Kar98k bolt action ballpoint pen

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VIEW IN BROWSER

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Summary

"Kargelschreiber" Kar98k inspired, takes Pilot G2 cartridge

4.71 hrs	4 pcs	0.15 mm 0.20 mm	0.40 mm	PLA	17 g	Prusa MK3/S/S+

Gadgets > Other Gadgets

Tags: ballpointpen boltactionpen karabiner pen

Everyone loves bolt-action pens so why not have a pen that looks like a bolt action rifle? What started as a joke turned out to be one of my favorite 3D Printing projects to date.

be sure to check out everyones awesome makes!BOM

- printed parts (stock, barrel, front furniture, small pieces)
- Pilot G2 refill cartridge
- Pilot G2 compatible spring (OD:6,2mm, ID:5,3mm, L:20mm)
- alternatively salvage a Pilot G2-07 pen (~2.5€)

Print Instructions (total 4h40min)

all prusaslicer .3mf project files have custom supports and seams.

- **stock** & **front-furniture:** print upright, ~0.15mm layer height, stock supports not required but useful for bad bed adhesion or high accelerations. MK3S(+) w/ satin sheet does not require them.
- **barrel:** print upright, ~0.2mm layer height, support required (up to the ejection port)
- **small pieces:** same filament as barrel, just print them in the orientation that they come in the prusaslicer .3mf or alternatively as indicated in the file description of the standalone pieces.
  PSA cellulose (woodfill) is hygroscopic → drying filament beforehand highly recommended

Print cleanup

tolerances are **tight**. Keep sidecutters and razor blade etc. handy. Parts will need to be touched up and individual mating surfaces might need some love. **No glue or screws** though

Assembly

1. grab the “bolt” and sand it until it slides smooth within the barrel (I use a drill & sandpaper)
2. pressfit the “bolt handle” into the hole close to the rear of the bolt
3. insert the spring and Pilot G2 cartridge into the barrel
4. push in the bolt against the spring and secure it with the small cylinder through the cutout in the barrel

5. pressfit the “trigger assembly” into the stock

6. insert the square block on the barrel into the square hole in the stock

7. slide the other wooden “front piece” onto the barrel and slide it below the rear sight

8. add the front retaining band and the front sight

I've previously used colorfabb steelfill but I prefer the look of Prusament Galaxy Black (pictured). The stock is printed in woodfill PLA.

I'd love to see how your Kargelschreiber turns out :)

Model files

Prusaslicer files with custom supports and seams 6 files

stock-v2-ps.3mf

V2 with PRUSASLICER specific seams, no support

front-furniture-ps.3mf

with PRUSASLICER specific seams and supports

kar98k-pen-barrel-v3-ps.3mf

with PRUSASLICER specific seams and supports

small-metal-parts-ps.3mf

with PRUSASLICER specific seams and supports

stock-v2-supported-ps.3mf

BACKUP with custom support, usually not necessary

small-metal-parts-prearranged.stl

conveniently arranged small parts in a single file, please support the trigger assembly

raw 3D files

9 files

stock-kar98k-v2.3mf

V2 minimal changes to eliminate unnecessary thin walls

barrel-v3.3mf

added chamfer near tip, print with supports, rear barely touching bed

front-furniture.3mf

print upright with supports

trigger-group.3mf

print with pegs facing down, supported on build plate only

front-bling.3mf

print with rod facing up

bolt.3mf

print upright with flat face down

bolt-guide.3mf

bolt-handle.3mf

flat side down

sight-front.3mf

flat side down

Archive of old versions

5 files

kar98k-stock.3mf

V1 with prusaslicer seams and supports

kar98k-stock-no-support.3mf

V1 with prusaslicer seams

barrel.3mf

print upright

barrel-v2.3mf

print upright, V2 with enlarged muzzle diameter

stock-kar98k.3mf

V1

Print files

front-furniture_015mm_woodpla_mk3s_36m.gcode

PLA 0.40 mm 0.15 mm 0.60 hrs 2 g Prusa MK3/S/S+

using colorfabb woodfill 200°C profile

small-pieces_02mm_pla_mk3s_32m.gcode

PLA 0.40 mm 0.20 mm 0.54 hrs 2 g Prusa MK3/S/S+

Prusament defaults

kar98k-pen-barrel-v3_02mm_pla_mk3s_1h7m.gcode

PLA 0.40 mm 0.20 mm 1.11 hrs 4 g Prusa MK3/S/S+

stock-v2_015mm_woodpla_mk3s_2h28m.gcode

PLA 0.40 mm 0.15 mm 2.46 hrs 9 g Prusa MK3/S/S+

using colorfabb woodfill 200°C profile

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