

9MM BULLET HOSE

HOME BUILT SUBMACHINE GUN





By Professor Parabellum

Introduction

The following lightweight and highly compact machine pistol design is quick to manufacture and contains a low number of components. It's minimalist layout incorporates a single receiver piece to house all components, doing away with the use of any pins or bolts to retain it's trigger grouping. These features result in a sleek and refined appearance, contrasting with the majority of weapons of this type.



It's small size allows it to fit comfortably into a standard pistol bag.



Top: The lack of any external cocking handle further amplifies concealability while it's large port opening ensures reliable ejection.

Specs:

Operation: Open-bolt, blowback

Cartridge: 9x19mm

Capacity: 32rds

Overall length: 309mm

Height: 110mm without mag (261mm with)

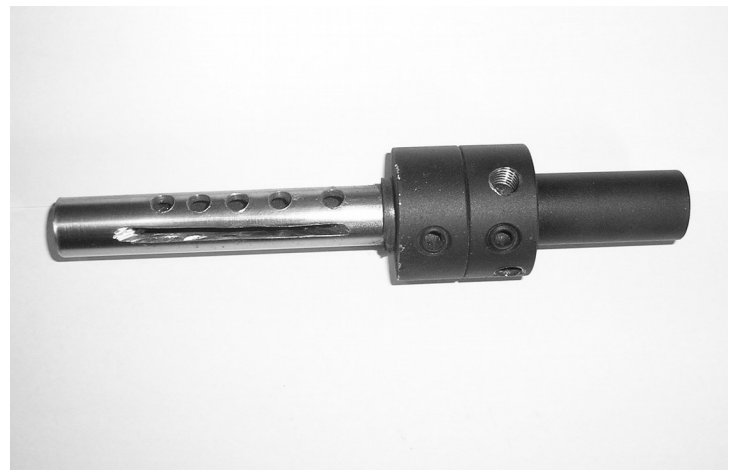
Barrel Length: 6.5"

Weight unloaded: 1.681 kg

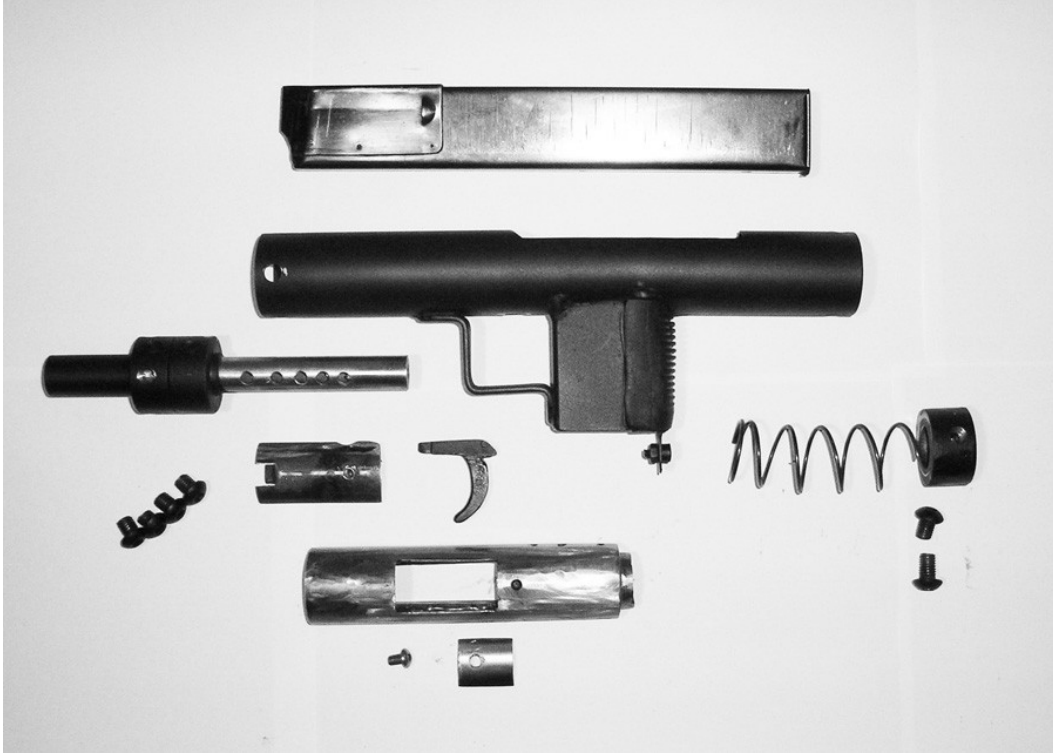
Constructed in it's most concealable form very little protrudes, keeping a slim profile. A design feature employed to maximize concealability is the inclusion of a single wide port on-top allowing for the bolt to be cocked without an external handle in the same manor as the US M3 Grease Gun. The standard use of 1 1/2" receiver tube and 3/4" lock collars allow for ease of lamination of internal components without using a lathe.

Not to miss out on the availability of modern high tech synthetic polymers, a section of rubber bicycle handlebar grip was incorporated to serve as a comfortable and expedient palm rest.

For legal reasons, the demonstration prototype pictured was constructed as a non-firing dummy replica. It contains a blocked and destroyed dummy barrel and it's dummy bolt features no provisions for a firing pin. ***This document is intended purely for academic study purposes only.***

