

Lattice3D Reporter Publisher Tutorial

For Version 17.0 and Later

Lattice Technology, Inc.

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Basic Operations

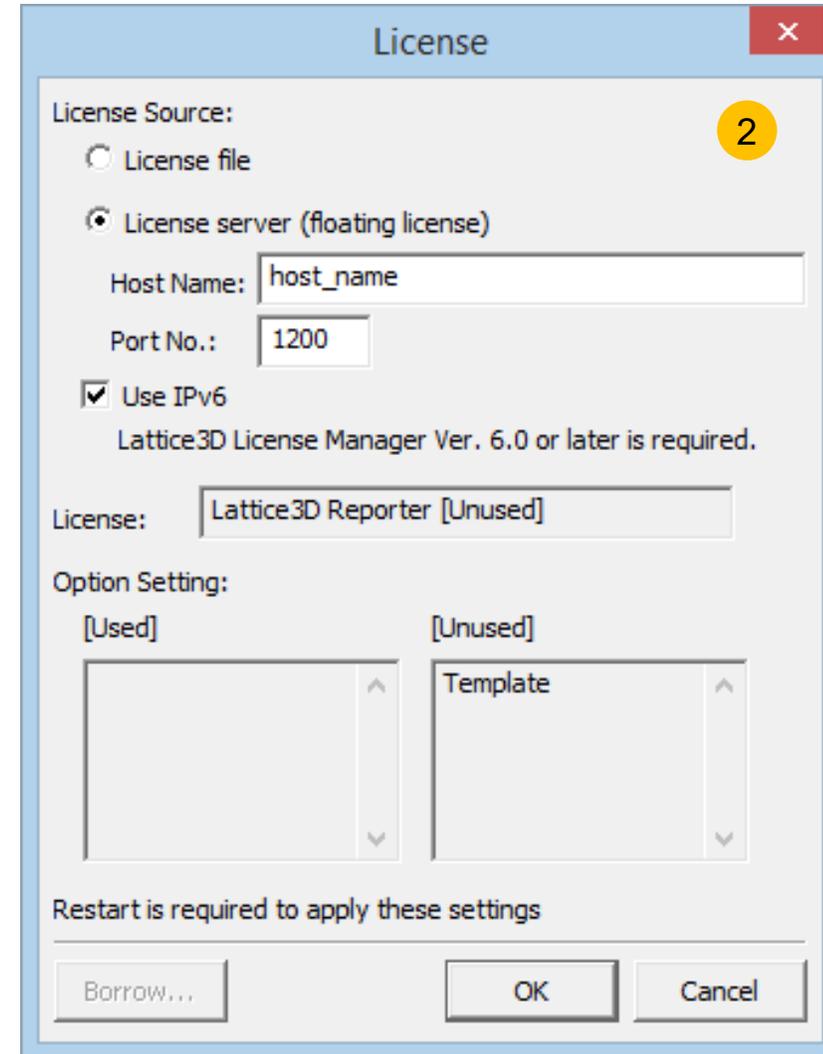
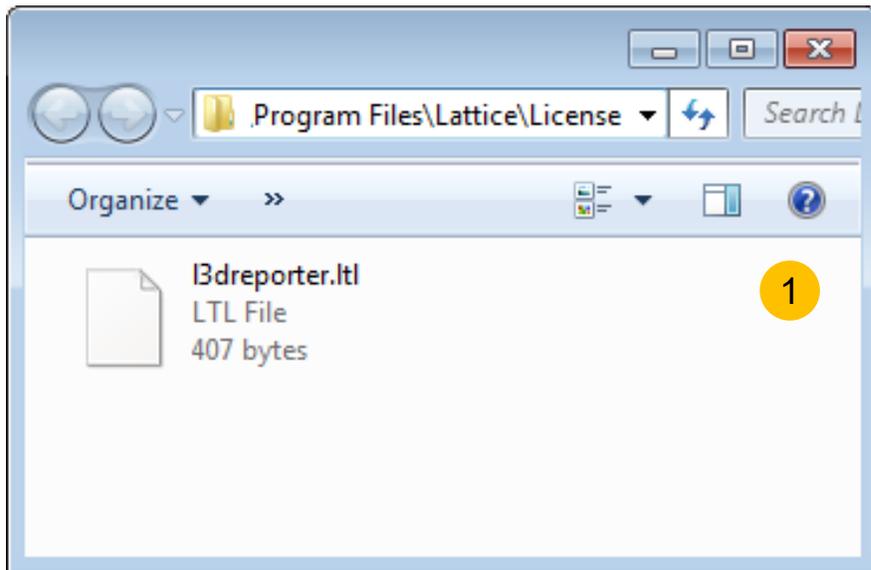
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Overview

License Setup

1. To install a node-locked license file:
 - 1) Select **Start > All Programs > Lattice3D Reporter > License Folder** to open the license folder.
 - 2) Place the license file in the license folder.
2. To connect to a floating license server:
 - 1) Select **License** from the toolbar to open the **License** dialog.
 - 2) Change the License source to **License server**.
 - 3) Enter the **Host name** and **Port No** of the license server.
 - 4) To use IPv6, check **Use IPv6**.
 - 5) Select **OK** to save the changes.



Lattice3D Reporter at a Glance

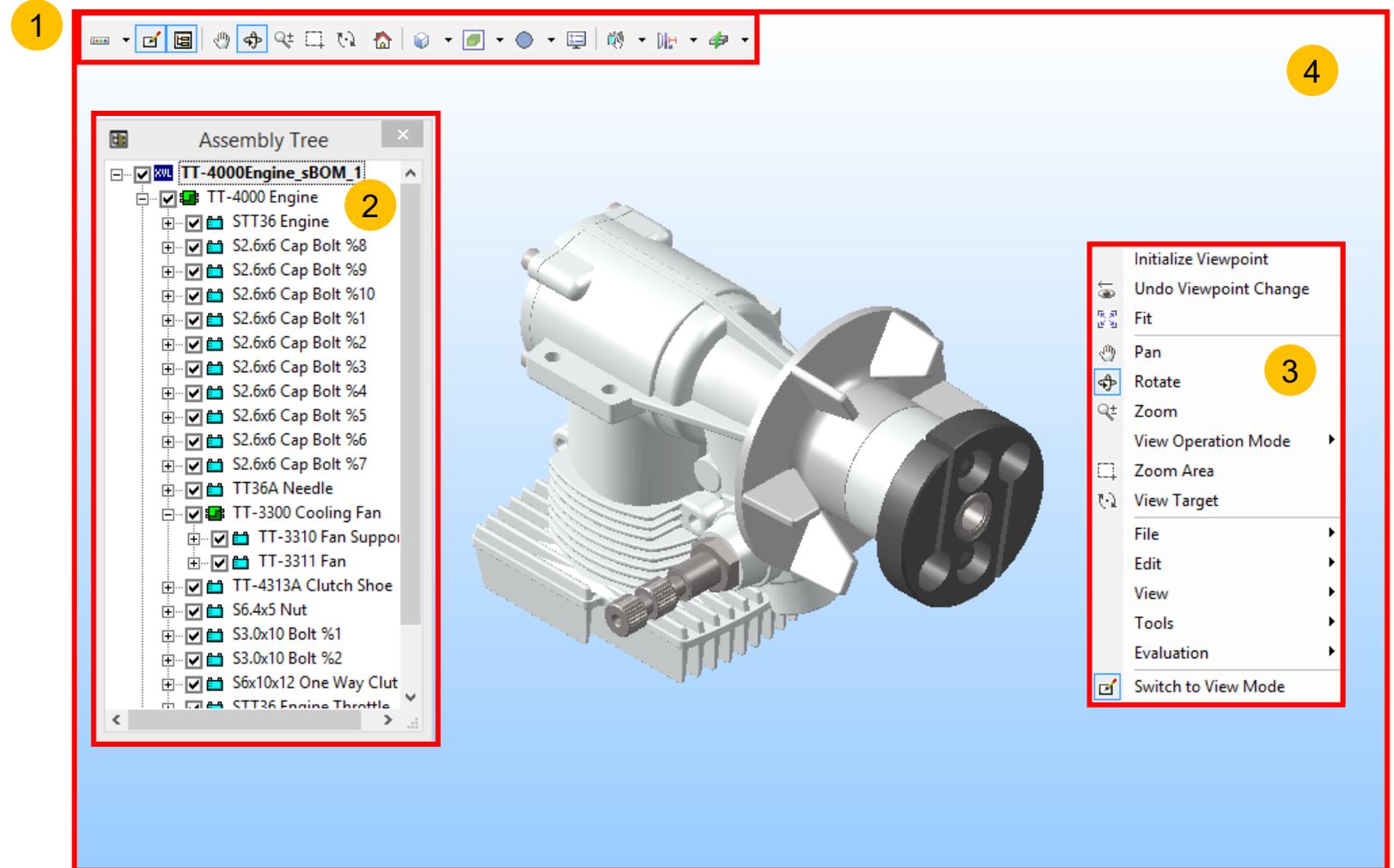
1. **3D View** - A 3D model view is embedded in Excel sheet. You can view/edit a 3D model in this view.
2. **Lattice Toolbar** - Frequently used functions are available from the toolbar.
3. **List** - Several different types of list are generated automatically.
4. **Snapshot images** - Snapshot images are created from the 3D model. Clicking the image will restore the view state in the 3D view.

The screenshot shows the Lattice3D Reporter interface within an Excel spreadsheet. The interface is divided into several sections:

- Toolbar (2):** Located at the top, it contains various icons for 3D model operations such as 'Cross-Link', 'Create Report', 'Insert/Replace 3D Model', '3D Model Sharing', 'Delete 3D Model', 'Display 3D Model', 'Open 3D Model in Another Window', 'Create/Update Snapshot Image', 'Create Set List', 'Set List Range', '3D PDF Output', and 'Options'. A yellow circle with the number '2' highlights this toolbar.
- 3D BILL OF MATERIALS (MODEL NO: TT-4000-000):** The main content area is divided into two columns:
 - 3D VIEW (1):** Contains a large 3D model of an engine assembly. A yellow circle with the number '1' is placed in the top-left corner of the view area.
 - PARTS LIST (3):** A table listing parts with columns for 'No', 'Part No', 'Qty', and 'Description'. A yellow circle with the number '3' is placed in the right side of the table.
- SNAPSHOTS (Click to show in 3D view):** Located below the 3D view, it contains two smaller images: a 3D model (4) and a 2D exploded view diagram. A yellow circle with the number '4' is placed in the top-left corner of the snapshot area.

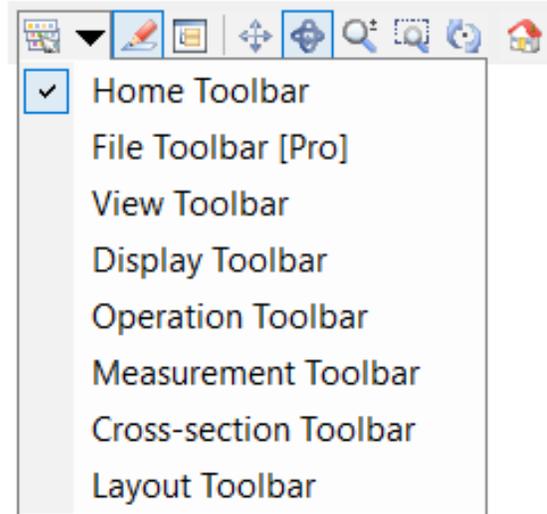
3D View Window

1. **Toolbar** - Frequently used functions such as view manipulations and controls are available here.
2. **Assembly Tree** - The assembly structure of the 3D model is displayed here.
3. **Right Click Menu** - Most operations are available from right click menus.
4. **Graphic Window** - Main place to operate on the 3D model.

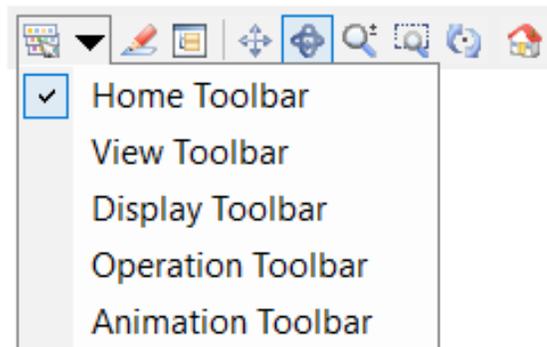


Lattice3D Reporter contains 9 different toolbars.

