



Version 7.0.1 Release Notes

- **KeyCreator®**
- **REALyze™**
- **Kubotek Spectrum™**

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ABOUT RELEASE NOTES AND OTHER DOCUMENTATION

Use release notes to find out about new functions or enhancements to existing functions for this release.

For more details about all functions, use the product's Help documentation (**Help>Help Topics**), or press **ALT+F1**).

For documentation that focuses on task-oriented needs, use the tutorials. These are available in the product's Help system (**Help>Tutorials**).

The web site has other product and company information (www.kubotekusa.com).

NOTE TO WINDOWS VISTA USERS: You must install a file to read KeyCreator Help. See "Important Requirement for Windows Vista Users" on page 23.

A vertical bar on the left side of the page indicates a change for Release 7.0.1 compared with Release 7.0.

NEW FUNCTIONS

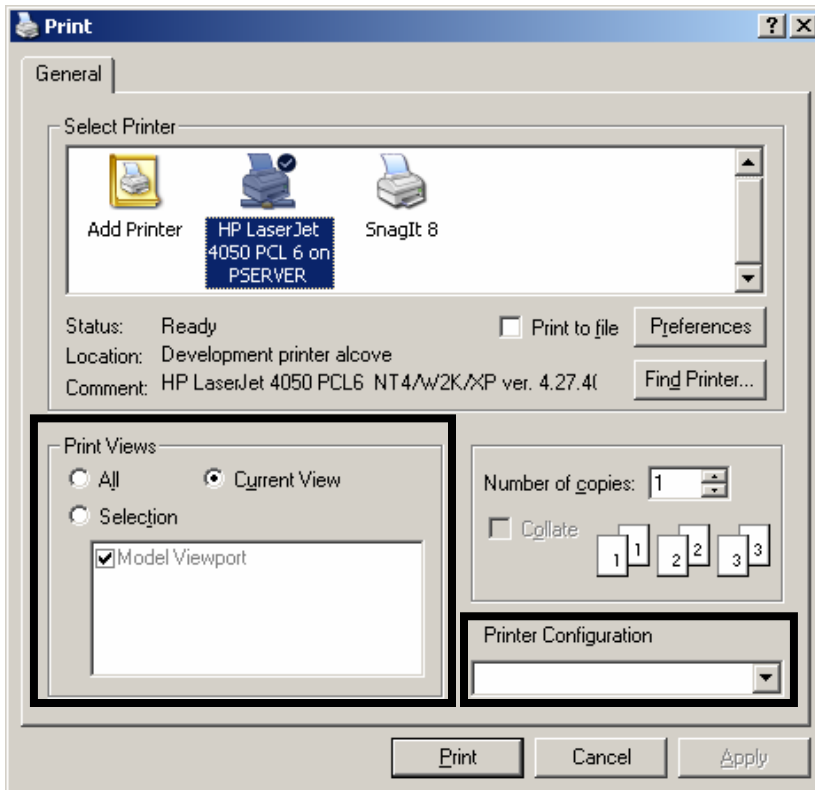
This release adds the new functions explained below.

New Print Function for Batch Printing

Location: File>Batch Print Part

This new File function allows you to print one or more selected viewports or layouts. (You can display multiple viewports using the **View>Viewport Layout** function. You can have multiple layouts using the **Layout>Layout Dialog>New** function.) When there is only one viewport and no layout, **File>Batch Print Part** has the same function as **File>Print**.

The dialog box for the Batch Print Part function has the same elements on it as the standard print dialog has (**File>Print**), except for the elements in the boxed areas on the following figure.

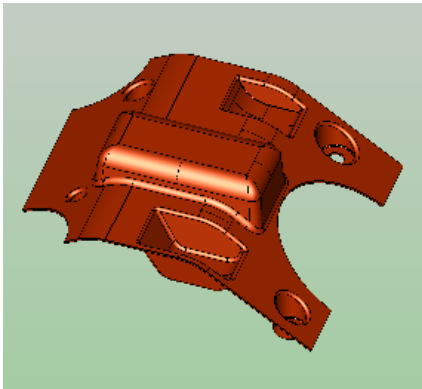


Light Direction Added to View Menu

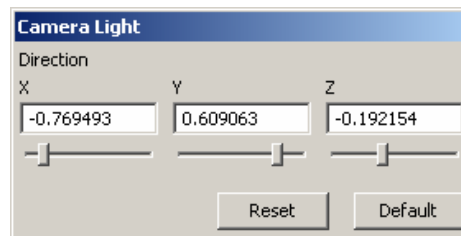
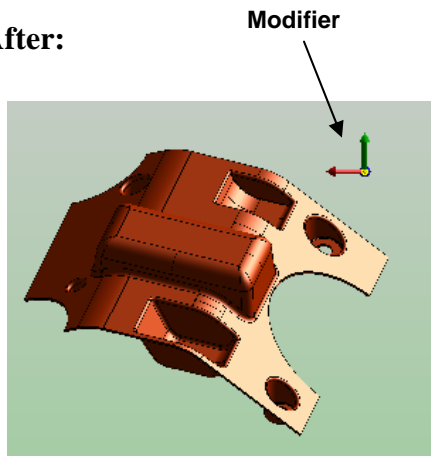
Location: View>Render>Light Direction. This release adds the Light Direction function. This function allows you to control the direction of light shining on a shaded model to give the effect you desire.

See the two figures below, which illustrate before and after applying this function. The function lets you change the light direction either by entering values in the **X**, **Y** or **Z** fields on the **Camera Light** dialog, or by moving the "modifier" with the mouse. Then click **Accept** on the Conversation bar to apply. (Moving along the x-axis always moves in the horizontal direction, moving along the y-axis always moves in the vertical direction, and moving along the z-axis always moves in the depth-direction.)

Before:



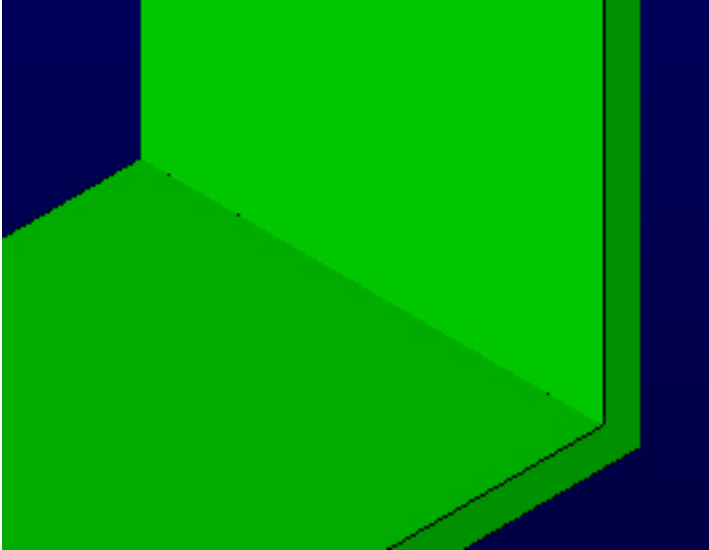
After:



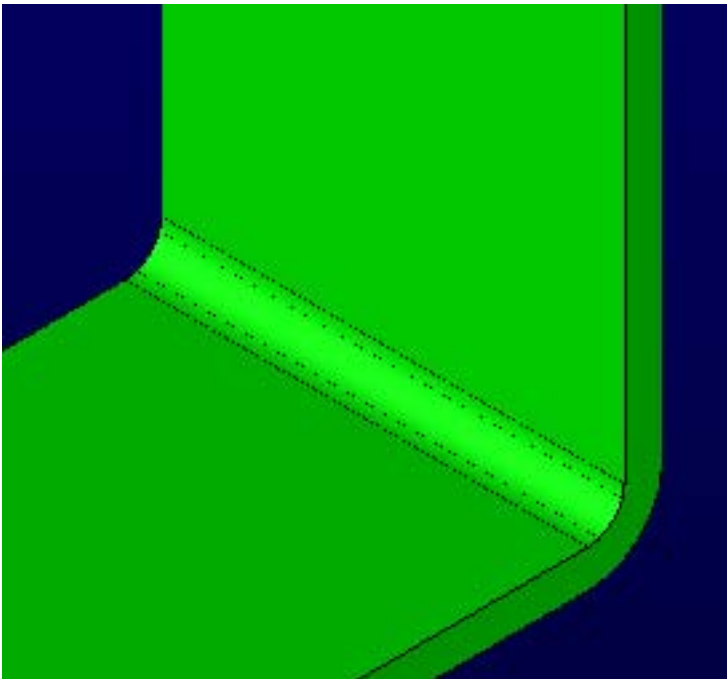
Function Added that Bends a Corner

Location: Create>Solid Feature>Auto Bend Corner. This function allows you to change a solid body's corner that has a sharp edge into a sheetmetal bend that is ready to unfold. You select an edge. The function then verifies that it can find an appropriate matching edge (the corner on the other side of the sheet), determines the sheet's thickness, and places blends of the appropriate radii on the edges. This forms the inside and outside of the corner. The figures below illustrate before and after applying this function.

