**Creating a block model (Machine vice Base)**

Creating a block

1. Create new blank workspace using standard mm ipt.

Graphical user interface, text, application

Description automatically generated

1. Start new 2d sketch.

A screenshot of a computer

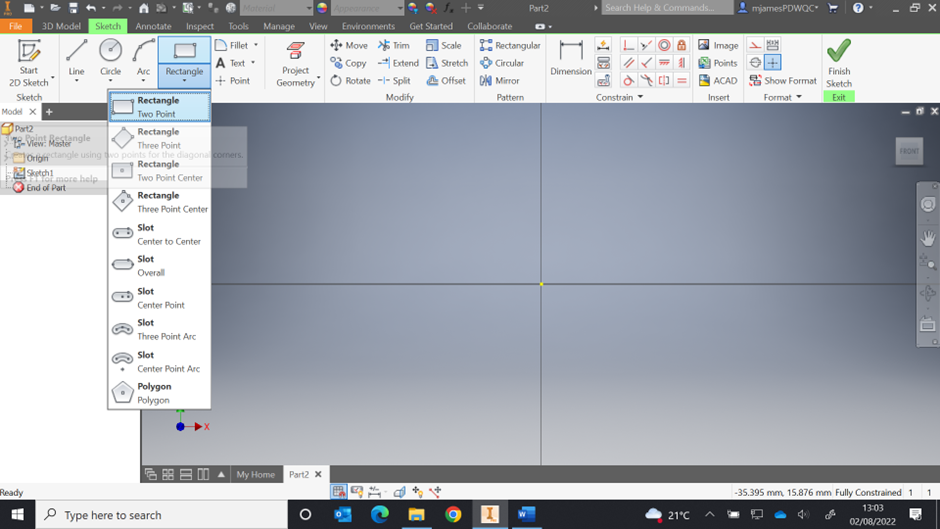
Description automatically generated

1. Select X-Y plane.

A screenshot of a computer

Description automatically generated with medium confidence

1. Select 2 point rectangular tool and create rectangle from centre point (type in dimensions) X first(enter dimension value) > TAB >Y second( enter dimension value) > enter.



1. Finish sketch.

Graphical user interface, application, Word

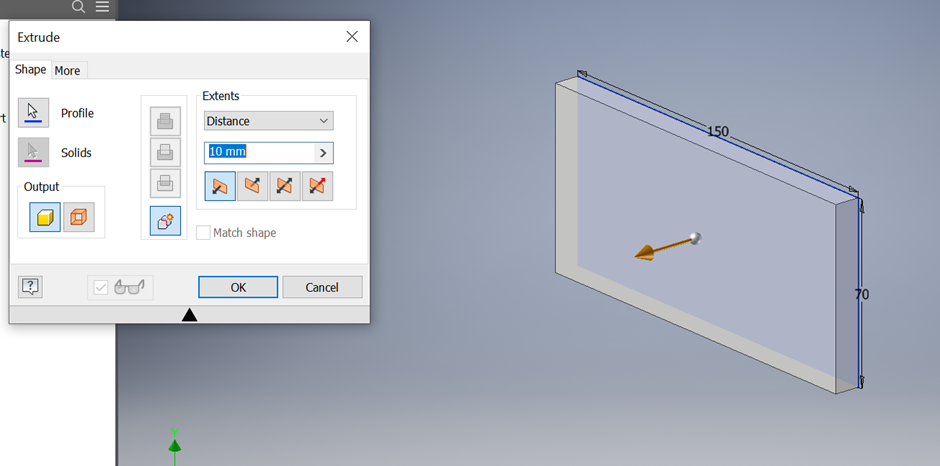
Description automatically generated

1. Select extrude tool.

Graphical user interface, application, Word

Description automatically generated

1. Extrude rectangle 10mm in forward direction.



Creating holes in a block

1. Start new 2d sketch on front face of rectangle.

Graphical user interface, application

Description automatically generated

1. Select point tool.

Graphical user interface, application, Word

Description automatically generated

1. Select 2 points on the block, right click, press ok.

A picture containing application

Description automatically generated

1. Select dimension tool.

Graphical user interface, application

Description automatically generated

1. Position points using dimension tool to correct positions as marked on drawing provided for 2 M6 threaded holes.

A picture containing diagram

Description automatically generated

1. Finish sketch.
2. Select hole tool.

Graphical user interface, application

Description automatically generated

1. Change features on hole tool to:

* Type – Tapped hole.
* Seat – None.
* Threads:
  + Type – ISO metric profile.
  + Size – 6mm.
  + Pitch – M6x1mm
* Size:
  + Termination – Through all.
* Click ok.

Graphical user interface, application

Description automatically generated

1. Create new 2d sketch for matching size holes and repeat above steps with appropriate types and sizes ect.

Graphical user interface

Description automatically generated

1. Create new 2d sketch on back side of plate.
2. Place 2 points.
3. Dimension into correct position.Chart, box and whisker chart

   Description automatically generated
4. Select hole tool and change parameters to:

* Type – simple hole.
* Seat – Counterbore.
* Termination through.
* Counterbore dimensions:
  + Head Ø = 10mm
  + Head depth = 5.1mm
  + Hole size = 5.5mm

Diagram

Description automatically generated

Creating slot in base and chamfered corners

1. Create 2d sketch on front face.

A picture containing text

Description automatically generated

1. Select rectangle tool and draw rectangular shape inside block, left click to form shape and then right click and press ok.

Text

Description automatically generated

1. Use dimensions tool to position and size.
2. Finish sketch.
3. Select extrude tool.
4. Select rectangular shape as profile.
5. Select cut away feature and set depth to 4mm.

Graphical user interface, application, Word

Description automatically generated

1. Select chamfer tool.

Graphical user interface, application

Description automatically generated

1. Set distance to 5mm.

Graphical user interface, application, Word

Description automatically generated

1. Select corners to be chamfered.

A picture containing diagram

Description automatically generated

1. Click apply.

Creating stepped slot

1. Create new 2d sketch on front side of block.
2. Select rectangle tool.
3. Draw required rectangle shape inside block.

Graphical user interface, application

Description automatically generated

1. Dimension and position hole with dimension tool.

Chart

Description automatically generated

1. Finish sketch.
2. Extrude to full depth of block using cut feature.

Graphical user interface, application

Description automatically generated

1. Select 2d sketch on back face.
2. Draw new rectangle as per dimensions around existing cutout and dimension as appropriate.

Graphical user interface, application

Description automatically generated

1. Finish sketch.
2. Extrude hole back using cut feature.

Graphical user interface, application, PowerPoint

Description automatically generated

1. Select fillet tool.

Graphical user interface

Description automatically generated

1. Set radius to 3mm and select edges to be filleted and click apply.

Graphical user interface, application

Description automatically generated

Graphical user interface

Description automatically generated with medium confidence

1. Save file to correct file location under MV001.