

Exercise - Using iMates

In this exercise, iMates are created on three components, then placed into a new assembly. The iMates are then used to constrain the components.

Note: Normally the **Fan** would be mounted on the inside of the **Base**, and the **Grill** on the outside. For this exercise they will both be mounted on the outside.



- 1 **Expand** the folder called **Section 3-5** and **Open** the part file called **3-5 PC-Base Ex.ipt**, then from the **Application Menu**, select **Save As** and enter: **PC-Metal-Base.ipt** as the **File name**: to preserve the original file (replace if necessary). After saving, **close** down the part file.

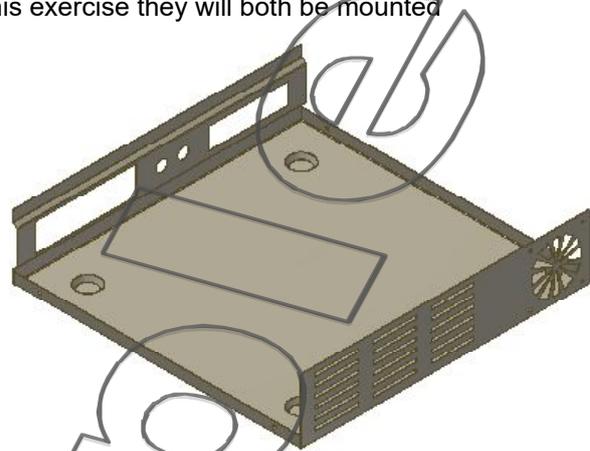


Figure 01 PC-Metal-Base.ipt



- 2 **Open** the part file called **3-5 PC-Fan Ex.ipt**, then from the **Application Menu**, select **Save As** and enter **PC-Case-Fan.ipt** as the **File name**: to preserve the original file (replace if necessary). After saving, **close** down the part file.



Figure 02 PC-Case-Fan.ipt



- 3 **Open** the part file called **3-5 PC-FanGrill Ex.ipt**, then from the **Application Menu**, select **Save As** and enter **PC-Case-FanGrill** as the **File name**: to preserve the original file (replace if necessary). Ensure the **PC-Case-FanGrill.ipt** is current.

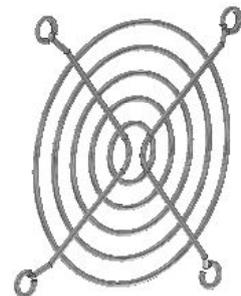


Figure 03
PC-Case-FanGrill.ipt



- 4 On the **Manage** tab > **Author** panel, click the **Create iMate** tool to display its dialog box.

For **Type**, click on the **Insert** constraint button and for **Selections**, select the **centre** of the upper right-hand **locating ring**, then click the **Apply** button.

Grill-Fan Mounting

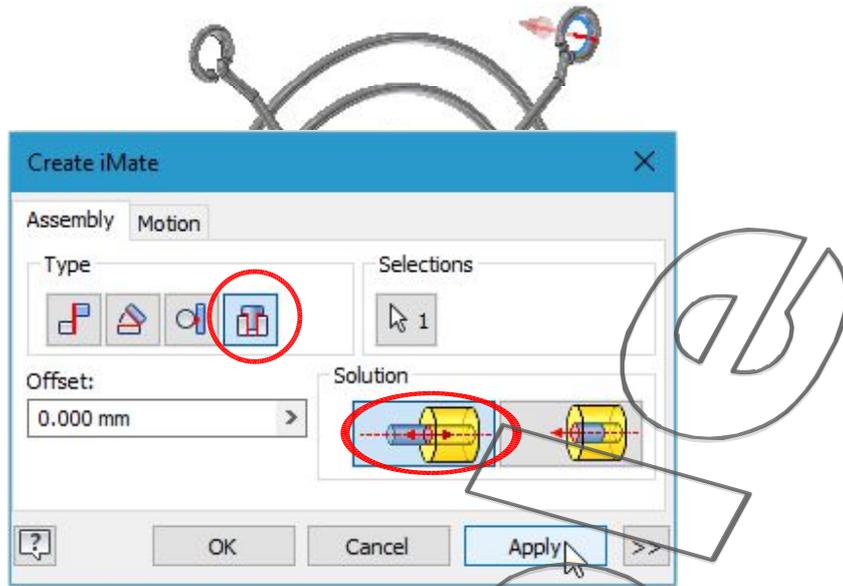


Figure 04 Create iMate (Insert) - Assembly Tab

- 5 Now for **Type**, click on the **Mate** constraint button and for **Selections**, select the **center point** of the upper left-hand **locating ring**, then click **OK**.



