Battle Axe - Shell Ejecting Nerf Shotgun (3D Printed Nerf Blaster)

Sillybutts

VIEW IN BROWSER

updated 10. 2. 2025 | published 10. 2. 2025

Summary

Battle Axe is a 3d printed Nerf shotgun blaster that fires and ejects Silly Shells! Spring powered, pump action prime.

Toys & Games > Outdoor Toys

Tags: toy blaster nerf nerfgun shotgun nerfdart nerfblaster nerfhomemade shotgunshell nerfshell sillybutts homemadenerf nerfshotgun nerftoy sillyshell sillynerf nerfsilly nerfsillybutts toyshotgun shotguntoy multishot

Battle Axe is a 3d printed Nerf shotgun blaster that fires and ejects Silly Shells! Spring powered, pump action prime. Yes, it actually fires multiple darts at once!

Changelog is at the bottom of the description text.

Most recent update: 11-20-2024.

Blaster Overview:

Firing Demo:

Loading Battle Axe:

Please refer to the file listing for Silly Shells to download them all and get more information.Please check the shell compatibility spreadsheet to see which Silly Shells work in this blaster.READ THE "Print Info" SECTION of this description page before printing the blaster!There is a full written and illustrated assembly

guide for Battle Axe, available as a PDF download in this Printables file repository :)

Read the Assembly Guide!

Download the PDF file in the "other files" Printables section!

Picatinny mounted Silly Shell carrier/holder files here: https://www.printables.com/model/1016480

Sellers

A full list of non-US sellers can be found here: https://www.stuffbysilly.com/wheretobuy

Hardware kits are available from these sellers:

- OutOfDarts: https://outofdarts.com/products/sillybutts-battle-axe-hardware-kit
- SilverFoxIndustries: https://silverfoxindustries.shop/collections/new-products/products/battle-axe-by-sillybutts-hardware-kit

Fully printed blasters are available from these sellers:

- OutOfDarts:
  - Printed parts and fully assembled blasters: https://outofdarts.com/products/sillybutts-battle-axe-3d-parts-hardware-kit
- SilverFoxIndustries:
  - Printed parts and fully assembled blasters: https://silverfoxindustries.shop/collections/new-products/products/the-battleaxe-by-sillybutts

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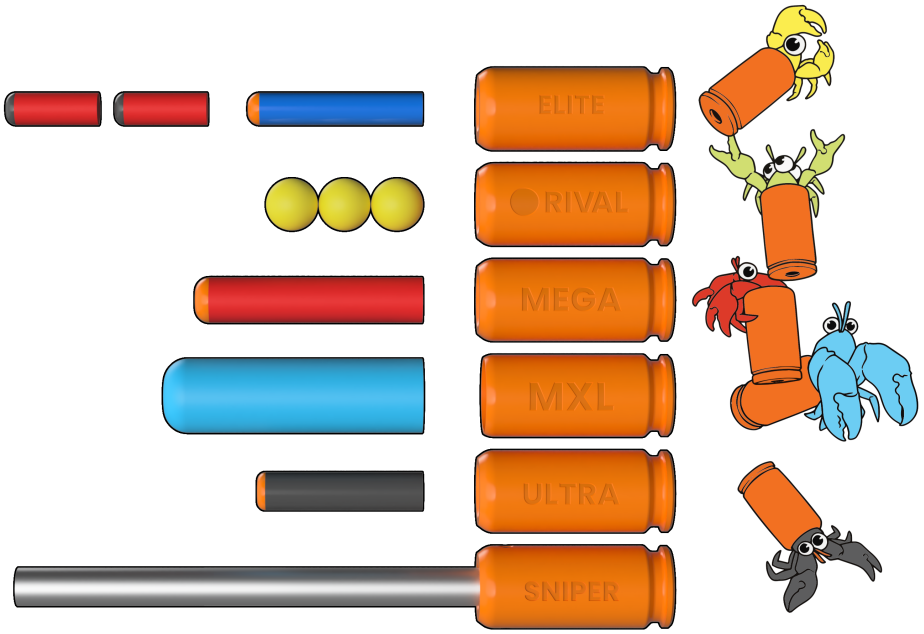
“What are Silly Shells?”

