Case Study – Charlie Hawkins – Engineering apprentice (funded 2019-20)

RWO Marine Equipment, Benfleet, Essex

https://rwo-marine.com/

Charlie was aged 17 when he joined RWO. He always had a keen interest in boats and engineering, and he felt strongly this apprenticeship was the ideal opportunity for him, rather than study full time at college. We had a chat with Charlie at the end of his first year to review his progress. This is what he said….

Making his mark…

"I joined RWO Marine Equipment in September 2019, and since then, I have developed well within my company. I have transformed into a more confident person who can easily ask anyone anything. I feel I have become a great member of the engineering team who my colleagues now depend upon, as much as I depend on them! They are mostly over 40 years of age and they are a bit stuck in their own ways. However, with me and the other apprentice (Jack) being added I think it has made the staff a bit more aware of the changing world and has made them work harder and think more.

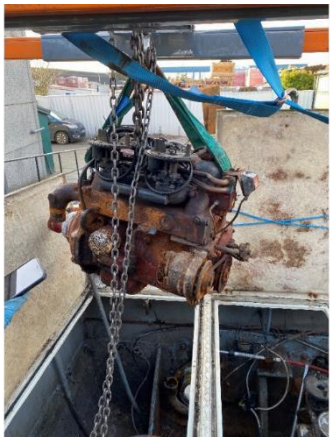
Skills and Knowledge…

I have been learning all aspects of manufacturing in my company and I have been learning different aspects from hand skill to welding and electrical boxes at college. In the past year I have accomplished and gained a bundle of new skills and knowledge from things like engine timing, engine stripping, engine rebuilds to work on bearings and on to other subjects like welding especially aluminium welding. I have been able to experience and enjoy these new skills and it will be great to re-apply these skills to a range of different engines. I have particularly enjoyed working on engines and the new environment I am in. I enjoy working on engines in our own little workshop as it allows me to further my knowledge and I've felt more confident in myself.

Also this year, I have worked on removing two engines from a boat made in 1970. In doing this I have learned how intricate and tolerance sensitive engine parts are. In order to remove the engines, we had to create a hoisting system. Jack, the other apprentice in my place of work, helped designed the hoist. We used some steel racking that had been certified to hold over a ton, this gave us a lot of room to play with as each engine with the transfer case connected weighed about 350-400kg. Jack's design for the hoist was a stack, like a pyramid, with a thick steel bar welded across the top. I was given the task to weld this contraption together. In doing this I learned about how to set the right voltage and amperage to weld the 6mm thick steel. The material we used was originally from racking. This meant that it wasn't as strong as it was two steel sheets clamped together. Therefore, I welded the ends to add rigidity to the structure.

The hoist

We tested the hoist by adding heavy weighted shackles to the structure. Then we elevated the hoist by placing it on top of racking, this gave it the correct height with just enough clearance. This photo is of the whole apparatus with a ball and shackle added.



It was a successful day as we got one of the two engines out. I gained a lot of skill and knowledge from this. The off the job training at college has been great too, it has fitted in with my work-based activities and it has helped me become a more developed engineer and focus on accuracy within my work.

What about the future?

I feel that in the future I am going to become a very successful engineer and will work as hard as I can in everything I do. I plan for the years to come to develop my skills further and increase my own personal tool selection. This could enhance my ability to work on certain things at home – for example, having my own personal welder so I can repair my garage door for example. I think I have increased my companies work rate by completing urgent jobs on days before they are due, so increasing satisfying the customer and allowing for a better customer base. I have learnt a lot from this year and will take these skills and knowledge into the next years and for the rest of my career."