

Armorer's Manual



BRÜGGER+THOMET AG

25-04-2005 / SM-95106.00

Zelglistrasse 10 Phone +41 (0)33 334 67 00
3608 Thun Fax +41 (0)33 334 67 01
Switzerland Mail info@brugger-thomet.ch

Table Of Contents

1 General Rules.....	4
2 Nomenclature And Technical Data	5
3 Troubleshooting	11
4 Basic Disassembly, Cleaning And Assembly	12
5 Armorer Equipment	17
6 Inspections And Measures On MP9 Complete.....	18
7 Inspections And Measures On Firing Unit (Barrel/Bolt).....	22
8 Inspections And Measures On Top Cover Complete (BT-30104)	23
9 Inspections And Measures On Bolt Complete (BT-30231)	24
10 Inspections And Measures On Barrel Guide Complete (BT-30293)	27
11 Inspections And Measures On Magazine Complete.....	28
12 Inspections And Measures On Receiver Complete (BT-30284)	29
13 Accessories	39
14 Spare Parts Management.....	42
15 Manufacturer's Warranty Information.....	44
16 Manufacturer's Disclaimer	44

1 General Rules

1.1 Field Disassembly and Maintenance

- Every weapon must be considered loaded until verified individually.
- Always keep the finger off the trigger and outside the trigger guard, it's advised to keep the trigger finger along side of the housing except when ready to fire.
- Always point the weapon in a safe direction.
- Before firing always verify the serviceability and condition of both the weapon and ammunition. Be especially careful that the barrel is free from all obstructions.
- Always wear hearing and eye protection when using this or any weapon.
- This armorer's manual and the related illustrated parts catalogue are available upon request.

1.2 Maintenance Cycles and Competencies

- Operator Maintenance as outlined in operator's manual has to be executed after every firing.
- Armorer maintenance procedures as outlined in this manual have to be executed only by trained personnel and not in the field but only workshops.
- Armorer inspections and measures have to be executed always after 5'000 rounds fired (recommendation) or if necessary.

2 Nomenclature And Technical Data

2.1 Nomenclature

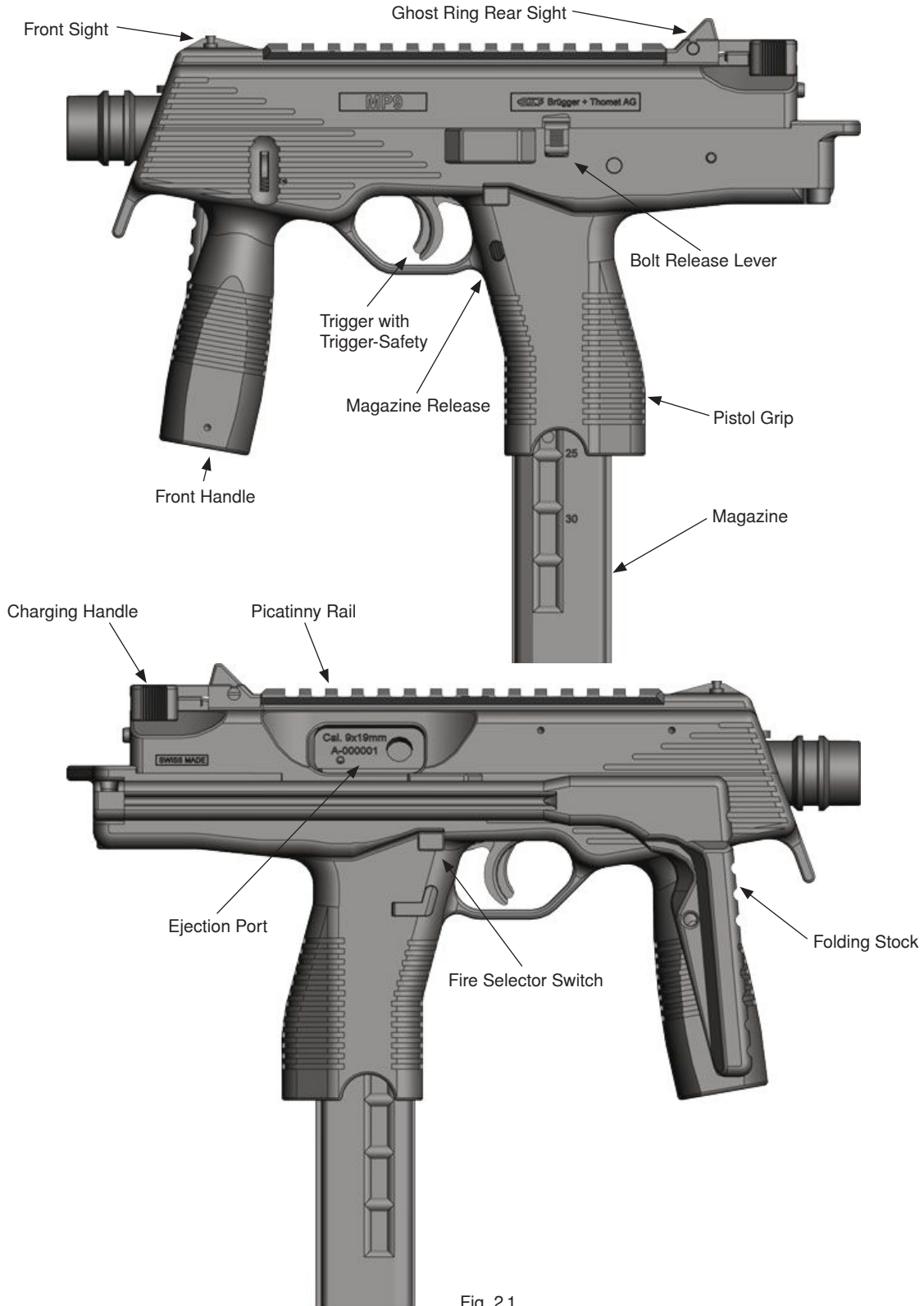


Fig. 2.1

BRÜGGER+THOMET AG

25-04-2005 / SM-95106.00

Zelgstrasse 10 Phone +41 (0)33 334 67 00
 3608 Thun Fax +41 (0)33 334 67 01
 Switzerland Mail info@bruegger-thomet.ch

2 Nomenclature And Technical Data

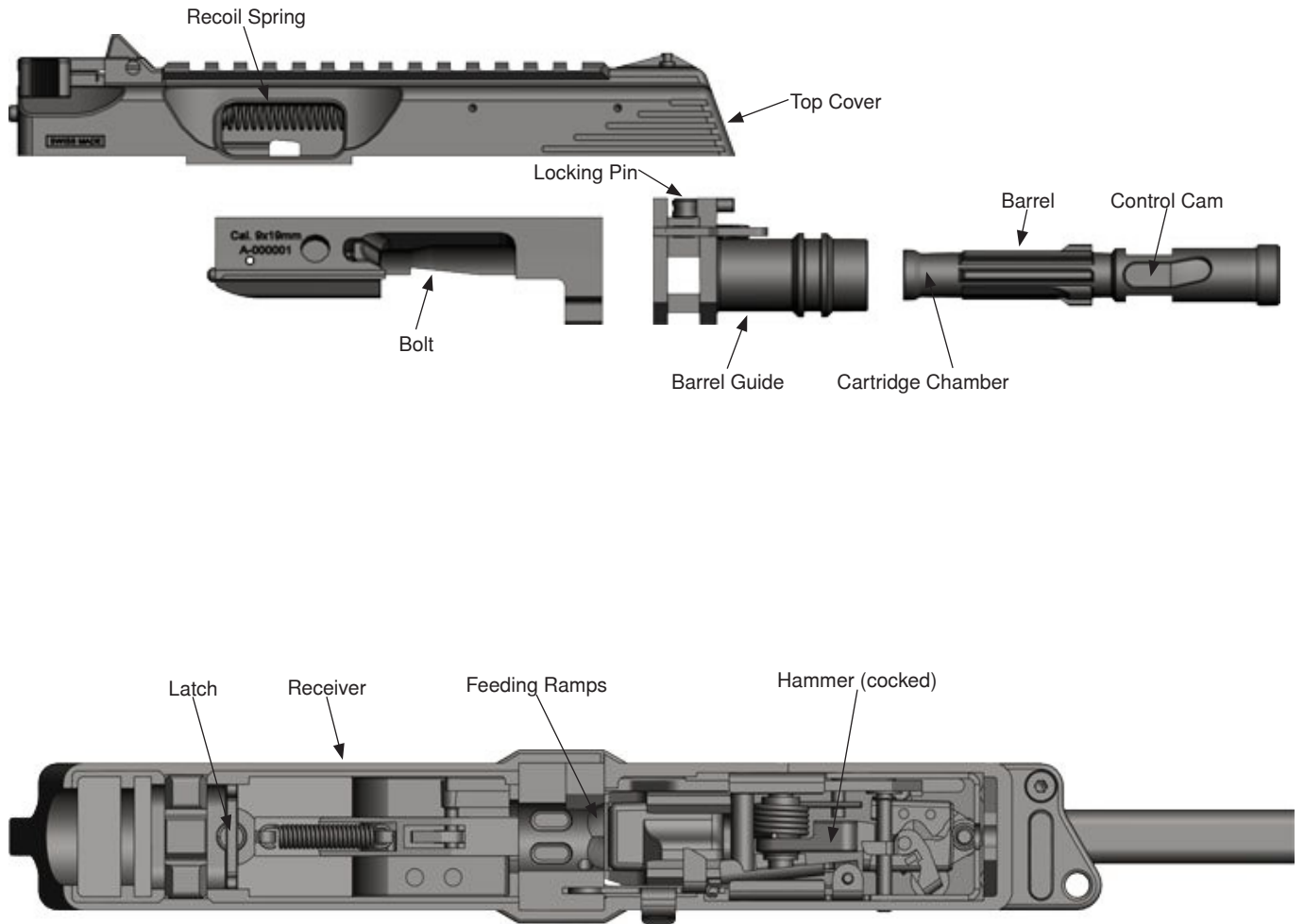


Fig. 2.2

2 Nomenclature And Technical Data

2.2 Technical Data

Function:.....	Locking Rotating Barrel System
.....	Locked Closed Bolt Action
.....	Blow Back operated
.....	Bolt remains open after last shoot
Safety System:.....	Double Trigger Safety
.....	Drop Safety
Firing Modes:.....	Semi-Automatic
..	Full-Automatic
.....	Ambidextrous Fire Selector Switch
Magazines:	15, 20, 25 and 30 Cartridges
.....	High-strength, Translucent Polymer
Sighting System:.....	Ghost-ring sight, full adjustable
.....	MIL-STD 1913 Picatinny rail
Length:.....	523 mm (Stock extended)
.....	303 mm (Stock closed)
Height:	166 mm (without Magazine)
.....	173 mm (with 15 round Magazine)
.....	246 mm (with 30 round Magazine)
Width:	45 mm (Stock folded out)
.....	56 mm (Stock closed)
Barrel length:	130 mm
Sight Radius:	190 mm
Weight:.....	1.4 kg (without Magazine)
Magazine Weight:	240 g with 15 Cartridges loaded (NATO 124 g)
.....	300 g with 20 Cartridges loaded (NATO 124 g)
.....	370 g with 25 Cartridges loaded (NATO 124 g)
.....	440 g with 30 Cartridges loaded (NATO 124 g)

2 Nomenclature And Technical Data

2.3 Ballistic Data

Caliber: 9mmx19 NATO (also named 9 mm Luger, 9 mm Parabellum)
 Cartridge Minimum Length: 27 mm recommended)
 Cartridge Minimum Impulse: 2.3 Ns recommended
 Sight-In Distance: 10 m recommended
 Practical Accuracy (measured):..... Standard deviation 18 mm at 25 m (2.5 MOA)
 Weapon Accuracy (estimated):..... Standard deviation 7 mm at 25 m (1.0 MOA)