Silly Shells are an ecosystem of 3D printed shotgun shells for homemade Nerf-style blasters! There are many, many different shells to use in each blaster, allowing one blaster to fire a wide variety of ammo types without reconfiguration or modding.

For example, you can fire 3 Elite darts out of one shell, eject it, and then load a MegaXL shell to fire a huge dart at your enemies! Then you can follow that up with a “buckshot” round of Rival balls. Then you can load a Bottlenose shell to hit a person across the field from you.

Silly Shells allow you to use multiple different types of foam ammo in one blaster, and they allow you to fire multiple darts with just one shot of the blaster!



SILLY SHELLS

Shell Fed Blaster Ecosystem

Please refer to the file listing for Silly Shells to download them all and get more information.Please check the shell compatibility spreadsheet to see which Silly Shells work in this blaster.

Note: Battle Axe's magazine does not fit any shells that have ammo sticking out past the tip (full length Mega or MegaXL), however, you CAN still breech load them one at a time into the blaster.

Performance

FPS performance testing per Silly Shell type: https://docs.google.com/spreadsheets/d/1Pixa7pvZfWJ54Cy2VnBE_0UdA56MWYw5ja8P_bJ5XCY/

(Spreadsheet and testing done by TeamSticks)

Part Options

Battle Axe can be customized by mixing and matching the available alternate files:

- 4 different grip options
  - Default grip, with or without bottom “shoe”
  - Orion Blasters Lynx grip, with or without bottom “shoe”
- 5 different magazine options
  - 7 shells
  - 6 shells
  - 5 shells
  - 4 shells
  - 3 shells
- 5 different stock options
  - Buffer Tube
  - N-Strike
  - Picatinny Stock
  - Blank Filler
  - Stockless
- Alternate files with various sling attachment points on them

Also, there are STEP and F3D source files available for you to customize the blaster even further yourself!

I have a special, important request for anyone who is planning to edit the files for Battle Axe:PLEASE, PLEASE, PLEASE, do not make a detachable magazine version of Battle Axe. I am ON PURPOSE not yet releasing the detachable magazines because I want to get them 1000% correct and tested and good BEFORE I release any of them. I do not want people to print tons of mags, then I release a new blaster and they'd need to reprint all their mags. SO LET ME TAKE MY TIME ON THIS, PLEASE! No detachable mags yet!

