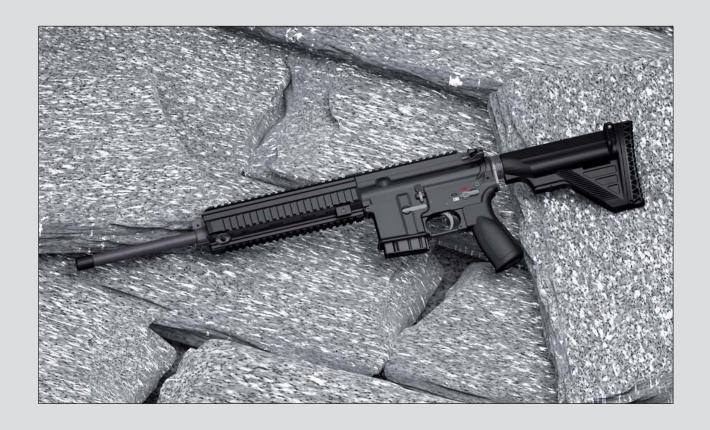
EN

Semi-automatic rifle Match Rifle MR223 A1

Calibre .223 Rem.



Operator's Manual



Semi-automatic rifle Match Rifle MR223 A1

Calibre .223 Rem.

▲ DANGER

Risk of death from gunshot wounds!

Accidental discharge of weapon may occur when loaded weapon is handled.

- > Do not use the weapon until you have read and understood this manual completely.
- > Follow the safety instructions when handling the weapon.
- > Carry out a safety check before working on the weapon.





Functional elements - left side view



The illustrations on the front and back fold-out pages show the functional elements of the weapon from the left and right sides. The text refers frequently to these illustrations. Opening the fold-out pages while reading will make it easier to understand the text.

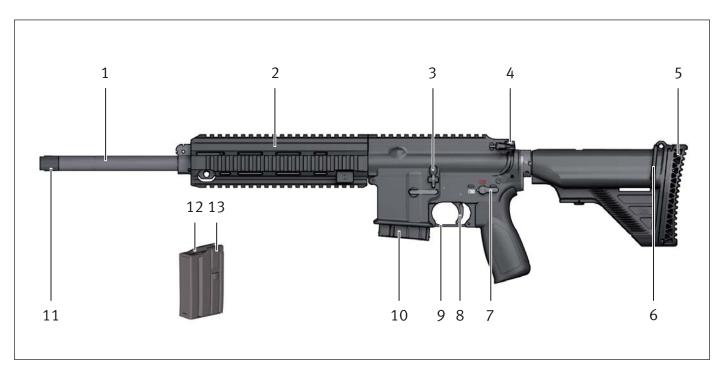


Fig. Ia: Match Rifle MR223 A1, left side view

- 1 Barrel
- 2 Handquard with Picatinny rails
- 3 Bolt catch/release
- 4 Charging handle
- 5 Buttstock cap, concave
- 6 Eye for carrying sling
- 7 Safety lever

- 8 Trigger
- *9* Trigger guard, foldable
- 10 Magazine, 10 cartridges
- 11 Muzzle thread protector
- 12 Follower
- 13 Magazine lips



Functional elements - right side view



The illustrations on the front and back fold-out pages show the functional elements of the weapon from the left and right sides. The text refers frequently to these illustrations. Opening the fold-out pages while reading will make it easier to understand the text.



Fig. IIa: Match Rifle MR223 A1, right side view

- 1 Buttstock, adjustable
- 2 Forward assist
- 3 Cartridge case deflector
- 4 Ejection port cover
- 5 Locking screw for handguard

- 6 Locking pin, front
- 7 Magazine catch
- 8 Locking pin, rear
- 9 Pistol grip
- 10 Buttstock release lever



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Handling

Part II



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Part I

Description



1 Using this manual

1.1 Purpose of this manual

The first part of this manual ("Description") describes the design and function of the weapon, and the second part ("Handling") describes the handling of the weapon.

1.2 Target audience for this manual

This manual is intended for persons who are authorised to use this weapon. This manual does not assume extensive technical or weapons-specific knowledge.

1.3 Warnings, notes and information

In order to ensure the greatest possible degree of safety during handling, important information and technical notes are specially highlighted.

1.3 Warnings, notes and information

1.3.1 Warnings and warning levels

Warnings are depicted as follows (example):

▲ DANGER

Risk of death from gunshot wounds!

Accidental discharge of weapon may occur when loaded weapon is handled.

- > Do not use the weapon until you have read and understood this manual completely.
- > Follow the safety instructions when handling the weapon.
- > Carry out a safety check before working on the weapon.

The following colours and signal words below are used in the warnings to indicate various danger levels:

Meaning	
Direct, imminent danger!	
Non-compliance will lead to death or extremely serious injury.	
Possible imminent danger!	
Non-compliance could lead to death or serious injury.	
Dangerous situation!	
Non-compliance could lead to minor injuries.	
Non-compliance could lead to material damage.	



1.3.2 Symbols used

Symbol	Meaning
i	Supplementary information on the weapon, on practical handling of the weapon or on using this manual.
1.	Call to perform an action in a sequence of actions: Here you have to do something!
>	Stand-alone step or call to perform an action in a warning: Here you have to do something!
>>	The sequence of actions is not complete, and is continued on the next page: Please turn the page!
•	Bullet point

1.3 Warnings, notes and information

1.3.3 Conventions for illustrations



Illustrations and drawings can vary from your weapon, depending on the model.

The information "right", "left", "front" and "back" apply to the position of the weapon as seen in the direction of fire.

Illustrations and their constituent elements support the descriptions in this manual, and are identified as follows:

- The name of an illustration comprises the current page number and a consecutive lower-case letter in alphabetical order, starting from "a" on each page, e.g. 6a.
- Calls to perform an action are indicated by upper-case letters enclosed in circles.
- Components relevant to the action are highlighted in blue. Where necessary the components are marked with numbers and identified in a legend.
- Motions are indicated by orangecoloured arrows.



Fig. 6a: Example of an illustration

- 1 Charging handle
- 2 Bolt catch/release

6



1.3.4 Conventions for cross references

Cross references represent relationships between the text and an illustration or individual section. Cross references are in *italics* and enclosed in (brackets).

• Example of a cross reference between text and an illustration: (6a-2)

The cross reference refers to numeral 2 in the illustration numbered 6a on page 6, the bolt catch/release.



The text frequently refers to the front and back fold-out pages, which are identified by the Roman numerals I (front) and II (back).

Example of a cross reference between sections: (Section 1.3.3)
 The cross reference refers to Section 1.3.3, conventions for illustrations.

2.1 The operator's manual as an integral component of the safety concept

2 Fundamental safety instructions



The weapon has been designed and manufactured according to the latest the technical knowledge and recognised safety rules. Nevertheless, use of the weapon may result in injury or death of the user and third parties, or damage to the weapon and other material property.

- > Follow all of the instructions in this operator's manual. Non-compliance may result in injury or death.
- Do not handle the weapon if you are tired, feel unwell, or have consumed alcohol, drugs or medicines.
- > Follow the applicable regulations for the handling of weapons.

2.1 The operator's manual as an integral component of the safety concept



The operator's manual is an integral component of the weapon.

- Do not use the weapon until you have read and understood this operator's manual completely.
- > Keep the operator's manual for the entire service life of the weapon.
- > If you receive any supplements or amendments, be sure to add them to the operator's manual.
- > Pass the operator's manual on to any subsequent operator or owner.
- Do not entrust the weapon to anyone who has not read and understood this operator's manual completely.

2.2 Safety instructions for handling the weapon

- > Special care must be taken when handling firearms, because the position and direction of the weapon can be changed very easily.
- > Use the weapon only if it is in perfect technical condition.
- > Treat the weapon as if there were a round in the chamber and the safety released until you have carried out a safety check.
- Make sure that the weapon is always unloaded when it is handled for purposes other than loading or firing.



- > Use the weapon only for its intended purpose. Do not use the weapon as a club, hammer, pry bar, etc. Using the weapon for other than its intended purpose may result in accidental discharge of weapon or damage to the weapon.
- > Do not play with the weapon.
- > Never point the weapon at people when handling or practising with it.
- > Do not touch the trigger when loading, unloading, aiming or handling the weapon in any other way. Always place your trigger finger on the outside of the trigger guard.
- > Do not use excessive force when handling, disassembling, cleaning and assembling the weapon.
- Avoid dry firing of the hammer. Dry firing of the hammer can lead to premature wear.
- > Store weapon and ammunition separately. Be sure to prevent access to the weapon and ammunition by unauthorised persons, especially children.
- > Never give or take the weapon unless it is unloaded and the bolt group is in the open position.
- > Do not entrust the weapon to anyone who is not entitled to possess the weapon. Observe national regulations.
- > Immediately rectify any faults that compromise safety.
- Exposure to exceptional stresses such as when the weapon is banged or dropped can have a negative effect on safety. After excessive stresses, have the weapon inspected by the manufacturer or trained firearms personnel.
- > Do not rely on safety features. Safety features are no substitute for careful, correct handling of the weapon.
- > When using accessories and ammunition, follow the instructions provided by their respective manufacturers.
- The weapon has been designed for a specific calibre. Use only ammunition that meets C.I.P. (Commission Internationale Permanente) specifications and corresponds to the calibre of the weapon. The correct designation of the ammunition suitable for the weapon is indicated on the weapon. Especially when using reloaded ammunition, make sure that the gas pressure does not exceed the level permitted according to the standard. Excessive gas pressure can damage the weapon or cause it to explode. Ammunition whose muzzle velocity and gas pressure are higher than the muzzle velocity and gas pressure for which the weapon was designed subject the weapon to additional stresses, cause excessive wear, and can lead to serious damage to the weapon.

2.3 Safety instructions for firing

2.3 Safety instructions for firing

- Wear hearing protection when firing.
- Wear safety goggles when firing.
- > Keep your hands out of the path of the bolt group when firing.
- > Keep the muzzle area clear when firing.
- > Do not shoot at doors, panes of glass, walls, concrete, stone, or smooth surfaces (including water). A bullet can penetrate these objects or be deflected in an unsafe direction.
- > Pull the trigger only if the weapon is pointing at the target and the area behind the target is not endangered.
- > Use only properly loaded, undamaged cartridges of the correct calibre.
- Wear protective gloves when touching the barrel after firing. The barrel heats up during firing.

2.4 Exclusion of liability and warranty

Heckler & Koch GmbH accepts no liability and provides no warranty for incidents arising from:

- non-compliance with this manual,
- incorrect handling of the weapon,
- negligence,
- improper use,
- modifications, attachments to or conversion of the weapon without the express written consent of Heckler & Koch GmbH, or
- use of accessories or spare parts from other manufacturers without the express written consent of Heckler & Koch GmbH.



3 Description of the weapon

The MR223 A1 semi-automatic rifle (.223 Rem. calibre) is a semi-automatic gas-operated weapon with a rotating bolt head. The magazine (*la-10*) is available in three sizes, with a capacity 10, 20 or 30 cartridges.

3.1 Designation

Match Rifle MR223 A1

3.2 Intended use

The Match Rifle MR223 A1 semi-automatic rifle is a firearm for sport shooting at a range of:

- 300 m with iron sight,
- 500 m with optical sight.

3.3 Scope of supply

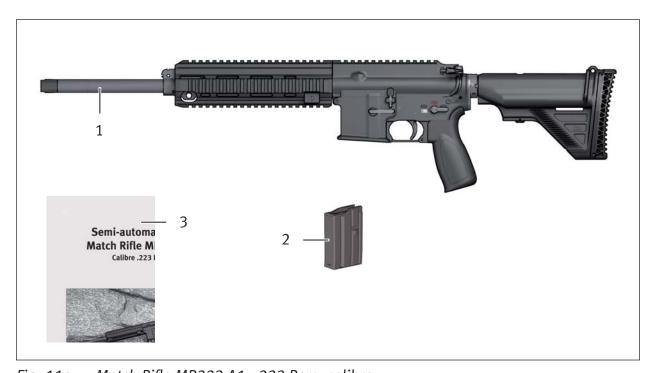


Fig. 11a: Match Rifle MR223 A1, .223 Rem. calibre

1 Match Rifle MR223 A1

3 Operator's Manual

2 Magazine

3.4 Assembly groups



Fig. 12a: Assembly groups

- 1 Charging handle
- 2 Lower receiver
- 3 Magazine
- 4 Handguard

- 5 Bolt group
- 6 Upper receiver with barrel and add-on parts



4 Technical description

4.1 Cutaway view



4.2 Safety features

4.2.1 Safety lever



The safety lever (*Ia-7*) can always be clikked to the "Safe" position.

The safety lever prevents accidental actuation of the trigger (*Ia-8*). In the "Safe" position the safety roller blocks the trigger. Only when the safety lever is clicked to the "Single fire" position will the safety roller release the trigger.



Fig. 14a: "Safe" position



Fig. 14b: "Single fire" position

4.2.2 Firing pin safety

The firing pin safety (13a-7) prevents accidental operation of the firing pin (13a-8), for example if the weapon is dropped. The firing pin safety blocks the firing pin and prevents the firing pin from striking the cartridge primer. Only when the trigger (Ia-8) is pulled does the hammer (13a-11) release the firing pin safety, just before the hammer strikes the firing pin.



4.3 Functional elements

The safety lever (*Ia-7*) can be used to make the weapon safe and to enable the single-fire function. The safety lever is ambidextrous.

The magazine catch (*IIa-7*) allows the quick changing of magazines.

The bolt catch/release (Ia-3) serves to hold the bolt group (13a-6) in the open position and allow reloading when the magazine is empty.

The handguard (Ia-2) is fastened to the barrel nut with a locking screw (IIa-5). The handguard is not attached to the barrel (Ia-1), this helps ensure the accuracy of the weapon. The handguard is equipped with Picatinny rails at the 3, 6, 9 and 12 o'clock positions.

The Picatinny rails can be used to attach various mechanical and optical sights and other accessories.

The adjustable buttstock (*Ila-1*) can be locked in 6 positions over an adjustment travel of 96 mm. The storage integrated into the buttstock provides room for batteries. The storage is covered by an exchangeable buttstock cap (*Ia-5*). Concave or convex-shaped buttstock caps are available.

The charging handle (*Ia-4*) can be used to open the bolt group in order to chamber a round or to unload the weapon.

The forward assist (*IIa-2*) can be used to lock the bolt group (*13a-6*) in case of fouling.



The pistol grip (*IIa-9*) is available in various models with different ergonomics and with an integrated storage compartment.

In order to allow operation of the trigger (*Ia-8*) with no problems even when wearing thick gloves, the folding trigger guard (*Ia-9*) can be opened.

The ejection port cover (IIa-4) prevents foreign bodies from entering the chamber (13a-3) and the path of the bolt group. Movement of the bolt group (13a-6) automatically opens the ejection port cover to allow cartridge case ejection.



4.4 Sequence of functions for firing

Initial state: The weapon has a magazine inserted, but there is no round in the chamber (Section 8.1)

The bolt group (13a-6) is pulled all the way back manually by means of the charging handle (1a-4). This causes the bolt group to cock the hammer (13a-11). The trigger notch (13a-14) holds the hammer in the cocked position.

When the charging handle is released, the bolt group snaps forwards again, driven by the force of the recoil spring (13a-10). The bolt head (13a-4) pushes a cartridge from the magazine (1a-10) into the chamber (13a-3). The extractor engages the cartridge on the cartridge rim. As the bolt group continues to move forwards, the control bolt (13a-5), driven by the control cam, rotates and locks the bolt head in the barrel extension (13a-16).

There is now a round in the chamber.

4.4.1 Sequence of functions in the "Single fire" position

Initial state: The weapon has a round in the chamber (Section 8.2)

Pulling the trigger (Ia-8) releases the cocked hammer (I3a-11). Just before the hammer strikes the firing pin (I3a-8), the hammer releases the firing pin safety (I3a-7). The firing pin strikes the cartridge primer. The cartridge is fired. The bullet moves down the barrel (Ia-1).

After the bullet passes the gas bore (13a-18), the gas pressure from the barrel acts on the gas piston (13a-1). The gas piston acts on the rod (13a-2), which initiates the recoil of the bolt group (13a-6). As the bolt group recoils, the control bolt (13a-5), driven by the control cam, rotates and unlocks the bolt head (13a-4) from the barrel extension (13a-16). As the bolt group continues to recoil, the extractor extracts the cartridge case from the chamber (13a-3). As soon as the cartridge case reaches the ejection port (IIa-4), the spring-loaded ejector (13a-17) ejects the cartridge case to the right and back. The cartridge case strikes the cartridge case deflector (IIa-3), and is deflected to the right and away from the shooter.



4.4 Sequence of functions for firing

The bolt group moves back until it reaches the stop point of the buffer (13a-9). This causes the bolt group to cock the hammer. The disconnector (13a-12) holds the hammer in the cokked position, even if the trigger (Ia-8) is still being pulled.

The bolt group snaps forwards again, driven by the force of the recoil spring (13a-10). The bolt head pushes a cartridge from the magazine (la-10) into the chamber. As the bolt group continues to move forwards, the control bolt, driven by the control cam, rotates and locks the bolt head in the barrel extension.

There is now a round in the chamber.

4.4.2 Sequence of functions when the magazine is empty.

The firing cycle can be repeated until the bolt group (13a-6) has fed the last cartridge from the magazine (Ia-10). When this happens the follower (Ia-12) of the magazine pushes the bolt catch/release (13a-15) upwards. After the last round is fired, the bolt catch/release holds the bolt group in the open position as the bolt group moves forwards.

When the bolt catch/release is pushed, the bolt group snaps forwards, driven by the force of the recoil spring (13a-10). If a filled magazine was inserted prior to this action, the weapon now has a round in the chamber.



5 Cleaning kit and auxiliary materials

5.1 Minimum cleaning kit

ĵ

The cleaning kit is not included in the standard scope of supply for the weapon. The cleaning kit can be ordered from Heckler & Koch using the Ident.-No. shown.

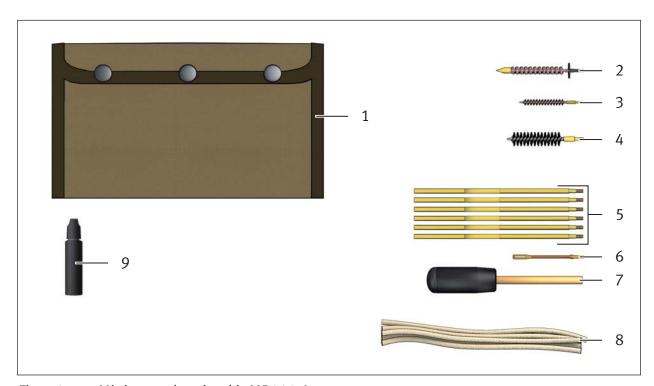


Fig. 19a: Minimum cleaning kit MR223 A1

Item	Minimum cleaning kit	Quantity	IdentNo.
_	Minimum cleaning kit (Items 1 - 9)	_	236 990
1	Case for cleaning kit	1	975 256
2	Chamber cleaning brush	1	975 375
3	Barrel cleaning brush	1	985 523
4	Oil brush	1	985 525
5	Extension rods	6	975 262
6	Pull-through holder	1	975 261
7	Handle, rotatable	1	975 263
8	Cleaning pull-through, 6-strand	10	962 017
9	Oil bottle, filled	1	974 924



5.2 Maximum cleaning kit



The cleaning kit is not included in the standard scope of supply for the weapon. The cleaning kit can be ordered from Heckler & Koch using the Ident.-No. shown.



Fig. 20a: Maximum cleaning kit MR223 A1



Item	Maximum cleaning kit	Quantity	IdentNo.
_	Maximum cleaning kit (Items 1 - 20)	_	237 448
1	Case for cleaning kit	1	975 244
2	Cleaning brush for extension, bronze	1	974 457
3	Oil brush for extension	1	974 456
4	Chamber cleaning brush	1	975 375
5	Barrel cleaning brush	1	985 523
6	Oil brush	1	985 525
7	Cleaning brush for chamber and barrel extension	1	975 260
8	Extension rods	6	975 262
9	Pull-through holder	1	975 261
10	Handle, rotatable	1	975 263
11	Cleaning brush, brass	1	979 769
12	Cleaning brush	1	974 187
13	Cleaning rod guide	1	237 022
14	Cleaning pull-through, 6-strand	10	962 017
15	Brush, natural hair	1	979 766
16	Brush, plastic	1	975 243
17	Cleaning hose	1	979 926
18	T-handle	1	975 264
19	Oil bottle, filled	1	974 924
20	Cleaning cloth	1	974 113



5.3 Auxiliary materials

5.3 Auxiliary materials



Auxiliary materials are available from specialist dealers.

Required auxiliary materials are listed at the beginning of each section.

The following auxiliary materials are required in this manual:

- Grease
- Low-temperature oil (MIL-L-14107), e.g. O-157
- Oil (MIL-L-46000), e.g. S-761, OX24
- Oil paper
- Cleaning rag

Part II

Handling



6 Checks

6.1 Carrying out a safety check



Successful completion of a safety check verifies that there is no ammunition in the weapon. The safety check is especially important when giving or taking over a weapon and when you are unsure whether or not a weapon is loaded.

- 1. Remove magazine (Section 8.5).
- 2. Pull charging handle all the way back and hold it (25a-A).
- 3. Push bolt catch/release and hold it (25a-B).

△ CAUTION

Risk of injury when the bolt group snaps forwards!

The bolt group snaps forwards when the bolt catch/release is pushed.

- > Do not reach into the path of the bolt group.
- 4. Push charging handle (*la-4*) all the way forwards and lock it.
- 5. Look into the chamber. There must not be any cartridge in the chamber (25 a- C). If there is a cartridge in the chamber, then a fault is present (Section 10).
- 6. Push bolt catch/release. The bolt group (13a-6) snaps forwards.
- 7. Click safety lever (*la-7*) to the "Single fire" position.
- 8. Pull trigger (*la-8*). The hammer (*13a-11*) is released.
- 9. Click safety lever to the "Safe" position.



Fig. 25a: Carrying out a safety check

Part II: Handling



6.2 Carrying out a function check



Successful completion of a function check verifies that the weapon is functional. The function check is especially important after assembly of the weapon and after rectification of faults.

- 1. Carry out safety check (Section 6.1).
- 2. Remove magazine (Section 8.5).
- 3. Move charging handle (*Ia-4*) backwards and forwards all the way several times.
- 4. Let charging handle snap forwards.
- 5. Click safety lever (*Ia-7*) to the "Safe" position.
- 6. Pull trigger (*Ia-8*). The hammer (*13a-11*) is not released.
- 7. Click safety lever to the "Single fire" position.
- 8. Pull trigger and hold it. The hammer is released.
- 9. Pull charging handle all the way back and then forwards.
- 10. Release trigger. The disconnector (13a-12) releases the hammer.
- 11. Pull trigger. The hammer is released. >>

Part II: Handling



- 12. Insert empty magazine (*Ia-10*) into the weapon until the magazine catch (*IIa-7*) engages.
- 13. Verify that the magazine is firmly seated.
- 14. Pull charging handle all the way back. The bolt group (13a-6) is held in the open position by the bolt catch/release (1a-3).

△ CAUTION

Risk of injury when the bolt group snaps forwards!

The bolt group snaps forwards when the bolt catch/release is pushed.

- > Do not reach into the path of the bolt group.
- 15. Push charging handle all the way forwards and lock it.
- 16. Push bolt catch/release. The bolt group snaps forwards.
- 17. Remove magazine.
- 18. Pull trigger. The hammer is released.
- 19. Click safety lever to the "Safe" position.
- 20. Verify that the muzzle thread protector (*la-11*) is firmly seated. Tighten with 25±5 Nm torque if necessary.

7.1 Adjusting the buttstock

7 Preparations

7.1 Adjusting the buttstock



The buttstock can be locked in 6 positions.

- 1. Turn buttstock cap 90° anti-clockwise (28a-A).
- 2. Remove buttstock cap (28a-B).
- 3. Take Allen key from buttstock (*Ila-1*).
- 4. Put buttstock cap (*la-5*) on buttstock in such a way that the guides in the buttstock engage with the recesses in the buttstock cap.
- 5. Turn buttstock cap 90° clockwise.
- 6. Place Allen key in the threaded pin (28 b-A).
- 7. Loosen threaded pin by turning anticlockwise using Allen key.
- 8. Press buttstock release lever (*IIa-10*) and hold it.
- 9. Slide buttstock to the desired position.
- 10. Release buttstock release lever.
- 11. Slide buttstock until it locks in the desired position.
- 12. Tighten threaded pin by turning clockwise (28b-B).
- 13. Put Allen key back in buttstock.



Fig. 28a: Removing buttstock cap

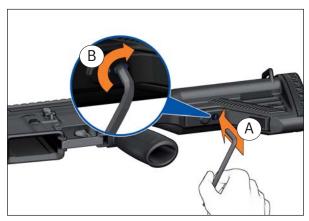


Fig. 28b: Placing the Allen key in the threaded pin



7.2 Opening / closing the trigger guard



The trigger guard (*Ia-9*) protects the trigger (*Ia-8*) against accidental operation. In order to allow operation of the trigger with no problems even when wearing thick gloves, the trigger guard can be opened. For safety reasons the trigger guard should generally be kept closed.

7.2.1 Opening the trigger guard

- 1. Turn buttstock cap 90° anti-clockwise (28a-A).
- 2. Remove buttstock cap (28a-B).
- 3. Take Allen key from buttstock (Ila- 1).
- 4. Put buttstock cap (*la-5*) on buttstock in such a way that the guides in the buttstock engage with the recesses in the buttstock cap.

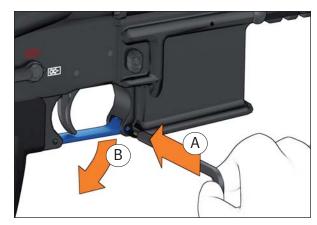


Fig. 29a: Opening the trigger guard

- 5. Turn buttstock cap 90° clockwise.
- 6. Push trigger guard release mechanism in using Allen key (29a-A).
- 7. Fold trigger guard downwards (29a-B).
- 8. Put Allen key back in buttstock.

7.2.2 Closing the trigger guard

- 1. Push trigger guard release mechanism in.
- 2. Fold trigger guard (*la-9*) upwards until the trigger guard release mechanism locks into place.



7.3 Adjusting the sights

Required auxiliary materials:

• Screwdriver and elevation adjustment tool (Ident.-No. 300 009)



The point of impact also depends on the ammunition. The use of different types of ammunition can change the elevation and windage of the point of impact. The sights can be adjusted to correct for the changed point of impact.



The following information refers to the drum sight (Ident.-No. 233 197) together with the folding front sight (Ident.-No. 236 305). The drum sight and the folding front sight can be obtained from specialist dealers using the specified Ident.-Nos..

Position of point of impact	Corrective measures	Information
	 Insert elevation adjustment tool (31a- 2) in rear sight cylinder, inserting the wedges of elevation adjustment tool into the grooves of the rear sight cylinder. Insert screwdriver (31a-1) into elevation adjustment tool. Press screwdriver downwards and hold it (31a-A). Turn rear sight cylinder anti-clockwise 	Turning the rear sight cylinder by one detent changes the point of impact by approx. 1.4 cm at a range of 100 m. Remove screwdriver and elevation adjustment tool from rear sight cylinder.
	 (31a-B). Insert elevation adjustment tool (31a-2) in rear sight cylinder, inserting the wedges of elevation adjustment tool into the grooves of the rear sight cylinder. Insert screwdriver (31a-1) into elevation adjustment tool. Press screwdriver downwards and hold it (31a-A). Turn rear sight cylinder clockwise (31a-B). 	Turning the rear sight cylinder by one detent changes the point of impact by approx. 1.4 cm at a range of 100 m. Remove screwdriver and elevation adjustment tool from rear sight cylinder.



Position of point of impact	Corrective measures	Information
•••	 Loosen screw by turning anti-clockwise with screwdriver (31-1) (31b). Turn windage adjustment screw clockwise (31c). Tighten screw by turning clockwise with 	Turning the windage adjustment screw by one turn changes the mean point of impact by approx. 5.5 cm at a range of 100 m.
	screwdriver. 1. Loosen screw by turning anti-clockwise	a range or 100 m.
•••	with screwdriver (31a-1) (31b). 2. Turn windage adjustment screw anticlockwise (31c).	
	3. Tighten screw by turning clockwise with screwdriver.	

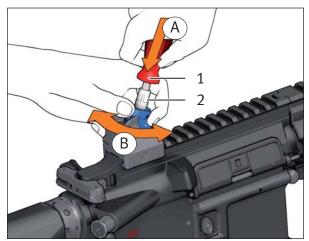


Fig. 31a: Inserting the rear sight adjusting tool

- 1 Screwdriver
- 2 Elevation adjustment tool

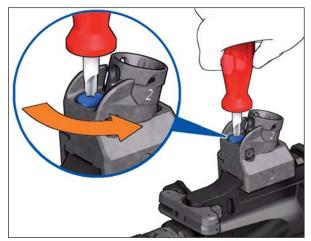


Fig. 31b: Loosening the screw

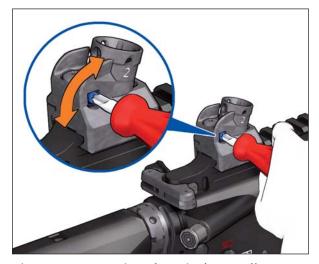


Fig. 31c: Turning the windage adjustment screw

7.4 Filling the magazine

7.4 Filling the magazine

NOTICE

Danger of material damage due to damaged or fouled cartridges!

Damaged or fouled cartridges can damage the weapon and cause malfunctions.

> Do not use damaged or fouled cartridges.

NOTICE

Danger of material damage from an overfilled magazine!

An overfilled magazine can lead to malfunctions.

> Do not fill the magazine with more than the number of cartridges indicated on the magazine.

NOTICE

Danger of material damage from keeping a magazine filled for long periods!

Keeping a magazine filled for long periods can result in damage to the magazine spring and cause malfunctions.

- > Empty the magazine before you place the weapon and magazine in storage (Section 8.8).
- 1. Grasp magazine (la-10).
- 2. Push cartridge under the magazine lips (*la-13*) (*32a-A*).
- 3. Push cartridge to the rear as far as it will go (32a-B).
- 4. Repeat steps 2. 3. until the magazine is full.

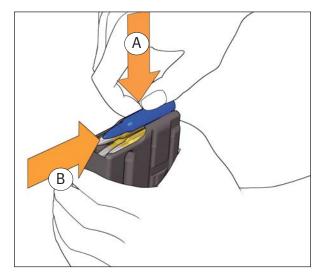


Fig. 32a: Filling the magazine



7.5 Preparing the weapon for firing

7.5.1 Preparing weapon with minimum cleaning kit for firing

Required auxiliary materials:

- Cleaning pull-throughs
- Minimum cleaning kit
- 1. Disassemble the weapon (Section 9.2).
- 2. Screw together handle, rotatable (19a-7), extension rods (19a-5) and pull-through holder (19a-6).
- 3. Place clean cleaning pull-throughs (19a-8) in pull-through holder.

NOTICE

Danger of material damage from incorrect cleaning direction!

It is forbidden to clean the barrel from the muzzle end of the weapon. Cleaning the barrel from the muzzle end of the weapon damages the barrel and decreases accuracy.

- > Always clean the barrel starting from the chamber end.
- 4. Push clean cleaning pull-throughs through the barrel several times from the chamber end to the muzzle until the barrel is free of oil and foreign bodies.
- 5. Visually check the weapon for damage.
- 6. Assemble the weapon (Section 9.4).
- 7. Carry out function check (*Section 6.2*).



7.5.2 Preparing weapon with maximum cleaning kit for firing

Required auxiliary materials:

- Cleaning pull-throughs
- Maximum cleaning kit
- 1. Disassemble the weapon (Section 9.2).
- 2. Screw together handle, rotatable (20a-10) and extension rods (20a-8).

NOTICE

Danger of material damage from incorrect cleaning direction!

It is forbidden to clean the barrel from the muzzle end of the weapon. Cleaning the barrel from the muzzle end of the weapon damages the barrel and decreases accuracy.

- > Always clean the barrel starting from the chamber end.
- 3. Insert handle, rotatable and extension rods in cleaning rod guide (20a-13).
- 4. Screw pull-through holder (20a-9) and extension rods together.
- 5. Place clean cleaning pull-throughs (20a-14) in pull-through holder.
- 6. Push locking pin of cleaning rod guide (50a-1) in all the way to the left.
- 7. Insert cleaning rod guide with handle, rotatable, extension rods and pull-through holder with cleaning pull-throughs all the way into the receiver from the rear (50a-A).
- 8. Push locking pin of cleaning rod guide in all the way to the right (50a-B).
- 9. Push clean cleaning pull-throughs through the barrel several times from the chamber end to the muzzle until the barrel is free of oil and foreign bodies.
- 10. Push locking pin of cleaning rod guide in all the way to the left.
- 11. Remove cleaning rod guide from receiver.
- 12. Visually check the weapon for damage.
- 13. Assemble the weapon (Section 9.4).
- 14. Carry out function check (Section 6.2).



7.6 Additional preparations in unusual climatic conditions



High air humidity and ambient temperatures between -25 °C and +63 °C do not require any special measures.



In cold conditions, freezing condensation can compromise the functional reliability of the weapon. To prevent the formation of condensation, do not bring the weapon from cold conditions into warm conditions and shortly thereafter again into cold conditions.

Required auxiliary materials:

- Oil
- Low-temperature oil
- When there are high concentrations of dust or temperatures above +63 °C, lubricate the lubrication points of the bolt group (48a) and the lubrication points of the functional elements (48b) more heavily.
- > At temperatures below -25 °C, lubricate all moving parts with low-temperature oil.



8 Operation

8.1 Inserting the magazine

- 1. Fill magazine (Section 7.4).
- 2. Click safety lever (*Ia-7*) to the "Safe" position.
- 3. Insert filled magazine into the weapon until the magazine catch (*IIa-7*) engages.

8.2 Chambering a round

△ WARNING

Risk of injury from accidental discharge of weapon!

A weapon with a round in the chamber is always a potential source of danger.

- > Chamber a round only immediately before firing.
- > Unload the weapon immediately after firing (Section 8.7).
- 1. Insert magazine into weapon (Section 8.1).
- 2. Pull charging handle (*Ia-4*) all the way back.
- 3. Let charging handle snap forwards. The weapon now has a round in the chamber and is set to "Safe".



8.3 Firing position and aiming

8.3.1 Firing position



The supported shoulder firing position is the most stable and provides the best probability of hitting.

△ WARNING

Risk of injury from recoil!

The weapon's recoil can cause serious injury.

- > When firing, pull the weapon firmly into your shoulder.
- > Keep your eye at least 6 cm away from the rear sight when firing.
- > Keep your hands out of the path of the bolt group when firing.
- > Rest weapon on the handguard (*la-2*) or bipod.
- Do not rest weapon on the barrel (*Ia-1*) or magazine (*Ia-10*).

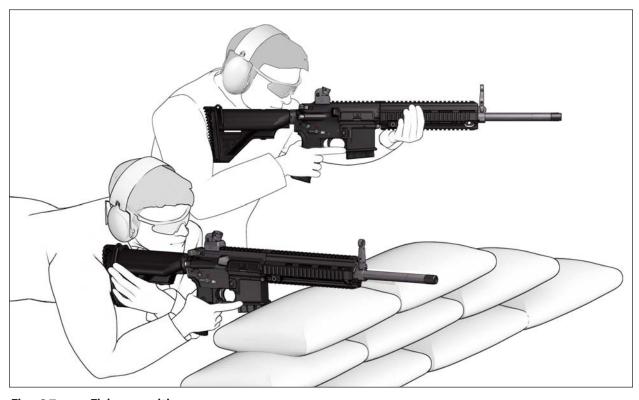
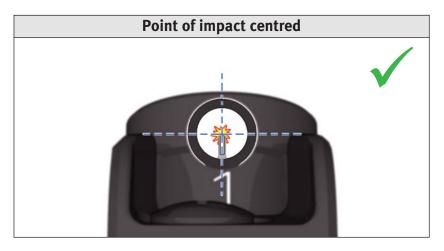


Fig. 37a: Firing position

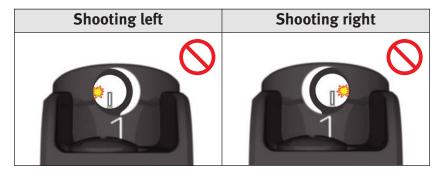


8.3.2 **Aiming**

Correct aiming



Aiming errors







8.4 Firing



Follow safety instructions for firing (Section 2.3).

- 1. Prepare weapon for firing (Section 7.5)
- 2. Chamber a round (Section 8.2).
- 3. Point weapon at the target.
- 4. Click safety lever (*Ia-7*) to the "Single fire" position.

△ WARNING

Risk of injury from recoil!

The weapon's recoil can cause serious injury.

- > When firing, pull the weapon firmly into your shoulder.
- > Keep your eye at least 6 cm away from the rear sight when firing.
- > Keep your hands out of the path of the bolt group when firing.
- 5. Aim (Section 8.3.2).
- 6. Pull trigger (*Ia-8*). A cartridge is fired.
- 7. After firing, or to reload, click safety lever to the "Safe" position.

8.5 Removing the magazine

1. Grasp magazine (*la-10*).

NOTICE

Danger of material damage from dropping the magazine!

Dropping the magazine can damage the magazine lips (la-13) and cause malfunctions.

- > Remove the magazine by hand.
- > Avoid impacts to the magazine lips.
- 2. Press magazine catch (*Ila-7*).
- 3. Remove magazine.



8.6 Reloading the weapon

△ WARNING

Risk of injury from accidental discharge of weapon!

A weapon with a round in the chamber is always a potential source of danger.

- > Chamber a round only immediately before firing.
- > Unload the weapon immediately after firing (Section 8.7).



After the last cartridge in the magazine is fired, the bolt catch/release locks the bolt group in the open position.

- 1. Remove magazine (Section 8.5).
- 2. Insert magazine into weapon (Section 8.1).
- 3. Push bolt catch/release (*Ia-3*). The bolt group (*13a-6*) snaps forwards. The weapon now has a round in the chamber and is set to "Safe".

8.7 Unloading the weapon

- 1. Remove magazine (Section 8.5).
- 2. Pull charging handle (*Ia-4*) all the way back and hold it. A cartridge is ejected.
- 3. Push bolt catch/release (Ia-3) and hold it. >>



4. Push charging handle all the way forwards and lock it.

△ CAUTION

Risk of injury when the bolt group snaps forwards!

The bolt group snaps forwards when the bolt catch/release is pushed.

- > Do not reach into the path of the bolt group.
- 5. Look into the chamber (13a-3). There must not be any cartridge in the chamber. If there is a cartridge in the chamber, then a fault is present (Section 10).
- 6. Push bolt catch/release. The bolt group (13a-6) snaps forwards.
- 7. Click safety lever (*Ia-7*) to the "Single fire" position.
- 8. Pull trigger (*Ia-8*). The hammer (*13a-11*) is released.
- 9. Click safety lever to the "Safe" position.

8.8 Emptying the magazine

△ WARNING

Risk of injury from igniting the cartridges!

Impacts to the primer can ignite the cartridge.

- > Push the cartridges into your hand when you empty the magazine.
- > Prevent any impacts to the primer.
- > Prevent cartridges from falling.
- > Push cartridges forwards out of the magazine (*la-10*).



9 Cleaning

9.1 General instructions for cleaning



Regular cleaning and care of the weapon and accessories

- maintain functional reliability and accuracy,
- increase service life,
- prevent accidents, and
- save repair costs and time.
- > Clean weapon each time it is fired and at intervals of 1000 rounds. Clean weapon while it is still warm if possible.

NOTICE

Danger of material damage from the use of excessive force!

The use of excessive force during disassembly, cleaning and assembly can damage the weapon.

> Do not use excessive force when disassembling, cleaning and assembling the weapon.

9.2 Disassembling the weapon

△ WARNING

Risk of injury from improperly assembled weapon!

Improper assembly can compromise the safety and function of the weapon.

> Only disassemble the weapon to the extent described in this manual.



9.2.1 Disassembling the weapon into assembly groups

Required auxiliary materials:

- 5 mm Allen key
- 1. Carry out safety check (Section 6.1).
- 2. Turn buttstock cap 90° anti-clockwise (28a-A).
- 3. Remove buttstock cap (28a-B).
- 4. Take Allen key from buttstock (*IIa-1*).
- 5. Put buttstock cap (*la-5*) on buttstock in such a way that the guides in the buttstock engage with the recesses in the buttstock cap.
- 6. Turn buttstock cap 90° clockwise.
- 7. Place Allen key in the rear locking pin (*IIa-8*).
- 8. Using Allen key, press rear locking pin in and at the same time pull out to the right as far as disassembly position (43a).
- 9. Fold lower receiver downwards.
- 10. Place Allen key in the front locking pin (*IIa-6*).
- 11. Using Allen key, press front locking pin in and at the same time pull out to the right as far as disassembly position.
- 12. Remove lower receiver.
- 13. Put Allen key back in buttstock.
- 14. Press buffer (13a-9) into the buttstock and hold it. >>



Fig. 43a: Pressing rear locking pin in to the right

- 15. Push positioning pin in and hold it (44a).
- 16. Pull buffer and recoil spring (13a-10) forwards out of the buttstock.
- 17. Pull charging handle (*Ia-4*) back.
- 18. Remove bolt group (13a-6) from upper receiver.
- 19. Remove charging handle from upper receiver.
- 20. Fold front sight downwards if mounted.
- 21. Loosen locking screw for handguard (*IIa-5*) using 5 mm Allen key and pull out as far as disassembly position (44b).
- 22. Pull handguard (*Ia-2*) forwards off barrel (*Ia-1*).

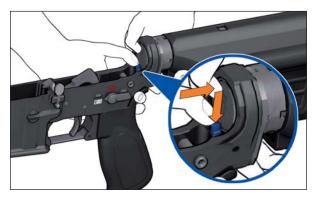
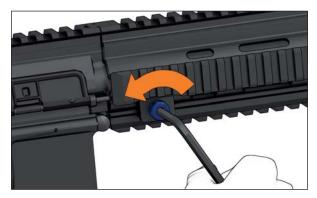


Fig. 44a: Pushing in positioning pin



Loosening locking screw for Fig. 44b: handguard



9.2.2 Disassembling parts of the gas drive

- 1. Disassemble the weapon into assembly groups (*Section 9.2.1*).
- 2. Pull rod to rear and hold it (45 a- A).
- 3. Pull rod upwards and forwards out of upper receiver (45a-A).
- 4. Remove gas piston (45a-2) from gas block (45a-1).

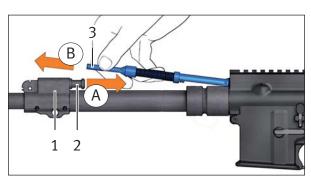


Fig. 45a: Removing rod

- 1 Gas block
- 2 Gas piston
- 3 Rod

9.2.3 Disassembling the bolt group

- 1. Disassemble the weapon into assembly groups (*Section 9.2.1*).
- 2. Push locking pin (45b-7) into the bolt head carrier (45b-3) from the right.
- 3. Pull locking pin out of the bolt head carrier to the left.
- 4. Lift firing pin safety (45b-4).
- 5. Take firing pin (45b-6) and pressure spring for firing pin (45b-5) to the rear out of bolt head carrier.
- 6. Pull control bolt (*45b-2*) out of bolt head (*45b-1*).
- 7. Pull bolt head out of bolt head carrier.

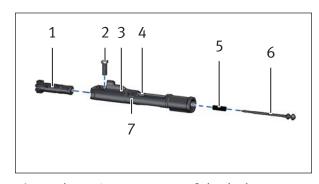


Fig. 45b: Components of the bolt group

- 1 Bolt head
- 2 Control bolt
- 3 Bolt head carrier
- 4 Firing pin safety
- 5 Pressure spring for firing pin
- 6 Firing pin
- 7 Locking pin



9.3 Cleaning the weapon

9.3.1 Cleaning the weapon with minimum cleaning kit

Required auxiliary materials:

- Minimum cleaning kit
- Oil
- Cleaning rag



Clean the barrel from the chamber to the muzzle.

NOTICE

Danger of material damage from incorrect cleaning agents and care products! Incorrect cleaning agents and care products can damage the weapon.

- > When cleaning the weapon, use the specified cleaning agents.
- > Do not use any metallic objects, plastics (nylon, etc.) or chemical cleaning agents (benzine, tetrachlorethylene, trichlor, etc.) to clean the weapon.
- > Do not clean the weapon in an ultrasonic bath.
- 1. Disassemble the weapon (Section 9.2).
- 2. Visually check the weapon for damage.
- 3. Clean fouled parts and surfaces using cleaning rag.
- 4. Oil cleaned metal parts thinly.
- 5. Screw together handle, rotatable (19a-7), two extension rods (19a-5) and chamber cleaning brush (19a-2).
- 6. Clean chamber (13a-3) and barrel extension (13a-16) using chamber cleaning brush. >>



7. Screw together handle, rotatable, extension rods and barrel cleaning brush (19a-3).

NOTICE

Danger of material damage if the barrel cleaning brush is not pulled completely through the barrel!

Not pulling the barrel cleaning brush completely through the barrel can damage the inside of the barrel and decrease accuracy.

> Push the barrel cleaning brush completely through the barrel starting from the chamber end. This allows the bristles of the barrel cleaning brush to straighten out again. Pull the barrel cleaning brush out of the chamber to the rear in an extension of the barrel bore axis.

NOTICE

Danger of material damage from incorrect cleaning direction!

It is forbidden to clean the barrel from the muzzle end of the weapon. This damages the barrel and decreases accuracy.

- > Always clean the barrel starting from the chamber end.
- 8. Push lubricated barrel cleaning brush completely through the barrel (*Ia-1*) several times.
- 9. Replace barrel cleaning brush with pull-through holder (19a-6).
- 10. Place clean cleaning pull-throughs (19a-8) in pull-through holder.
- 11. Push clean cleaning pull-throughs through the barrel several times from the chamber end to the muzzle until the barrel is free of oil and foreign bodies.
- 12. Replace pull-through holder with oil brush (19a-4). >>

- 13. Pull lubricated oil brush through the barrel.
- 14. Lubricate lubrication points of the bolt group (48a).
- 15. Lubricate lubrication points of the functional elements (48b).

NOTICE

Danger of material damage from lubricated cartridges!

Lubricated cartridges result in increased loads on components and can lead to premature wear on the weapon.

- > Do not lubricate the inside of the magazine.
- 16. Clean magazine (*Ia-10*) and follower (*Ia-12*) using cleaning cloth.
- 17. Assemble the weapon (Section 9.4).

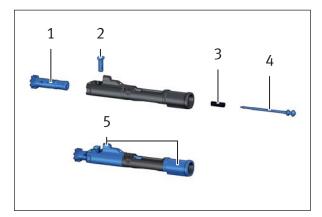


Fig. 48a: Lubrication points of the bolt group

- 1 Bolt head
- 2 Control bolt
- 3 Pressure spring for firing pin
- 4 Firing pin
- 5 Operating surfaces of the bolt group

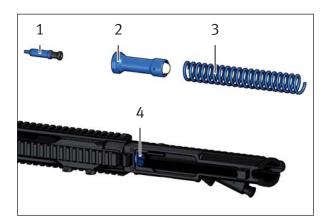


Fig. 48b: Lubrication points of the functional elements

- 1 Gas piston
- 2 Buffer
- 3 Recoil spring
- 4 Barrel extension



9.3.1 Cleaning the weapon with maximum cleaning kit

Required auxiliary materials:

- Oil
- Maximum cleaning kit



Clean the barrel from the chamber to the muzzle.

NOTICE

Danger of material damage from incorrect cleaning agents and care products! Incorrect cleaning agents and care products can damage the weapon.

- > When cleaning the weapon, use the specified cleaning agents.
- > Do not use any metallic objects, plastics (nylon, etc.) or chemical cleaning agents (benzine, tetrachlorethylene, trichlor, etc.) to clean the weapon.
- > Do not clean the weapon in an ultrasonic bath.
- 1. Disassemble the weapon (Section 9.2).
- 2. Visually check the weapon for damage.
- 3. Clean fouled parts and surfaces using cleaning cloth (20a-20).
- 4. Oil cleaned metal parts thinly.
- 5. Screw together T-handle (20a-18), two extension rods (20a-8) and cleaning brush for chamber and barrel extension (20a-7).
- 6. Clean chamber (13a-3) and barrel extension (13a-16) using cleaning brush for chamber and barrel extension. >>



- 7. Screw together handle, rotatable (20a-10) and extension rods.
- 8. Insert handle, rotatable and extension rods in cleaning rod guide (20a-13).
- 9. Screw together barrel cleaning brush (20a-5) and extension rods.
- 10. Push locking pin of cleaning rod guide (50a-1) in all the way to the left.
- 11. Insert cleaning rod guide with handle, rotatable, extension rods and barrel cleaning brush all the way into the receiver from the rear (50a-A).

NOTICE

Danger of material damage if the barrel cleaning brush is not pulled completely through the barrel!

Not pulling the barrel cleaning brush completely through the barrel can damage the inside of the barrel and decrease accuracy.

> Push the barrel cleaning brush completely through the barrel starting from the chamber end. This allows the bristles of the barrel cleaning brush to straighten out again. Pull the barrel cleaning brush out of the chamber to the rear in an extension of the barrel bore axis.

NOTICE

Danger of material damage from incorrect cleaning direction!

It is forbidden to clean the barrel from the muzzle end of the weapon. This damages the barrel and decreases accuracy.

- > Always clean the barrel starting from the chamber end.
- 12. Push locking pin of cleaning rod guide in all the way to the right (50a-B). >>

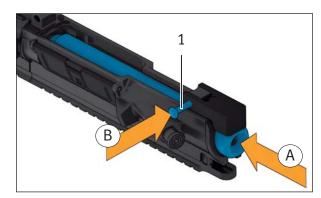


Fig. 50a: Pushing in locking pin for cleaning rod guide

1 Locking pin for cleaning rod guide

- 9 Cleaning
- 9.3 Cleaning the weapon



- 13. Push lubricated barrel cleaning brush completely through the barrel (*Ia-1*) several times.
- 14. Push locking pin of cleaning rod guide in to the left and pull it out as far as it will go.
- 15. Remove cleaning rod guide with handle, rotatable from upper receiver.
- 16. Replace barrel cleaning brush with pull-through holder (20a-9).
- 17. Place clean cleaning pull-throughs (20a-14) in pull-through holder.
- 18. Insert cleaning rod guide with handle, rotatable and pull-through holder with cleaning pull-throughs all the way into the upper receiver from the rear.
- 19. Push locking pin of cleaning rod guide in all the way to the right.
- 20. Push clean cleaning pull-throughs through the barrel several times until the barrel is free of oil and foreign bodies.
- 21. Push locking pin of cleaning rod guide in to the left and pull it out as far as it will go.
- 22. Remove cleaning rod guide with handle, rotatable from upper receiver.
- 23. Replace pull-through holder with oil brush (20a-6). >>



- 24. Insert cleaning rod guide with handle, rotatable and oil brush all the way into upper receiver from the rear.
- 25. Push locking pin of cleaning rod guide in all the way to the right.
- 26. Pull lubricated oil brush through the barrel.
- 27. Push locking pin of cleaning rod guide in to the left and pull it out as far as it will go.



Fig. 52a: Cleaning the extension inside

- 28. Remove cleaning rod guide with handle, rotatable from upper receiver.
- 29. Screw together handle, rotatable, two extension rods and cleaning brush for extension (20a-2).
- 30. Clean extension inside with lubricated cleaning brush for extension.
- 31. Replace cleaning brush for extension with oil brush for extension (20a-3).
- 32. Lubricate extension inside with lubricated oil brush for extension.
- 33. Lubricate lubrication points of the bolt group (48a).
- 34. Lubricate lubrication points of the functional elements (48b).
- 35. Assemble the weapon (Section 9.4).



9.4 Assembling the weapon

9.4.1 Assembling the bolt group

- 1. Insert bolt head into the bolt head carrier with the extractor to the right (53a).
- 2. Insert control bolt into bolt head carrier with the bore in the longitudinal direction (53a).
- 3. Push pressure spring for firing pin (45b-5) onto firing pin (45b-6).
- 4. Pull locking pin (45b-7) out of the bolt head carrier to the left as far as it will go.
- 5. Raise firing pin safety and hold it (53 b- A).
- 6. Press firing pin and pressure spring for firing pin from the rear into the bolt head carrier (45b-3) as far as they will go and hold them (53b-B).
- 7. Press locking pin to the right completely into the bolt head carrier (*53b-C*).

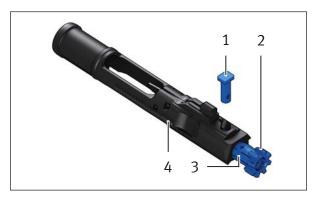


Fig. 53a: Inserting the control bolt

- 1 Control bolt
- 2 Bolt head
- 3 Extractor
- 4 Bolt head carrier

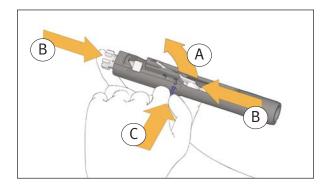


Fig. 53b: Pressing in the locking pin



9.4.2 Assembling parts of the gas drive

- 1. Insert gas piston (54a-2) into the gas block (54a-1).
- 2. Insert rod into upper receiver in assembly position (54a-A).
- 3. Press rod to the rear against spring force and insert into gas piston (*54a-B*).

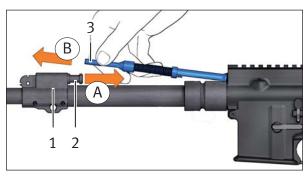


Fig. 54a: Assembly position of the rod

- 1 Gas block
- 2 Gas piston
- 3 Rod



9.4.3 Assembling the assembly groups

Required auxiliary materials:

- 5 mm Allen key
- 1. Assemble the bolt group (Section 9.4.1).
- 2. Assemble parts of the gas drive (Section 9.4.2).
- 3. Push handguard (*Ia-2*) onto the barrel (*Ia-1*) from the front as far as it will go.
- 4. Turn buttstock cap 90° anti-clockwise (28a-A).
- 5. Remove buttstock cap (28a-B).
- 6. Take Allen key from buttstock (*IIa-1*).
- 7. Put buttstock cap (*la-5*) on buttstock in such a way that the guides in the buttstock engage with the recesses in the buttstock cap.
- 8. Turn buttstock cap 90° clockwise.
- 9. Insert locking screw for handguard and tighten with Allen key (55a).
- 10. Insert charging handle (*Ia-4*) into recess in upper receiver and push forwards about 5 cm.
- 11. Pull bolt head (53a-2) forwards out of the bolt head carrier (53a-4) as far as it will go.



Fig. 55a: Tightening locking screw for handquard

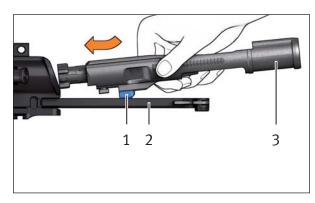


Fig. 55b: Inserting bolt group into charging handle

- 1 Guide cam of the bolt group
- 2 Guide groove of the charging handle
- 3 Bolt group



The bolt group can only be inserted into the weapon if the bolt head is in the forward position. Otherwise the control bolt blocks the bolt group from being inserted into the upper receiver.

12. Insert guide cam of bolt group into guide groove of charging handle (55b). >>



- 13. Push bolt group (55b-3) all the way forwards until the charging handle locks.
- 14. Insert buffer (13a-9) into the recoil spring (13a-10).
- 15. Insert buffer and recoil spring into the buttstock (*IIa-1*).
- 16. Push buffer behind the positioning pin.
- 17. Insert lower receiver into front bore for locking pin of the upper receiver at an angle of about 45°.
- 18. Place Allen key in the front locking pin and hold it there.
- 19. Push front locking pin in all the way to the left.
- 20. Swing upper receiver down onto lower receiver as far as it will go (56a).
- 21. Place Allen key in the rear locking pin and hold it there (43a).
- 22. Push rear locking pin in all the way to the left.
- 23. Put Allen key back in buttstock.
- 24. Carry out function check (Section 6.2).

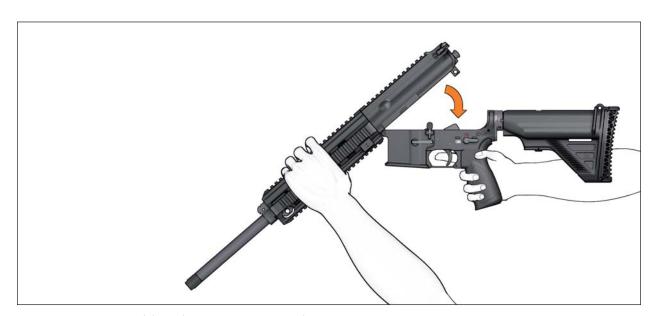


Fig. 56a: Assembling lower receiver and upper receiver



10 Faults: Causes and remedies



Users are strictly prohibited from troubleshooting that go beyond the scope of this manual! Only authorised specialists may troubleshoot such faults in the weapon.

MARNING

Safety risk from not knowing whether or not the weapon is loaded!

In the event of a fault, the weapon may be loaded, even if expected to be unloaded.

- > In the event of a fault, treat the weapon as if there were a round in the chamber.
- > In the event of a fault, verify whether the weapon is actually loaded.
- > Follow the fundamental safety instructions (Section 2) for rectifying faults.

The following items do not constitute a complete list of all possible faults. Causes other than those named here are also possible.

Fault	Cause	Remedy
Bullet is stuck in the barrel.	Improperly loaded ammunition.	Send weapon in for repair.
Cartridge has not fired.	Defective ammunition.	Wait at least one minute. Unload weapon (Section 8.7). Do not reuse cartridges that have failed to fire.
	Firing pin sluggish, damaged or broken.	Send weapon in for repair.
	Hammer defective.	Send weapon in for repair.



Fault	Cause	Remedy
Bolt group does not open after firing.	Defective ammunition.	Unload weapon (Section 8.7). Clean weapon if necessary (Section 9.3). Send weapon in for repair if necessary.
	Gas drive fouled or defective.	Clean gas piston. Send weapon in for repair if necessary.
Cartridge or cartrid-	Chamber is fouled.	Clean chamber.
ge case is not ejected.	Cartridge rim ripped off.	Unload weapon (Section 8.7). Send weapon in for repair if necessary.
	Rearward movement of bolt group too short.	Unload weapon (Section 8.7). Carry out function check (Section 6.2). Clean weapon if necessary (Section 9.3). Send weapon in for repair if necessary.
	Ammunition incorrectly loaded.	Use different ammunition.
	Extractor, pressure spring for extractor, ejector or pressure spring for ejector damaged.	Send weapon in for repair.
Cartridge is not loaded into the chamber.	Chamber is fouled.	Unload weapon (Section 8.7). Clean weapon (Section 9.3).
	Cartridge deformed.	Use different cartridge.
	Recoil spring defective.	Send weapon in for repair.
Cartridge does not feed.	Magazine not correctly inserted.	Insert magazine correctly.
	Magazine spring defective.	Send magazine in for repair.
	Magazine damaged.	Use different magazine.



Fault	Cause	Remedy
Cartridge does not feed.	Rearward movement of bolt group too short.	Unload weapon (Section 8.7). Carry out function check (Section 6.2). Clean weapon if necessary (Section 9.3). Send weapon in for repair if necessary.
Bolt group does not	Magazine spring defective.	Send magazine in for repair.
stay in open position after last round.	Rearward movement of bolt group too short.	Unload weapon (Section 8.7). Carry out function check (Section 6.2). Clean weapon if necessary (Section 9.3). Send weapon in for repair if necessary.
	Bolt catch/release damaged.	Send weapon in for repair.
	Ammunition incorrectly loaded.	Use different ammunition.
Magazine sticks in magazine well.	Magazine damaged.	Exchange magazine. Send damaged magazine in for repair.
	Magazine catch defective.	Send weapon in for repair.
Windage or elevation of point of impact changed.	Sights misaligned.	Adjust sights (Section 7.3).
	Other type of ammunition.	Use another type of ammunition or adjust sights (Section 7.3).
	Sights damaged.	Send weapon in for repair.

11 Protection, packaging and storage



Protection guards the weapon against external influences and maintains its functional reliability even if it is not used for long periods. If the weapon is expected to be stored for more than 6 months, the weapon must be protected.

If the weapon is expected to be stored for not more than 6 months, then it is sufficient to clean the weapon (*Section 9.3*).

11.1 Protecting the weapon

Required auxiliary materials:

- Grease
- Oil
- Oil paper
- *Cleaning pull-throughs*



Clean the barrel from the chamber to the muzzle.

NOTICE

Danger of material damage from incorrect cleaning agents and care products! Incorrect cleaning agents and care products can damage the weapon.

- > When cleaning the weapon, use the specified cleaning agents.
- > Do not use any metallic objects, plastics (nylon, etc.) or chemical cleaning agents (benzine, tetrachlorethylene, trichlor, etc.) to clean the weapon.
- > Do not clean the weapon in an ultrasonic bath.
- 1. Clean weapon (Section 9.3).
- 2. Seal both ends of the barrel (*la-1*) with grease.
- 3. Wrap weapon in oil paper.



11.2 Packaging the weapon

- 1. Unload weapon (Section 8.7).
- 2. Empty the magazine (Section 8.8).
- 3. Package the weapon in appropriate transport container.

11.3 Storing the weapon



Store the weapon and ammunition separately.

- 1. Follow applicable regulations for the storage of weapons and ammunition.
- 2. Whenever the weapon is expected to be stored for more than 6 months, protect the weapon (*Section 11.1*).
- 3. If the weapon is not expected to be stored for more than 6 months, clean the weapon (*Section 9.3*).
- 4. Package the weapon (*Section 11.2*).
- 5. Store the weapon in an enclosed, weather resistant room.

△ WARNING

Risk of accidents caused by unauthorised persons!

Unauthorised persons who have no experience with weapons can cause accidents.

- > Be sure to prevent access to the weapon and ammunition by unauthorised persons, especially children.
- 6. Protect rooms where weapons are stored against break-in and fire.

Whenever the weapon is stored for more than 1 year:

7. Check the grease seal on the barrel and the oil film on the metal parts annually.

12.1 Preparing the weapon for transport

12 Transport and shipping

12.1 Preparing the weapon for transport

- 1. Package the weapon (Section 11.2).
- 2. Secure weapon in vehicle.

NOTICE

Danger of material damage from vibrations!

Vibrations during transport can damage the weapon.

- > During transport, secure the transport container against slipping and damage from outside influences.
- > Avoid impacts and vibration of the weapon.

12.2 Transporting the weapon



Transport weapon and ammunition separately.

> Follow applicable regulations for the transport of weapons and ammunition.

12.3 Shipping the weapon



Ship weapon and ammunition separately.

> Follow applicable regulations for the shipping of weapons and ammunition.



13 Decommissioning and disposal

13.1 Destroying the weapon

> Follow applicable regulations for the decommissioning of weapons and ammunition.

13.2 Disposing of the weapon

> Follow applicable regulations for the disposal of weapons and ammunition.

Rifle	Match Rifle MR223 A1		
Calibre	.223 Rem.		
Operating principle	Semi-automatic, gas-operated		
Bolt system	Locked rotating bolt head		
Cartridge feed	Magazine, 10/20/30 cartridges		
Cartridge case ejection	Right side		
Mode of fire	Single fire		
Dimensions			
Max. length	928 mm		
Min. length	832 mm		
Width	78 mm		
Height ₁	191 mm		
Barrel length ₂	420 mm		
Sight radius	371 mm		
Weight			
Weapon without magazine ₁	approx. 3720 g		
Magazine, 10 cartridges (full) ₃	approx. 265 g		
Magazine, 10 cartridges (empty)	approx. 140 g		
Other data			
Trigger pull	< 25 N		
Muzzle velocity -v ₀ - ₃	approx. 890 m/s		
Muzzle energy -E ₀ - ₃	approx. 1580 J		
Barrel profile / twist / conformity	6x groove/land profile, 178 mm right-hand twist / C.I.P.		

- 1 without rear sight / front sight folded down
- ² without muzzle thread protector
- 3 SWISS P Target 69gr HPBT ammunition

Technical data



No Compromise

Quality . Innovation . Service . Safety



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