

Module 9: Assembly Drawing with Bill of Materials

1. Open the A3 Template Drawing Border
2. Save as '**Housing Assembly xxx**'.
3. Insert the 3 Standard Views from the Housing Assembly Model File.
4. Add the Broken out sections indicated in Figure 1.

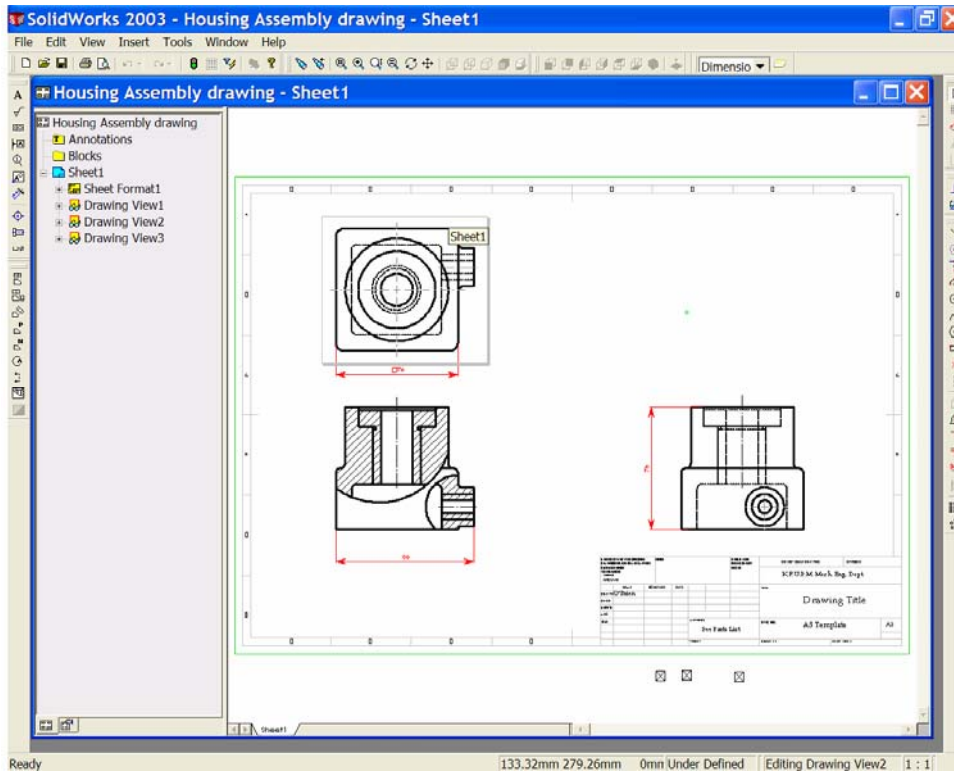



Figure 1

5. Create a layer and use the '**dimension tool**'  to add the dimensions shown above.
6. We must now edit the cross hatch pattern for the bushes. Place the cursor in the cross hatch area of the big bush, '**right click**' and select '**Properties**'. In the '**Area Hatch/Fill**' Properties box make the changes shown in Figure 2. Choose '**Apply**' to close the window.