Before:

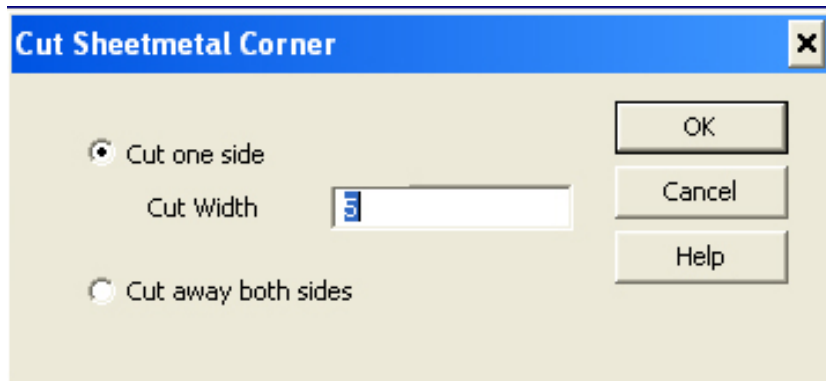


After:



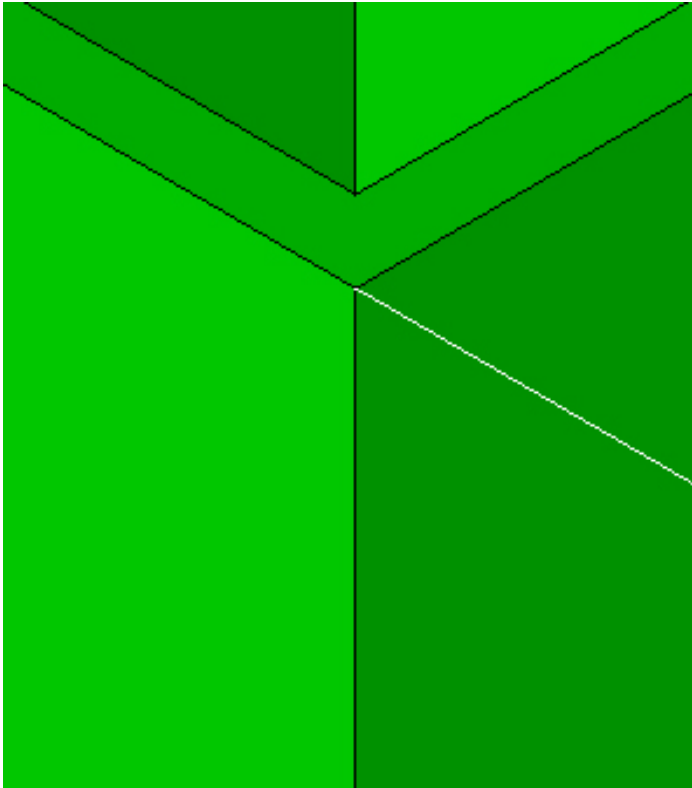
Cut Sheetmetal Corner Added to Modify Menu

Location: Modify>Solid Trim/Break>Cut Sheetmetal Corner. This new function is sometime called "sheetmetal tearing." This function cuts away material from a corner of a solid so that the adjoining faces can be separated and then unbent along one of their other edges. With the dialog for this function, shown below, you can elect to cut a slice parallel to one face or the other, or cut away the entire region that makes up the corner.

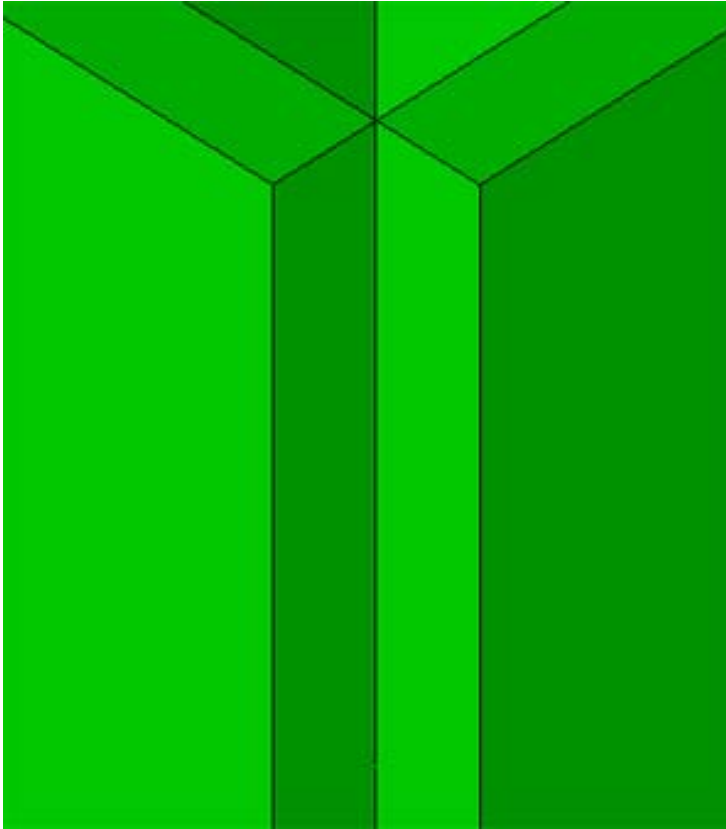


The figures below illustrate before and after applying this function.

Before:



After:



Lightweight Functionality Added

Location: Assemblies>Lightweight; Part Splitter>Part Reference (Lightweight column added); Assemblies>Create Reference>open a file>Options tab (check box: Lightweight reference for visualization purposes only); Part Splitter>Level Sets (Lightweight column added); Part Splitter>Level Sets>Streamed column (for which, see pages 25-26). With this release, you can display assemblies in lightweight mode. This is similar to the suppressed mode in that the full geometric data of the referenced part is not loaded in memory. Instead, a lightweight stream is loaded and displayed. This allows visualization of the reference model, without the overhead of the full geometric data. When a part reference is lightweight, the geometry exists only in the display and cannot be selected independently of the part reference for any operation, including position selection. You can load the full geometry data when necessary for operations by turning off the lightweight option for that reference. When the operations are completed, you can turn on the lightweight option again. Note that dimensions to these references will become suppressed when this is done. To display a reference as lightweight so that it has an effect, the referenced level set must have the Stream option on. This is optional so that users who do not use the assemblies functionality do not incur the additional save time and file size required to maintain the lightweight stream in the referenced file. The default level set in each part has this option disabled by default. All other level sets have this option enabled by default.

In summary, lightweight functionality adds

- **Lightweight** function to the **Assemblies** menu (**Assemblies>Lightweight**)
- **Lightweight** column to the **Part Reference** pane of the **Part Splitter** (Open **Part Splitter** and click the **Part References** tab)
- **Lightweight** to the Part Reference Context Sensitive Menu (Open **Part Splitter**, click **Part References** tab, then right-click a part reference row)
- **Lightweight reference for visualization purposes only** check box to Creating a New Part Reference dialog (**Assemblies>Create Reference**, open a file, click **Options** tab)
- **Stream** column to the **Level Sets** pane of the **Part Splitter** (Open **Part Splitter**, click the **Level Sets** tab)

See *File Import Optimization* below for relevant information.