2.4 Ballistic Performance (All but not only the listed cartridges provide reliable weapon function)

Cartridge	v3 [m/s]	E3 [J]	Cartridge	v3 [m/s]	E3 [J]
B&T Subsonic 158 grs	270	374	Norma 7.5 g FMJ	344	444
B&T Training 8.0 g	378	570	Olin M882 112 grs	367	490
Corbon +P 115 grs JHP	407	619	PMC 95 grs Starfire	399	492
DAG 6 g Action 3	396	471	PMP 115 grs FMJ	337	426
DAG Action 6.1 g	422	542	Potugal Standard	347	482
DAG Sintox Action 6.1 g	422	543	Remington +P 115 grs JHP R9MM6	382	547
DAG Subsonic 10 g FMJ	290	421	Remington 124 grs MC R9MM2	337	455
DAG SX-2 unleaded 8 g	361	521	Remington Desintegrator 101 grs	369	448
Federal 115 grs Hi-Shok JHP	351	460	Remington Golden Saber 124 grs JHP	347	483
Federal Hydra-Shok 124 grs (Batch 1)	337	455	Remington Golden Saber 147 grs	304	442
Federal Hydra-Shok 124 grs (Batch 2)	346	480	RWS Action 1 5.6 g / 86 grs	420	495
Federal Hydra-Shok 147 grs	296	419	RWS PRN 8 g	331	437
Fiocchi 100 grs FMJTCSP	401	522	Sako KPO 7.4 g	364	489
Fiocchi Subsonic 147 grs FMJHP	294	414	Samson 115 grs FMJ	363	493
Fiocchi Zero Pollution 123 grs	340	462	Samson DICUT 115 grs	371	514
Geco VMR 10.09 g	315	502	SK 115 grs	333	415
Hirtenberger EMB 5.09 g	463	545	SM RUAG 6.4 g SeCa	395	499
Hornady 147 grs XTP	289	398	SM RUAG Subsonic 147 grs BJHP	295	417
Hornady Custom 124 grs XTP	330	436	SM RUAG Swiss P 8 g FMJ	381	580
Hornady Custom JHP/XTP 115 grs	351	461	SM RUAG Swiss P Self 6.4 g	392	492
Hornady JHP/XTP 115 grs	339	429	Speer Gold Dot 115 grs GDHP	362	490
Hornady JHP/XTP 124 grs	335	450	Speer Gold Dot 124 grs GDHP	341	359
Hornady JHP/XTP 147 grs	287	394	Speer Gold Dot 147 grs GDHP (Batch 1)	309	456
Magtech 115 grs JHP	356	475	Speer Gold Dot 147 grs GDHP (Batch 2)	305	445
Magtech Clean Range 124 grs	348	483	Speer Lawman 115 grs FMJ	383	549
Magtech FMC 124 grs	326	426	Triton +P 147 grs BHP	348	580
Magtech FMC-Flat 9.52 g / 147 grs	303	436	UMC MC 147 grs	294	412
Magtech JSP-Flat 95 grs (Batch 1)	400	493	Winchester Controlled Expansion 147 grs	294	414
Magtech JSP-Flat 95 grs (Batch 2)	402	499	Winchester Ranger 115 grs JHP	413	637
MEN 9.5 g	325	501	Winchester Silvertip 115 grs	365	498
MEN QD1 5.79 g / 88 grs	426	526	Winchester SXT 147 grs	295	416
MEN QD2 97 grs	422	562			

BRÜGGER+THOMET AG

25-04-2005 / SM-95106.00

Zelglistrasse 10 Phone +41 (0)33 334 67 00
 3608 Thun Fax +41 (0)33 334 67 01
 Switzerland Mail info@bruggger-thomet.ch

2 Nomenclature And Technical Data

2.4 Weapon Function

2.4.1 Phase 1: Ready for firing

- a) Cartridge in chamber.
- b) Hammer cocked under force of hammer spring.



Fig. 2.3

2.4.2 Phase 2: Ignition

- a) Trigger releases hammer.
- b) Hammer hits firing pin.
- c) Firing pin ignites powder in cartridge.
- d) Gases of burning powder drive bullet through barrel.



Fig. 2.4

2.4.3 Phase 3: Muzzle departure

- a) Impulse of accelerating bullet drives locking firing unit (barrel and bolt) rearwards against force of recoil spring.
- b) After muzzle departure of bullet, locking firing unit continues running rearwards.
- c) Barrel starts rotating around his axis, guided by the locking pin of the barrel guide running in the control cam of the barrel.
- d) Bolt starts pushing hammer down against force of hammer spring.



Fig. 2.5

BRÜGGER+THOMET AG

2 Nomenclature And Technical Data

2.4.4 Phase 4: Ejection

- a) Barrel completes rotation and unlocks from receiver.
- b) Barrel remains in position, bolt continues travelling rearward.
- c) Extractor pulls empty cartridge case out of chamber and ejector throws it through the ejection port out of the weapon.
- d) Bolt travels rearward until rear most position while fully cocking hammer.

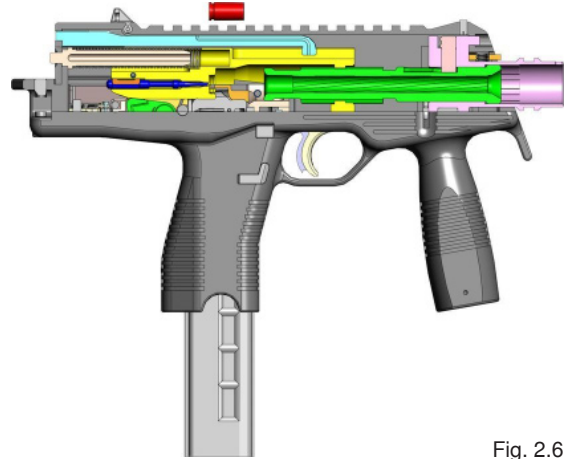


Fig. 2.6

2.4.5 Phase 5: Reloading

- a) Compressed recoil spring pushes bolt back against barrel.
- b) Forward travelling bolt feeds new cartridge out of magazine into chamber.
- c) Forward riding bolt locks with barrel.
- d) Locked firing unit rides to foremost position.
- e) Disconnecter reengages trigger for next shot.
- f) Ready for firing as described in phase 1.



Fig. 2.7

3 Troubleshooting

3.1 Troubleshooting Table

SN	Problem	Probable Cause	Operator Action	Armorer Action
1	Failure to extract	<ul style="list-style-type: none"> - Non-conform ammunition - Case rupture - Fouling of chamber - Malfunctional extractor 	<ul style="list-style-type: none"> - Remove blocked case - Clean chamber - Return removed case and weapon to armorer 	<ul style="list-style-type: none"> - Visually inspect extractor and chamber - Clean chamber - Replace worn-out, lost or defective parts - If failure occurs with other weapons, check conformity of ammunition Ref.: Chapter 9
2	Failure to eject	<ul style="list-style-type: none"> - Malfunctional ejector (bolt release lever part BT-30193) 	<ul style="list-style-type: none"> - Remove case (if necessary by removing bolt and magazine) - Return weapon to armorer 	<ul style="list-style-type: none"> - Check proper assembly of ejector - Replace worn-out or defective parts Ref.: Paragraph 12.2.4
3	Misfire despite striking fire pin	<ul style="list-style-type: none"> - Non-conform ammunition - Malfunctional firing pin - Improper head-space 	<ul style="list-style-type: none"> - Remove unfired cartridge - Visually check firing pin impact on primer - Remove and clean bolt - Load new cartridge - If failure repeats, return removed cartridge and weapon to armorer 	<ul style="list-style-type: none"> - Check firing pin impact on primer of cartridge - Visually inspect firing pin - Apply headspace inspection procedures - Replace defective or worn-out parts (namely firing pin part BT-30113) - If failure occurs with other weapons, check conformity of ammunition Ref.: Chapters 7 & 9
4	Misfire despite pulling trigger (hammer not striking)	<ul style="list-style-type: none"> - Malfunction of trigger group - Improper headspace 	<ul style="list-style-type: none"> - Unload - Check proper position of safety - Return weapon to armorer 	<ul style="list-style-type: none"> - Apply headspace inspection procedures - Visually inspect trigger group, Check proper installation - Replace worn-out or defective parts Ref.: Chapters 7 & 12, paragraphs 12.2.6 & 12.2.7
5	Failure to feed	<ul style="list-style-type: none"> - Non-conform ammunition - Incorrect position of magazine or cartridge - Deformed magazine body or lips - Worn-out magazine spring 	<ul style="list-style-type: none"> - Check magazine is properly held in weapon and try again - If failure repeats, change magazine 	None
6	Inconsistent firing results	<ul style="list-style-type: none"> - Loosened sight - Defective sight - Barrel fouling - Barrel worn-out 	<ul style="list-style-type: none"> - Check sights - Return weapon configuration to armorer 	<ul style="list-style-type: none"> - Apply sight inspection procedures and actions - Replace barrel if worn-out Ref.: Chapters 6 & 8
7	Trigger fails to return after release	<ul style="list-style-type: none"> - Lack of lubrication - Damaged trigger spring 	<ul style="list-style-type: none"> - In combat situation, continue firing by pushing trigger manually forward - Return weapon to armorer 	<ul style="list-style-type: none"> - Replace trigger spring (part BT-30268) Ref.: Paragraph 12.2.6
8	Folding stock retention fails when open	<ul style="list-style-type: none"> - Accumulation of dirt - Damaged retention 	<ul style="list-style-type: none"> - Wipe off dirt - If failure repeats, return weapon to armorer 	<ul style="list-style-type: none"> - Visual inspection - Replace worn-out, lost or defective parts Ref.: Paragraph 12.2.1
9	Failure of non-essential features	<ul style="list-style-type: none"> - Improper installation - Dirt - Damaged or lost parts 	<ul style="list-style-type: none"> - Visual inspection - Wipe off dirt - If failure repeats, return weapon to armorer 	<ul style="list-style-type: none"> - Visual inspection - Replace worn-out, lost or defective parts

4 Basic Disassembly, Cleaning And Assembly

4.1 Field Disassembly and Maintenance

Caution: When the weapon is disassembled do not operate the trigger.

4.1.1 Field Disassembly

- a) Unload the weapon - the weapon is now unloaded and cocked.
- b) Open the folding stock.
- c) Press the latch downward until there is an audible click and the latch remains in the lower position (fig. 4.1).
- d) Press the guide rod and gently lift the top cover on (fig. 4.2).
- e) Press the detend plate and remove top cover with barrel assembly upward in a straight movement (fig. 4.3).
- f) With light pressure push the bolt and barrel assembly to the rear of the top cover and lift them out (fig. 4.4).
- g) Hold barrel assembly and slowly separate from the bolt, until barrel and bolt are in two pieces.