Edit Mode



View Mode



1. Home Toolbar



2. File Toolbar



3. View Toolbar



4. Display Toolbar



5. Operation Toolbar



6. Measurement Toolbar



7. Cross-section Toolbar



8. Layout Toolbar

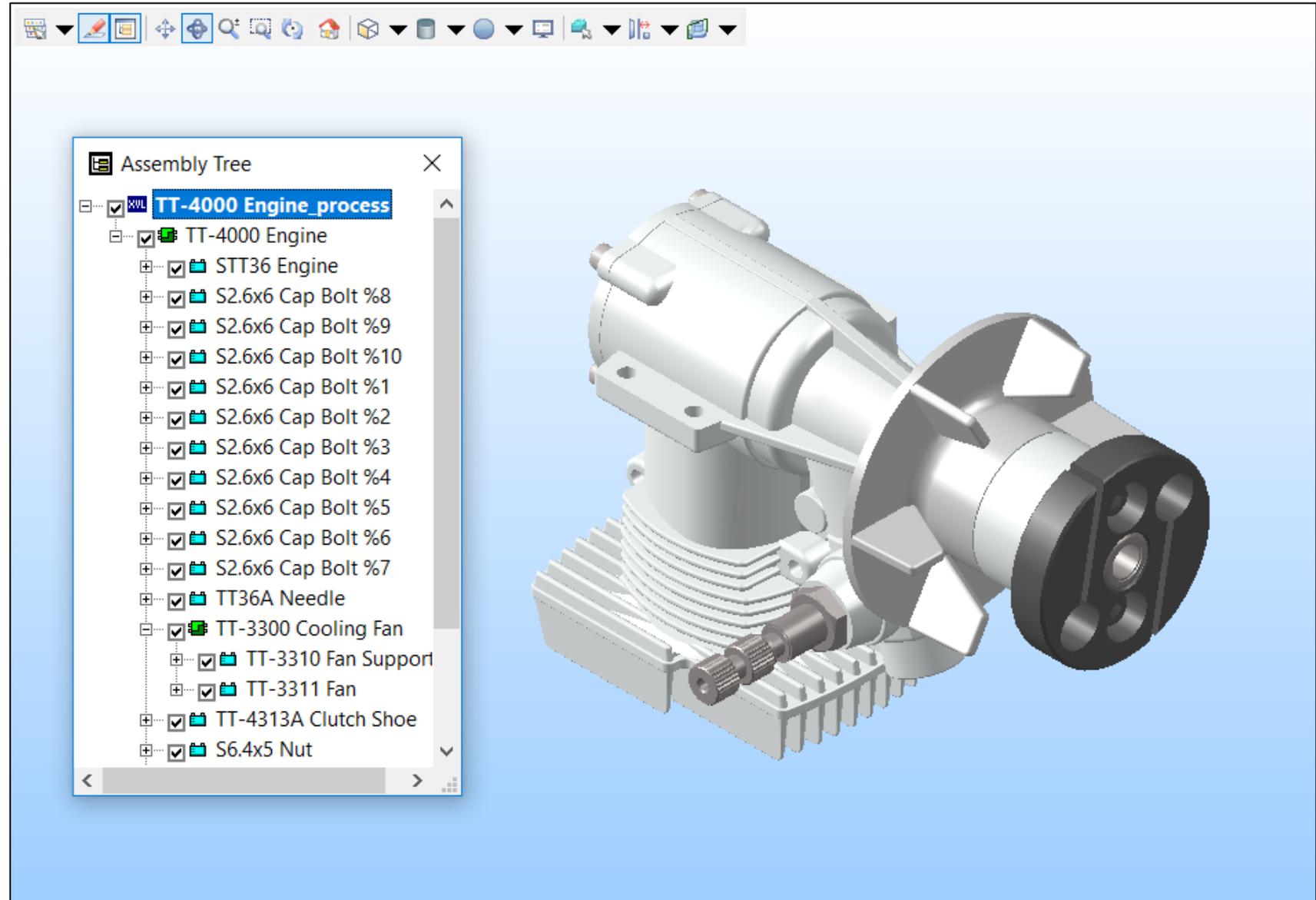


9. Animation Toolbar



3D View Operations

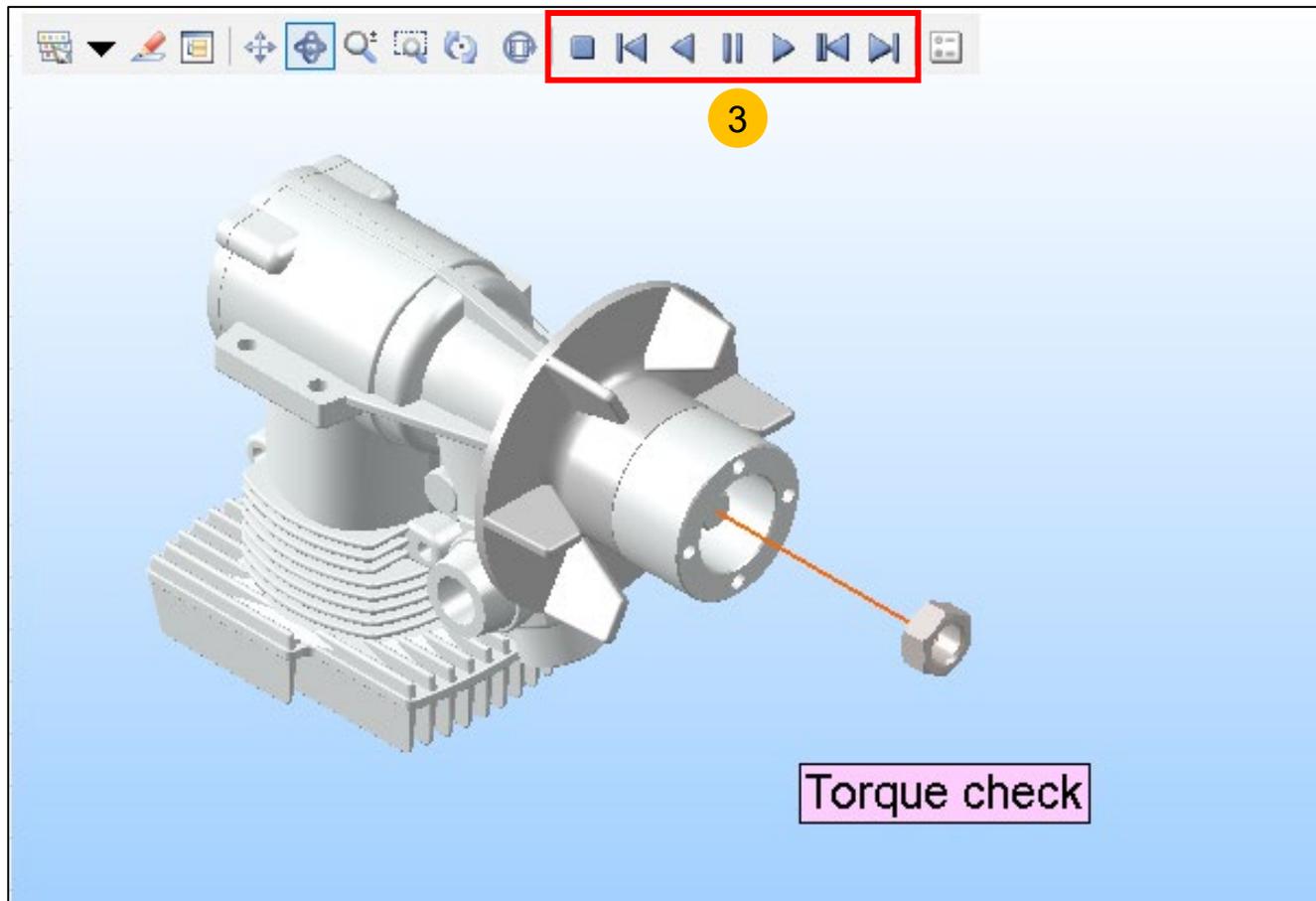
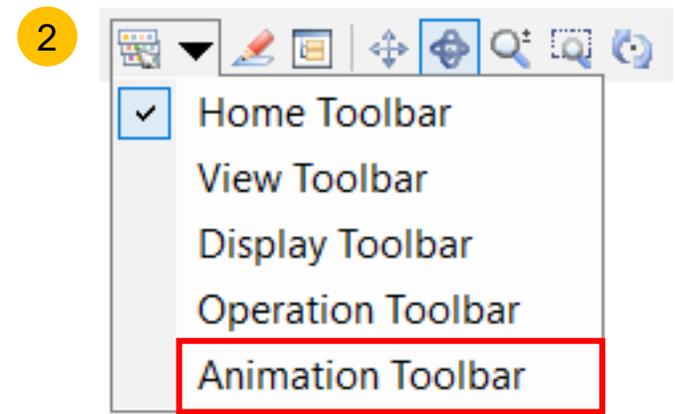
Most operations of 3D view window are same as XVL Player (Ver. 9 and later). Please refer to **XVL Player Pro Tutorial** for detailed operations in the 3D view window.



Playing Animations

Use the Animation Toolbar to play animations:

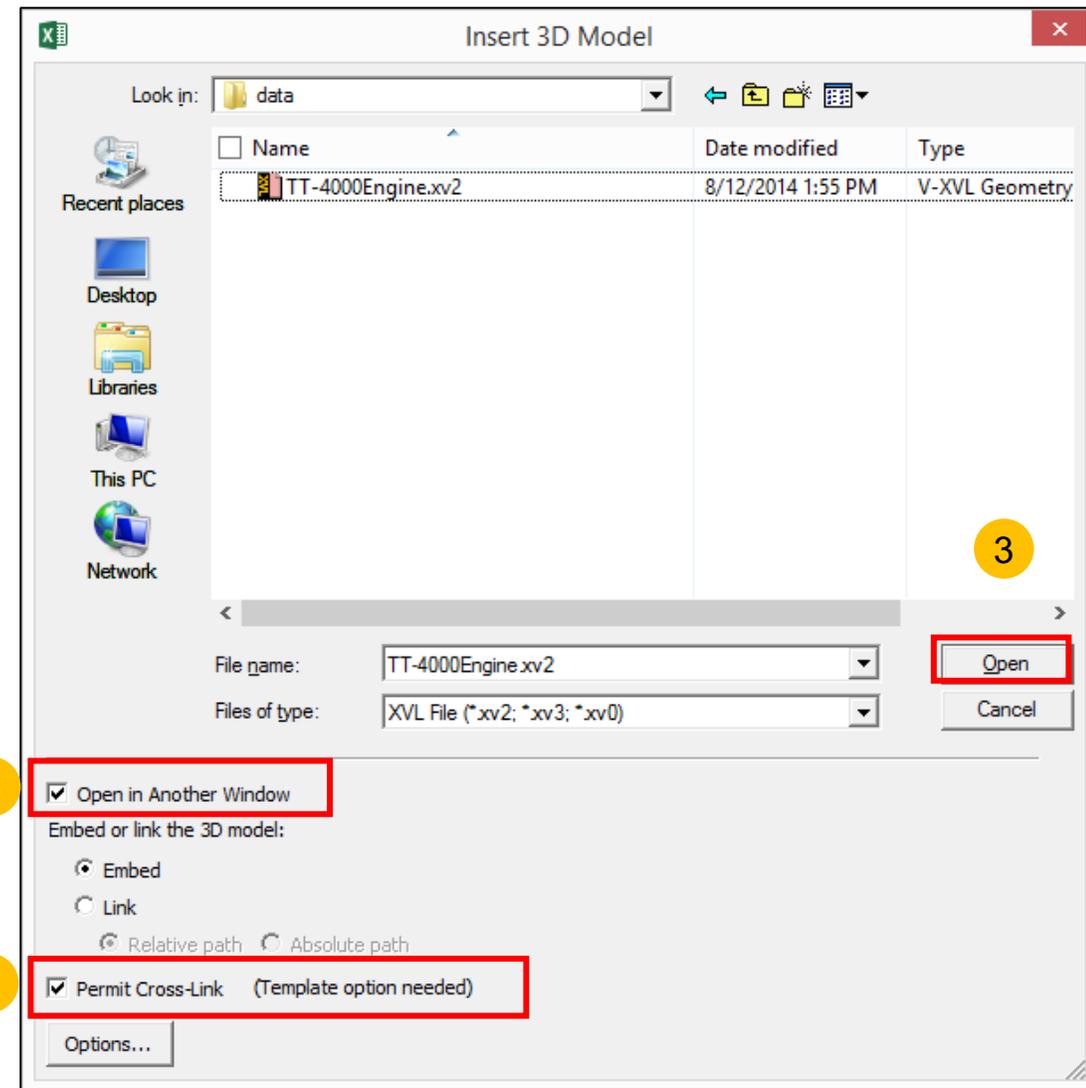
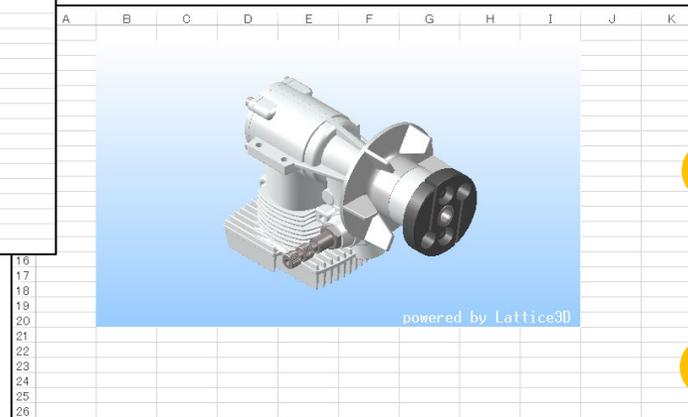
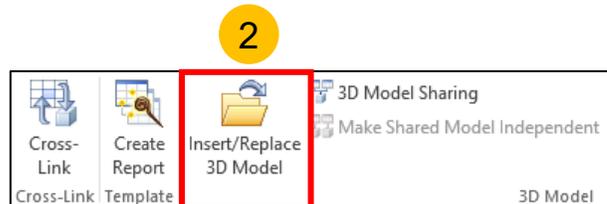
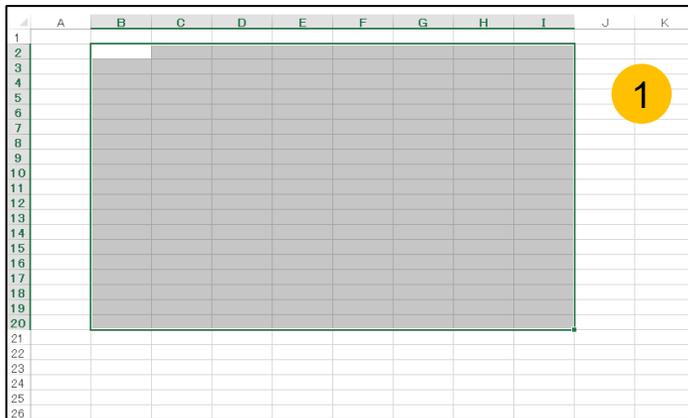
1. Select **Switch to View Mode** icon from the toolbar to change to the View Mode.
2. Select the **Animation Toolbar**.
3. Use the animation controls to play the animation.