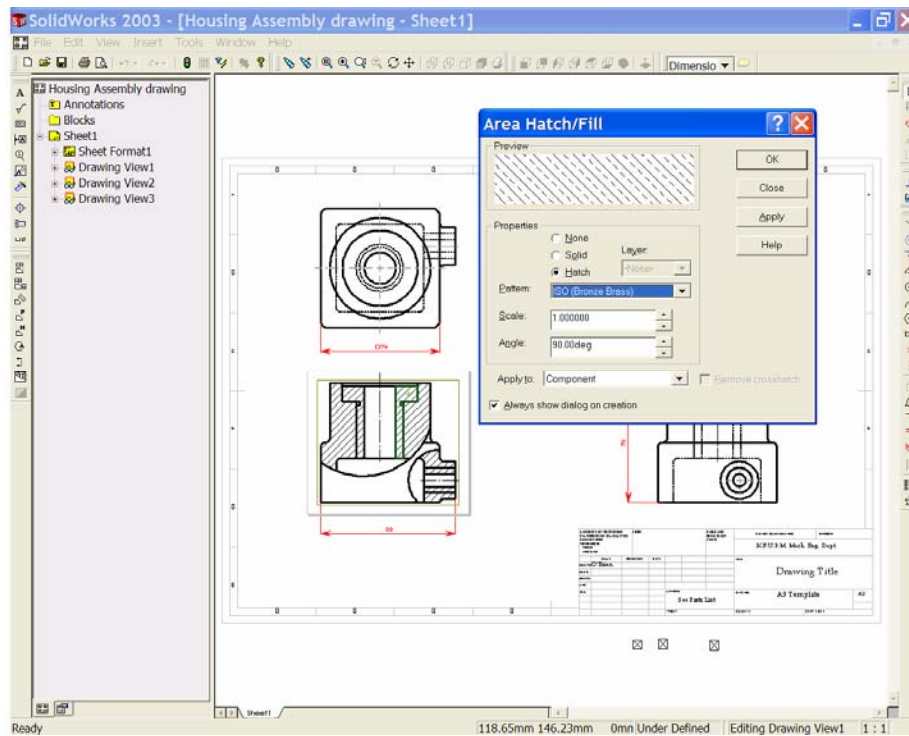




Figure 2

7. Repeat the above procedure for the small bush.
8. **Rebuild**  the drawing and **save**  !
9. We are now ready to build and insert the '**Bill of Materials**'. From the '**Tools**' dropdown menu navigate to '**Document Properties**' and '**Detailing**'. Make sure that '**Automatic Update of Bill of Materials**' checkbox is selected. See Figure 3.

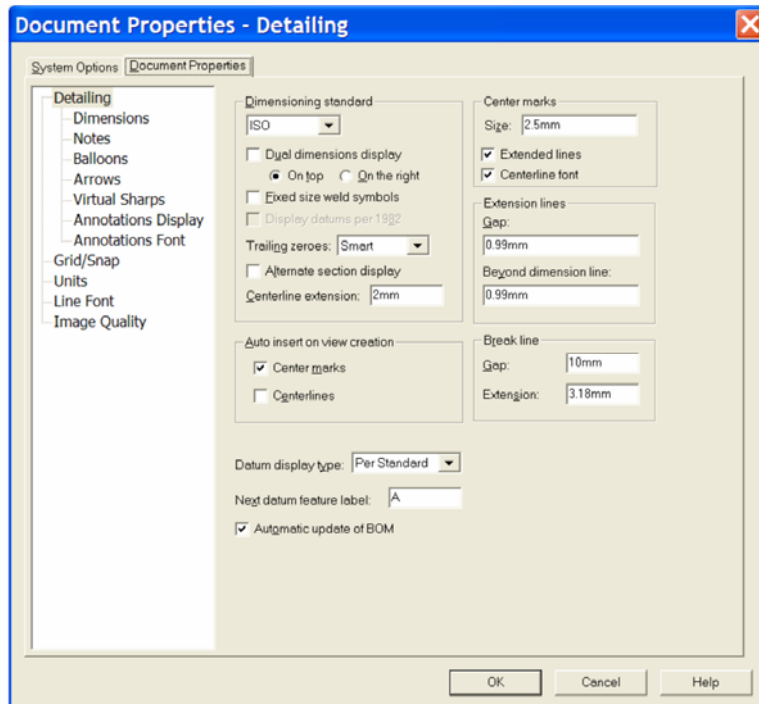


Figure 3

- Go to **'Balloons'**; in the **'Single Balloon'** area style window, select **'Circular Split line'**. In the **'Balloon Text'** area set **'Upper:'** to **'Item Number'** and **'Lower:'** to **'Quantity'**. In the **'Bent Leaders'** area check the **'Use Bent Leaders'** box. See Figure 4.

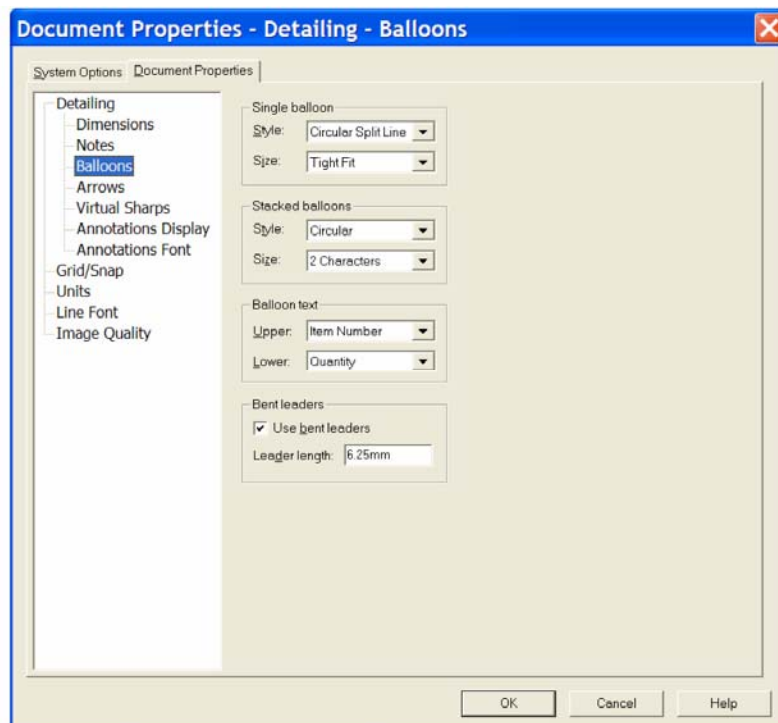


Figure 4

- Go to **'Annotations Display'** and make sure that **'Display all types'** is checked. See Figure 5.

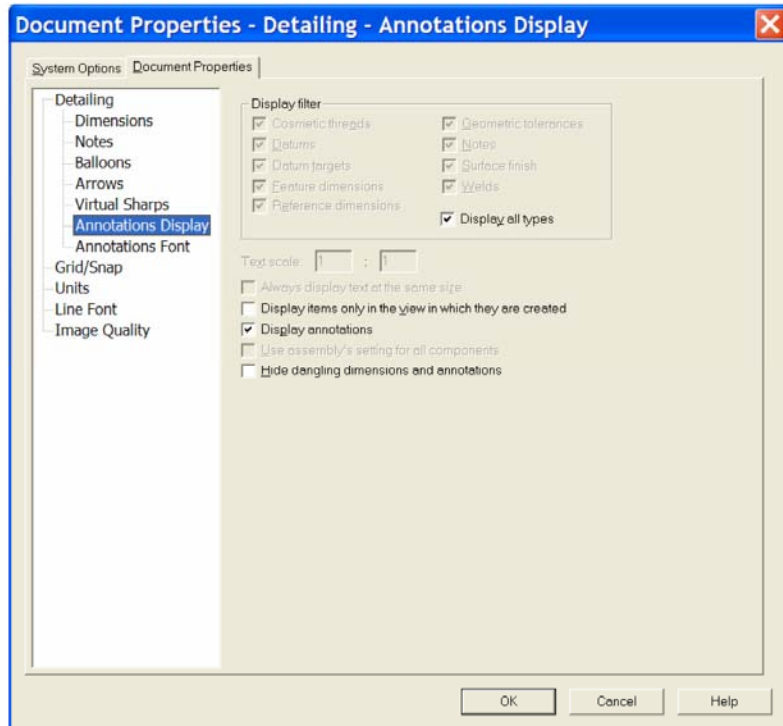



Figure 5

12. Left click **OK**  to close the 'Options' Dialog box.
13. Left click to select the 'Elevation', and from the 'Insert' drop down menu choose 'Bill of Materials'. See Figure 6.

