

Introduction

As part of this assignment I am required to write a technical report on the workshop sessions taken part in on the 18th of October. The reason of the technical report is to have a step by step guide of how we used the machines in the workshop and show a complete understanding of the safety of the machines. It will also show that I understand all the required PPE for the specific session and an understanding of why that piece of PPE was necessary. This report will also be very helpful to look back on in the future if I was to go back into the workshop and use either the mill or the lathe again reading this would help me do things such as setting up the machine and remind you of how the machine works.

Background research

Workshop legislation

The Provision and Use of Work Equipment Regulations 1998 (PUWER) apply to all work equipment. They require that appropriate work equipment is provided for the tasks undertaken, information and instruction on its use is adequate, it is maintained in good working order and it has any reasonable safeguards in place to prevent risks to safety. Any maintenance of equipment should be carried out safely and certain equipment should be inspected regularly to ensure it is safe to use.

Health and safety in a workshop

We had to ensure we were using the correct PPE for the session, The most important part of PPE we had to have was the steel toe boots, we had to ensure that we had the steel toe boots on or else we were not allowed to enter any of the workshops. The reason for this is that there is a lot of heavy equipment spread out all across the workshop and its would be very easy for something to fall off one of the counters or if you or another student in the workshop to drop something on your foot, wearing these would prevent you breaking any toes while in the workplace. Another very important piece of PPE that must be worn in the workplace was the overalls. These were given to us when we entered the workshop, the reason for wearing the overalls is to ensure that none of the clothes you're wearing get ruined while using the machinery and also if you have strings or ties it will keep them tucked under the overalls. The tutors also gave us safety goggles which we had to be wearing every time myself or another student was using any of the machines, the reasoning for this was if you were using the machines, when cutting the metal little pieces of metal can fly off the piece, wearing these would prevent any damage to the eyes.

Reading through the health and safety rules in the workshop there are some very important ones that we had to stick to one of the most important ones is "Never use a machine or item of work equipment that you have not been trained on and deemed competent to use".

Methodology

During this session the machine I was using was the lathe, the lathe is a very powerful and intimidating machine but given the right instruction the tutor can give you a very deep insight of how the machine works. We used the lathe to shape a small steel cylinder, the first step was to measure the cylinder to see how much would have to be cut off the cylinder in order for it to match the instructions. The next step we would loosen the chuck to the point that the cylinder could fit in then tighten it as tight as possible and ensure that the piece is in flush and is completely straight. We would then switch on the late and slowly turn the wheel to adjust the Z axis so the blade on the tool post is ever so slightly scraping the cylinder. Once this was done set the Z axis to 0 this would help us measure out the exact amount that had to be taken off the cylinder by reading the dial. There was also another wheel that would also adjust the Y angle which also had to be used in order to shorten the length of the cylinder. Once the length of the cylinder was the right distance I then turned off the machine, firstly by using the foot brake then turning the machine off by the switch. Once the machine was completely off we had to clean the machine, we did this by removing the panel off the back of the machine and use a dustpan and brush to clean out all me metal scraps from underneath the machine.

Discussion and conclusion

The main points taken from this sessions is how complex these machines were to use, the amount of times I needed reassurance of when I was going through with a task just to ensure that I was definitely doing it correctly. Because these machines are so dangerous I didn't feel 100% confident when using the machine on my own.

Referencing

Workshop legislation

https://warwick.ac.uk/fac/sci/eng/local/hands/inst/si009/safety_in_workshops2015.pdf

Health and safety rules

https://warwick.ac.uk/fac/sci/eng/local/hands/inst/si009/safety_in_workshops2015.pdf