Basic Operations

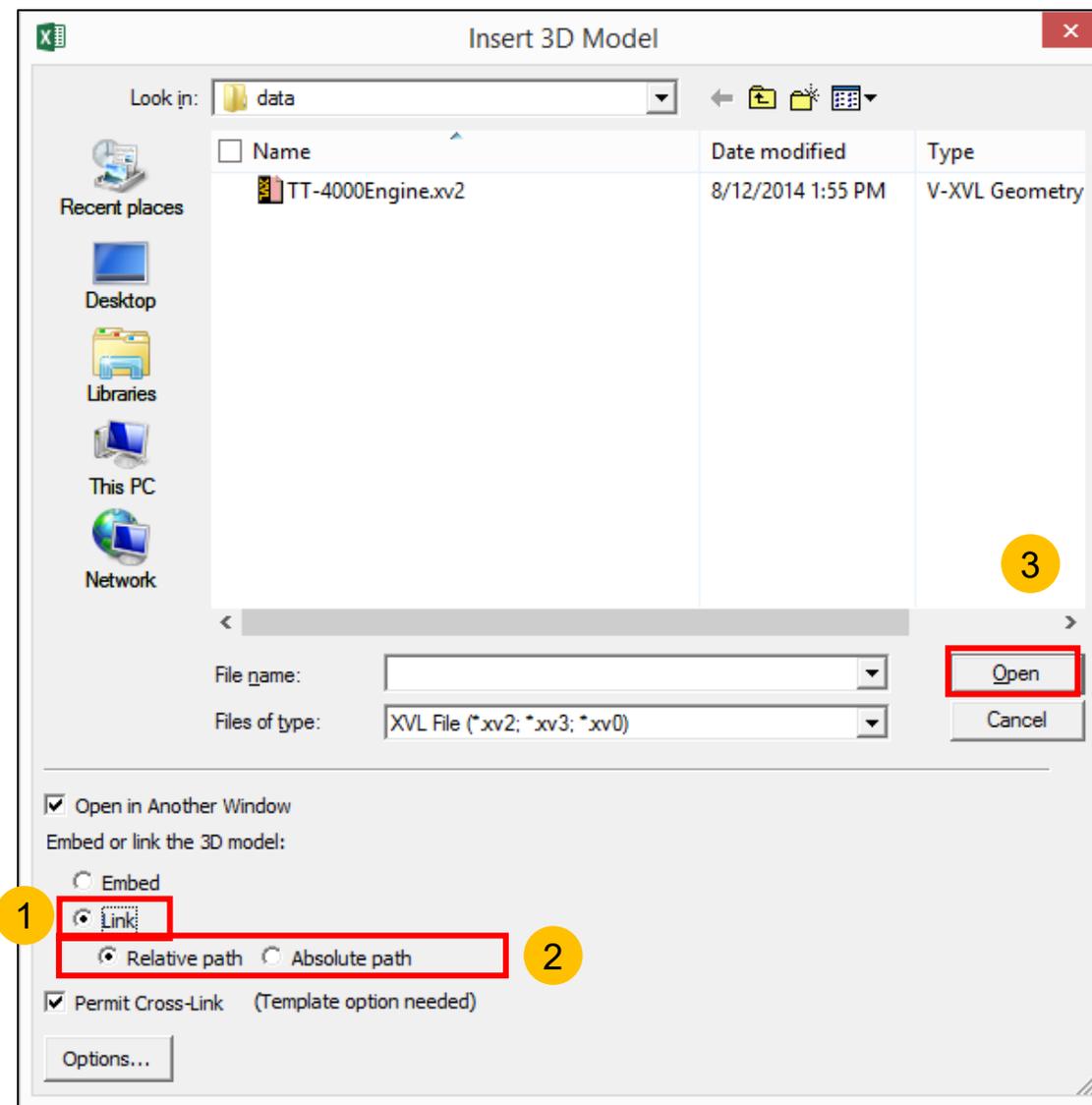
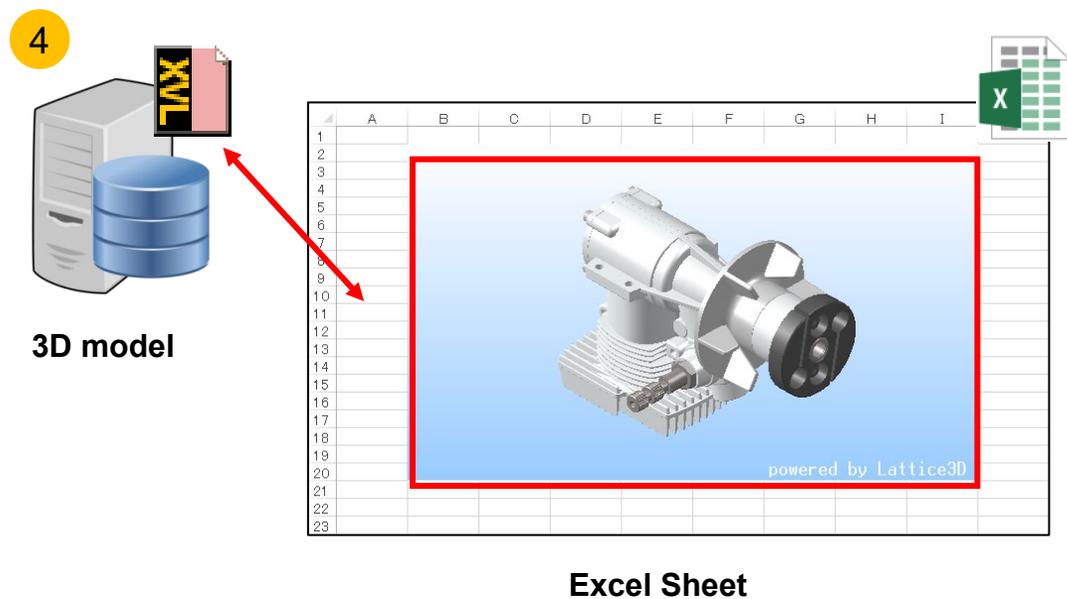
Inserting a 3D Model

1. Specify the area for the 3D model in Excel sheet.
2. Click the **Insert/Replace 3D model** icon from the **Lattice** toolbar.
3. Select the 3D model to insert then click **Open**.
4. The 3D model is inserted in the specified area.
5. If **Open in Another Window** is checked, the 3D model is displayed in the **External View** window.
6. To permit cross-linking, select **Permit Cross-Link**.



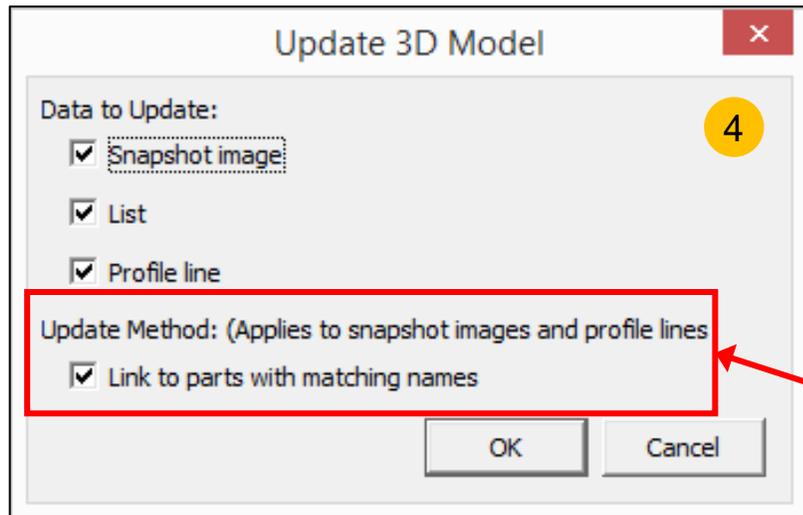
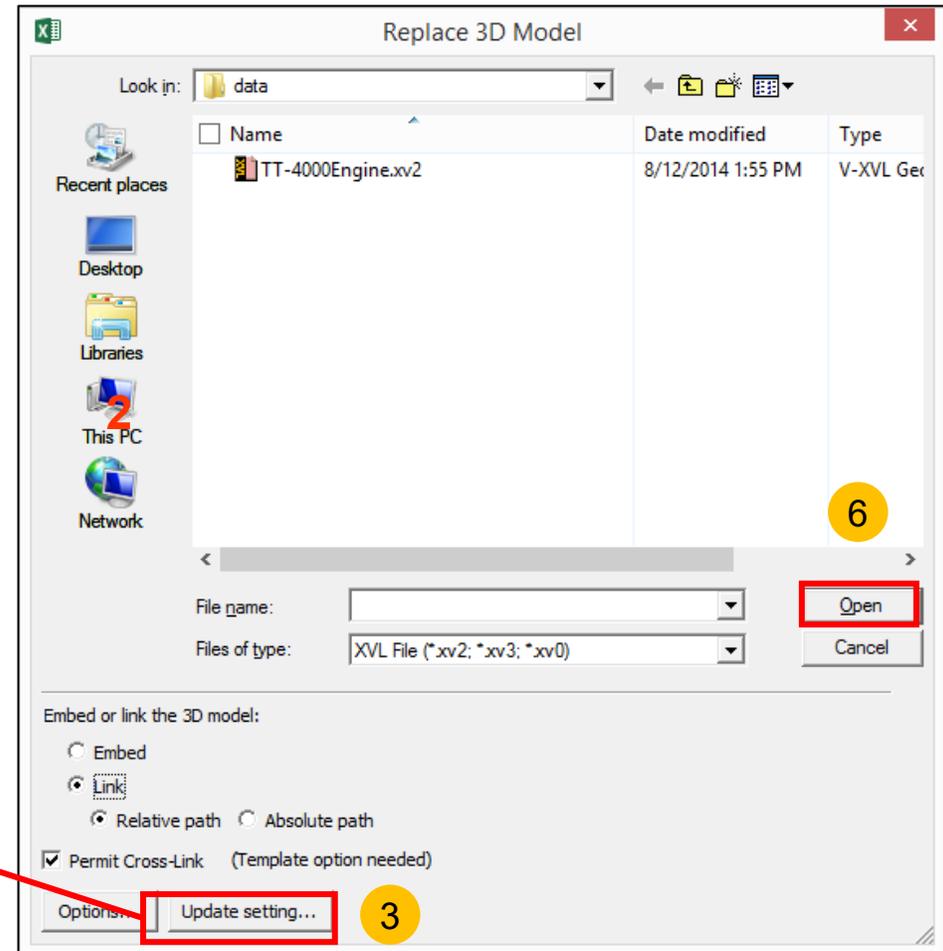
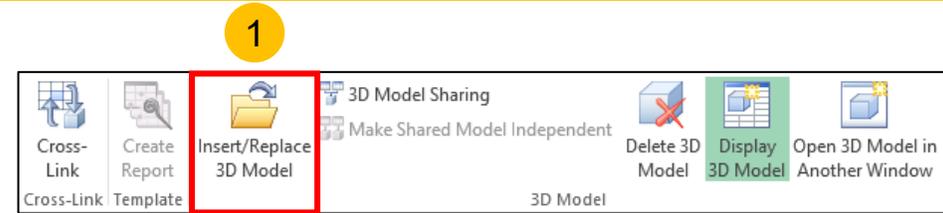
Inserting a 3D Model as an Externally Linked Object

1. In the Insert/Replace 3D Model dialog, select the **Link** button.
2. Select the path type of the 3D model that is to be linked.
3. Open the file.
4. Now the inserted 3D model is externally linked to the Excel sheet.



Replacing/Updating 3D Models

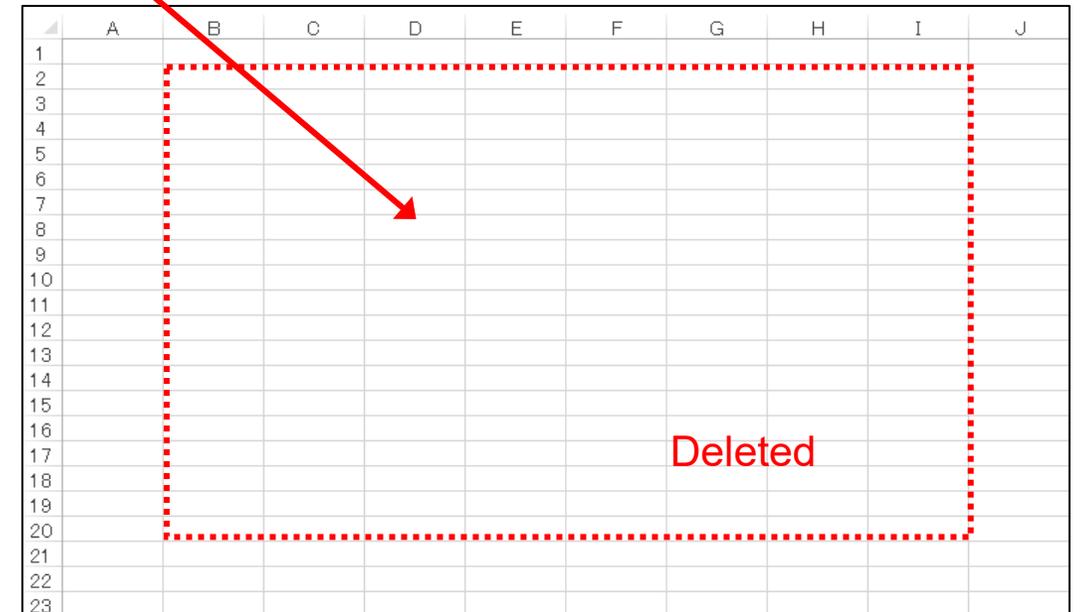
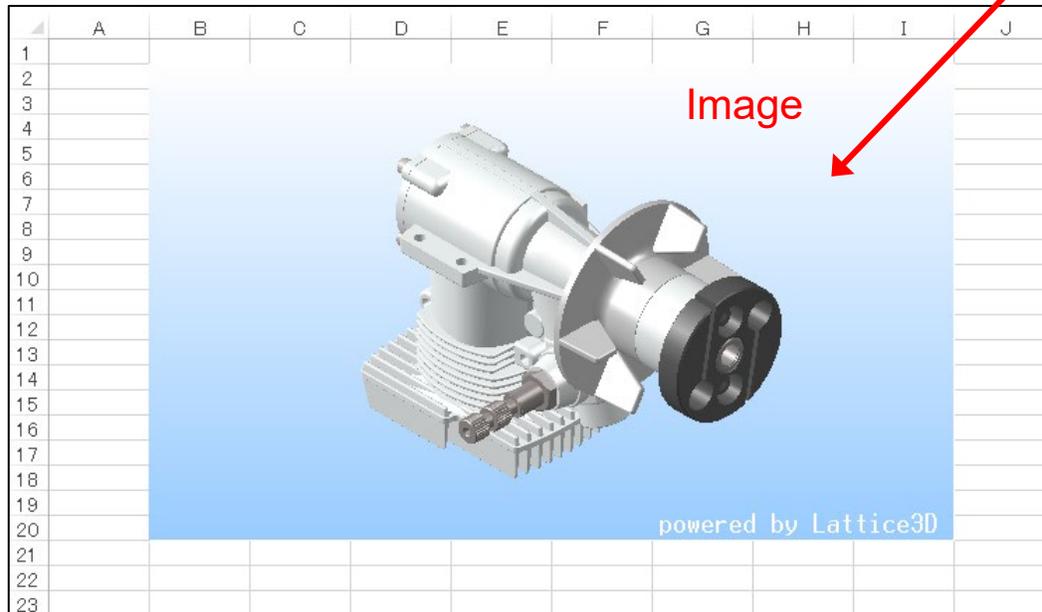
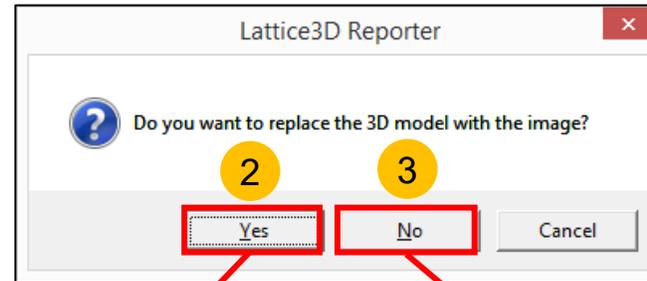
1. Click the **Insert/Replace 3D Model** icon to open the **Replace 3D Model** dialog.
2. Select the replacement model.
3. Select the **Update setting** button.
4. Select the target data to be updated from the original 3D model.
5. Turn on **Link to parts with matching names** if you are replacing the model with a new version of the model.
6. Turn off **Link to parts with matching names** if you are replacing the model with a different model.
7. Click **Open** to replace the 3D model.