Fig. 4.1



Fig. 4.2



Fig. 4.3



Fig. 4.4

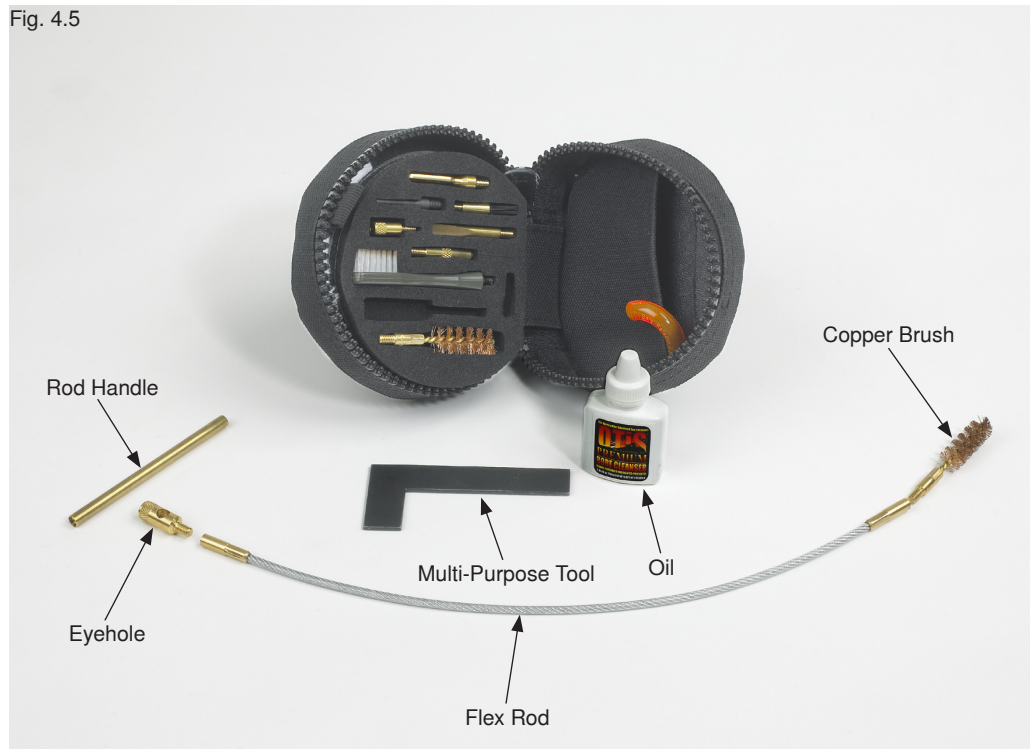
BRÜGGER+THOMET AG

25-04-2005 / SM-95106.00

Zelglistrasse 10 Phone +41 (0)33 334 67 00
3608 Thun Fax +41 (0)33 334 67 01
Switzerland Mail info@brugger-thomet.ch

4 Basic Disassembly, Cleaning And Assembly

Fig. 4.5



4.1.2 Cleaning

- Screw the small copper brush on to the flex rod tip and lightly oil. Screw eyehole on other end of the flex rod.
- Push the eye through the barrel from the chamber and attach the handle, pull copper brush through the barrel (fig. 4.6). Repeat until barrel is clean.

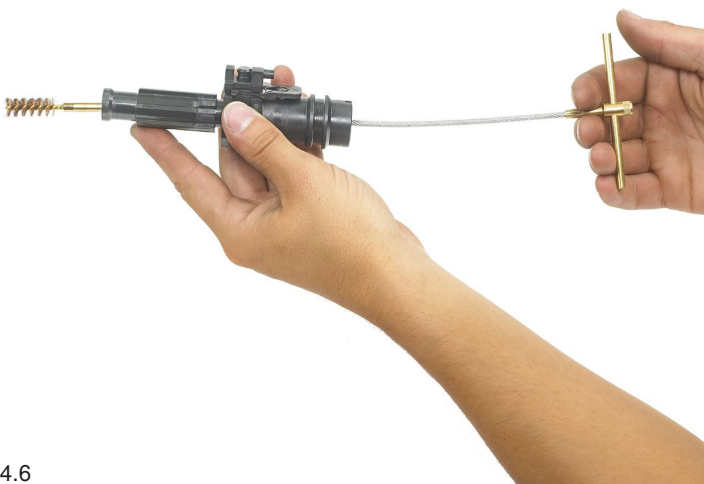


Fig. 4.6

BRÜGGER+THOMET AG

25-04-2005 / SM-95106.00

4 Basic Disassembly, Cleaning And Assembly

- c) Separate the barrel and bolt from the barrel guide. Clean the inside of the barrel guide with multi-purpose tool and copper brush supplied in the maintenance kit. In the case of strong carbon build up first oil the parts and scrape off the excess fouling (fig. 4.7). Wipe all surfaces with oily rag.
- d) Clean carbon off the bolt with a copper brush. Wipe all metal surfaces with oily rag.
- e) Separate the recoil spring from the guide rod and wipe with an oily rag.
- f) Wipe the feeding ramp completely free of dirt with an oily rag.
- g) Brush with a nylon brush all exposed surfaces and pay particular attention to the sights to ensure these are free of dirt.



Fig. 4.7

4.1.3 Reassembly

- a) Replace the recoil spring and the guide rod.
- b) Push the barrel into the bolt.
- c) Thread the bolt onto the recoil spring to the rear and press the detent plate into position (reversal of 4.1.1f).
- d) Put assembled top cover in a straight line motion on the receiver (reversal of 4.1.1e). If not possible check hammer to be cocked and locking sear to be in left position.
- e) Pull the bolt to the charging handle lightly to the rear until plate moves into the upper position.
- f) Perform function check in accordance with paragraph 6.1.1.

4 Basic Disassembly, Cleaning And Assembly

4.2 Full Disassembly and Lubrication

Caution: The full disassembly releases the locking pin - loosing it makes the weapon useless!

4.1.4 Full Disassembly

- a) Follow the steps in accordance with section 4.1.
- b) Push the detent plate with the multi-purpose tool and pull the locking pin upward from the barrel guide (fig. 4.8).
- c) Draw the barrel forward from the barrel guide.
- d) Pull and separate the recoil spring and guide rod from the top cover.
- e) Draw back the charging handle to the rear and separate it from the top cover.



Fig. 4.8



Fig. 4.9

4.1.5 Maintenance

- a) Clean the barrel in accordance with number 4.1.2a and 4.1.2b.
- b) Clean thoroughly the carbon from the inside of the barrel guide with multi-purpose tool (fig. 4.9). Apply oil to the areas of strong build up to break down the carbon.
- c) Wipe all metal surfaces with an oily rag.
- d) Inspect all visible surfaces for crack or defect and clean with an nylon brush clean.

BRÜGGER+THOMET AG

25-04-2005 / SM-95106.00

4 Basic Disassembly, Cleaning And Assembly

4.2 Full Disassembly and Lubrication

e) Apply one drop of oil to the designated individual points (fig. 4.10).

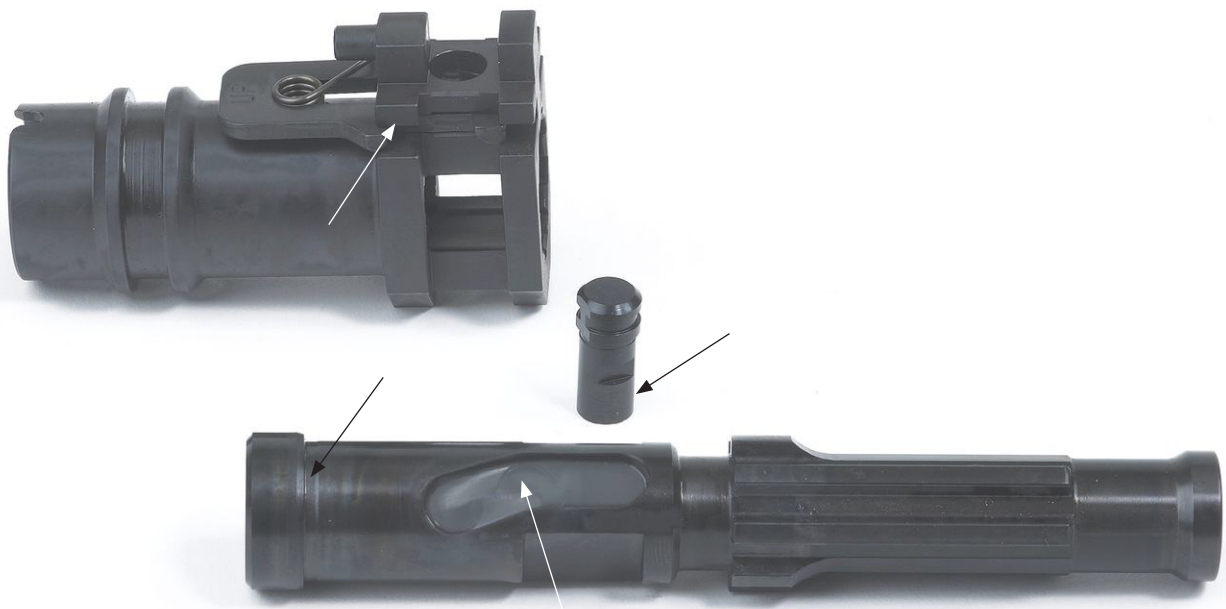
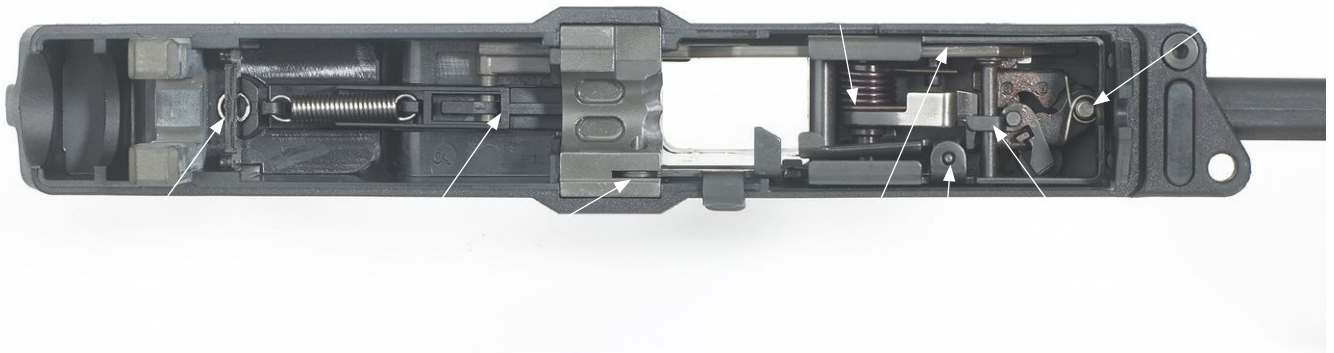


Fig. 4.10

5 Armorer Equipment

5.1 Tools

The named tools are the minimum requirement to execute maintenance procedures. To complete with one operator's cleaning kit (as in fig. 4.5).



Fig. 5.1

- Weapon fixture (other solutions possible, bench vise adapter minimum)



Fig. 5.2

- Allen wrench 3 mm
- Pin punch 2 mm
- Screwdriver No. 0
- Screwdriver No. 1 (or 2)
- Needle-nosed pliers
- Hammer 500 g



Fig. 5.3

- Molykote grease

5.2 Gauges



Fig. 5.4

Set of Headspace-Gauges:

- Headspace-Gauge GO
- Headspace-Gauge NO-GO



Fig. 5.5

- Extractor-Gauge GO / NO-GO



Fig. 5.6

- Firing Pin Hole Gauge

BRÜGGER+THOMET AG

6 Inspections And Measures On MP9 Complete

6.1 Inspections

6.1.1 Function Check

Tools: None

- Check the folding stock that it properly closes.
- Check the folding stock that it locks open securely.
- Insert an empty magazine and pull downward => the magazine release must hold securely.
- Leave the empty magazine in the gun, pull the charging handle to the very rear and release => bolt release lever must hold the bolt open.
- Remove magazine and press bolt release => bolt must ride forward. Steps c and d must be performed with each individual magazine.
- Place fire selector switch on single-shot and press the trigger => hammer must audibly strike.
- Keep the trigger pressed, pull the charging handle completely to the rear and slowly return it to the forward position. Release the trigger and press => hammer again must audibly strike.
- Move fire selector to the fully automatic position, pull the charging handle to the rear and slowly return it to the forward position. Press the trigger => hammer must audibly strike.
- Keep the trigger pressed, pull the charging handle to the rear and slowly return it to the forward position => hammer must audibly strike, as soon as the bolt reaches the foremost position.
- Visually check sighting devices.