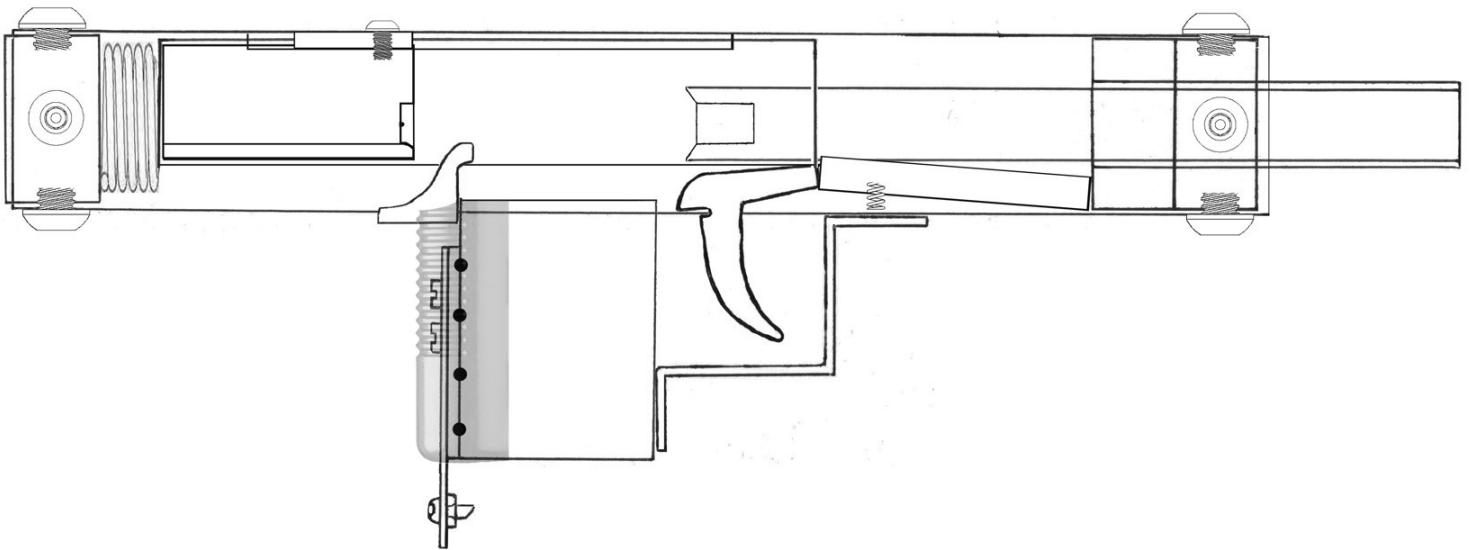


Disassembled:



Components: Magazine, Receiver, Barrel assembly, Sear, Trigger, Bolt assembly, Bolt retaining tab, Recoil spring, End plug, Retaining bolts (x7)

Cut-away view:





Prototypes for a similar short-lived commercial design produced in the 1980s. Purportedly developed for distribution to guerrilla groups for use in clandestine operations. An added rotatable forward grip is present which can also hold an extra magazine.

Component construction notes

Bolt:



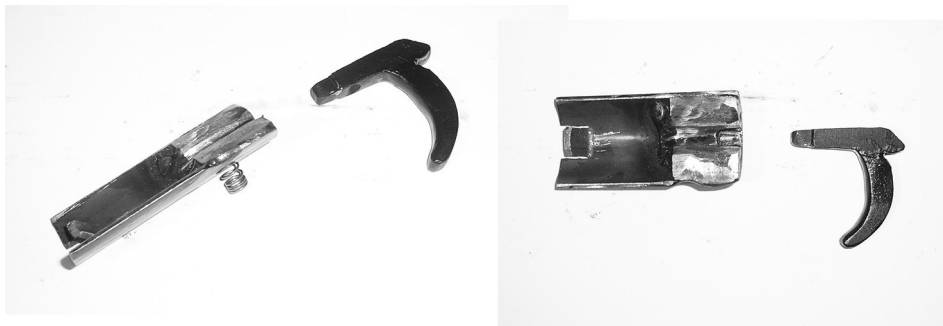
Rather than being machined from a single piece of steel, the bolt for this design is laminated from steel tubing and bar stock. If the material is available, an ideal two piece bolt can be made from a length of 35mm diameter, 5mm thick wall steel tube with a 25mm inner bolt piece. The expedient version presented here however is laminated from a length of 35mm x 1.5mm steel tube, a 32mm steel bar stock inner piece, and two lengths of steel bar welded either side to catch the sear.



The bolt piece starts out as a 50mm length of 32mm mild steel bar stock which is marked in its center and drilled using a 10mm bit until 3mm deep. A second 10mm bit, modified by removing its tip is then used to level this hole flat. The hole is then beveled using a 16mm+ drill bit and sanded smooth. Six holes are then drilled through the length of the bar using a drill press. This will allow for quick removal of material using an angle grinder fitted with a 1mm slitting disc then further neatened using a 2mm+ grinding disc and hand files. Finally the ejection slot is cut through the bottom using a 1mm slitting disc until entering 1mm into the bolt face.



Trigger grouping



The trigger and sear are held in the receiver without any pins, each sandwiched between the barrel, barrel collar and receiver wall. This very simple assembly increases overall compactness and proves just as reliable and strong as any other type.

The trigger consists of a single piece cut from 6mm steel or aluminum plate, while the sear is constructed using a matching off-cut from the bolt carrier tube piece and a block of 6mm steel plate filed to match and welded in place. A small curve on top of the sear allows it to lift up under spring pressure and rest on the underside of the barrel. This allows the front of the sear to catch the front of the bolt when pulled back.

Recoil spring



A lever type grease gun applicator will contain a large compression spring suitable for use. The spring may need to be weakened slightly by rapidly compressing it inside the tube using a large dowel or similar to acquire the right amount of tension. A number of coils need to be cut off before use to form a final spring length of 3 3/4" and consisting of six coils. Your spring specifications will depend on manufacturer so it's best to modify incrementally.

Useful tools:

Drill press or electric drill combined with a stand
Tungsten or cobalt tipped drill bits (optional)
Welder (can be a cheap stick / arc type)
Dremel / rotary tool + reinforced cutting discs (optional)
Hand files
Hacksaw + cobalt tipped blades (optional)
Hand taps for threading

Materials:

38mm x 1.5mm wall mild steel round tube
1" x 2" (25mm x 50mm x 1.5mm) mild steel box tube
35mm x 1.5mm round tube
1" steel bar
10mm mild steel bar
6mm thick mild steel plate
3/4" shaft lock collars
19mm x 1.5mm tube
16mm tube / bar