5 6

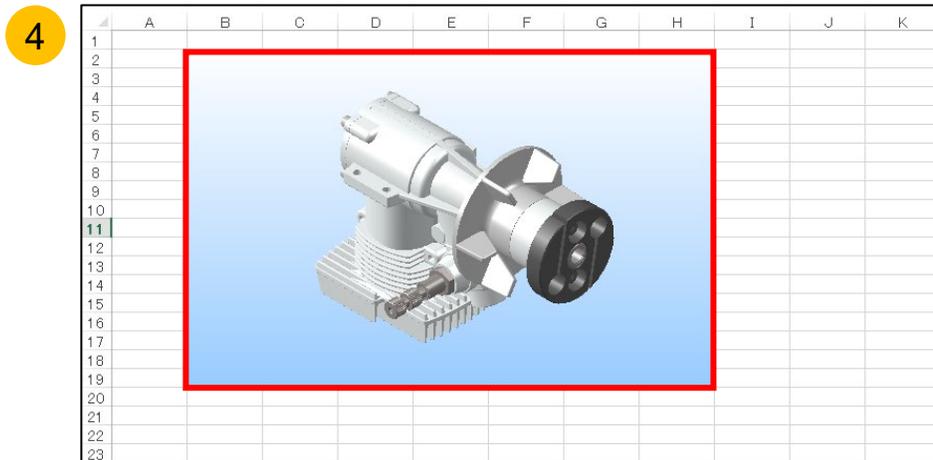
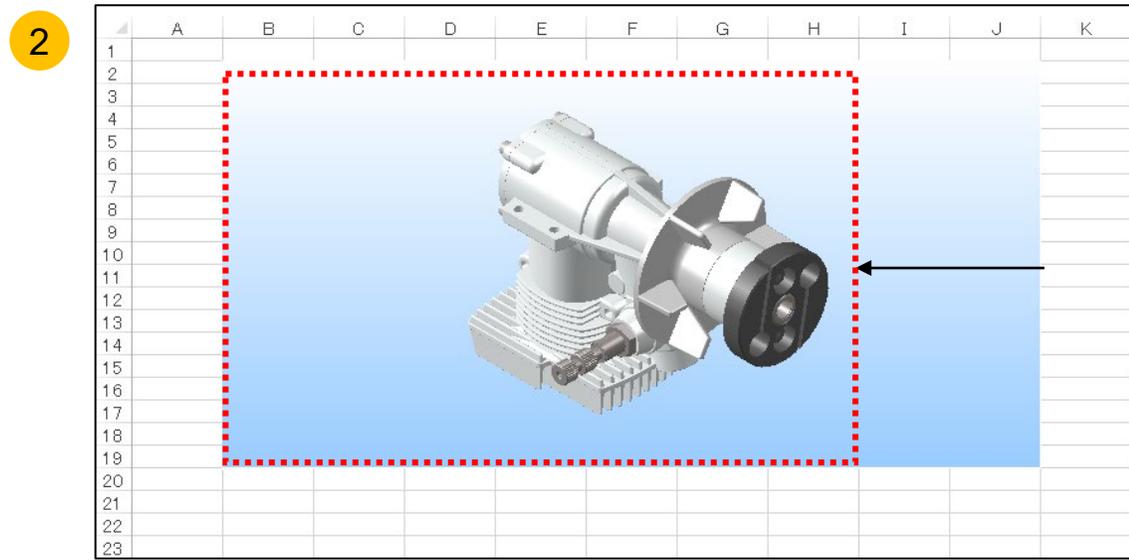
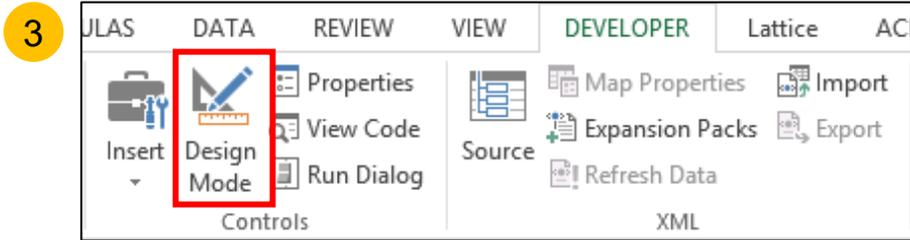
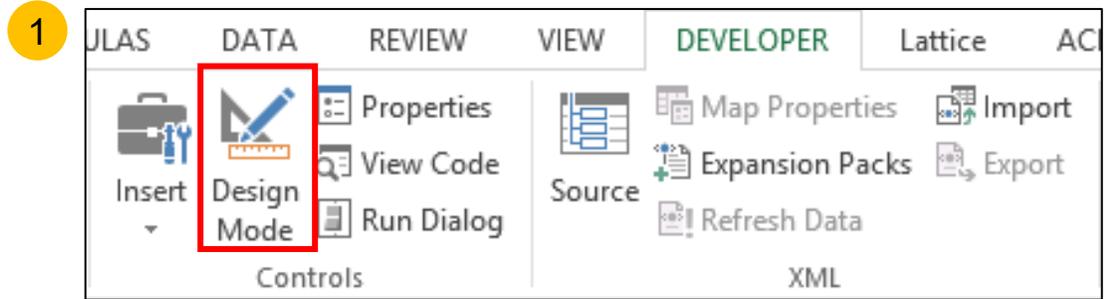
Deleting 3D Models

1. Select **Delete 3D Model** from the Lattice Toolbar.
2. Click **Yes** if you want to replace the 3D view with its image.
3. Click **No** if you want to delete the object completely.



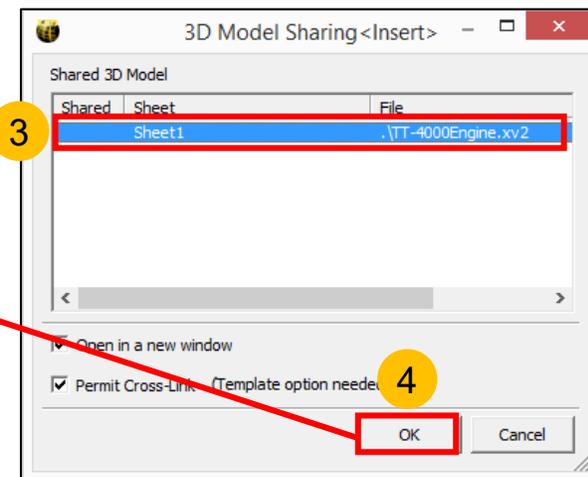
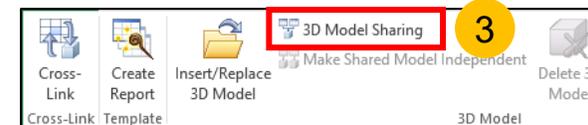
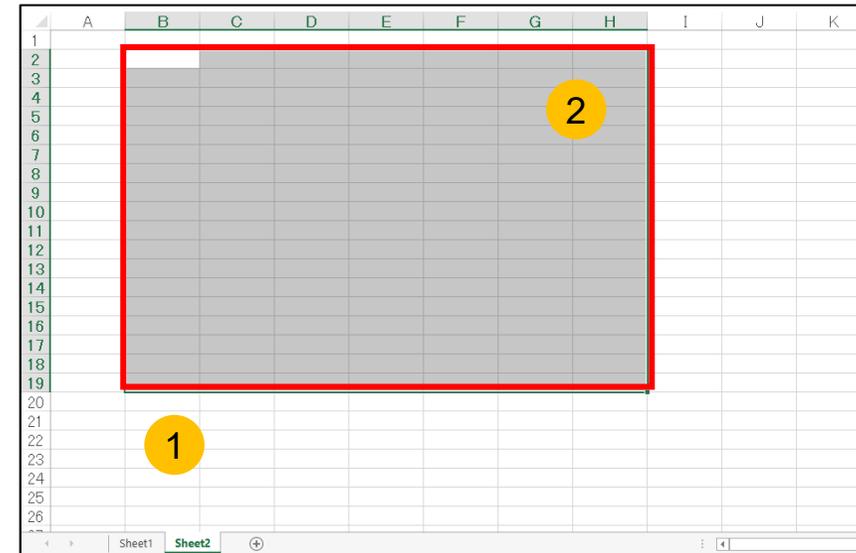
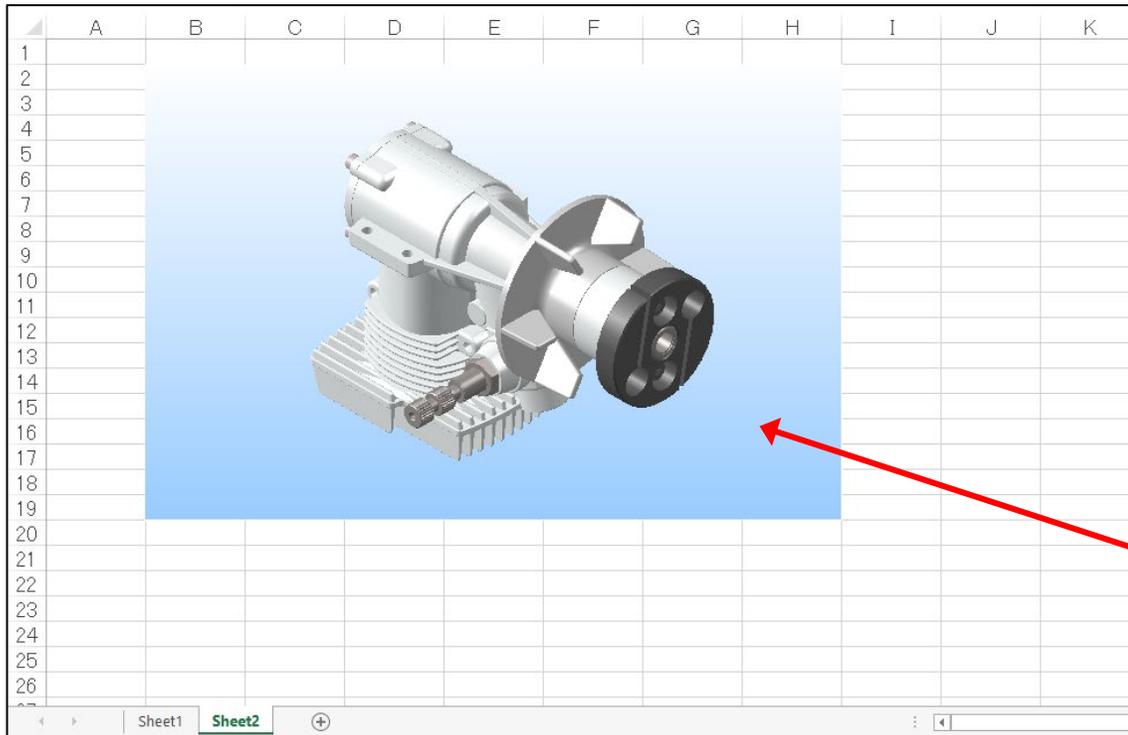
Changing the 3D View Size

1. From Excel toolbar, select the **Design Mode** icon.
2. Select the 3D View and change its size.
3. Select the **Design Mode** icon and exit the design mode.
4. 3D View size is changed.



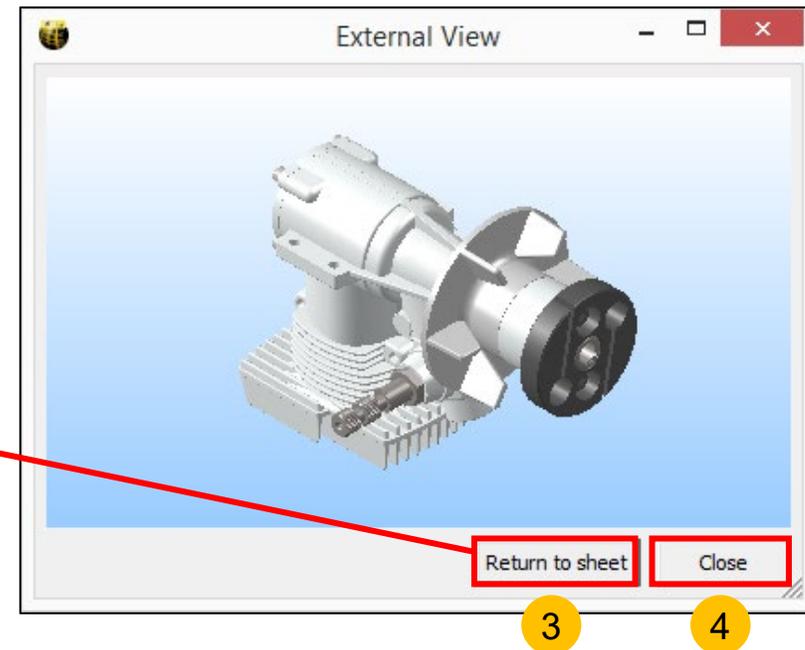
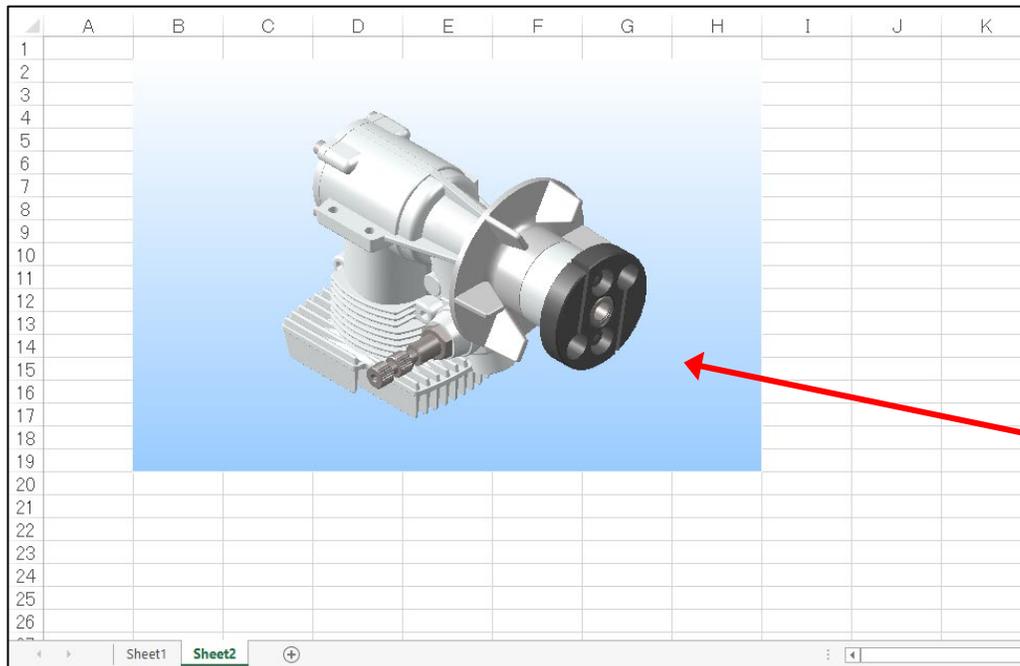
Sharing a 3D Model in Multiple Sheets

1. Open another sheet.
2. Specify the area for the 3D model in the Excel sheet.
3. Select the **3D Model Sharing** icon to open the **3D Model Sharing <Insert>** dialog.
4. Select the 3D model you want to share.
5. Click **OK** to embed the 3D model in the sheet.



