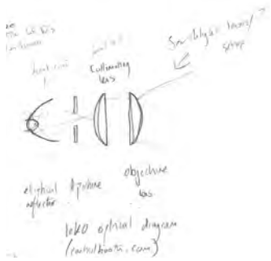
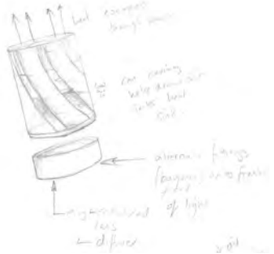
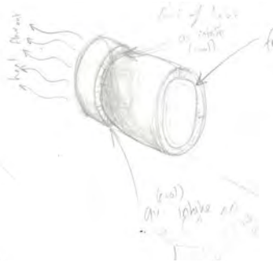
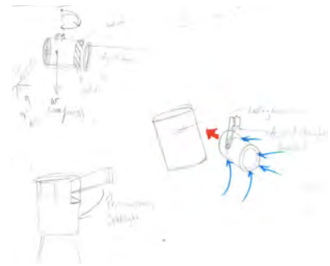
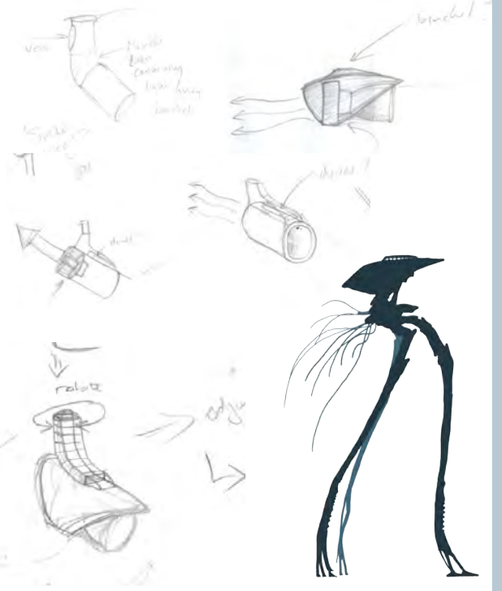
Philips' Spotlighting Project

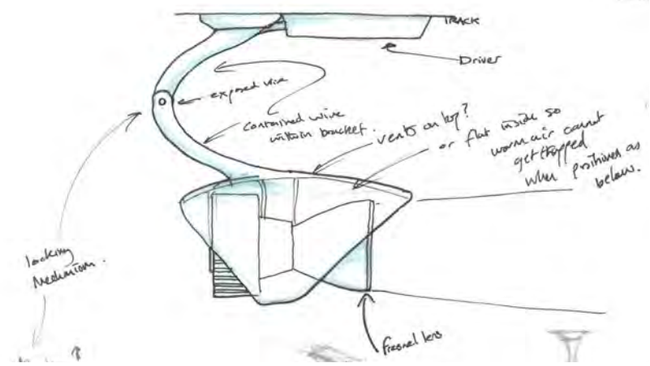


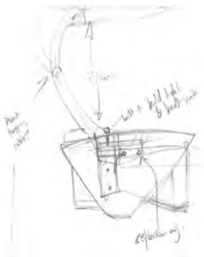


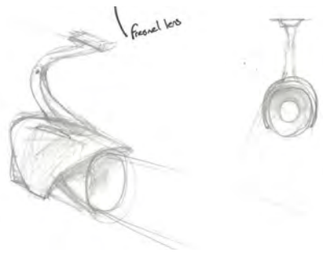


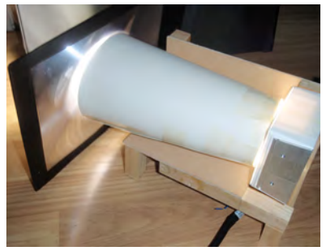


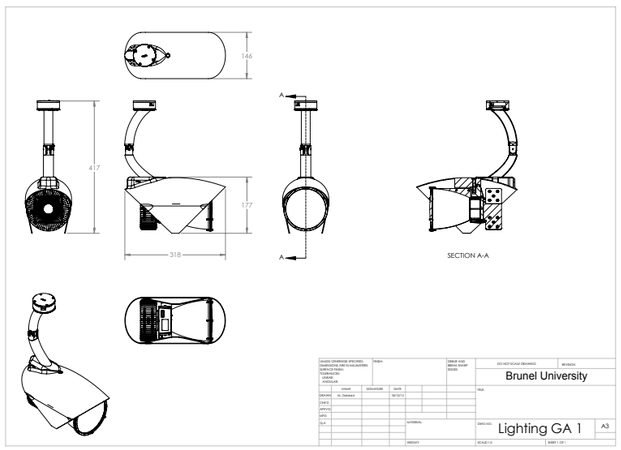












This project looked at creating a new spotlight for a museum environment, using a pre-existing Philips' LED module. The final design was inspired by the tripods in War of the Worlds, providing a hood over the light whilst leaving the bottom open to assist with airflow over the heat sink.

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Adaptable Wheelbarrow Project

This project looked at creating a convergent product that combined a wheelbarrow with a sack trolley. The project used a wide variety of metal working techniques from oxy-acetylene welding to aluminium casting. The design has withstood the test of time and is still fully operational 5 years later.

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Woodwork

Wood is the material I have worked most with over the years, the clock project combines a range of techniques such as wood carving for the text and family crest, as well as CNC routing for the clock face. The coffee table also included on this page was created in a few days and includes an inlaid leather top.

Modelling

The computer mouse was fabricated using a dense modelling foam and was created in the university modelling workshop. The trench system was created a few years ago and replicates a section of the Western Front; it is made using a mixture of predominantly foam and gypsum plaster. The larger model to the far left is a full scale cross section of a WW1 communication trench, that formed part of a local memorial display.