6.1.2 Zero Check

Tools: None

- Fire three rounds at sight-in distance (10 m recommended) and determine MPI as outlined (fig.6.1).

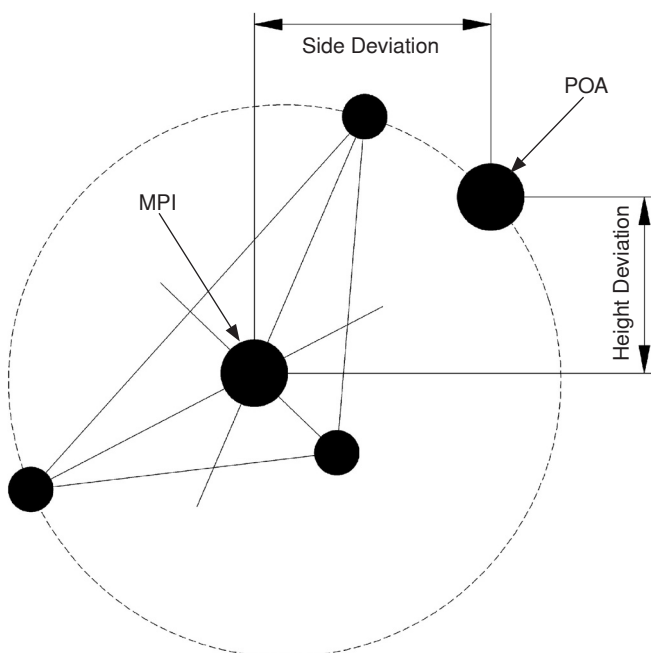


Fig. 6.1

If the mean point of impact MPI is not automatically determined on the display of the test facility, it must be found geometrically as follows:

- Draw triangle to POA's
- Draw bisecting lines into triangle
- Intersection of bisecting lines is MPI

6 Inspections And Measures On MP9 Complete

b) Determine rectangular area $2h_x \times 2h_y$ with MPI in center as outlined (fig.6.2).

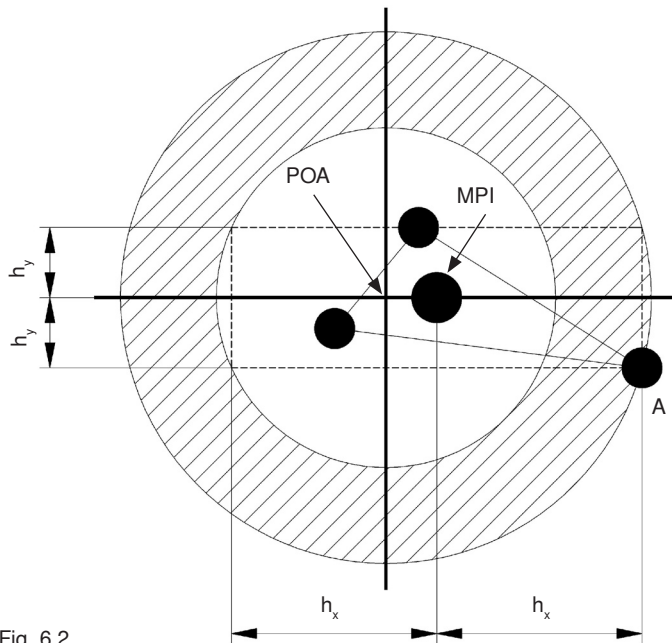


Fig. 6.2

The value h_x is defined as the maximum horizontal interval between a point of impact POI and the mean point of impact MPI of the group. h_y is defined in the manner but in vertical direction.

c) Sight setting is correct if area covers POI. Otherwise execute procedure 6.2.1.

6.1.3 Accuracy Check

Tools: None

- Fire ten rounds at 25 m from stable rest as accurate as possible in order to determine weapon accuracy.
- Determine Figure of Merit FM as outlined (fig. 6.3).

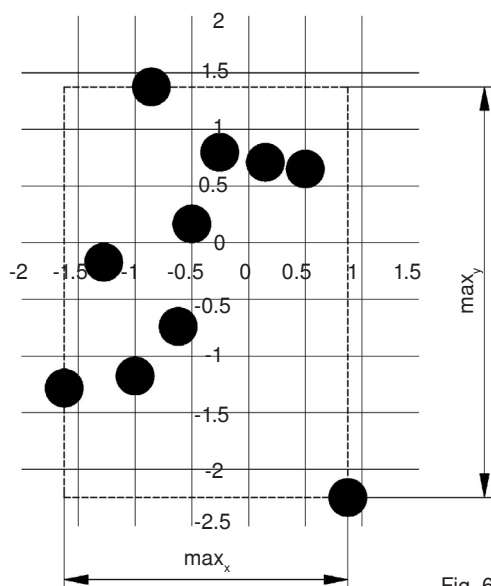


Fig. 6.3

Determine maximum span horizontal max_x and vertical max_y . Calculate Figure of Merit as $FM = 1/2 (max_x + max_y)$.

BRÜGGER+THOMET AG

6 Inspections And Measures On MP9 Complete

- c) Accuracy is regular if FM is smaller than 60 mm. In case of failure test can be repeated once.
- d) If accuracy is not complied, change top cover with sights (part BT-30236) and check again. If condition is still not complied change barrel.
- e) Execute inspection 6.1.2.

6 Inspections And Measures On MP9 Complete

6.2 Measures

6.2.1 Sight Adjustment

Tools: Screwdrivers as in fig. 5.2.

Left and Right Corrections:

- Zeroing shots to the right or left of the point of aim is made by the windage adjustment screw at the right side of the Ghost Ring Sight with a screwdriver No. 1 (fig. 6.4).
- One full turn of the sight adjustment screw in a clockwise direction changes the point of impact as in table 6.1 to the left - therefore turn in the clockwise direction when point of impact is right off.

Up and Down Corrections:

- To zero shots above and below the point of aim disassemble the weapon as outlined in section 4.1.
- The zeroing of a shot above or below of the point of aim is done by the elevation adjustment screw on the inner side of the top cover group with a screwdriver No. 0 (fig. 6.5).
- One full turn of the elevation adjustment screw in a clockwise direction changes the point of impact as in table 6.6 downward - therefore turn in a clockwise direction for a high shot.
- After performing out this correction reassemble the weapon in accordance with paragraphs 4.1b to 4.1e and check function as in paragraph 6.1.1.
- Repeat inspection 6.1.2.



Fig. 6.4

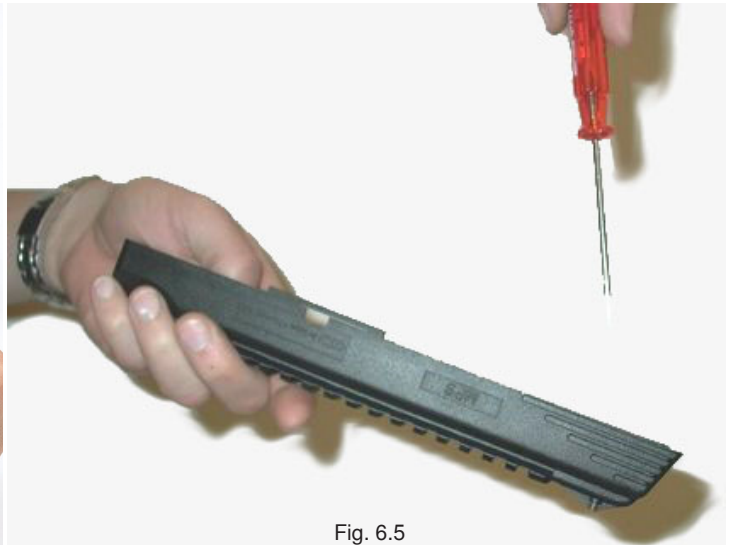


Fig. 6.5

Table 6.1	Distance (m)	10	15	20	25	30	50
One full turn	Elevation (mm)	36	54	72	90	108	180
	Windage (mm)	66	99	132	165	198	330

6.2.2 Recoil Spring

- Replace in cycles of 5'000 rounds fired.

BRÜGGER+THOMET AG

25-04-2005 / SM-95106.00

Zelgstrasse 10 Phone +41 (0)33 334 67 00
3608 Thun Fax +41 (0)33 334 67 01
Switzerland Mail info@bruegger-thomet.ch

7 Inspections And Measures On Firing Unit (Barrel/Bolt)

7.1 Inspections

7.1.1 Headspace Inspection

Tools: Set of Headspace Gauges as in fig. 5.4.

- a) Disassemble weapon as outlined in section 4.1.
- b) Use GO-Gauge as in fig. 7.1. If bolt fails to lock, check for fouling and clean.
- c) Use NO-GO-Gauge as in fig. 7.1. If bolt locks, visually inspect locking geometries on barrel and bolt. Replace worn-out parts.
- d) Repeat inspection until full compliance.
- e) Assemble weapon as in section 4.2 and execute procedures 6.1.1 and 6.1.2.



Fig. 7.1

8 Inspections And Measures On Top Cover Complete (BT-30104)

8.1 Inspections

8.1.1 Inspections

Tools: None

- a) Remove top cover as in section 4.1.
- b) Visually inspect rear sight, front sight and charging handle.
- c) Replace worn-out, lost or defective parts.

8.2 Measures

8.2.1 Replacement of Rear Sight Complete (BT-30223)

Tools: Screwdriver No. 1 as in fig. 5.2

- a) Refer to figure 6.4.
- b) Unscrew rear sight assembly in counterclockwise direction until it becomes loose.
- c) Insert new rear sight assembly in reverse to above.
- d) Do not further disassemble rear sight assembly.
- e) Reassemble weapon as in 4.2 and execute procedures 6.1.1 and 6.1.2.

8.2.2 Replacement of Front Sight (BT-30149)

Tools: Screwdriver No. 0 as in fig. 5.2

- a) Refer to figure 6.5.
- b) Unscrew front sight in clockwise direction until it falls loose outside the top cover.
- c) Insert new front sight from top and screw in with screwdriver from inner side.
- d) Reassemble weapon as in 4.2 and execute procedures 6.1.1 and 6.1.2.

8.2.3 Replacement of Charging Handle (BT-30150)

Tools: None

- a) Pull charging handle backwards and tilt it downward until it becomes loose.
- b) Insert new charging handle reverse to above.
- c) Reassemble weapon as in 4.2 and execute procedure 6.1.1.

9 Inspections And Measures On Bolt Complete (BT-30231)

9.1 Inspections

9.1.1 Inspections

Tools: Firing Pin Hole Gauge as in fig. 5.6

- a) Remove firing pin (fig. 9.2).
- b) Insert gauge as in fig. 9.1.
- c) Surface of gauge must be coplanar with bolt face. In case of failure, check for fouling and clean.



Fig. 9.1

9.2 Measures

9.2.1 Disassembly of Bolt

Tools: Pin Punch and Hammer as in fig. 5.2

- a) Use pin punch and hammer to drive spiral pin out of bolt body as outlined in fig. 9.2.
- b) Push on extractor and remove firing pin rearwards. All parts become loose.

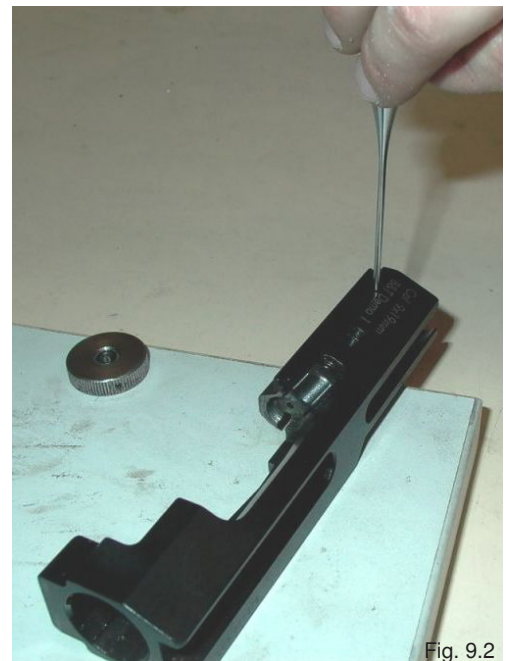


Fig. 9.2

BRÜGGER+THOMET AG

9 Inspections And Measures On Bolt Complete (BT-30231)

9.2.2 Assembly of Bolt

Tools: Pin Punch and Hammer as in fig. 5.2.

a) Prepare firing pin group with plunger, spring and connector as outlined in fig. 9.3.