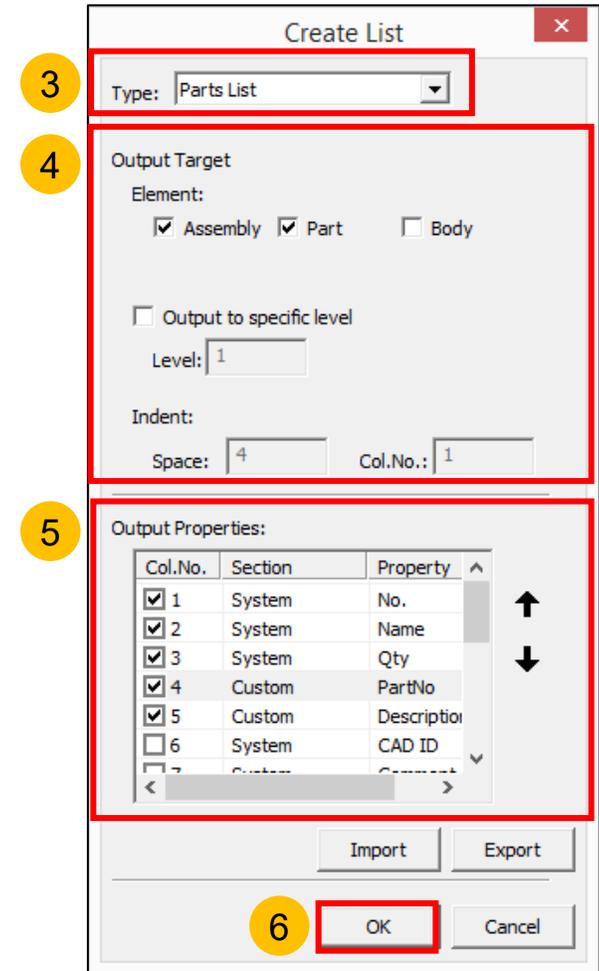
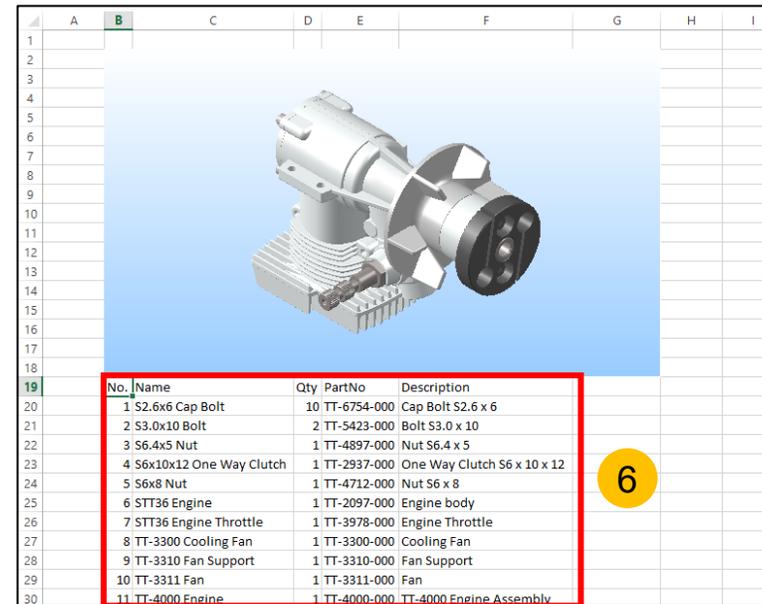
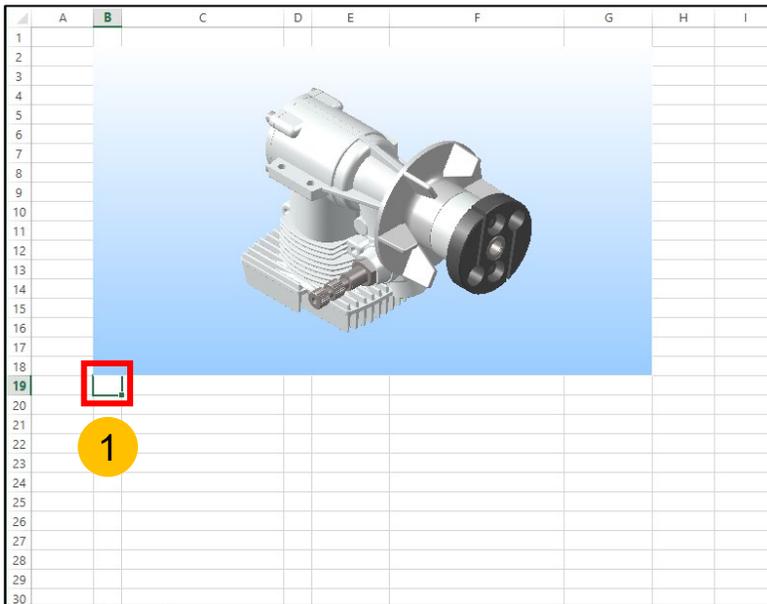
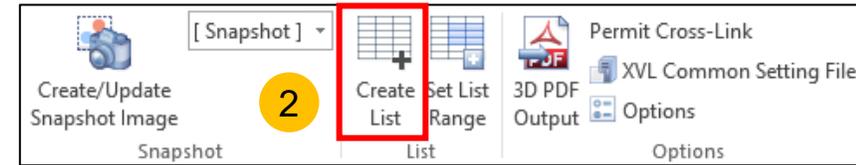
3D View Display Controls

1. Click **Display 3D Model** to show/hide the 3D View.
2. Click **Open 3D Model in Another Window** to display the 3D View in an external window.
3. Click the **Return to sheet** button to return the 3D view to the Excel sheet.
4. Click the **Close** button to hide the **External View** window. To show the window again, click the **Display 3D Model** icon from the Lattice toolbar.



Creating Lists

1. Select the cell at the top left corner of where you want to create the list.
2. Click the **Create List** icon to open the **Create List** dialog.
3. Select the list **Type**.
4. Specify the **Output Target**.
5. Select the properties to be included in the list and specify their order.
6. Click **OK** to create the list.



Using Property Files

You can import/export property information in XML format.

1. On the **Create List** dialog, specify the output properties and their order.
2. Click the **Export** button to save the properties in an XML file.
3. Click the **Import** button to import properties from an XML file.
4. The properties are shown in the list.

Create List Dialog

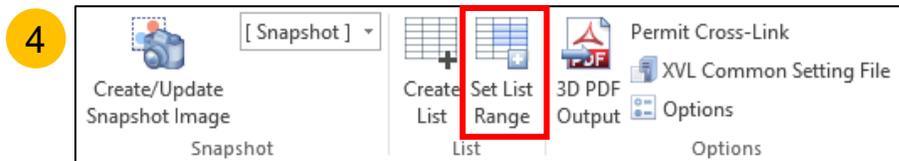
The diagram illustrates the workflow for managing property files. It shows two instances of the 'Create List Dialog'. The first dialog (labeled 3) has the 'Import' button highlighted, indicating the process of loading properties from an XML file. The second dialog (labeled 2) has the 'Export' button highlighted, indicating the process of saving properties to an XML file. An arrow labeled 4 connects the two dialogs, showing the transition from import to export. To the right, a table titled 'Properties on the list' displays the resulting list of properties. At the bottom, a file icon represents the 'TT-4000Engine.xml XML File 1.10 KB'.

No.	Name	Qty	PartNo	Description
1	S2.6x6 Cap Bolt	10	TT-6754-000	Cap Bolt S2.6 x 6
2	S3.0x10 Bolt	2	TT-5423-000	Bolt S3.0 x 10
3	S6.4x5 Nut	1	TT-4897-000	Nut S6.4 x 5
4	S6x10x12 One Way Clutch	1	TT-2937-000	One Way Clutch S6 x 10 x 12
5	S6x8 Nut	1	TT-4712-000	Nut S6 x 8
6	STT36 Engine	1	TT-2097-000	Engine body
7	STT36 Engine Throttle	1	TT-3978-000	Engine Throttle
8	TT-3300 Cooling Fan	1	TT-3300-000	Cooling Fan
9	TT-3310 Fan Support	1	TT-3310-000	Fan Support
10	TT-3311 Fan	1	TT-3311-000	Fan

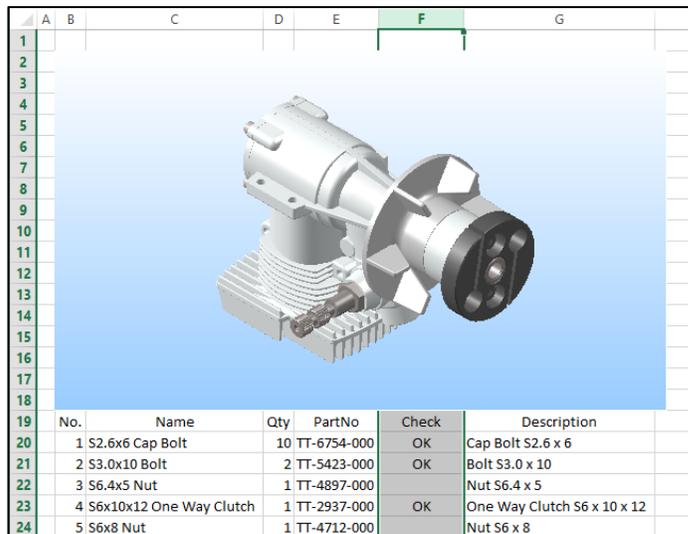
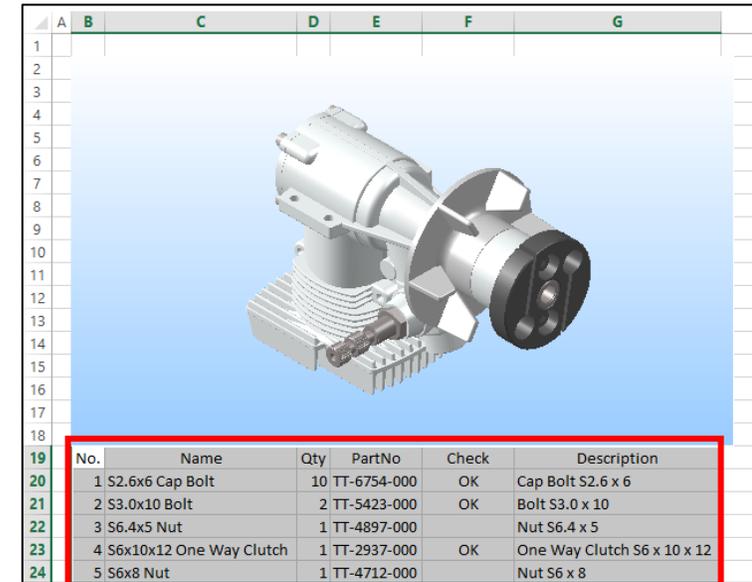
Changing the List Range

You can add cells to a list and cross-link them to the 3D view.

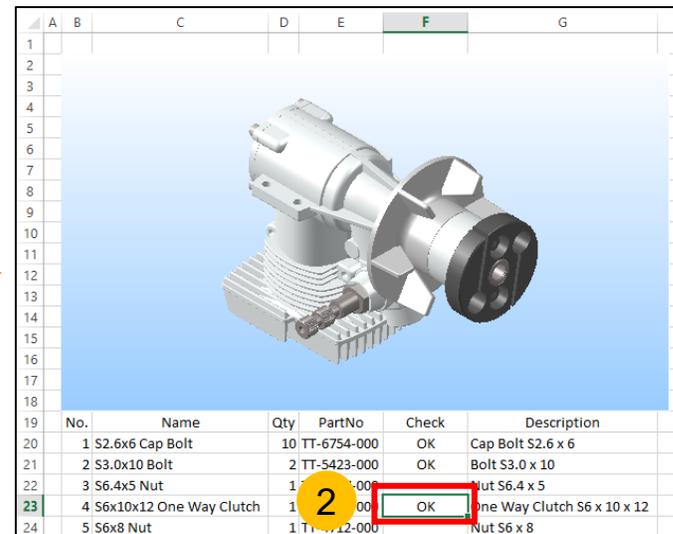
1. Insert a row or a column into the list and enter values.
2. Clicking an inserted cell does not cross-link to the 3D View.
3. Select all cells of the list including the inserted cells.
4. Click the **Set List Range** button.
5. Inserted cells are now cross-linked to the 3D view.



