

GEELONG TECH SCHOOL

STUDENT WORKBOOK

3D DESIGN

MODULE 4 – ENGINEERING DRAWINGS



STUDENT NAME:

SCHOOL:

MODULE 4 – ENGINEERING DRAWING

INVESTIGATION: ENGINEERING DRAWINGS ARE VITAL FOR MANUFACTURING OF PARTS



Often designers don't have the machinery available to be able to manufacture their own parts, so designs must be sent to external companies or people who can interpret the drawings and create the parts. It is therefore extremely important to have all of the correct dimensions and manufacturing instructions on technical drawings. Imagine building IKEA furniture without the instruction manual!

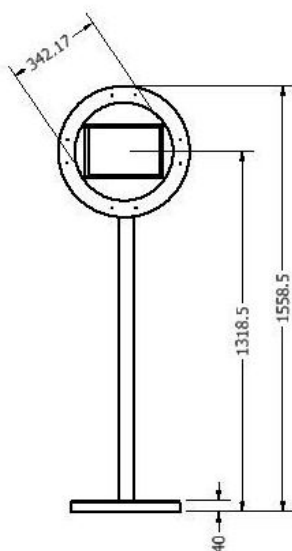
[Navigate to the resources folder → 4. Engineering Drawing → 3. Part Files and create a fully dimensioned engineering drawing for the part titled "3A.f3d".](#)

Watch the two short videos [Part 1](#) and [Part 2](#) to learn about third angle and first angle projections in engineering drawings.

BEST PRACTICES: STICK TO THESE DO'S AND DON'TS FOR CONSISTENT DRAWING

DO:

- Remember to keep your dimensions neat and to place them outside the shape of the part in blank space.
- Add more projected views if your part is complex and aspects can't be seen from the existing views.
- Ask your teacher if they want to use first angle or third angle projection. The Australian drawing standard AS1100 dictates the use of third angle, but your teacher may have other preferences.
- Add enough dimensions so that size and shape of every section can be determined. Ask yourself – if someone gave you this drawing, would you have enough information to create the part?
- Incorporate the use of baseline dimensioning by referencing several dimensions to one point or line on your part. Notice how the three dimensions on the right of the example below all start at the bottom of the part.



DON'T:

- Add more projected views than you need. Ask yourself – does an extra projected view add valuable information to the drawing?
- Over Dimension – does this measurement exist elsewhere in the drawing?
- Stress too much. Technical drawings can be difficult and even engineers sometimes get them wrong. Technical drawings are essentially about communication between you (the designer) and the customer or person who is manufacturing the part. Be sure to check with your teacher about what each drawing requires if they are being used as assessments.

Click [here](#) to watch a video tutorial and follow along on your own device. Feel free to pause and rewind if you need to see a step again.



Paste a screenshot of your completed engineering drawing below.



Q1. What could happen if you sent drawings to be manufactured with missing or incorrect information?



Go online and find some sources to help you answer the following questions

Q2. What is a datum point on an engineering drawing?



Q3. Why is it important to consider datum points when developing engineering drawings?





Click [here](#) and complete the quiz (using Google Chrome, Firefox or Safari) to cement your knowledge. Paste a screenshot of your results in the section below, after you have completed the quiz.

