



Company JSP Limited
Student/Degree: Taran Panayi – Mechanical Engineering
Manager: Matthew Judson – Director of Respiratory and Technical Support
Project Title: To Design, Build and Develop mechanical test methods for JSP Safety products.

Project summary

By working closely with a Design and Innovation Engineer for the NHS I redesigned JSP's Portacount Adapter based on end-user feedback and internal testing. The Portacount Adapter is a JSP product that allows filtration testing to be carried out on a range of respirators and filters, ensuring that they are fitted and working properly. My Developments in the design were employed to increase versatility and effectiveness as well as improving product durability. This project required an in-depth understanding of complex mould-tool drawings and an ability to manipulate and create full Solidworks CAD models with industry precision.



Project Results

My new design passed all stages of testing – both within JSP and the NHS, and has now been officially introduced into production. Over my time working on this product, and due to COVID-19, Portacount Adapter sales increased by over 800%. My work on this project has come at a vital time for the NHS, allowing essential staff and keyworkers the ability to ensure they are remaining COVID-safe and protected whilst working on the front line. With increased versatility the new Portacount Adapter can now be used with all JSP Press-To-Check filters (double that of before) and due to improved structural integrity, product lifespan has been increased by more than 300%. This collaboration has been mutually beneficial for JSP and the NHS as they can remain confident using our product in a high-risk environment.

What have you gained from your placement?

My placement at JSP has provided me with a plethora of both basic and advanced skills ranging from interpersonal skills to workshop competence. From my time here I have learnt how business processes work by collaborating with different departments on a range of projects. This includes R&D, Finance, Warehousing, Production and more. By working with these departments, I've gained an in depth understanding of what is required for an organisation to run including various workplace procedures. Juggling multiple projects simultaneously proved to be a much more difficult task than I had expected, however learning to plan and manage my time allowed me to overcome this problem and complete several projects over my placement. I have been able to work extensively on my CAD abilities, using Solidworks to develop a range of mechanical designs. My placement at JSP has been invaluable to my competence as an engineer and a member of a workplace team.

Company Manager's Comment

Taran has worked on several projects during his year with us, many of them resulting from the expansion of our product test facilities during the Covid pandemic. These projects will continue post these events as JSP now has a much stronger respiratory protection offering, Taran's contribution to that strengthened offering has been significant and beyond what many may have expected of a placement student.

Matthew Judson