Print Info

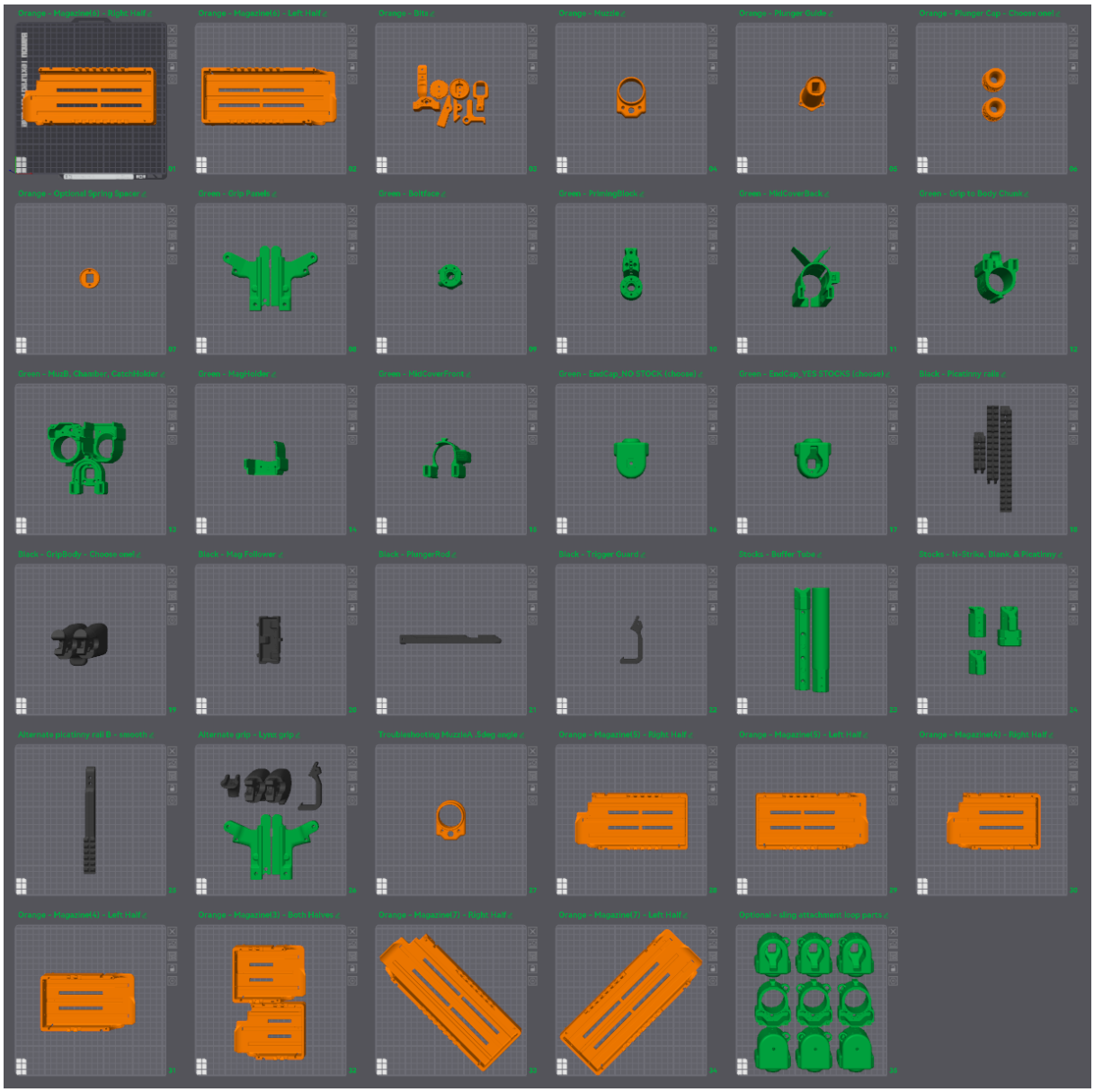
Filament usage estimates (PLA filament) (Estimate made with the 6 shell magazine, and the buffer tube stock attachment point. Also includes supports and brims for recommended parts.):

- **All parts together: 1352 grams of filament**
- Green: 800 grams
- Orange: 382 grams
- Black: 170 grams