ENHANCED FUNCTIONS

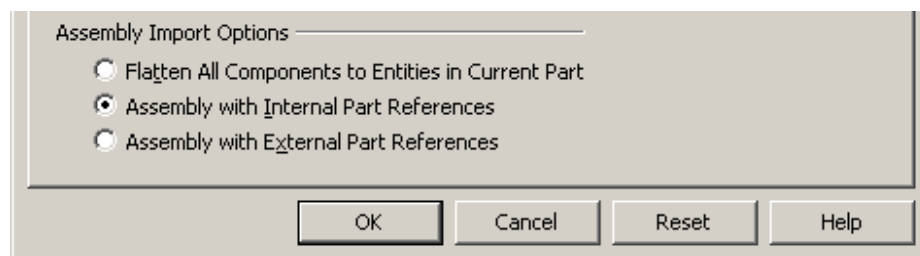
This release enhances several functions, as explained below.

File Import Optimization

Location: **File>Import**. All translations of assemblies (**File>Import**) that use either external or internal part references result in lightweight assemblies. However, when necessary for operations like editing, for example, you can load the full geometry by clearing the lightweight option. This lightweight option is a check box in the Lightweight column in the **Part References** pane of the Part Splitter. See *Lightweight Functionality Added* on page 9 for relevant information.

CATIA v5 Import Supports CGR Referenced in an Assembly

Location: **File>Import>Catia v5**. With this release, the Catia v5 import function supports the translation of Catia v5 CGR files referenced in an assembly. Note that this functionality is not supported if the assembly is translated flat. That is, either the **Assembly with Internal Part References** or the **Assembly with External Part References** option must be selected on the following dialog. You can display this dialog by clicking **File>Import>Catia v5**, then clicking the **Options** button and then the **Common Import Options** tab.



Several Export Functions Allow Selection of Composite Entities

Location: File>Export ... With this release, the following Export functions allow you to select composite entities. The composites are burst into individual entities upon export:

- **File>Export>ACIS SAT**
- **File>Export>STEP**
- **File>Export>Parasolid**
- **File>Export>Catia v4**
- **File>Export>Catia v5**

Several Export Functions Allow Export of Entities

This release allows you to export one or more entities as HPGL/2, CGM, PDF and U3D, as explained below.

One or More Entities Can Be Exported as HPG/2

Location: File>Export>HPG/2. With this release, you can export the currently visible viewspace to either a HP/GL or HP/GL2 format, as before. But now, you also can export one or more selected entities to this format as well.

One or More Entities Can Be Exported as CGM

Location: File>Export>CGM. With this release, you can export the currently visible viewspace to a Computer Graphics Metafile (CGM), as before. But now, you also can export one or more selected entities to this format as well.

One or More Entities Can Be Exported as PDF

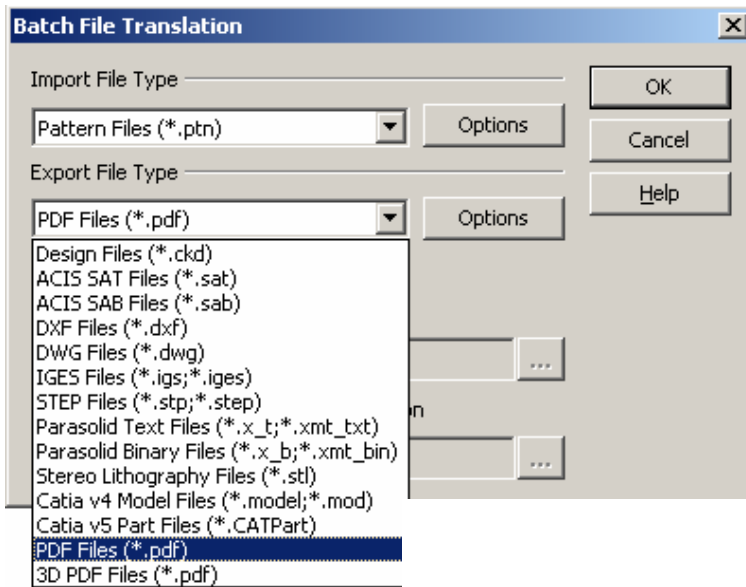
Location: File>Export>PDF. This release allows you to export one or more entities of geometry as a PDF. If you do not select one or more entities and click **Accept**, *all* displayed geometry is exported as a PDF, as before this release.

One or More Entities Can Be Exported as U3D

Location: File>Export>U3D. With this release, you can export the currently visible viewspace as a .u3d file, as before. But now, you also can export one or more selected entities to this format as well.

PDF and 3D PDF Exports Available for Batch Translation

Location: File>Batch Translator. This release adds PDF and 3D PDF to the Export File Type drop down, as shown below.

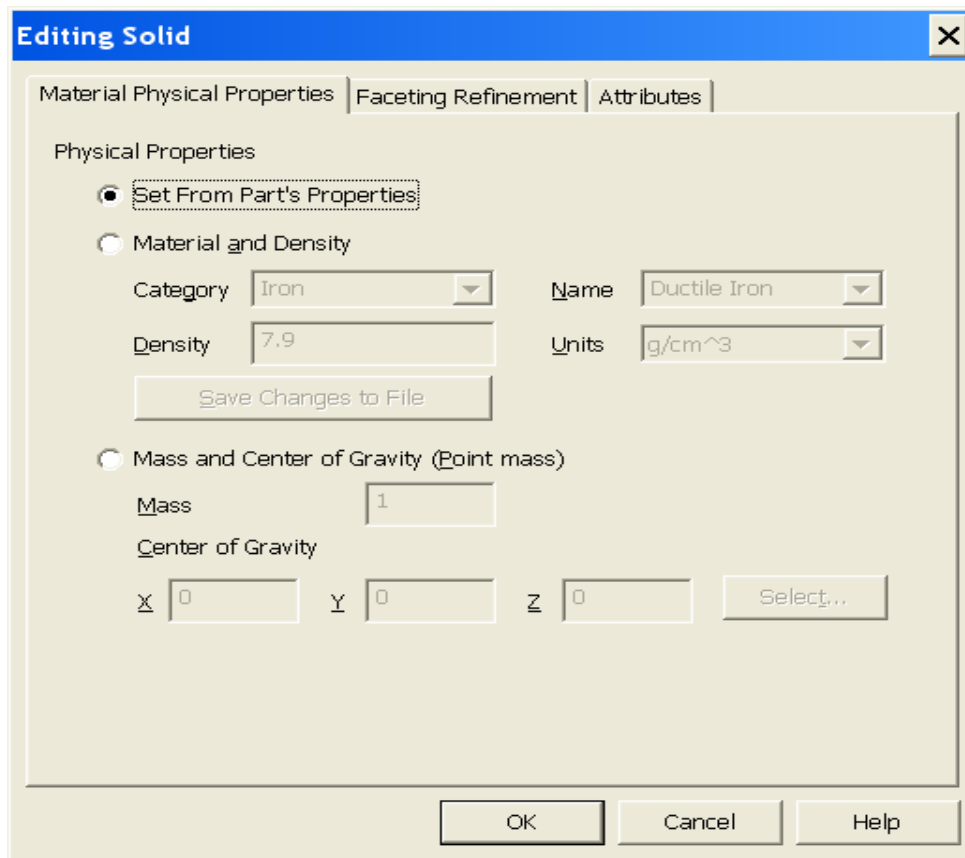


Generic Edit of Solid Representation Displays Same Dialog as for Solids

Location: Edit>Entities>Edit. With this release, the same dialog appears when you perform a Generic Edit (**Edit>Entities>Edit**) on the following objects as the dialog that appears when editing solids created by modeling methods. That dialog is shown below. Notice the three tabs: **Material Physical Properties**, **Faceting Refinement** and **Attributes**. Before this release, only the **Attributes** tab appeared when you performed a Generic Edit on the following objects that were created as a solid representation:

- Fastener
- Feature
- Structural Shapes
- Mechanical Element

("Created as a solid representation" means the object was created using the **Tools>Fastener**, **Tools >Feature**, **Tools>Structural Shapes** or **Tools>Mechanical Element** function, and then selecting the **Rep Solid** option.)



Set Material Properties Function Now Applies to Shells

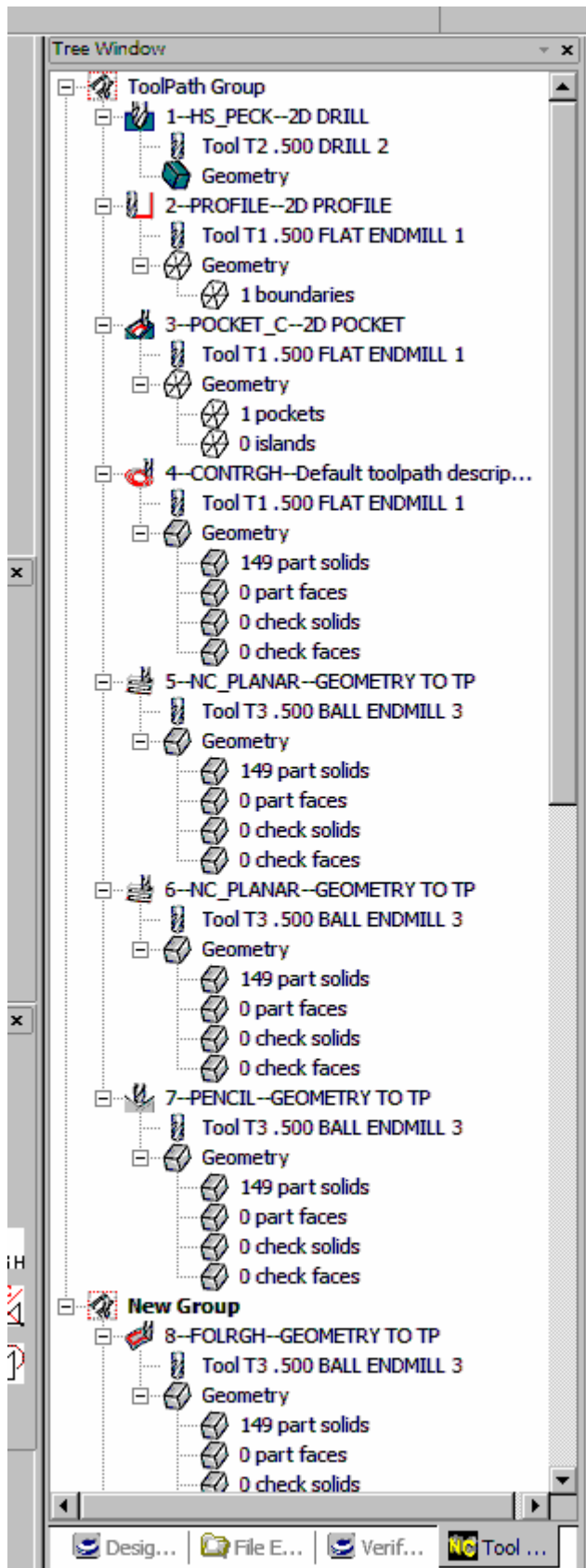
Location: Edit>Entities>Set Material Rendering Properties. With this release, you can use the Set Material Properties function to define and apply materials to faces, bodies and shells. (Before this release, you could use this function to define and apply materials to faces and bodies, but not to shells.)

Set Material Physical Properties Allows More Selections

Location: Edit>Entities>Set Material Physical Properties. With this release, the Set Material Physical Properties function allows you to select fastener, feature, structural shapes and mechanical element objects that were created as a solid representation.

NC Tool Path Tab Added to Tree Window

Location: View>Control Bars>Tree Window. This release adds a fourth tab to the tree window, called **NC Tool Path**. An example of the pane that appears when you click this tab is shown below. This tree represents tool paths and tools present in an NC CKD file. Through a right click in this tree, you can perform all NC operations otherwise performed using **Tools>NC** menus or the **NC** palette. For details, see the Tree Window topic in KeyCreator Help.



Select Entities in Part References as Tools to Generate Splines

Location: Create>Advanced Splines This release enhances the following functions to allow you to select entities in part references as tools to generate a spline:

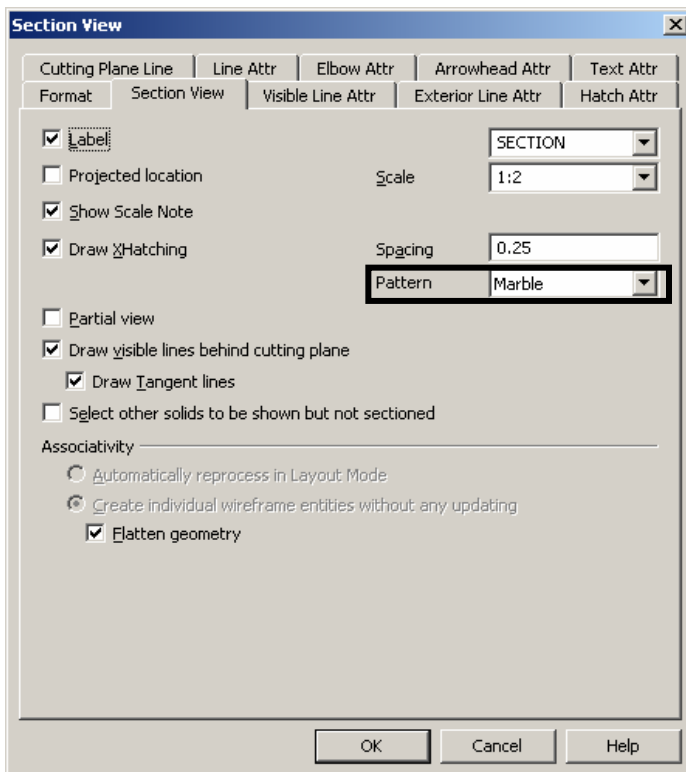
- Create>Advanced Splines>Body/Plane Intersection
- Create>Advanced Splines>Body/Body Intersection
- Create>Advanced Splines>Plane/Surface Intersection
- Create>Advanced Splines>Surface/Surface Intersection

Automatic Dimensioning Function Now Allows Generic Edit

Location: Detail>Automatic Dimensioning. With this release, the Automatic Dimensioning function creates an entity so that you can apply the Generic Edit and Generic Move functions to the entity.

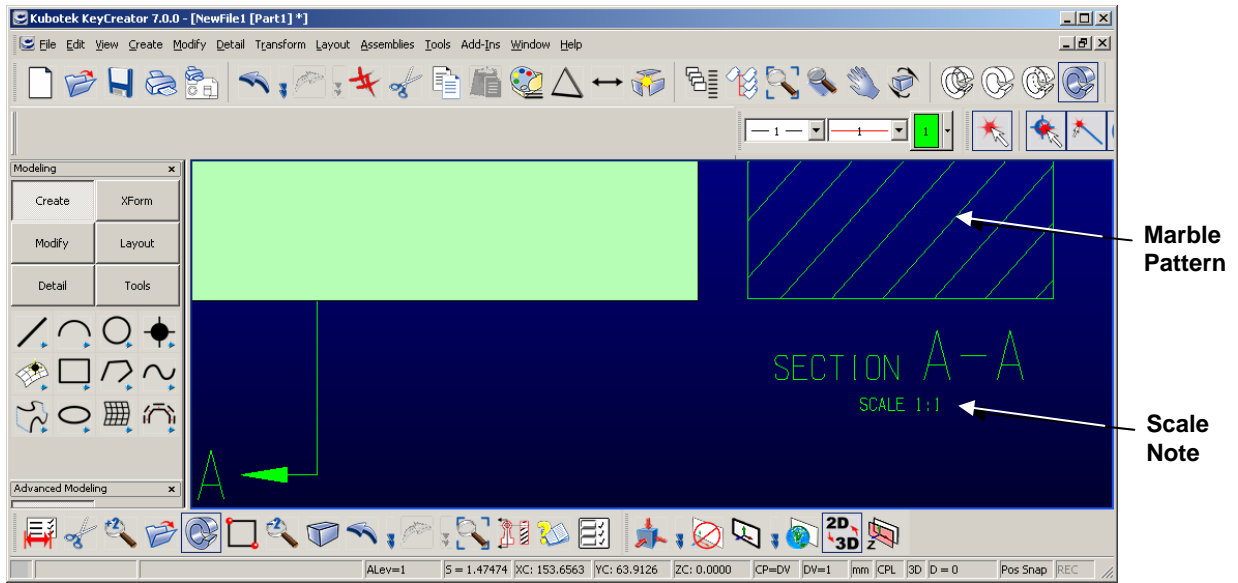
Check Box and Field Added to Section View Dialog

Location: Detail>Section View>Section View. This release adds the **Show Scale Note** check box and the **Pattern** field to the **Section View** dialog box, as shown below.