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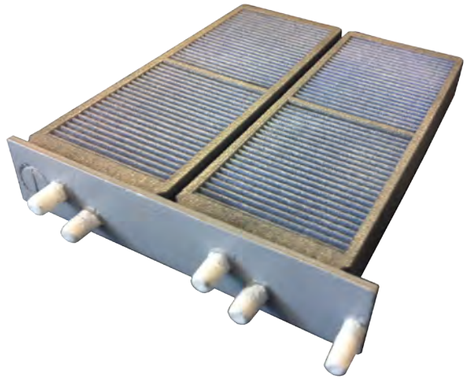
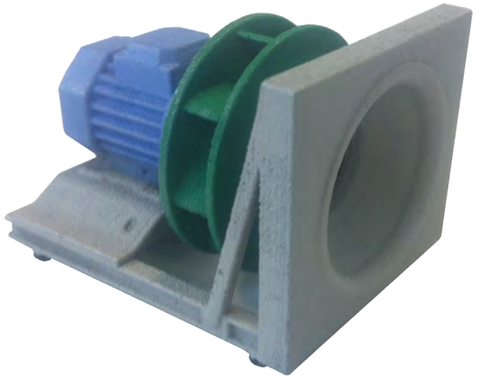
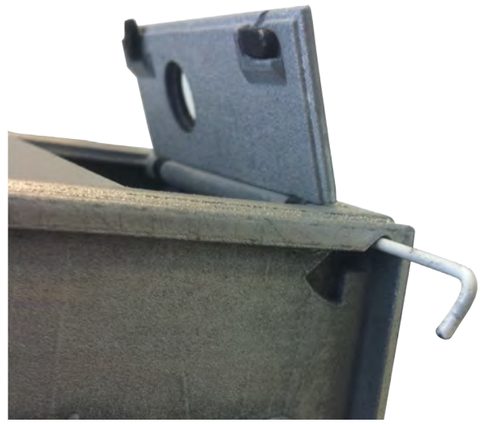
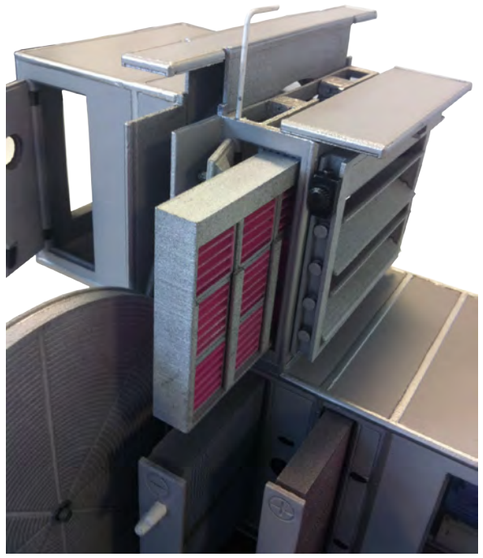
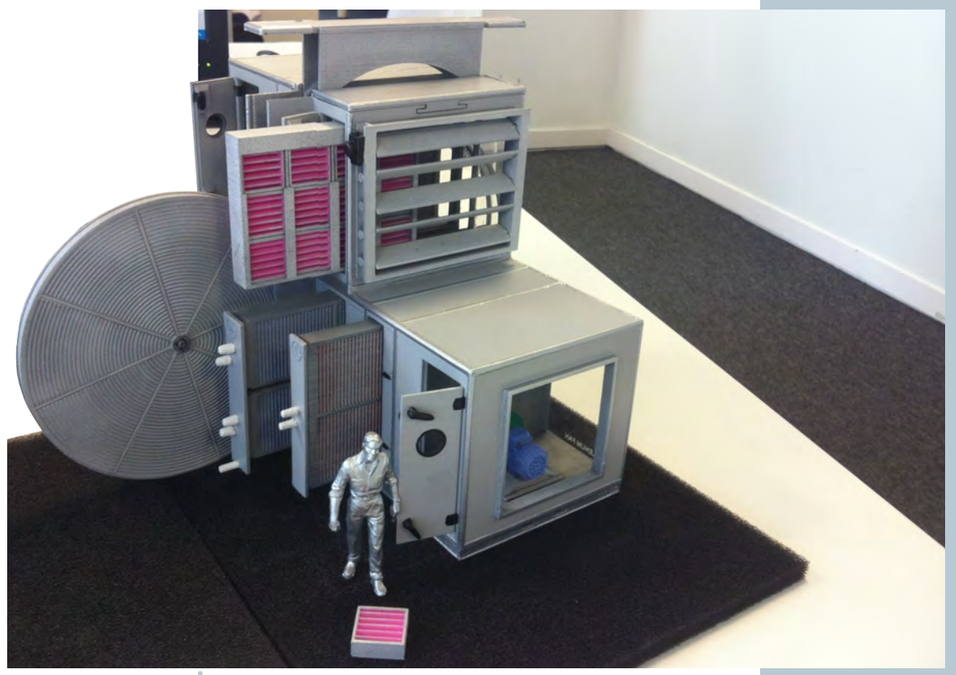
Rapid Prototyping

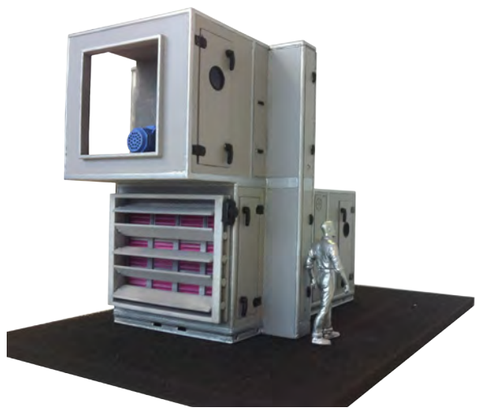












This model Air Handling Unit (AHU) was created using one of Foster + Partners' in-house SLS machines. It was drawn up using CAD software full size before being scaled down to 1:25, making the model around 230mm long. The end use would be to display the space required for the installation and access for an AHU as well as showing how it functioned.

