

# What's New In SA

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## SA 2014.06.17

### Slots

Support for both rounded and square slots has been added.

#### Construction

Use **Construct > Slots > Enter** to construct round or square slots relative to the working coordinate frame.

#### From Surface Faces

Given a merged CAD surface, you can extract a slot by using the new command **Construct > Slots > From Surface Faces**. Simply click on the interior wall of the slot and the nominal slot will be created.

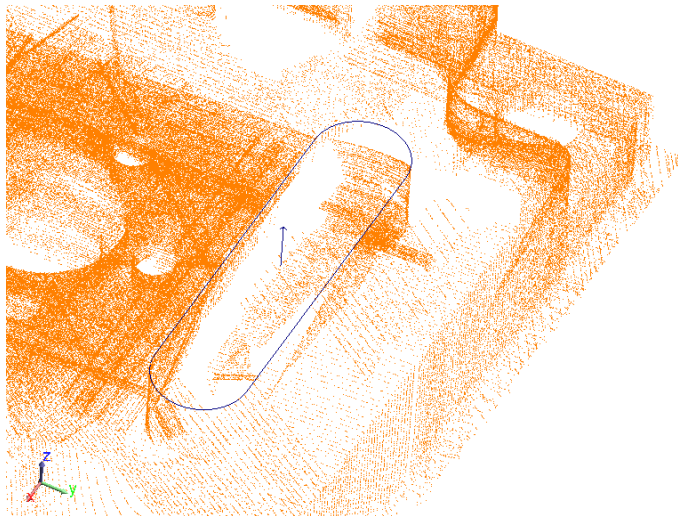
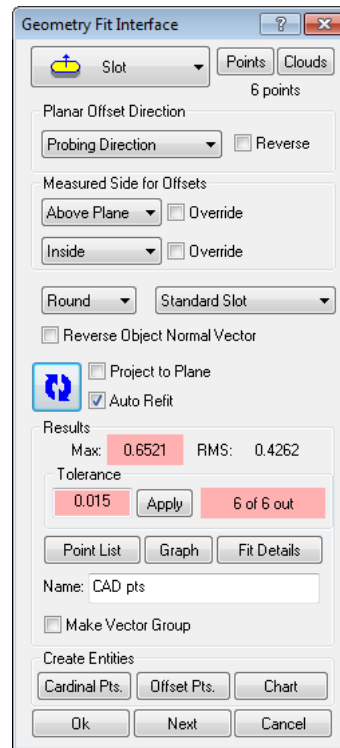
#### Geometry Fitting

Geometry fit now supports rounded and square slots. Use **Construct > Slots > Fit to Points** or select the *Slot* geometry type from the **Geometry Fit** dialog.

You can construct standard (best fit) slots (rounded or square), as well as max inscribed and min circumscribed slots.

For best results, measure at least 7 points for a slot, spread along both

ends and the straight segments.

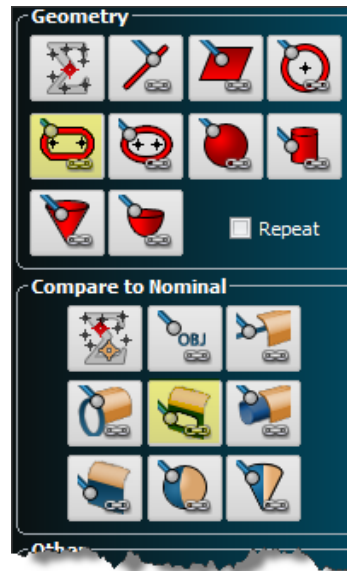


## Slot Centers

To create a line along the center of one or more slots, use the new command **Construct > Lines > Center of Slot(s)**.

