EBOM Calculation

In this task, we explore the Engineering Bill Of Material (EBOM) and LifeCycle (Workflow) functionalities of thinkteam. We shall work through Database Views, Create Bills of material for two different versions of an assembly and also compare them. To perform this task you should have completed the following two tasks - Introduction to thinkteam and Drawing from a Project in that order.

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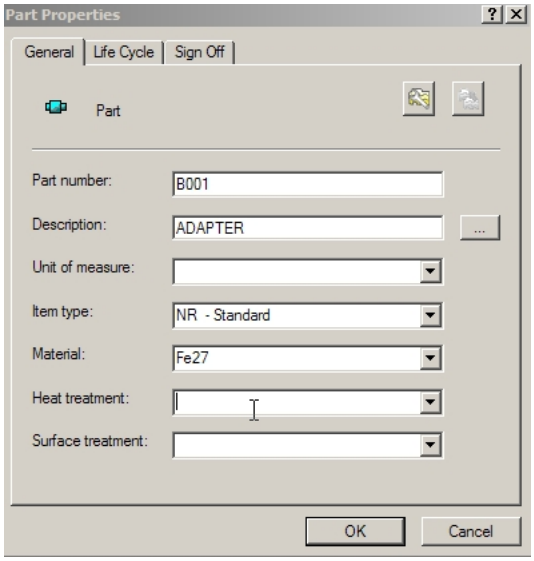
License

To do this task you need to have a valid thinkteam license (Document Management level). If the there is o thinkteam license all the thintkeam Query commands will be greyed out.

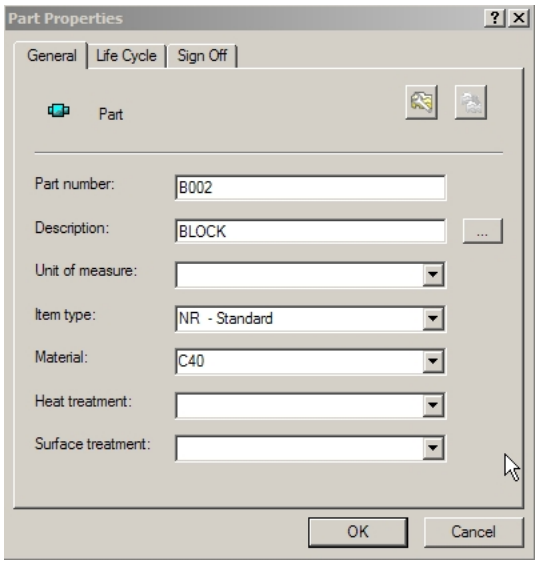
In the last 2 tasks (Introduction to thinkteam and Drawing from Project) we learnt about Document Browser, Part List, Raw Material list, New Entities reation etc, Now let's go a step further. The goal of this web task is to generate 2 versions of BOM of for an assembly and then compare them at different Lifecycle status.

Let's add two new parts to the project browser database of our current assembly example.

- Click New Entity command.
- Select Part from the entity type dialog that comes up and say OK.
- Key in new Part number as B001 and other details in the Part Properties dialog as shown.

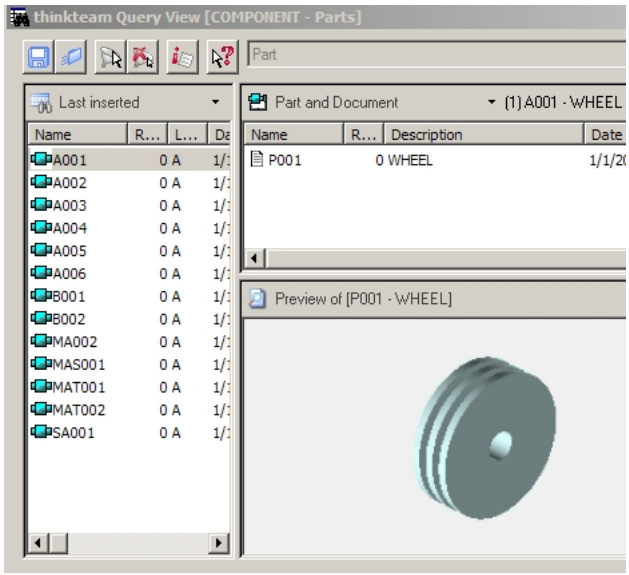


Similarly insert another new Part, B002 and key in its Part Data.

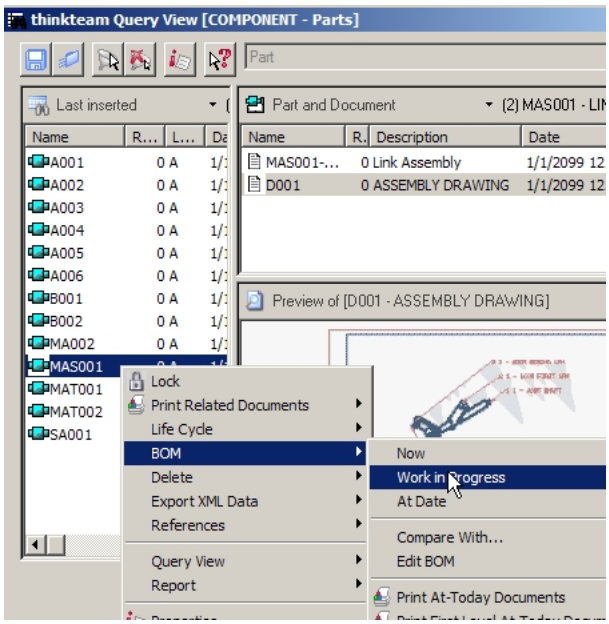


Let's now see the Query commands.

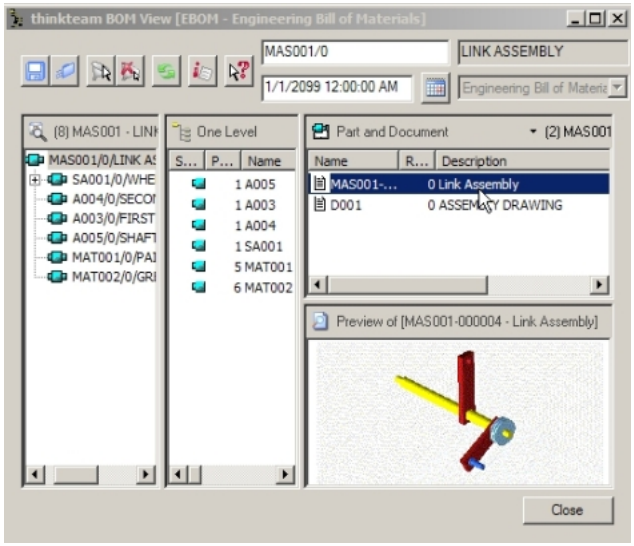
- Click **Query View on Parts**.
- Select Last Inserted (See Image Below):



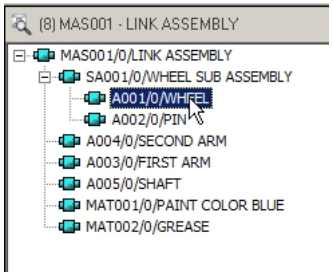
- Press OK for Selection Without Condition dialog.
- Click Right Mouse Button on Link Assembly and select BOM,Work in Progress.



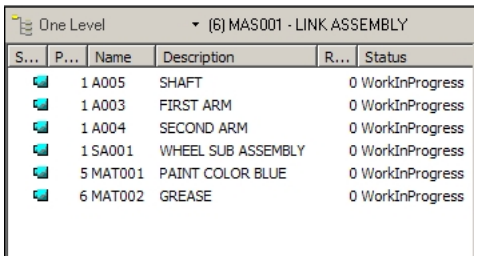
thinkteam BOM View is as shown in the image below.



The BOM View contains three frames. A structure of the BOM is visualized in the leftmost frame .The information here reported includes the part number, the version number and the part description. By clicking on the "+" sign, the document structure is expanded to show the next level of BOM.



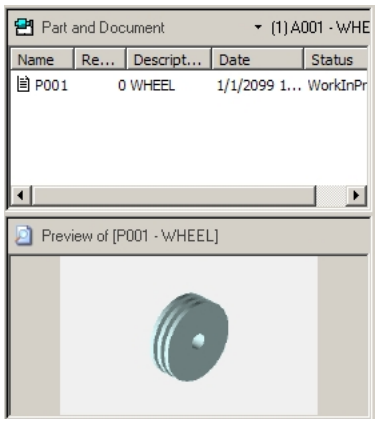
The center frame shows the actual bill of material in columns .For each of these, the Level column reports the nesting level of the part represented by a series of dots, the Position column indicates the relative position of the part or subassembly in the upper level assembly, in the Part No., Version, State and Description columns you can find the basic data of each part. Among other fields not shown in the following picture, the Source column reports the document name that uses the part.



