

G22 GRIZZLY XL

Minimalistic 22 Caliber Folding Survival Rifle

Original G22 Design
by Mussy

1 PARTS INDEX - REQUIRED PARTS

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1.1 BARREL & BREECHBLOCK

- .22 Rimfire Barrel Liner: <https://www.gunpartscorp.com/products/588180>
- Breech Block: 10mm solid rod <https://amzn.to/3mDaunn>
- #1 Drill Bit (for chambering): <https://amzn.to/3ay1EVE>
- Firing Pin: 7/64" drill bit

1.2 SCREWS & HARDWARE

- Hinge & Lock Screws: M5 x 35mm <https://amzn.to/3rf41Ct>
- Striker Spring / Rubber Band Studs: M2.5 x 6mm <https://amzn.to/3h8faAp>
 - Can alternatively drill out to M3 Size. I personally used RC Car Ball Studs
- Buttstock Screw: M4 x 20mm <https://amzn.to/3mDhElm>
- Trigger Screw: M3 x 20mm <https://amzn.to/37BsPwD>
- Foregrip Retainer Screws: M4 x 8mm grub / set screws <https://amzn.to/3nGAYFL>
 - Optional, for holding the foregrip in place. Could be glued.
- 3mm Steel Rods - <https://amzn.to/37kLv0F>
 - Optional, for aligning / reinforcing barrel and buttstock segments.
- Striker & Latch Spring: [0.8mm x 6mm x 50mm Stainless Steel Compression Spring](https://amzn.to/37kLv0F)

1.3 EVERYTHING ELSE

- JB Weld / Epoxy (Don't use Quick Setting) - <https://amzn.to/37vCumZ>
- Super Glue (Joining PLA segments) - <https://amzn.to/3mDmjK8>

2 3D PRINTING

2.1 OVERVIEW

I tested everything in PLA. I recommend the Receiver, Lock, and rear barrel segment / hinge to be printed at 100% infill. The stock, and remaining barrel segments can be printed at low infill thick walls (I used 10% infill and 4 shells). If printing in PLA, treat it like a pet or a child, aka don't leave it in extreme temperatures and take care of it.

2.2 GENERAL SETTINGS

- Nozzle: 0.4mm
- Material: High-Quality PLA –PETG or Nylon may work. ABS has not been tested.
- Slicer: Confirmed to print on Cura 4.5

2.3 PRINT SETTINGS

- Infill
 - Hinge, Lock, Receiver Parts, and Striker/Trigger Parts 100% Infill.
 - Grips, Buttstock, and barrel segments may be around 10-25% infill.
- Supports
 - Everything was printable without supports in the default orientation.
 - To improve strength, you may want to print the receiver in an alternative orientation. In this case, you will likely need supports. Printing on the rail side down may work
- Notes
 - Don't try to print too fast, you want it to be good. Even when using PLA, it helps to build in a warmer environment for strong layer adhesion and less warping.
 - Low quality prints may require sanding. Polish any mating surfaces or moving parts.

3 ASSEMBLY

3.1 BARREL ASSEMBLY

Drill each segment to 8mm to ensure fit for barrel liner.

Cut 3mm rod into 4 sections. Sand mating plastic surfaces, then pin sections together 3mm rod and CA / Superglue on mating surfaces.

Optionally, slide the foregrip onto the lower rails. Use M4 grub screws to secure position. You may want to wait until the buttstock is on to set final position to ensure folding works.

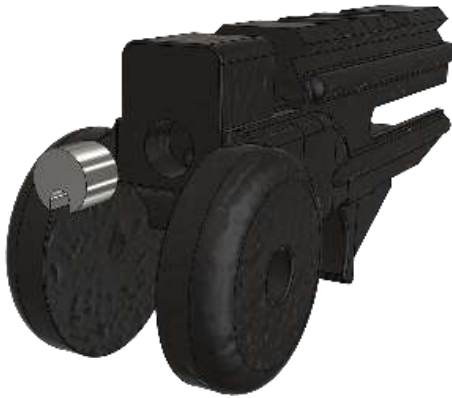


3.2 RECEIVER / STRIKER ASSEMBLY

Finish the hole on the striker for the firing pin using a 7/64" drill bit. The drill bit may be repurposed as the firing pin. Chamfer the shank / solid end to a chisel tip, leaving a flat face of about 0.5mm width. Clean and polish the firing pin, ensuring edges are not too sharp. Cut the fluted end, leaving the overall length of the firing pin around 47mm. Align the firing pin's chisel point vertically, and secure the fluted end into the striker using a strong epoxy.



Cut a length of 10mm rod to 8mm length. Cut a channel into the rod to allow the firing pin to pass through (may alternatively be drilled if easier). Secure using CA or Epoxy.

