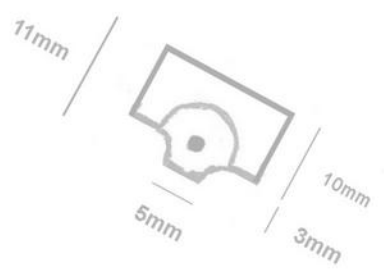
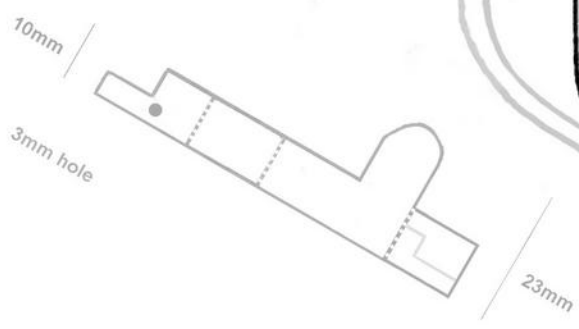
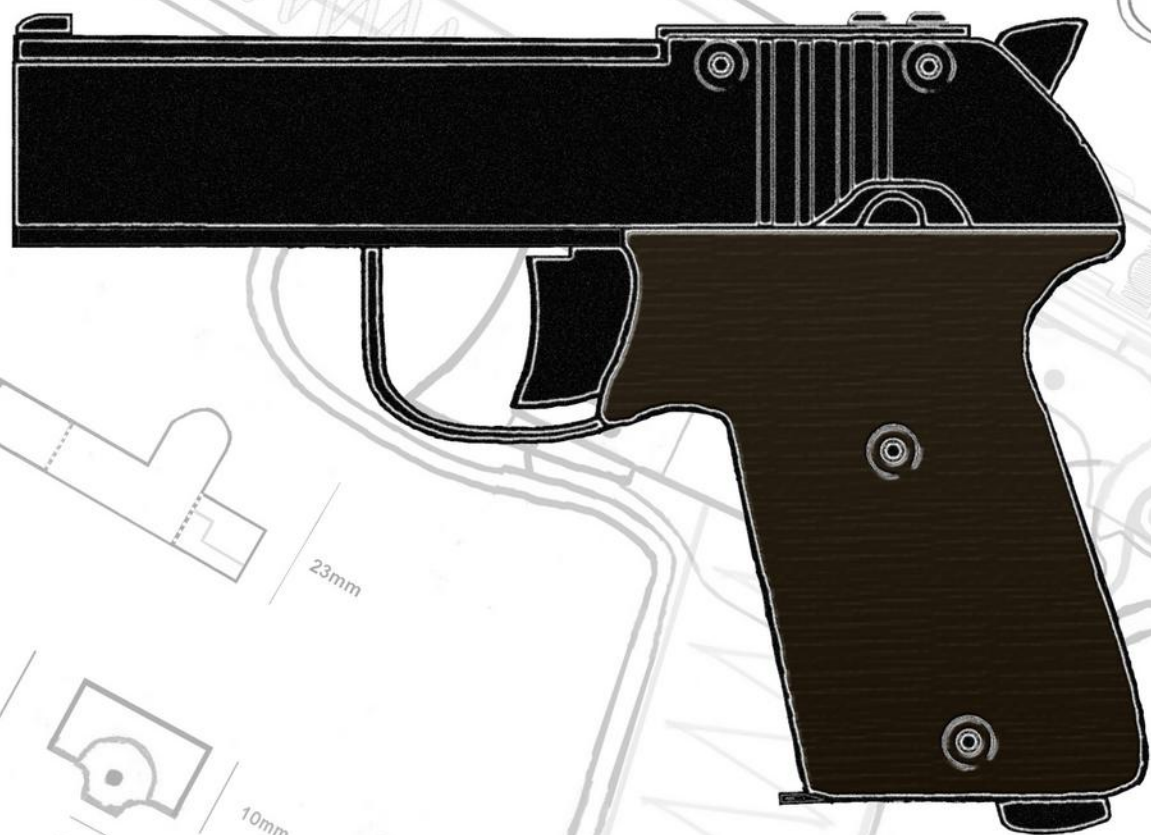


Main spring

Sear

DIY SHEET METAL SELF-LOADING PISTOL MK.3

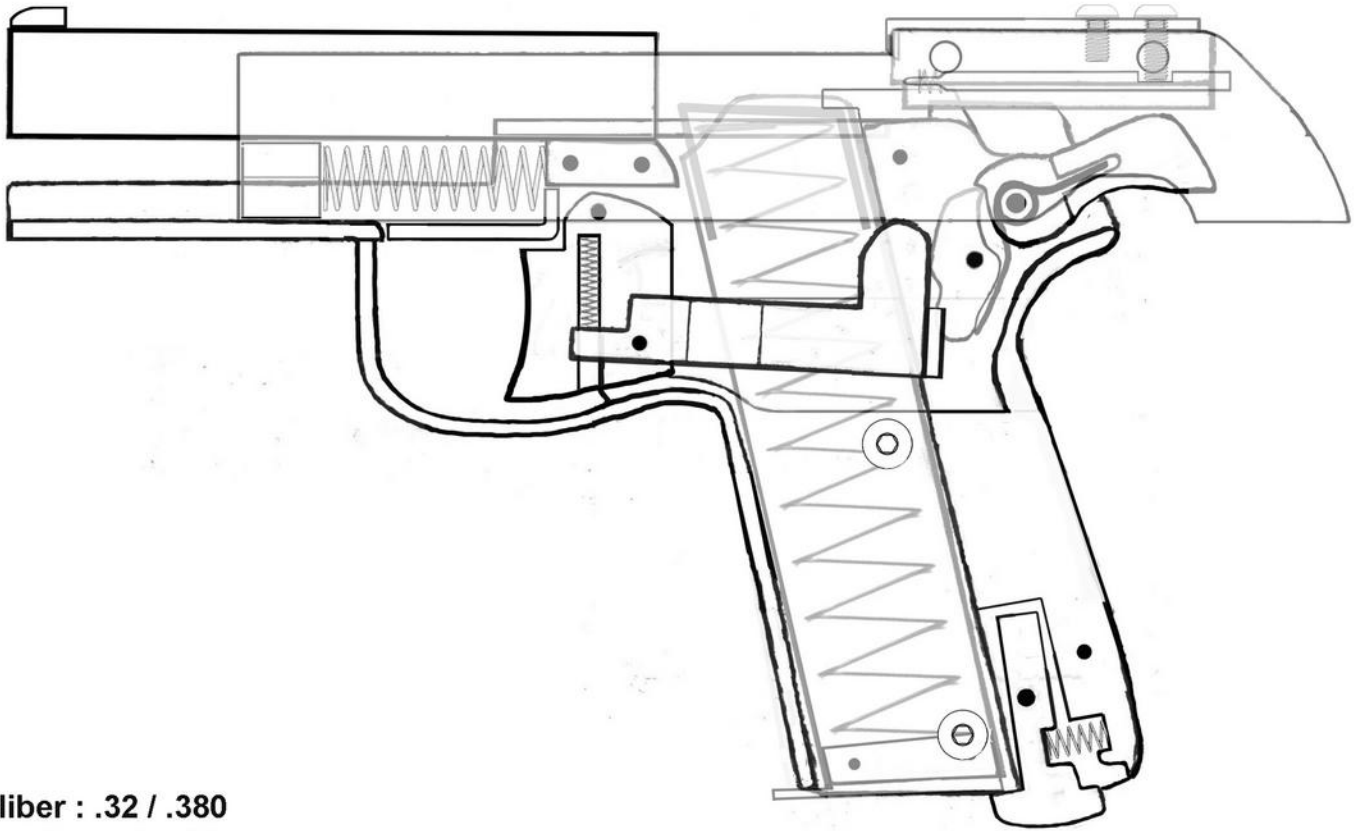


Hammer



Cut spring arm slot using a dremel + cutting disc

SMSLP MK3 construction plans



Caliber : .32 / .380

Barrel length : 96mm

Overall length : 164mm

- Compatible with 8 round Makarov PM magazines

All pages included should be printed out on 8.5 x 11 US letter paper. Each component template is drawn to scale and can be cut out and glued to their respective thickness of material or used as a reference for measurements. Make sure the ruler at the bottom left of each sheet is 2 inches in length. Alternatively, take a screen-shot and enlarge the plans using a computer program until the ruler is the correct length, then trace the parts needed onto a sheet of paper taped over your computer's screen.

Materials:

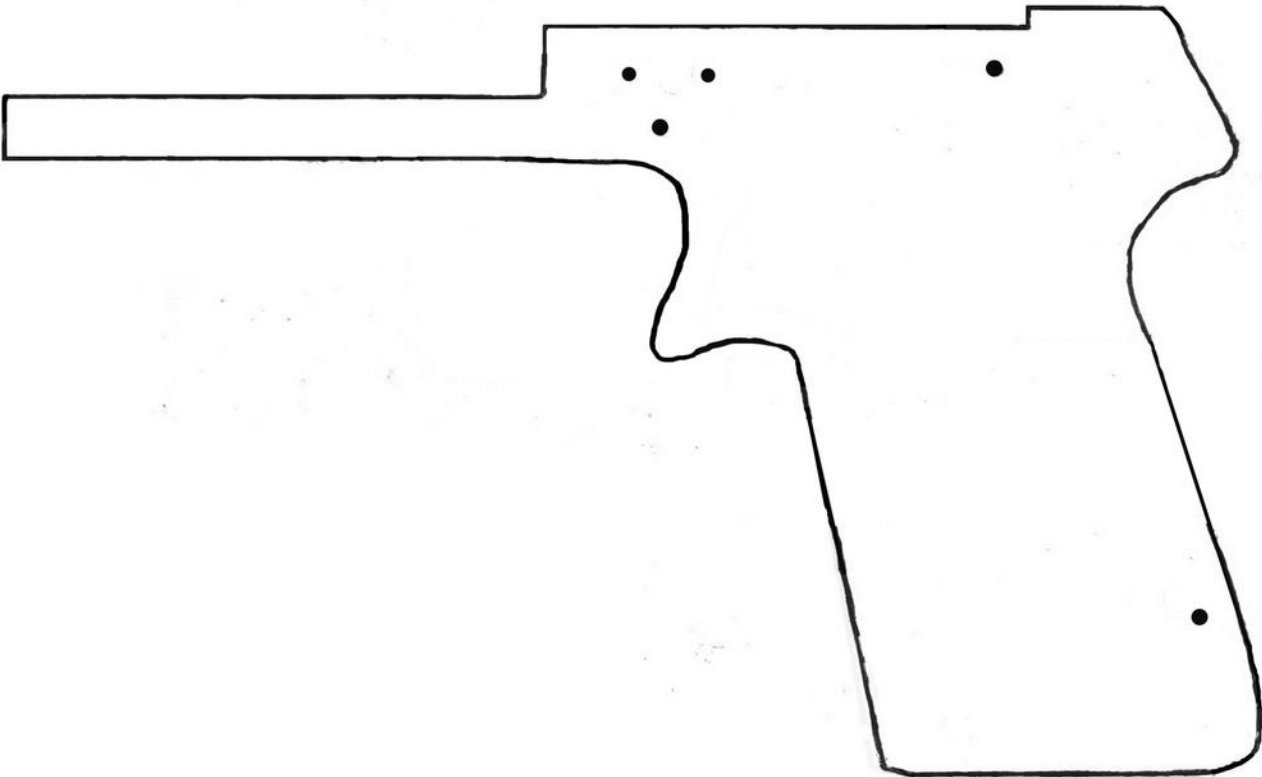
1mm thick mild steel sheet
2mm thick mild steel sheet
2.5mm thick mild steel sheet
6mm (1/4") mild steel plate
8mm thick mild steel plate
12mm thick mild steel plate
16mm (5/8") diameter mild steel square bar
16mm (5/8") diameter mild steel round bar
4mm (1/6") silver steel bar
Spring steel music wire, 19 and 20 gauge
M4 button head bolts, 13mm long
M6 button head bolts, 10mm long
3mm diameter pins, 18mm long

Tools:

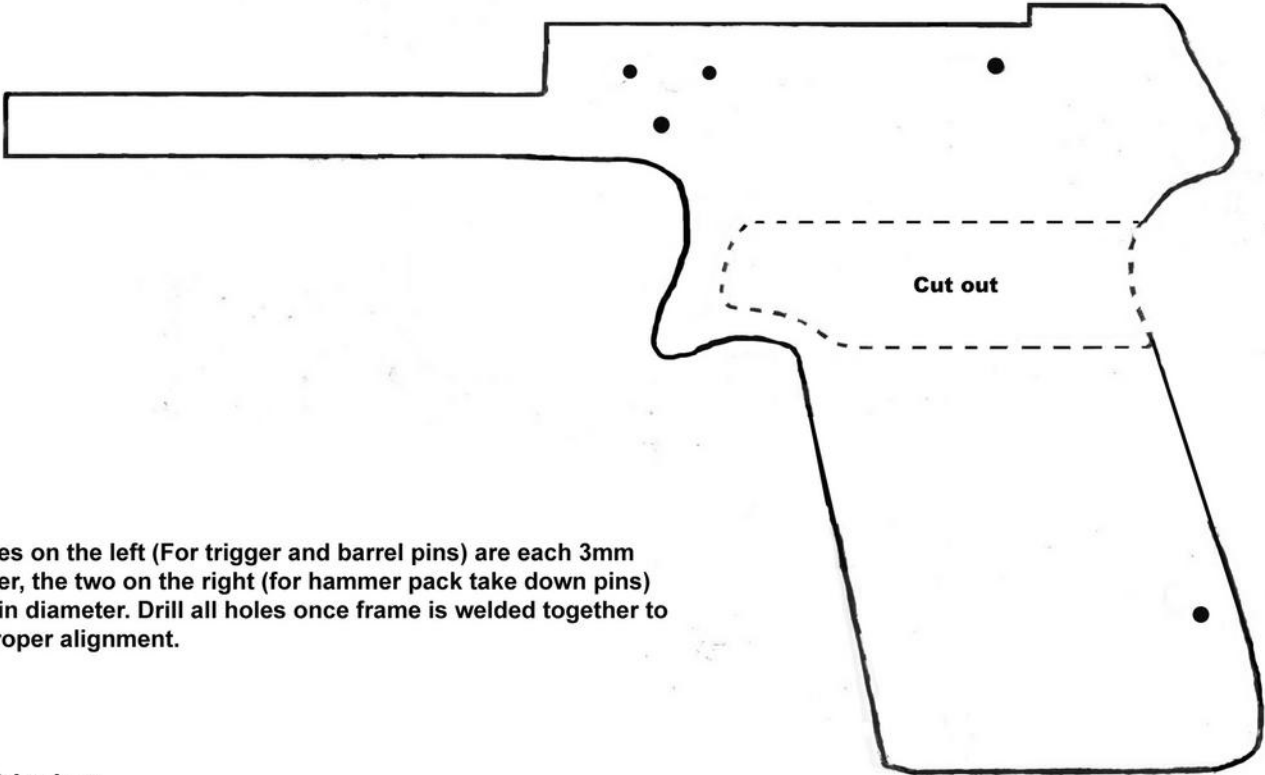
Hacksaw
Hand files
Electric drill or drill press
Angle grinder
Dremel type rotary tool
Hand taps, 4mm - 0.7 and 6mm - 1.0
Arc welder

Frame plates

Right plate



Left plate



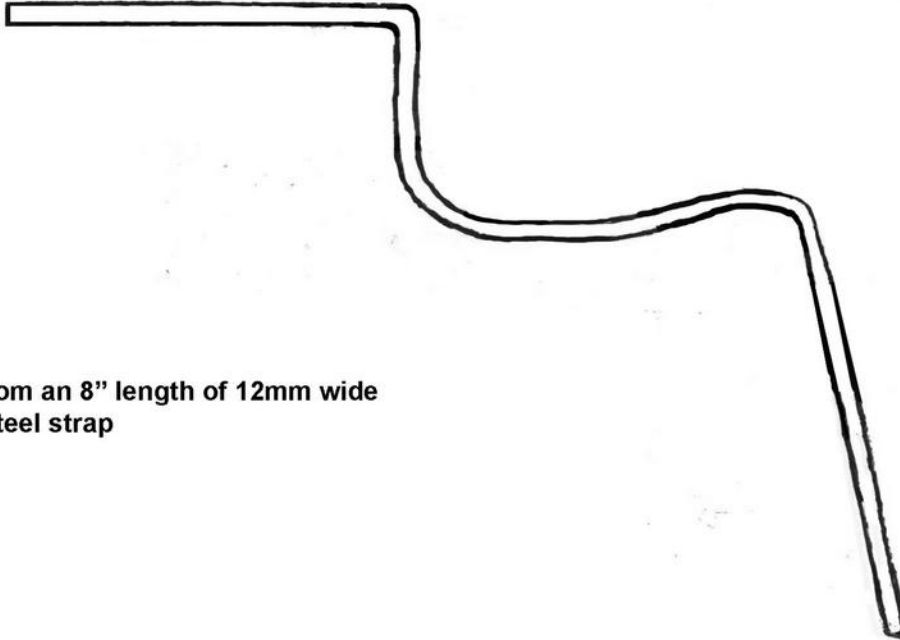
The 3 holes on the left (For trigger and barrel pins) are each 3mm in diameter, the two on the right (for hammer pack take down pins) are 4mm in diameter. Drill all holes once frame is welded together to ensure proper alignment.

2 inches

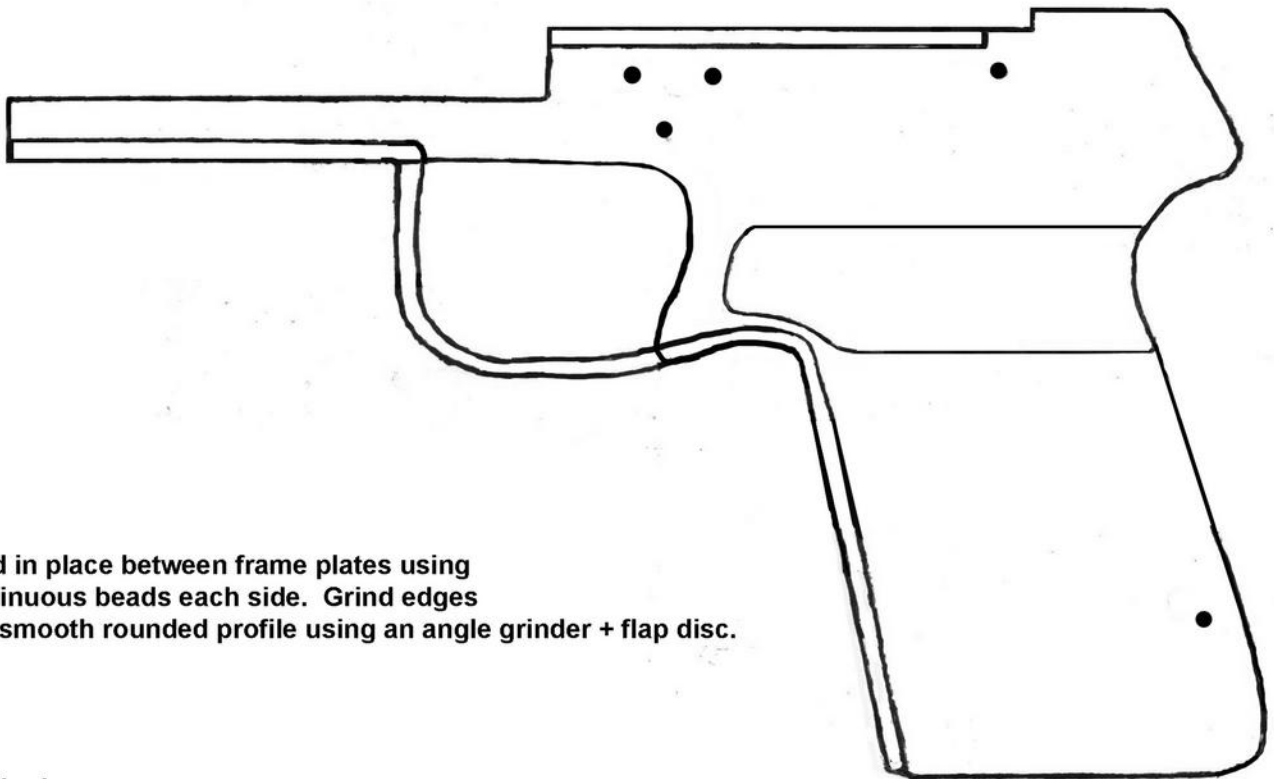
Print on 8.5x11 US letter paper

2.5mm mild steel plate

Trigger guard / frame wall



Bend to profile from an 8" length of 12mm wide
2mm thick mild steel strap



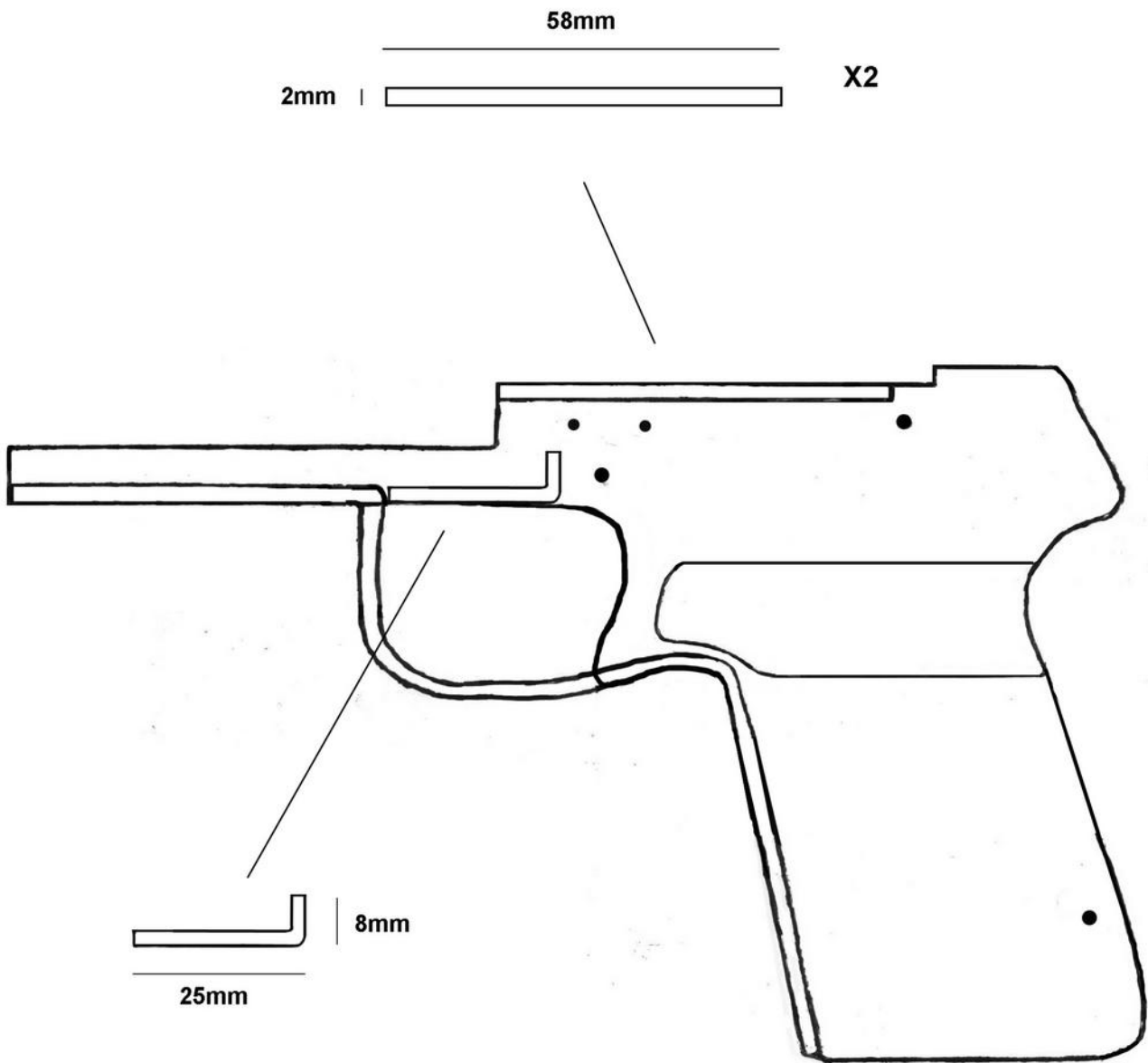
Weld in place between frame plates using
continuous beads each side. Grind edges
to a smooth rounded profile using an angle grinder + flap disc.

2 inches

Print on 8.5x11 US letter paper

Slide rails

The slide rails are made by cutting two strips of 2mm thick mild steel sheet which are welded either side in the position shown. Alternatively these can be formed from a thick weld bead ground to shape.



A length of 2mm thick, 12mm wide steel strip is bent to shape and welded in place to complete the recoil spring channel

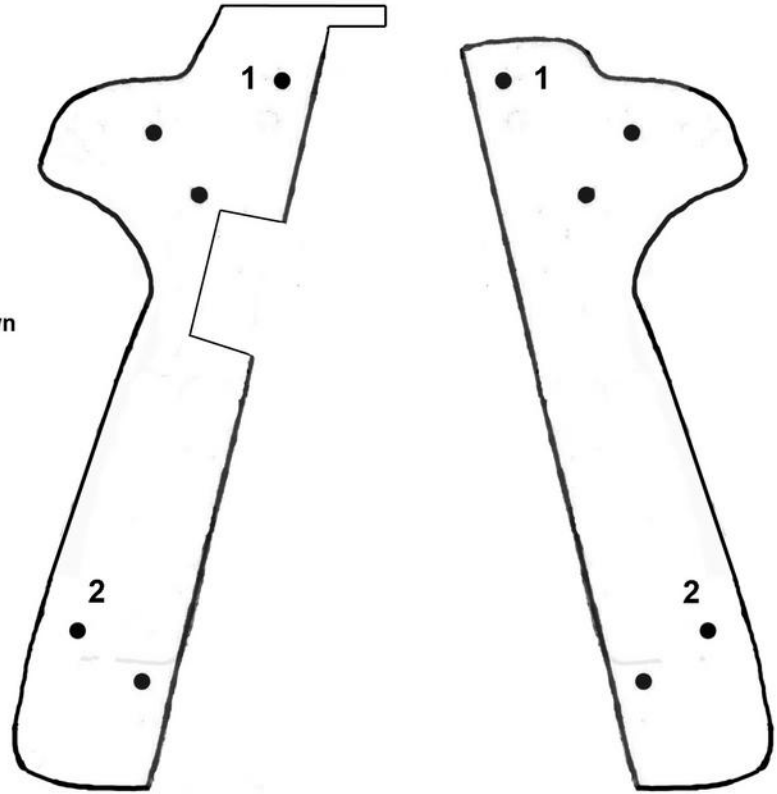
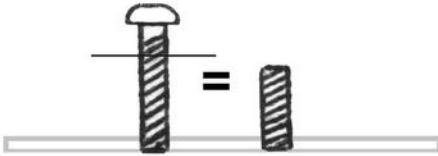
2 inches

Hammer pack side plates

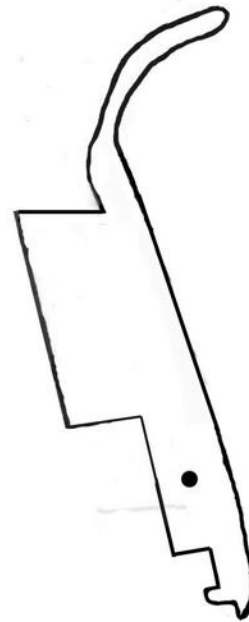
Ejector - File down and bend to allow for mag clearance

Holes 1 and 2 accept a 12mm long, 4mm dia take-down pin.

The three remaining holes on the right side plate are drilled with a 3mm bit then threaded to accept an M4 bolt each, sealed in place with high strength epoxy applied to the threads. These are then cut down to 12mm in length to create three fixed pivot posts.



Back strap
Weld or pin in place



2 inches

Print on 8.5x11 US letter paper

Side plates : 2.5mm thick mild steel plate
Back strap : 8mm thick steel, aluminum or plastic plate

Hammer pack components

Hammer



Cut spring arm slot using a dremel + cutting disc

Main spring

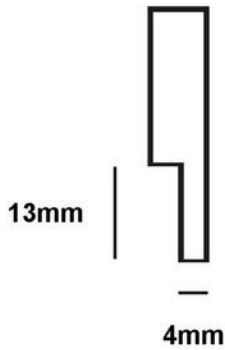


Bend to profile from heavy 19gauge+ spring steel music wire around a 5mm bar - 2 turns

Sear



Back profile

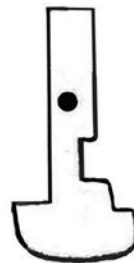


Latch spring

(5mm x 13mm compression spring)



Magazine latch



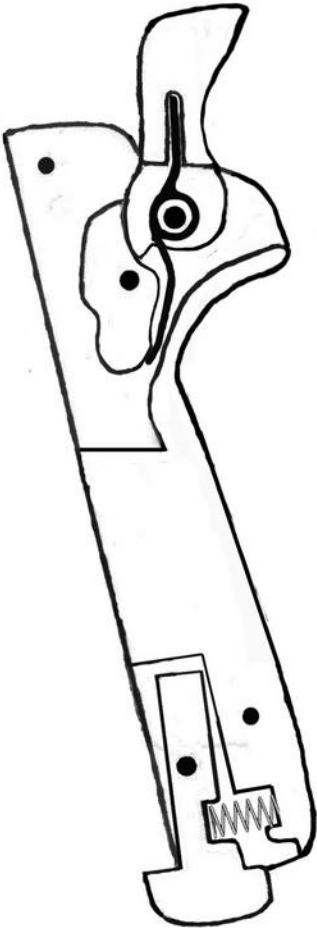
All holes are drilled with a 4mm dia bit

2 inches

Print on 8.5x11 US letter paper

Hammer, sear and magazine latch : 8mm thick steel plate

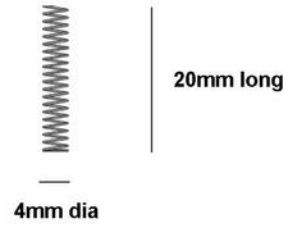
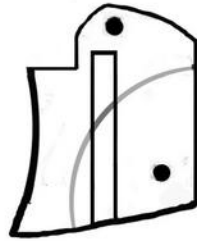
Hammer pack assembled



2 inches

Trigger

Compression spring
(Can be taken from a retractable pen)

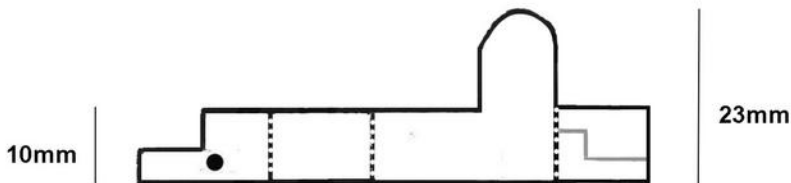


Drill from below using a 4mm bit to create a spring channel

Cut a slot for the trigger bar using an angle grinder fitted with a 1mm slitting disc

Trigger bar

Cut from a 68mm length of 2mm thick steel plate



3mm hole

Bend on lines to profile below:



Sear contact point profile
(Mirrored)



Cut to profile once bent

2 inches

Print on 8.5x11 US letter paper

Trigger : 12mm thick aluminum, plastic or steel plate

Barrel assembly and recoil spring

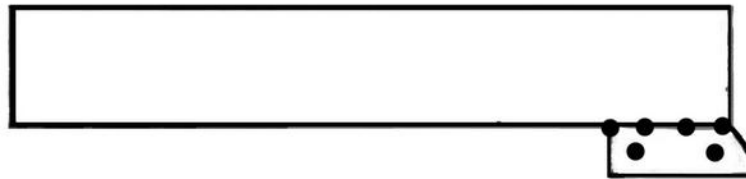
.32: 7.5mm inner dia, 2.75 wall

.380: 9mm inner dia, 3.5mm wall

Round or square stock

3 3/4"

16mm (5/8")



Weld lug in place - grind smooth

Cut 6mm wide slot at top of barrel entrance to accommodate front of extractor



Bevel entrance with 16mm + drill bit
- form slight ramp profile on lower wall

Barrel lug

12mm thick mild steel plate

7mm



20mm

Recoil spring

3.5"

10mm



Wire dia: .043 (1mm)

2 inches

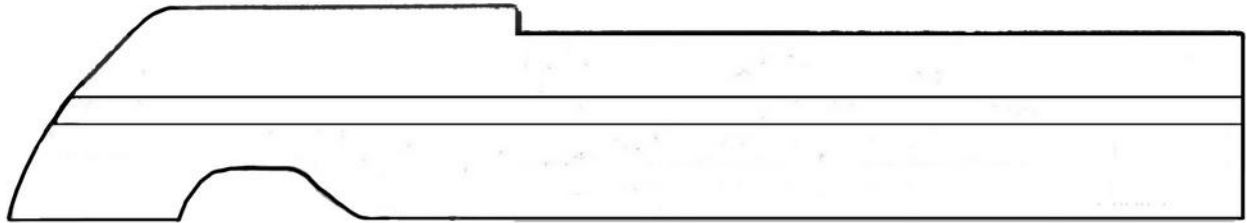
Print on 8.5x11 US letter paper

Slide side plates

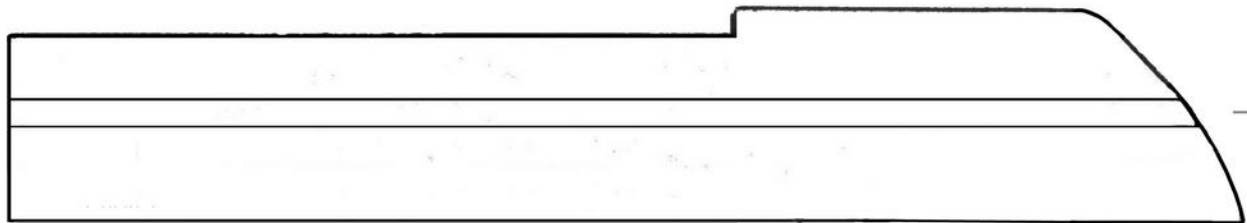
Cut from 6mm (1/4") thick mild steel plate

164mm

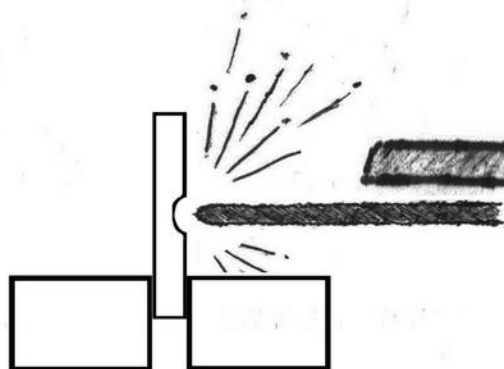
28mm



14mm



The slide rail cuts are formed on the inside of each plate by carefully using an angle grinder fitted with a 2mm grinding disc to form a shallow channel across the the plate's entire length. Use a dremel and hand-file to neatn.



2 inches

Print on 8.5x11 US letter paper

Bolt piece

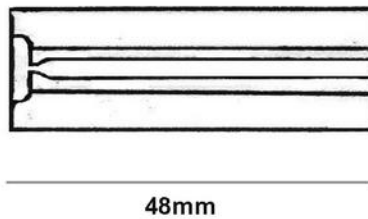
The bolt piece is made from a 48mm long length of 16mm (5/8") mild steel square bar.

- Drill center with a 9.5mm drill bit until 3mm deep.
- Level hole flat using a 9.5mm drill bit having had its tip removed using an angle grinder
- Drill firing pin hole from front with a 3mm drill bit
- Drill from back using a 4.2mm drill bit, 43mm deep
- Cut feed channels using an angle grinder fitted with a 1mm slitting disc until matching the profile on the right:

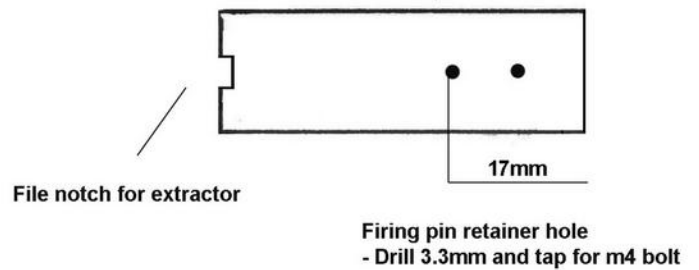
Front face



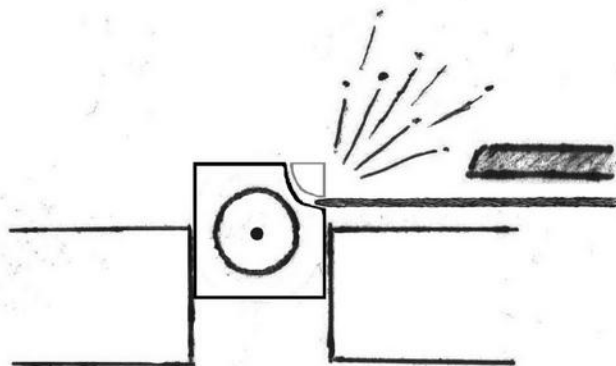
Bottom



Top



Angle grinder 'milling'

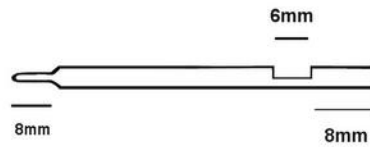


2 inches

Firing pin & extractor

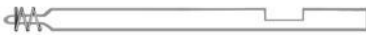
Firing pin

1/6" (4mm) dia silver steel bar. 48mm long.



Reduce tip to 2.5mm dia
(Can be spun in a drill and turned down using a file)

The firing pin return spring can be made from 3 or 4 coils cut from a small dia compression spring found inside a retractable pen.



Extractor

(Optional)

Bend from 55mm long, 5mm wide, 2mm thick steel strip.



Round off tip

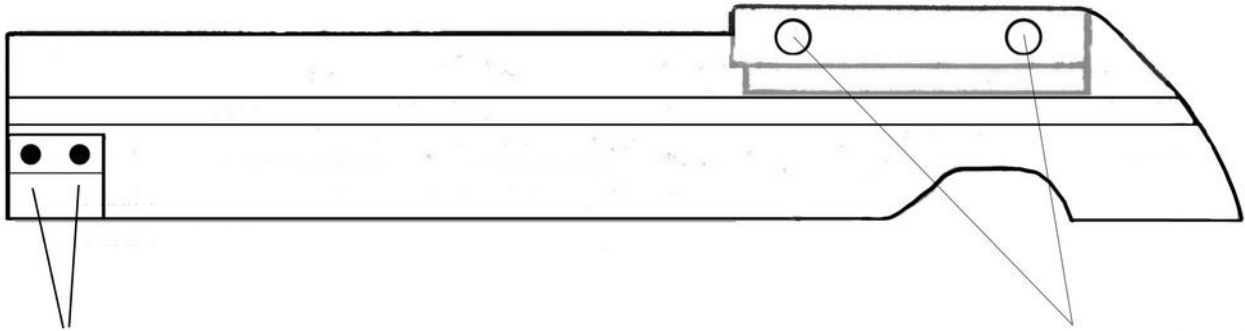
Hand fit extractor so that front of claw is in contact with a cartridge rim when centered on bolt face. A cartridge should be able to slip under with ease. Retain using a 6mm long M3 bolt plus the firing pin retention bolt to the rear.

2 inches

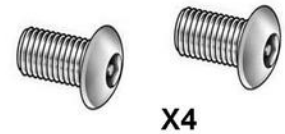
Slide assembly

Assemble together once alignment with frame and barrel has been established

Drill two 5mm holes each side and tap to accept four M6 allen head bolts.
Bolt piece should be positioned centrally inline with barrel - can be temporarily tack welded to align before bolting in place.



Drill two 4mm holes through slide panels and lug to accept two 25mm long, 4mm dia steel roll pins. Seal over holes with weld and grind flush. Weld at front where in contact with slide plates to permanently secure lug.

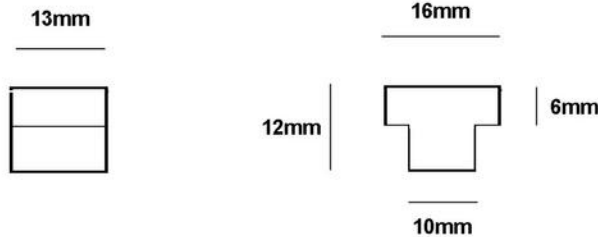


X4

10mm long M6 button head bolts

Removal will allow for slide disassembly from frame.

Slide front lug

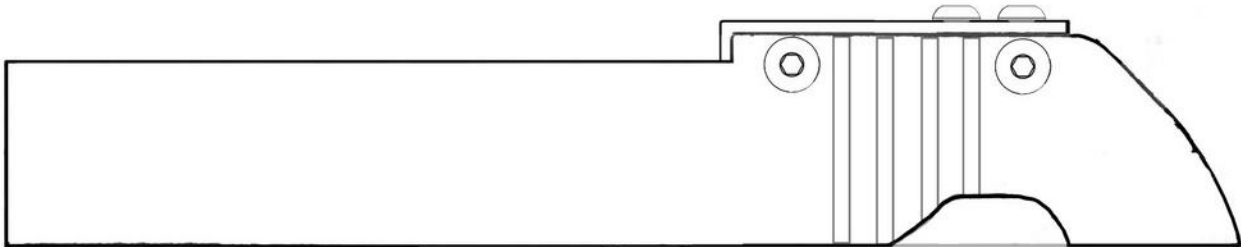


2 inches

Print on 8.5x11 US letter paper

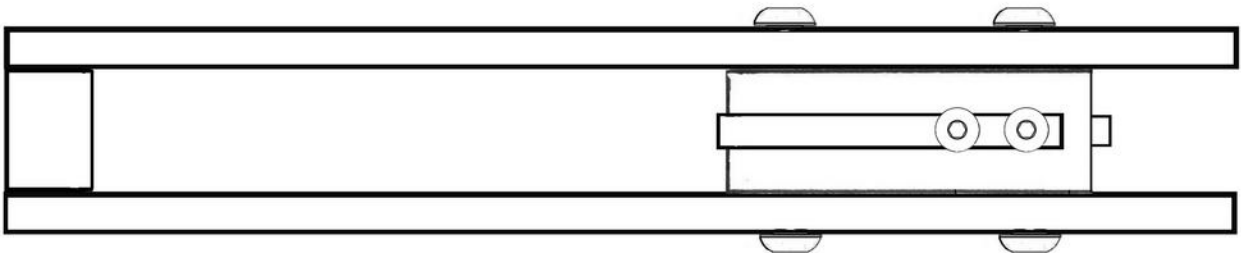
Completed slide

Side:

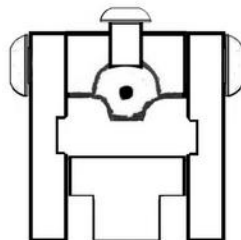


Add serrations to each panel using a jewelers saw

Top:



Front:

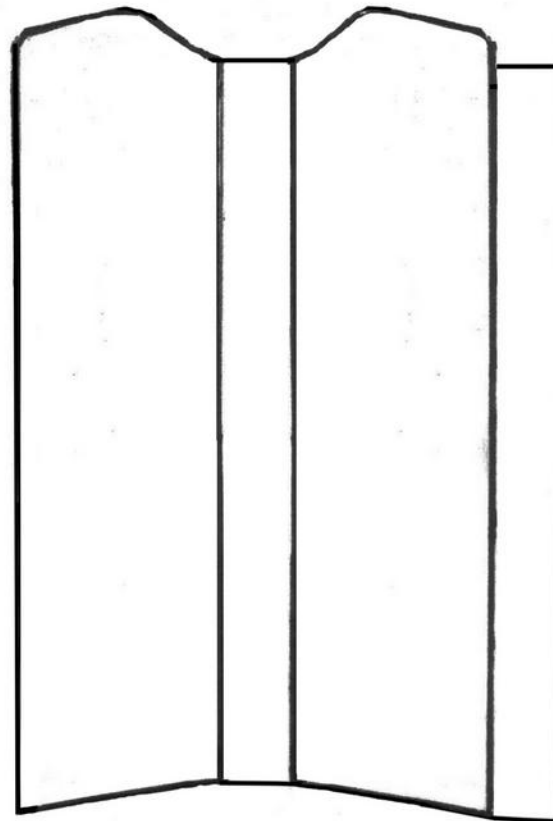


2 inches

Magazine template

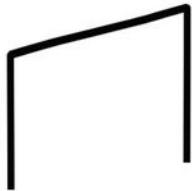
Cut template out from 1mm thick mild steel sheet. Score on bend lines slightly using a dremel disc.

Form around a 10mm thick, 1" wide, 12" long steel block. Carefully weld together in spots along rear fold. Form feed lips around top of forming block to profile.



Magazine follower

Bend to profile from a 50mm long, 9mm wide steel strip



Feed lips

8mm



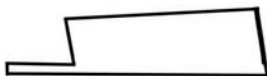
Forming block
(Shape to profile)



Secure magazine flat to block via two bolts at either end. Hammer magazine lips to match block profile.

Base plate

(Cut from 10mm thick aluminum, plastic or steel)



Secure using two 11mm long pins

Heat formed magazine lips until cherry red and quench using kaseanit or motor oil to harden.

- Standard Makarov PM magazines may also be used

2 inches

Print on 8.5x11 US letter paper

Magazine spring



Make a forming mandrel from a length of 4mm thick plate, 15mm wide, 12'' long. Drill a hole at one end to tie a knot through.

Tightly form spring from 20 gauge spring steel music wire. Leave 15mm between coils.

Once complete, use pliers to form each coil into the correct rectangular shape.



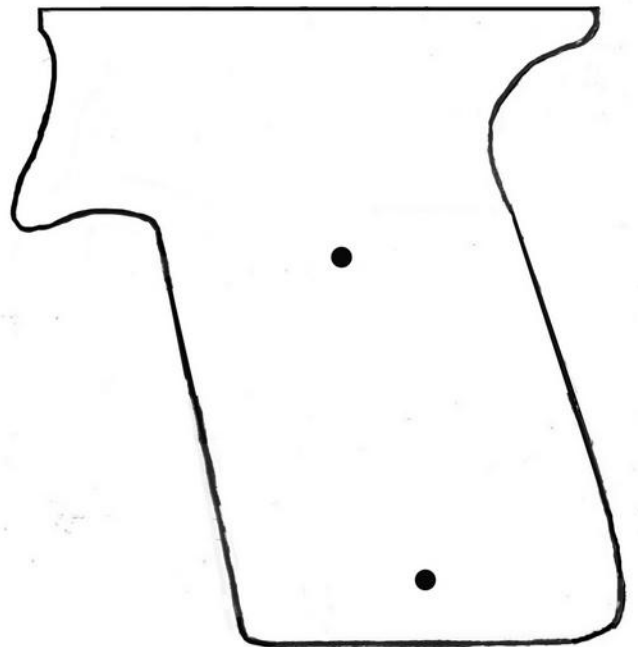
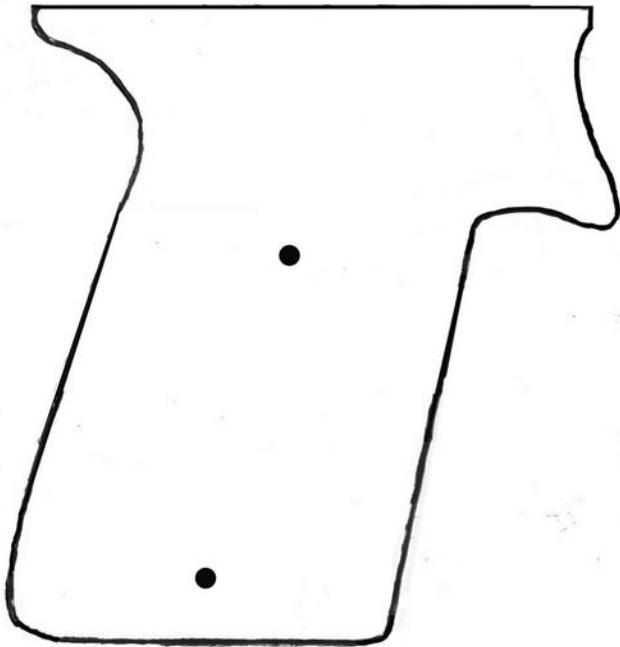
6.5'' long

2 inches

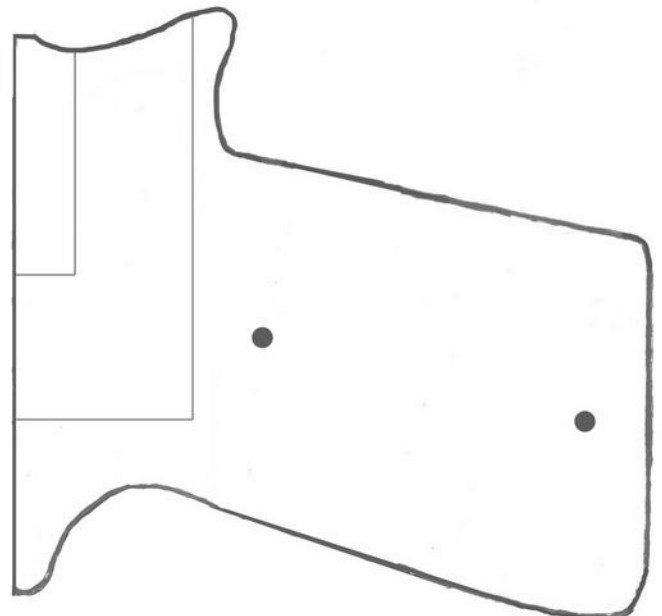
Grip panels

Cut from 1/2" plastic, aluminum or hardwood

Drill and tap through frame to accept four M4 button head bolts.
Ensure surfaces inside magazine channel remain flush.

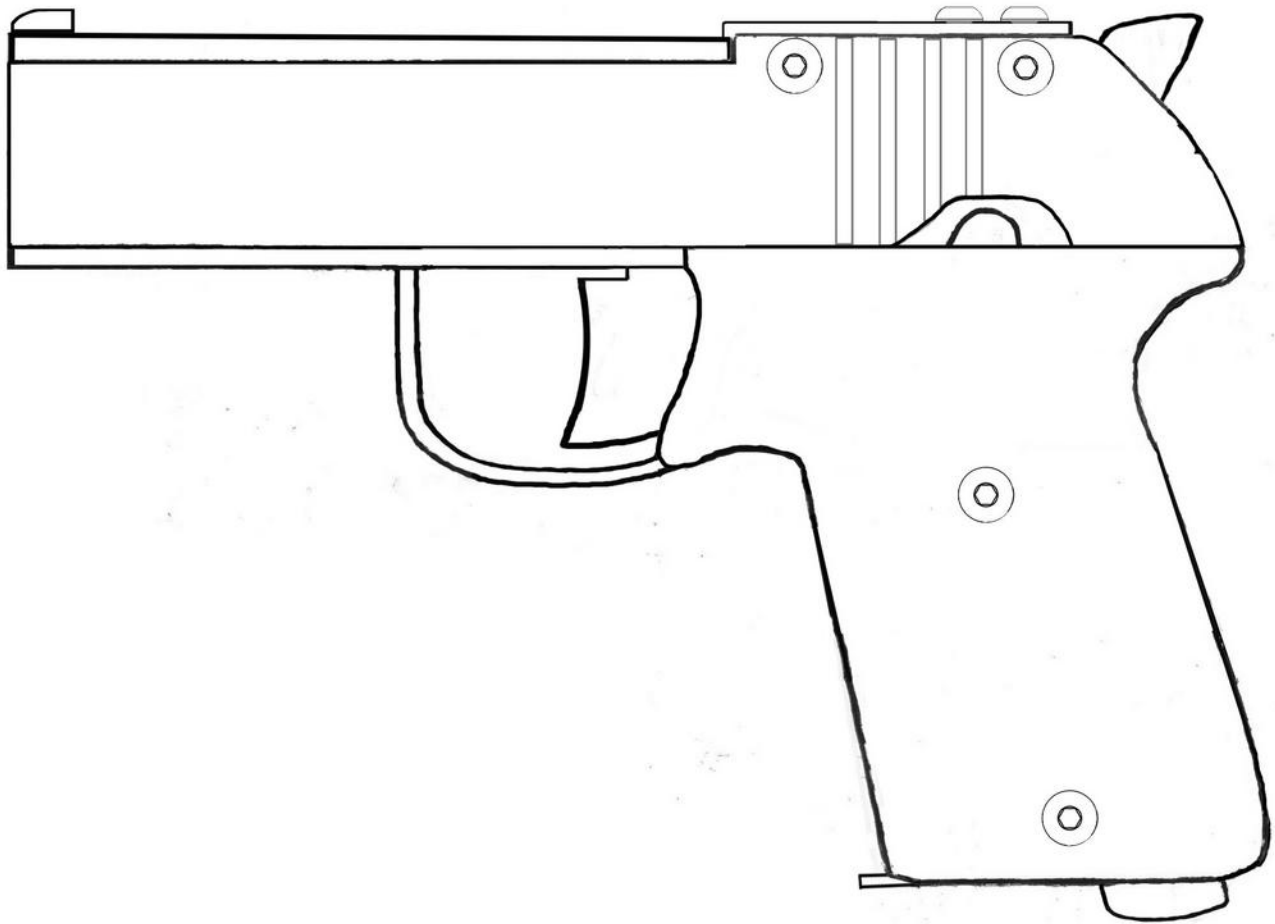


(Left side panel) Use a rotary tool + sanding bit to create a shallow channel to allow clearance for trigger bar.



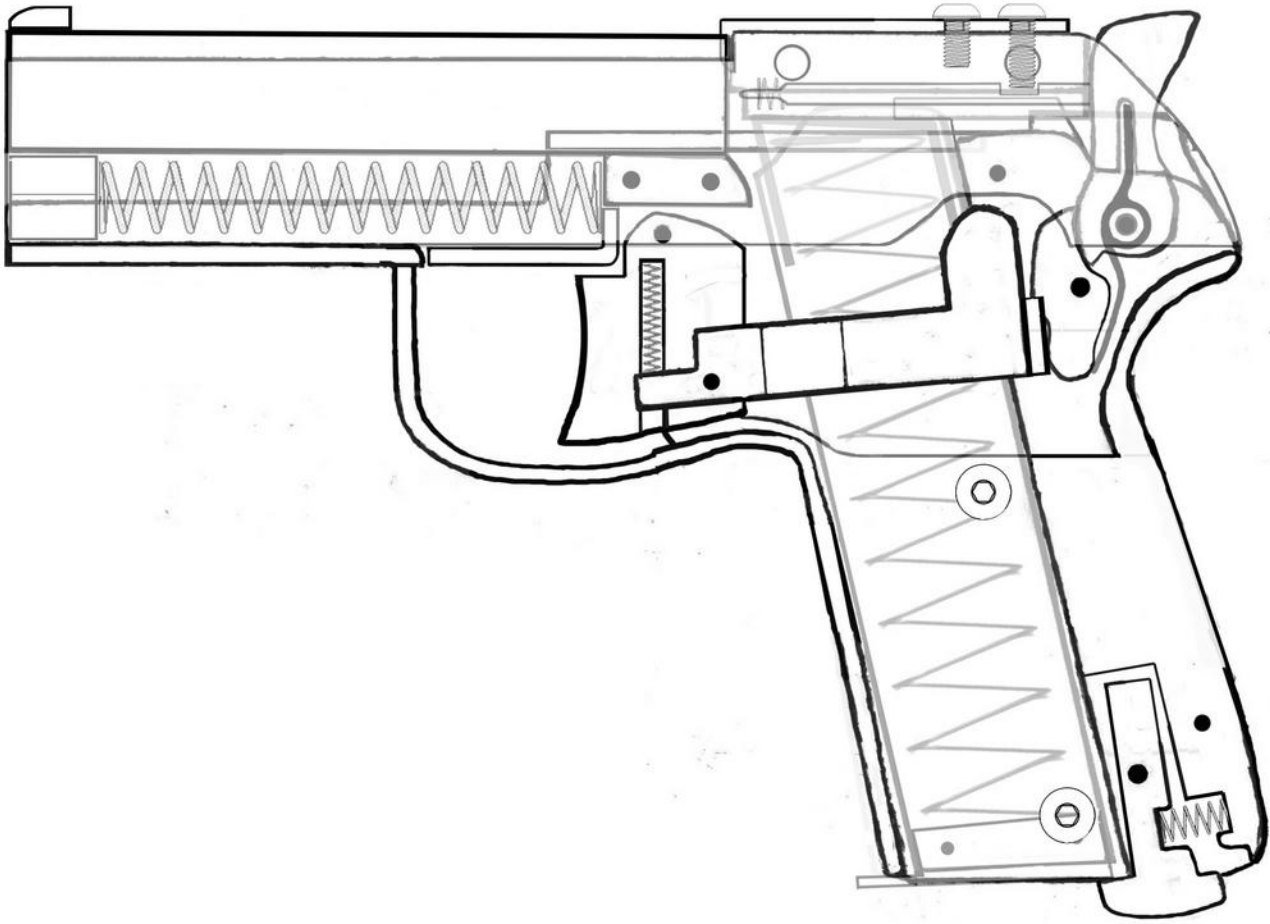
2 inches

Print on 8.5x11 US letter paper



2 inches

Print on 8.5x11 US letter paper



2 inches

Print on 8.5x11 US letter paper



A MK1 .25 ACP sheet metal pistol successfully built and fired, photos courtesy of Clinton (USA)

