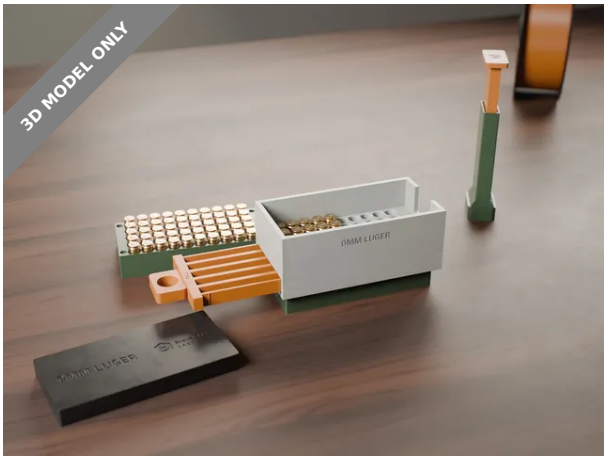
Printables
by JOSEF PRUSA



Primer-Up Ammo Racks with Drop-Through Shaker, 13 Calibers

Zoid

VIEW IN BROWSER

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Summary

Dump, shake, pull the gate: 50 rounds drop into a 5x10 rack primer up. 13 calibers, plunger mag loaders and Gridfinity.

Sports & Outdoor > Other Sports

Tags: box speed ammo storage tray glock block loader 9mm primer loading mag up pmag gridfinity

Pour a handful of loose rounds into the shaker, shake it, set it on a rack and pull the gate. Fifty rounds drop into the rack nose-down, primer up, ready to pick up by the case head and feed your mag loader. Every part prints flat in PETG with no supports.

How it works

1. Slide the gate into the shaker until it clicks.
2. Dump in a handful of rounds and shake side to side. Nose-down rounds drop deep into the gate slots and stay. Base-down rounds sit high and tip back out.

3. Tip the extras out of the spout and set the shaker on an empty rack. The skirt lines up every pocket.
4. Pull the gate. The slots are open at the far end, so the gate slides out from under the rounds and all 50 drop straight into the rack.
5. Lift the shaker off. Lid on for storage, or load straight from the rack.

Calibers (13 sets)

- .22 LR (rounds hang by the rim, since the bullet is as wide as the case)
- .380 ACP
- 9mm Luger (loader: Glock 9mm)
- .40 S&W (loader: Glock .40 S&W)
- 10mm Auto (loader: Glock 10mm)
- .45 ACP (loader: Glock .45 ACP)
- .38 Special and .357 Magnum
- 5.56 NATO and .223 Rem (loader: AR-15)
- .300 Blackout (loader: AR-15)
- 7.62x39
- .308 Win and 7.62x51 (loader: AR-10 / SR-25)
- 6.5 Creedmoor (loader: AR-10 / SR-25)
- .30-06 Springfield

Each set has 7 files: Rack, Lid, Shaker Top, Shaker Base, Gate, Fit Test and Gridfinity Tray, plus a Row Strip and its fit test for calibers with a loader. .38 Special and .357 Magnum share one set.

Plunger mag loaders

Lay up to 10 rounds flat in the channel, nose toward FRONT, and press the plunger to the stop. The plunger stores inside the loader.

- Glock 9mm: G17, G19, G26, G34, G45, PMAG GL9
- Glock .40 S&W: G22, G23, G27, G35
- Glock 10mm: G20, G29, G40
- Glock .45 ACP: G21, G30, G41
- AR-15: PMAG 30 AR/M4, USGI and other STANAG mags
- AR-10 / SR-25: PMAG 20 and 25 LR/SR, SR-25 pattern mags

Each loader has 4 files: Body, Plunger, Socket Test Ring and Gridfinity Caddy. Revolver, rimfire and AK loaders aren't included, since those mags and cylinders vary too much for one design. Socket sizes for Glock 10mm, Glock .45 ACP and AR-15 are estimated, so print the Socket Test Ring first.

Row strips

Picks a whole row out of the rack and feeds it to the loader, 10 rounds at a time. Slide the strip along a row, primer side up, so its lips ride in the extractor grooves under the rims, then lift. Stand it open end down on the loader top, where it seats in the funnel, and thumb the rounds down the channel. A spring detent near the open end holds the row until you push, and it presses on the case head beside the primer, never on it.

Strips come for every caliber with a loader: 9mm Luger, .40 S&W, 10mm Auto, .45 ACP, 5.56 NATO and .223 Rem, .300 Blackout, .308 Win and 7.62x51 and 6.5 Creedmoor. They grip the extractor groove, so rimmed and rimfire rounds don't get one. Groove sizes vary by brand, so print the 3-round Row Strip Fit Test first: it should slide onto a row with light drag, lift the rounds, hold them when tipped open end down, and let them go with a thumb push.

Case storage with Gridfinity

Every rack has a Gridfinity tray (4x2, or 3x2 for .22 LR) that holds it with the lid on, and every loader has a 3x1 or 4x1 caddy that holds it with the plunger inside. They drop into any standard Gridfinity baseplate. Loaded trays stand 6u to 14u tall (7 mm units), so they fit under the lid foam of most rifle cases.

Pair them with my Gridfinity DAKA case inserts for rifle cases: Gridfinity DAKA

Parametric version

Parametric - Primer-Up Ammo Racks.scad is the whole system in one OpenSCAD customizer file with no libraries. Pick a part and a caliber, or enter your own cartridge dimensions. Change the rounds per row and rows per rack, pick a magazine or enter your own mag measurements, and set your own label text. The part comes out oriented for the bed, and the console lists the rack size and the Gridfinity tray and caddy sizes.

Tested in desktop OpenSCAD 2021.01, where racks and shaker tops take a couple of minutes to render. For a custom cartridge, print the Fit Test before anything else.

Print these first

- Fit Test (one per caliber, about 15 minutes): drop a round in nose-first and it should sink until the case mouth catches on the slot edges. Base-first, it should sit high and tip out. The rack coupon checks pocket depth and the magnet fit.

- Socket Test Ring (one per loader, about 10 minutes): it should slide over the top of your mag with light play.
- Row Strip Fit Test (about 15 minutes): see Row strips above.

Print settings

- PETG, 0.2 mm layers, 3 walls, 15% gyroid infill, no supports.
- Gate: 0.16 mm layers and 4 walls. Its slots are the tightest tolerance in the system.
- Row strips: 0.16 mm layers, flat side down as exported, so the thin lips print cleanly.
- Every file is already oriented for the bed. Lids and loaders print upside down on purpose.
- Clean any PETG strings out of the gate slots and rack pockets before first use.

Hardware and assembly

- 8 magnets per rack and lid: 6 x 2 mm N52 discs, glued with a drop of CA.
- Polarity: before splitting the magnet stack, mark the top face of each magnet. Rack magnets go mark up, lid magnets go mark down into the pocket. Any lid then fits any rack either way round.
- Glue the Shaker Top onto the Shaker Base. The pins line them up. Keep glue out of the gate tunnel.

Tips

- Shake a loose layer one or two rounds deep. Pistol rounds sort fastest.
- Long rifle rounds sort too, with a gentler, longer shake. Fix any stragglers by hand.
- .22 LR hangs by its rim in the gate and stands on its nose in the rack, with the rim 6 mm proud.
- Flush-seated wadcutters don't sort, since they sit at the same height either way up.

Safety

- These are storage and loading accessories. No part pushes on a primer.
- PETG softens around 80 C. Don't leave loaded racks on a dashboard in summer.
- Inspect rounds as you load. Never force a round into a pocket or a loader.
- Follow your local laws for storing and transporting ammunition.

Related models

Chamber flags with dummy round pegs, 32 calibers

Gridfinity DAKA case inserts

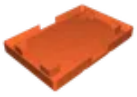
Want a caliber or magazine that isn't here? Try the parametric file, or leave a comment with the cartridge or your mag measurements.

Model files

1 Rimfire 7 files



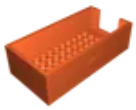
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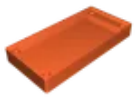
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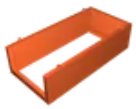
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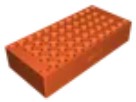
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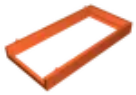
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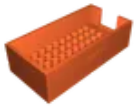
2 Pistol 43 files



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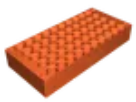
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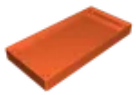
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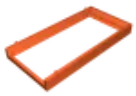
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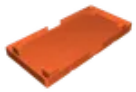
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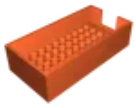
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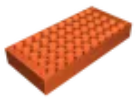
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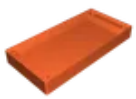
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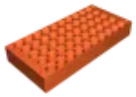
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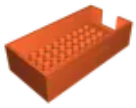
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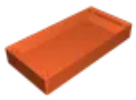
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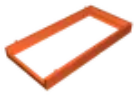
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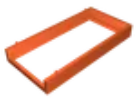
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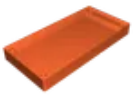
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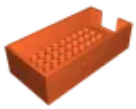
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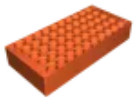
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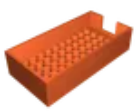
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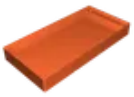
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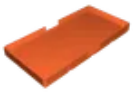
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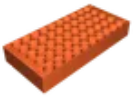
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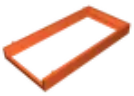
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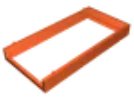
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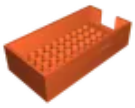
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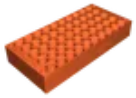
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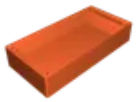
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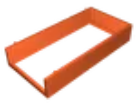
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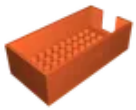
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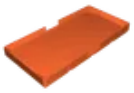
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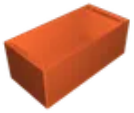
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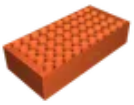
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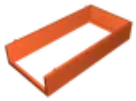
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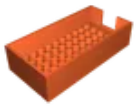
rifle-65-creedmoor-shaker-base.stl



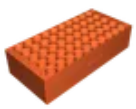
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rifle-65-creedmoor-row-strip-fit-test.stl



rifle-65-creedmoor-shaker-top.stl



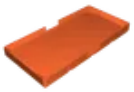
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rifle-65-creedmoor-fit-test.stl



rifle-65-creedmoor-gate.stl



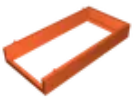
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rifle-65-creedmoor-row-strip.stl



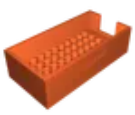
rifle-556-nato-and-223-rem-row-strip-fit-test.stl



rifle-556-nato-and-223-rem-shaker-base.stl



rifle-556-nato-and-223-rem-gridfinity-tray.stl



rifle-556-nato-and-223-rem-shaker-top.stl



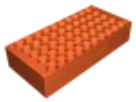
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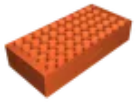
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rifle-556-nato-and-223-rem-rack.stl



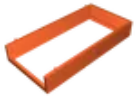
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rifle-762x39-rack.stl



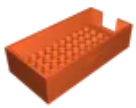
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rifle-762x39-shaker-base.stl



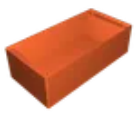
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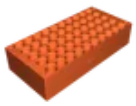
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rifle-762x39-fit-test.stl



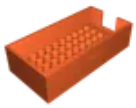
rifle-308-win-and-762x51-lid.stl



rifle-308-win-and-762x51-rack.stl



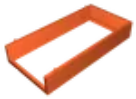
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rifle-308-win-and-762x51-shaker-top.stl



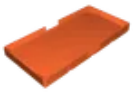
rifle-308-win-and-762x51-row-strip-fit-test.stl



rifle-308-win-and-762x51-shaker-base.stl



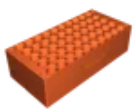
rifle-308-win-and-762x51-fit-test.stl



rifle-308-win-and-762x51-gridfinity-tray.stl



rifle-308-win-and-762x51-row-strip.stl



rifle-300-blackout-rack.stl



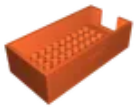
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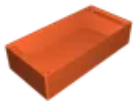
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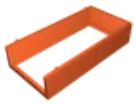
rifle-300-blackout-fit-test.stl



rifle-300-blackout-shaker-top.stl



rifle-300-blackout-lid.stl



rifle-300-blackout-shaker-base.stl



rifle-300-blackout-gate.stl



rifle-300-blackout-row-strip.stl



5 Mag Loaders 24 files



loader-glock-45-acp-socket-test-ring.stl



loader-glock-45-acp-gridfinity-caddy.stl



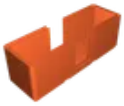
loader-glock-45-acp-body.stl



loader-glock-45-acp-plunger.stl



loader-ar-15-plunger.stl



loader-ar-15-gridfinity-caddy.stl



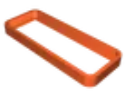
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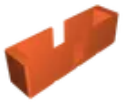
loader-ar-15-body.stl



loader-ar-10-and-sr-25-body.stl



loader-ar-10-and-sr-25-socket-test-ring.stl



loader-ar-10-and-sr-25-gridfinity-caddy.stl



loader-ar-10-and-sr-25-plunger.stl



loader-glock-10mm-plunger.stl



loader-glock-10mm-body.stl



loader-glock-10mm-gridfinity-caddy.stl



loader-glock-10mm-socket-test-ring.stl



loader-glock-40-sw-plunger.stl



loader-glock-40-sw-body.stl



loader-glock-40-sw-gridfinity-caddy.stl



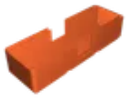
loader-glock-40-sw-socket-test-ring.stl



loader-glock-9mm-plunger.stl



loader-glock-9mm-socket-test-ring.stl



loader-glock-9mm-gridfinity-caddy.stl



loader-glock-9mm-body.stl



6 Parametric 1 file



parametric-primer-up-ammo-racks.scad

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