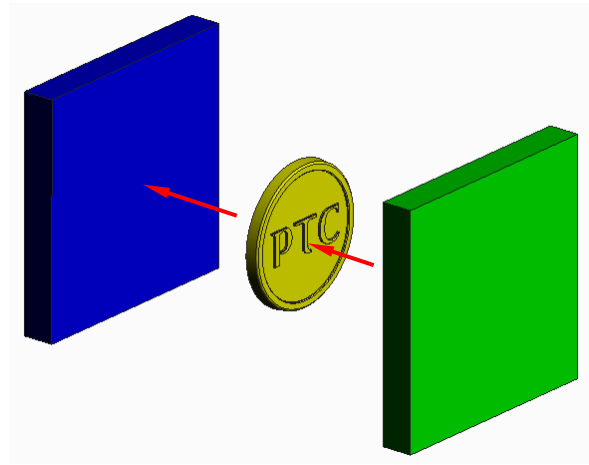
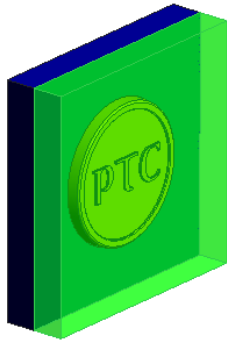


Creating a mould cavity

The starting point for this exercise is an assembly with intersecting objects.

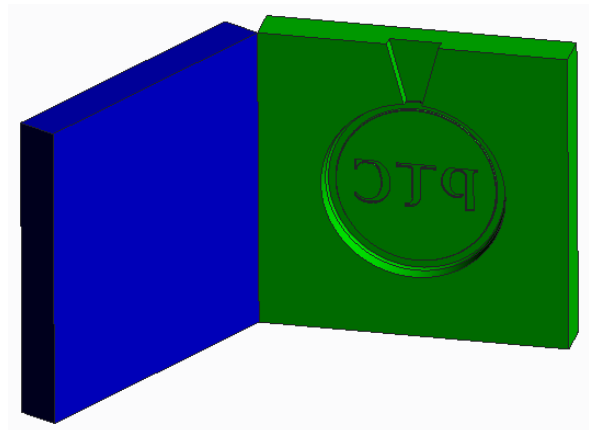
Two rectangular blocks are assembled with a 'PTC medal' intersecting with the green block.



The medal will be subtracted from the green block using what is often referred to as a 'Boolean operation'.

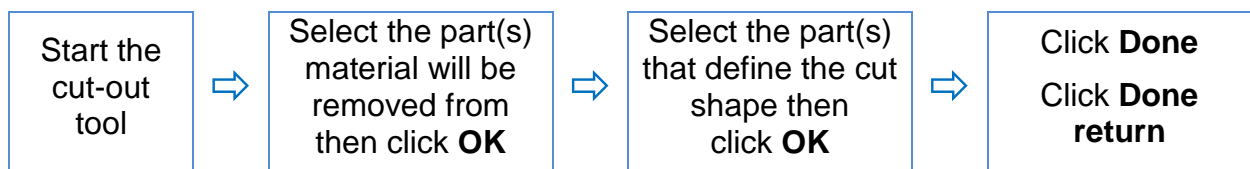
The result is a cavity or mould.

Creating a runner/riser completes the process.



The tool in PTC Creo for 3D Boolean operations is called **Component Operations** and is located in the Component drop-down menu.

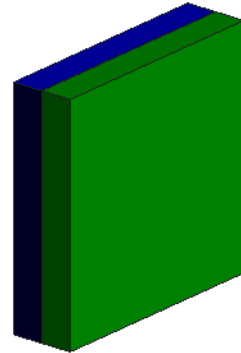
The procedure has four steps;



Step by step

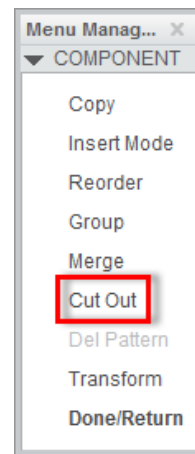
Assembly PTC_COIN_MOULD.ASM should be open in PTC Creo,

1. In the Model ribbon, Component group, select **Component Operations**.
2. In the Menu Manager, select **Cut Out**.

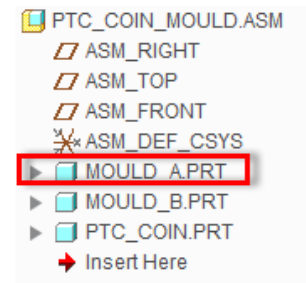
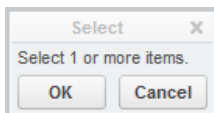


3. In Menu Manager, select **Cut-out**.

The message line at the bottom of the screen will prompt you to **Select parts to perform the CUT OUT process to**.

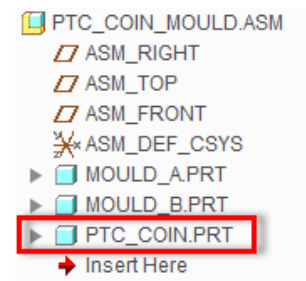
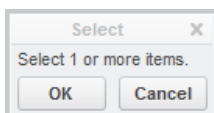


4. In the model tree, select **MOULD_A.PRT**.
5. In the Select dialog click **OK**.



The message line at the bottom of the screen will now prompt you to **Select reference parts for CUT OUT process**.

6. In the model tree select **PTC_COIN.PRT**.
7. In the Select dialog click **OK**.

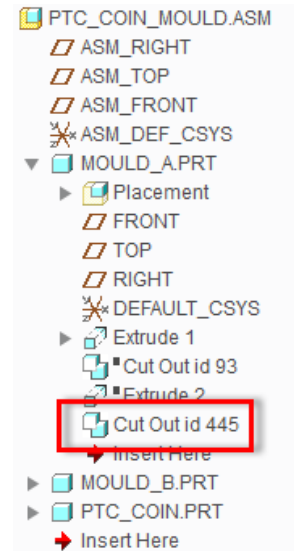


8. In Menu Manager select **Done** then select **Done Return**. To complete the process.

The cut out feature is saved in the part(s) material was removed from.

In this case the MOULD_A.PRT.

9. **Hide** the coin/medal and **explode** the assembly to see the cavity that has been created.



Create a runner/riser for the molten metal and the Creo models are finished.

Low temperature alloys are available that can be cast into wooden or MDF moulds.

Designing small jewellery items and medals cast from pewter is a popular school project.



Desktop furnaces make the process of casting as clean and safe as possible.