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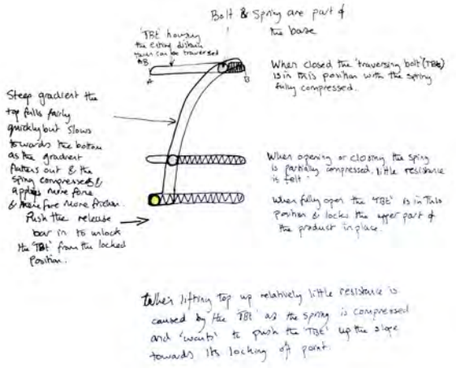
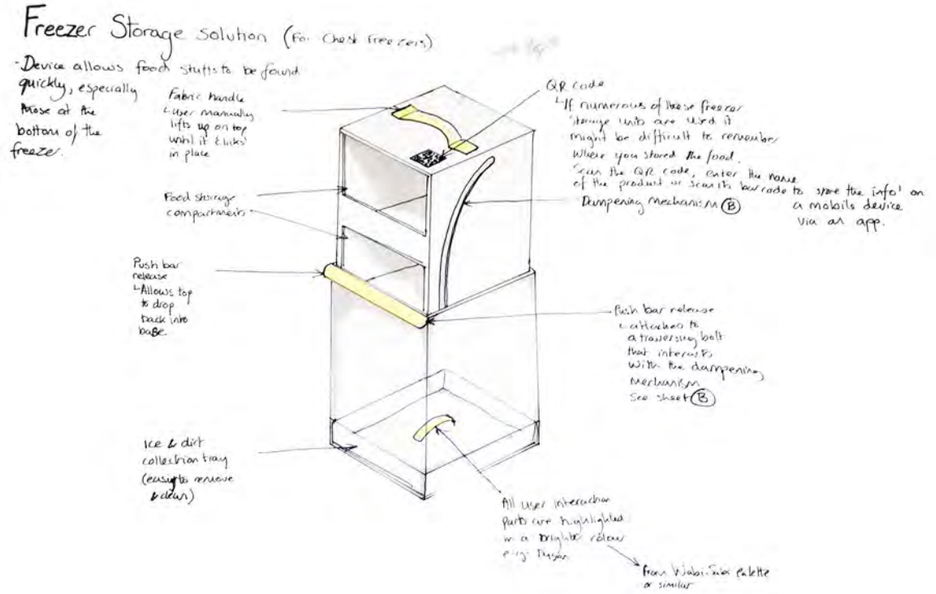
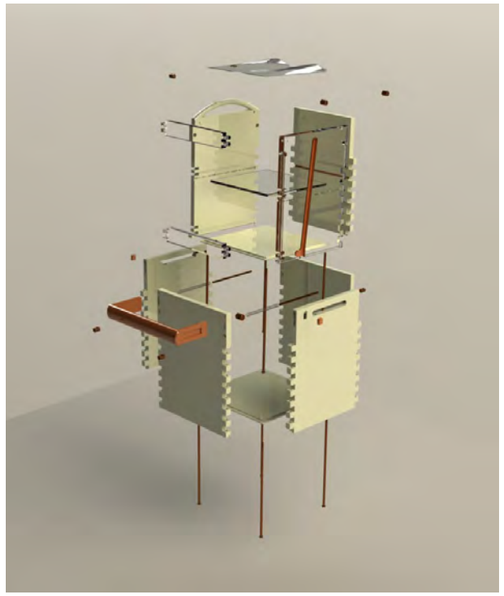
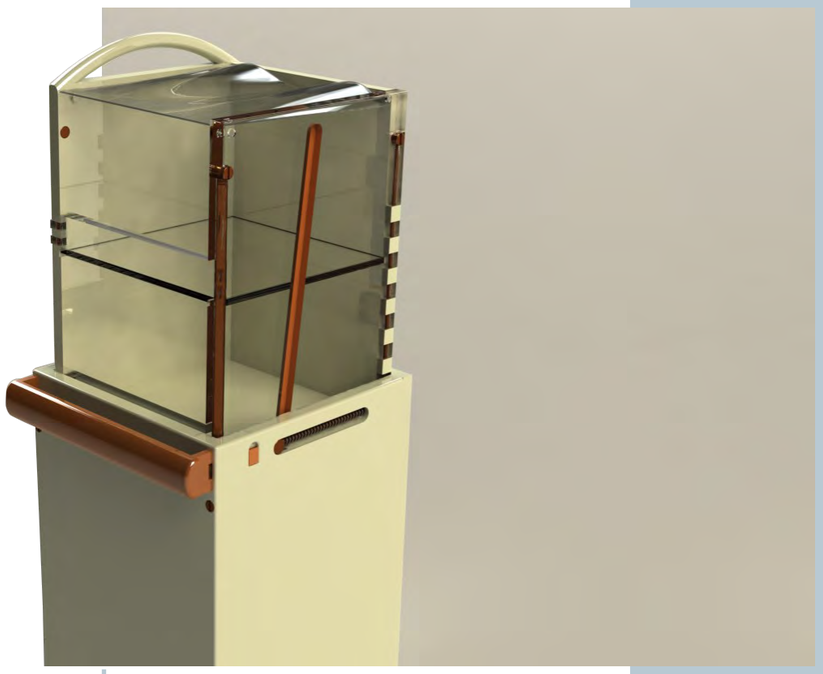
Kitchen Design Project









This design was created to allow users better access to the contents of their chest freezers. A lift out box would be spring assisted, providing some help with lifting the inner box up whilst cushioning it on its descent after use. This mechanism was tested using the wooden model seen here to the left.

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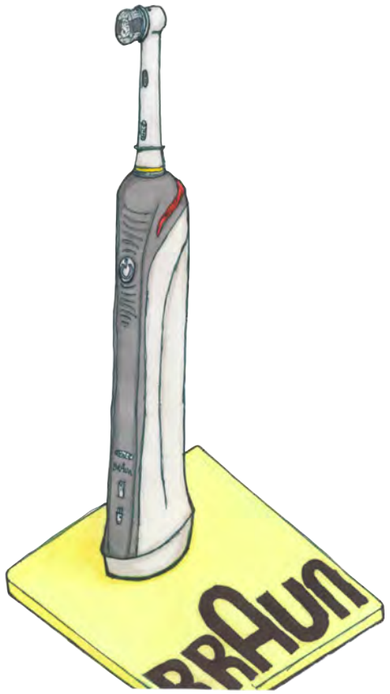
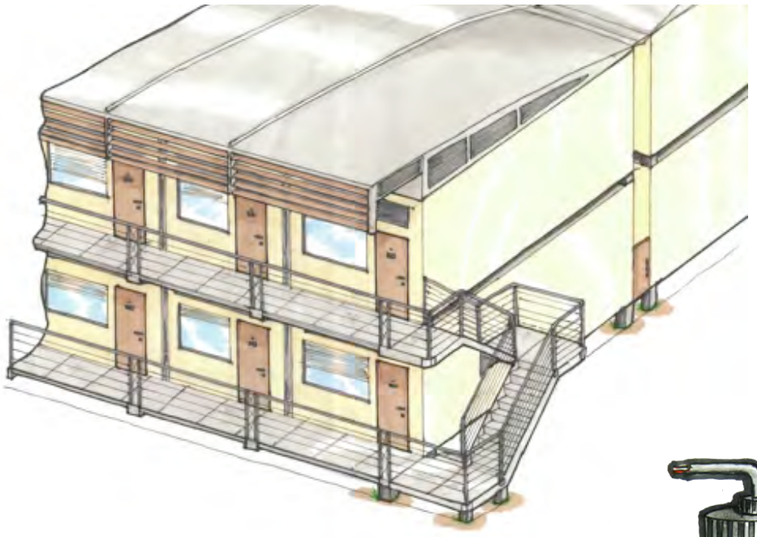
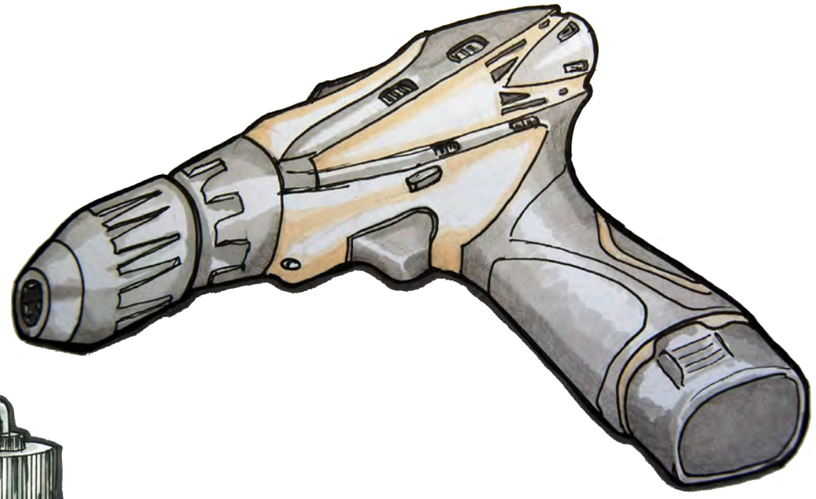
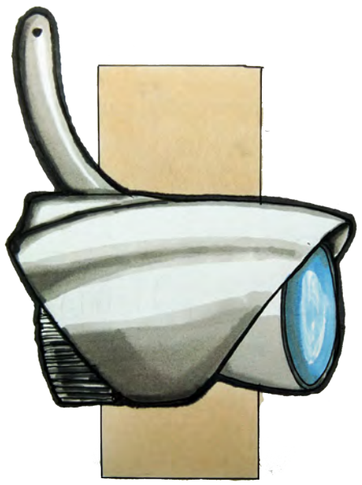
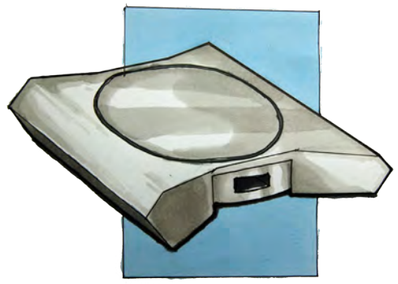
Sketch Work