## Geometry Relationships

You can now create geometry relationships for slots. Icons have been added in the Relationships tab in the Toolkit:



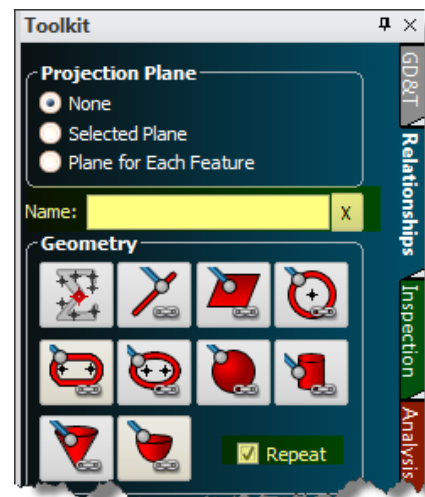
## GD&T

GD&T now supports both SA Objects and CAD slot features. When using slots from CAD faces, it is necessary to enable the *Is Slot?* option in the *Features* section of the **Annotation Properties** dialog in order for the selected face(s) to be recognized as part of that feature.

Features	
SA Objects	
CAD Faces	1 Face Selected
Is Slot?	<input checked="" type="checkbox"/>

## Relationship Naming/Deletion

Renaming a relationship will cause the objects it created to also be renamed. Deleting a relationship will cause the objects it created to also be deleted.



A *Name* field has been added to the Relationships tab in the Toolkit

which allows you to control the name of the relationship you create. If left blank, then the default name will be used.

## Toolkit Repeat Feature

A *Repeat* checkbox has been added to the relationships tab of the toolkit (see previous image). When enabled, advancing forward in the Inspection tab or completing a feature with a measurement count limit will automatically create a new feature with the same properties as the last created feature.

This is particularly useful if you have to measure a large number of similar features, such as 100 holes. Simply define the first hole, enable the *Repeat* option, and as you advance past the first hole, new circle features will be created for you.

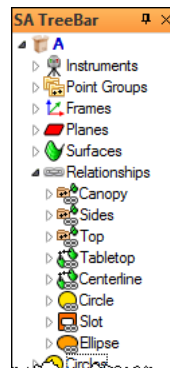
## Single Point Circle Geometry Relationships

Support has been added for single point circles in a geometry relationship. As a reminder, single point circles allow you to lay a probe in a hole (assuming the hole diameter is smaller than the probe diameter) and create a circle with a single measurement, based on how far the probe sinks into the hole.

To create a single point circle geometry relationship, create a circle relationship as usual, and enable a projection plane. If the relationship has exactly one point, a single point circle will be created. If you continue measuring additional points, a regular circle relationship will be created instead. Note that the measured point must be on the positive side of the projection plane.

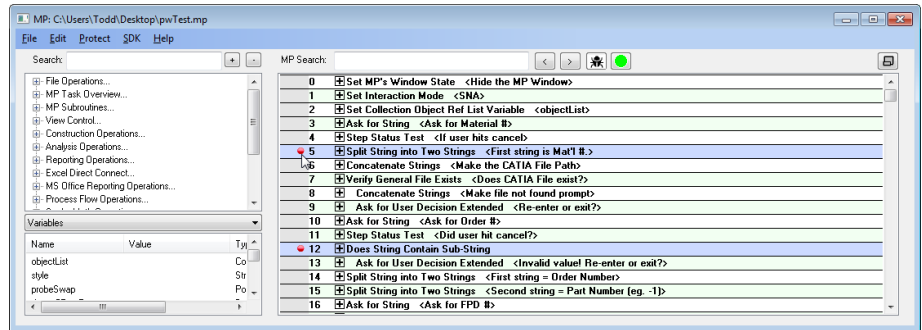
## New Relationship Tree Icons

Several new relationship tree icons have been added to help you distinguish among different types of relationships in the tree:



## Rewritten MP Editor

A new, entirely-rewritten MP Editor is available in this release.



The new editor brings a huge number of improvements over the previous script editor interface, making script development faster, easier, and requiring less mouse clicks. For detailed information on using this editor, refer to the chapter “Measurement Plans” in the SA User Manual.

To open the new editor, select **Scripts > Create/Edit Measurement Plan**, then click  to open the new editor.

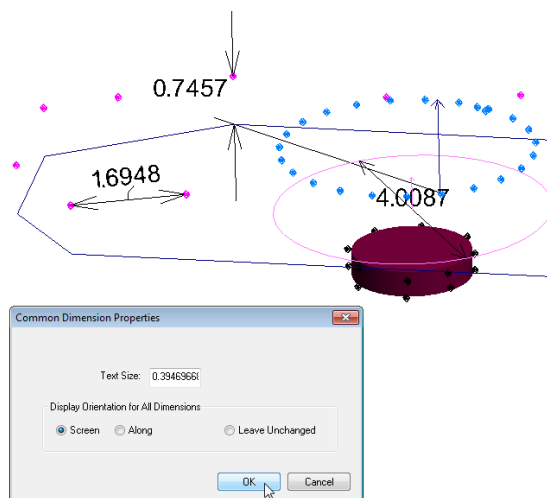
*Note: The new MP Editor is still in beta testing mode—exercise caution if using it with production scripts.*

## New Measurement Plan Command

- **Construct Frames from Point Measurement Probing Frames.** Creates frames from points that have ijk vectors stored (supported by certain instruments).

## Dimensions

Dimensions can now be oriented to always face the screen (*Screen*) in addition to the original setting to have them oriented along the dimension (*Along*).



This setting can be changed in the properties of a dimension, or you can right-click on the **Dimensions** category in the tree and select

**Common Properties** from the context menu to adjust the text size or display orientation for all dimensions in a collection.

Right-click selection in the graphical view has been implemented for dimensions as well.

## Google Glass


A Google Glass app is now available which displays watch window data on the glass, allowing it to perform as a Heads-Up Display.

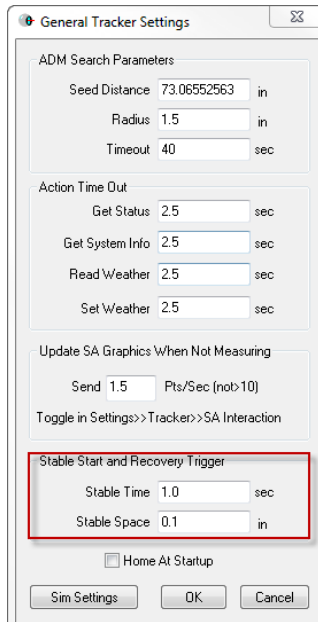
The app is not yet available on the Google app store and requires manual installation. For more information, refer to the chapter "Watch Windows" in the SA User Manual or contact [support@kinematics.com](mailto:support@kinematics.com) for download and installation instructions.

X	33.3234
Y	64.1496
Z	0.0000
d	72.2885
A::Cylinder	
Point to Objects	18:37:28

## Laser Tracker Interface Enhancements

### Stable Start and Recovery Triggers

You may now edit the parameters for the stable start and recovery triggers by clicking on the **General Settings** icon . This applies to any measurement's stable start trigger, stable recovery after beam break, measurement restart, and stable start for measurement modes such as projection planes and hidden points (vector bars).

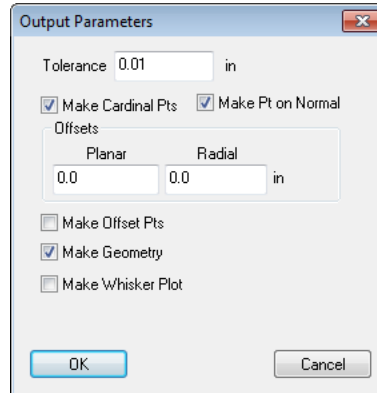


The image shows a screenshot of the "General Tracker Settings" dialog box. The dialog has a title bar with a close button. It contains several sections of settings:

- ADM Search Parameters:**
  - Seed Distance: 73.06552563 in
  - Radius: 1.5 in
  - Timeout: 40 sec
- Action Time Out:**
  - Get Status: 2.5 sec
  - Get System Info: 2.5 sec
  - Read Weather: 2.5 sec
  - Set Weather: 2.5 sec
- Update SA Graphics When Not Measuring:**
  - Send: 1.5 Pts/Sec (nob>10)
  - Toggle in Settings>>Tracker>>SA Interaction
- Stable Start and Recovery Trigger (highlighted with a red box):**
  - Stable Time: 1.0 sec
  - Stable Space: 0.1 in
- ☐ Home At Startup
- Buttons: Sim Settings, OK, Cancel

## Cardinal Point Offsets

For specialized applications, you can now specify the offsets for cardinal points created through the laser tracker interface or in Measurement Plans through Geometry Fit Profiles.



This control is found in the **Output Parameters** dialog of the tracker interface fit dialog or in the geometry fit profile settings. Both offsets default to 0.0 to preserve existing behavior.

## User Interaction Mode

Laser trackers are now aware of SA's User Interaction mode. If set to *Silent*, the interface will suppress most error messages that require user interaction. This is meant for automation, where user interaction is not desired.

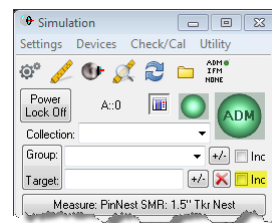
## High Point

The planar offset for all High Point measurements is now set to zero for better representation, since offset compensation is applied to the high point. The radial offset is still that of the target specified for the measurement.

For *along axis* high point, the point is shifted in the negative direction of the axis.

For *from axis* high point, the point is shifted toward the axis.

## Auto-Incrementing Point Names

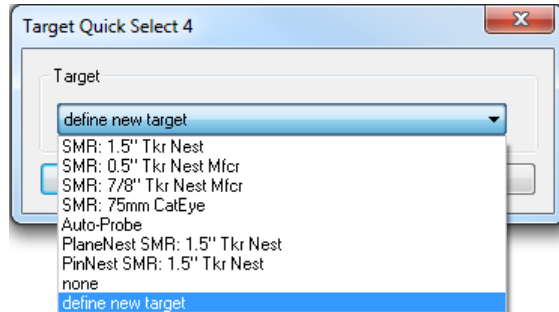


A check box option to auto-increment point names has been added. This setting *does not* persist. Each time the interface starts, it will be enabled to increment the point name (consistent with existing be-

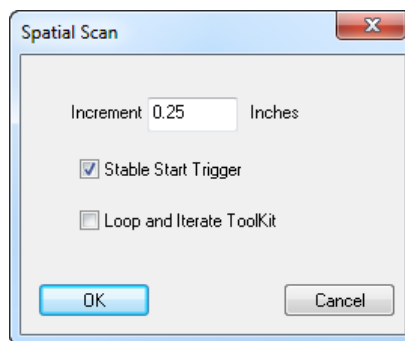
havior). The primary purpose of this feature is to take multiple observations for the same point. It does not apply to spatial or temporal scans, or to measurements initiated from SA (such as auto-measure).

## Tracker Toolbar

- **Reflectors and Targets.** You can now access the *Reflectors and Targets* dialog from the Toolbar. Right-click a target quick select and choose **Define New Target**.



- **Loop and Iterate Toolkit.** *Loop and Iterate Toolkit* has been added as an optional parameter for Spatial Scan in the tracker toolbar. This allows you to measure a set of circles defined in the Toolkit without returning to the computer between each iteration. When checked, this option sets the spatial scan to a stable start trigger, loop stop trigger and profile iterations to zero. It also iterates toolkit trapping to the next circle after each loop. When unchecked, this option sets the spatial scan to beam break stop trigger, one iteration, and no longer iterates the trapping from the toolkit. To navigate to this option, simply right-click on the spatial scan icon in the toolbar.



*For additional fixes and improvements, refer to the SA Readme file.*