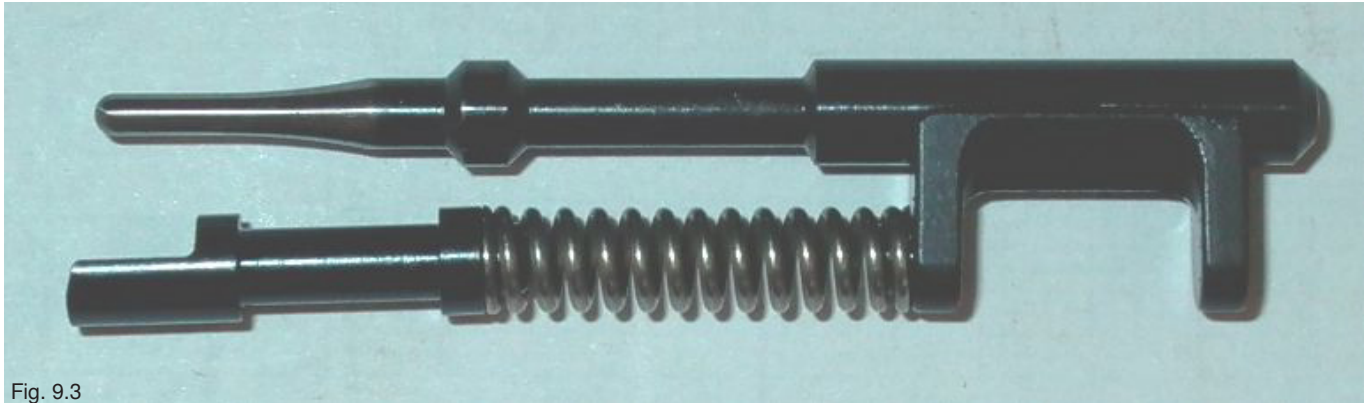


Fig. 9.3

b) Prepare extractor group with spring and buffer as outlined in fig. 9.4. Put small end of spring into extractor.



Fig. 9.4

9 Inspections And Measures On Bolt Complete (BT-30231)

- c) Insert firing pin group. Take care not putting it to far into bolt body in order to leave blank space for the extractor.
- d) Insert extractor group.
- e) Take pre-assembly as in fig. 9.5, push on extractor and firing pin until they lock together with an audible click.



Fig. 9.5

- f) Push firing pin completely into bolt body and drive spiral pin in.
- g) Check that all parts are held securely in place.
- h) Reassemble weapon as in 4.2 and execute procedure 6.1.1.



Fig. 9.6

BRÜGGER+THOMET AG

25-04-2005 / SM-95106.00

Zelglistrasse 10 Phone +41 (0)33 334 67 00
3608 Thun Fax +41 (0)33 334 67 01
Switzerland Mail info@brugger-thomet.ch

10 Inspections And Measures On Barrel Guide Complete (BT-30293)

10.1 Inspections

10.1.1 Inspections

Tools: Operator's Cleaning Kit as in fig. 4.5.

- a) Inspect assembly to be clean and properly lubricated.

10.2 Measures

10.2.1 Measures

Tools: Operator's Cleaning Kit as in fig. 4.5.

- a) Disassemble and clean as outlined in section 4.2.
- b) Replace worn-out, lost or defective parts.
- c) Do not remove detent plate and detent plate spring.
- d) Reassemble weapon as in 4.2 and execute 6.1.1.

11 Inspections And Measures On Magazine Complete

11.1 Inspections

11.1.1 Inspections

Tools: None

- a) Inspect magazine visually to be clean and free of ruptures and fissures.
- b) Clean interior of magazine body.
- c) Replace worn-out, lost or defective parts.

11.2 Measures

11.1.2 Measures

Tools: Pin Punch and Screwdriver No. 1 as in fig. 5.2.

- a) Use pin punch and screwdriver as outlined in fig. 11.1.
- b) Push simultaneously on magazine plate retentions until magazine plate becomes loose.
Attention: Force of magazine spring will catapult magazine plate off!
- c) Clean parts, apply oil on spring and replace defective parts.
- d) Put follower, follower spring, magazine spring and magazine plate together and slide them into magazine body.
- e) Push magazine plate into position until retentions audibly snap into magazine body.
- f) Check that all parts are held securely in place.

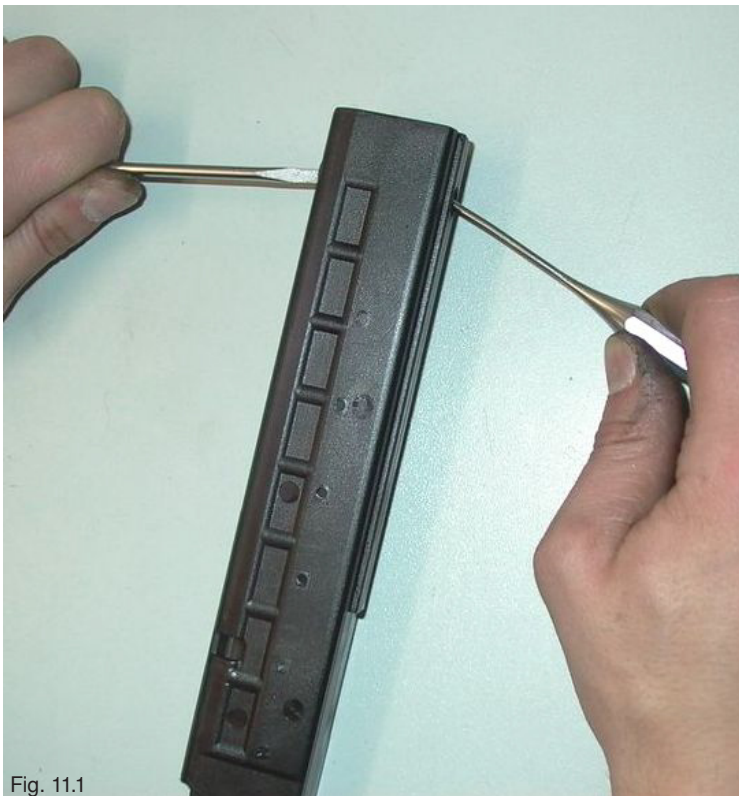


Fig. 11.1

BRÜGGER+THOMET AG

25-04-2005 / SM-95106.00

Zelglistrasse 10 Phone +41 (0)33 334 67 00
3608 Thun Fax +41 (0)33 334 67 01
Switzerland Mail info@brugger-thomet.ch

12 Inspections And Measures On Receiver Complete (BT-30284)

12.1 Inspections

12.1.1 Drop Safety (BT-30194)

Tools: Screwdriver as in fig. 5.2.

- Check locking sear to be in left position.
- Use screwdriver to move sear (BT-30141) as outlined in fig. 12.1.
- Inspect drop safety to lock sear in place.
- If sear releases hammer, replace sear and/or hammer (BT-30173) paragraph 12.2.7 and 12.2.8.

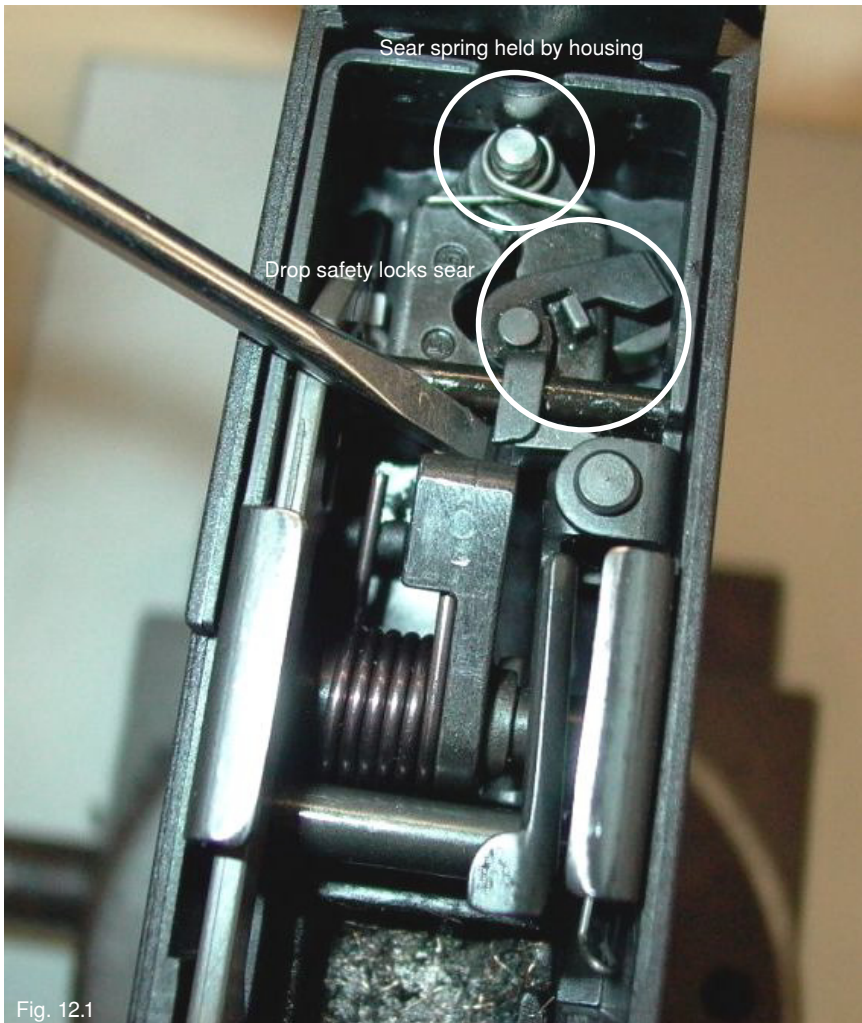


Fig. 12.1

12.1.2 Mechanism

Tools: None

- Inspect all parts visually to be clean and free of ruptures, fissures and rust.
- Inspect all parts visually to be properly in place, especially sear spring (BT-30210) to be held by trigger housing as outlined in fig. 12.1.
- Replace worn-out, lost or defective parts.

BRÜGGER+THOMET AG

25-04-2005 / SM-95106.00

Zelglistrasse 10 Phone +41 (0)33 334 67 00
 3608 Thun Fax +41 (0)33 334 67 01
 Switzerland Mail info@bruegger-thomet.ch

12 Inspections And Measures On Receiver Complete (BT-30284)

12.2 Measures

12.2.1 Replacement of Folding Stock (BT-30234) with Retention Tools: Allen Wrench and Screwdriver No. 1 as in fig. 5.2.

- a) Unscrew stock pivot pin (fig. 12.2) and lift off with screwdriver.
- b) Unscrew stock release knob (fig. 12.3).
- c) Remove stock release knob, folding stock spring and locking bar.
- d) Replace if rusty and install inverting above.
- e) Install new folding stock inverting step a. In order to avoid excessive force use allen wrench as in fig. 12.4. Note: The thread in the lower receiver is cut into the polymer.
- f) Reassemble weapon as in 4.2 and execute procedure 6.1.1.