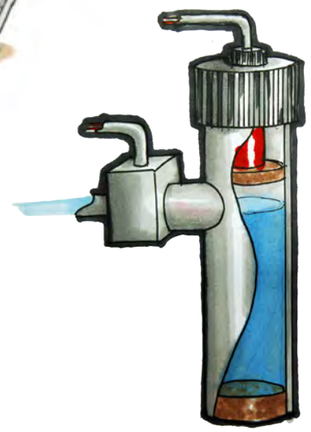


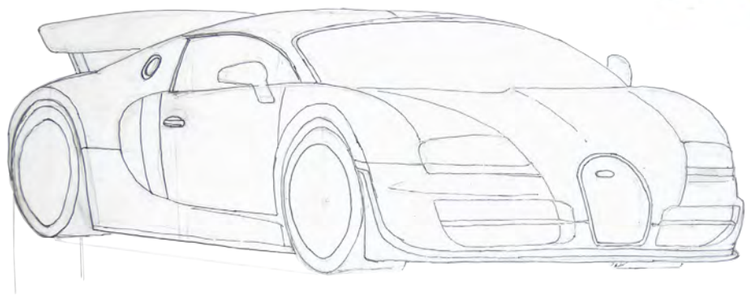












These sketches were produced for a number of different reasons, some as drawing practice whilst others acted as presentation pieces for university projects.

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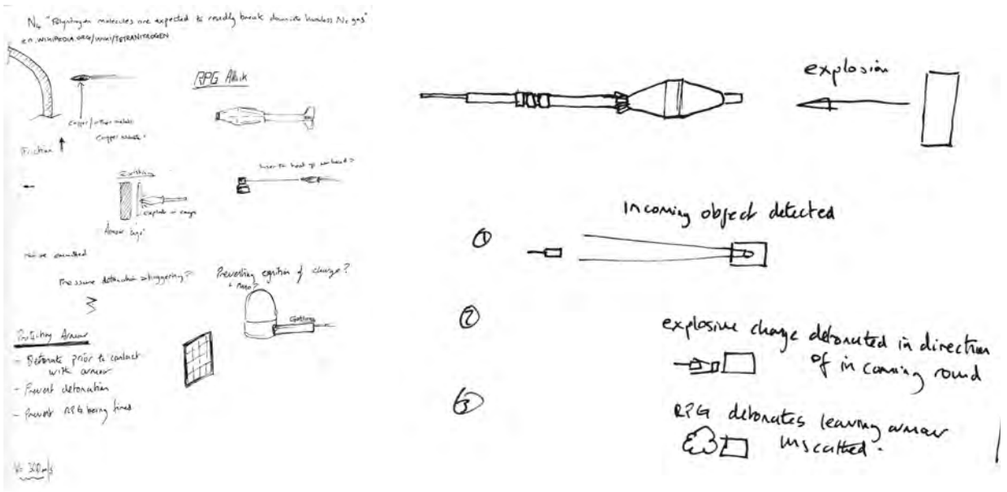
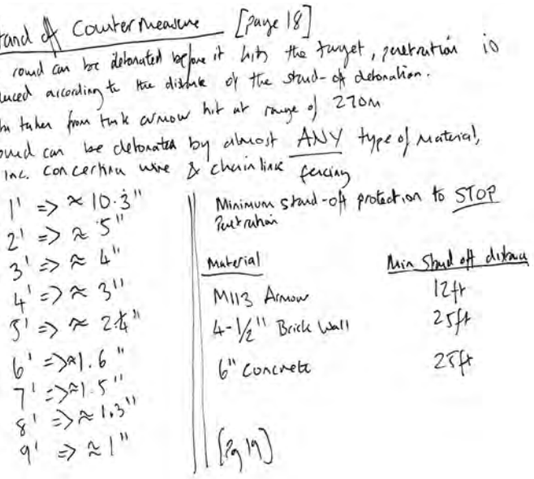
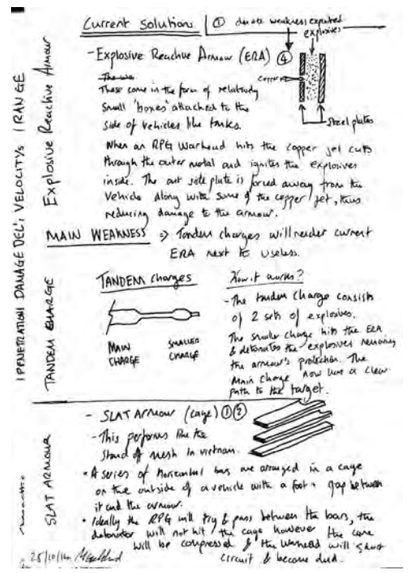
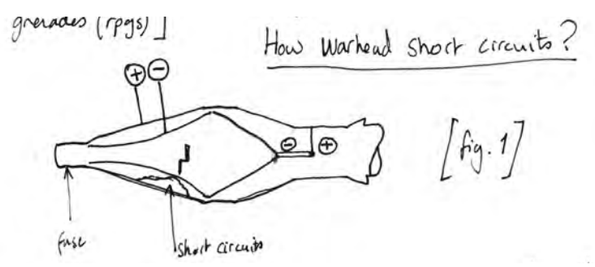
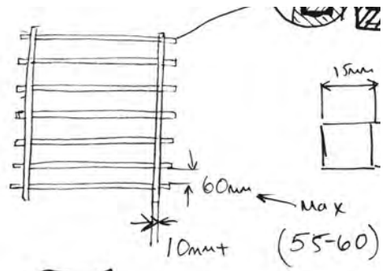
Major Project