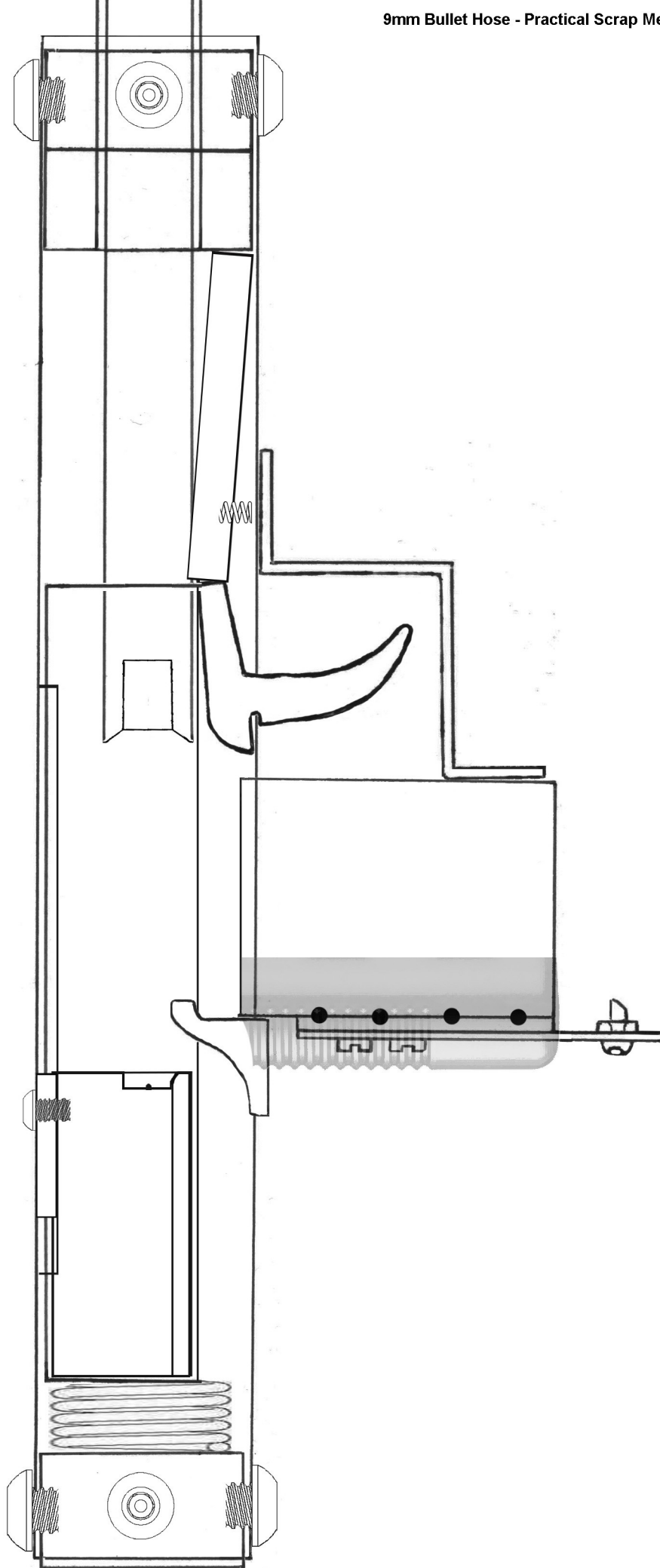
Construction plans



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 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.

- For academic study purposes only -



2 inches

Print on 8.5x11 US letter paper

Receiver

Openings can be cut by drilling a series of 4mm holes around the inside of the shape followed by using a dremel + disc or hammer & chisel to remove.

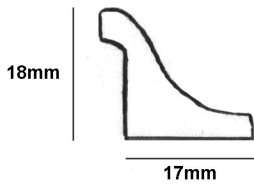
38mm dia x 1.5mm wall mild steel round tube

(1 1/2" 0.062 wall)

10.5" in length

Ejector

Cut to shape from 2mm mild steel sheet



Ejector should protrude 15mm into receiver.

Weld a bead over bottom once aligned.

2 inches

Print on 8.5x11 US letter paper

2"

22mm

Ejection port

4" long

Top

Ejector slot

17mm

25mm

Magazine opening

40mm

20mm

8mm

6mm

Trigger hole

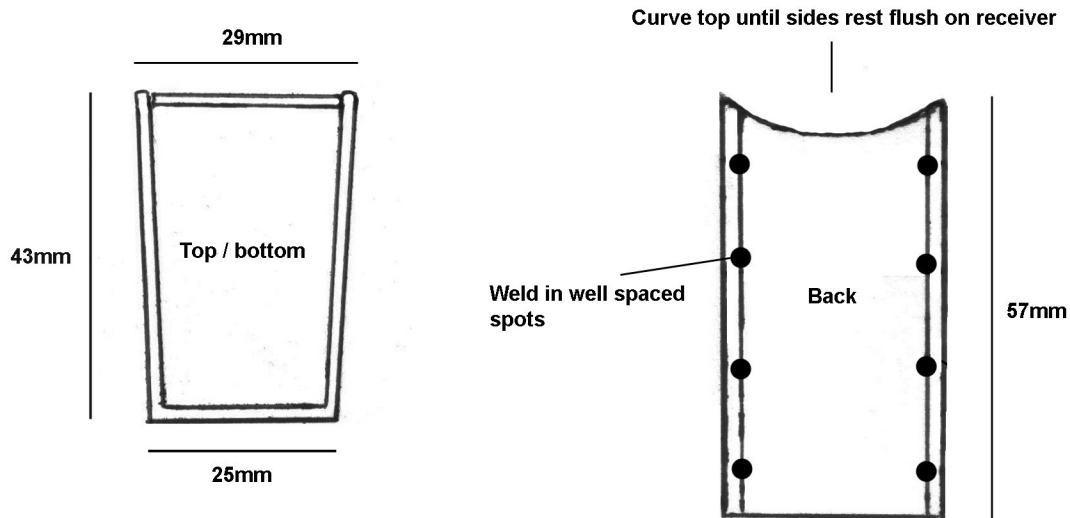
Bottom

95mm

110mm

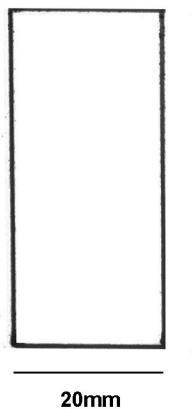
Magazine-well

A 57mm length of 1" x 2" (25mm x 50mm) steel rectangular tube is modified by removing a single 1" side to enable both 2" sides to be flared out slightly in order to accept a STEN magazine. A section of 1" steel bar can be hammered down through the opened side to achieve this. The removed side is then welded back into place forming the correct inner dimensions.