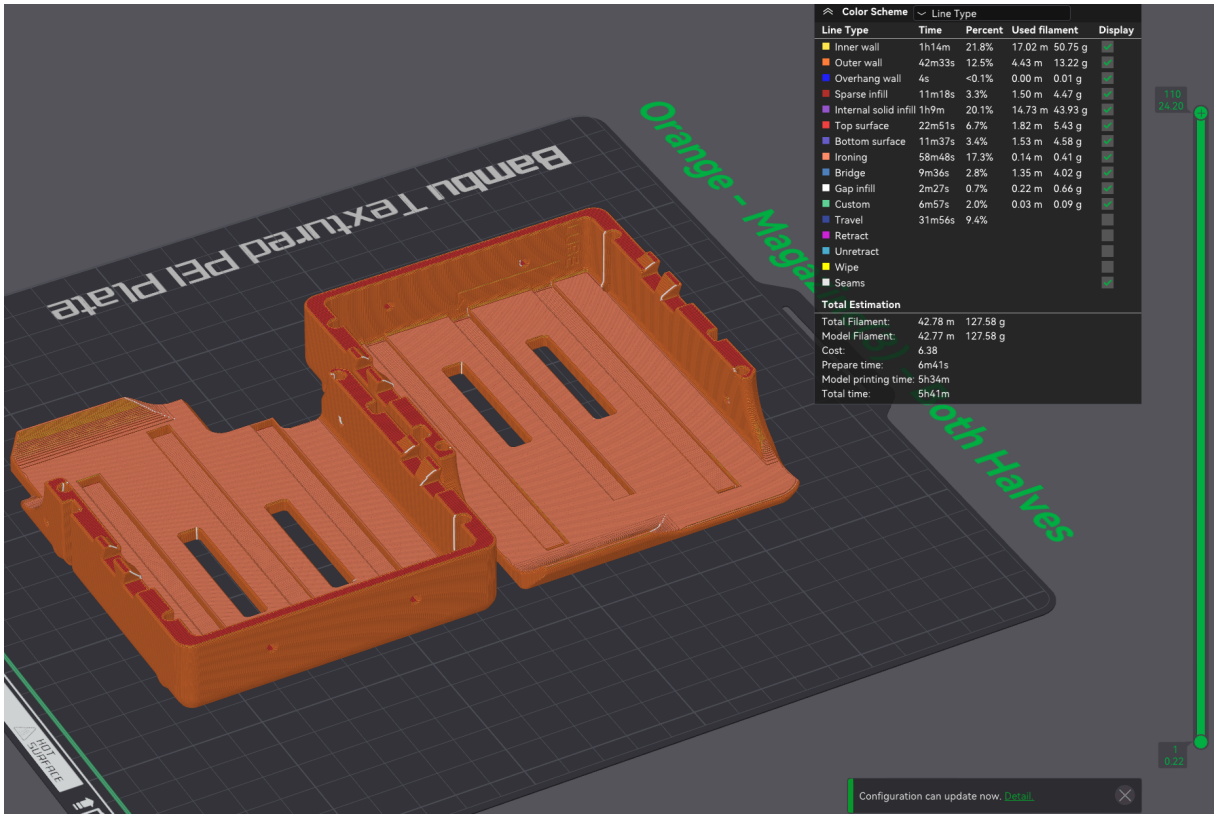
Filament	Model	Flushed	Total
1	268.42 m 800.59 g	0.00 m 0.00 g	268.42 m 800.59 g
2	127.86 m 381.35 g	0.01 m 0.04 g	127.87 m 381.39 g
3	56.84 m 169.52 g	0.01 m 0.03 g	56.85 m 169.55 g
Total	453.12 m 1351.45 g	0.02 m 0.07 g	453.14 m 1351.52 g

All **STLs** are exported in their **correct print orientations**.

There is a **.3MF** file for **Bambu Studio**, with all the parts in each folder laid out on plates, in their correct orientation, and with correct infill/wall/support settings.



I highly recommend enabling Print Ironing for the magazine parts. They need to be smooth on the inside.



For **brims**, make sure you set them to “**Outer brim only**”, so they only form on the outer edge of the parts. If you have it set to both sides, it will cover up screw holes with brims, which makes it harder to assemble.

220mm x 220mm minimum printer size for the 6 shell magazine.

If you have a smaller printer, I recommend using the 5 shell magazine or smaller.

The 7 shell magazine needs a print bed of 256mm x 256mm or larger.

The “default” print settings for **this blaster** are 20% infill, 5 walls (I use Gyroid infill pattern).
Parts with different settings will have those settings **marked in bold text**.

Black

- 20% infill, 5 walls: MagFollower.
- 20% infill, 5 walls, **BRIM**: FrontRail, BackRailA, BackRailB.
- **15%** infill, 5 walls: GripBody.
- **15%** infill, **3 walls**: TriggerGuard.
- **100%** (full) infill, **8 walls**, **BRIM**: PlungerRod.