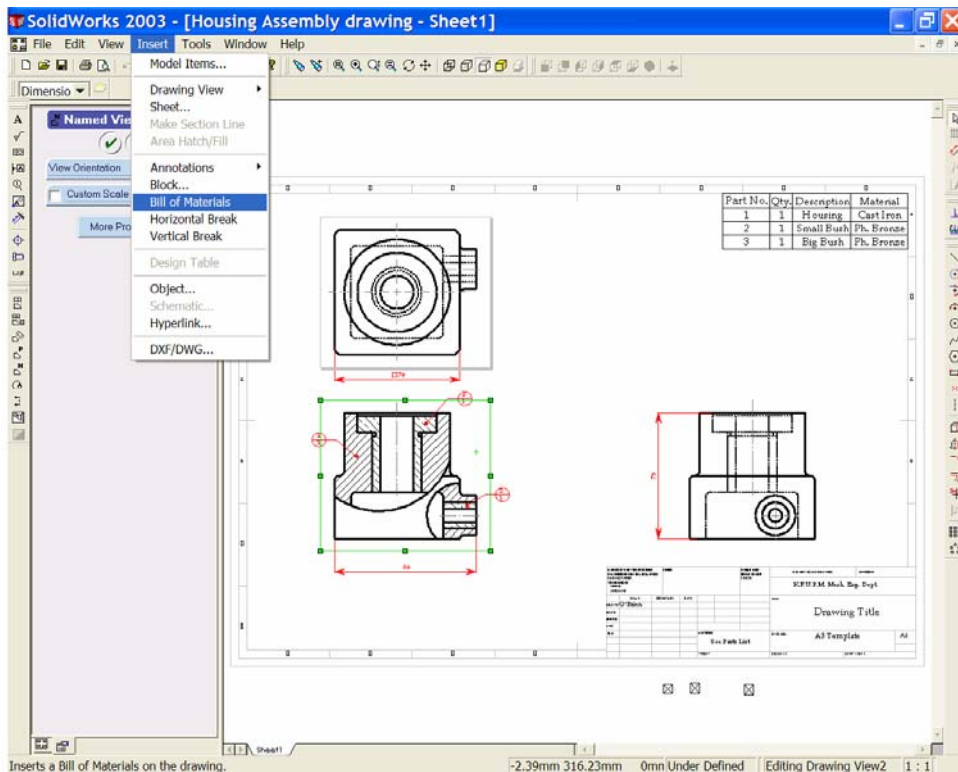


Figure 6

14. From the select 'Template Window' accept the default template, 'bomtemp.xls'. The 'Bill of Materials Properties Window' opens. See Figure 7.

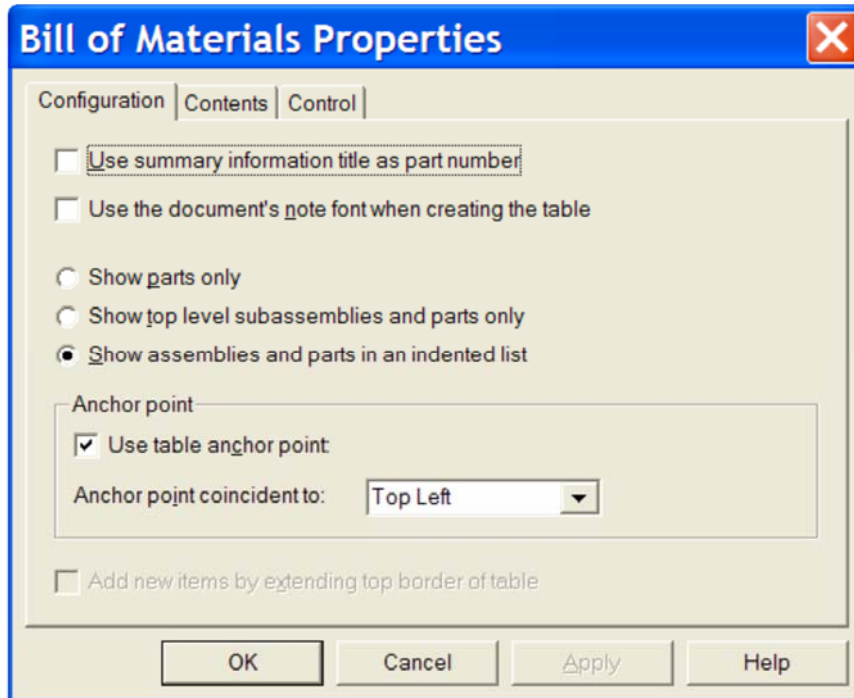


Figure 7

15. Make sure that the following settings are in place:

- Clear the 'Use documents note font when creating the table'.
- Choose 'Show assemblies and parts in an indented list'.
- In the Anchor point area check 'Use table anchor point'.
- Set Anchor point coincident to 'Top Left'.