Tip:

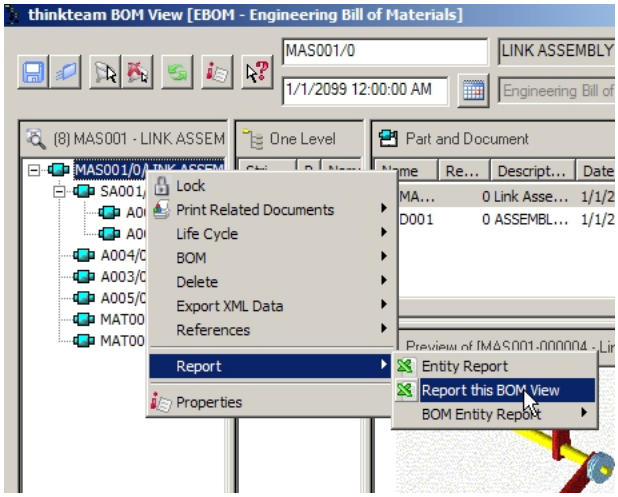
Click on the First line of the frame, Hold Ctrl and Press "+" on number pad twice, all the columns will be fit to contents automatically.

Select part P001(Wheel) either in the center or leftmost frame, Name and the description of the relevant ../../Documents are displayed in the top right frame. In the bottom right frame, a preview image of Wheel appears.



We now are familiar with BOM view. How do we take a report out of it? Let us try that.

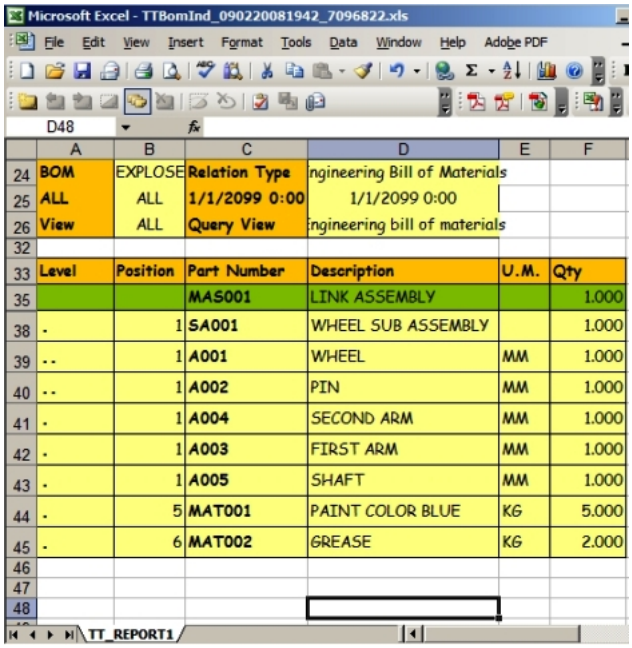
Click right mouse button on Link Assembly on Left most frame and select Report, Report this BOM view .



- The report appears as a spreadsheet.

Note:

Microsoft Excel should be preinstalled for the report to appear.



	A	B	C	D	E	F
24	BOM	EXPLOSE	Relation Type	ngineering Bill of Materials		
25	ALL	ALL	1/1/2099 0:00	1/1/2099 0:00		
26	View	ALL	Query View	ngineering bill of materials		
32						
33	Level	Position	Part Number	Description	U.M.	Qty
35			MAS001	LINK ASSEMBLY		1.000
38	.	1	SA001	WHEEL SUB ASSEMBLY		1.000
39	..	1	A001	WHEEL	MM	1.000
40	..	1	A002	PIN	MM	1.000
41	.	1	A004	SECOND ARM	MM	1.000
42	.	1	A003	FIRST ARM	MM	1.000
43	.	1	A005	SHAFT	MM	1.000
44	.	5	MAT001	PAINT COLOR BLUE	KG	5.000
45	.	6	MAT002	GREASE	KG	2.000
46						
47						
48						

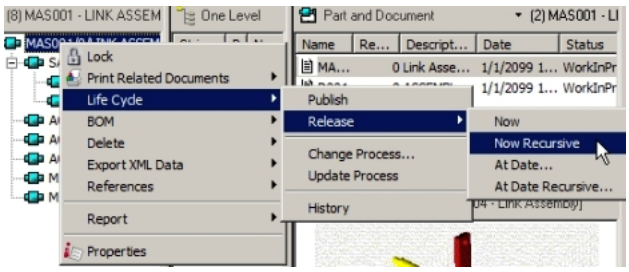
Customize the EBOM report.

It is possible to customize the default thinkteam EBOM report. For more info check this article.

To customize thinkteam default EBOM report

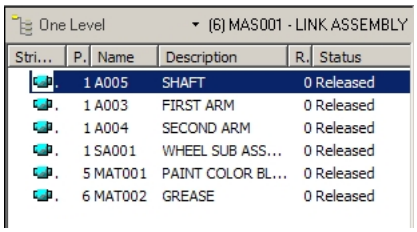
The parts are complete in all aspects, Assembly too. Now we need to release this document. How do we do that? Let us see.

- Click right mouse button on Link Assembly on Left most frame and select Workflow/Release/ At Now Recursive.



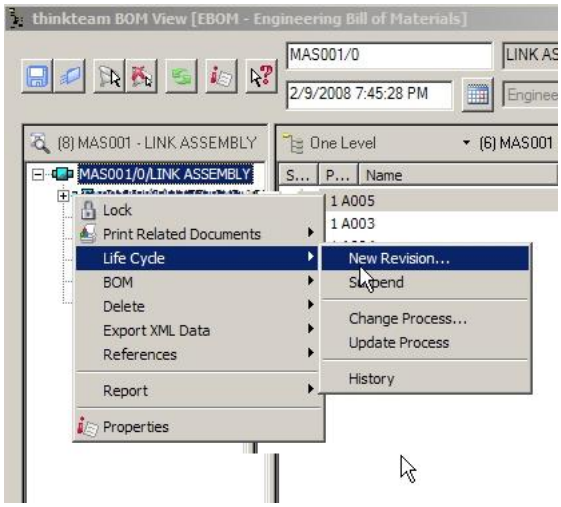
- A message appears Saying "Release Completed", Press Close.

You can see in the Central frame of the BOM View that the status of the Parts reads Released.

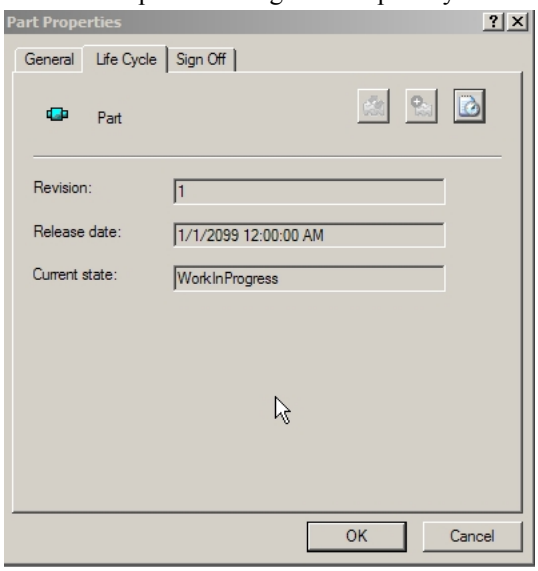


We will now make a new version of the assembly, generate a new BOM version.

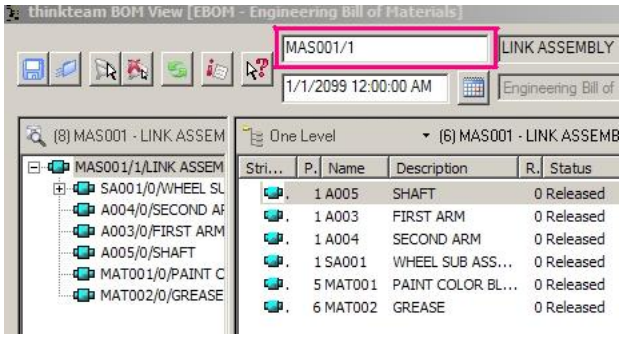
- Click Right Mouse Button on Link Assembly in left most frame and select Life Cycle - New Revision.



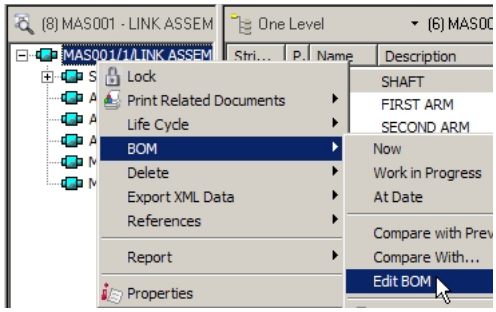
The Part Properties dialog comes up and you can verify the new version of the assembly in the Workflow tab.



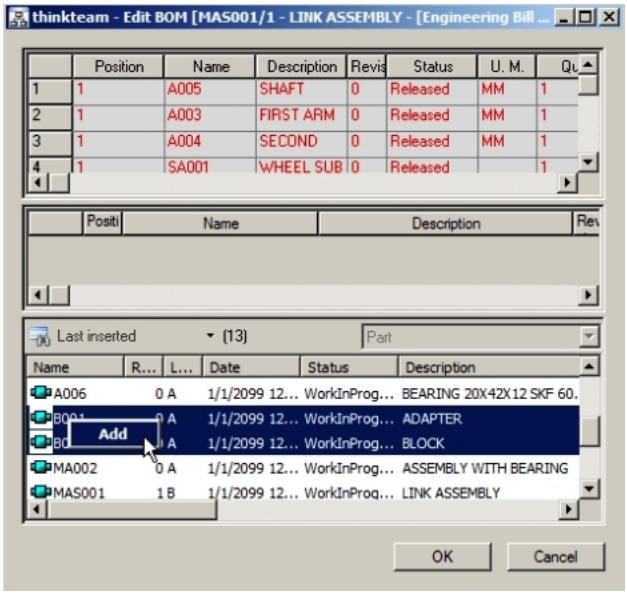
- Click OK.
- Change the Revision of the assembly to 1 in the top combo box of the BOM View dialog.



Right click mouse button on Link Assembly and select BOM> Edit BOM



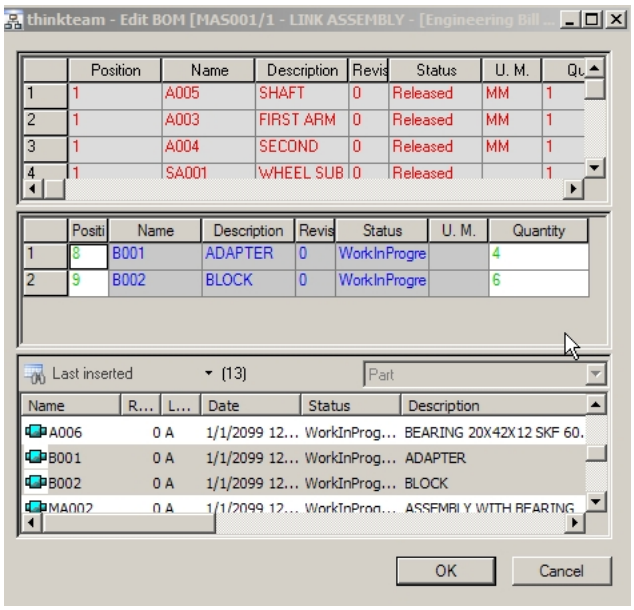
- In the Edit BOM dialog that comes up, scroll and select the new Part that was added, B001. Right click on it and say Add.



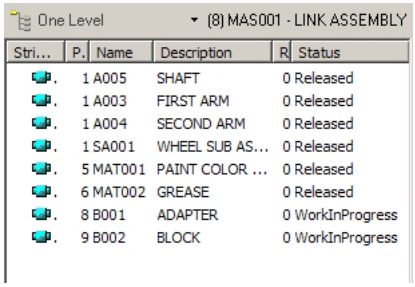
The Part information shows up in the top frame of the dialog.

Similarly add the second Part B002. You can edit the Position and Quantity values in this frame.

- Set Position for Adapter as 8 and Quantity 4 numbers.
- Similarly Position 9 for Block and Quantity 6.

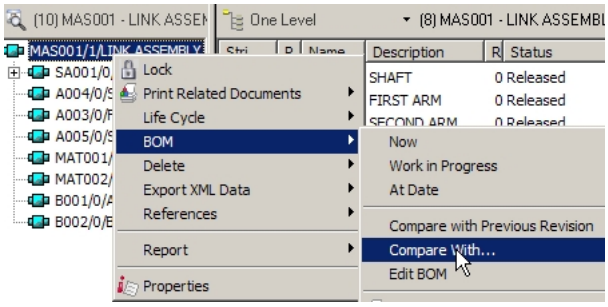


- When you click OK in this dialog, the two Parts show up in the BOM list in the central frame of the BOM View.



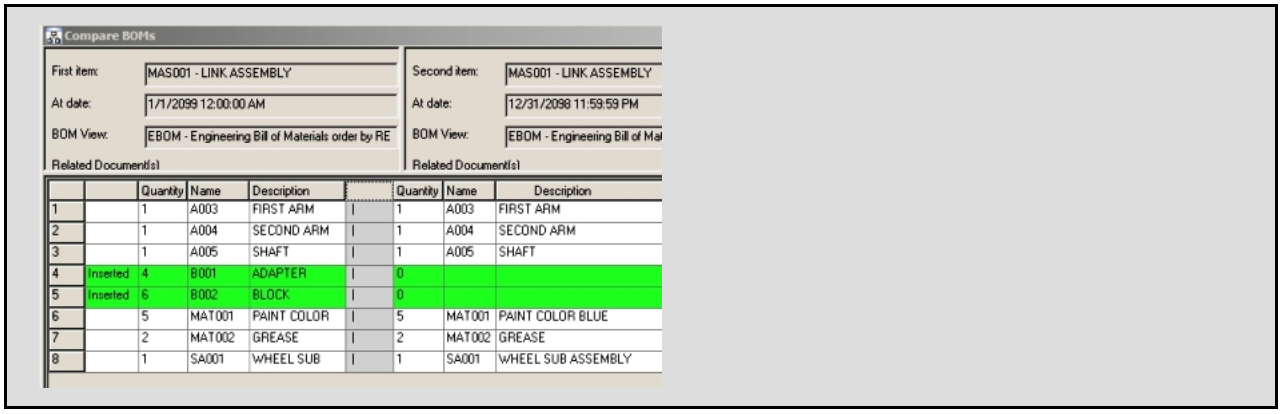
Fine, you now have the two BOM's ready. Let's compare them and check the differences.

- Right Click on Link Assembly and select BOM>Compare With.



Note:

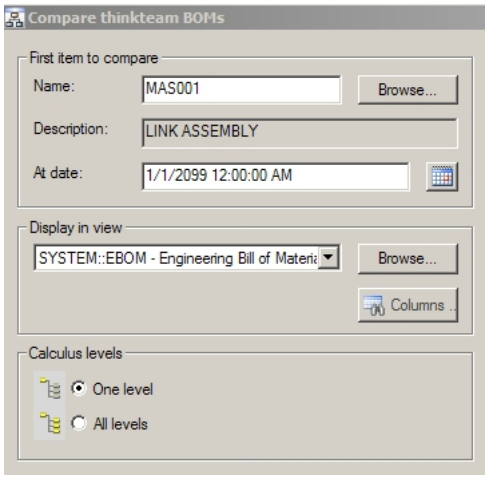
You can also use the Compare With Previous Version option as the name suggests. The image below shows the BOM comparision with the previous Vresion.



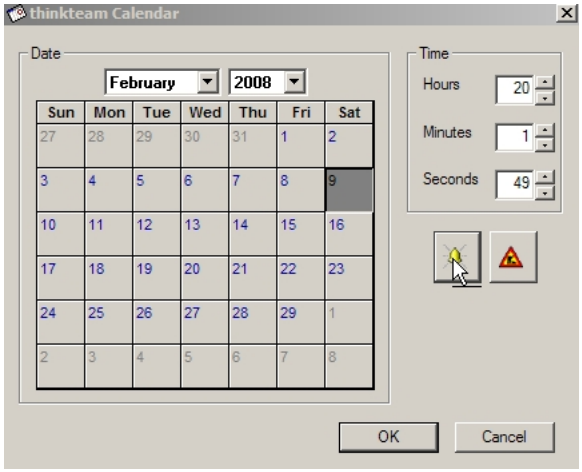
		Quantity	Name	Description		Quantity	Name	Description
1		1	A003	FIRST ARM	I	1	A003	FIRST ARM
2		1	A004	SECOND ARM	I	1	A004	SECOND ARM
3		1	A005	SHAFT	I	1	A005	SHAFT
4	Inserted	4	B001	ADAPTER	I	0		
5	Inserted	6	B002	BLOCK	I	0		
6		5	MAT001	PAINT COLOR	I	5	MAT001	PAINT COLOR BLUE
7		2	MAT002	GREASE	I	2	MAT002	GREASE
8		1	SA001	WHEEL SUB	I	1	SA001	WHEEL SUB ASSEMBLY

The Compare thinkteam BOMs window comes up.

- For the First item to compare, make the settings as shown.

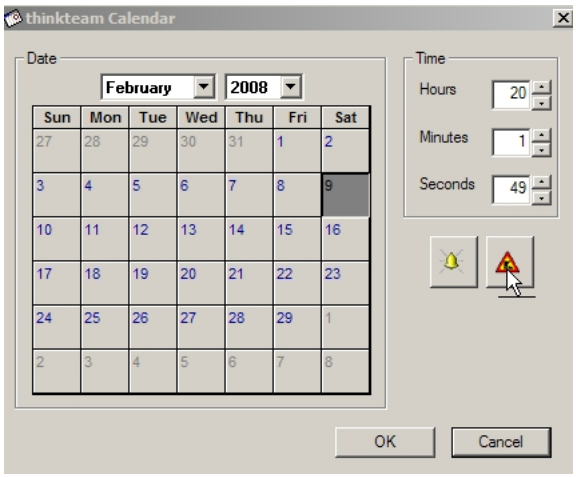


- Click the thinkteam calender button at the At date option and in the dialog that comes up, click Now as shown to set the current date and time.

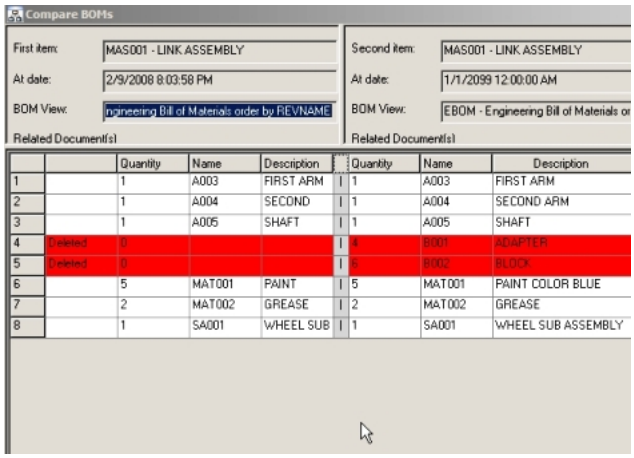


- Click OK to complete these settings.

Similarly keep default values for Second item to compare and set the date as shown with Work in progress option.

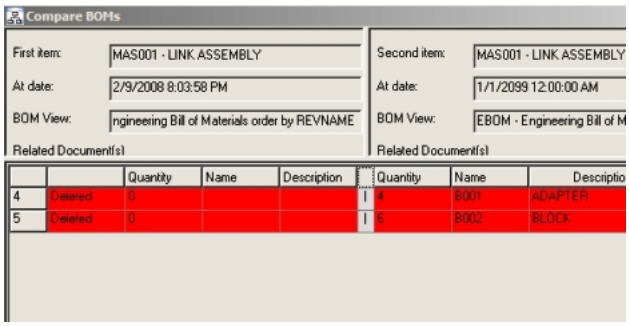


- On hitting OK, on the calender and Compare thinkteam BOMs dialogs, the Differences between thinkteam BOMs window shows up.



As you can see the differences of the Parts in the two BOMs is show in highlight along with the complete list of Parts that make up the two BOMs with their PArt numbers and other details.

- Clicking the Only difference(s) check box, you can see only the Parts that make up for the difference in the two BOMs.



You have now seen in this task the methods available to generate an Engineering Bill of Material using thinkteam.