Green

- 20% infill, 5 walls: GripPanels, MuzzleB, Chamber, CatchHolder, MidCoverFront.
- 20% infill, 5 walls, **BRIM**: MagHolder, PrimingBlock.
- **15%** infill, **3 walls**: MidCoverBack. (A brim might be helpful)
- 20% infill, **4 walls**: GripToBodyChunk.
- 20% infill, **8 walls**: EndCap.
- **100%** (full) infill, 5 walls: BoltFace.
- Optional: You can also enable ironing on the CatchHolder. Top surfaces ironing.

Orange

- 20% infill, 5 walls: Trigger, MuzzleA.
- 20% infill, 5 walls, **4mm TOP SHELL THICKNESS**: PlungerGuide.
- **15%** infill, 5 walls, **IRONING (top surfaces) RECOMMENDED**: MagSideRight, MagSideLeft.
- **100%** (full) infill, 5 walls: ShellStabilizer, PlungerHeadA, PlungerHeadB, Ejector, BarTensioningBlock, Catch.
- **100%** (full) infill, **8 walls**: Extractor, PlungerCap.
- Optional: You can also enable ironing on the Catch, to make it extra smooth. Top surfaces ironing.
- Note: The 4mm top shell thickness on the PlungerGuide is so the plunger spring doesn't break through the top of the part into the infill.

Stocks

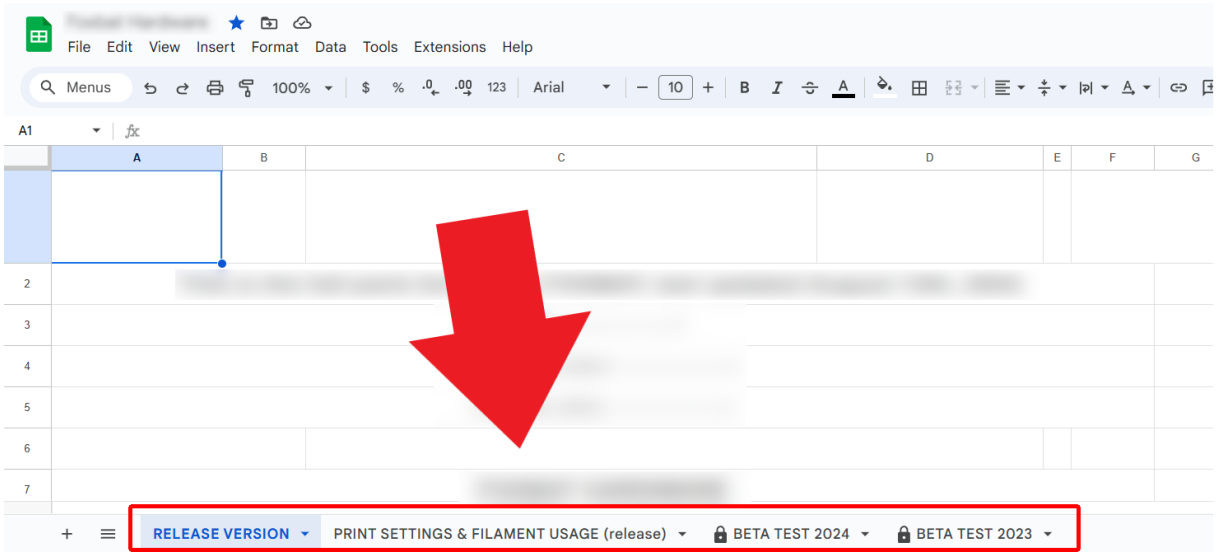
- N-Strike
  - 20% infill, 5 walls.
- Buffer Tube
  - 20% infill, **8 walls** for both Buffer Tube parts.
- Picatinny Attached Stock Point
  - 20% infill, **8 walls**.

Hardware

Full hardware list (parts list, bill of materials, whatever you want to call it):

https://docs.google.com/spreadsheets/d/1IuPevzKTM2WMUcG7H-_Hxd_Ky36PZv1PZgyCgMAP8J4/

Make sure you have the correct tab of the Google Sheet selected.