Now click **OK** to compile and display the 'Bill of Materials'.

16. Right click in the 'Bill of Materials' and select 'Anchor, Top Right'. See Figure 8.

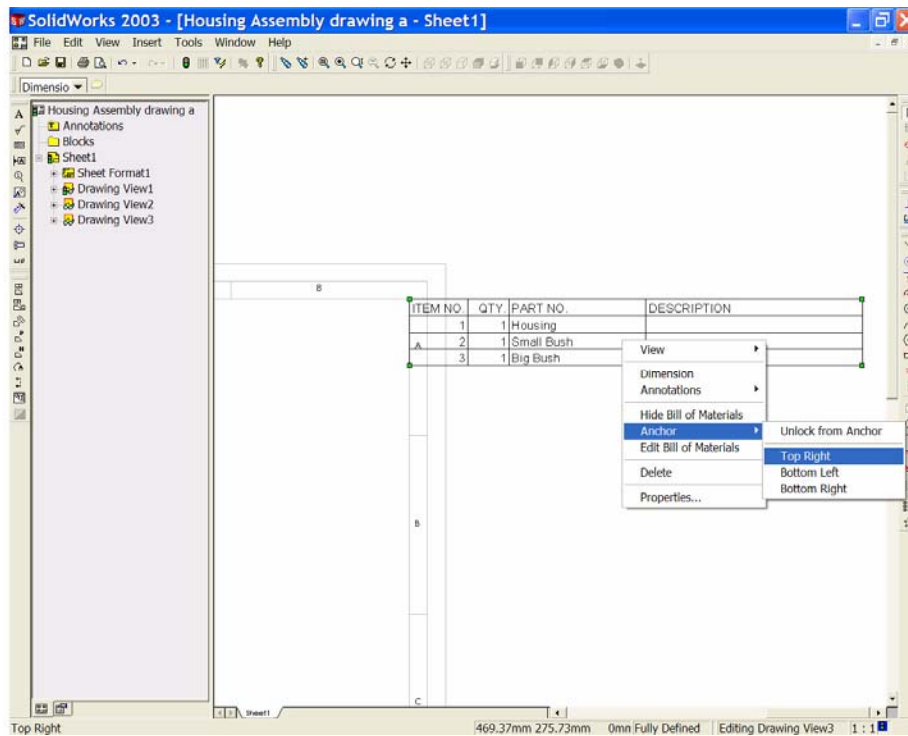



Figure 8

Notice that the 'Bill of Materials' is attached to the drawing border at the Top Right corner. By changing the 'Bill of Materials' anchor point to Top Right these two corners will be coincident.

- Use the 'Zoom to Area' tool  and zoom to enlarge the Bill of Materials. Right click in the bill of materials and choose 'Edit Bill of Materials'. When the Bill of materials is active, it is displayed with a shaded border, with row and column headers and the **Excel** toolbars replace the **SolidWorks** toolbars. See Figures 9 & 10.

