



Components to be Manufactured

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INTRODUCTION

This guide will outline the components that aren't included as part of the kit and need to be manufactured by you or outsourced.

Internally at REA we 3D Printed all of the components listed on our Makerbot Method X using a mix of ABS, PLA and PETG filaments.

Hints:

- Where possible use dissolvable support material to improve the quality of the part and aid in the removal of the support material.
- It is worth looking into the infill percentage that you use to print the parts to adjust the buoyancy of the parts to help trim the Submarine.
- We would recommend sealing the parts before using them on the Submarine as most 3D Printed parts will absorb water which will affect the trim of the Submarine. Filaments like PETG can help with this as it has very good layer adhesion helping the part self seal.



TOOLS:

- [3D Printer](#) (1)
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Step 1 — Components to be Manufactured



- [Conning Tower v1.0.stl](#)
- [Hull Support v1.0.stl](#)
- [Hull Support Cable Cover v1.0.stl](#)
- [Buoy - Top v1.0.stl](#)
- [Buoy - Bottom v1.0.stl](#)

Step 2 — Conning Tower



- ⓘ Being a large part it will take quite some time to print.
- Once printed clean off any support material whether that be breakaway support or dissolvable support.
- ⓘ The part is now ready for the assembly guides.

Step 3 — Hull Support Structure



- ★ 4 of these are required for the Hull Assembly.
- Once printed clean off any support material whether that be breakaway support or dissolvable support.
- ⓘ The part is now ready for the assembly guides.

Step 4 — Hull Support Structure - Cable Cover



- ★ 3 of these are required for the Hull Assembly.
- Once printed clean off any support material whether that be breakaway support or dissolvable support.
- ⓘ The part is now ready for the assembly guides.

Step 5 — Optional - Hull Foam Insert



- i This is an optional component. Depending on the materials used and the infill densities for the components in the rear of the sub you may need to increase the buoyancy of the Submarine.
- We 3D Printed a mould and poured a closed cell foam to form these inserts.

Step 6 — Buoy -Top



- ★ 1 of these is required for the Buoy Assembly
- Once printed clean off any support material whether that be breakaway support or dissolvable support.
- i The part is now ready for the assembly guides.

Step 7 — Buoy - Bottom



- ★ 1 of these is required for the Buoy Assembly
- Once printed clean off any support material whether that be breakaway support or dissolvable support.
- ⓘ The part is now ready for the assembly guides.