 meas) (P/
 - ✔ Total Runout Check (78 meas)

Imported Annotations Repair Function

CAD annotations are originally imported with the leader lines and layout designed in the CAD package. However, the links to the correct CAD faces are sometimes lost. In this version, we have added a rightclick repair function that allows you to rebuild the annotation link with the CAD without losing CAD leader lines or layout elements.

Object Associations are easier to control

The CAD face associations can now be easily modified. When editing face associations in an annotation, the faces are highlighted and individual faces can be turned, included, or excluded from the list through graphical selection.



Three new options have been added to the Annotation right-click menu allowing easy feature association. Selection from other annotations will automatically link the annotation to the same selected features.

INSTRUMENT UPDATES

PCMM Arms

Added support for the Faro Quantums and Quantum M arms including a new graphics model.



Tracker Improvements

Added ability to use proximity triggers with the T-Scan and LAS scan ners. This provides the ability to capture exact point location measurements extremely quickly and is already available for arm scan ners.

Total Station Improvements

Added new TS16 Interface with support for wireless communication and PhotoNideo cont rols.



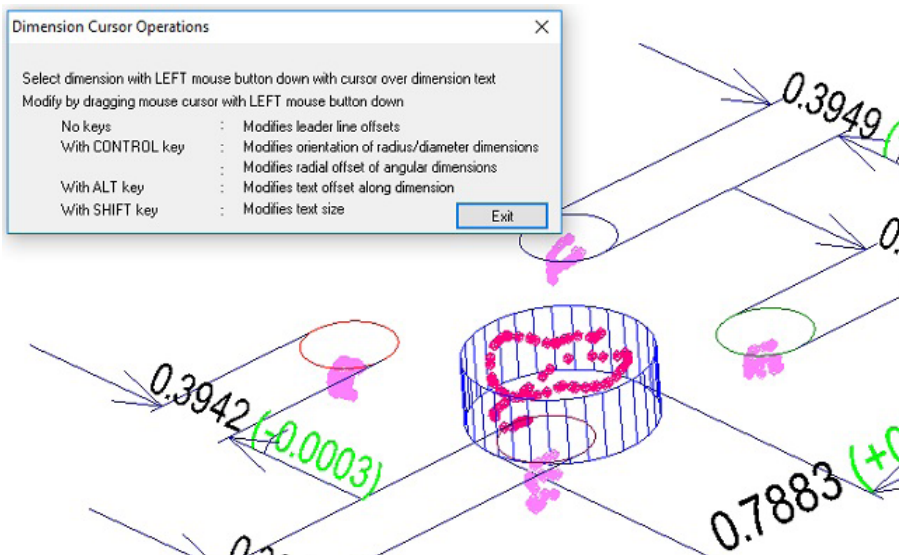
Photogrammetry Improvements

Added Dynamic Reference Controls for the AICON MoveInspect system including MP operational checks to set them and a Create New Dynamic Reference command.

REPORTING IMPROVEMENTS

Dimension Leader Line Improvements

Point to Point and diameter dimensions can now be positioned more effectively and easily positioned as desired with improved leader lines 2D dimensions are now available as a function of point to point dimensions in addition to the already existing single component definition.



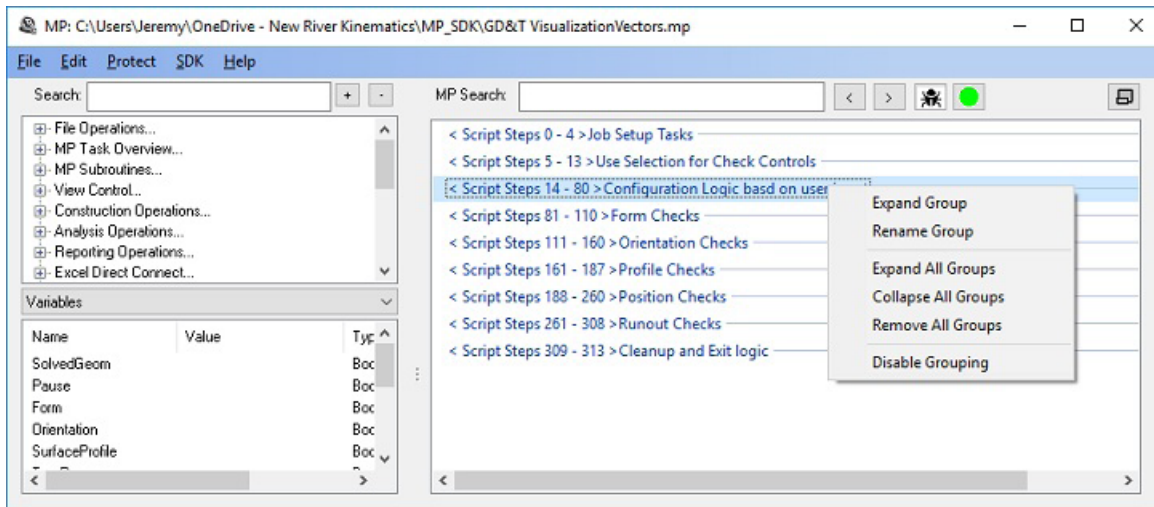
Callouts are now linked to Clipping Planes

When a clipping plane is active the callouts linked to points behind the clipping plane are now hidden automatically from view.

MEASUREMENT PLAN

MP Editor Enhancements

Added grouping and section headers to scripts which provides the ability to easily separate and navigate a large MP.



MP Editor Find and Replace Functions Added

A new Find (Ctrl+F) and Replace (Ctrl+H) function has been added to the MP editor to make it easier to find steps of interest and edit existing entry fields. This includes both a find editor and a navigation panel for easy navigation between the steps identified.