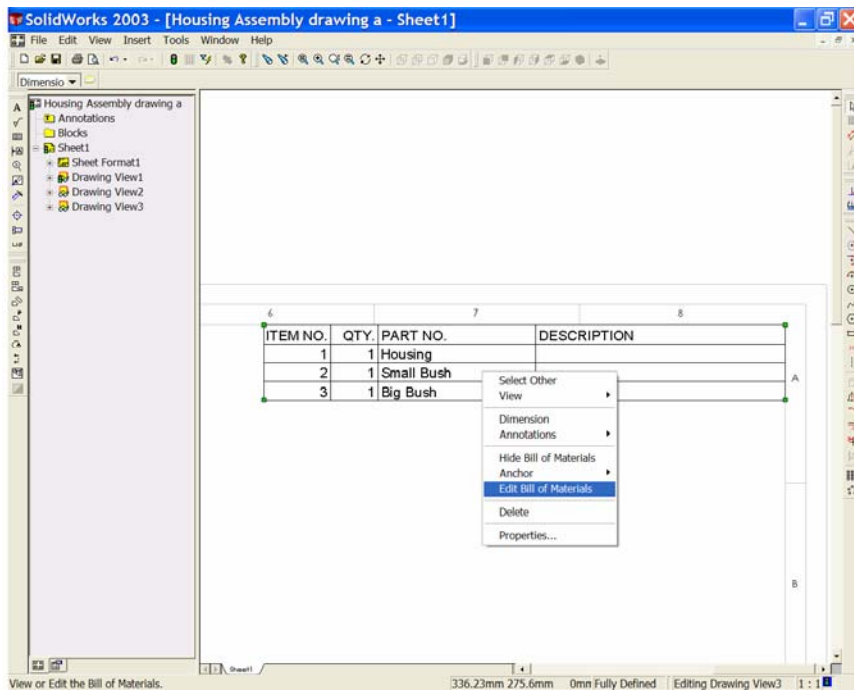


Figure 9

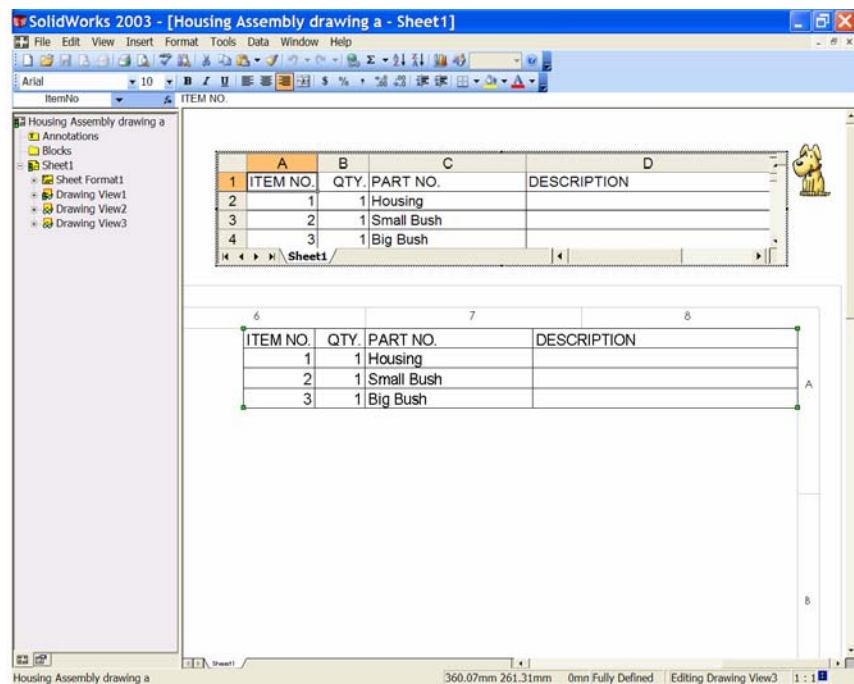


Figure 10

18. We wish to edit the contents.

- In cell **A1** delete 'Item No.' and replace it with 'Part No.'
- In cell **C1** delete 'Part No.' and replace it with 'Description'.
- In cell **D1** delete 'Description' and replace it with 'Material'.
- In cell **D2** enter 'Cast Iron'.
- In cells **D3&D4** enter 'Ph. Bronze'.

See Figure 11.

