MotorMate: A Multi-Terrain Device to Aid the Transport of Boat Outboard Engines

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Boat outboard engines, being of a high value means that they are often transported home for post-use maintenance (especially saltwater use!) and safe storage. ‘Portable’ engines within the range of 2 to 15 horse power are designed to be secured/removed from the boat by two simple clamps. These engines alone can weigh up to 60kg and along with the poor weight distribution, it can be physically strenuous on the body. Having experienced this issue personally, I can appreciate how off-putting and problematic it is. The aim of my project was to make the sport approachable and accessible to everyone. By designing, manufacturing and evaluating an innovative solution, the process has become easier, more convenient and safer for the human body by helping to prevent back or spinal injuries triggered from heavy lifting. Carrying out the design process led to the creation of MotorMate; a multi-terrain transportation device for outboard engines that is compact and can fit in the boot of a small car. During the research stage I looked at a variety of outboard engines to identify a common feature that was incorporated into the design of the product. Primary research and testing helped to highlight any design flaws of current products on the market, as well as manufacturing and testing initial prototypes to develop the design. As a result of my findings, I was able to manufacture the latest prototype consisting of a curved steel tube frame and large puncture-proof wheels; making it the ideal companion for boating enthusiasts.

Awards Won: