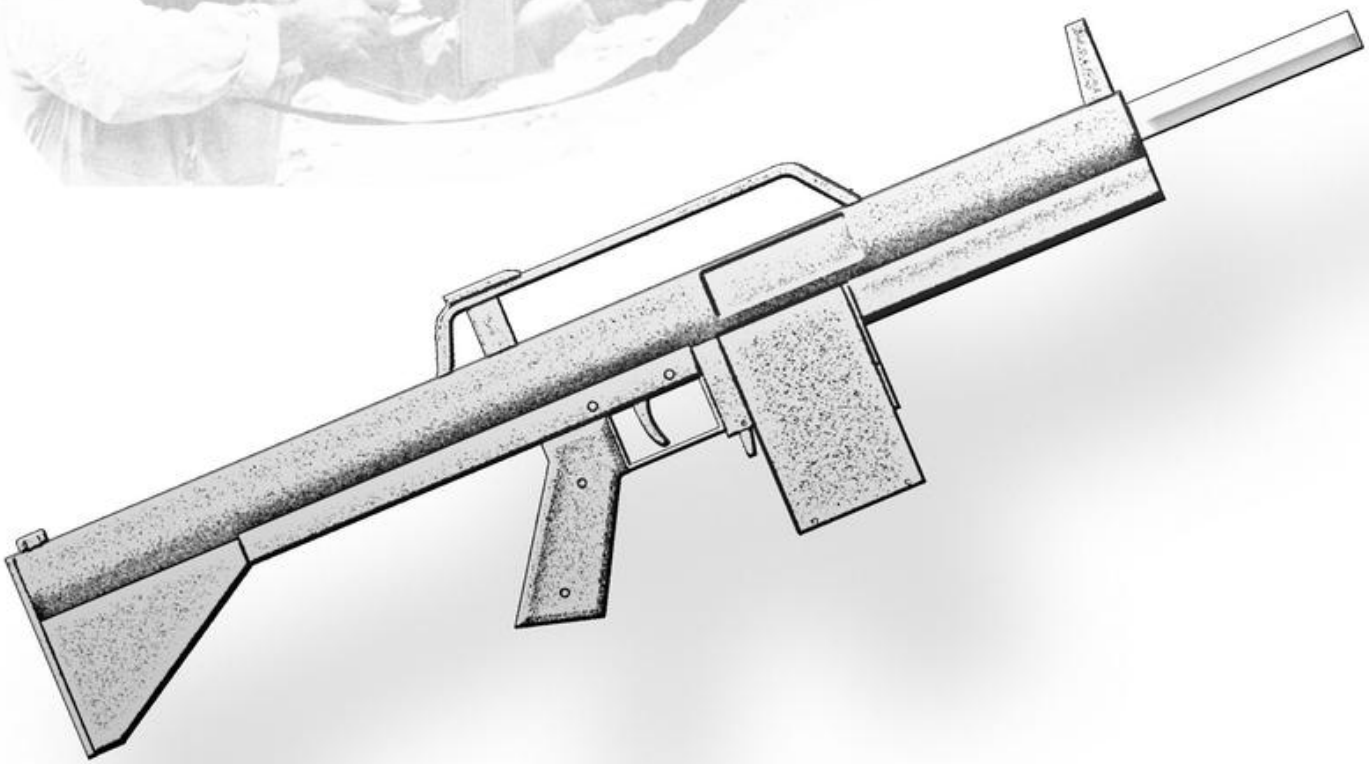
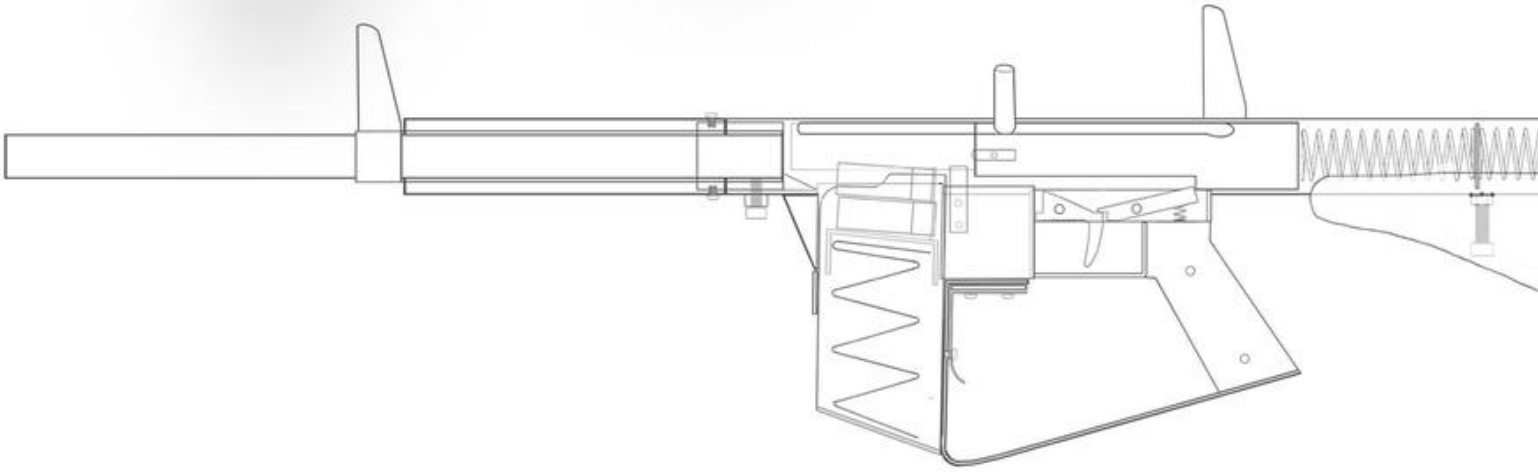
DO-IT-YOURSELF

FULL AUTO ASSAULT SHOTGUN

CONSTRUCTION PLANS





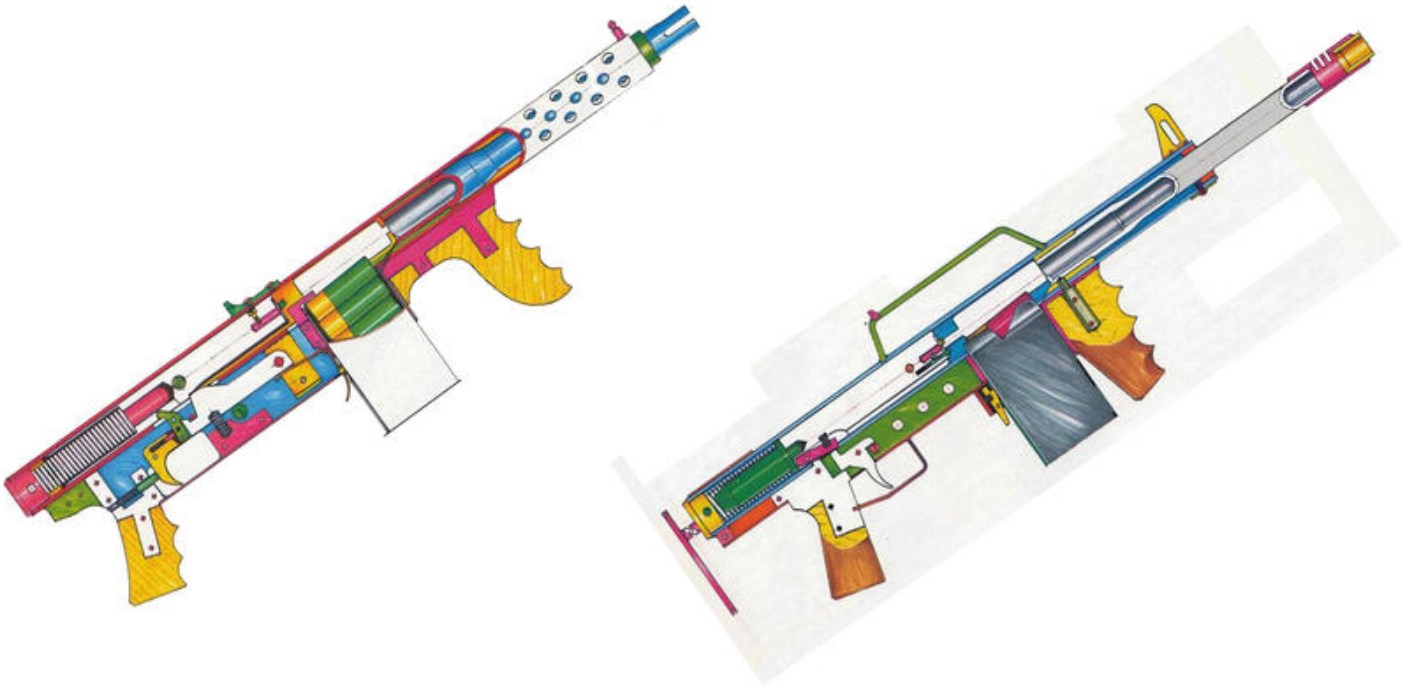
PROFESSOR PARABELLUM

Introduction

Due to widespread availability of ammunition and ease of sourcing materials for improvised barrels, the 12 gauge shotgun remains the go-to homemade firearm. Introduce 10 to 20 rounds of highly controllable automatic fire and you have perhaps the deadliest, most effective home defense weapon you could ever wish to get your hands upon. This type of DIY weapon is truly a game changer. By following the plans contained herein the average weekend garage tinkerer can put together what is essentially a weapon on par with an AA-12 with just a trip to a decent metal stockist. As the barrel is made from readily available tubing and ammunition is good old 12 gauge, it can be made under almost any conditions while living under regimes which may not be partial to the idea of citizens owning firearms. As far as firepower goes, it is quite simply unbeatable.

The Legendary Filipino Fully Automatic Battle Shotguns

This type of shotgun is by no means new. In the Philippines during the years before the declaration of martial law in 1972, local gunsmiths in Ilocos and Cebu had been building identical weapons which were said to have often been special ordered by local politicians to equip their bodyguards. These 12 and 20 gauge shotguns were made in conventional submachine gun formats and were straight blowback, firing from an open bolt. They utilized large bolts and heavy duty recoil springs to dampen the fierce recoil. One example was noted by an acquaintance as being extremely simple, for example having no extractor yet functioning flawlessly through a box of shells. Variations made by gunsmiths who supplied rebels in Mindanao were full sized battle guns suited for jungle fighting, capable of unleashing tremendous firepower at increased ranges. It was common for these to use two SLR or Browning BAR magazines brazed together to hold 8 to 10 rounds of 12 gauge. A copy of the Thompson muzzle break was often brazed on to the end of the barrel.

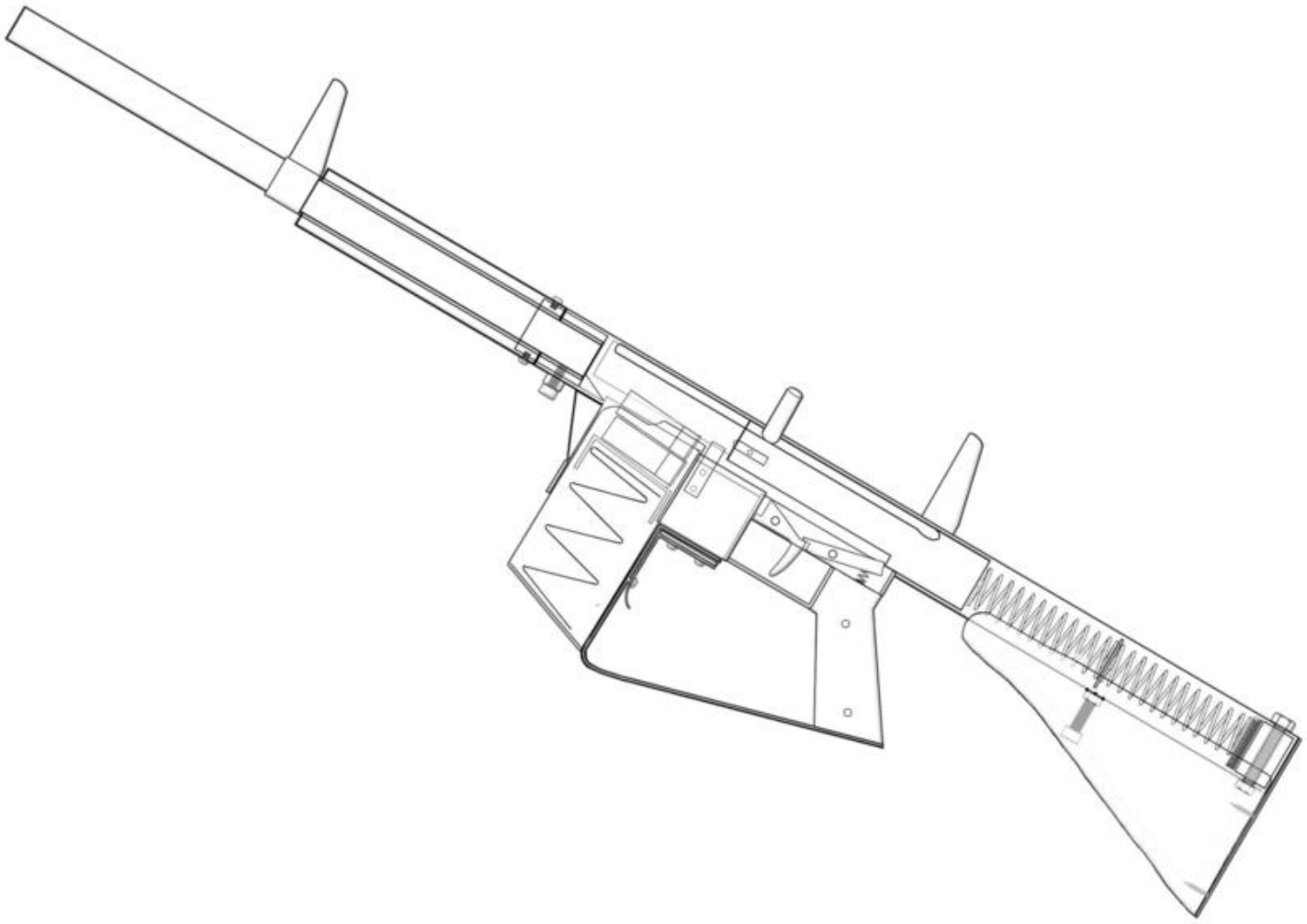


Locally made open bolt fully automatic shotguns; Illocos made (Left) and Mindanao made (Right). *(J.M Ramos)*

The Atchisson Assault Shotgun (1972 prototype)

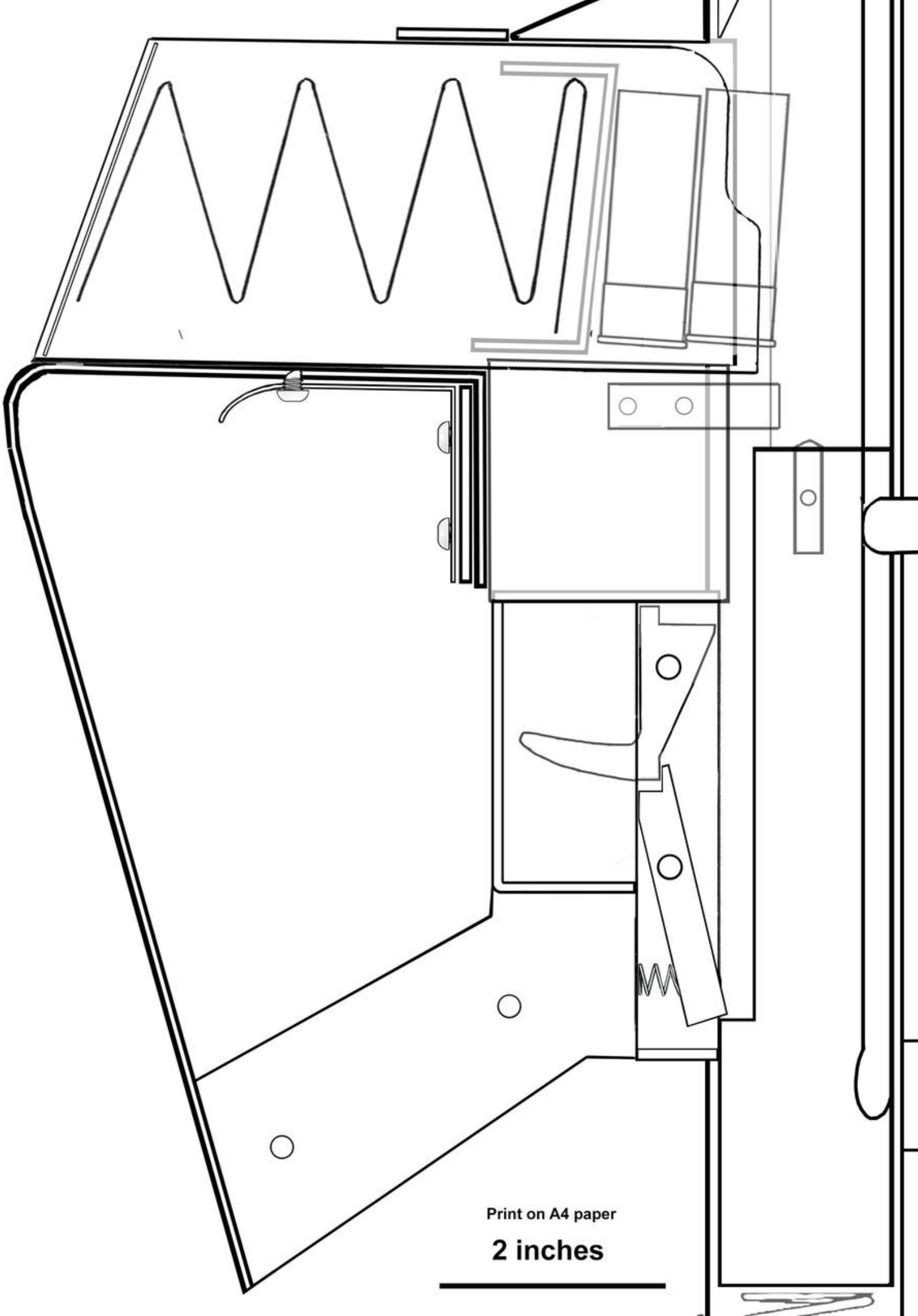
Photos: Small Arms Review

Open-Bolt Automatic Shotgun MK-1



Materials:

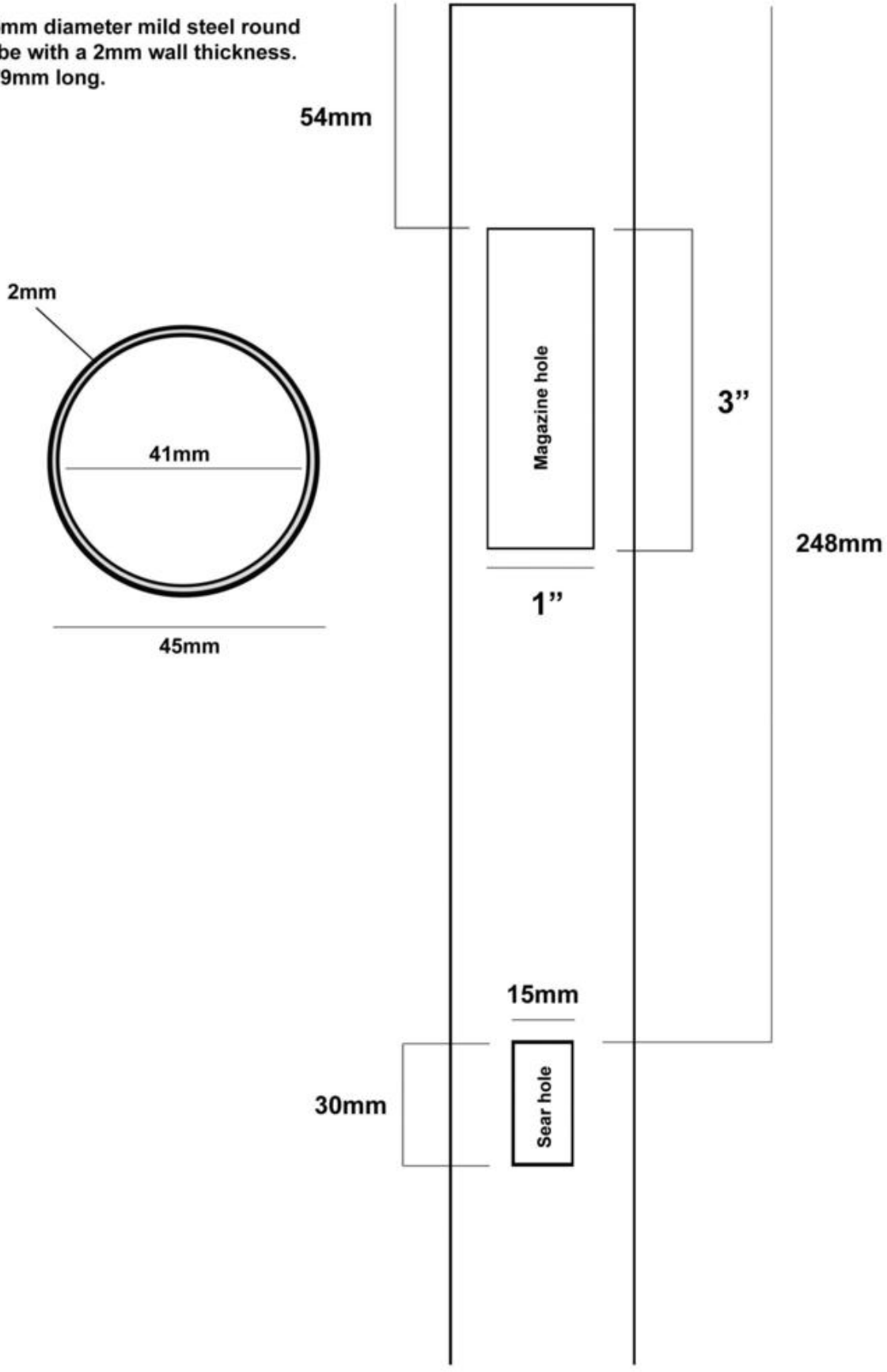
Receiver tube: 45mm x 2mm wall mild steel round tube, 579mm long.
Bolt: 40mm dia mild steel bar, 7.5" long.
Barrel collar: 40mm x 5mm wall steel tube.
Feed ramp: 10mm thick steel shape.
Barrel: 25mm (1") x 3mm steel tubing sleeved with 30mm x 2mm tube. 18" long.
Trigger group: 10mm steel plate.
Recoil spring: x2 grease applicator gun springs.
Magazine: Bent from 20 gauge (1mm) steel sheet. Alternatively modified from FAL, G3, BAR mags or adapted to accept Saiga-12 mags.


Print on A4 paper
2 inches

Receiver

(Bottom - Front end)

45mm diameter mild steel round tube with a 2mm wall thickness. 579mm long.

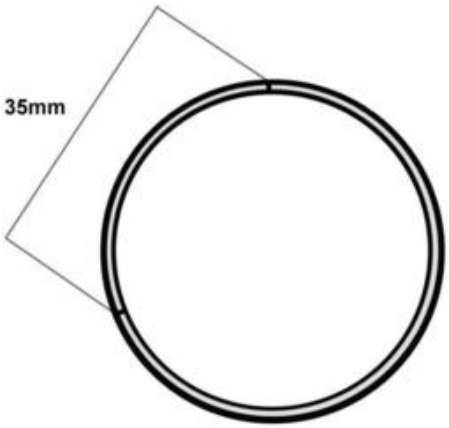


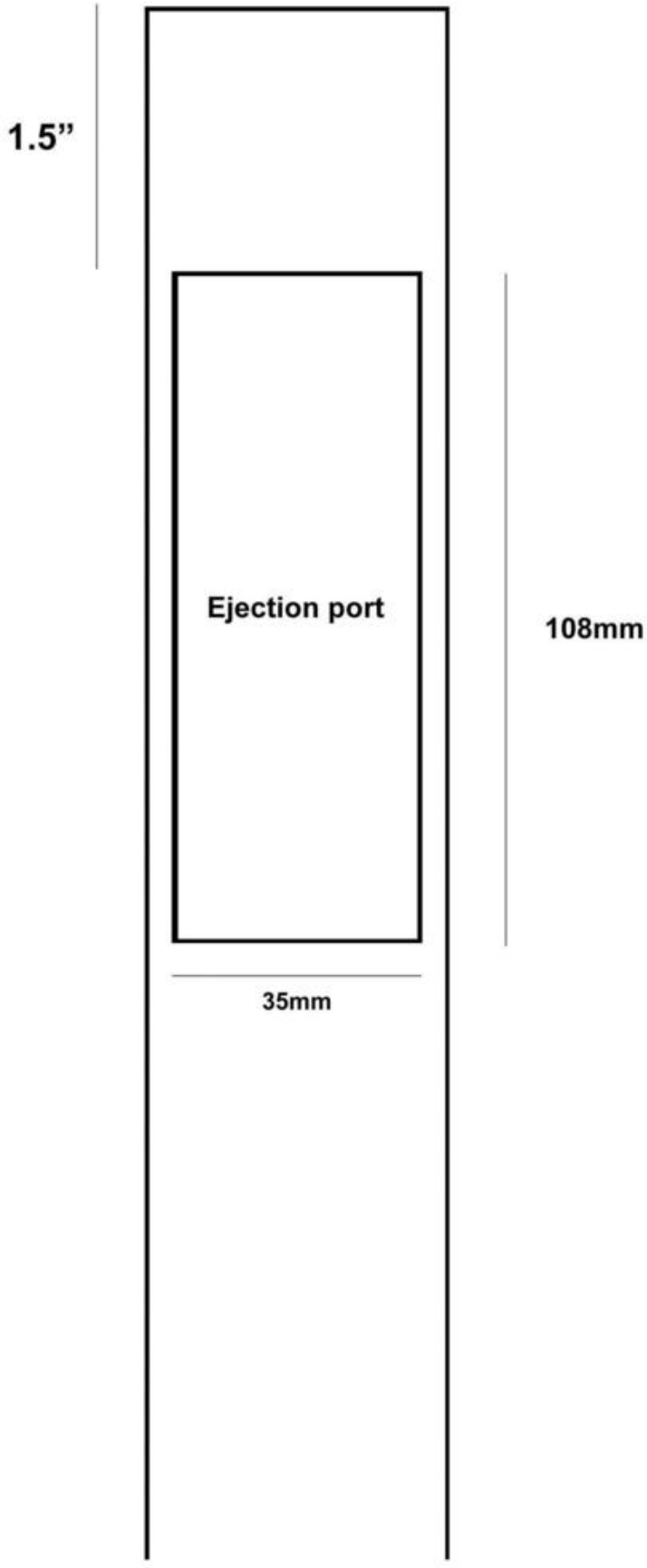
Print on A4 paper

2 inches

Receiver

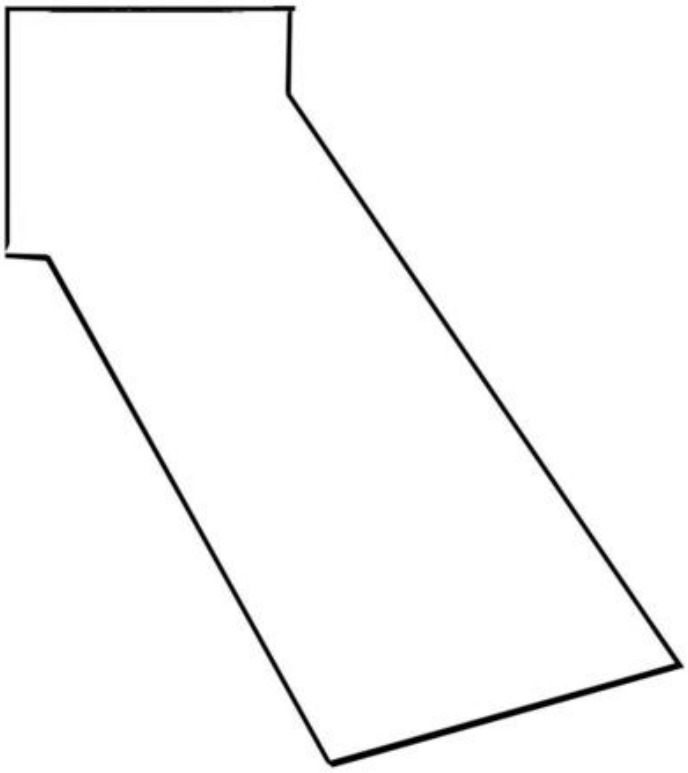
(Ejection port)





Grip frame

Cut from 4mm to 6mm (1/4") steel plate



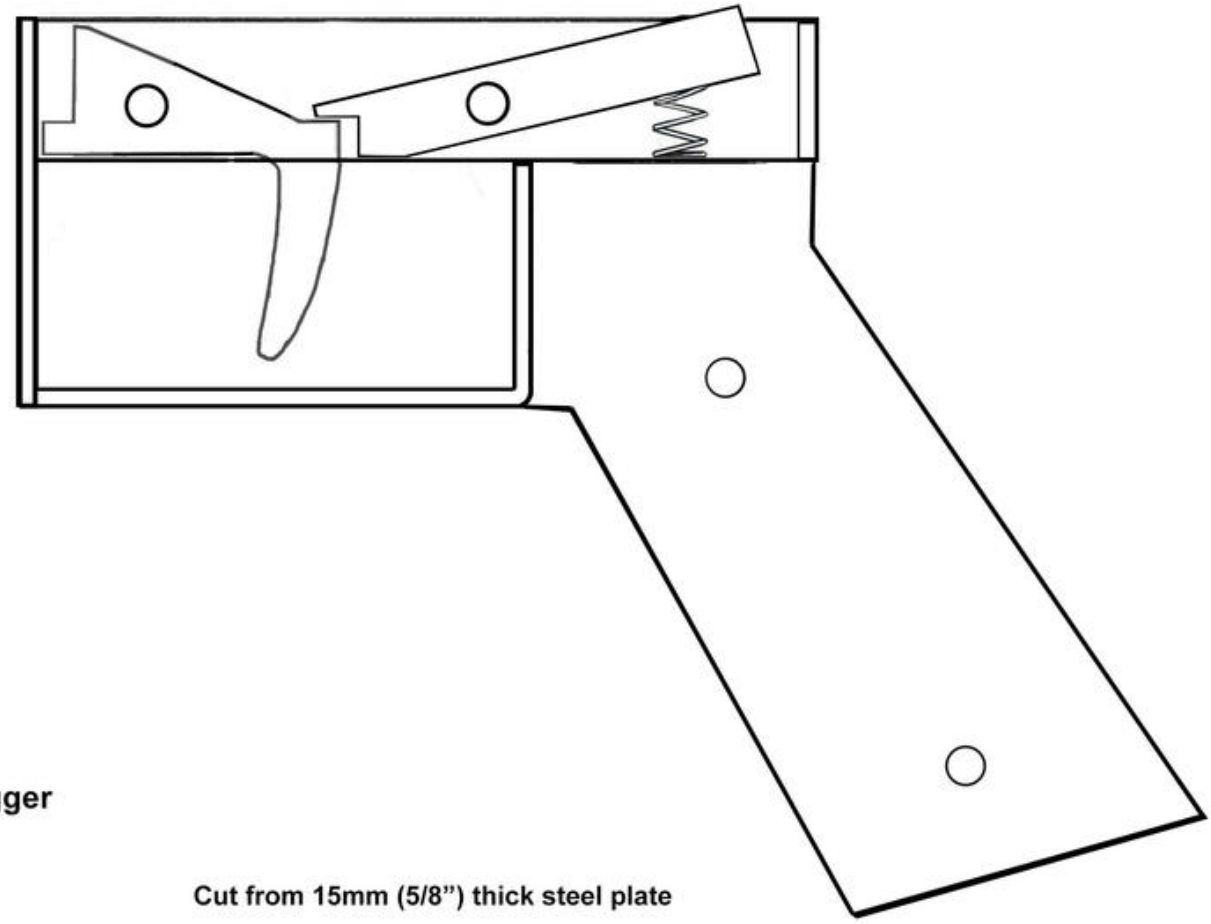
Trigger guard

Bend from a 95mm length of 5/8" wide, 2mm thick steel strip

Print on A4 paper

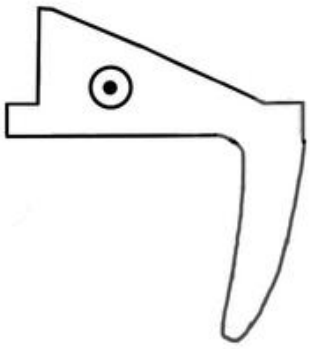
2 inches

Trigger mechanism



Trigger

Cut from 15mm (5/8") thick steel plate



Sear

Harden

Secure each to frame using x2 6mm dia steel pins

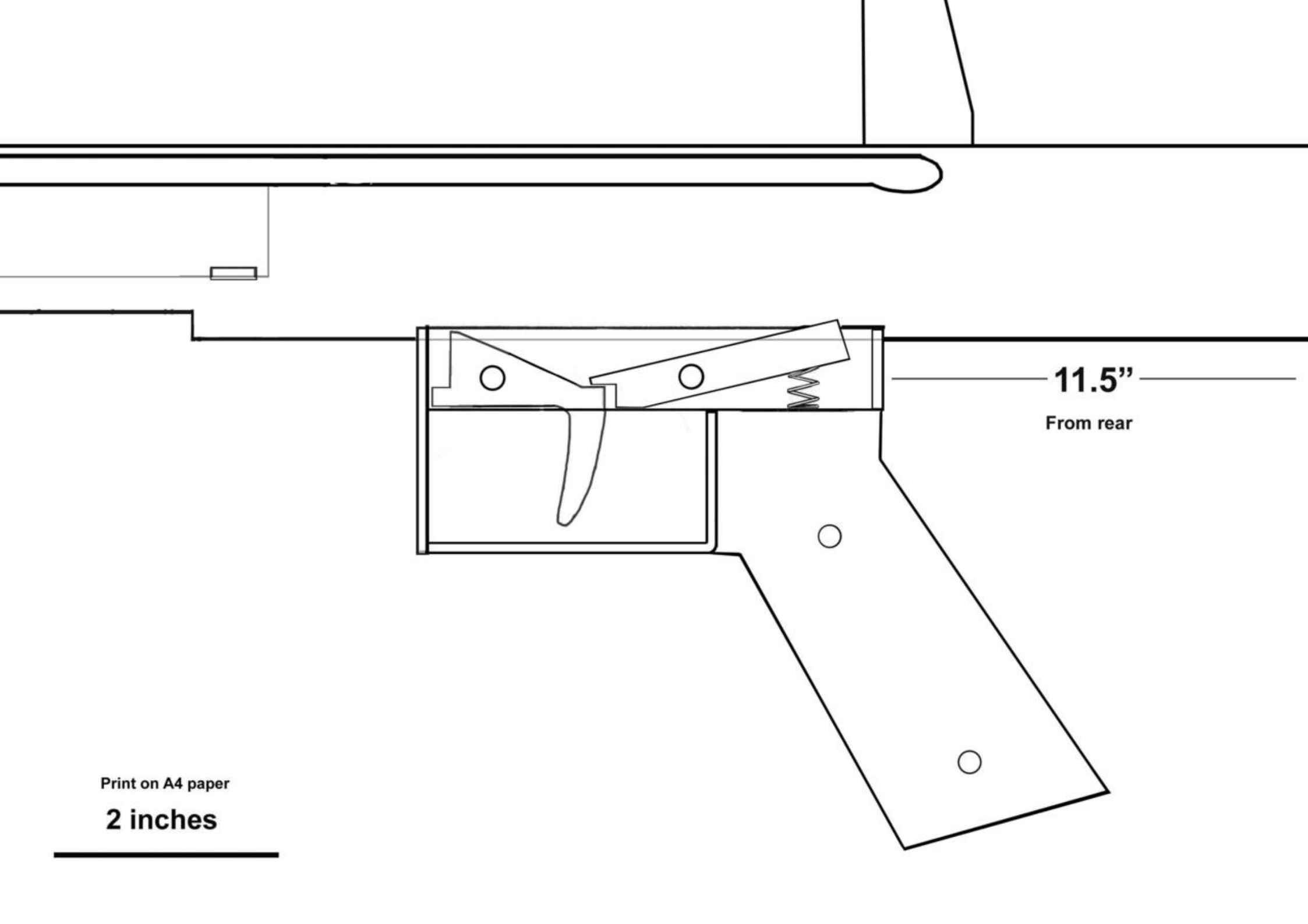
Compression spring

1/4" wide, 1/2" long

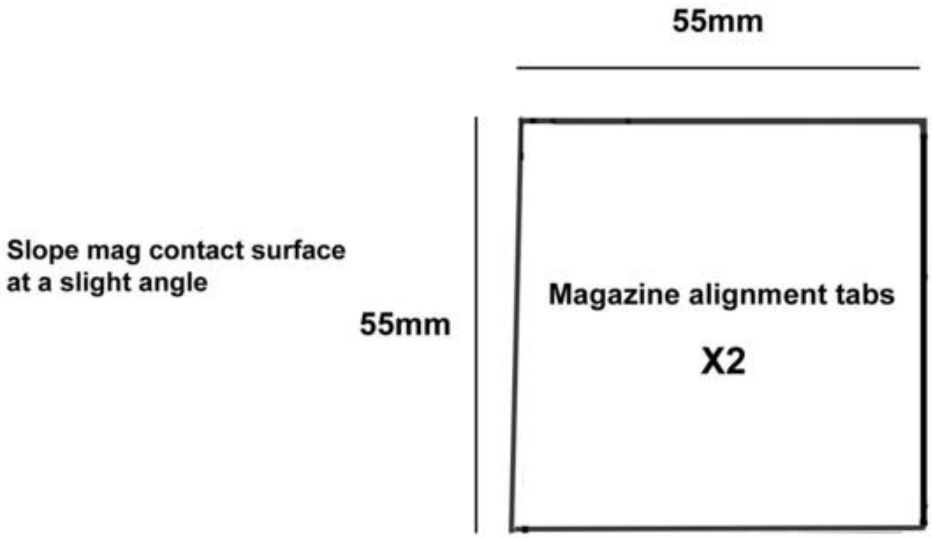
(Can be taken from a hand sanitizer bottle)

Print on A4 paper

2 inches

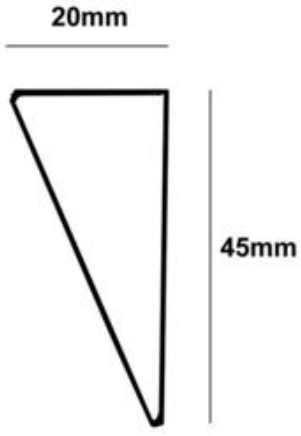

11.5”
From rear
Print on A4 paper
2 inches

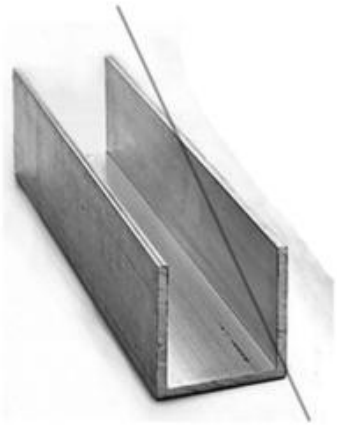
Magazine support tabs



Front support tab

Bend and cut to shape from 2mm or 3mm mild steel sheet





Print on A4 paper

2 inches

Positioning of magazine support tabs

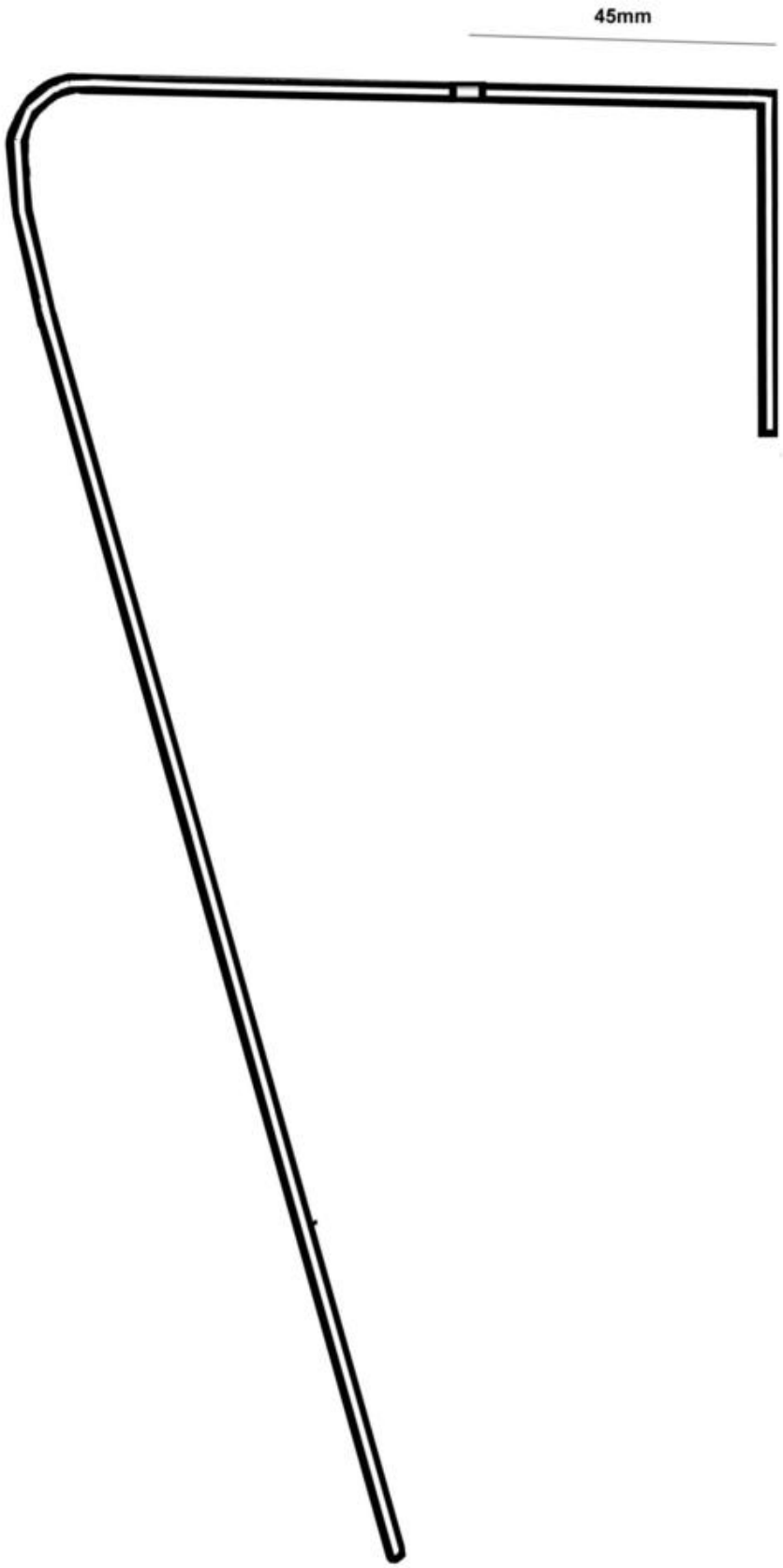
Print on A4 paper

2 inches

Magazine support bracket

Bend to profile from 1/2” wide, 2mm thick mild steel strap

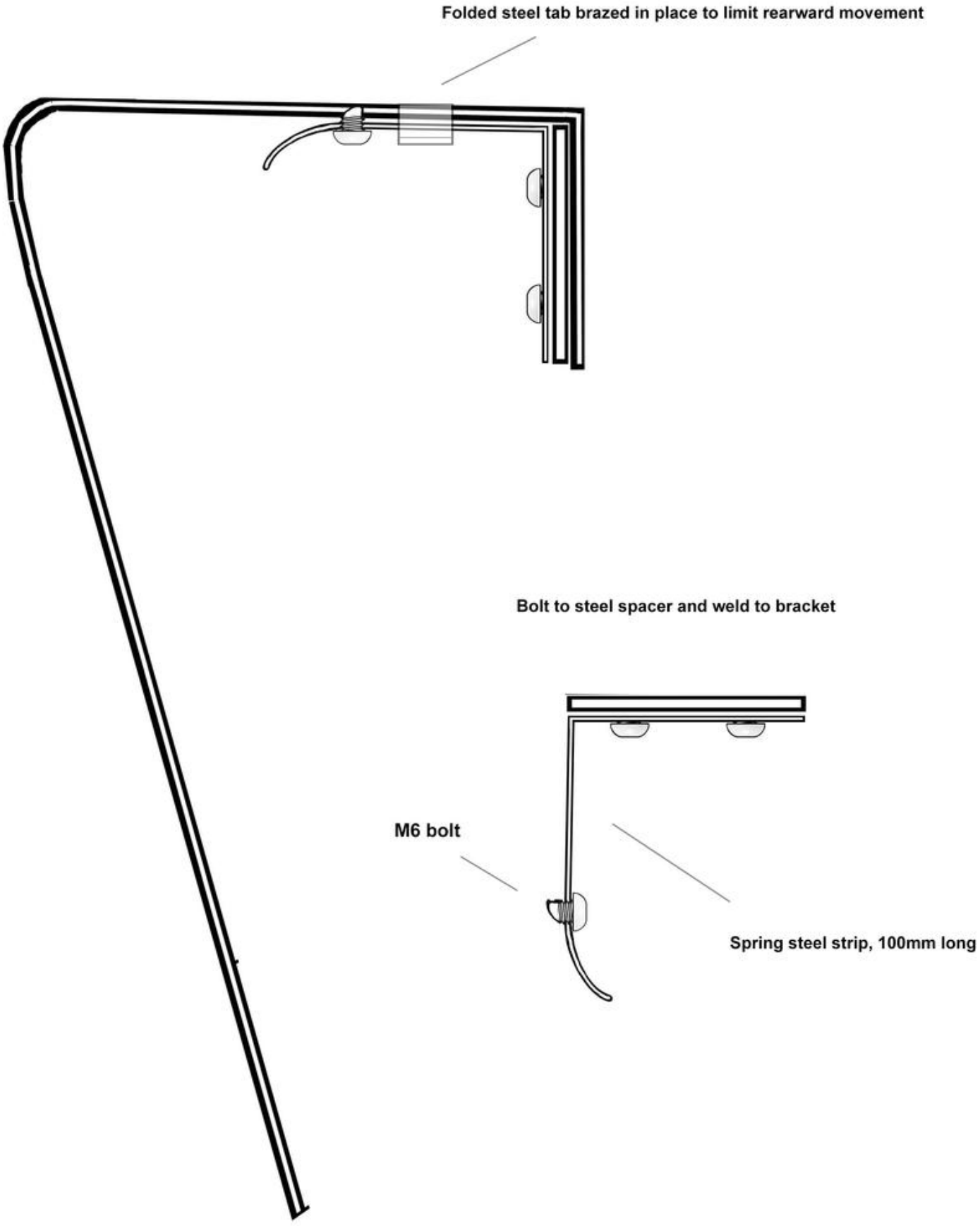
Drill mag catch hole before bending



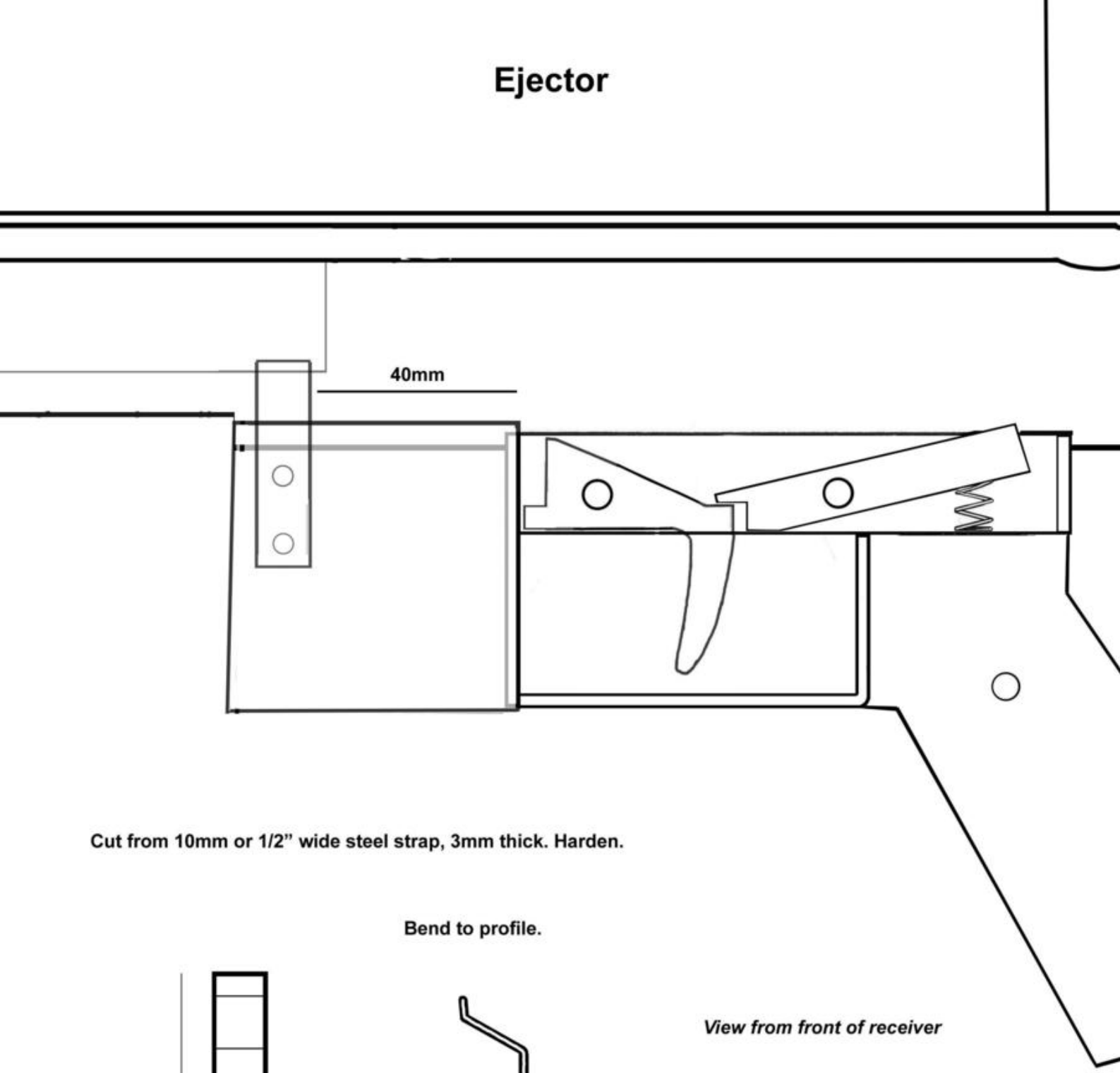
Print on A4 paper

2 inches

Magazine catch

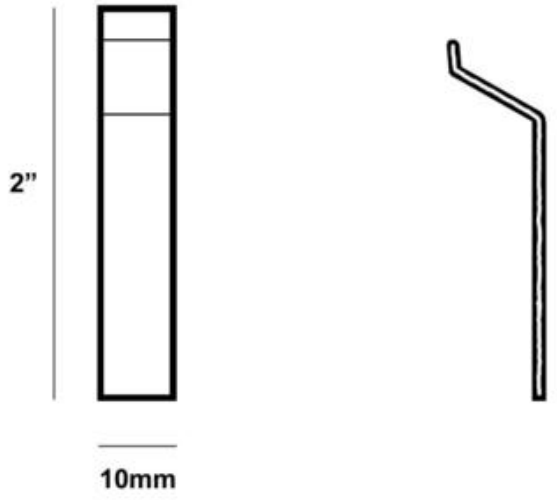


Ejector

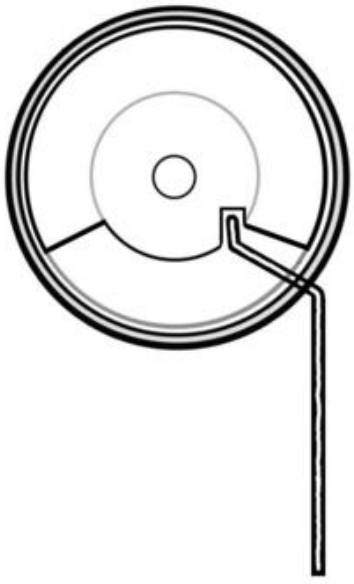


Cut from 10mm or 1/2" wide steel strap, 3mm thick. Harden.

Bend to profile.



View from front of receiver



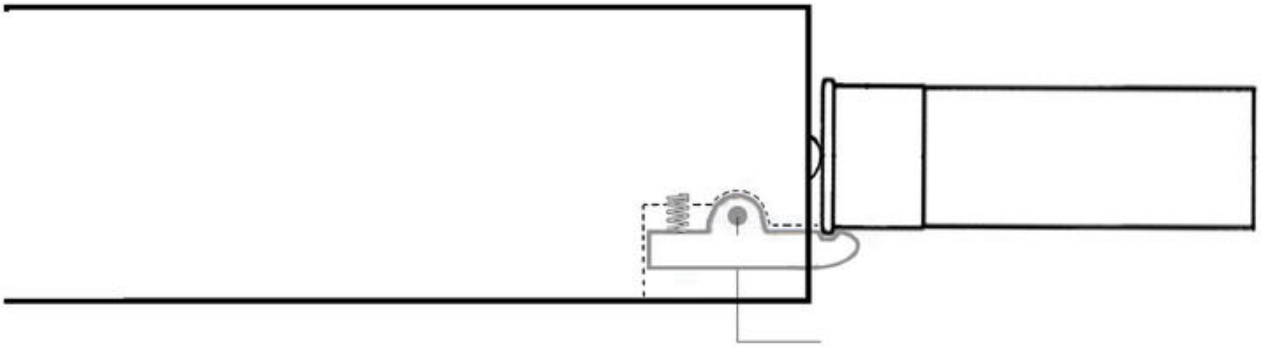
Weld or bolt in place

Extractor

(Optional)

Cut from 3mm thick steel. Old circular saw blades can provide a good source of material.

Template:



Cut a procket in the bolt and drill 11mm from front / 11mm from side to accept a 3mm selloc pin.

Drill a hole to accept a 4mm dia compression spring.

When adding an extractor a relief will need to be cut into the barrel at the exact position the extractor meets.

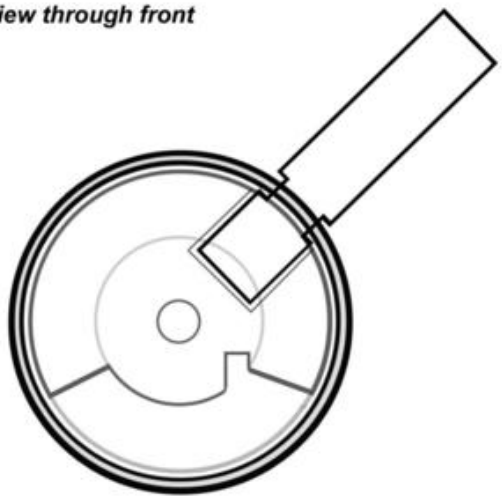
Print on A4 paper

2 inches

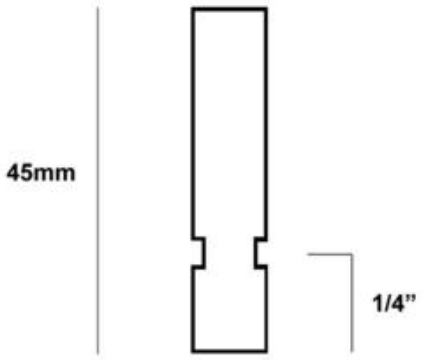
Charging handle

Align bolt with magazine and mark 3/4” from the front of the bolt. Drill a blind hole, 10mm dia, 1/4” deep.

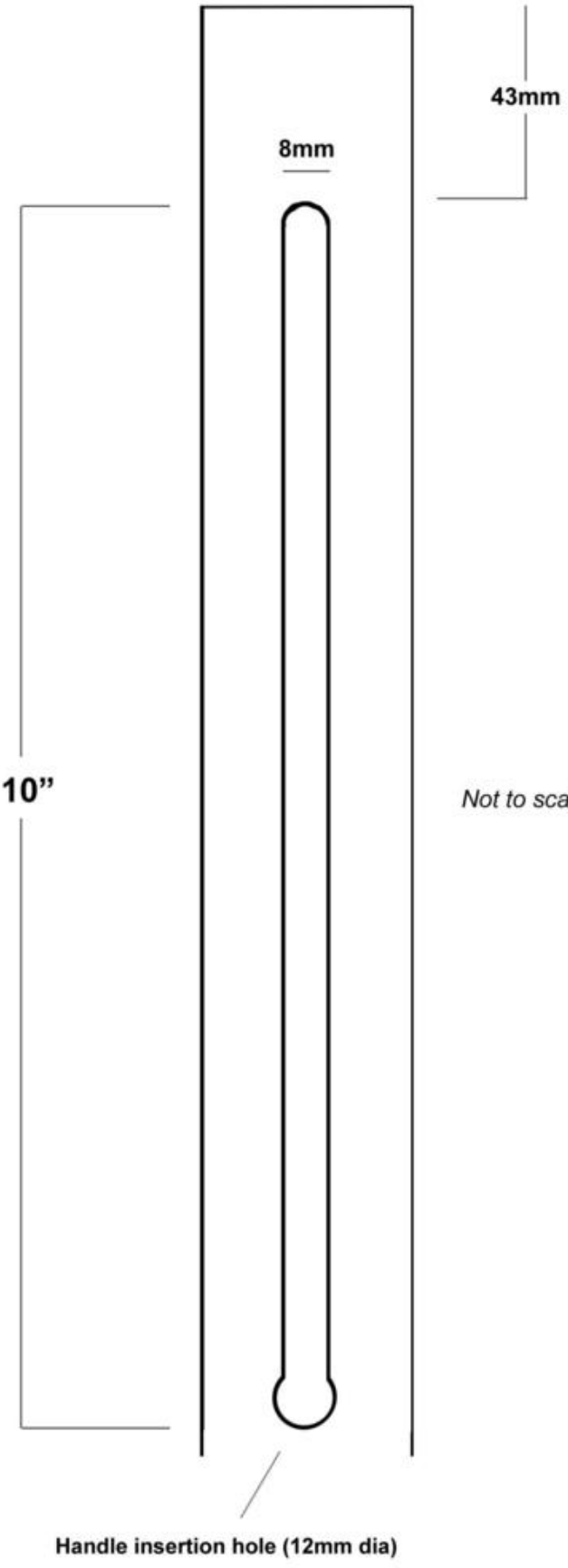
View through front



10mm steel round bar



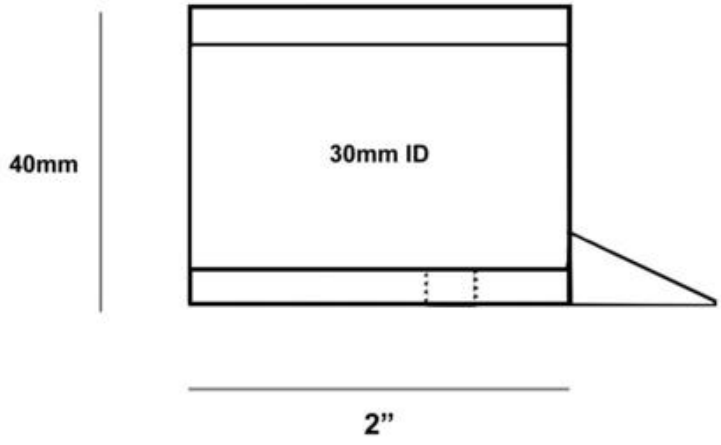
Use a thin hand file to create two parallel slots to enable retention and free operation along charging handle slot.



Not to scale

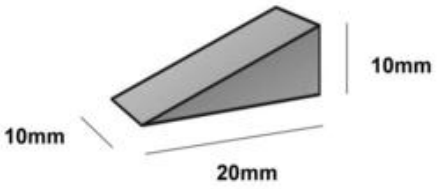
Barrel collar

40mm x 5mm thick wall steel tube



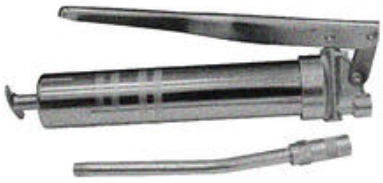
Feed ramp

Cut from 10mm thick steel plate. Weld in place.



Recoil spring

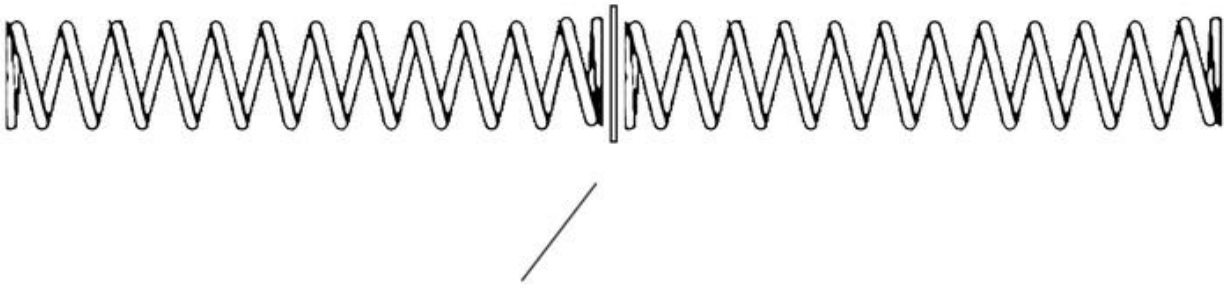
Two compression springs taken from a grease applicator gun may be used to create the extra long recoil spring required. Each will contain a heavy duty large dia compression spring suitable for use in this design.



6.5”

30mm

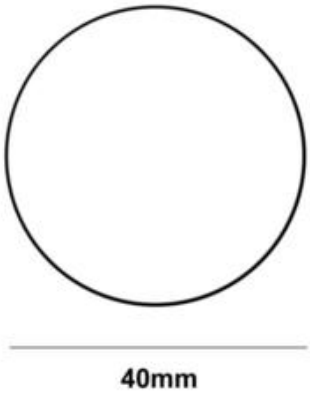
13” free length overall

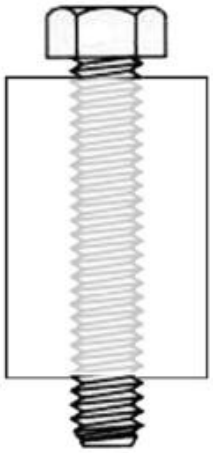


1.5” dia steel washer

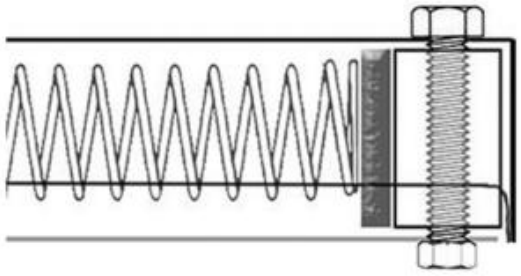
Rear plug

1” length of 40mm dia round bar or 40mm x 5mm tubing. Drill an 8mm dia hole through both the end of the receiver tube and plug to accept a 2” long m8 bolt.



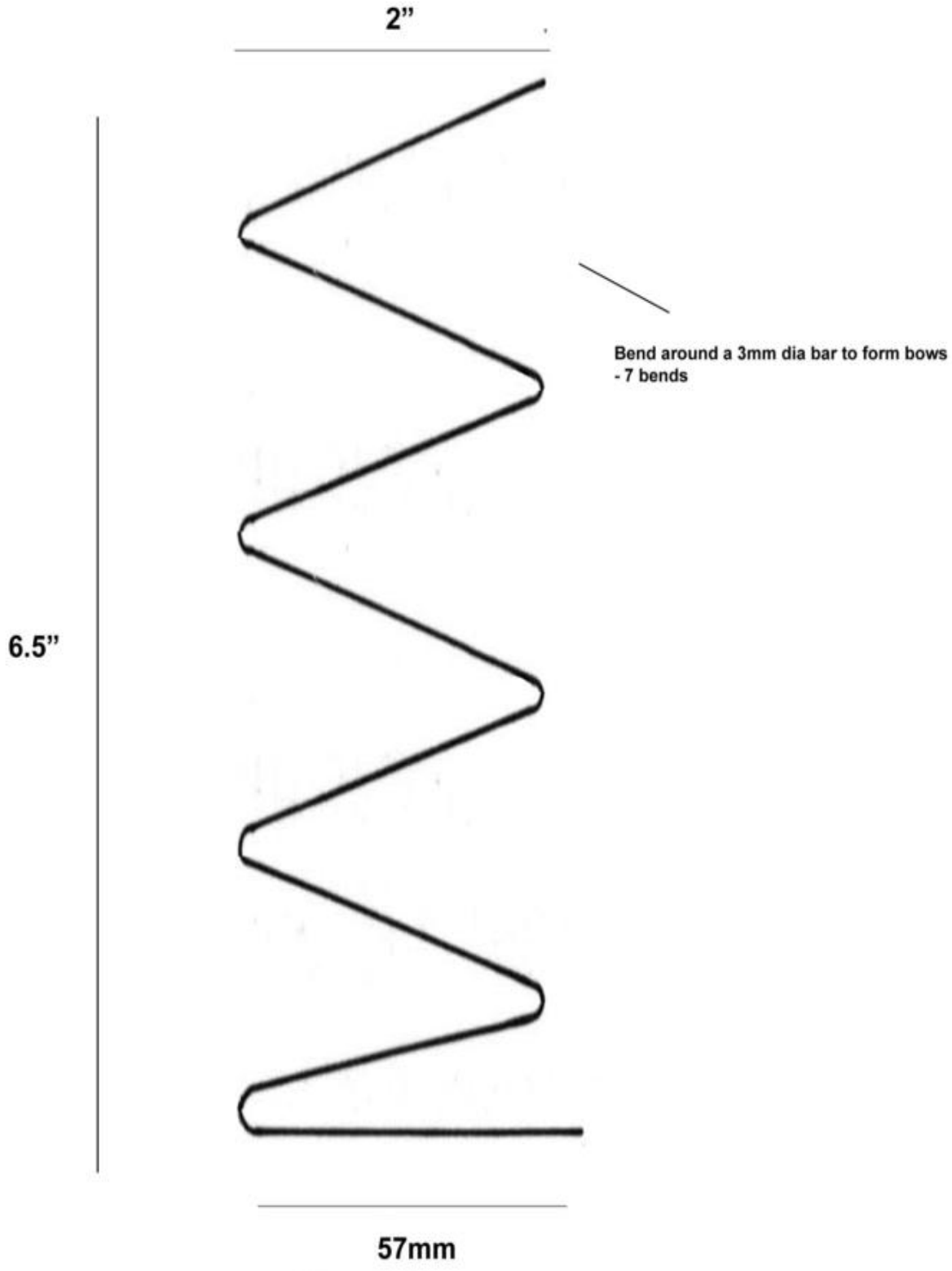


Aside from a suitable compression spring, the grease applicator gun will also contain a thick rubber plunger seal which will work nicely as a recoil buffer pad.



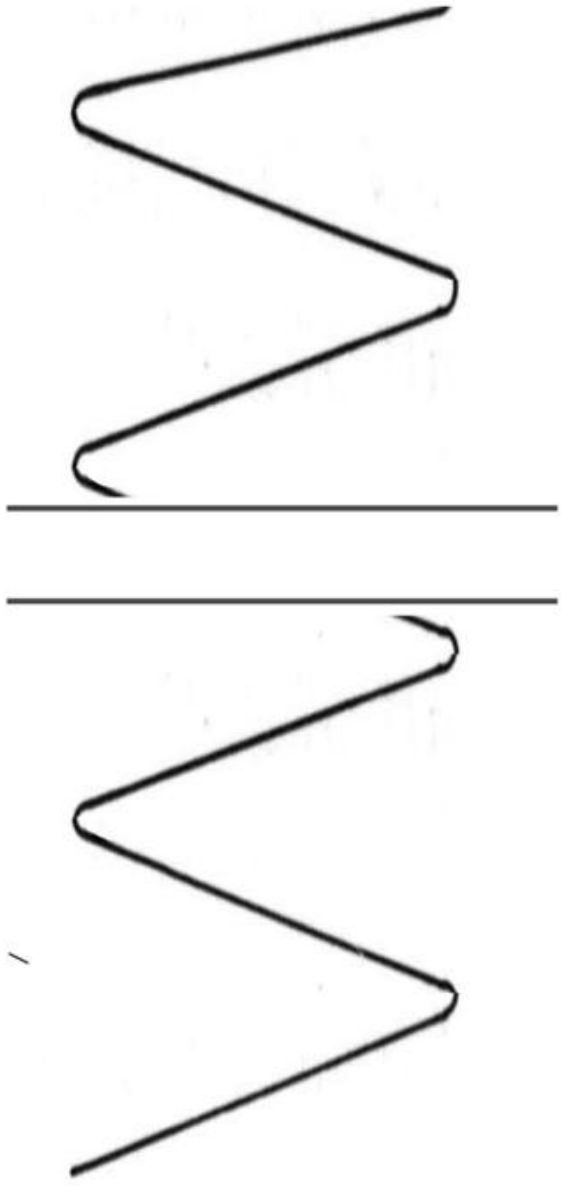
5 round magazine spring

Form from .025 flat spring steel strip, 3/4" wide



10 round magazine spring

Form from .025 flat spring steel strip, 3/4” wide

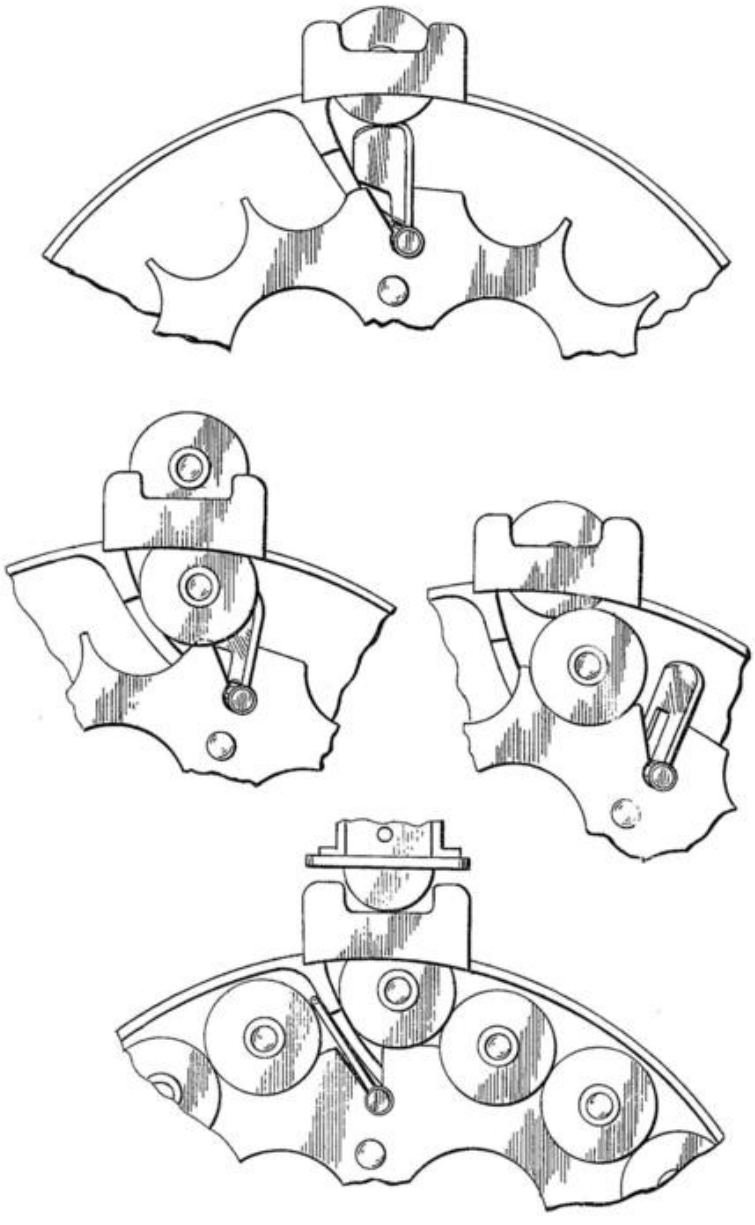


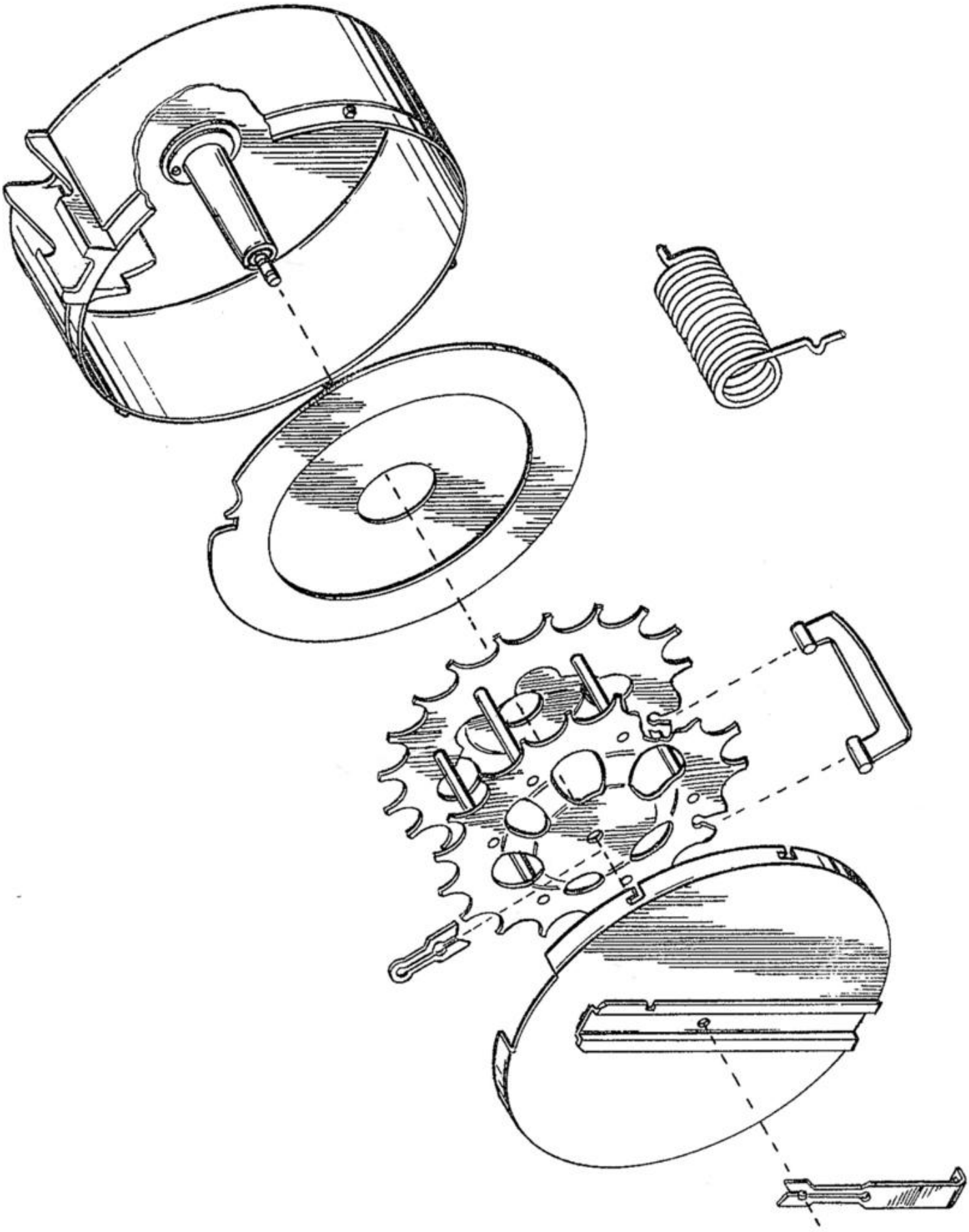
12” long

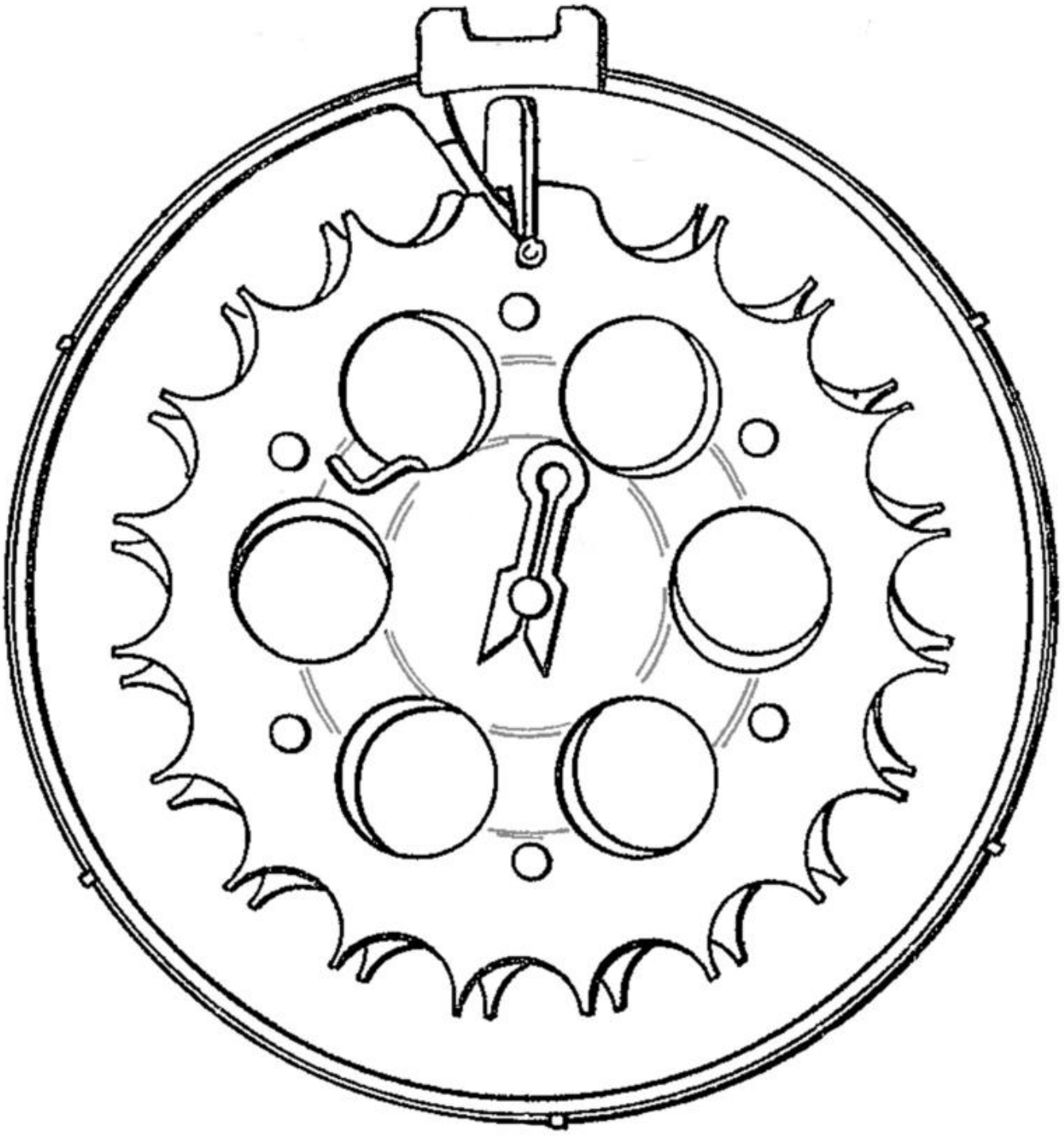
20 Round Drum Magazine

Differing from a conventional drum magazine, Atchisson's design features a torsion spring to power the magazine sprockets, instead of a more common flat, clock-type spring more typically seen. The drum housing is a flat cylindrical can with a cover attached by four studs captured in offset grooves. A set of feed lips is located on top of the drum. The left lip has a cam plate attached at an angle to cam a shell from the sprocket plates into the feed lips each time the lips are uncovered by the bolt. Internally the magazine contains twin sprocket plates with semi-circular recesses cut into their peripheries to accept twenty shells, each shell recess being slightly offset to position a round so that the cam plate can locate it properly in the feed lips. The sprocket plates are joined by several rods to form a skeleton-type sprocket cage. The Spiral torsion spring is located in the center of the cage around a shaft, with one spring leg anchored to the magazine body, while the other powers the sprocket cage. A plastic circular filler plate matching the internal diameter and located in the front of the drum can be added or removed to allow for the feeding of different lengths of shell. When fully loaded, the drum weighs around 4.7 pounds (2.1kg). Consequently a magazine support bracket was attached to the frame and pistol grip to eliminate alignment issues which may be experienced during periods of extended firing.

The following drawings adapted from the original patent have been scaled to size allowing measurements to be taken and a basic copy constructed. Like the original protoype, certain features may be simplified. for example the spocket plates may be cut from flat steel and the torsion spring modified. Alternatively a model can be made in a CAD program afterwhich a 3D printer may be used to create many of the components from plastic.





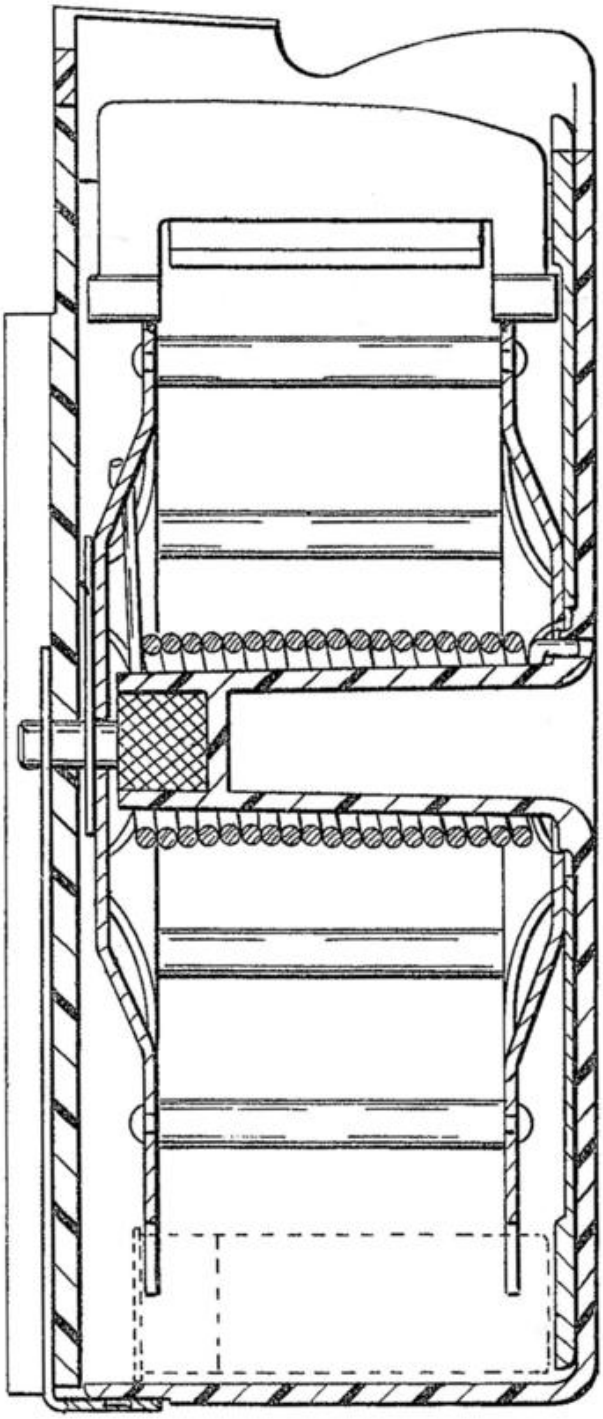


Internal diameter: 6.5”

Print on A4 paper

2 inches

20 round drum magazine (Side view)

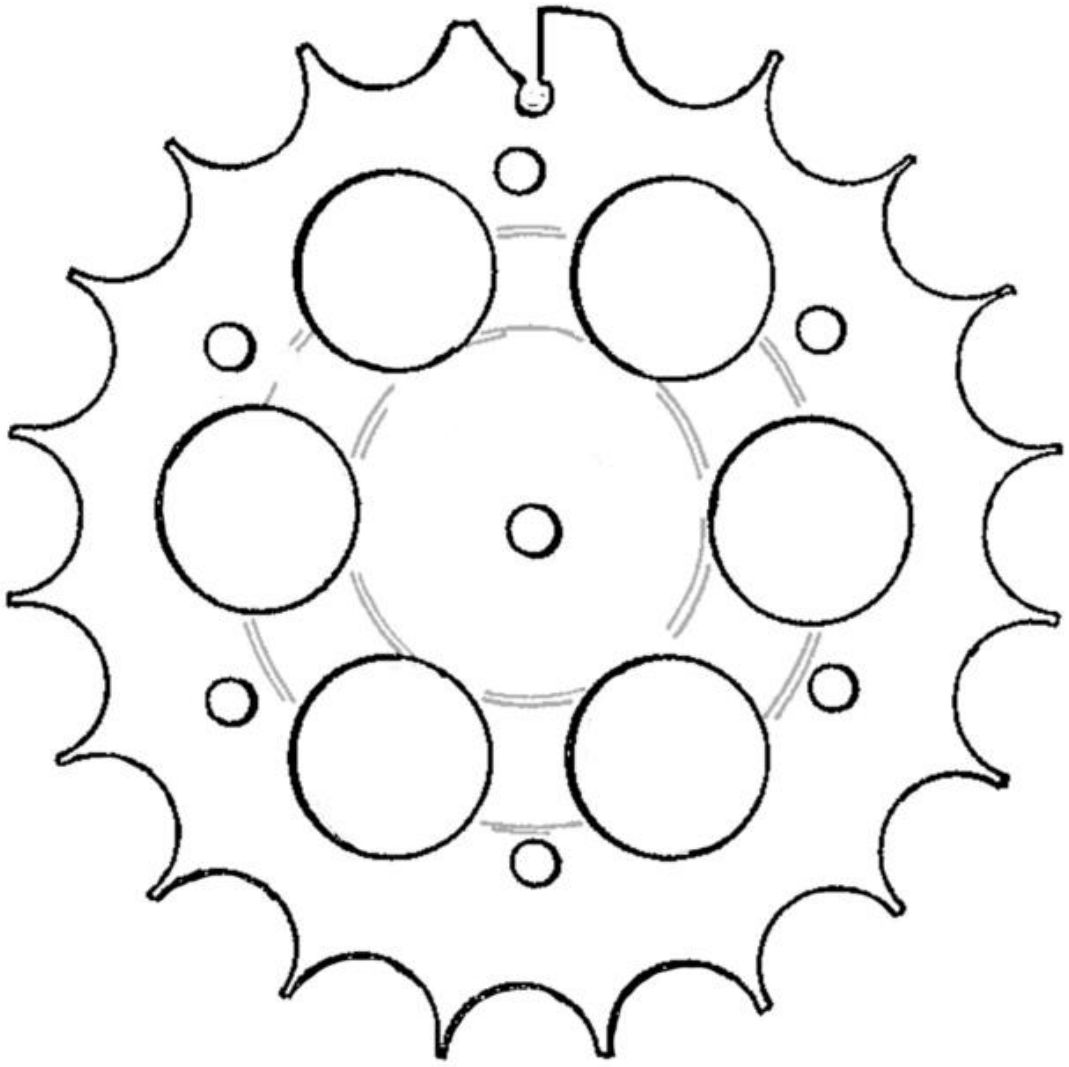


Print on A4 paper

2 inches

Sprocket plates

x2



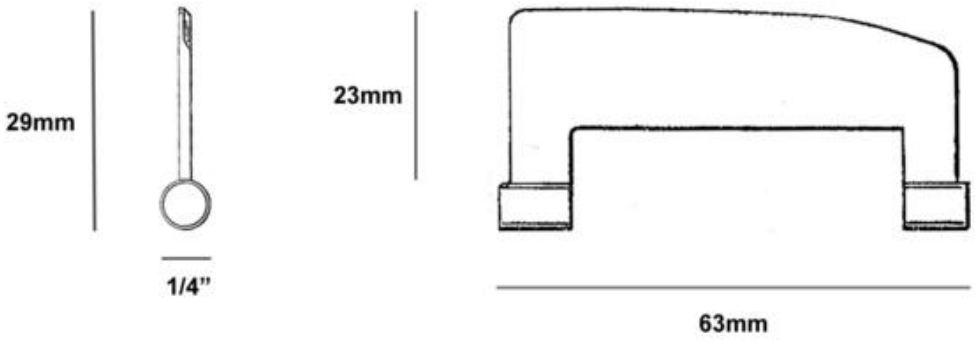
Print on A4 paper

5.5” diameter

2 inches

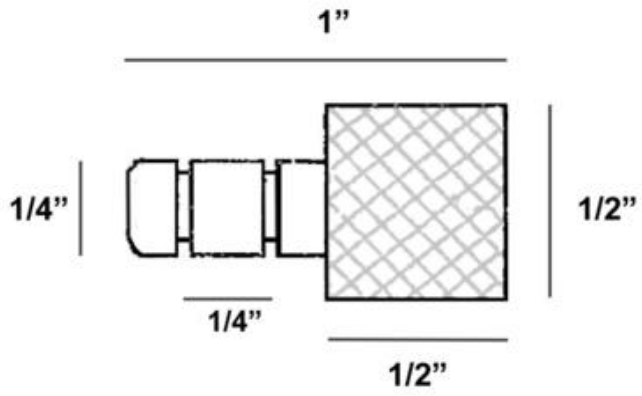
Follower

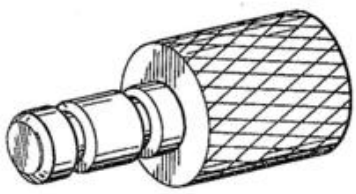
To scale

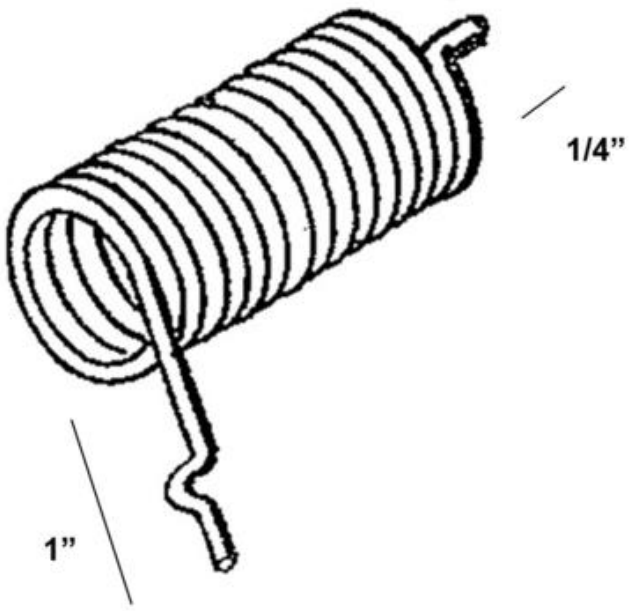


Sprocket axel

Not to scale



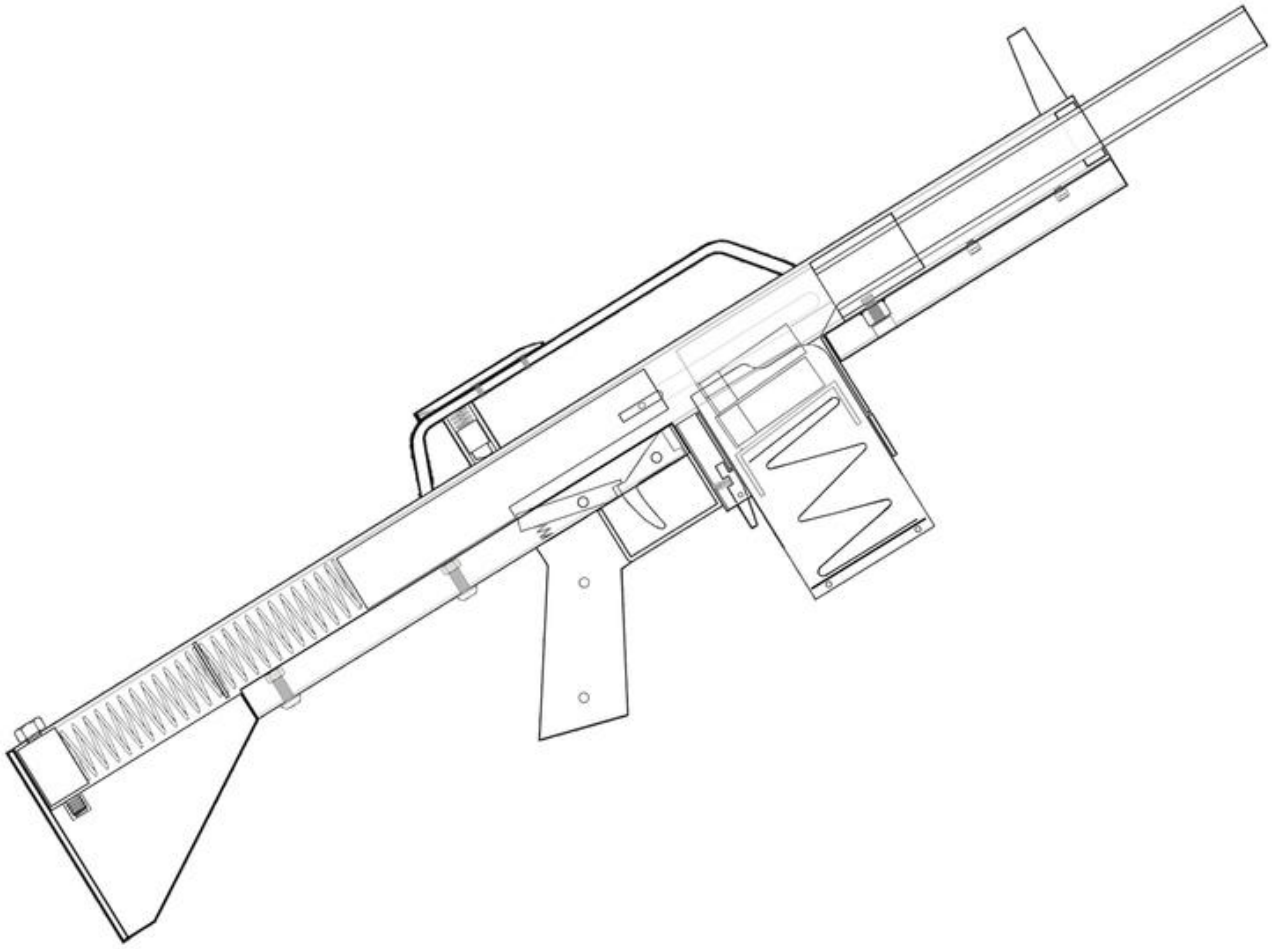




Torsion spring

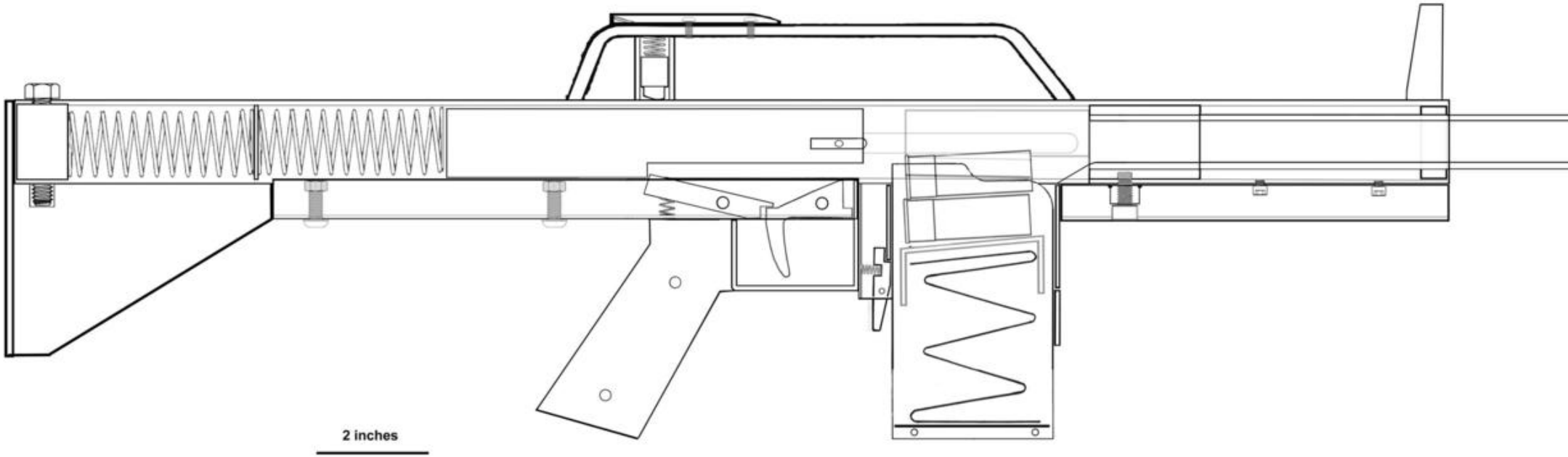
Left hand wind
15 active coils
Body length: 55mm
0.102 / 10 gauge wire

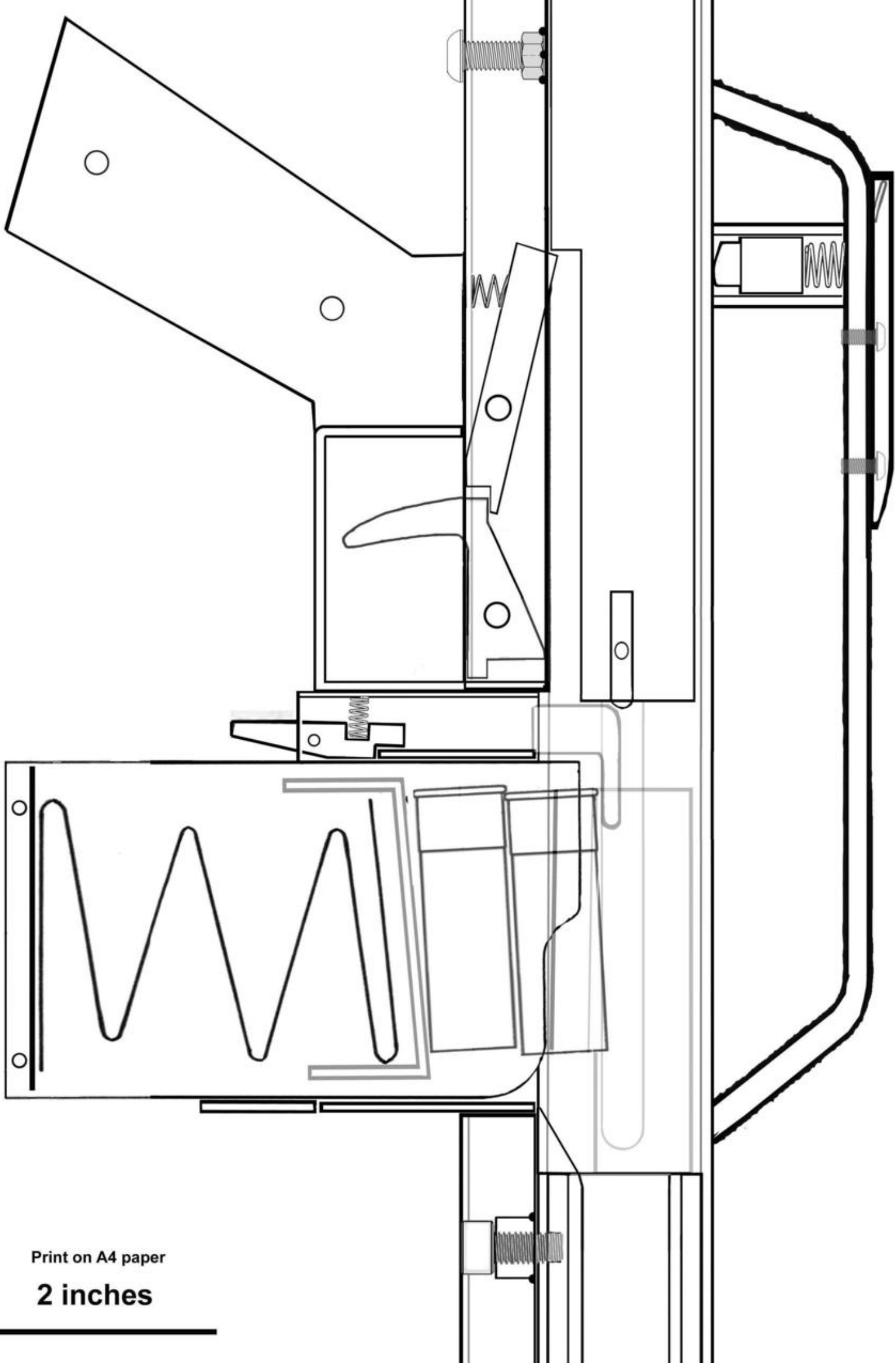
Open-Bolt Automatic Shotgun MK-2



Materials:

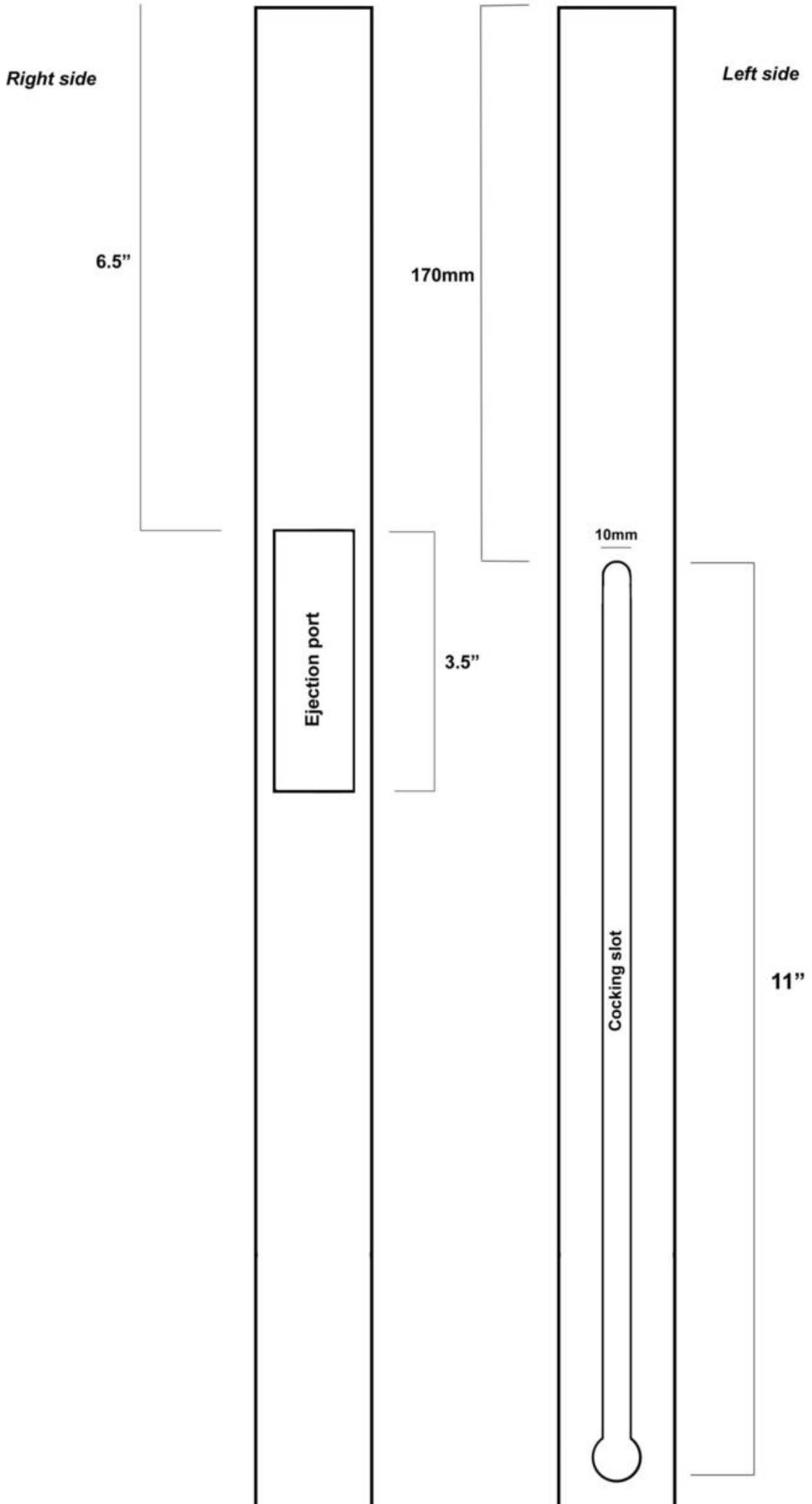
Receiver tube: 40mm x 2mm wall mild steel round tube, 657mm long.
Bolt: 35mm (1 3/8”) dia mild steel bar, 7.5” long.
Barrel collar: 35mm x 5mm wall steel tube.
Feed ramp: 10mm thick steel.
Barrel: 25mm (1”) OD x 3mm (3/4“ ID) steel tube, 11” to 19” long.
Trigger group: 10mm steel plate.
Recoil spring: x2 grease gun applicator springs.
Magazine: Bent from 20 gauge (1mm) steel sheet. Alternatively modified from FAL, G3, BAR mags or adapted to accept Saiga-12 mags.


2 inches

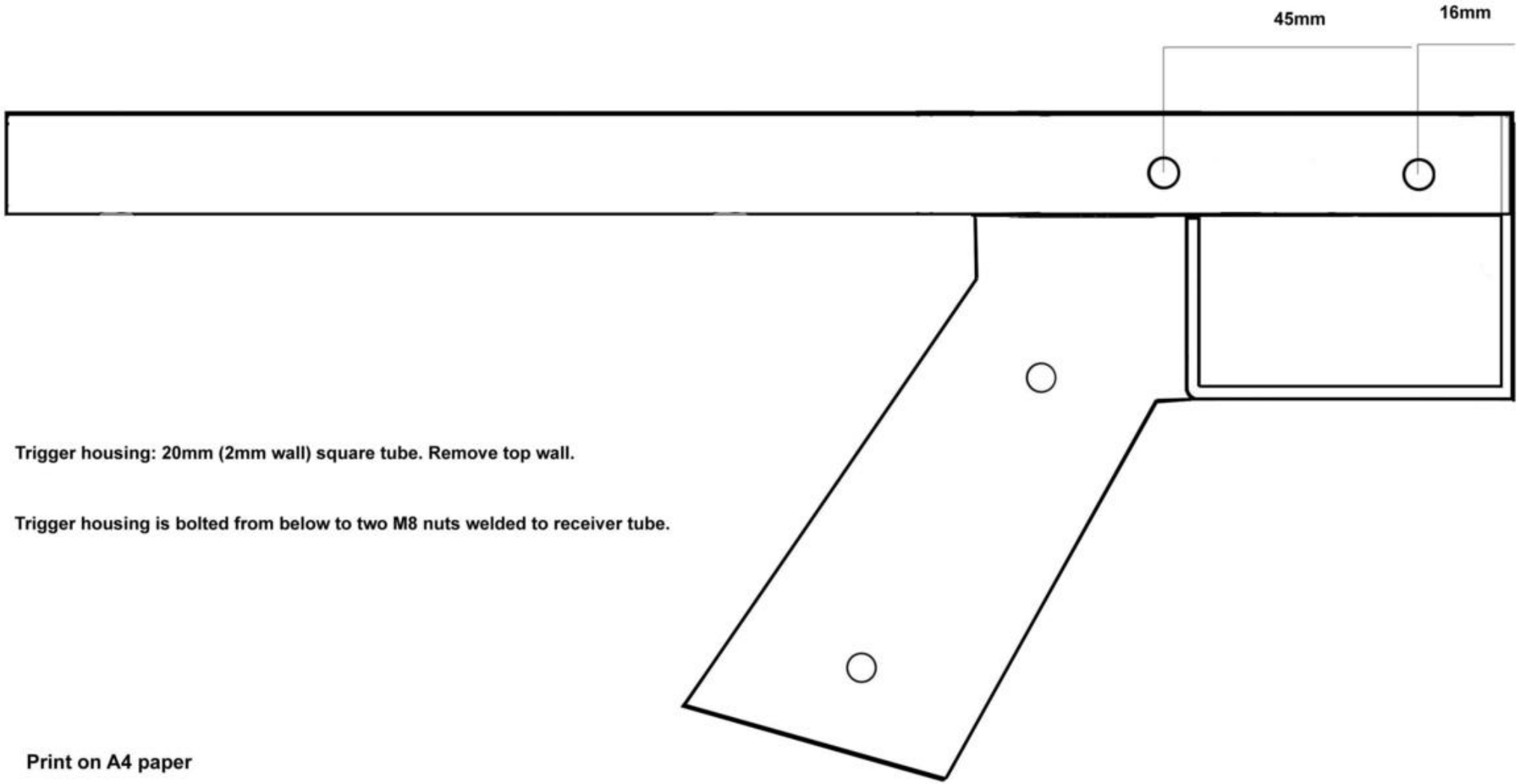


Print on A4 paper

2 inches


Right side
Left side
6.5”
170mm
Ejection port
3.5”
10mm
Cocking slot
11”

10.5”



Trigger housing: 20mm (2mm wall) square tube. Remove top wall.

Trigger housing is bolted from below to two M8 nuts welded to receiver tube.

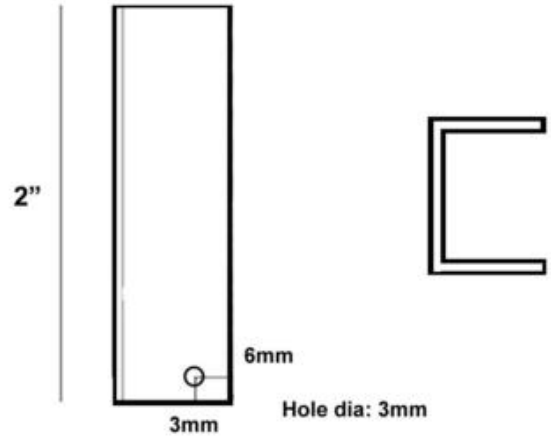
Print on A4 paper

2 inches

Magazine catch

15mm steel or aluminium plate

Catch housing: 20mm square tubing

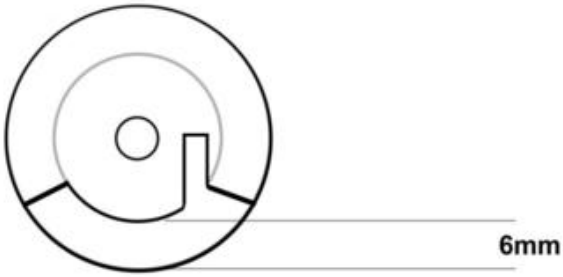


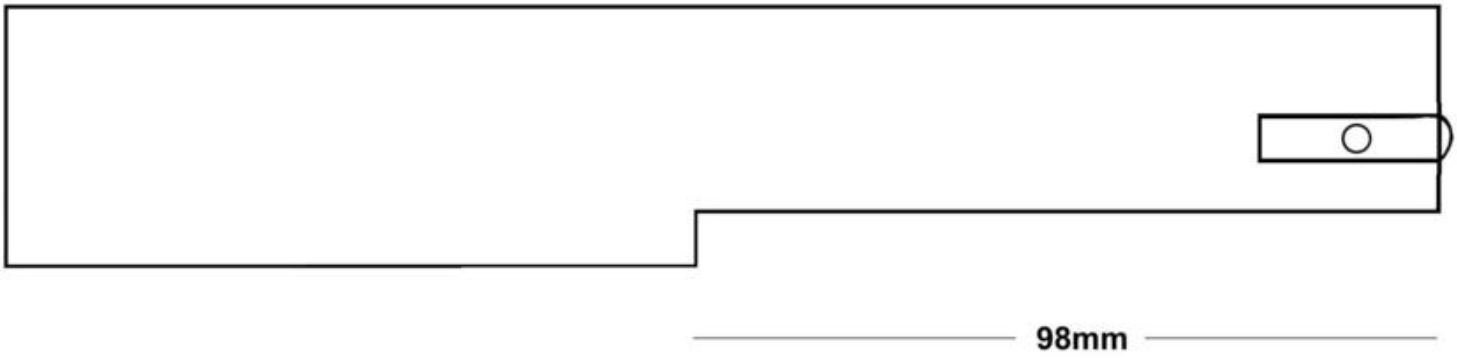
Print on A4 paper

2 inches

Bolt

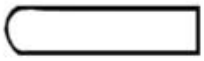
35mm mild steel round bar, 7.5” long

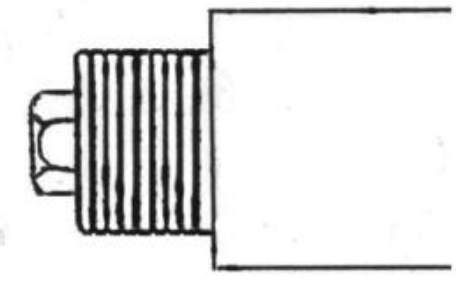




Firing pin

6mm (1/4”) dia steel bar, 1” long. Secure with grub screw.



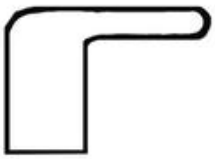


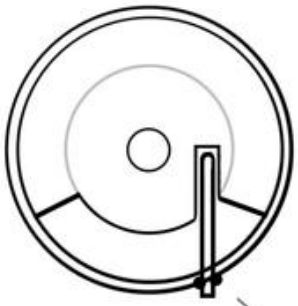
Additional weight can be added to the back of the bolt though the use of a stack of steel washers retained via a long M8 bolt.

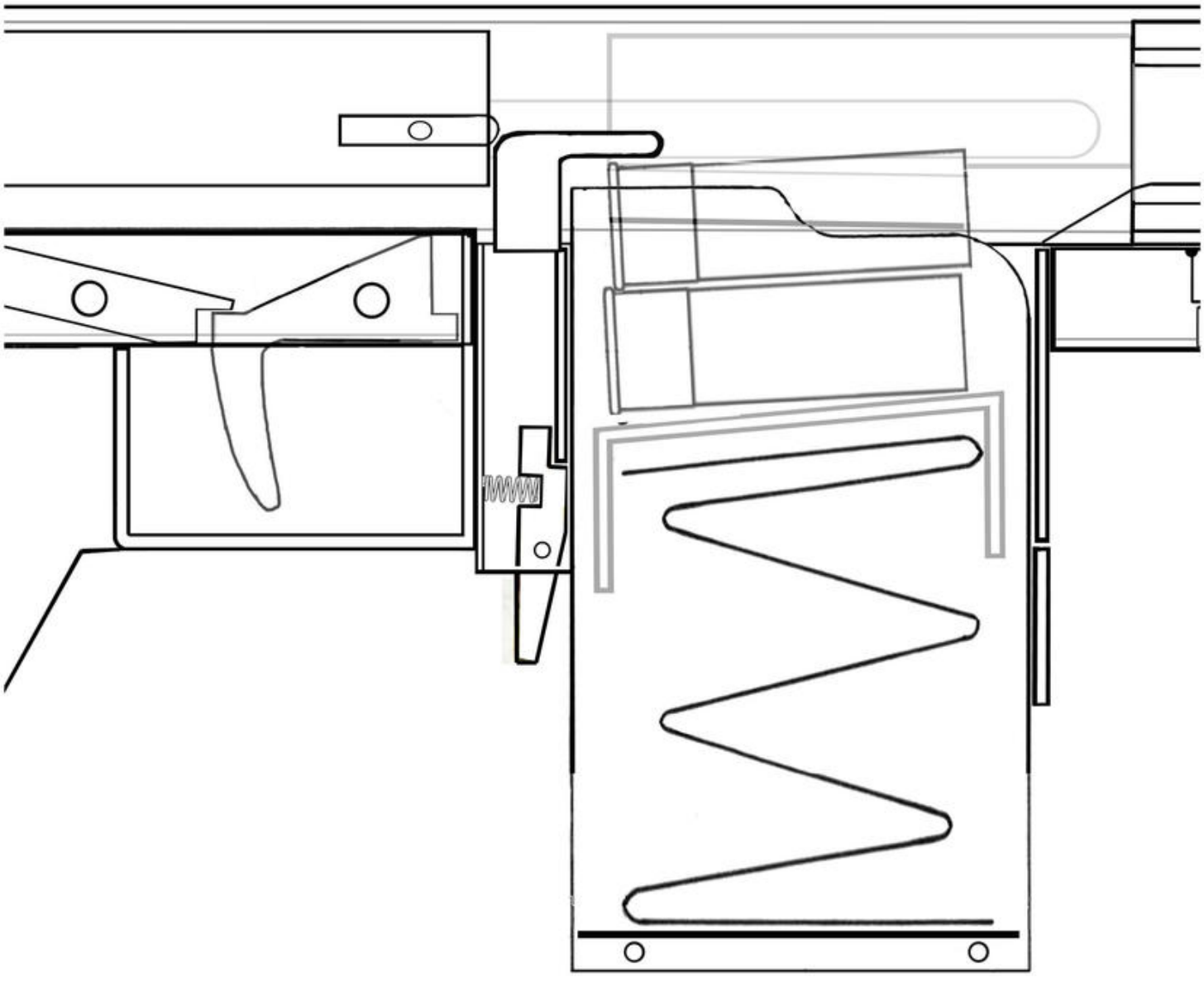
Ejector

3mm steel plate. Harden.

Template

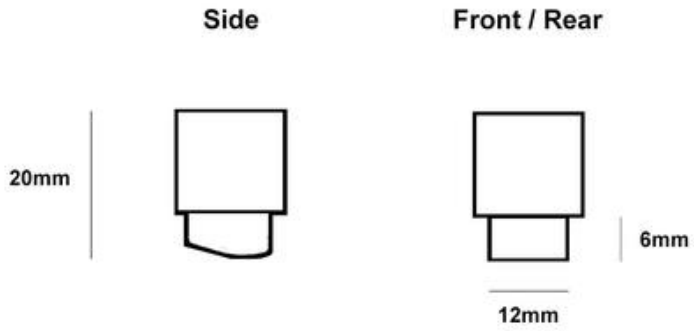


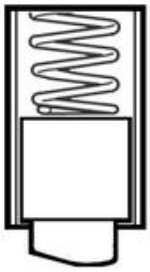




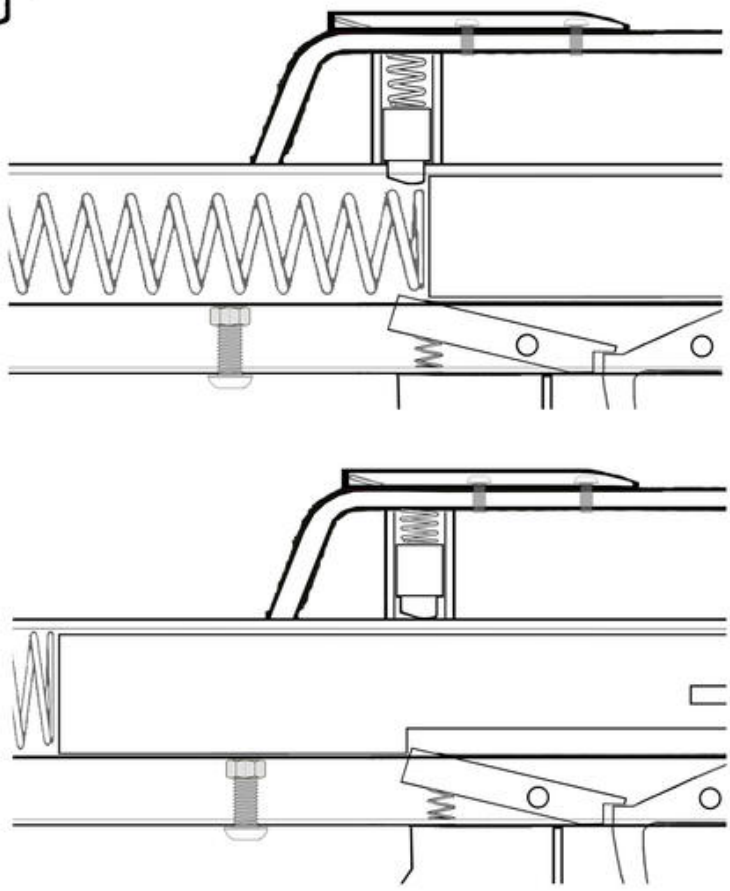
Bolt retarding mechanism

16mm (5/8") dia steel round bar stock. Harden.





Housing: 30mm length of 19mm (3/4") steel tube. A strong compression spring should be used. Weld in place between receiver and carry handle.



The retarding wedge is included to slow down the opening of the breech. It should be capable of being overidden with a firm pull of the bolt rearwards. Harden contact surfaces using a product such as Kasenit or similar.

Carry handle

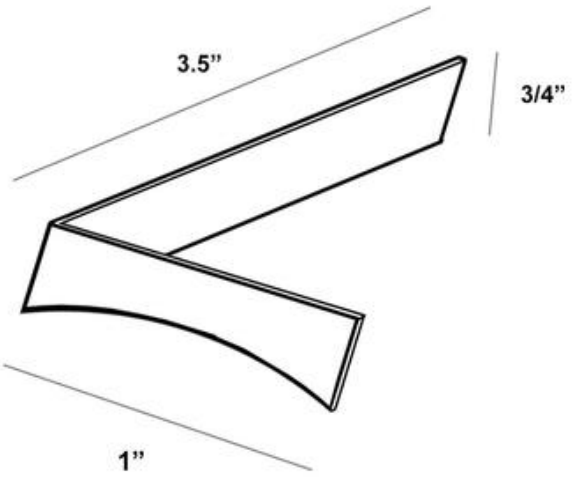
5mm thick mild steel strap, 20mm wide, 11” long. Bend to profile.

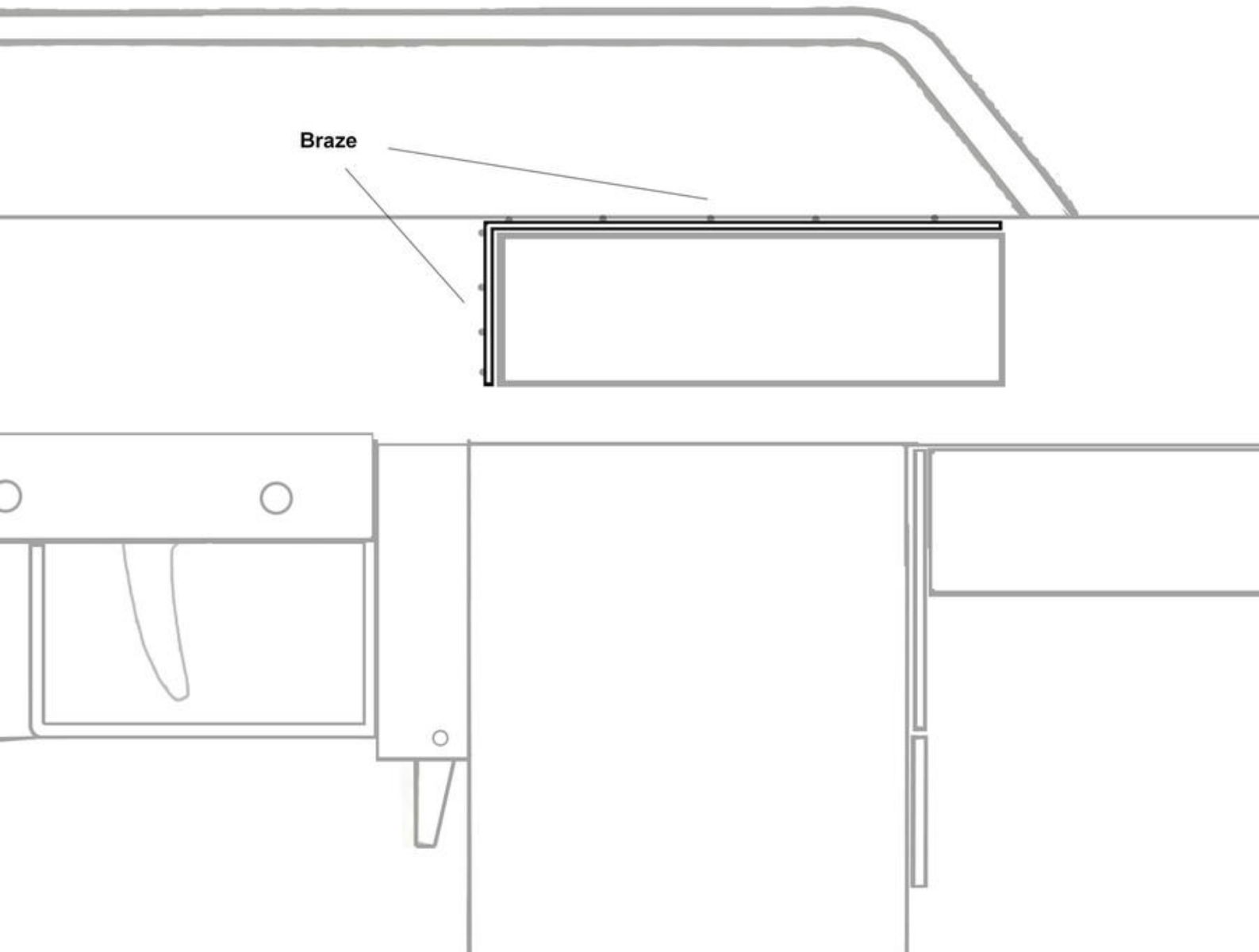
5/8” dia hole (For access to retarder)

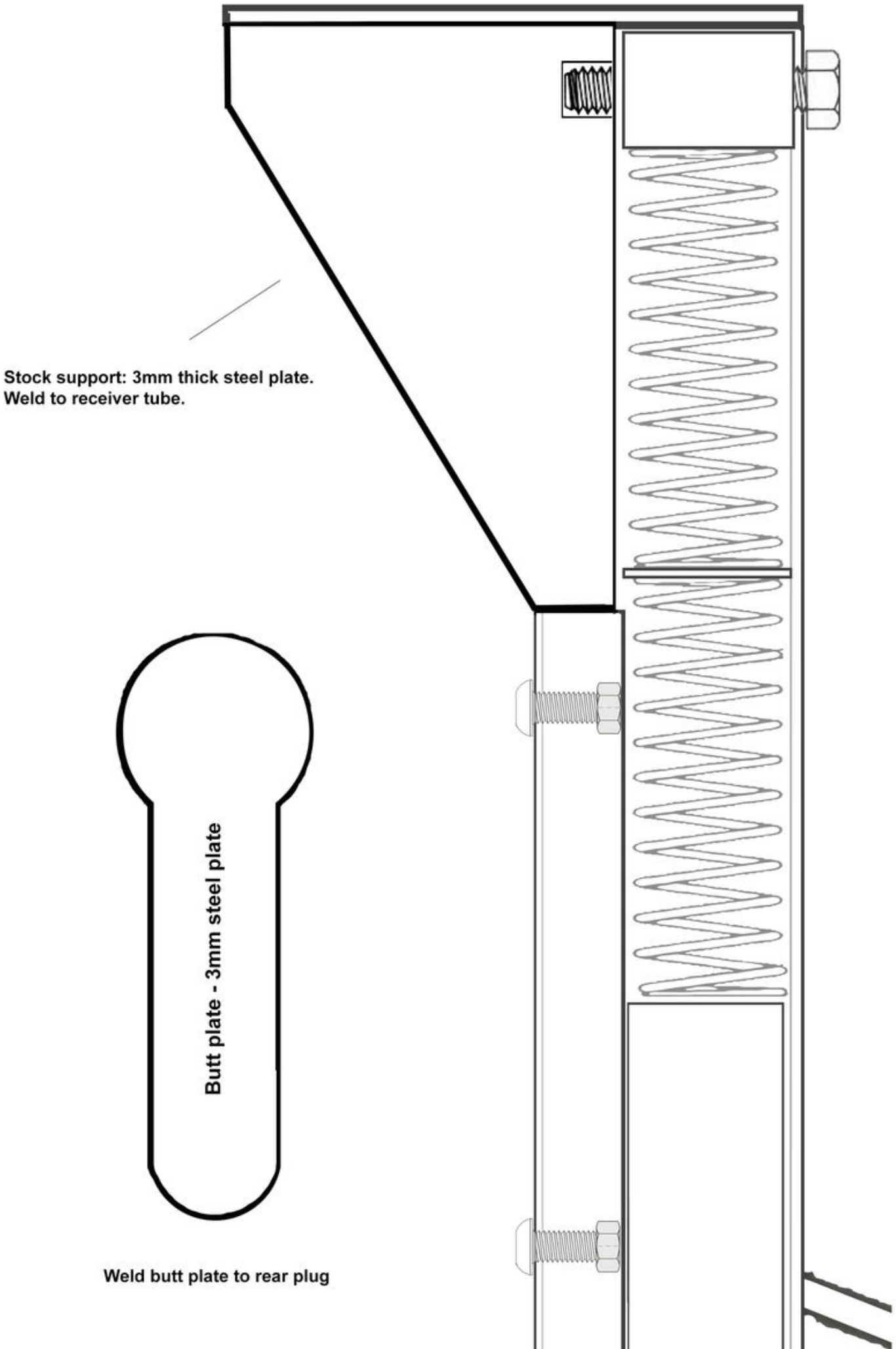
Print on A4 paper

2 inches

An optional ‘splash guard’ bent from 3mm thick wide steel strap can be brazed around the ejection port.






Stock support: 3mm thick steel plate.
Weld to receiver tube.
Butt plate - 3mm steel plate
Weld butt plate to rear plug

Additional Firepower...