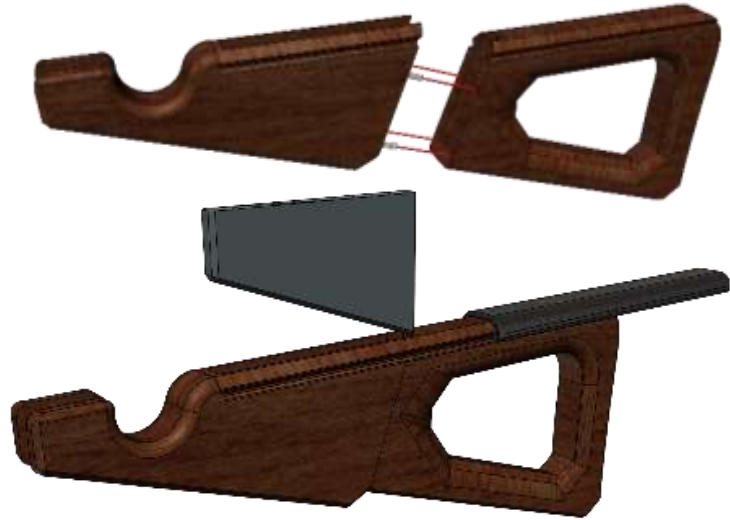


Install the trigger first into the receiver, followed by the striker. Once the striker is forward, use an M3 x 20mm screw to secure the trigger. Add M2.5 x 6mm screws for the rubber bands / striker springs.



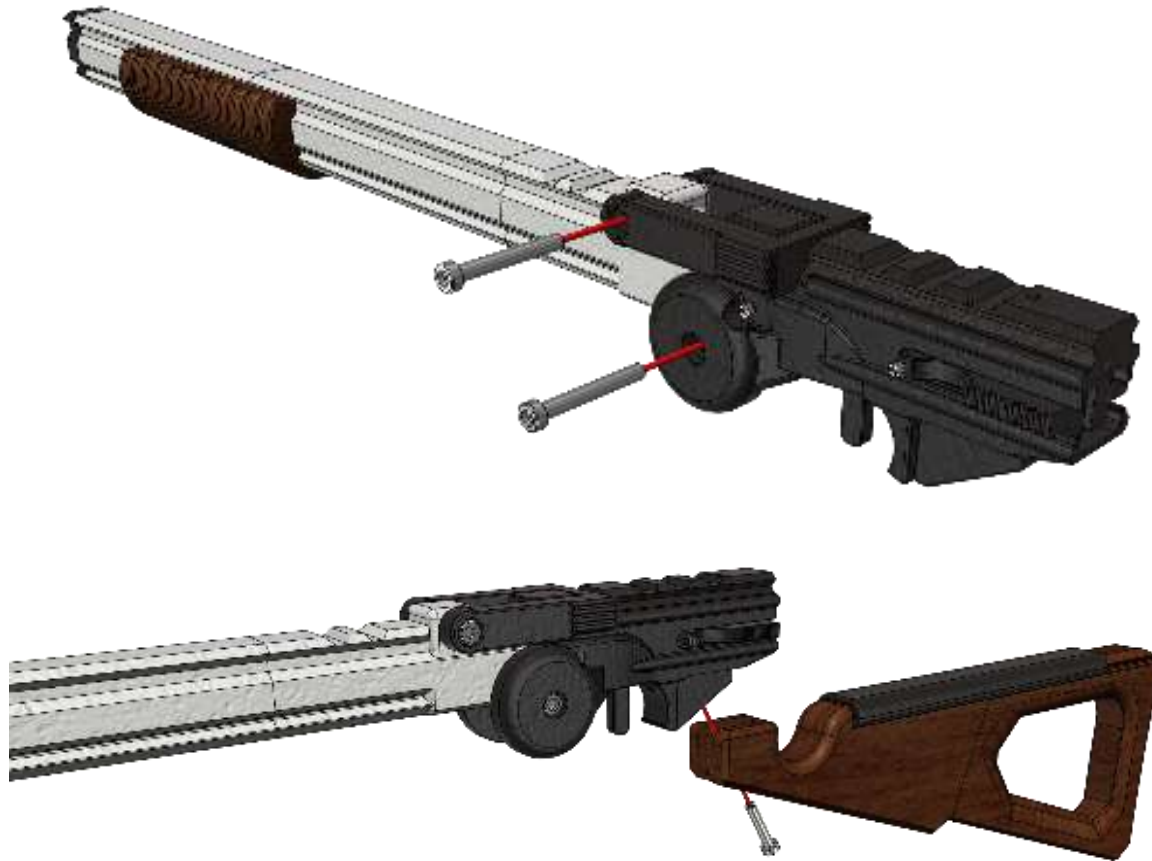
3.3 BUTTSTOCK

Cut 3mm rod into 4 sections, each no longer than 20mm. Sand mating plastic surfaces, then pin sections together 3mm rod and CA / Superglue on mating surfaces. The ammo holder may be installed in the top section, and secured using the sliding cover.



3.4 FINAL ASSEMBLY

Use M5 x 35mm screws to join the barrel and lock hinges. Use an M4 x 20mm screw to attach the buttstock to the receiver. Depending on tolerances, you may have to sand the lock surfaces to ensure smooth operation. Lock should securely snap into place.



3.5 BARREL LINER

Test to ensure the barrel liner freely pushes through the barrel. You may need to use a long 8mm drill bit to clean up an imperfect print.

Cut the barrel liner to around 16.5". Use a 22lr reamer, or a #1 Drill Bit to chamber the barrel. Sand and clean the exterior of the barrel, then coat the exterior in epoxy and press into the plastic barrel. Using a spent 22lr case, check headspacing. The barrel should be pushed back so there is no space between the case head and the breech block. Once headspacing is set, leave epoxy to set for 12-24hr.

4 SAFETY & USAGE

TEST FIRE THE GUN REMOTELY. Secure the gun to a solid surface and fire remotely with a string attached to the trigger.

Inspect the condition of the gun during and after each session of usage. Discard any parts which show excessive wear. Always wear safety glasses and ear protection when firing. You do not want ear or eye damage from vented gases in the case of cartridge failures.