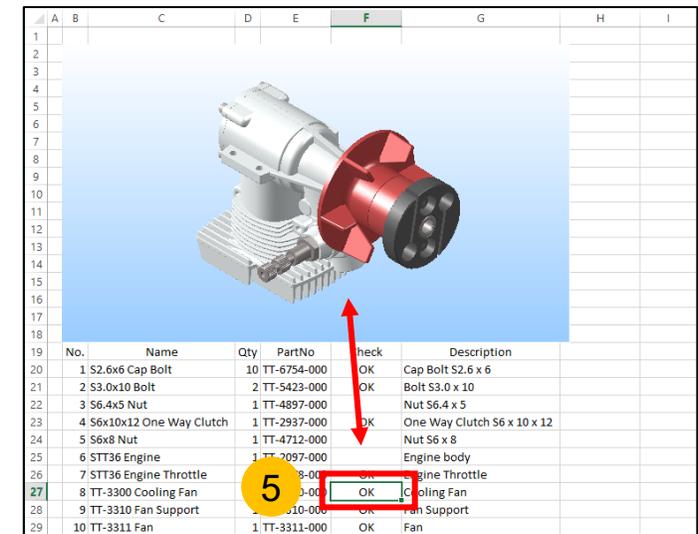
3



1



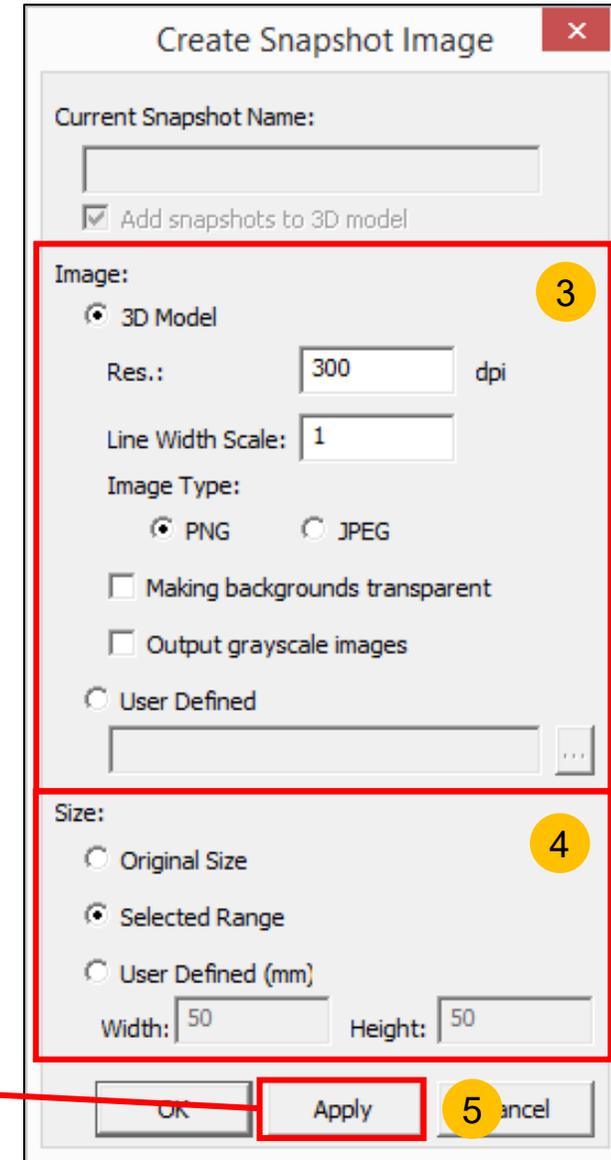
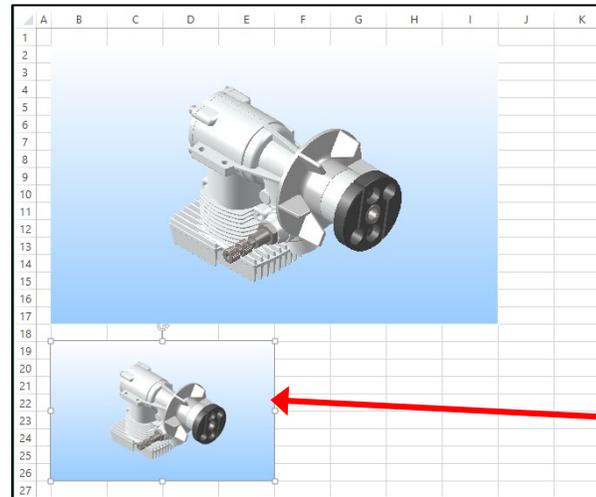
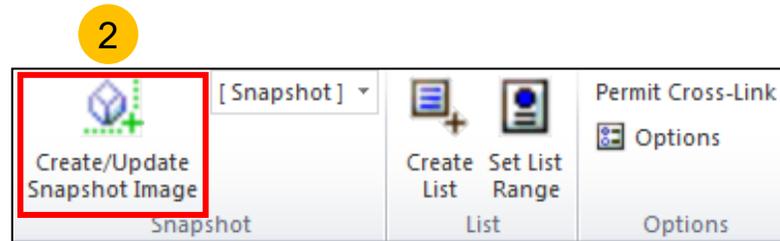
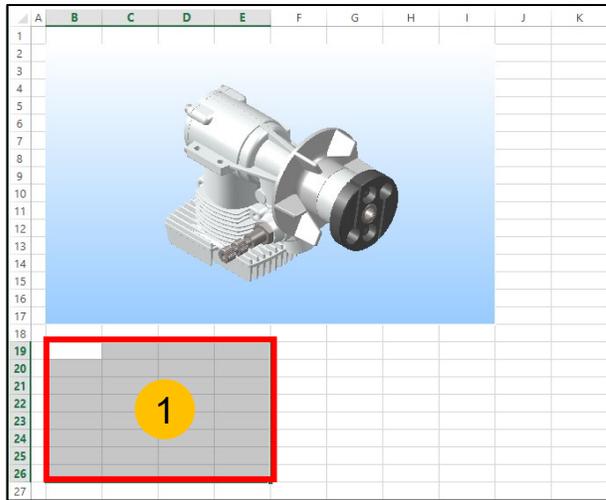
2



5

Creating Snapshots

1. Select the range where the snapshot will be created.
2. Click the **Create/Update Snapshot Image** icon to open the **Create Snapshot Image** dialog.
3. Specify the image settings of the snapshot.
4. Specify the size of the snapshot.
5. Click **Apply** to create the snapshot.



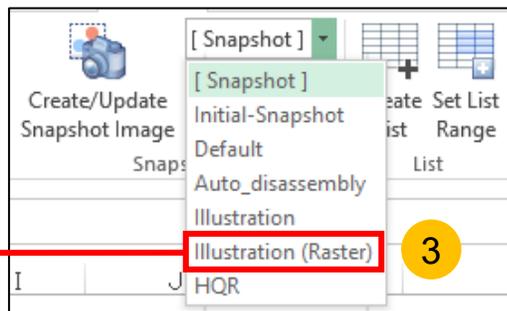
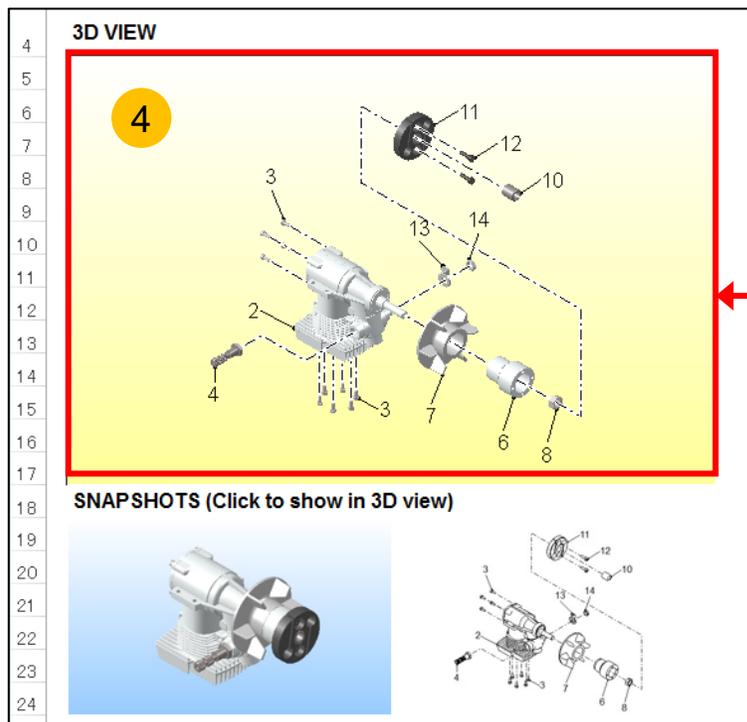
Applying Snapshots

Applying a snapshot image:

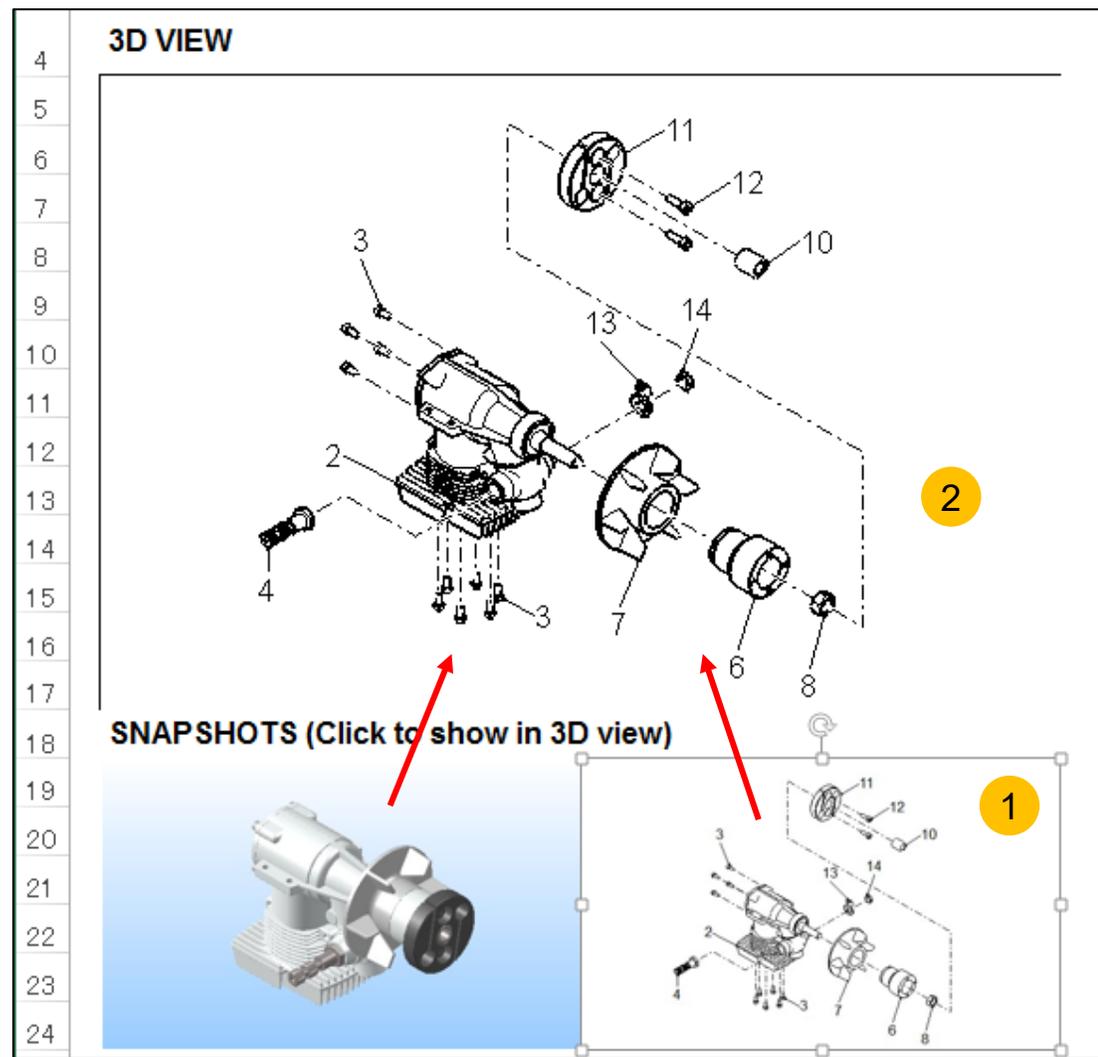
1. Select a snapshot image from the sheet.
2. The selected snapshot will be applied in the 3D View.

Applying a snapshot from the list:

3. Select a snapshot from the **Apply Snapshot** list.
4. The selected snapshot will be applied in the 3D View.



* Snapshots can be created and edited in XVL Studio.

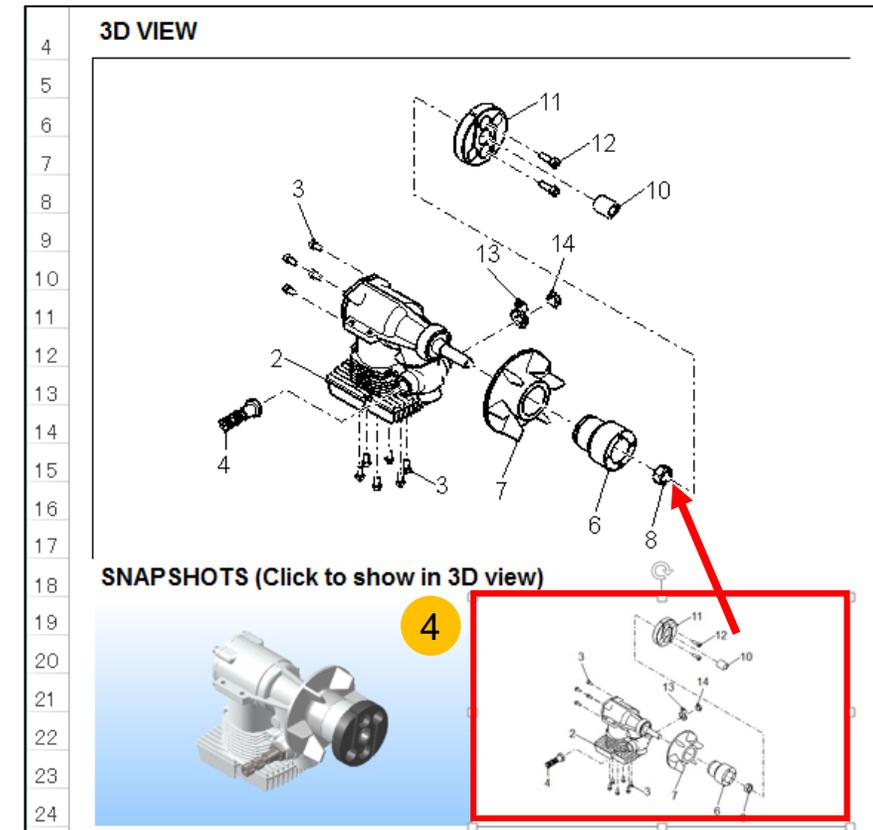


Lattice3D Reporter supports cross-linking between the 3D View, lists and snapshot images.

1. Toggle the **Cross-Link** icon in the **Lattice** toolbar.
2. Select a list cell to highlight the associated part in the 3D view.
3. Select an object in the 3D view to highlight in the list.
4. Select a snapshot to apply it in the 3D View.



No.	Name	Qty	PartNo	check	Description
1	S2.6x6 Cap Bolt	10	TT-6754-000	OK	Cap Bolt S2.6 x 6
2	S3.0x10 Bolt	2	TT-5423-000	OK	Bolt S3.0 x 10
3	S6.4x5 Nut	1	TT-4897-000		Nut S6.4 x 5
4	S6x10x12 One Way Clutch	1	TT-2937-000	OK	One Way Clutch S6 x 10 x 12
5	S6x8 Nut	1	TT-4712-000		Nut S6 x 8
6	STT36 Engine	1	TT-2097-000		Engine body
7	STT36 Engine Throttle	1	TT-3978-000	OK	Engine Throttle
27	TT-3300 Cooling Fan	1	TT-3300-000	OK	Cooling Fan
9	TT-3310 Fan Support	1	TT-3310-000	OK	Fan Support
10	TT-3311 Fan	1	TT-3311-000	OK	Fan



* Cross-linking is enabled when a Lattice3D Reporter license is available.

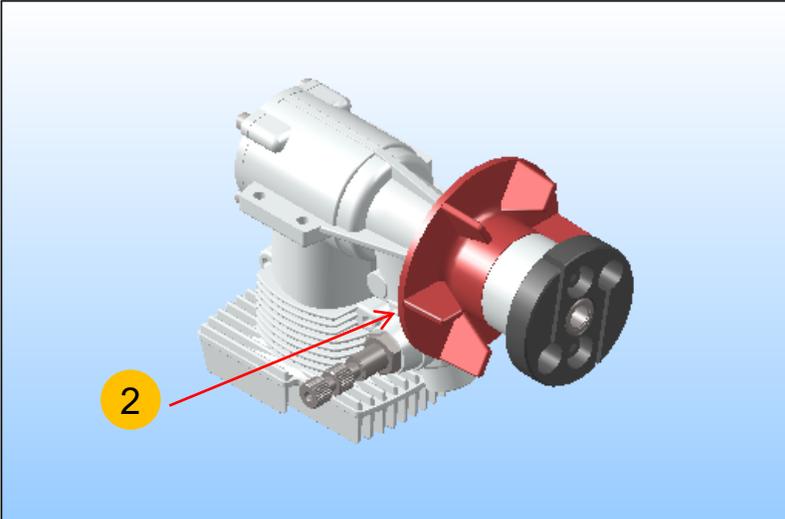
* To use cross-linking with the free viewer, cross-linking must be permitted for that spreadsheet. For more details, please see 'Permitting Cross-Linking'.

Using Parts Lists

1. Create a parts list.
2. When you select a part in the 3D View, the associated part in the parts list will be highlighted.
3. When you select a cell in the parts list, the associated part in the 3D View will be highlighted.

3D BILL OF MATERIALS **MODEL NO: TT-4000-000**

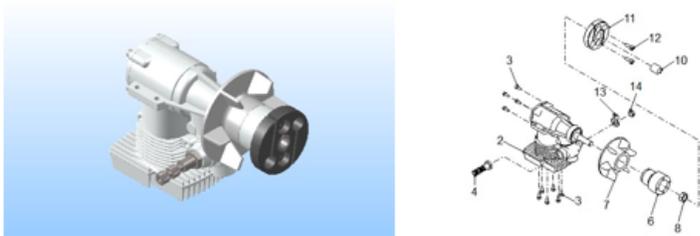
3D VIEW



PARTS LIST

No	Part No	Qty	Description
1	TT-4000-000	1	TT-4000 Engine Assembly
2	TT-2097-000	1	Engine body
3	TT-6754-000	10	Cap Bolt S2.6 x 6
4	TT-4657-000	1	Needle
5	TT-3300-000	1	Cooling Fan
6	TT-3310-000	1	Fan Support
7	TT-3311-000	1	Fan
8	TT-4897-000	1	Nut S6.4 x 5
9	TT-4310-000	1	Clutch
10	TT-2937-000	1	One Way Clutch S6 x 10 x 12
11	TT-4313-000	1	Clutch Shoe
12	TT-5423-000	2	Bolt S3.0 x 10
13	TT-3978-000	1	Engine Throttle
14	TT-4712-000	1	Nut S6 x 8

SNAPSHOTS (Click to show in 3D view)



A yellow circle with the number 3 is positioned to the right of the parts list table, highlighting the selected row.

Using Process Lists

You can play process animation that is associated with a process list.

1. Select a cell in the process list to view the selected process task in the 3D view.
2. To play the process animation, change the 3D view to **View Mode** and select the **Animation Toolbar**.
3. Use the animation tools to play the animation.

*** Process animations can be created in XVL Studio Standard / Pro.**

The screenshot displays the XVL software interface. At the top, a 'WORK INSTRUCTION SHEET' is shown for 'Model: TT-4000 Engine'. Below this, there are fields for 'VERSION:', 'DATE:', and 'NOTE:'. The main area features a 3D model of a fan assembly with a red line indicating the attachment of a fan. A toolbar with various icons is visible, with a red box highlighting the animation controls (3). At the bottom, a table lists tasks and their associated parts and instructions. A red box highlights the task '1.1:3 Attach fan to the support' (1).

NO	TASK	TIME (s)	PART	QTY	INSTRUCTION
1	Project LT00010	460			
1.1	Assembly of Cooling Fan	70			
1.1:1	Set fan support	20	TT-3310 Fan Support	1	Prepare TT-3310 fan support.
1.1:2	Apply adhesive	20			Apply adhesive to Cooling Fan A.
1.1:3	Attach fan to the support	30	TT-3311 Fan	1	Attach TT-3311 fan to the support.
1.2	Assembly of Clutch	50			
1.2:1	Set clutch shoe	20	TT-4313A Clutch Shoe	1	Prepare TT-4313A clutch shoe.

Using Annotation/Dimension Lists

1. Create annotations/dimensions in XVL Studio.
 - For each annotation/dimension set the view in the edit panel.
2. Create an annotation/dimension list in the Excel sheet.
3. Select a cell in the annotation/dimension list to view the selected annotation/dimension in the 3D View.

3

Inspection Sheet 22030

3D VIEW

Courtesy of SolidWorks Japan K.K.

DIMENSION LIST

No.	Name	Dimension	Comment	Approval
1	Dimension-10	R 8.00		OK
2	Dimension-11	1.40	Please check again	
3	Dimension-12	24.28		OK
4	Dimension-13	84.80		OK
5	Dimension-14	64.40		OK
6	Dimension-15	66.00		OK
7	Dimension-16	12.09		OK

Inspection Sheet 22030

3D VIEW

Courtesy of SolidWorks Japan K.K.

DIMENSION LIST

No.	Name	Dimension	Comment	Approval
1	Dimension-10	R 8.00		OK
2	Dimension-11	1.40	Please check again	
3	Dimension-12	24.28		OK
4	Dimension-13	84.80		OK
5	Dimension-14	64.40		OK
6	Dimension-15	66.00		OK
7	Dimension-16	12.09		OK

2

Inspection Sheet 22030

3D VIEW

Courtesy of SolidWorks Japan K.K.

DIMENSION LIST

No.	Name	Dimension	Comment	Approval
1	Dimension-10	R 8.00		OK
2	Dimension-11	1.40	Please check again	
3	Dimension-12	24.28		OK
4	Dimension-13	84.80		OK
5	Dimension-14	64.40		OK
6	Dimension-15	66.00		OK
7	Dimension-16	12.09		OK

Create List

Type: Dimension List

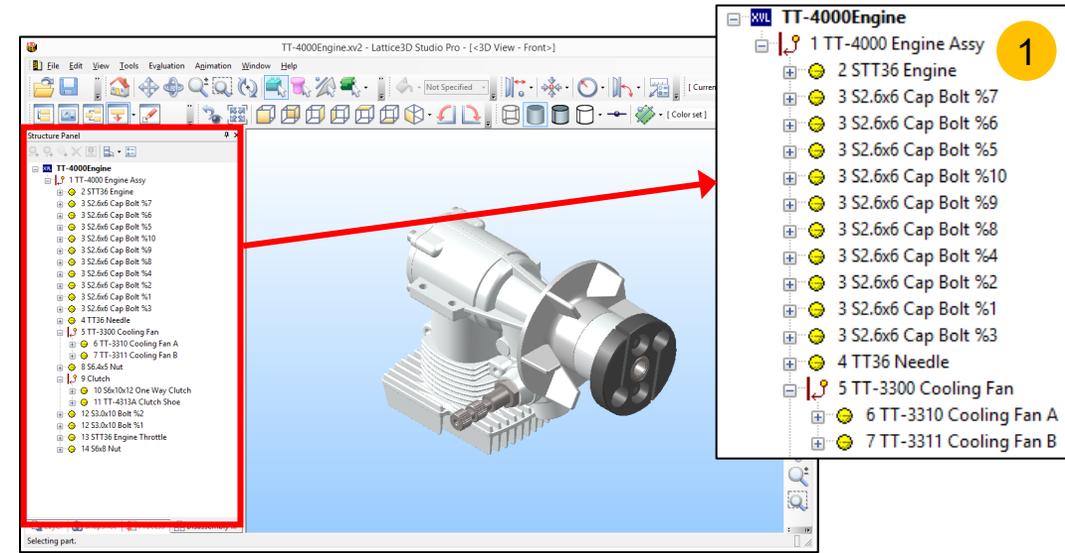
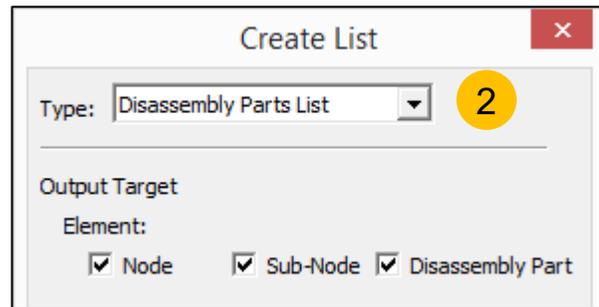
Output Target

Element:

Assembly Part Body

Using Disassembly Parts Lists

1. Create a disassembly tree in XVL Studio.
2. Create a disassembly parts list in the Excel sheet.
3. When you select a part in the 3D View, the associated part in the disassembly parts list will be highlighted.
4. When you select a cell in the disassembly parts list, the associated part in the 3D View will be highlighted.



XVL Studio

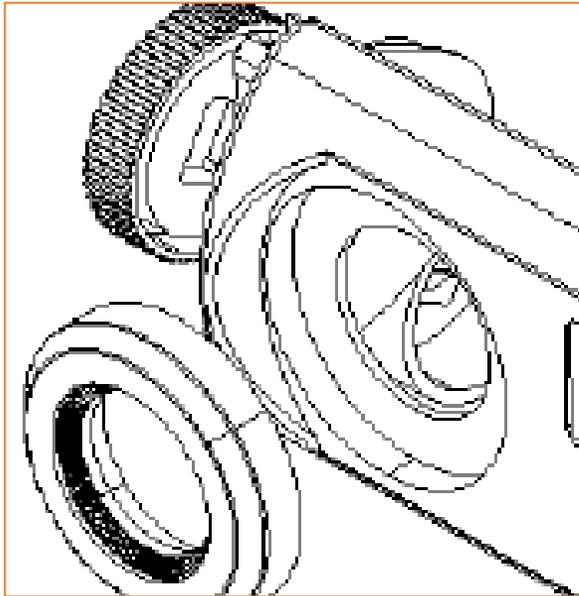
3D BILL OF MATERIALS			
3D VIEW		PARTS LIST	
<p>SNAPSHOTS (Click to show in 3D view)</p>		No	Description
		1	TT-4000-000 1 TT-4000 Engine Assembly
		2	TT-2097-000 1 Engine body
		3	TT-6754-000 10 Cap Bolt S2.6 x 6
		4	TT-4857-000 1 Needle
		5	TT-3300-000 1 Cooling Fan
		6	TT-3310-000 1 Fan Support
		7	TT-3311-000 1 Fan
		8	TT-4897-000 1 Nut S6.4 x 5
		9	TT-4310-000 1 Clutch
		10	TT-2937-000 1 One Way Clutch S6 x 10 x 12
		11	TT-4313-000 1 Clutch Shoe
		12	TT-5423-000 2 Bolt S3.0 x 10
		13	TT-3978-000 1 Engine Throttle
14	TT-4712-000 1 Nut S6 x 8		

Parts list based on disassembly tree

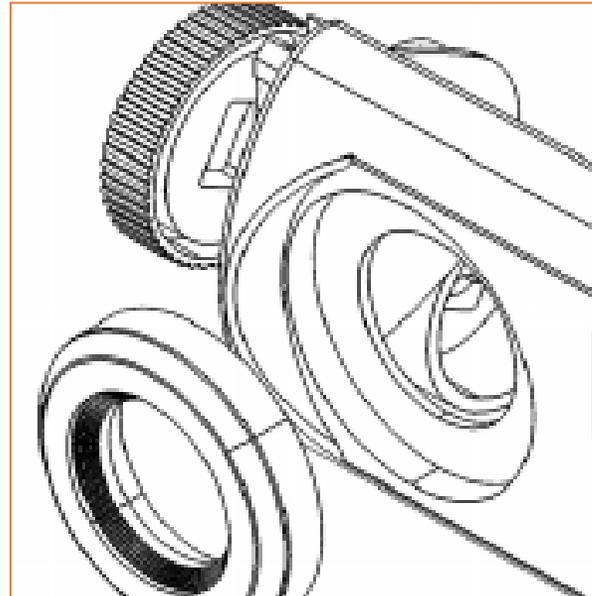
Setting the Print Quality

You can set the print quality of the 3D model.

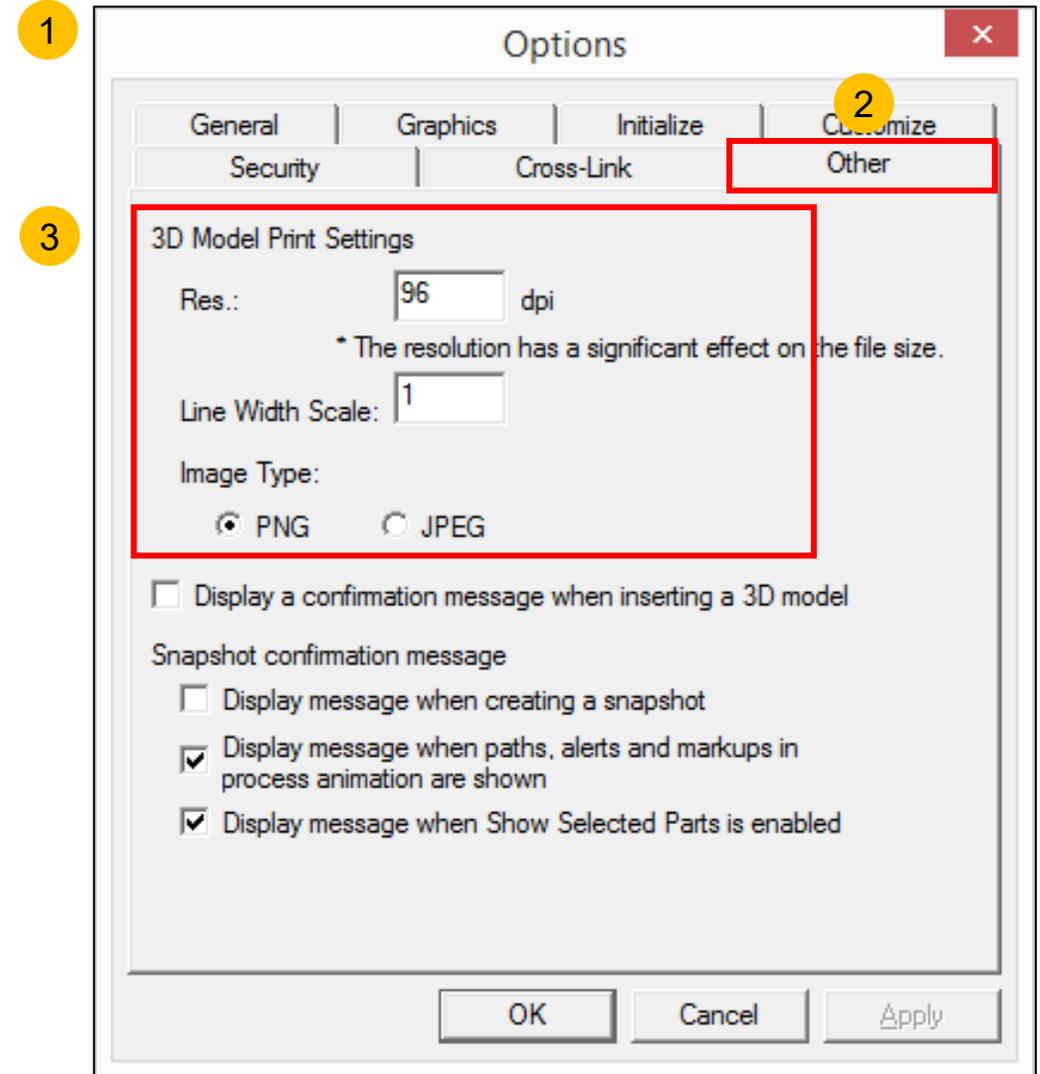
1. From the Lattice toolbar, select **Options** to open the **Options** dialog.
2. Select the **Other** tab.
3. Specify the 3D model print settings.
4. Click **OK**.



Resolution: 96 dpi



Resolution: 300 dpi



Publishing Rich 3D PDF Documents 1/2

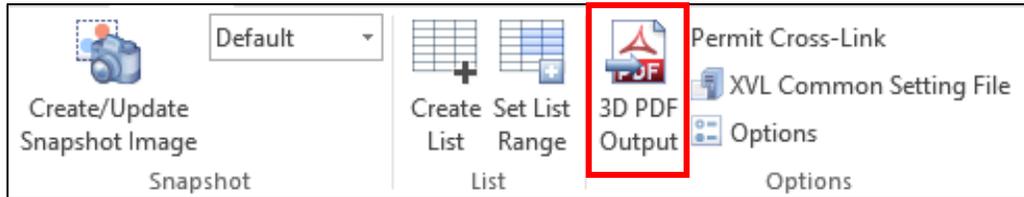
You can publish interactive 3D MS Excel documents as rich 3D PDF documents.

* This feature requires one of the following software.

1. Adobe Acrobat XI Standard / Pro
2. Adobe Acrobat Standard DC / Pro DC (2015 not supported)

* This feature requires MS Excel 2007, 2010, 2013 or 2016.

1. Create an Excel document that includes 3D data, lists and snapshots.
2. Save the Excel file.
3. Click the **3D PDF Output** button in the toolbar.



* Only parts lists will be cross-highlighted with the 3D View. Other lists will be displayed in the 3D PDF document, but they will not cross-highlight.

The screenshot shows an Excel spreadsheet with a 3D model of an engine and a parts list table. A yellow circle with the number '1' is placed next to the 3D model. The parts list table is as follows:

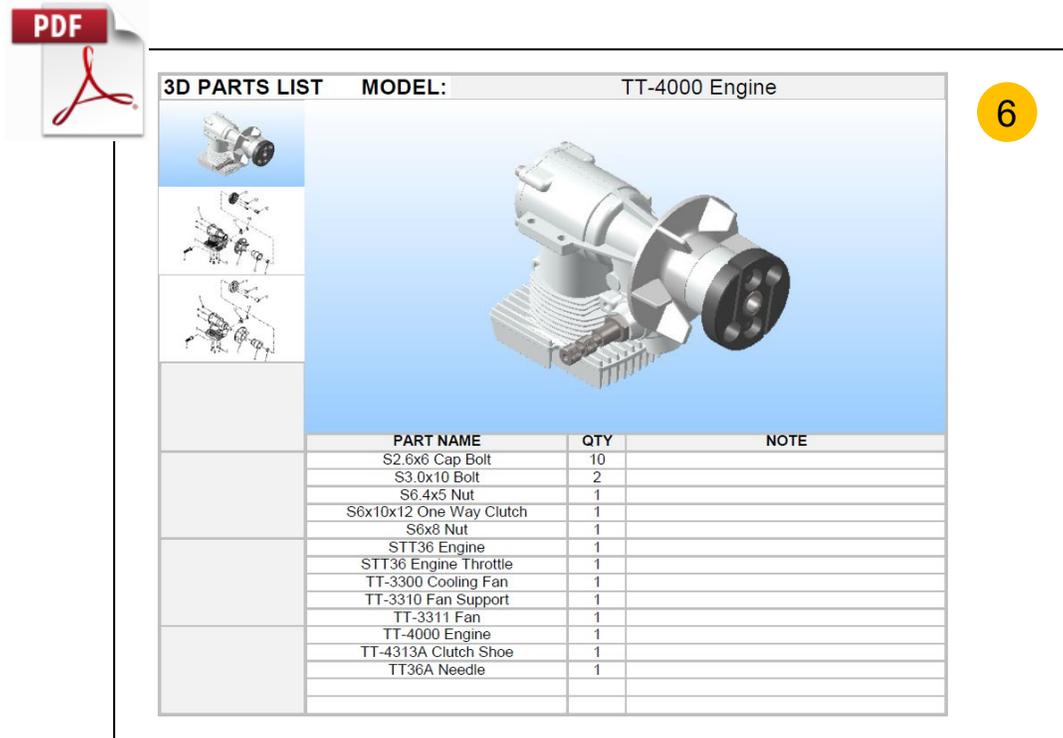
PART NAME	QTY	NOTE
S2.6x6 Cap Bolt	10	
S3.0x10 Bolt	2	
S6.4x5 Nut	1	
S6x10x12 One Way Clutch	1	
S6x8 Nut	1	
STT36 Engine	1	
STT36 Engine Throttle	1	
TT-3300 Cooling Fan	1	
TT-3310 Fan Support	1	
TT-3311 Fan	1	

MS Excel

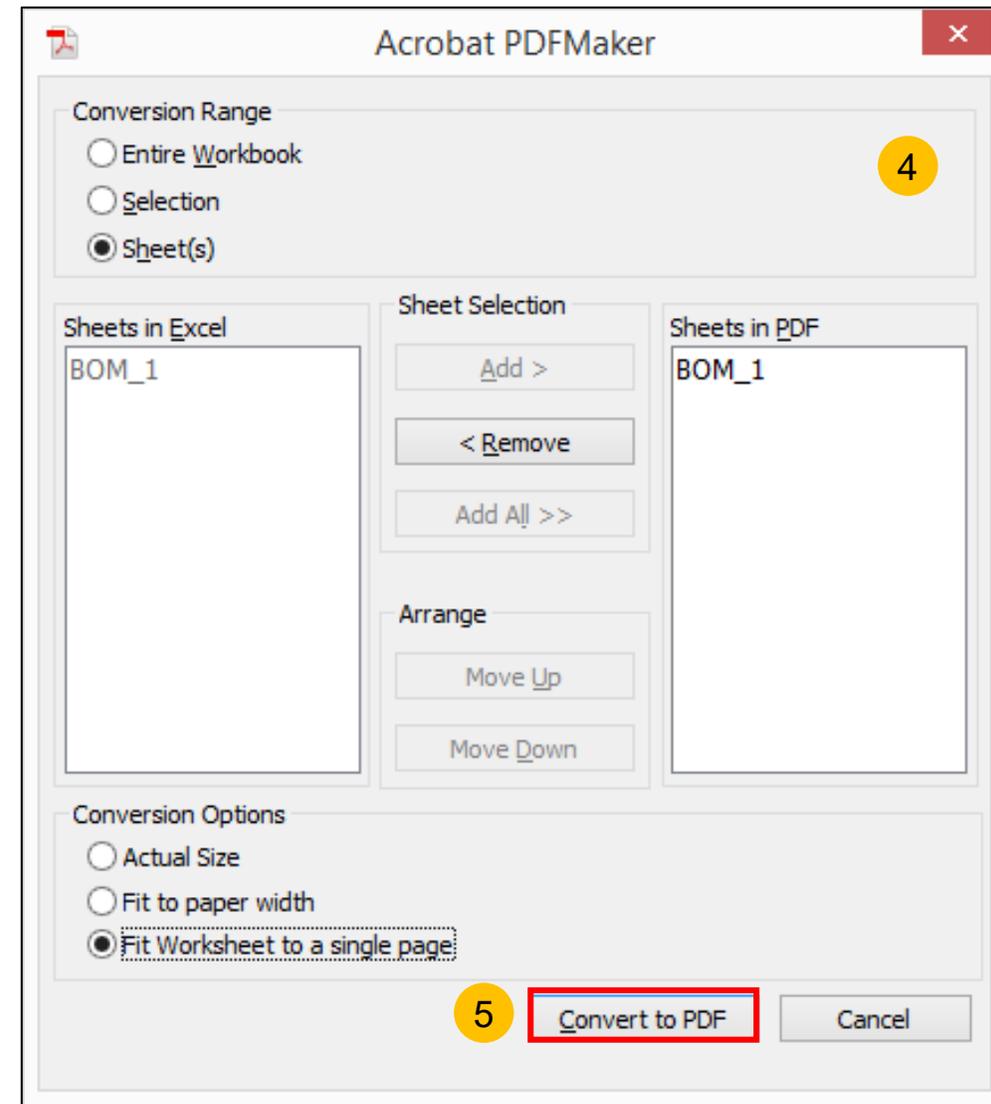
Publishing Rich 3D PDF Documents 2/2

You can publish interactive 3D MS Excel documents as rich 3D PDF documents.

4. In the Acrobat PDFMaker dialog, specify the conversion range and select **Fit Worksheet to a single page**.
5. Click the **Convert to PDF** button to publish 3D PDF document.
6. The 3D PDF document will be created.



3D PDF Document



Viewing Rich 3D PDF Documents

1. Select the 3D model to activate the 3D view.
2. Select snapshot thumbnails to apply to the 3D view.
3. Select a part in the parts list. The selected part will be highlighted in the 3D view.
4. Select a part in the 3D view. The selected part will be highlighted in the parts list.

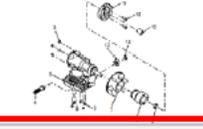


2

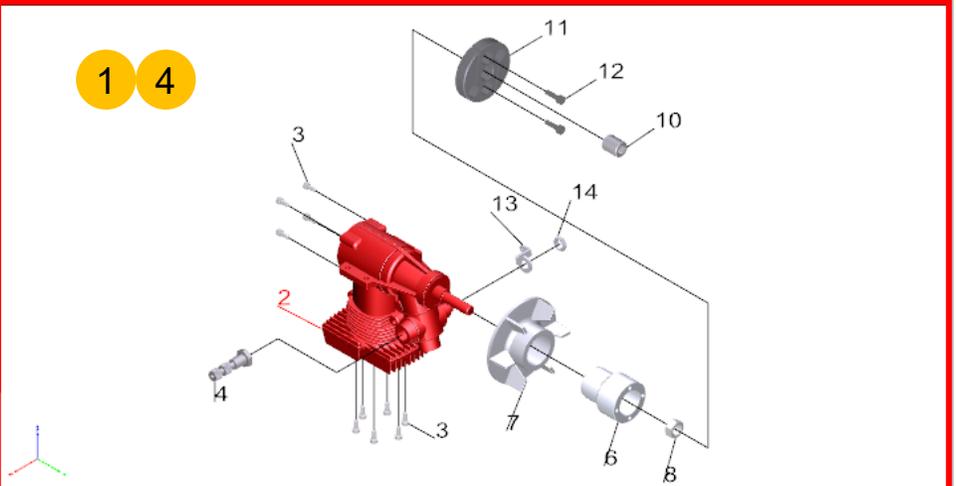
* 3D PDF documents can be viewed using Adobe Reader XI.

3D PARTS LIST
MODEL: TT-4000 Engine





1
4



PART NAME	QTY	NOTE
S2.6x6 Cap Bolt	10	
S3.0x10 Bolt	2	
S6.4x5 Nut	1	
S6x10x12 One Way Clutch	1	
S6x8 Nut	1	
STT36 Engine	1	
STT36 Engine Throttle	1	
TT-3300 Cooling Fan	1	
TT-3310 Fan Support	1	
TT-3311 Fan	1	
TT-4000 Engine	1	
TT-4313A Clutch Shoe	1	
TT36A Needle	1	

3

3D PDF Document



Lattice Technology Inc.

www.lattice3d.com

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