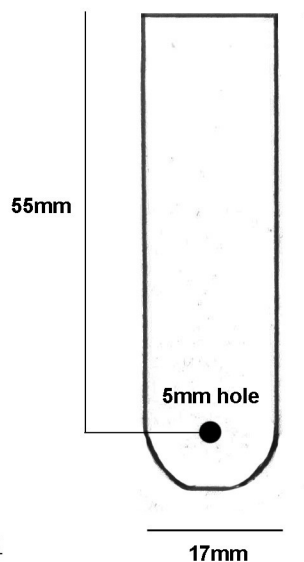


Mounting tab

3mm thick mild steel

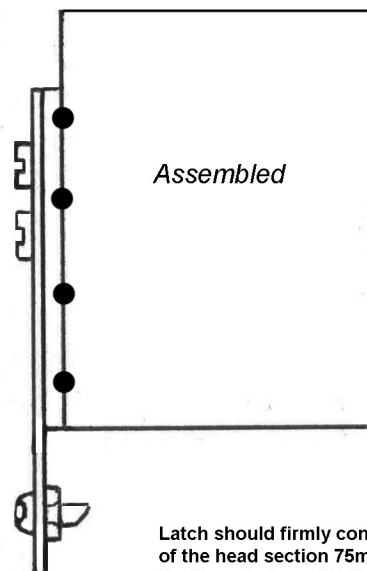


Spring steel strip (Cut from a section of handsaw blade)

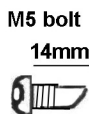


Weld mounting tab in place to allow the latch strip to be attached via two short bolts (-3mm).

The strip may need to be heated then left to cool slowly in order to soften before drilling.



Latch should firmly contact the bottom of the head section 75mm below the lips of a 9mm STEN magazine



- File magazine contact edge flat
- Form ramp profile on underside
- Retain with an m5 nut + loctite

2 inches

Trigger grouping

Trigger

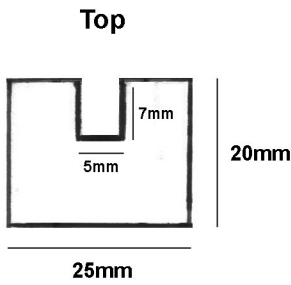


File down both sides of front until 4mm thick / engages with slot in sear

- Cut notch using hack saw
- Should cling and allow room to pivot when inserted through trigger hole

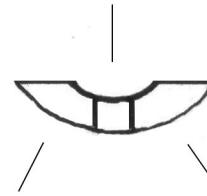
Sear contact block

Cut from a section of 6mm thick mild steel plate



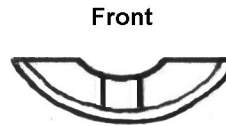
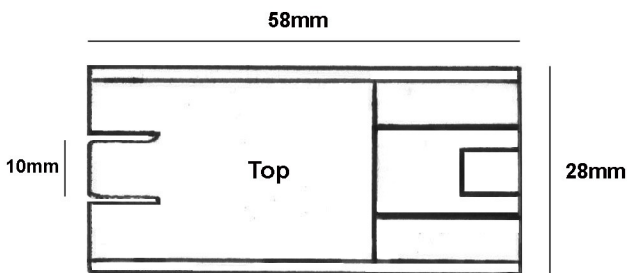
Front

Grind / file channel along top to allow up / down movement when in place inside receiver



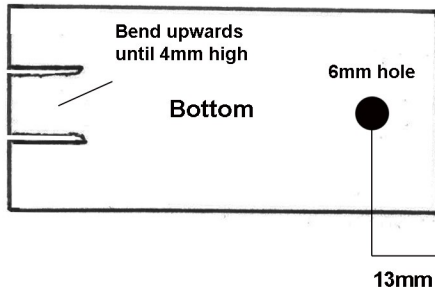
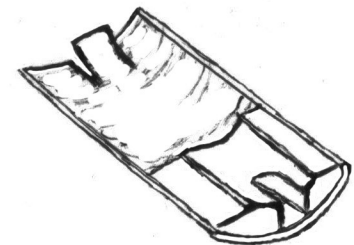
Grind down lower sides until matched with inner diameter of sear tube piece

Section of 35mm x 1.5mm steel tube (Off-cut from bolt carrier)



Assembled:

Substantially weld contact block into tube



Hole accepts a short 6mm wide compression spring

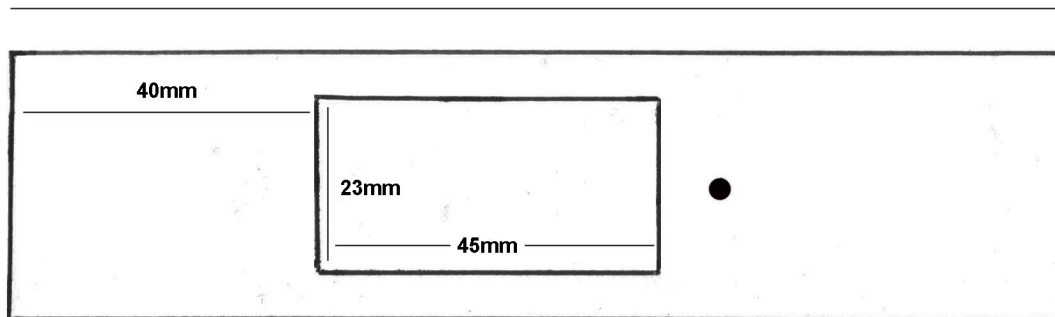
2 inches

Bolt carrier

The carrier section of the bolt is made from a 5.5" long section of 35mm x 1.5mm mild steel round tube. The matching off-cut produced during it's modification will be used to create the sear.