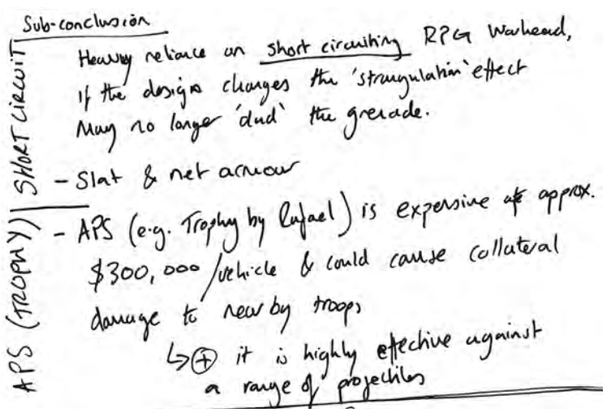


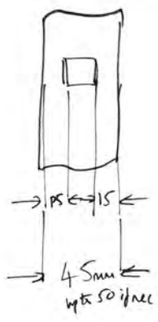


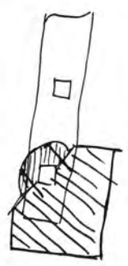


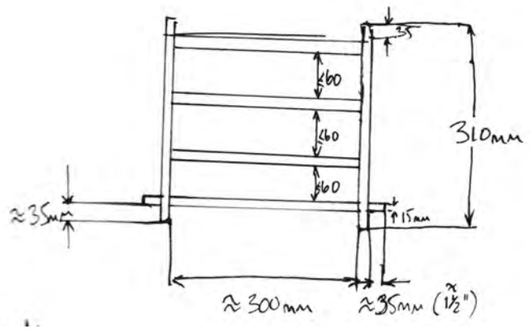


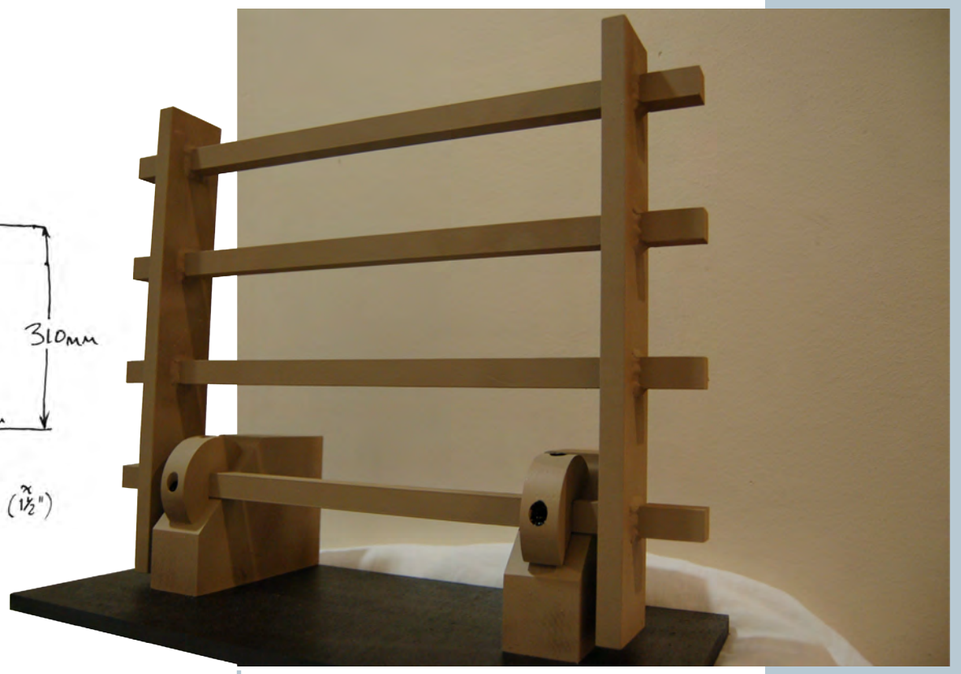












My major project looked at producing a device to protect armoured vehicles from rocket-propelled grenades. This page takes you through the initial process involved, accumulating in the fabrication of a model used at an industrial review evening to demonstrate how the main current solution (bar armour) functions.