Figure 05 Create iMate (Mate) - Assembly Tab

- On the **Model** panel browser, expand the **iMates** folder (located under **PC-Case-FanGrill**) and select both **iInsert:1** and **iMate:1** then right-click on one of them and from the pop-up shortcut menu, select **Create Composite**.

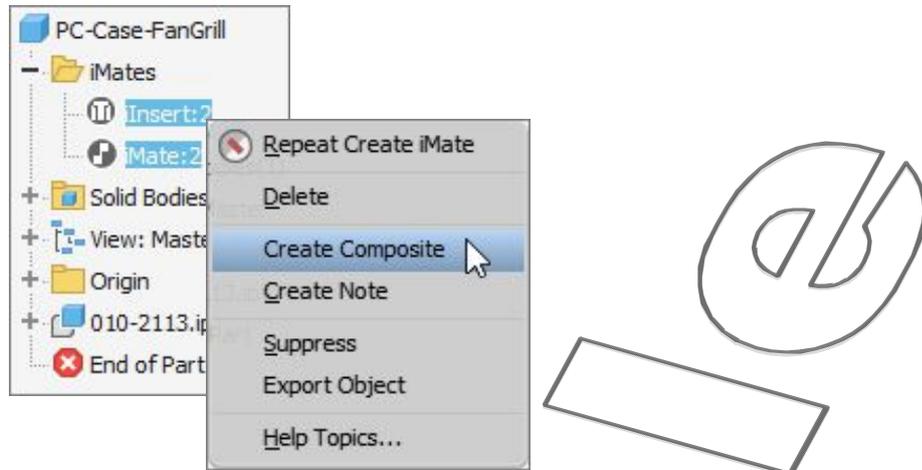


Figure 06 Create Composite

- On the **Model** panel browser, right-click on **iComposite:1** and from the pop-up shortcut menu, select **Properties** to display the **iMate Properties** dialog box.

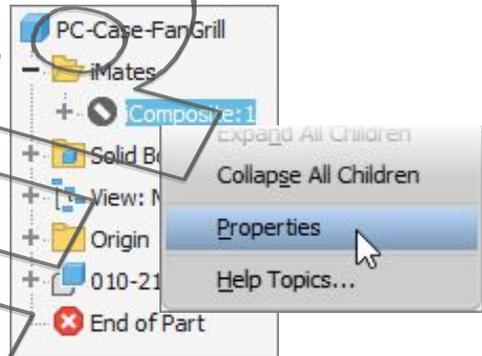


Figure 07 Properties

- In the **Name** field, enter **GrillMounting** and under Index ensure **1** is displayed, then click the **OK** button.

Note: It can also be renamed by double-clicking on the **Name** in the **Model** panel browser.

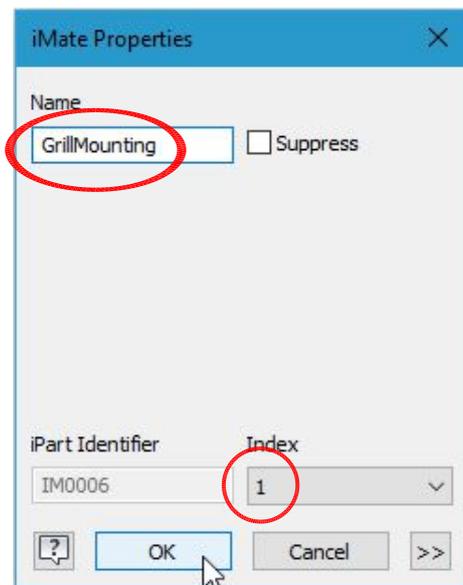


Figure 08 iMate Properties



- Save** the part under its default name of **PC-Case-FanGrill.ipt**, then **close** the file down.