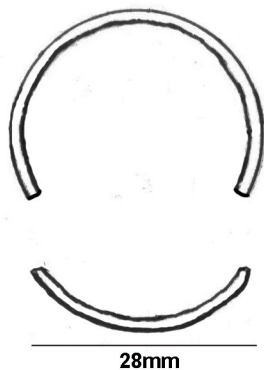
Top

5.5"



Dia: 35mm

Front



1"

Mark a 28mm wide strip and remove along entire length of tube. The off-cut will be used for creation of the sear.

If obtainable, use 35mm tubing with a 5mm thick wall instead and skip additional modifications below

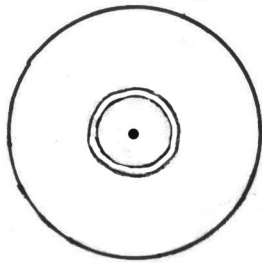
Two 85mm lengths of mild steel bar stock are required to make the sear contact points on the bolt.



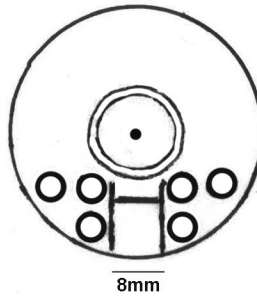
2 inches

Bolt breech piece

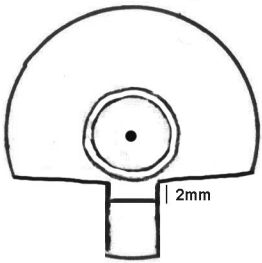
The breech piece of the bolt is made from a 55mm length of 32mm (1 1/4") mild steel round bar. It is cut to shape by drilling six holes then using an angle grinder to remove the un-needed material. A dremel tool and hand files can be used to further hand fit and finish.



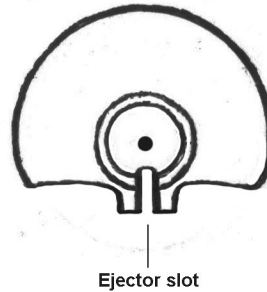
- Drill center using a 10mm drill bit until 3mm deep.
- Level hole flat using a 10mm bit with it's tip removed.
- Slightly bevel rim of hole using a 16mm bit - sand smooth.



- Mark an 8mm wide strip below the bevel of the center hole.
- Drill six holes using a 4mm bit in the positions pictured.
- Cut through the holes, tight to the inner edges using an angle grinder fitted with a 1mm slitting disc.

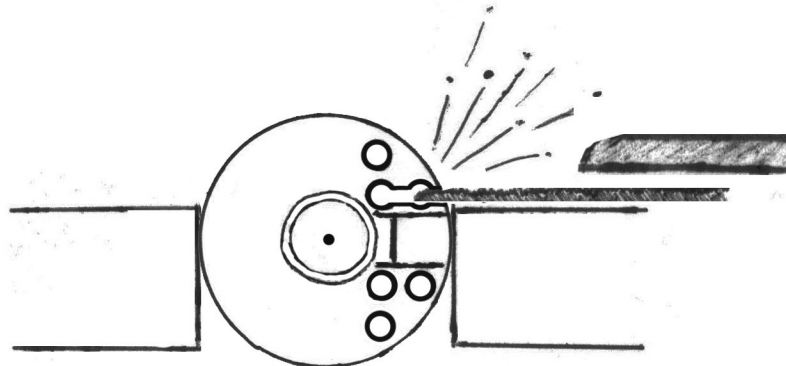


- Once side material has been removed, mark a line 2mm below rim.
- Cut off material below this point using angle grinder.



- Score a line along bottom of feed lip using a dremel or hacksaw.
- Cut along entire length using a 1mm slitting disc until entering 1mm into 10mm center section to form ejector slot.

Angle grinder 'milling' method:

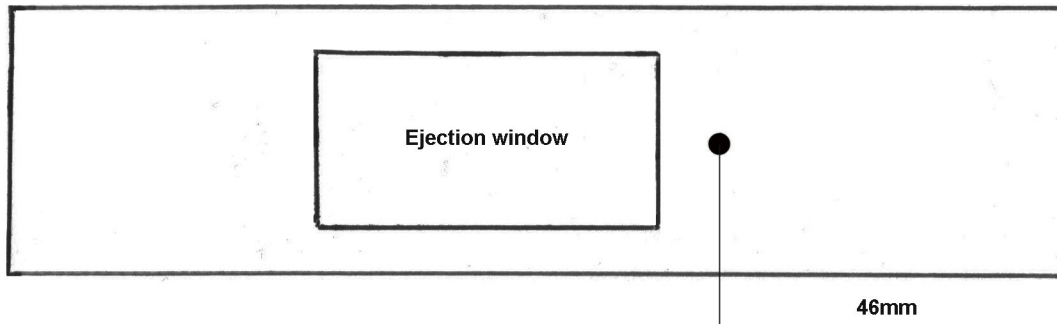


2 inches

Bolt (assembled)

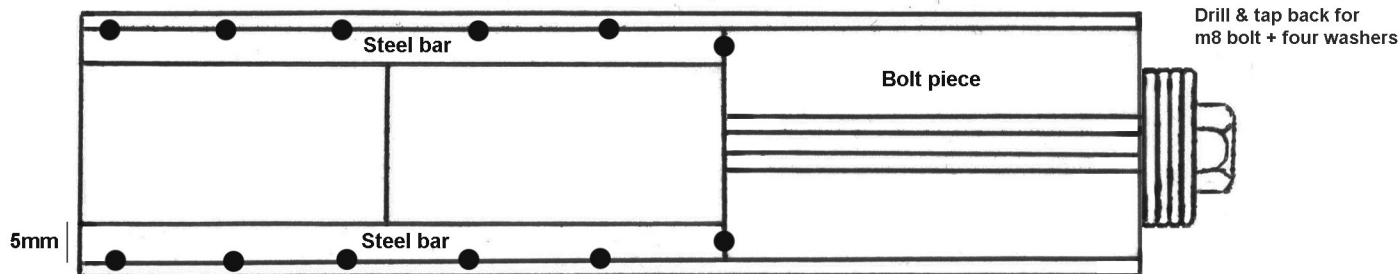
If obtainable, a section of 35mm tube with a wall thickness of 5mm can be used with a 25mm dia bolt piece instead.