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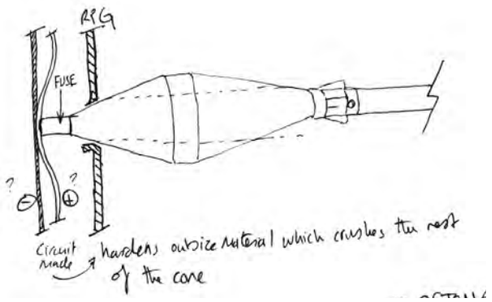
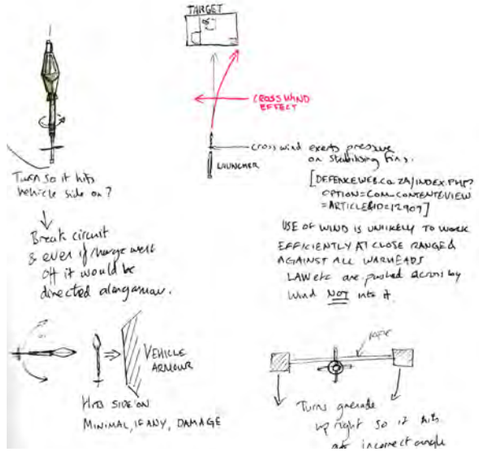
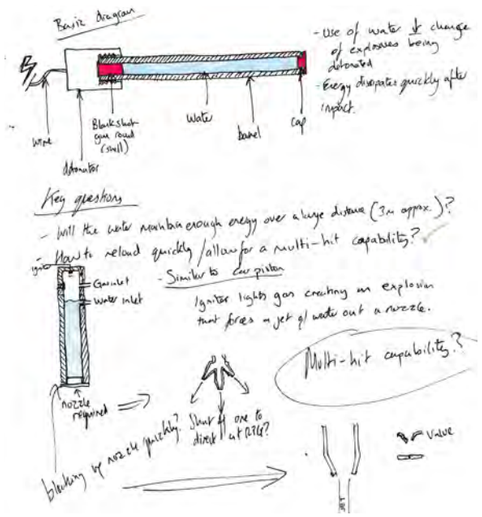
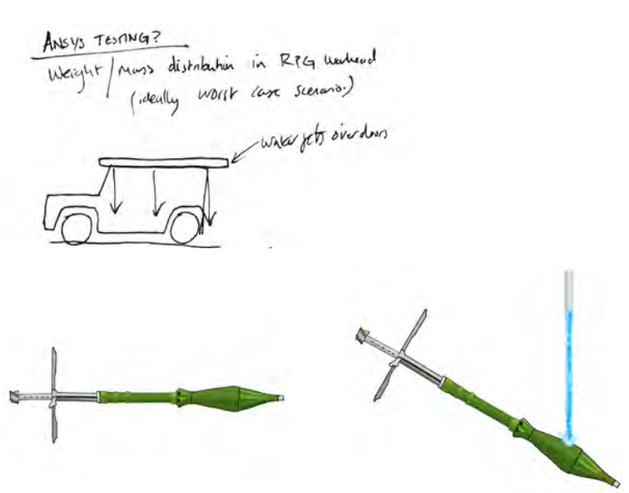
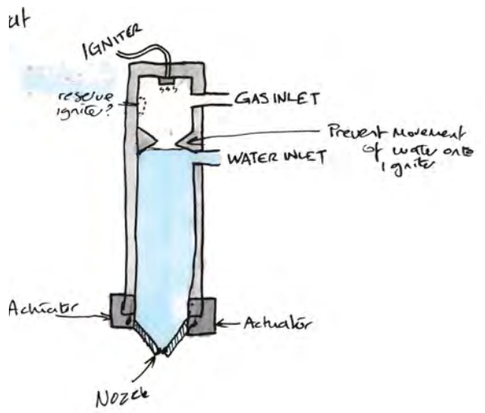
Major Project

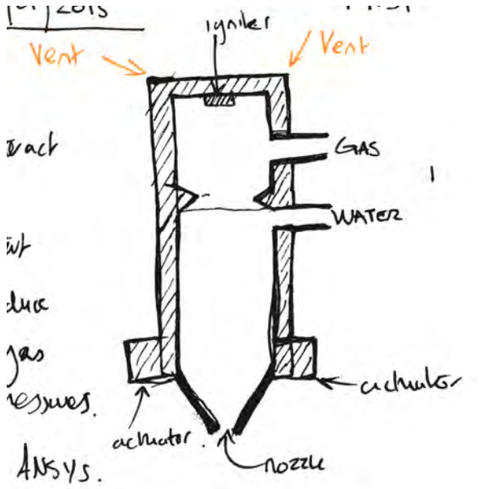


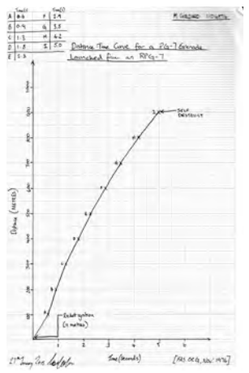


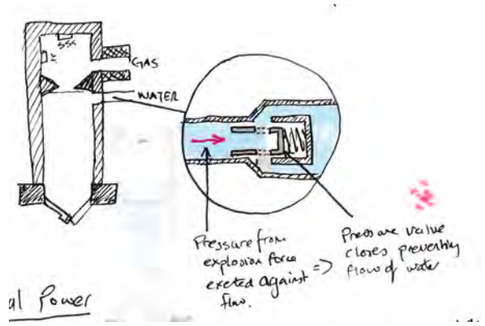


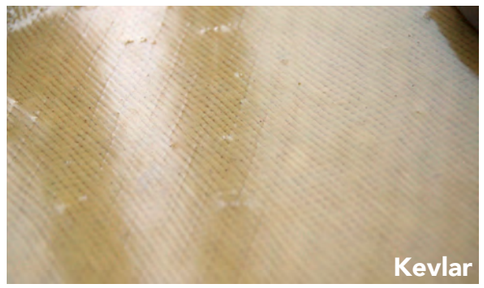


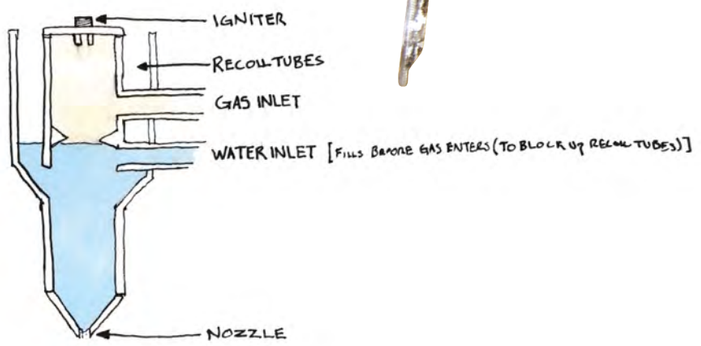


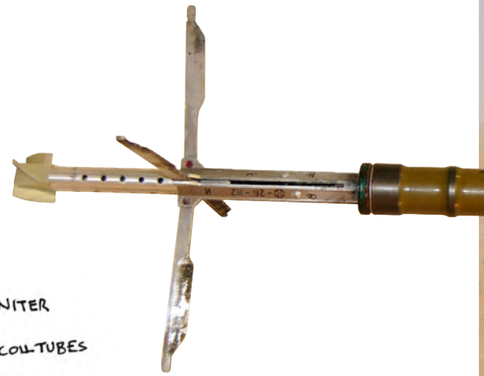












This page shows the process further along the development stage, after research and speaking to experts I have selected water to deflect the grenade away from the vehicle. Seen on this page are cross sections of this design as well as tests done applying Kevlar (which may be used to protect the design whilst mounted to a vehicle).