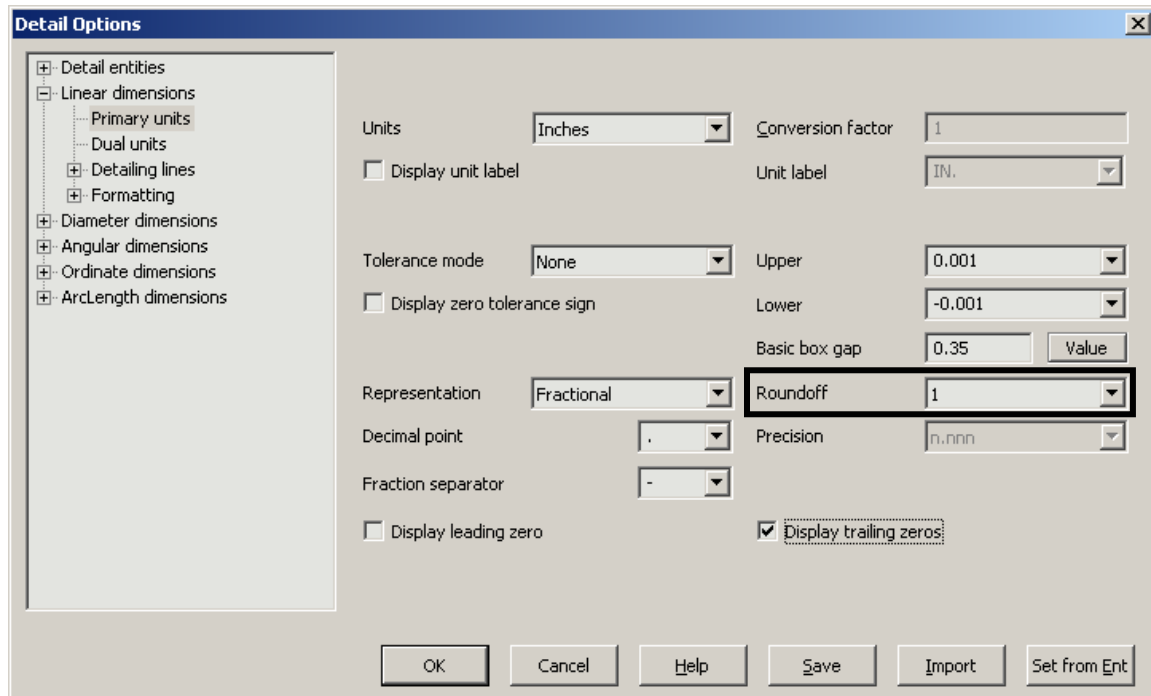
When you select the **Show Scale Note** check box, a note indicating the selected scale appears under the selection label. The height of the scale note text is one-half the height of the selection label text. For example, the user selects "1:1" in the **Scale** field and selects the **Show Scale Note** check box. The result is illustrated below. KeyCreator places the scale note "SCALE 1:1" under the selection label "SECTION A-A." The height of the "SCALE 1:1" text is one-half the height of the "SECTION" text.

The combo box in the **Pattern** field allows you to select the crosshatch pattern that shows in the section view. For example, in the illustration below, the user selected what is termed the "marble" pattern.



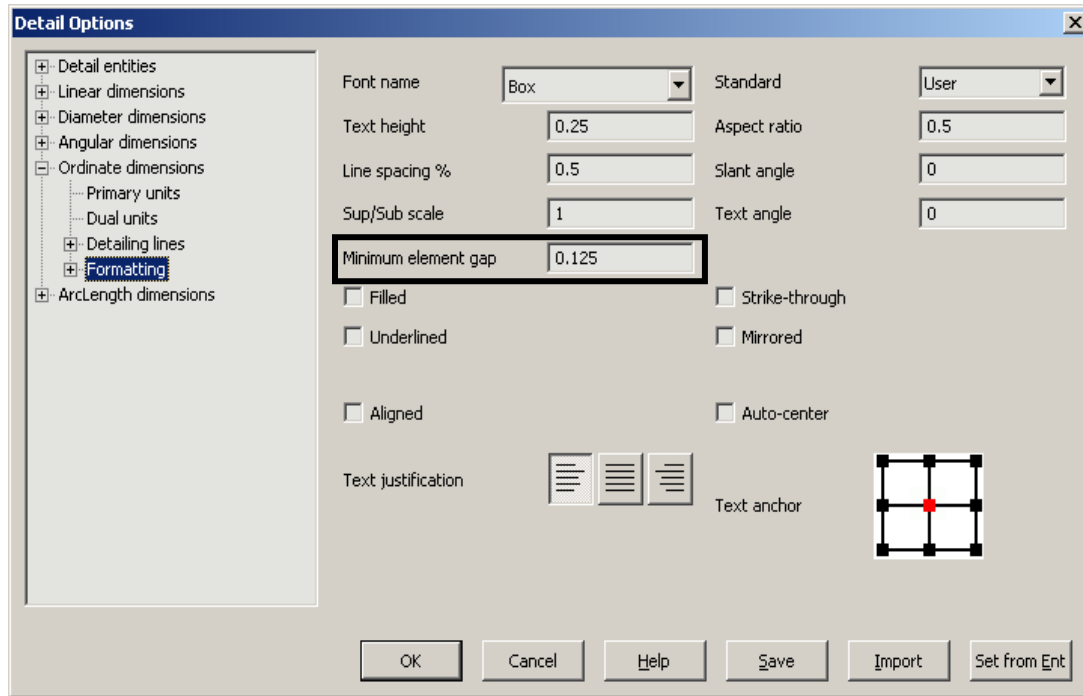
Addition of "1" to Roundoff List on Detail Options Dialog

Location: Detail>Settings>Settings. This release adds a 1 to the Roundoff list for both the Fractional Representation and the Feet/Inches Representation. This is for all dimensions. The figure below illustrates the 1 in the Roundoff list when Fractional is selected in the Representation list. When Fractional or Feet/Inches is selected in the Representation list and 1 is selected in the Roundoff list, the dimension is rounded-off to the nearest whole number. (This is like selecting n in the Precision list after you have selected Decimal in the Representation list.)



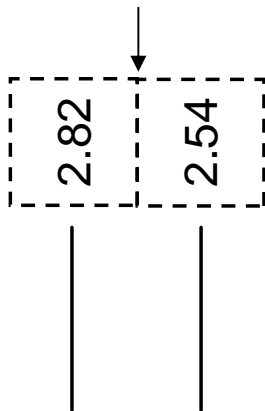
Minimum Element Gap Field Added to Detail Options Dialog

Location: Detail>Settings>Settings. This release adds the **Minimum element gap** field shown below. The field is for ordinate dimensions only.