Hardware kits are available from these sellers:

- OutOfDarts: https://outofdarts.com/products/sillybutts-battle-axe-hardware-kit
- SilverFoxIndustries: https://silverfoxindustries.shop/collections/new-products/products/battle-axe-by-sillybutts-hardware-kit

A few notes regarding spring choice:

- **I recommend using k25 in Battle Axe**, its what I really designed the blaster around.
- Anything weaker than a 788 spring won't do very well with the larger capacity shells (3x elite, 3x rival, MXL, etc).
- Springs with strength between k25 and 788 are fine, if you want to use the blaster indoors with younger players for example.
- Any springs **stronger** than k25 don't really increase the performance of Battle Axe. Stronger springs just make the prime harder, and add more wear and tear to the blaster, without making it fire much harder. **K25 is the sweet spot** of spring strength.

Assembly

There is a full written and illustrated assembly guide for Battle Axe, available as a PDF download in this Printables file repository :)

Its really good, go download it.

There's really good text and picture instructions for every aspect of assembling Battle Axe!

Notes:

- Make sure ALL the supports are removed from any parts with supports.
- Remember to remove the built in supports from the picatinny rail dovetails.
- Put the rubber plunger padding on the plunger face after assembling the plunger rod and two plunger head parts.
- Lightly lube the Catch front face, and the bottom where the trigger touches it.
- DONT FORGET the o-rings when you assemble the priming block / breechface / plunger cap stuff together!!
    - 1 big o-ring on the plunger cap before you glue it to the plunger tube.
    - 1 o-ring between the PTcap and the priming block.
    - 1 o-ring between the priming block and the breechface.
    - 1 o-ring glued to the front of the breechface.
- I recommend wearing gloves while gluing the plunger tube to the PlungerCap, and while gluing the -016 o-ring to the Boltface.
- When you assemble the magazine, make sure to lubricate the grooves that the magazine follower rides in, so it glides smoothly.
- I HIGHLY recommend enabling ironing for the magazine prints, but its not technically 100% required. They NEED to be smooth.
- Round the edges of the plunger tube on the back end so it slides smoothly inside the blaster. Chamfer the inside edge and the outside edge.

Read the Assembly Guide!

Download the PDF file in the "other files" Printables section!

Misc.

If you print any of my designs, I'd love to see yours! Please consider leaving a Make on the Printables page, and leaving a review!

I have a special, important request for anyone who is planning to edit the files for Battle Axe:PLEASE, PLEASE, PLEASE, do not make a detachable magazine version of Battle Axe. I am ON PURPOSE not yet releasing the detachable magazines because I want to get them 1000% correct and tested and good BEFORE I release any of them. I do not want people to print tons of mags, then I release a new blaster and they'd need to reprint all their mags. SO LET ME TAKE MY TIME ON THIS, PLEASE! No detachable mags yet!

Thanks to DonutCat, BoomstickMods, TeamSticks, Zeph/1000Screws, and OutOfDarts for photos.

From trigger to muzzle, this blaster is about the same length as a Dart Zone Dictator (for size comparison).

The font for the magazine number text on the Silly Shell magazines is Teko.

The font for the Battle Axe logo is Soloist.

Buffer tube based off of this one by SaveYourBacon: https://www.printables.com/model/729350-airsoft-buffer-tube-castle-nut-and-end-plate

China: ! . ! , .

Disclaimer: This is not a toy. This blaster is meant for hobbyists, not children. Blaster must be operated correctly to avoid injury. I am not responsible for any injuries from this blaster. Please use a bright/blaze orange muzzle and barrel cap on this blaster. Consult local laws before building this high powered blaster.

