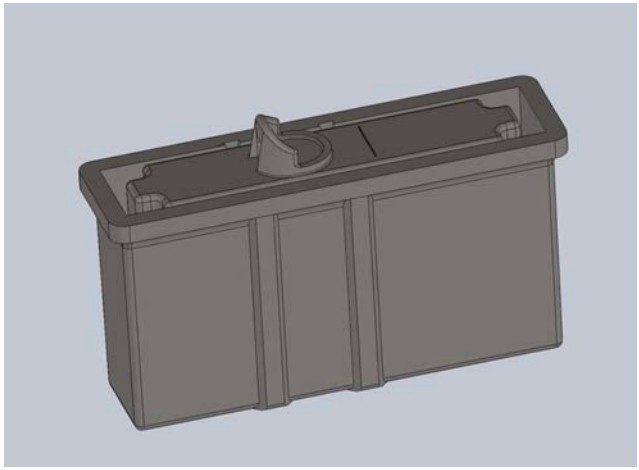
TAW Custom Equipment – Fuse box reverse engineering

PROJECT SCOPE

TAW manufactures custom equipment and provides service and predictive maintenance to a wide range of customers across the energy industry. They required the manufacture of a large number of molded fuse box shells as the parts were no longer produced by the original manufacturer. In essence, they wanted to reverse engineer the parts to produce perfect replicas. Their injection molding partner requested a solid model in Solidworks format, but TAW desired a tighter tolerance in the solid model than what could be reliably achieved using standard measurement tools such as calipers. This led TAW to reach out to the precision measurement team at ACQUIP.

ACQUIP'S SOLUTION

ACQUIP accurately measured each detail of the fuse box components using the latest technology in CMM laser measurements, the FARO laser tracker. Special tooling was used to measure even the smallest features. ACQUIP engineers transferred this data into Solidworks software to generate solid models of each part. These parts were combined in a Solidworks assembly and interference detection was performed as a final check of accuracy. ACQUIP collaborated directly with the injection molding company to nail down the precise amount of draft and fillets required to optimize the injection molding process.



PROJECT'S RESULTS

ACQUIP's experience in the use of precision FARO laser trackers combined with their expertise of Solidworks solid modeling software allowed for the creation of reverse-engineered solid models of each fuse box component within the required tight tolerance in a matter of days. ACQUIP's collaboration with the injection molding company took work out of the hands of the customer, allowing a seamless transition to the production of a prototype for TAW's review.