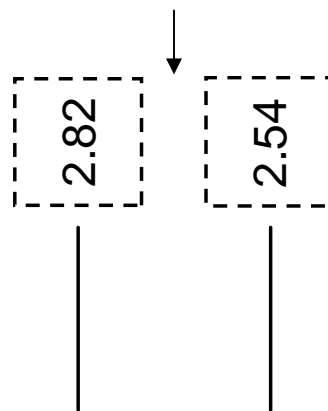


This field allows you to specify how close together to place the text of two or more ordinate dimensions. As you can see in the figure below, the gap is measured between the vertical edges of adjacent dimension text boxes. (The dashed lines in the figure illustrate where dimension text boxes would be if they were on. You can turn on or off dimension text boxes in the **Tolerance mode** field on the **Ordinate dimension>Primary units** pane of the dialog.)

Minimum element gap = 0



Minimum element gap = .25



Assembly Option Added to Three Assemblies Functions

Location: Assemblies>Make All Refs Absolute, Assemblies>Make All Refs Relative, Assemblies>Substitute Part References. This release adds the **Assem** button to the **Conversation Bar** of the following three functions on the **Assemblies** menu:

- Make All Refs Absolute
- Make All Refs Relative
- Substitute Part References

The **Assem** button is similar to the **All** button that appears in the **Conversation Bar**, except that **Assem** performs the function on the entire assembly. This means that clicking **Assem** performs the function for all of the references in the current part. It also performs the function on all parts referenced directly or indirectly by those references, progressing down the assembly tree to process all the parts.

Mass Properties Allows More Selections

Location: Tools>Verify>Mass Properties. With this release, the Mass Properties function allows you to select fastener, feature, structural shapes and mechanical element objects that were created as a solid representation.

Create BOM Function Now Allows Generic Edit

Location: Tools>BOM and Table>Create a BOM. With this release, the Create BOM function creates an entity so that you can apply the Generic Edit and Generic Move functions to the entity.

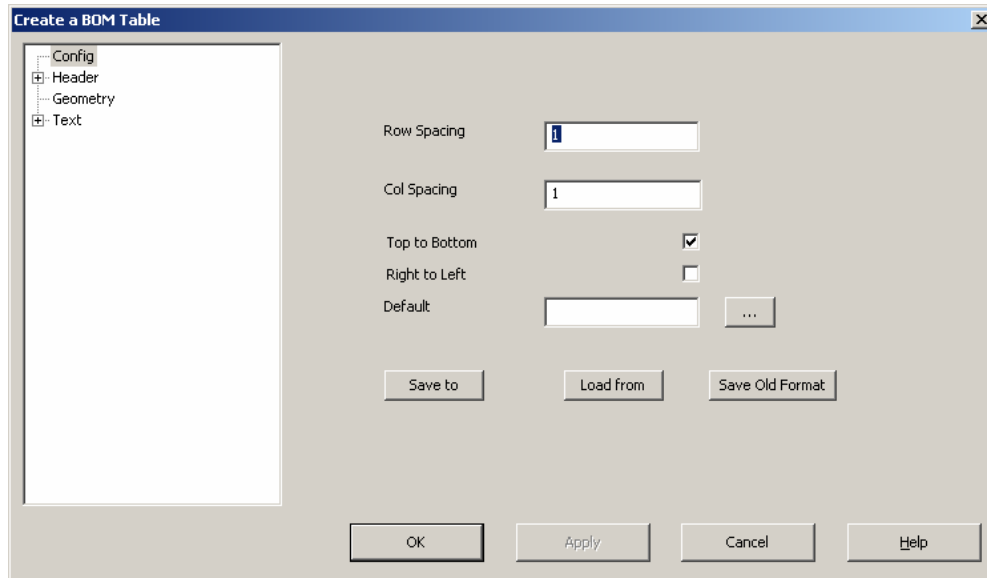
BOM Express Function Now Allows Generic Edit

Location: Tools>BOM and Table>BOM Express. With this release, the BOM Express function creates an entity so that you can apply the Generic Edit and Generic Move functions to the entity.

Create a Table of Notes Function Revised

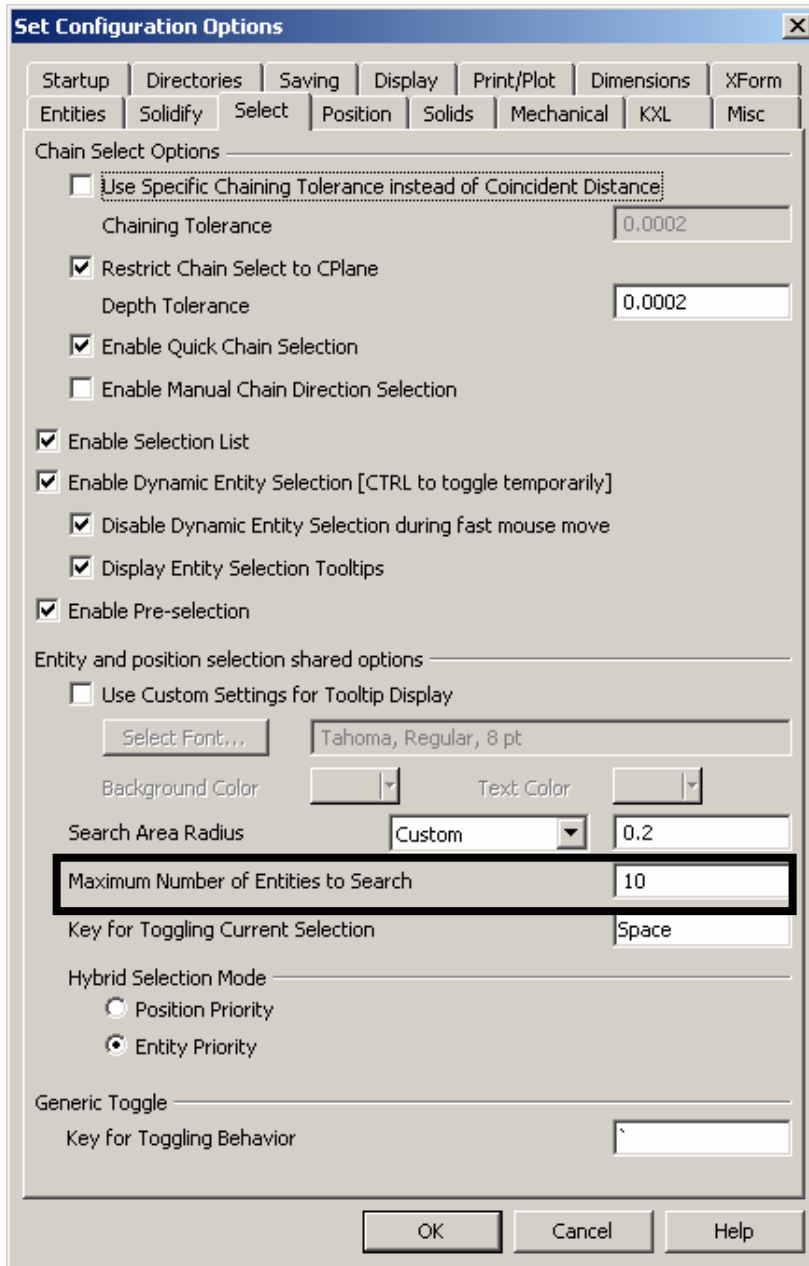
Location: Tools>BOM and Table>Create a Table of Notes. This release changes the Create a Table of Notes function so that it creates a table that is a single entity. This allows you to apply the Generic Edit and Generic Move functions to the table after you create it with Create a Table of Notes.

When you click **Tools>BOM and Table>Create a Table of Notes**, the **Create a BOM Table** dialog now appears, as shown below. This has several panes that you can select, using a tree arrangement on the left, allowing you to configure the table as desired. For details describing each pane, see *Create a Table of Notes* in KeyCreator Help.



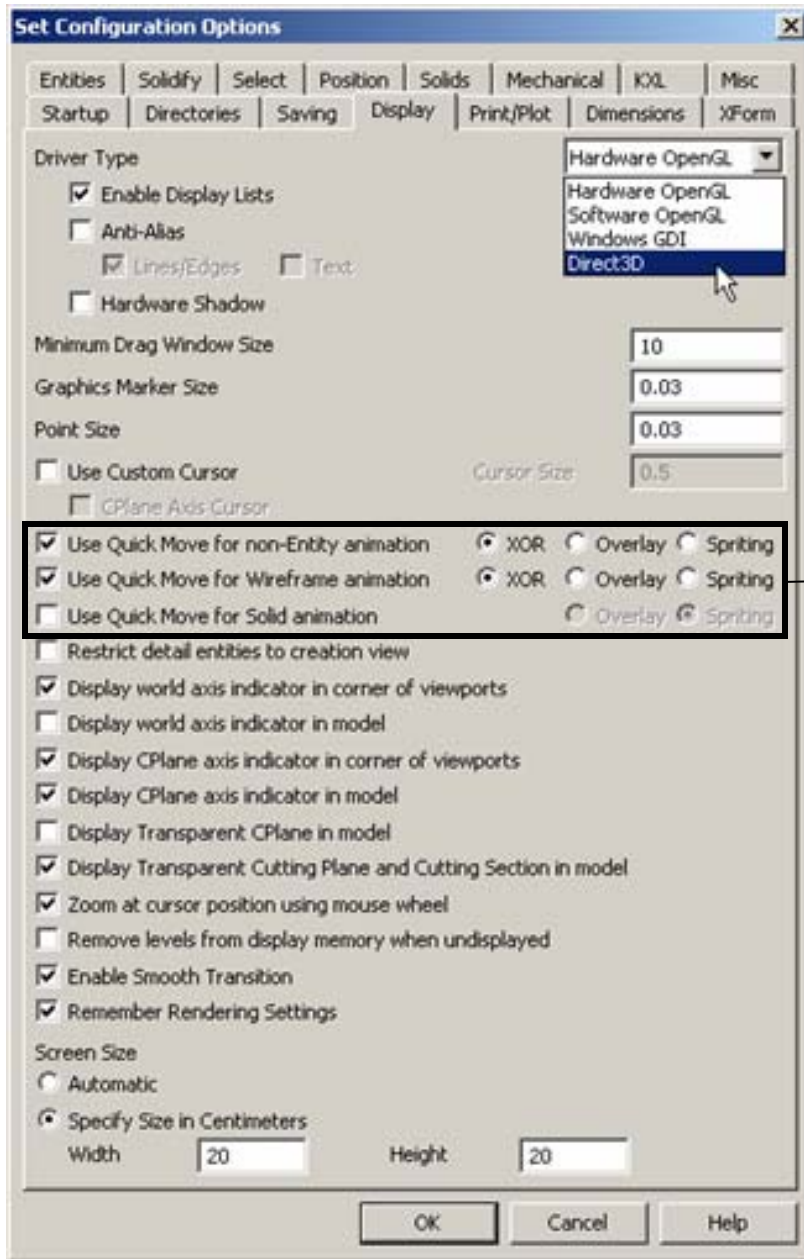
"Maximum Number of Entities to Search" Added to Select Pane

Location: Tools>Options>Select. This release adds the **Maximum Number of Entities to Search** field on the **Select** pane of the **Set Configuration Options** dialog, as shown below. The purpose of this new field is best understood after understanding the uses of the **Search Area Radius** and **Key for Toggling Current Selection** fields on this pane. For example, if you place the pointer in the vicinity of several entities on the viewport and then repetitively press the space bar (as the **Key for Toggling Current Selection**), KeyCreator highlights the entities one-by-one. This can aid you when you need to highlight one entity where there are many within a small radius of the pointer location. The radius is set in the **Search Area Radius** field. Before this release, the maximum number of entities that KeyCreator would select within the radius was ten. With the **Maximum Number of Entities to Search** field, now you can specify the maximum number of entities (up to 100).



Direct 3D Driver Selection Added

Tools>Options and click **Display** tab. This release adds Driver3D to the **Driver Type** drop down, as shown below. This allows you to use Direct3D rendering.



See next paragraph.

Quick Move Options Added

Location: Tools>Options>Display. This release adds the three Quick Move check boxes shown in the preceding figure:

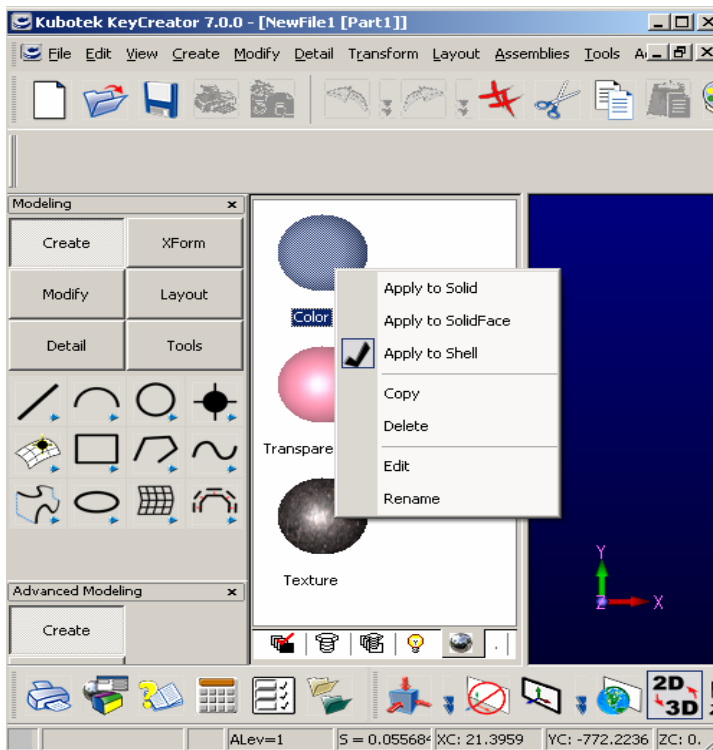
- Use Quick Move for non-Entity Animation
- Use Quick Move for Wireframe Animation
- Use Quick Move for Solid Animation

Quick Move tells your computer system that changes and screen updates in KeyCreator are going to occur quickly. In effect, Quick Move says that it is going to be worthwhile to do extra processing to allow moves or deletions to be updated to the screen without the usual refreshing of the window.

Each of the three options uses a different algorithm: Exclusive Or (XOR), Overlay, or Spriting. With some graphics hardware, some of these options could cause difficulties: system crash, incorrect display, If this occurs, you would select a different check box. Default settings are XOR for non-entity and wireframe animations, and unavailable for solid animation. XOR and Overlay cannot be used simultaneously.

"Apply to Shell" Option Added to Drag and Drop Material

Location: Parts Splitter Window>Material. This release adds the **Apply to Shell** check box to the menu that appears when you right click the Color, Transparency or Texture sphere, as illustrated below. For details on how to apply the properties of a sphere to a part, see "Materials Tab" in the Part Splitter Window topic in KeyCreator Help.



NEW SDK FUNCTIONS

To see any new SDK functions for this release, see the SDK Help. To do this, run the install program (setup.exe) located in the Debug folder on the Kubotek KeyCreator product CD. Then, click the following help file: x/SDK/DOCS/SDK.hlp, where "x" is the install folder. Then click the **What's New in the KeyCreator.sdk** link.

NEW KXL FUNCTIONS

To see any new KXL functions for this release, see the product's KXL Help. To do this, click **Help>Help Topics>KXL Help>What's New>New Functions for KC7.0**.

DOCUMENTATION ONLY

This release makes the following changes or additions that only affect documentation.

Important Requirement for Windows Vista Users

If you are running KeyCreator with the Windows Vista operating system, to view KeyCreator Help you must install the Windows Help program, whose filename is WinHlp32.exe. Follow the download instructions at <http://support.microsoft.com/kb/917607>. This is necessary because the Windows Vista operating system does not include WinHlp32.exe, the program necessary to read WinHelp files. (Previous Windows operating systems include this file.)

NC Help Documentation Improved

Location: Tools>NC This release improves the Help index so that you can find NC functions more easily. Also, several of the Help topic names for NC functions were not the same names as used on the **Tools>NC** menus, and had no location indicated (like "**Location: Tools>NC>Launch Metacut**"). This release changes such inconveniences so you can find Help more quickly for NC functions.

MISCELLANEOUS

Columns Added in Part Splitter

Location: Part Splitter Window>Part Reference and **Part Splitter Window>Level Set**. See below. This release adds the **Hidden** and **Suppressed** columns to the **Part Reference** pane on the Part Splitter. For a description of the unrelated **Lightweight** column to this pane, see *Lightweight Functionality Added* on page 9.) Also, to the **Level Set** pane, it adds the **Streamed** column.

Hidden Column:

When a part reference is hidden (check box selected), its visual representation is replaced with a bounding cuboid, which retains the color attribute of the hidden part reference.

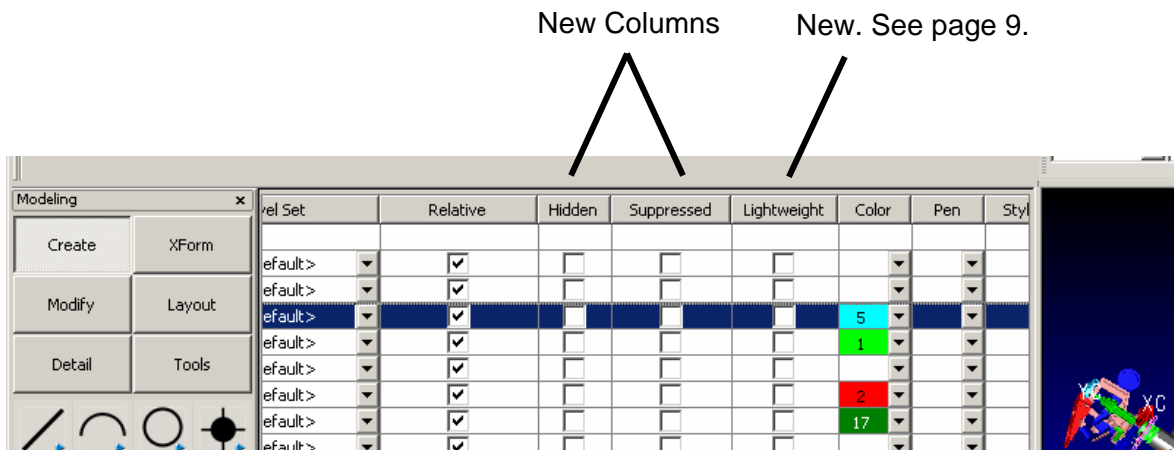
Suppressed Column:

When you suppress a part reference (check box selected), it is not only hidden from view. Also, the entities belonging to the suppressed part reference are "removed" from the part.

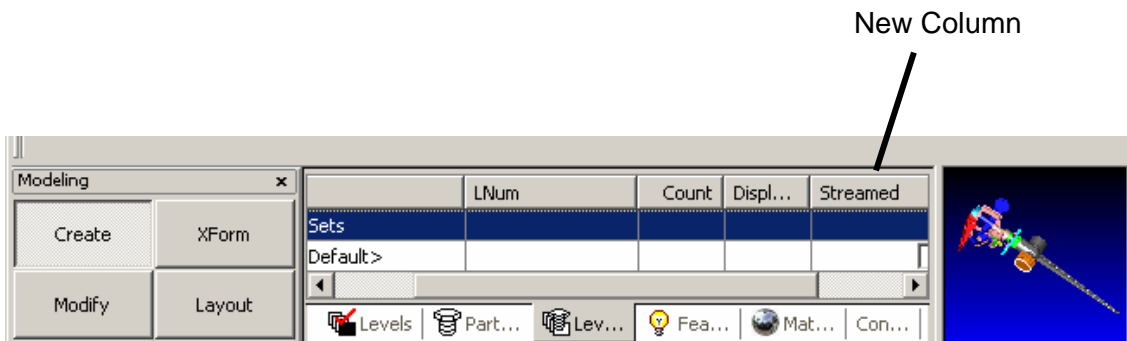
Streamed Column:

When selected for a level set, the data necessary for lightweight assemblies is saved for that level set. When cleared, the lightweight data is not saved with the part. For details, see the "Lightweight" topic in Help.

Part Reference Pane:



Level Sets Pane:



Supported Translators

The table below identifies the translator versions that KeyCreator 7.0.1 supports. The term “to” means “up to and including.” Bold under a column heading indicates a change for this release.

File Format	Direction	Supported File Versions	Imports as Assembly File?
ACIS	Import	1.5 to R17	N/A
	Export		
CATIA V4	Import	4.1.9 to 4.2.4	No
	Export		N/A
CATIA V5	Import	V5 R2 to V5 R17	Yes
	Export	V5 R6 to R17	N/A
DWG/DXF	Import	All Versions to 2007	No
	Export	R12 to R14, 2000, 2002, 2004 to 2006	N/A
IGES Geometry	Import	All Versions to 5.3	Yes
	Export	5.3	N/A
AutoDesk Inventor	Import Only	6 to 11, 2008	No
Parasolid	Import	10.0 to 18.0.141	Yes
	Export	12.0 to 18.0.141	N/A
Pro/ENGINEER	Import Only	16 to 2001, Wildfire 1 to 3	Yes
SolidWorks	Import Only	96-2007	Yes
STEP	Import	AP203, AP214	Yes
	Export		N/A
Unigraphics	Import Only	11 to 18, NX1 to NX4	Yes

New CDE Applications Added

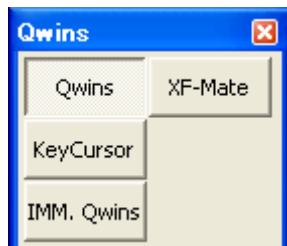
Bonus KQwinCommand.cde Provided

Location: Add-Ins>CDE Open>KQwinCommand.cde>Open. This release provides you with `KQwinCommand.cde` as a bonus program.

`KQwinCommand.cde` makes available to you many useful Qwins (Quick Windows System) commands.

When you install KeyCreator and accept the default locations, `KQwinCommand.cde` is placed in the KeyCreator CDE folder. Also, a PDF document explaining the program is placed in the Lang/English folder as `Qwins_Commands.pdf`.

Once KeyCreator is installed, open `KQwinCommand.cde` by clicking **Add-Ins>CDE Open>KQwinCommand.cde>open**. The **Qwins** palette shown below appears to the left of the KeyCreator viewport. Click the desired button to display command icons for selection.



If you want the Qwins palette to appear the next time you open KeyCreator, register `KQwinsCammand.cde` as follows:

1. Click **Tools>Options>Startup**. The **Startup** pane of the **Set Configuration Options** dialog appears.
2. Click the **New (Insert)** button beside "Automatically Loaded CDE(s)." A field appears.
3. Click the browse button and double-click `KQwinCommand.cde`.
4. Click **OK**.

Bonus SP_POLYGON Application Provided

Location: Add-Ins>CDE Open>sp_menu.cde. The SP3D Polygon application consists of two CDEs and a resource DLL. You load `sp_menu`, which is the resource-driven CDE. This automatically loads the application `sp_pgon.cde`. The resources are in a separate DLL (`sp_pgonRes.dll`).

This CDE-based application makes available to you 15 functions. These perform many operations, a few of which are

- Transform point clouds to trigonal polygons
- Make, modify and transform polygons
- Convert polygons to shells
- Get the trigonal polygonal Vertex data for machining (via NC in KeyCreator)

When you install KeyCreator and accept the default locations, both `sp_pgon.cde` and `sp_menu.cde` are placed in the KeyCreator CDE folder. The resource DLL (`sp_pgonRes`) is placed in the Lang/English folder. A PDF file (`SP_Polygons.pdf`) that explains the program also is placed in Lang/English.

Once KeyCreator is installed, open the application by clicking **Add-Ins>CDE Open>sp_menu.cde**. The palette shown below appears to the left of the KeyCreator viewport.



If you want this palette to appear the next time you open KeyCreator, register `sp_menu.cde` as follows:

1. Click **Tools>Options>Startup**. The **Startup** pane of the **Set Configuration Options** dialog appears.
2. Click the **New (Insert)** button beside "Automatically Loaded CDE(s)." A field appears.
3. Click the browse button and double-click `sp_menu.cde`.
4. Click **OK**.