Top



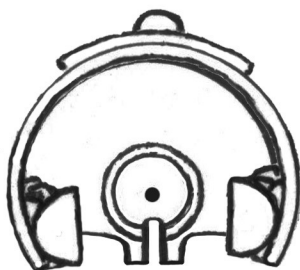
Bolt hole for retainer.
- Drill 4.2mm and tap for an m5 bolt.

Bottom



Clamp bolt piece in place and drill three 6mm holes on either side of carrier tube. Weld through holes to secure bolt piece then reinforce with three m6 grub each side screws tapped in flush with surface of tube.

Front

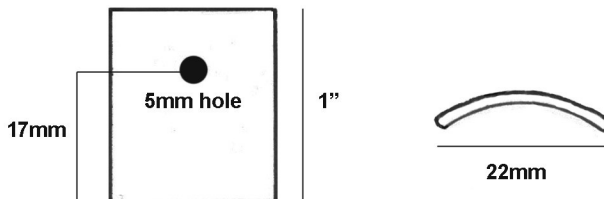


- Clamp two 85mm long sections of mild steel bar flush with the bottom of the bolt carrier tube.
- Substantially weld above and below to permanently secure in place. These will provide contact points for the sear.
- In this case two 10mm dia sections of bar were used which were cut in half once welded in place to allow clearance for the barrel.

Bolt retainer

Modify from a section of 35mm x 1.5mm tube

Additional weight can be added to the bolt by welding 40mm lengths of 5mm dia bar around the inside of front section taking care not to overheat and warp.



This part should match the ejection port on receiver

Retain using a 10mm long m5 bolt

2 inches

Print on 8.5x11 US letter paper

An optional external cocking handle can be added by drilling and tapping a hole through the retainer and into bolt for an M10 bolt.

Extractor

(Optional)

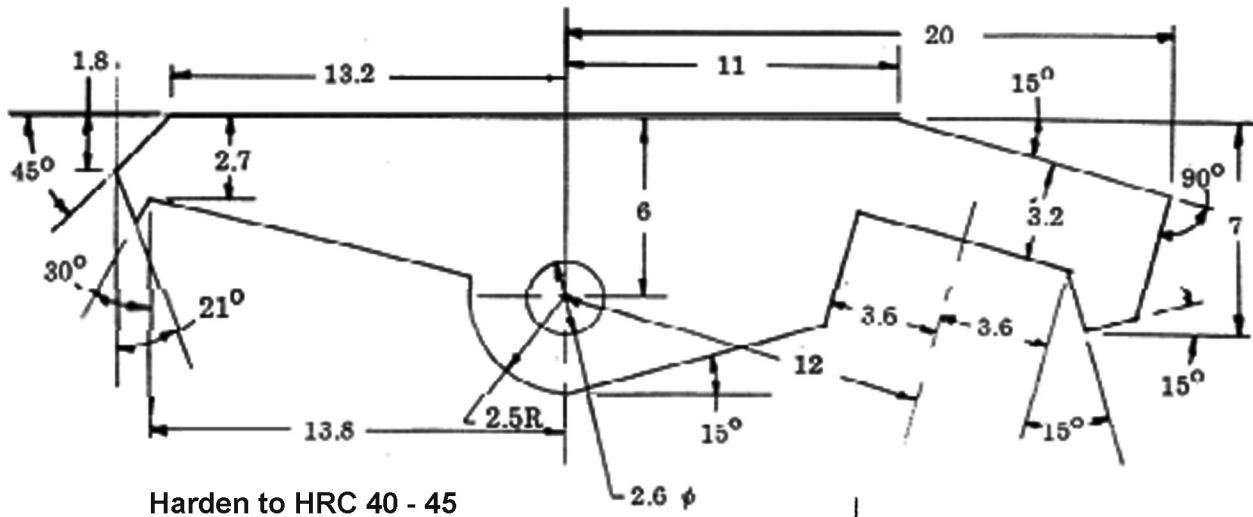
If adding an extractor the bolt retaining tab screw position must be moved (ie: two bolts either side)

Template:

STEN copy:



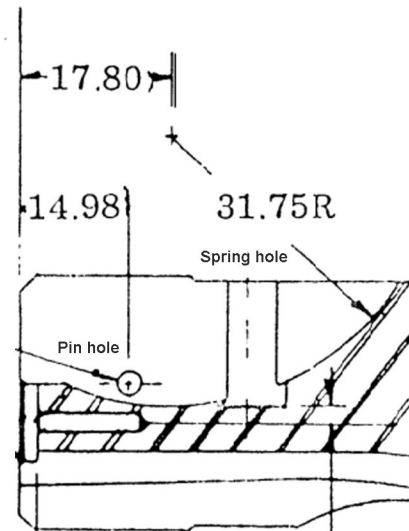
Measurements:



Harden to HRC 40 - 45

Extractor spring specs:

- Outside diameter: .280"
- Wire diameter: .039
- Number of coils: 5.5
- Active coils: 3.5
- Free length: .472

