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Case Study – Michael Callen – Apprentice engineer (funded 2018-19)

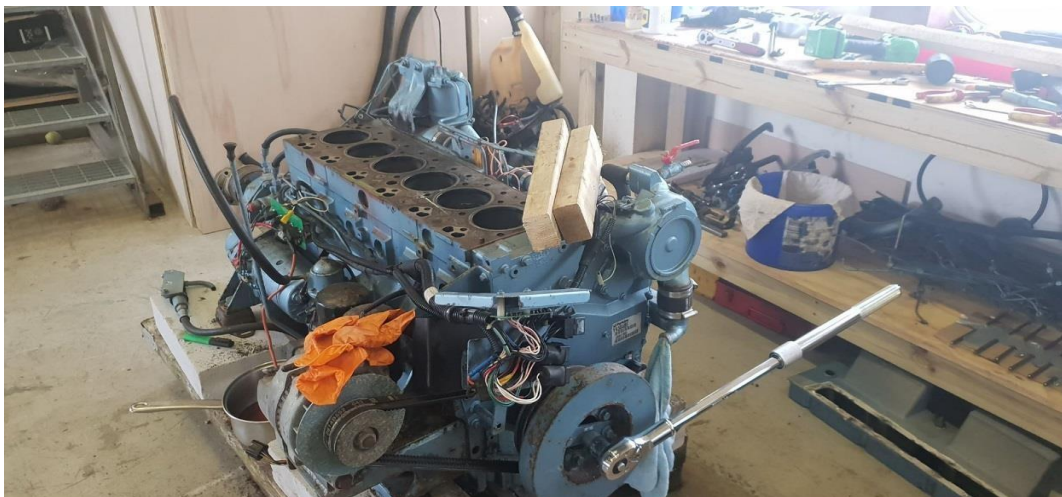
United Marine Services

<https://www.unitedmarineservices.co.uk/>

As a new apprentice at United Marine Services, I have developed new skills in engineering as well as experiencing new working environments. These include: engineering on a variety of marine engines and components, working in a foreign country and experiencing work at sea.

Throughout my time at United Marine Services I have had the privilege of working on various marine engines from Perkins Sabre, Ford Bowman and a variety of Vetus. My first experience on a marine engine was on two Perkins Sabre M1.35, they were salvaged engines from a scrap pleasure cruiser. Both engines were seized solid - the rings had corroded in the bores of the cylinders. I was tasked to remove the heads from the engines and to free the pistons.

Both of the engines were successfully freed and are now installed in a 'Grand Banks' awaiting sea trials.





I have worked on many other engines. For example I have serviced many Vetus engines. I have also removed, disassembled and cleaned heat exchangers. Currently I am in the process of assisting another engineer with removing and refining an oil cooler on a Cummins engine.

Here at UMS we are very lucky to have a skilled Reintjes engineer, and as a result of this I have spent a little of my time at UMS working on Reintjes gearbox's. The most memorable gearbox was from a fishing trawler named 'Eternal Promise'. The 1:10 gear ratio gearbox was removed for an overhaul, during the removal of the Main gear wheel, we noticed small cracks in the 1 metre tall gear wheel, there was also damaged teeth on one of the drive gears. The main gear wheel was sent to Germany to be repaired and the smaller gear had to be replaced. Helping with this task showed me many new techniques on how to work on gearboxes including using 2000psi to remove the inner races of a few of the bearings and using a magnet to heat up new bearings to be slid onto the shaft. The gearbox was successfully reinstalled, and the ship was taken on sea trials with no issues.



My time at UMS has brought about many opportunities in foreign countries. So far I have spent some time in Palma (Mallorca, Spain) working on a Sunseeker superyacht named 'Moonraker'. I was called out to help service the two MAN engines onboard. This was my first time servicing an engine with more than 8 cylinders. The second time I was called out to Palma was for the same vessel, this time it was to be taken out of the water to be cleaned, anti-fouled and new anodes to be fitted. This was completed within 4 days and the boat was successfully put back into the water and returned to her moorings. I am hoping in the following weeks to be in Antibes to help to install a new exhaust manifold on an MTU engine.