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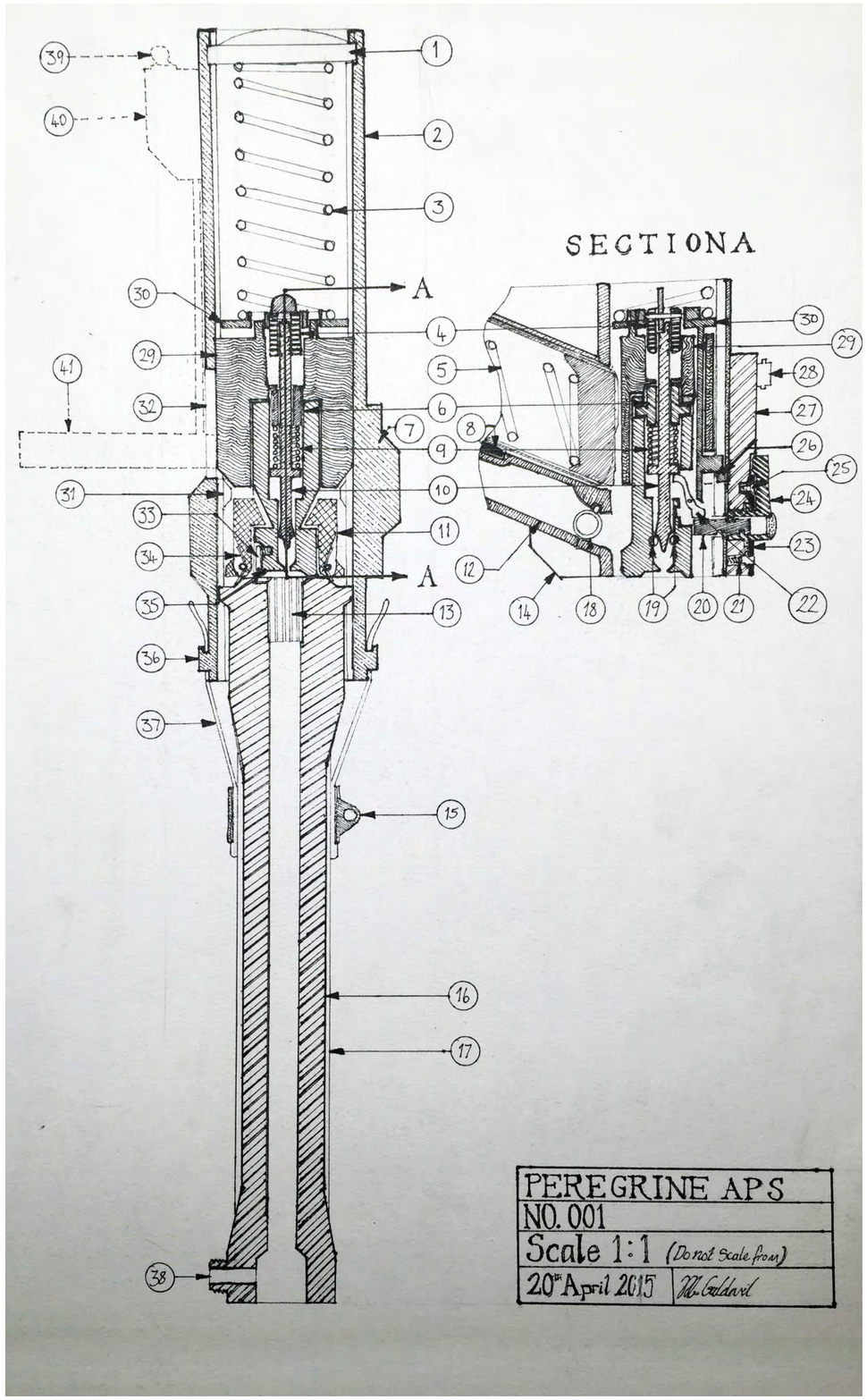
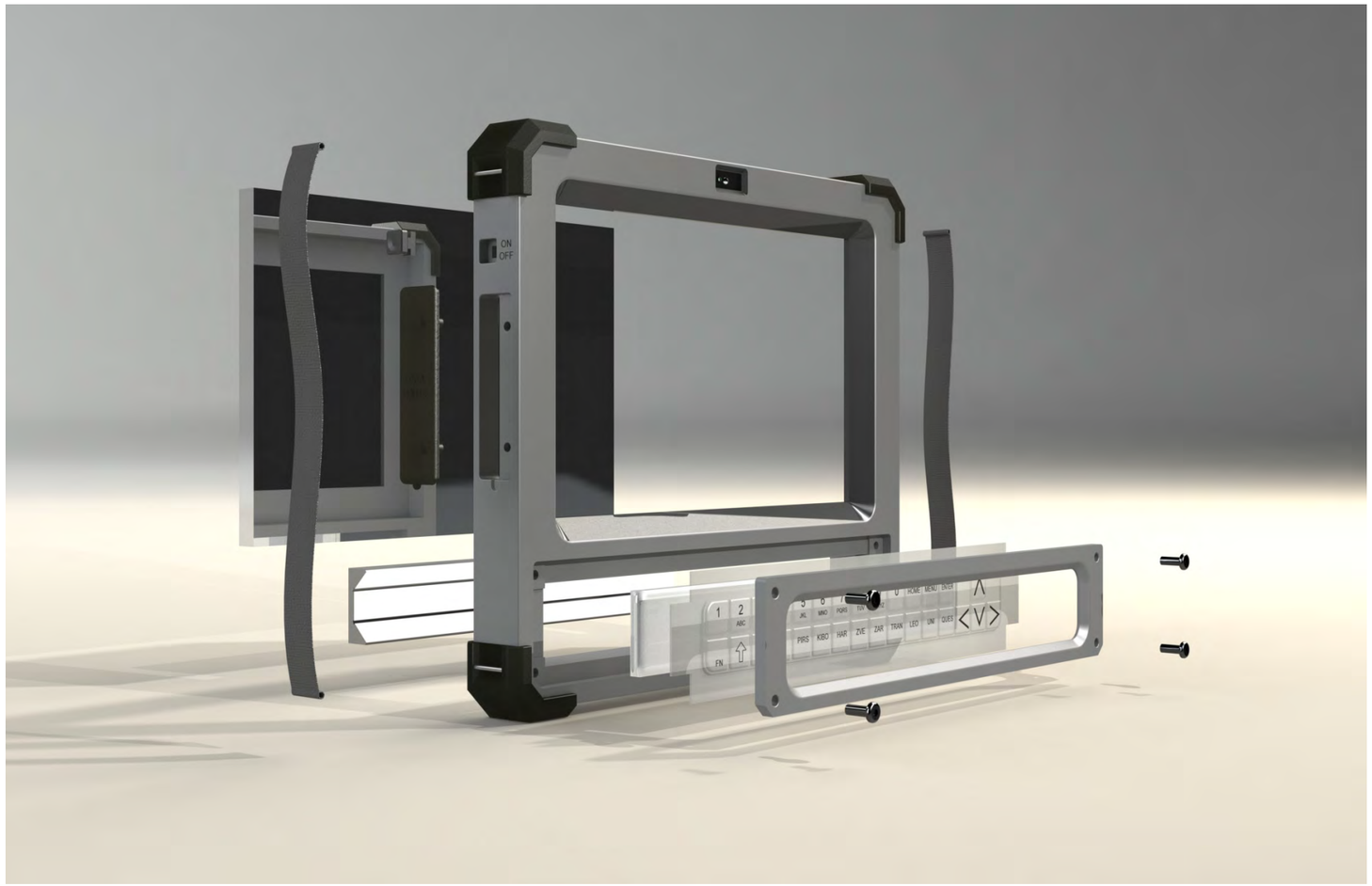


Water jet interceptor schematic and display stand produced for the Made in Brunel Exhibition held at Bargehouse in London. The model replicates one of the water jet interceptors placed around the top of an armoured vehicle. A majority of the model it created using high density modelling foam.

“Life” Film



“Life” was a film set on a near future International Space Station. These renders were created from models produced on SolidWorks. They include (from top left to bottom right) a hologram control unit, a model of an aircraft cascade grill (reused in the film), a hand-held tablet and an airlock status monitor.

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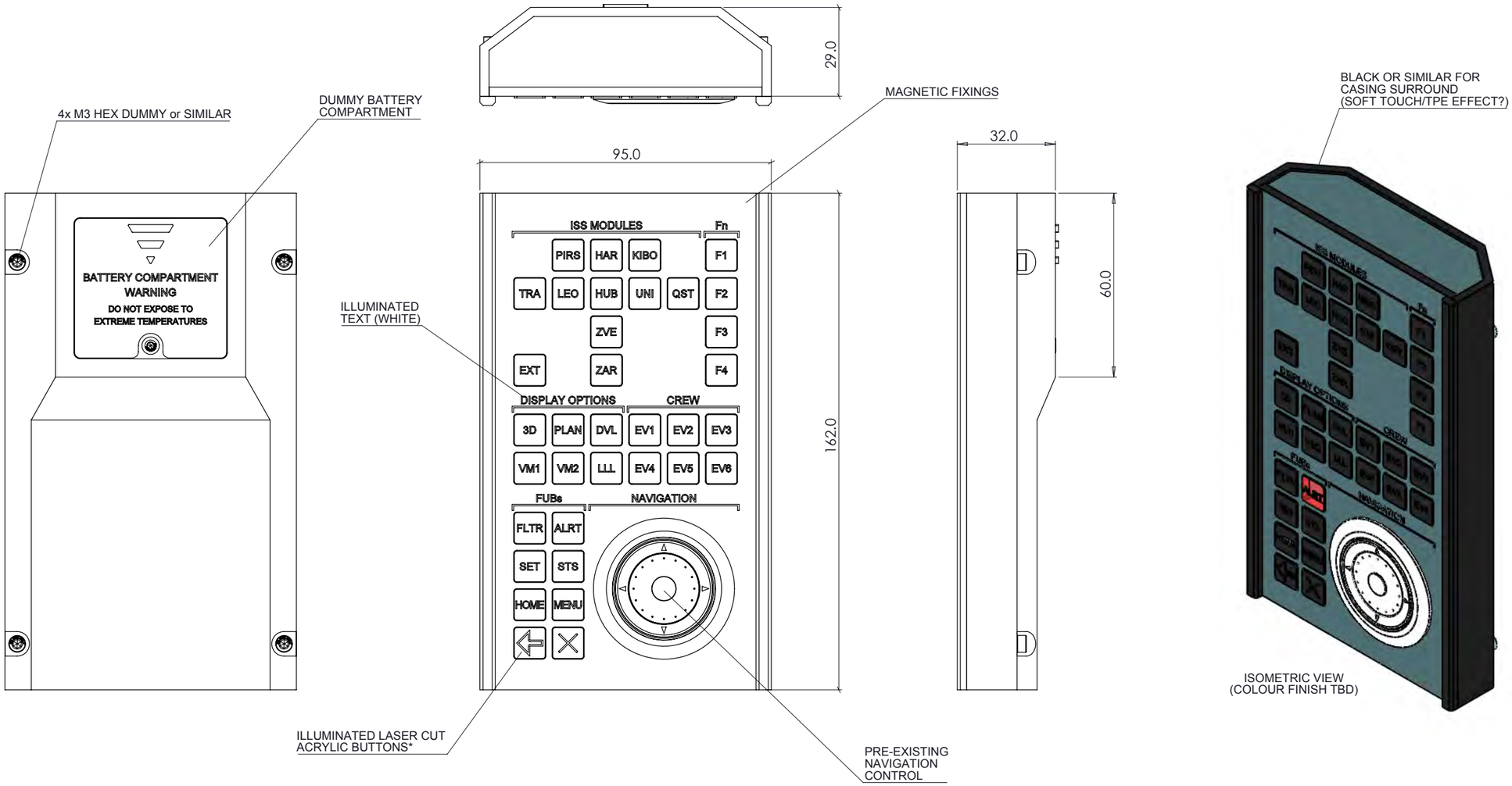
'LIFE' - TRANQUILITY - HOLOGRAM CONTROL UNIT E_ 1 OF 5



PART	DRAWING	DETAILS
FRONT PANEL	2 of 5	LASER CUT POLYMER SHEET WITH ETCHED LETTERING AND MAGNETIC FIXINGS
CASING	3 of 5	3mm POLYMER SHEET VAC FORMED? WITH BLACK FINISH (TPE EFFECT?)
NAV CONTROL	4 of 5	PRE-EXISTING COMPONENT
BUTTONS	4 of 5	LASER CUT TO BE EDGE LIT, DIFFERENT COLOUR BUTTONS MAY BE REQUIRED, ETCHED LETTERING ONTO PAINTED SURFACE
FRONT PROTECTOR FINS	5 of 5	3mm SECTIONS WITH 45 DEGREE CHAMFER ON FRONT EDGES, FINISHED TO MATCH CASING

*SOME GROUPS OF BUTTONS MAY BE BACKLIT IN DIFFERENT COLOURS

LIFE

Set Code_Dwg No.
E_

This is one of a set of drawings used for the construction of the hologram control unit. This is the first page and includes the general arrangement drawings, with the other 4 containing detailed dimensions of the various parts.

“Why Hide?” Film

“Why Hide?“ was a low budget feature film shot on location near Durham. My job was to source a majority of the props, including the construction and aging of a shipping crate, design and printing of text onto organic bags and the creation of wine bottle labels. I also produced a foam hammer by silicone casting from an original one.

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