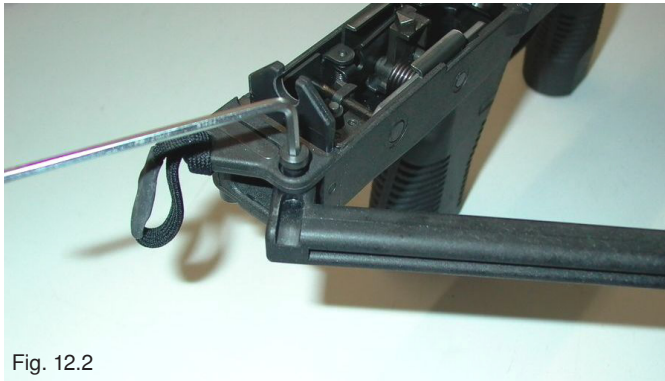


Fig. 12.2

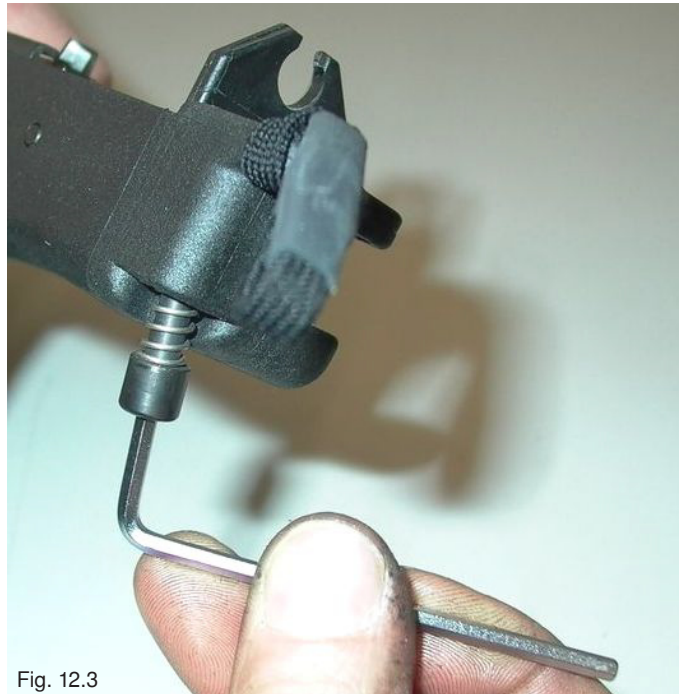


Fig. 12.3

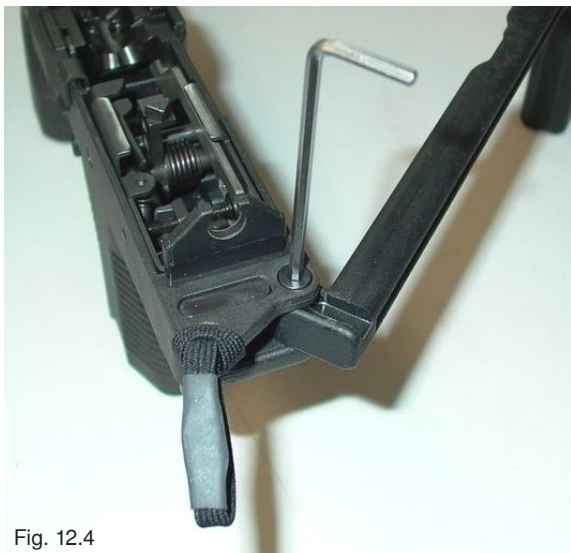


Fig. 12.4

12.2.2 Replacement of Latch (BT-30148)
Tools: Screwdriver No. 1 as in fig. 5.2.

- a) Push on latch spring (BT-30271) with screwdriver.
- b) Push latch sideward out of receiver.
- c) Push new latch into position.

BRÜGGER+THOMET AG

25-04-2005 / SM-95106.00

Zelglistrasse 10 Phone +41 (0)33 334 67 00
3608 Thun Fax +41 (0)33 334 67 01
Switzerland Mail info@brugger-thomet.ch

12 Inspections And Measures On Receiver Complete (BT-30284)

12.2.3 Replacement of Fire Selector Switch (BT-30147)

Tools: Screwdriver No. 1 as in fig. 5.2.

- a) Push fire selector switch to left side.
- b) Push switch slightly upwards while using screwdriver to drive it completely through receiver until it drops loose (fig. 12.5).
- c) Install new fire selector switch simply pushing it from the right side into the receiver.
- d) Reassemble weapon as in 4.2 and execute procedure 6.1.1.

12.2.4 Replacement of Bolt Release Lever (BT-30193) and Buffer (BT-30134)

Note: The bolt release lever is also the ejector of the MP9!

Tools: Pin Punch and Hammer as in fig. 5.2.

- a) Lift ramp in one straight movement out of its bedding.
- b) Replace buffer if worn-out simply pulling it off and putting new inside ramp.
- c) Drive spiral pin out of ramp and remove bolt release lever.
- d) Install new bolt release lever and fix it with spiral pin.
- e) Restore bolt release lever to locking sear spring (fig. 12.6) and put ramp into its bedding.
- f) Check smooth movement of bolt release lever.
- g) Reassemble weapon as in 4.2 and execute procedure 6.1.1.



Fig. 12.5

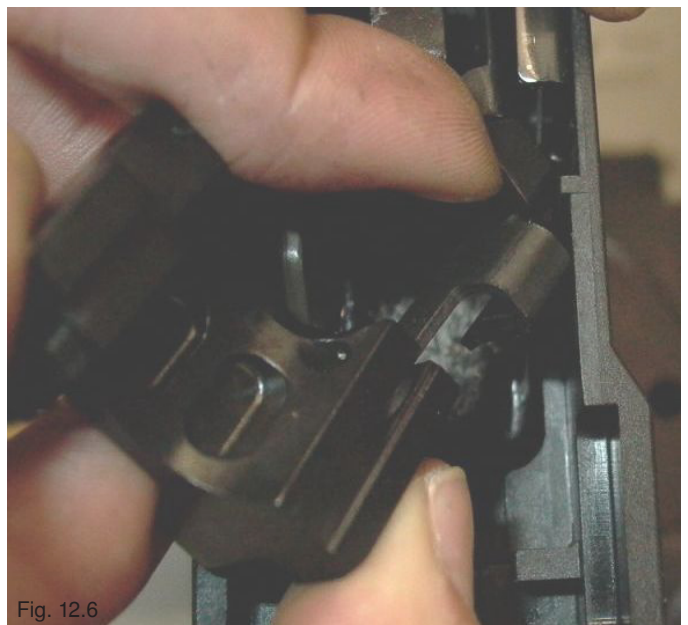


Fig. 12.6

12 Inspections And Measures On Receiver Complete (BT-30284)

12.2.5 Replacement of Magazine Release Knob (BT-30136)

Tools: Weapon Fixture 5.1 and Screwdriver No. 1 as in fig. 5.2.

- a) Remove ramp according to paragraph 12.2.4.
- b) Remove magazine release spring (BT-30170) with help of screwdriver.
- c) Push magazine release knob to right side until it drops loose.
- d) Put new magazine release knob from right side into receiver.
- e) Put spring into position as outlined in fig. 12.7.
- f) Reassemble weapon as in 4.2 and execute procedure 6.1.1.

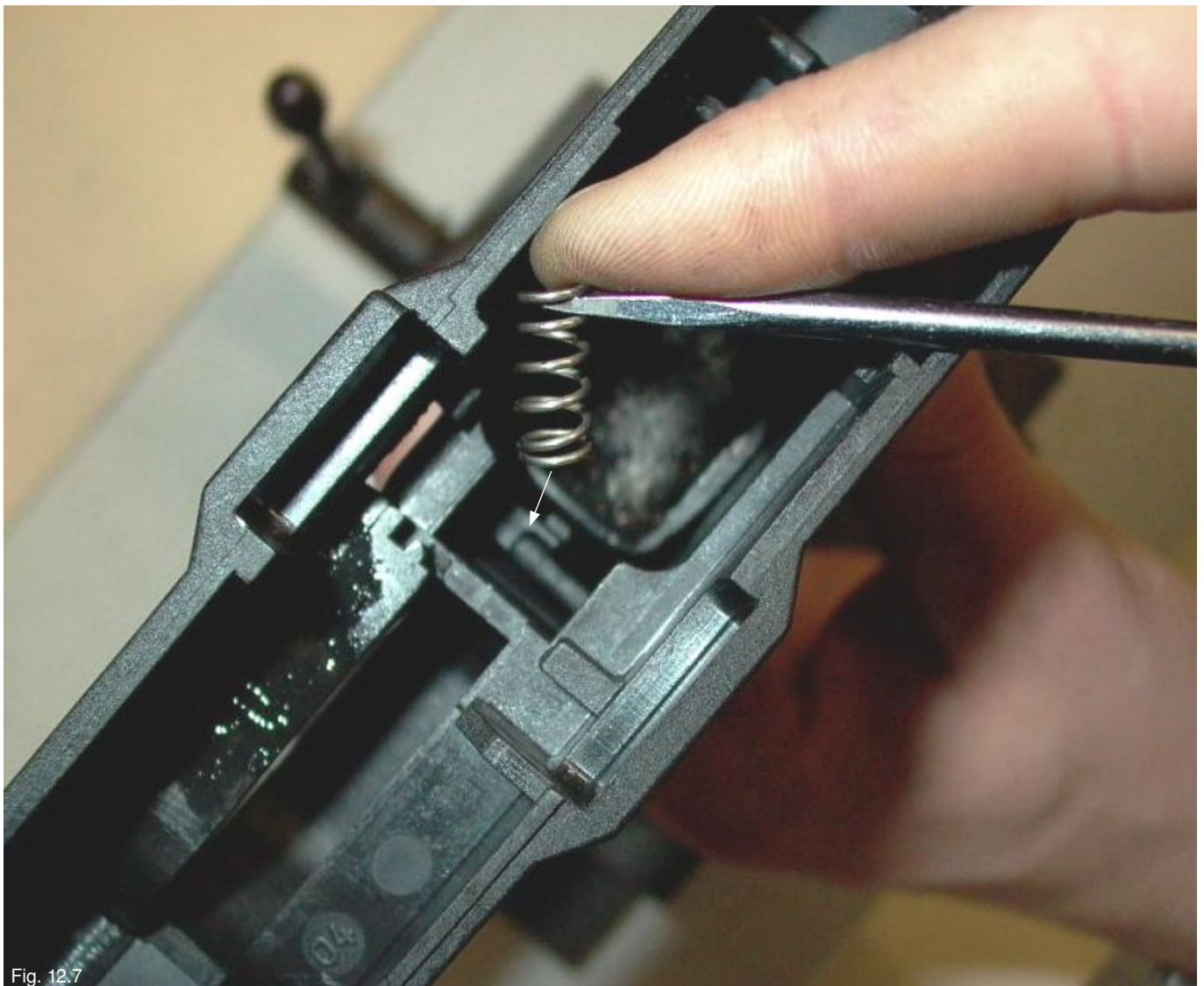


Fig. 12.7

12 Inspections And Measures On Receiver Complete (BT-30284)

12.2.6 Replacement of Trigger Group

Tools: Weapon Fixture 5.1, Screwdriver No. 1 and Needle-Nosed Pliers as in fig. 5.2.

- a) Remove ramp according to paragraph 12.2.4.
- b) Use pliers to hang out trigger spring (BT-30268) as in fig. 12.8.
- c) Remove washer (BT-30267) with screwdriver as in fig. 12.9.
- d) Adjust sear bar (BT-30146) until axle pin (BT-30128) can be pushed from left to right weapon side out of receiver.
- e) Remove complete trigger group as in fig. 12.10.