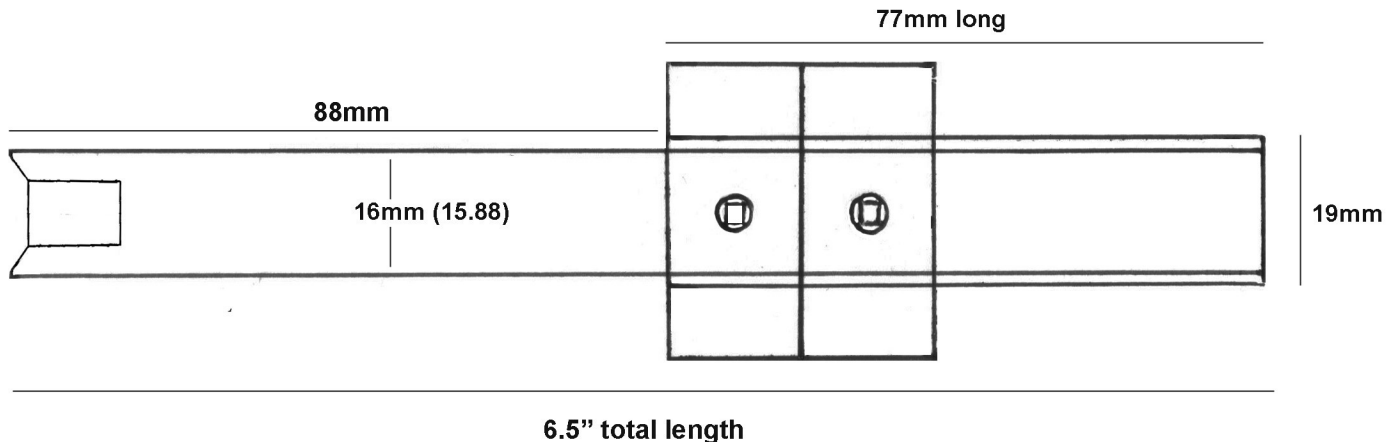


Position in bolt

2 inches

Barrel

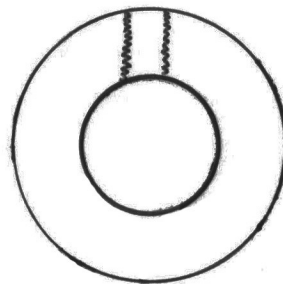
The assembly is laminated together by combining two 3/4" lock collars to fit a 77mm length of 19mm x 1.5mm tube laminated with a 165mm length of 16mm (15.88) OD inner. Apply high strength adhesive throughout. Numerous additional configurations possible.



A STEN type feed cone is incorporated into the barrel piece.
 - A 16mm drill bit can be used to cut the bevel - this should taper inwards from the very edge. Sand smooth.

- For legal reasons permanently destroy dummy barrel with angle grinder and weld a section of steel bar inside -

Barrel collars:



3/4" shaft lock collar

- 35mm outer diameter
- 19mm (3/4") inner diameter

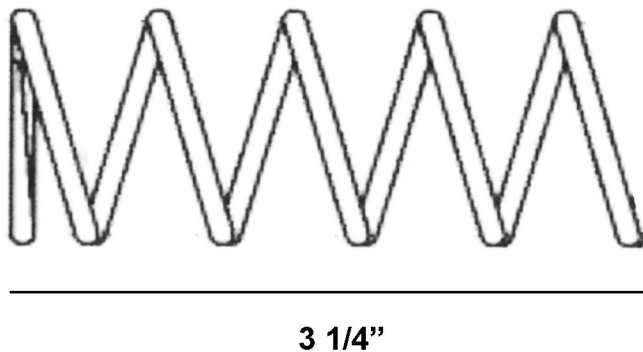
Once positioned, drill through grub hole screw until bit creates a shallow dip in 16mm tube. Apply loctite and tighten grub screw. Seal holes with JB Weld to permanently fix. Alternatively weld barrel in place.

Secure barrel assembly to the receiver using four m8 bolts through the positions marked on the receiver into the middle of the front collar.

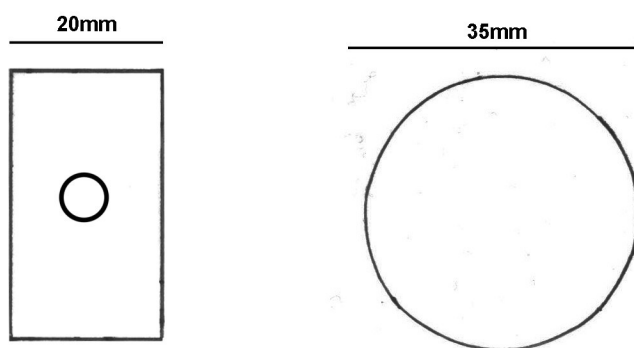
2 inches

Recoil spring and back plug

A compression spring taken from a lever type grease gun applicator can serve as a suitable recoil spring. A number of coils must be removed to produce a spring consisting of six coils and 3 3/4" in length. The spring may need to be loosened up slightly by rapidly compressing it using a slamming motion inside the tube using a dowel.



Back plug

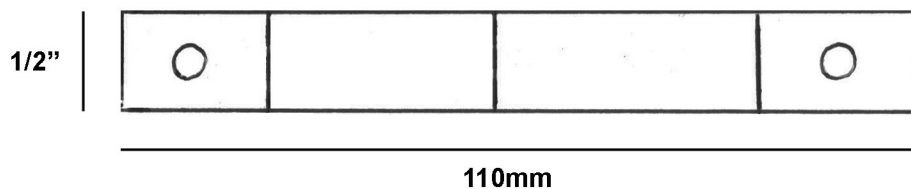


- Drill bolt holes using 6.8 drill bit
- Thread using 8mm x 1.25 tap

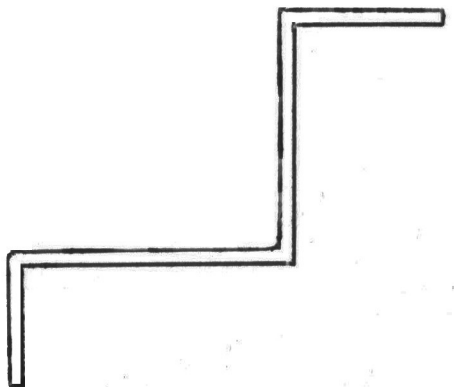
Can also be made from a 3/4" lock collar with a steel disc welded or bolted to back.
 - Secure to receiver using four m8 bolts tapped through top, bottom and sides.

2 inches

Trigger guard



Bend to profile below:

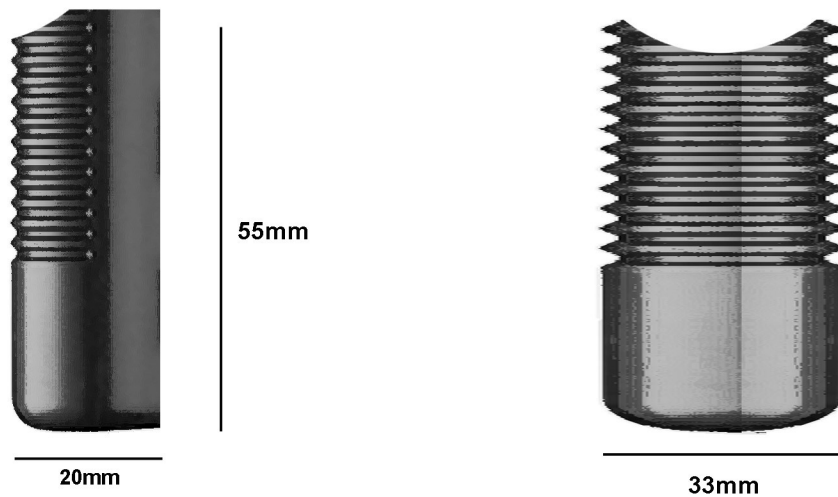


Clamp to magazine-well and weld through holes.