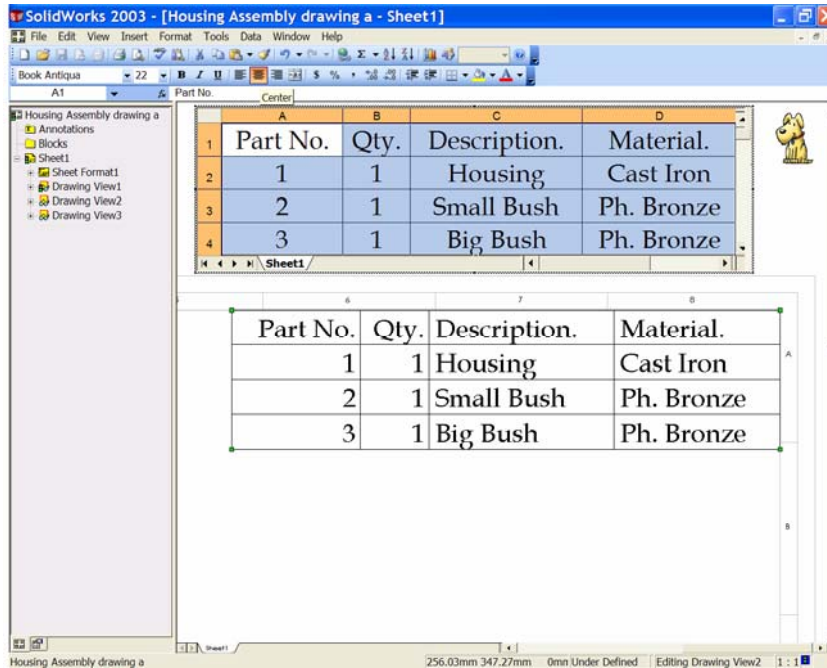


Figure 11

19. We may also change the font, re-size the text and so on. Select **'Book Antiqua'** with a font size of **'22'**. From **'Format'** select **'Row'** and **'AutoFit'**. Then select **'Column'** and **'AutoFit Selection'**.
20. Left click outside the **'Bill of Materials'** to close **Excell** and return to **SolidWorks**, with the updated data. See Figure 12.

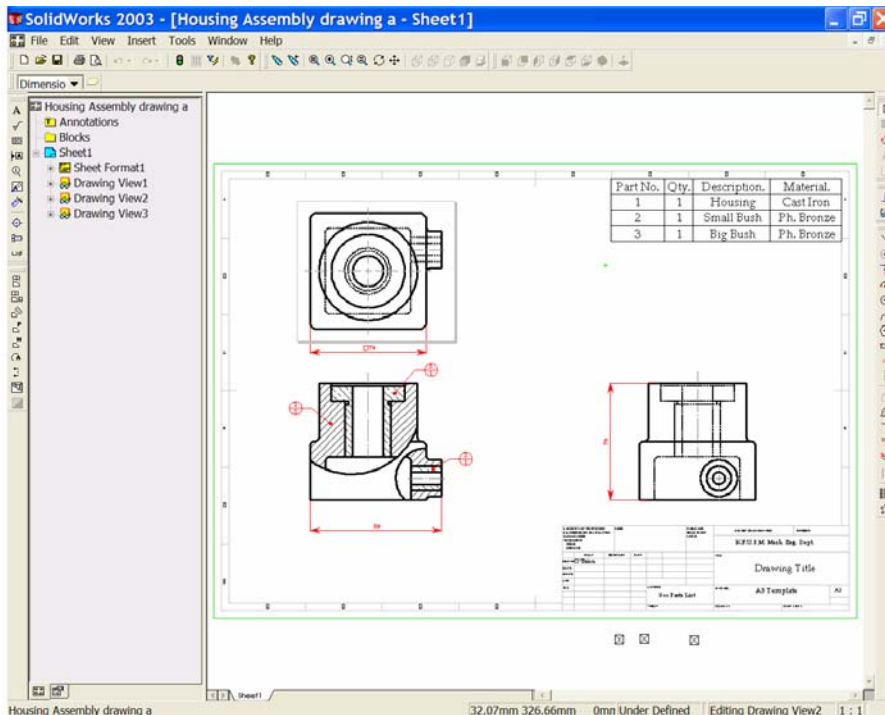


Figure 12

Save your work!

21. We now add 'Balloon References' to the drawing; click 'Balloon' on the 'Annotations Toolbar'. The 'Balloon Property Manager' opens. See Figure 13.

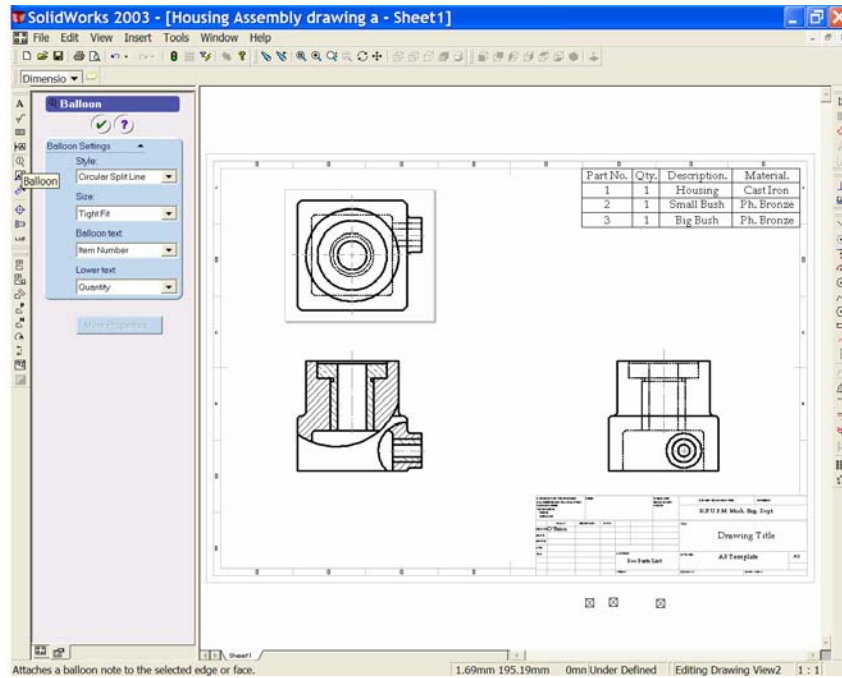



Figure 13

22. Left click a component in the drawing view.

A balloon attaches itself to the part. The numbers correspond to the part number and the quantity listed in the Bill of Materials.

Add Balloons to the other two parts then click **OK** . To move the balloon or its leader arrow, select and drag by the green handles. See Figure 14.

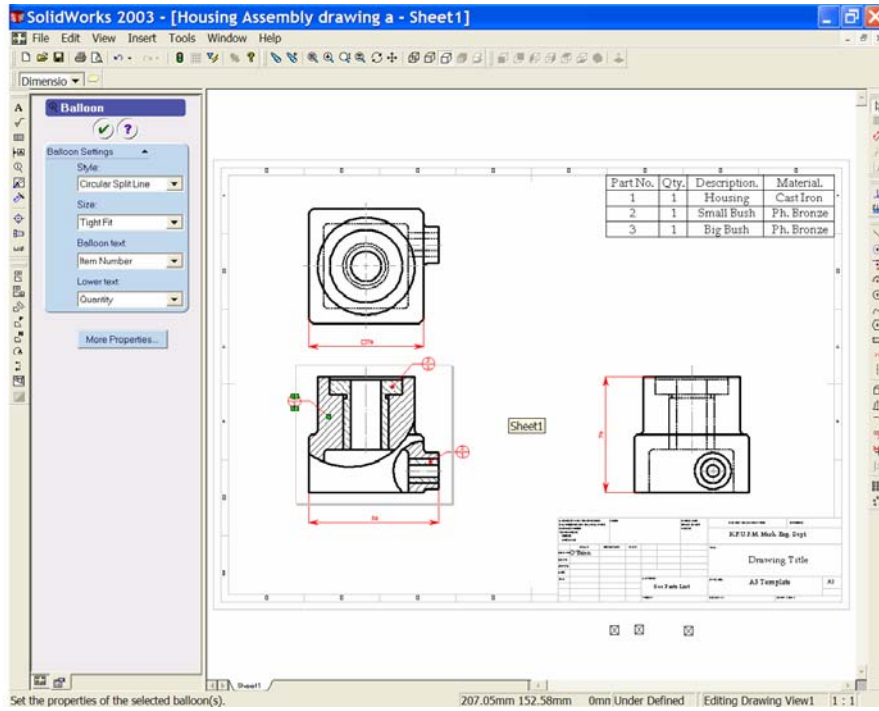


Figure 14