Fig. 12.8



Fig. 12.9



Fig. 12.10

BRÜGGER+THOMET AG

25-04-2005 / SM-95106.00

Zelglistrasse 10 Phone +41 (0)33 334 67 00
3608 Thun Fax +41 (0)33 334 67 01
Switzerland Mail info@brugger-thomet.ch

12 Inspections And Measures On Receiver Complete (BT-30284)

- f) Separate trigger from sear bar. Trigger (BT-30163), trigger safety (BT-30265) and trigger safety spring (BT-30274) become loose (fig. 12.11). Remove trigger spring.
- g) Replace worn-out or defective parts.
- h) Put trigger, trigger safety and trigger safety spring together on sear bar. Hang in trigger spring.
- i) Put trigger group properly in position as outlined in fig. 12.12.
- j) Install axle pin from right side and set washer.
- k) Install trigger spring with help of screwdriver.
- l) Reinstall ramp according to paragraph 12.2.4.
- m) Reassemble weapon as in 4.2 and execute procedure 6.1.1.



Fig. 12.11



Fig. 12.12

BRÜGGER+THOMET AG

25-04-2005 / SM-95106.00

Zelglistrasse 10 Phone +41 (0)33 334 67 00
3608 Thun Fax +41 (0)33 334 67 01
Switzerland Mail info@brugger-thomet.ch

12 Inspections And Measures On Receiver Complete (BT-30284)

12.2.7 Replacement of Trigger Housing Complete (BT-30215)

Tools: Weapon Fixture 5.1 and Screwdriver No. 1 as in fig. 5.2.

- a) Remove ramp according to paragraph 12.2.4.
- b) Remove trigger group according to paragraph 12.2.6.
- c) Remove trigger pin (BT-30132).
- d) Lift complete trigger housing out of receiver (fig. 12.13).
- e) Remove hammer (BT-30173) with its spring (BT-30218) while holding locking sear (BT-30191).
- f) Remove clevis pin (BT-30199) and locking sear with locking sear spring (BT-30219) come loose.
- g) Replace worn-out or defective parts.



Fig. 12.13

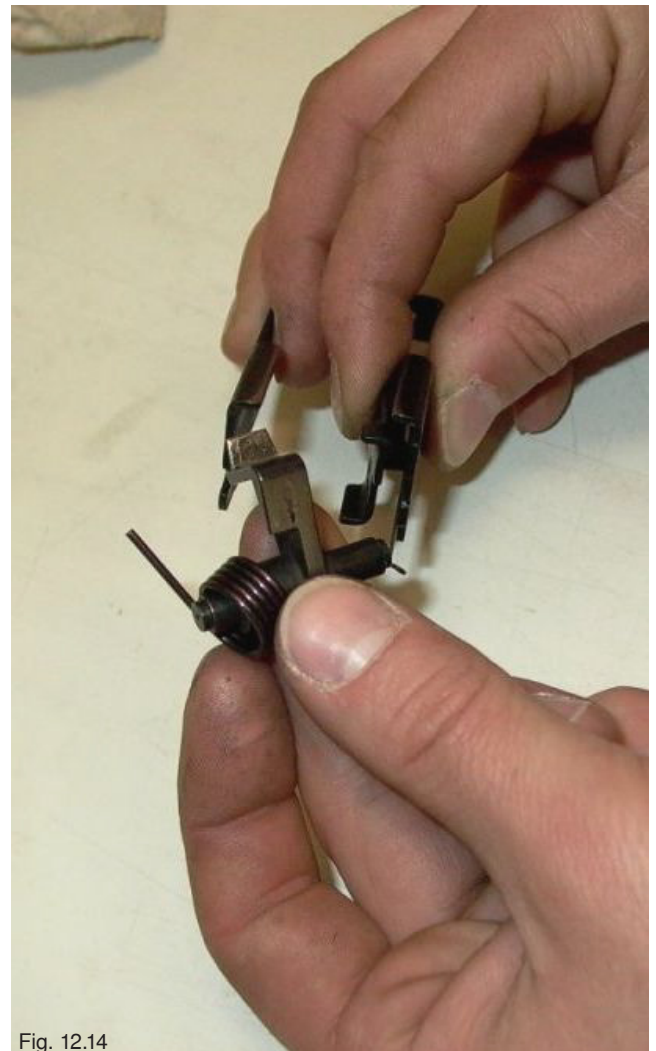


Fig. 12.14

12 Inspections And Measures On Receiver Complete (BT-30284)

- h) Bring locking sear and its spring in position and install clevis pin (fig. 12.15). Clevis pin head must be placed downside to weapon as in fig. 12.16.
- i) Install hammer. Locking sear spring must be held by hammer axis (fig. 12.16).
- j) Install trigger pin.
- k) Install trigger housing inverse to step b. Inspect proper position of hammer spring.
- l) Reinstall trigger group (paragraph 12.2.6) and ramp (paragraph 12.2.4).
- m) Reassemble weapon as in 4.2 and execute procedure 6.1.1.

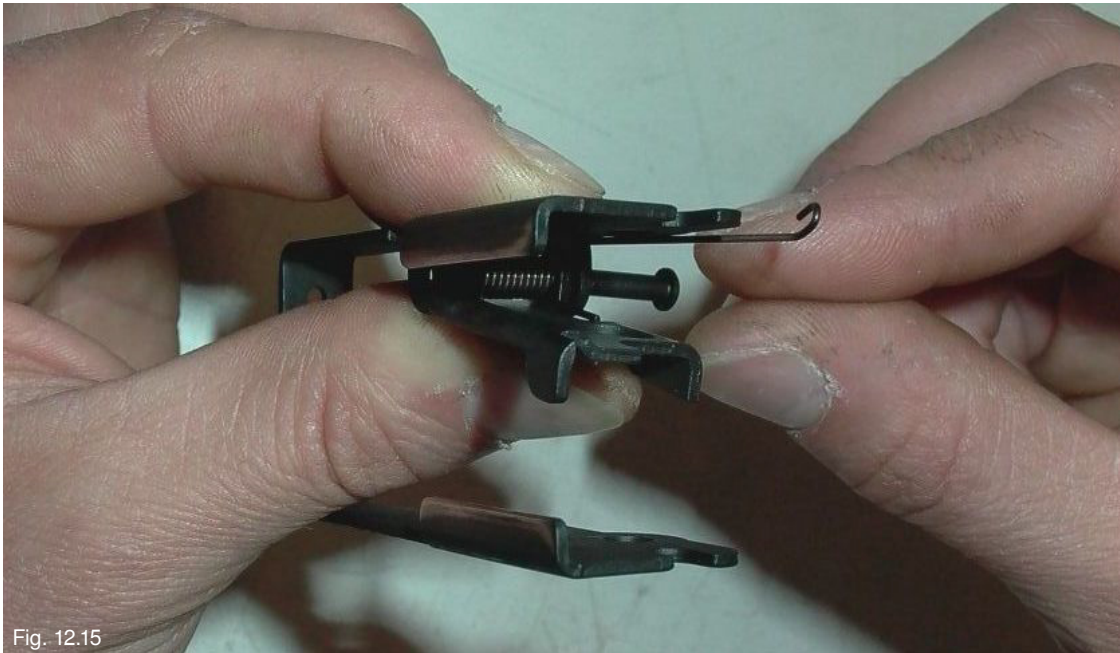


Fig. 12.15

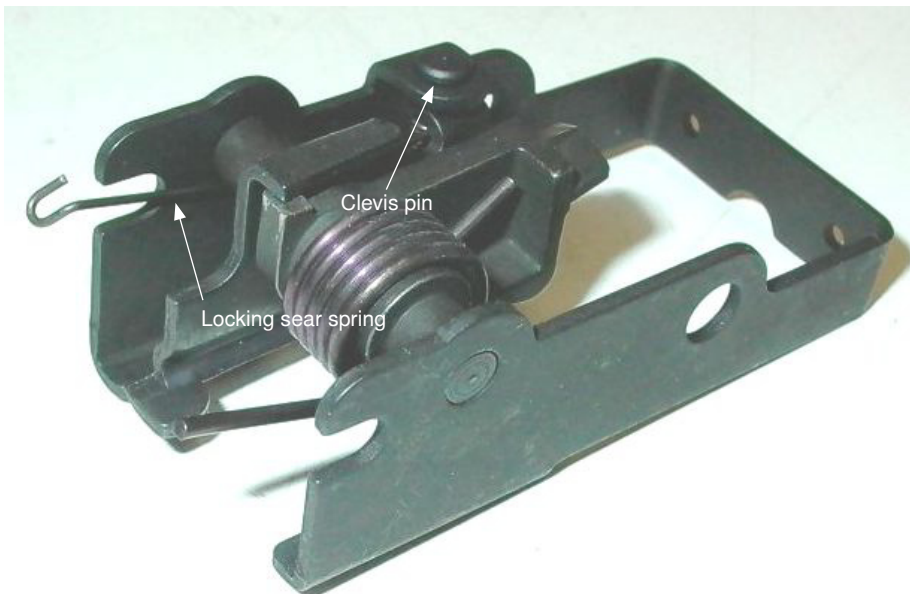


Fig. 12.16

BRÜGGER+THOMET AG

25-04-2005 / SM-95106.00

Zelglistrasse 10 Phone +41 (0)33 334 67 00
3608 Thun Fax +41 (0)33 334 67 01
Switzerland Mail info@brugger-thomet.ch

12 Inspections And Measures On Receiver Complete (BT-30284)

12.2.8 Replacement of Control Lever Complete (BT-30221)

Tools: Weapon Fixture 5.1, Screwdriver No. 1 and Need-Nosed Pliers as in fig. 5.2, Molycote Grease 5.3.

- a) Remove ramp according to paragraph 12.2.4.
- b) Remove trigger group according to paragraph 12.2.6.
- c) Remove trigger housing according to paragraph 12.2.7.
- d) Remove sear spring (BT-30210) with pliers (fig. 12.17).
- e) Slip control lever complete, sear (BT-30141) and disconnecter (BT-30159) off their axis.
- f) Remove washer (BT-30266) and separate parts.
- g) Replace worn-out or defective parts.
- h) Apply molycote grease as outlined in fig. 12.18.



Fig. 12.17

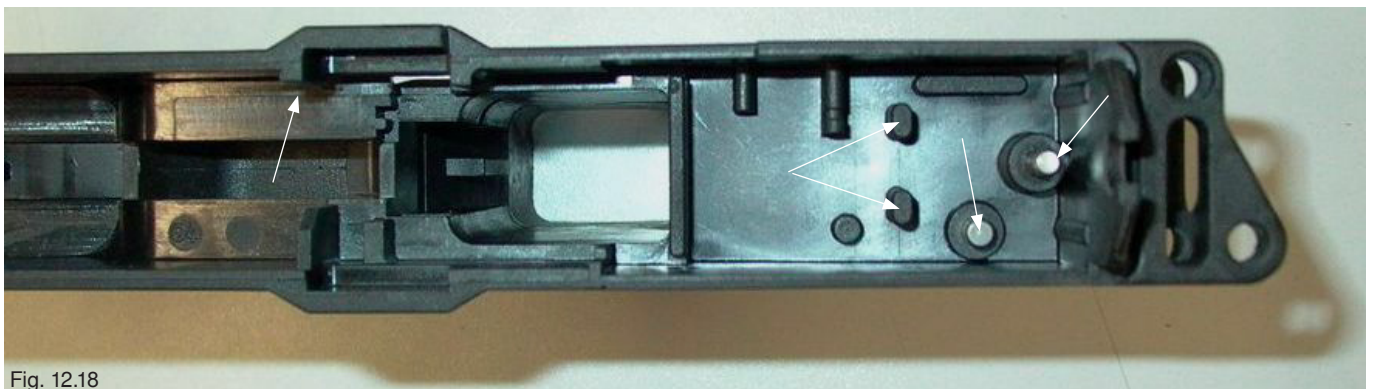


Fig. 12.18

BRÜGGER+THOMET AG

25-04-2005 / SM-95106.00

Zelglistrasse 10 Phone +41 (0)33 334 67 00
 3608 Thun Fax +41 (0)33 334 67 01
 Switzerland Mail info@bruegger-thomet.ch

12 Inspections And Measures On Receiver Complete (BT-30284)

- i) Assemble control lever, sear and disconnecter as in fig. 12.19.
- j) Put assembly on its axis.
- k) Use pliers to reinstall sear spring (fig. 12.20).
- l) Reinstall trigger housing according to paragraph 12.2.7. Execute inspections in section 12.1.
- m) Reinstall trigger group (paragraph 12.2.6) and ramp (paragraph 12.2.4).
- n) Reassemble weapon as in 4.2 and execute procedure 6.1.1.