Changelog:

- 11-15-2024: Release
- 11-17-2024: Added some new extra parts!
  - Added a blank GripToBodyChunk with no logos on the side.
  - Added a 2 shell magazine.
- 11-20-2024: Fixed a tolerance issue with all the stocks potentially rubbing against the plunger rod in the primed position. If you've already printed these affected parts, you can use sand paper or a file to widen the plunger clearance hole on the stocks. The STLs, F3D, STEP, and .3MF files have all been updates with these changes.
  - Affected parts:
  - Stock - Picatinny Attachment Point
  - Stock - N-Strike Lug

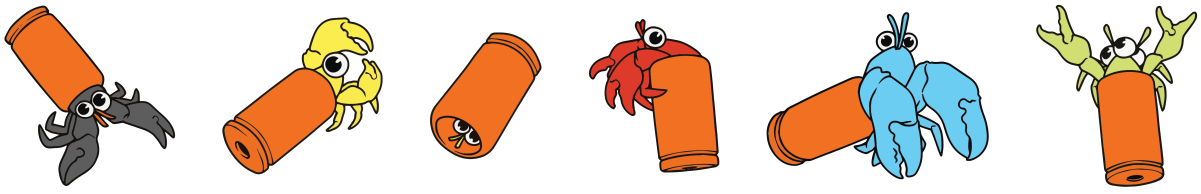
    - Stock - BufferTube_Top
    - Stock - BufferTube_Bottom
    - Stock - BlankFiller for stock endcap
- 11-24-2024: Assembly guide: fixed a typo in the catch assembly that previously said m3x10 instead of the correct m3x20 screw.

Donations & Merch

If you like what I do, please consider supporting me!

I don't charge for my files, so any donations or merch purchases would be greatly appreciated!

- Patreon (Monthly donations)
- Buy Me A Coffee (One-time donations)
- RedBubble My merch shop, full of fun Nerf-y stickers and shirts!



Model files

(Required) Green 13 files

boltface.stl

catchholder.stl

chamber.stl

endcap_nostock.stl

endcap_stockcompatible.stl

grippanel_left.stl

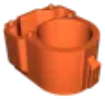
grippanel_right.stl

griptobodychunk.stl

magholder.stl

midcoverback.stl

midcoverfront.stl



muzzleb.stl

primingblock.stl

(Required) Orange

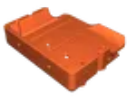
24 files

bartensioningblock.stl

catch.stl

ejector.stl

extractor.stl



magsideleft_2shell-print-ironing-recommended.stl

☐ Choose one magazine size, then print the corresponding Left and Right halves.

magsideleft_3shell-print-ironing-recommended.stl

☐ Choose one magazine size, then print the corresponding Left and Right halves.

magsideleft_4shell-print-ironing-recommended.stl

☐ Choose one magazine size, then print the corresponding Left and Right halves.

magsideleft_5shell-print-ironing-recommended.stl

☐ Choose one magazine size, then print the corresponding Left and Right halves.

magsideleft_6shell-print-ironing-recommended.stl

☐ Choose one magazine size, then print the corresponding Left and Right halves.

magsideleft_7shell-print-ironing-recommended.stl

☐ Choose one magazine size, then print the corresponding Left and Right halves.

magsideright_2shell-print-ironing-recommended.stl

☐ Choose one magazine size, then print the corresponding Left and Right halves.

magsideright_3shell-print-ironing-recommended.stl

☐ Choose one magazine size, then print the corresponding Left and Right halves.

magsideright_4shell-print-ironing-recommended.stl

☐ Choose one magazine size, then print the corresponding Left and Right halves.

magsideright_5shell-print-ironing-recommended.stl

☐ Choose one magazine size, then print the corresponding Left and Right halves.

magsideright_6shell-print-ironing-recommended.stl

☐ Choose one magazine size, then print the corresponding Left and Right halves.

magsideright_7shell-print-ironing-recommended.stl

☐ Choose one magazine size, then print the corresponding Left and Right halves.

muzzlea.stl

plungercapnoheatsets.stl

☐ This Plunger Cap has NO heat sets. The screws go directly into the plastic.

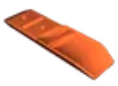
plungercapwithheatsetinserts.stl

☐ This Plunger Cap has space for M3 heat set inserts.

plungerguide.stl

plungerhead_a.stl

plungerhead_b.stl



shellstabilizer.stl

trigger.stl

(Required) Black

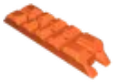
9 files

backrail_a.stl

backrail_b-smoothback-version.stl

The back area of this alternate picatinny rail is smooth, so your face can go further forwards.

backrail_b.stl



frontrail.stl

gripbody_noshoe.stl

gripbody_withshoe.stl

magfollower.stl

plungerrod-print-100percent-infill.stl

triggerguard.stl

(Choose a Stock) Stocks

5 files

stock-blankfiller-for-stock-endcap.stl

Used to fill in the EndCapWS if you decide not to use a stock after printing the EndCapWS.

stock-buffertube_bottom.stl

stock-buffertube_top.stl

warning-stock-n-strike-lug.stl

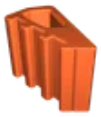
Warning: several people have told me this doesn't fit correctly on their stocks. Investigating.

stock-picatinny-attachment-point.stl

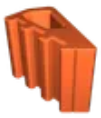
Priming Handle (Picatinny Attachment)

3 files

priming-handle-pump-grip.stl



pickeeper.stl



pickeepertighter.stl

If the pump handle is loose on the picatinny rail, use this tighter version of PicKeeper.

(Extras) Parts with sling attachment points

9 files

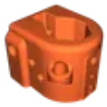
endcap_nostock_slingpointbothsidessling.stl

endcap_nostock_slingpointleftsling.stl

endcap_nostock_slingpointrightsling.stl

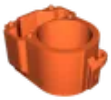
endcap_stockcompatible_slingpointbothsidessling.stl

endcap_stockcompatible_slingpointleftsling.stl



endcap_stockcompatible_slingpointrightsling.stl

muzzleb_slingpointbothsidessling.stl



muzzleb_slingpointleftsling.stl

muzzleb_slingpointrightsling.stl

(Extras) Optional Parts

3 files

muzzlea_05-degree-angled-back-surface-to-prevent-ga... .stl

If your muzzle has a gap at the very top edge, you can print this angled replacement.

plungerspringspacer_5mm-stackable.stl

If your plunger spring has wobble back and forth when unprimed, you can print this spacer.

griptobodychunk-no-battle-axe-logos.stl

GripToBodyChunk with no logos or text on it.

(Extras) Alternate Grip - Lynx Grip

6 files

lynx_gripbeavertail.stl

This is the grip from the Orion Blasters Lynx, adapted onto Battle Axe.

lynx_gripbody_noshoe.stl

This is the grip from the Orion Blasters Lynx, adapted onto Battle Axe.

lynx_gripbody_withshoe.stl

This is the grip from the Orion Blasters Lynx, adapted onto Battle Axe.

lynx_gripleft.stl

This is the grip from the Orion Blasters Lynx, adapted onto Battle Axe.

lynx_gripright.stl

This is the grip from the Orion Blasters Lynx, adapted onto Battle Axe.

lynx_triggerguard.stl

This is the grip from the Orion Blasters Lynx, adapted onto Battle Axe.

bambu-lab-bambu-studio-project-file-plates-battle-a… .3mf

A Bambu Studio .3MF file with all the parts arranged on plates with correct print settings!

f3d-battle-axe-internal-mag-shotgun-12-v68-11-20-20… .f3d

F3D source file for editing the blaster in CAD. PLS DON'T MAKE DETACHABLE MAG, WAIT FOR MINE!

step-battle-axe-internal-mag-shotgun-12-v68-11-20-2… .step

STEP source file for editing the blaster in CAD. PLS DON'T MAKE DETACHABLE MAG, WAIT FOR MINE!

Other files

battle-axe-assembly-guide-pdf-11-24-2024.pdf

Assembly guide for Battle Axe, fully explained in text and with tons of great pictures!

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