

Procedure

Each Student is issued with a technical drawing, a solid steel cylinder block approximately 100mm in length and 45mm in diameter, a lathe to work on and tools to ~~attach~~^{attach} to it.

The cylinder block is positioned in the chuck so that there is plenty of material within the ~~chuck~~ chuck, and only a small amount projecting out from it. This means that ~~the~~ when operating the lathe, the cylinder is spun safely and ~~more~~ accurately without lateral movement when cutting tools are used. ~~It~~ This means very accurate measurements can be ~~seen~~ achieved. The chuck is tightened with the chuck key, and the guard is pulled down.

The lathe and the cutting tool is then used to cut away a small amount of material on the face shown out of the chuck. This produces a ~~smooth~~ smooth level surface on the face of the cylinder. The cylinder is removed from the chuck and put back in with the other face showing. The previous steps are repeated.

The cylinder block is then removed from the lathe and taken to a digimatic height gauge. The length of the cylinder was recorded to be 113.80mm. The faces were smoothed to remove any material to give a more accurate value.

Looking at the ~~technical~~ technical drawing, see figure 1 on word document, the length of the desired product is 105mm. So, the block is positioned safely back in the lathe, and cutting tools are ~~is~~ used to produce the required length. Using the computer measurements on the lathe,