Fig. 12.19

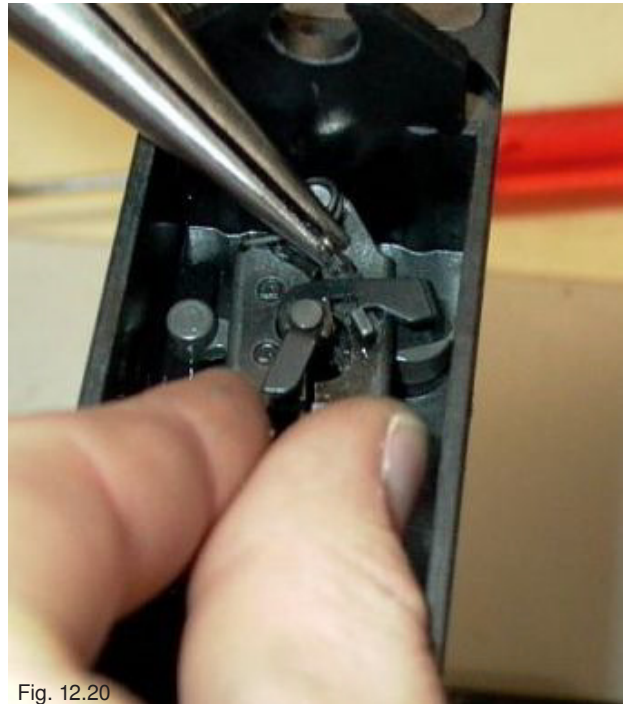


Fig. 12.20

13 Accessories

13.1 Aimpoint Reflex Sight CompM2 / CompML2

Performance

- Fast and sure target acquisition
- Doubles hit probability
- Compatible with night vision devices

Sigh-in distance: 15 m recommended

Mounting: B&T QD-Lever Mount BT-21530

Operation and maintenance: Refer to manufacturer's manual.



Fig. 13.1

13 Accessories

13.2 Top Cover with Side Rail

Performance

- Features Picatinny MIL-STD 1913 rail on right side
- Complete with iron sights

Part number: BT-30300 (picture shown with sound suppressor and Oerlikon-Contraves LLM 01)



Fig. 13.2

13 Accessories

13.3 Sound Suppressor

Performance

- Reduces muzzle flash
- Attachment for under barrel laser/light module (see example in fig. 13.2)
- Sound reduction (see table below)

Part number: SD-988400

Operation and Maintenance: Refer to manufacturer's manual TM-95127



Fig. 13.3

Ammunition	without Suppressor	with Suppressor	Sound reduction
9mmx19 Standard	163.3 dB A	130.1 dB A	33.2 dB A
9mmx19 Subsonic	158.7 dB A	125.1 dB A	33.6 dB A

14 Spare Parts Management

14.1 Spare Parts Inventory

Recommended quantities per 10 weapons and one maintenance cycle (5'000 rounds fired as reference). Refer to Illustrated Parts Catalogue PC-95106 (English), PC-95107 (German) or PC-95108 (Spain) for details.

Position numbers according to section 14.3.

Pos.	Description	Ref.	Qt.	Pos.	Description	Ref.	Qt.
1	Receiver, Empty	BT-30224	-	33	Buffer	BT-30134	10
2	Top Cover	BT-30235	-	34	Trigger	BT-30163	-
3	Folding Stock	BT-30234	3	35	Trigger Safety	BT-30265	-
4	Barrel Guide	BT-30227	-	36	Magazine Release	BT-30136	-
5	Barrel	BT-30226	3	37	Stock Pivot Pin	BT-30116	--
6	Bolt	BT-30230	-	38	Stock Release Knob	BT-30184	-
7	Ramp	BT-30102	-	39	Locking Bar	BT-30185	-
8	Trigger Housing	BT-30192	-	40	Shock Buffer	BT-30195	7
9	Sear Bar	BT-30146	-	41	Spiral Pin $\varnothing 3 \times 20$	BT-30276	10
10	Sear	BT-30141	-	42	Spiral Pin $\varnothing 4 \times 8$	BT-30275	10
11	Disconnecter	BT-30159	-	43	Washer Lock $\varnothing 4$	BT-30267	5
12	Control Lever	BT-30176	-	44	Washer Lock $\varnothing 2.3$	BT-30266	-
13	Drop Safety	BT-30194	-	45	Rear Sight Spring	BT-30168	-
14	Hammer	BT-30173	1	46	Detent Plate Spring	BT-30169	-
15	Bolt Release Lever	BT-30193	3	47	Sear Spring	BT-30210	-
16	Extractor	BT-30167	3	48	Hammer Spring	BT-30218	3
17	Extractor Plunger	BT-30165	3	49	Locking Sear Spring	BT-30219	4
18	Firing Pin	BT-30113	-	50	Trigger Spring	BT-30268	3
19	Connector	BT-30155	-	51	Recoil Spring	BT-30269	10
20	Detent Plate	BT-30126	-	52	Magazine Release Spring	BT-30270	-
21	Locking Pin	BT-30127	10	53	Latch Spring	BT-30271	-
22	Latch	BT-30148	-	54	Drop Safety Spring	BT-30272	-
23	Axle Pin	BT-30128	-	55	Folding Stock Spring	BT-30273	-
24	Trigger Pin	BT-30132	-	56	Trigger Safety Spring	BT-30274	2
25	Roller	BT-30133	-	57	Extractor Spring	BT-30198	3
26	Clevis Pin	BT-30199	-	58	Firing Pin Spring	BT-30277	10
27	Front Sight	BT-30149	2	59	Magazine Body 30 rds	BT-30180	10
28	Rear Sight / Ghost Ring	BT-30229	-	60	Magazine Follower	BT-30178	3
29	Adjusting Screw	BT-30151	-	61	Magazine Plate	BT-30177	3
30	Charging Handle	BT-30150	4	62	Magazine Spring	BT-30205	3
31	Guide Rod	BT-30156	7	63	Follower Spring	BT-30164	3
32	Fire Selector Switch	BT-30135	2	64	Locking Sear	BT-30191	1

BRÜGGER+THOMET AG

25-04-2005 / SM-95106.00

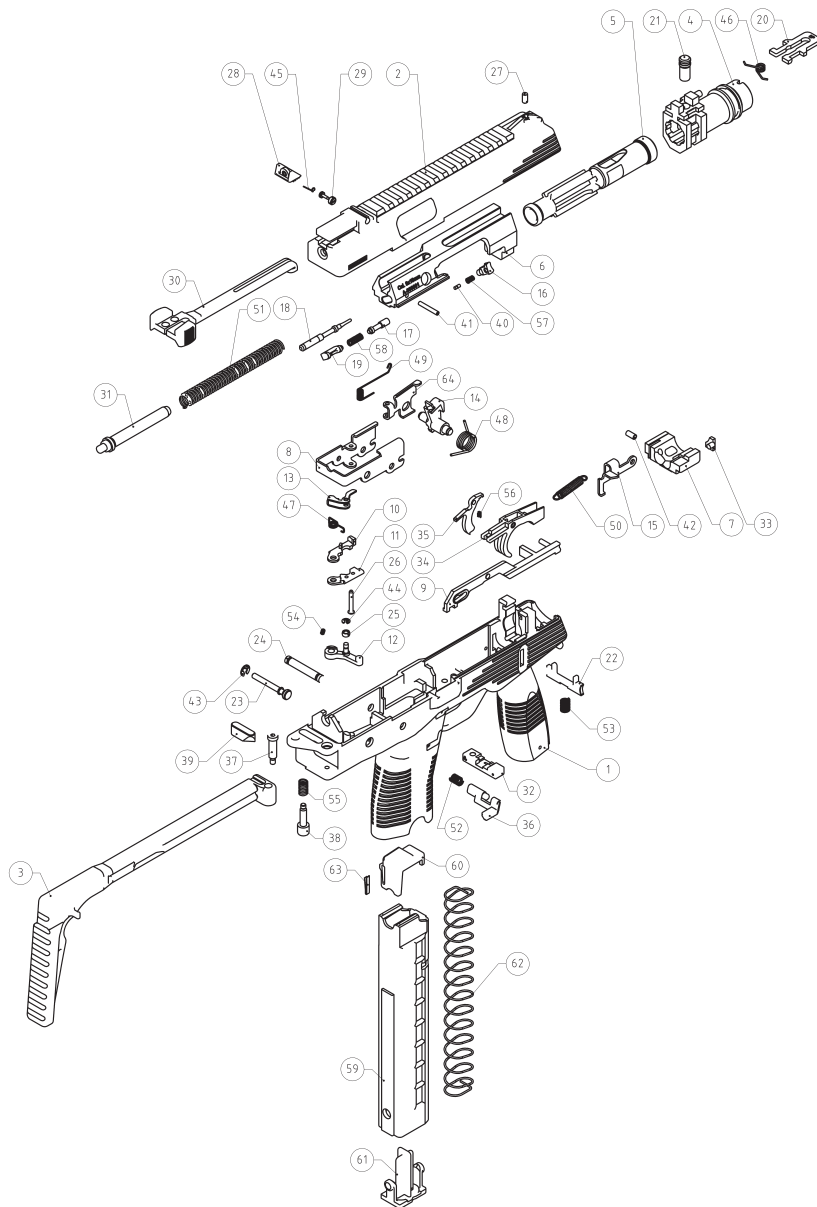
Zelgstrasse 10 Phone +41 (0)33 334 67 00
3608 Thun Fax +41 (0)33 334 67 01
Switzerland Mail info@bruegger-thomet.ch

14 Spare Parts Management

14.2 Spare Assemblies Inventory

Pos.	Description	Ref.	Qt.	Pos.	Description	Ref.	Qt.
1	Barrel Guide Complete	BT-30293	1	5	Control Lever Complete	BT-30221	1
2	Bolt Complete	BT-30231	1	6	Trigger Housing Complete	BT-30215	1
3	Top Cover Complete	BT-30236	5	7	Ramp Complete	BT-30214	1
4	Receiver Complete	BT-30284	2	8	Rear Sight Complete	BT-30223	3

14.3 Exploded View For Quick Reference



15 Manufacturer's Warranty Information

The manufacturer guarantees this product to be free from all defects of material and/or workmanship for 10'000 rounds of NATO or SAAMI certified ammunition. This warranty is valid only under the following circumstances:

- Repairs are made by B&T trained technical personnel.
- All care maintenance instructions recommended by the factory are followed.

When ordering spare parts please refer to the according page in this manual and order by part number. Please also indicate the invoice number in which it was supplied by the factory.

16 Manufacturer's Disclaimer

The manufacturer is not responsible for improper usage of this product. This product is potentially dangerous, and as such it's the users responsibility to understand and implement its proper use.

If you don't understand the instructions in this manual please contact the manufacturer for further clarification.

Never shoot reloaded or jacketed lead bullets.

Technical specifications may be subject to modifications.

The manufacturer:
Brügger & Thomet AG
3608 Thun
Switzerland

Phone +41 (0)33 334 67 00
Fax +41 (0)33 334 67 01
e-mail info@brugger-thomet.ch

BRÜGGER+THOMET AG