2 inches

Back grip piece

Use a sharp pair of scissors to modify a rubber bicycle handlebar grip to the dimensions below. Coat the inside of the grip with a substantial amount of high strength adhesive and secure around back of magazine-well tightly with tape until adhesive cures. This should be completed before applying a high temperature engine enamel type spray finish to the gun.



2 inches

Homemade magazine

Body is constructed from 35mm x 15mm (1.5mm wall) mild steel box tube
- 7" in length

Lips should be bent inwards until spaced
9mm apart and able to retain a cartridge

Cut out 6mm strip of back wall
to allow lips to be formed

Magazine-well

40mm x 20mm (2mm wall) mild steel box tube

Round off tops of both 20mm walls
with half-file to match receiver

65mm

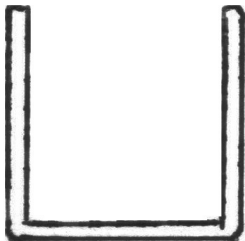
File ramp profile
on-top

57mm

40mm x 20mm tube
cut-off

Silver solder or
epoxy in place

Follower



Bend from a 90mm long
10mm wide metal strip
- Should move freely in tube

Latch made as per STEN magazine
version.

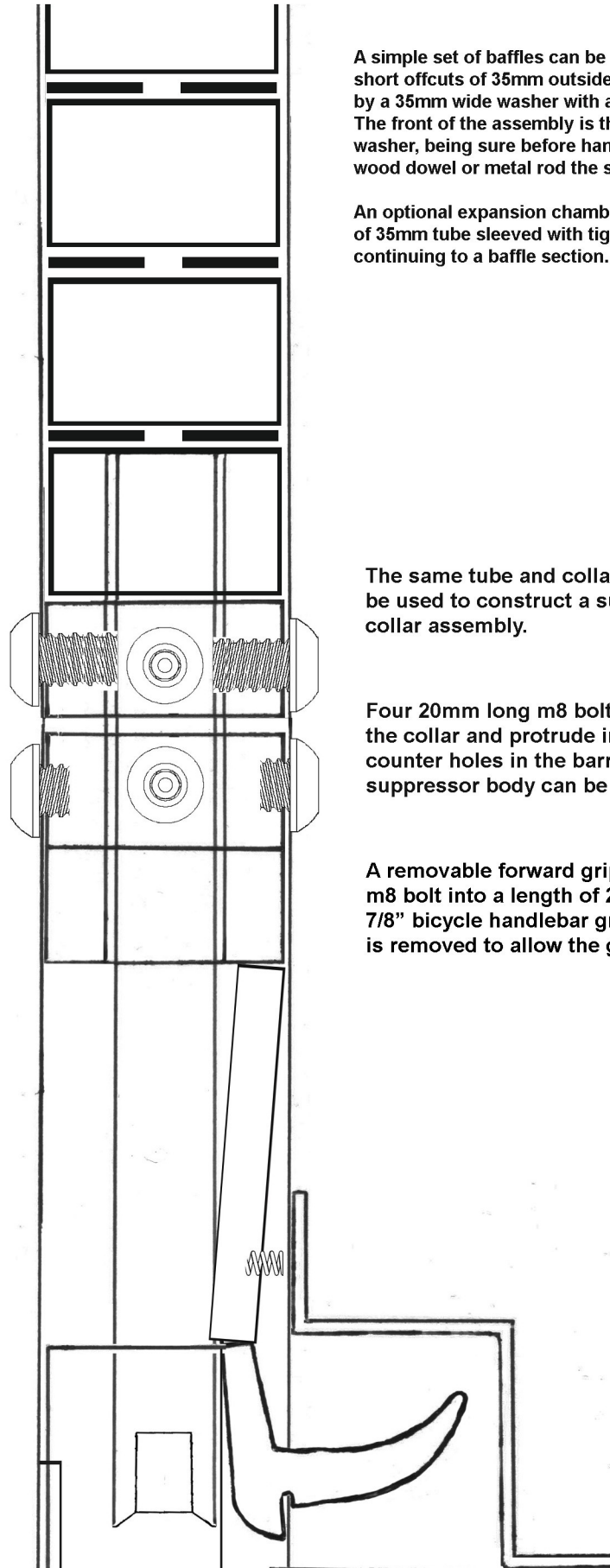
To form the magazine spring, tightly wind a length of 20 gauge spring
steel wire around a 15" long 24mm x 8mm bar leaving a 15mm
gap between coils - once complete cut spring to 12" long

A 12mm x 32mm steel strip behind two pins
retains the assembly

2 inches

Mounting a suppressor

(10" to 14" in length)



A simple set of baffles can be produced by alternately stacking short offcuts of 35mm outside diameter tubing followed by a 35mm wide washer with a 9.5mm or 10mm hole. The front of the assembly is then sealed by welding on a washer, being sure before hand to align everything using a wood dowel or metal rod the same diameter as the washer holes.

An optional expansion chamber can consist of a 4" long section of 35mm tube sleeved with tightly rolled screenwire before continuing to a baffle section.

The same tube and collars used for the receiver can be used to construct a suppressor body and mounting collar assembly.

Four 20mm long m8 bolts should be tapped through the collar and protrude into matching shallow 8mm wide counter holes in the barrel piece. Alternatively the suppressor body can be an integral part of the receiver.

A removable forward grip can be made by welding an m8 bolt into a length of 20mm tubing to accept a standard 7/8" bicycle handlebar grip. The bottom barrel collar bolt is removed to allow the grip to screw in instead.

More:

