

# LASER BATTERY

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Contains instructions for the assembly of printed terrain from the following Product:

Laser Battery

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This guide will assist with the specific assembly of the associated files and cannot possibly address all issues that an individual may possibly encounter during production. Individual results may vary according to printer, settings, software, and material used, so familiarity with your own printer is paramount.

### PRINTING TIPS AND SETTINGS

- Orientation: All files are already arranged in the ideal position for printing. The barrels are intended to print flat and be assembled because tests with vertically printing barrels found them to be weaker and prone to breaking with regular use.
- Supports: Designed to be printed without extra supports.
- Layer Height: 0.2mm. Parts "TurboLaserA.stl" and "TurboLaserB.stl" are best printed with 0.1mm-0.12mm layer height to allow for smoother barrels.
- Infil: 10%.
- Thickness: 0.8mm.
- Adhesion: Skirt, if any.
- Elephant's Foot: If the Initial Layer Horizontal Expansion, or "Elephant's Foot" causes a problem with assembly, try setting the first layer to -0.1mm or -0.15mm.

### PREPARATION OF PARTS

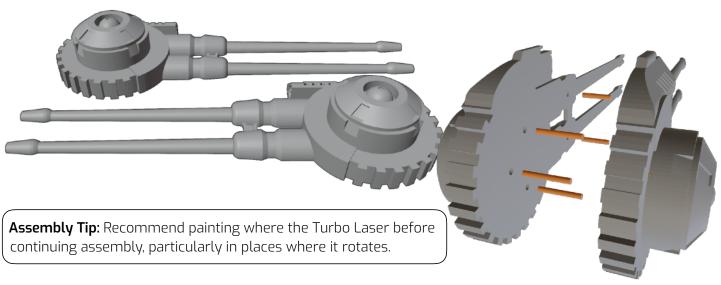
- Dry Fitting: Always dry fit all parts before gluing or painting, and clean parts with some light soap and water to remove dust after any sanding.
- Painting: Acrylic paints—whether applied by brush, airbrush, or aerosol spray can—are recommended with a matte sealer applied after painting. Avoid over over painting. Paint as assembling to reach difficult details.
- Gluing: Parts are designed to be assembled using pegs made from scrap pieces of 1.75mm PLA filament. A small amount of cyanoacrylate (CA) glue is recommended—any brand should work.

## **A**SSEMBLY

#### STEP 1: TURBO LASER ASSEMBLY

Print both parts "TurboLaserA.stl" and "TurboLaserB.stl". Use pegs from discarded pieces of 1.75mm PLA filament, cut to length, to align the pieces and glue them together.

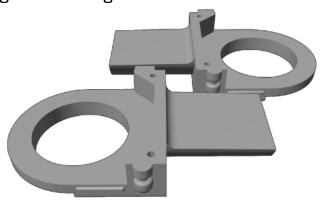
Figure 1: Turbo Laser Assembly



#### STEP 2: CARRIAGE ASSEMBLY

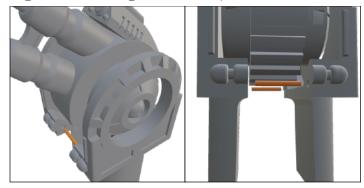
Print the two halves of the Carriage (CarriageA.stl and CarriageB.stl). The orientation of the files allows printing without supports, and reversing them will require supports.

Figure 2: Carriage Parts



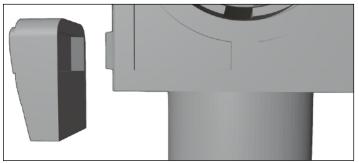
Paint the interior of the Carriage before proceeding. Check the rotation of the Turbo Lasers for a snug fit before gluing. If the barrel routinely falls, use a piece of scotch tape where the Turbo Laser meets the Carriage to provide additional width and a snug fit. Use pieces of 1.75mm PLA filament as pegs, ensuring **not to glue** the Turbo Laser assembly to the Carriage.

Figure 3: Carriage Assembly



Glue the Rear Power Assembly to the Carriage.

Figure 4: Rear Power Unit Assembly



#### STEP 3: FINAL ASSEMBLY

Insert the assembled Laser Battery into the Emplacement Base without gluing to allow 360° rotation.

Figure 5: Assembled Laser Battery