- 10 **Open** the part file called **PC-Case-Fan.ipt**, then on the **Manage** tab > **Author** panel, click the **Create iMate** tool to display the dialog box.

For **Type**, click on the **Insert** constraint button and for **Selections**, select the **edge** of the upper right-hand **hole**, then click the **Apply** button.

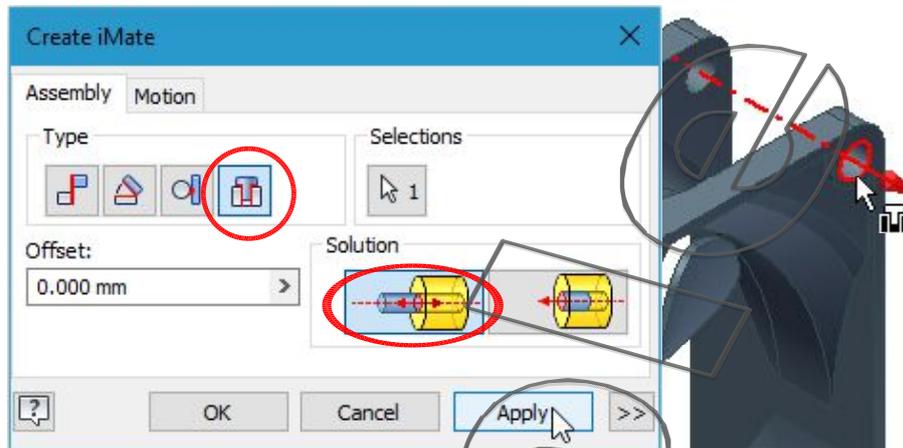


Figure 09 Create iMate (Insert) - Assembly Tab

- 11 Now for **Type**, click on the **Mate** constraint button and for **Selections**, select the **center point** of the upper left-hand **locating ring**, then click **OK**.

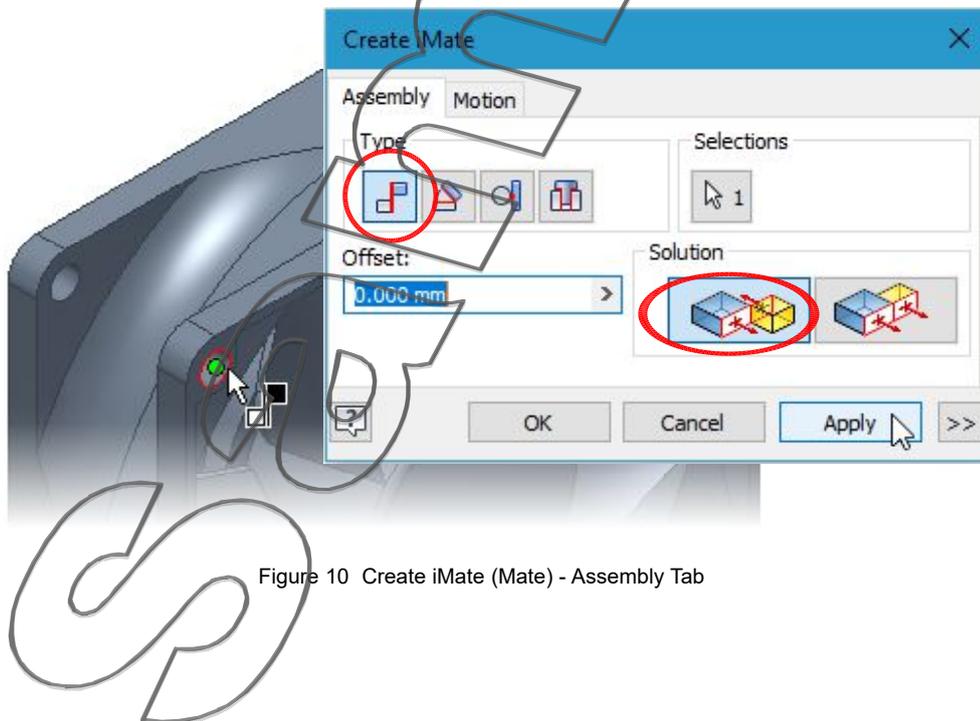


Figure 10 Create iMate (Mate) - Assembly Tab

- 12 On the **Model** panel browser, expand the **iMates** folder (located at the top under **PC-Case-Fan**) and select both **iInsert:1** and **iMate:1** then right-click on one of them and from the pop-up shortcut menu, select **Create Composite**.

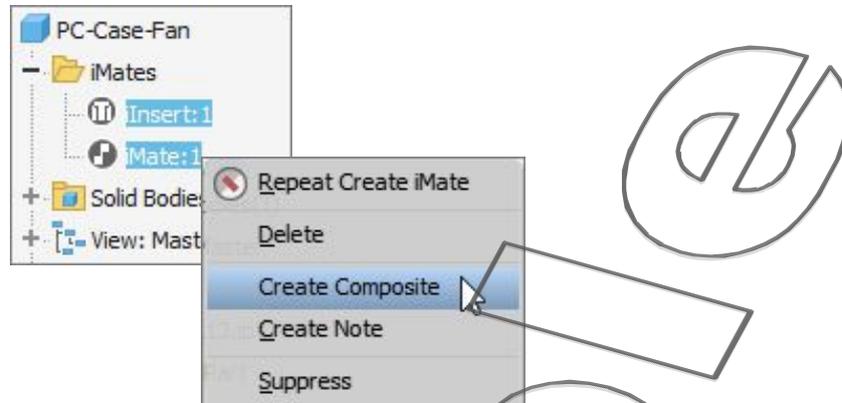


Figure 11 Create Composite

- 13 On the **Model** panel browser, right-click on **iComposite:1** and from the pop-up shortcut menu, select **Properties** to display the **iMate Properties** dialog box.

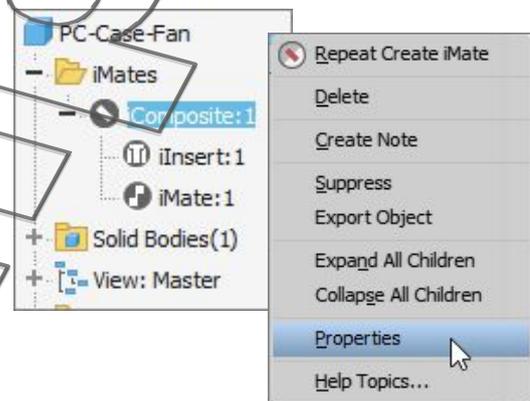


Figure 12 Properties

- 14 In the **Name** field, enter **GrillMounting** and under Index ensure **1** is displayed, then click the **OK** button.

Note: It can also be renamed by double-clicking on the **Name** in the **Model** panel browser.

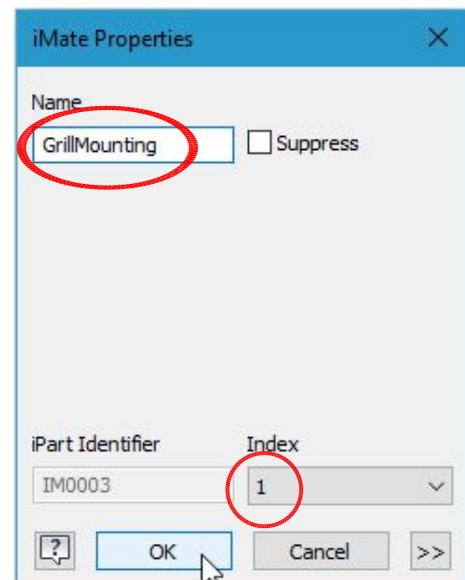


Figure 13 iMate Properties



- 15 **Save** the part under its default name of **PC-Case-Fan.ipt**.