# Semi-automatic rifles
# SG 550 SP and SG 551 SP
# Caliber 5,56 mm (.223)

swiss arms
SAN Swiss Arms AG

## Manual

Edition 1.01

## Safety warnings

# Safety warnings

## SAFETY WARNING

The safety warnings in this booklet are important. By understanding the dangers inherent in the use of any firearm, and by taking the precautions described herein, you can enjoy complete safety in the use of your Rifle. Failure to heed any of these warnings may result in serious injury to you or others, as well as severe damage to the firearm or other property.

## Dangerous Weapons

PISTOLS, REVOLVERS, SHOTGUNS and RIFLES are classified as FIREARMS or DANGEROUS WEAPONS and are sold by us with the specific understanding that we are not responsible in any manner whatsoever for their safe handling or resale under local laws and regulations. SAN Swiss Arms shall not be responsible in any manner whatsoever for malfunctioning of the firearm, for physical injury or for property damage resulting in whole or in part from (1) criminal or negligent discharge, (2) improper or careless handling, (3) unauthorized modifications, (4) defective, improper, hand-loaded, or reloaded ammunition, (5) corrosion, (6) neglect, or (7) other influences beyond our direct and immediate control. This limitation applies regardless of whether liability is asserted on the basis of contract, negligence or strict liability (including any failure to warn). Under no circumstance shall SAN Swiss Arms be liable for incidental or consequential damages, such as loss of use of property, commercial loss and loss of earnings or profits.

## 13 commandments of firearms safety

**1** ALWAYS treat every gun as if it were loaded.

**2** ALWAYS be sure the barrel is clear of any obstruction.

**3** ALWAYS be sure of your backstop, what lies beyond and the safety of bystanders before you shoot.

**4** ALWAYS use clean, dry, original factory-made ammunition of the proper type and caliber for your gun.

**5** ALWAYS wear ear protection and safety glasses when shooting.

**6** ALWAYS carry your gun so that you can control the direction of the muzzle if you fall or stumble.

**7** NEVER shoot at a flat surface or water.

**8** DO NOT leave an unattended gun loaded. Guns and ammunition should be stored separately, locked if possible, beyond the reach of children and careless adults.

**9** NEVER allow your firearm to be used by anyone who has not read and understood this instruction and Safety manual.

**10** DO NOT point any gun, loaded or unloaded, at any undesired target.

**11** NEVER fire your rifle near an animal unless it is trained to accept the noise: an animal's startled reaction could injure it or cause an accident.

**12** NEVER drink alcoholic beverages or take drugs before or during shooting, as your vision and judgement could be seriously impaired making your gun handling unsafe.

**13** ALWAYS seek a doctor's advice if you are taking medication, to be sure you are fit to shoot and handle your rifle safely.

**Protect your eyes and ears**

Always wear adequate safety glasses and ear plugs or "earmuff" type protectors whenever you are shooting. Always make certain that persons close to you are similarly protected.
Unprotected eyes may be injured by powder gas, carbon residue, lubricant, metallic particles or similar debris which may emanate occasionally from any firearm in normal use.
Without ear protection, repeated exposure to shooting noise may lead to cumulative, permanent hearing loss.

**Ammunition**

**1** Use only high quality, original factory-manufactured ammunition. Do not use cartridges that are dirty, wet, corroded, bent, or damaged. Do not oil cartridges. Do not spray aerosol-type lubricants, preservatives, or cleaners directly onto cartridges or where excess spray may flow into contact with cartridges. Lubricant or other foreign matter on cartridges can cause potentially dangerous ammunition malfunctions. Use only ammunition of the caliber for which your firearm is chambered. The proper caliber is permanently engraved on your firearm; never attempt to use ammunition of any other caliber.

**2** The use of reloaded, "remanufactured", hand-loaded, or other non-standard ammunition voids all warranties. Reloading is a science and improperly loaded ammunition can be extremely dangerous. Severe damage to the firearm and serious injury to the shooter or to others may result. Always use ammunition that complies with the industry performance standards established by the Sporting Arms and Ammunition Manufacturers' Institute, Inc. of the United States (SAAMI).

**3** Firearms may be severely damaged and serious injury to the shooter or to others may result from any condition causing excessive pressure inside the chamber or barrel during firing. Excessive pressure can be caused by obstructions in the barrel, propellant powder overloads, or by the use of incorrect cartridges or defectively assembled cartridges. In addition, the use of a dirty, corroded, or damaged cartridge can lead to a burst cartridge case and consequent damage to the firearm and personal injury from the sudden escape of high-pressure propellant gas within the firearm's mechanism.

**4** Immediately stop shooting and check the barrel for a possible obstruction whenever:
– You have difficulty in, or feel unusual resistance in, chambering a cartridge, or
– A cartridge misfires (does not go off), or
– The mechanism fails to extract a fired cartridge case, or
– Unburned grains of propellant powder are discovered spilled in the mechanism, or
– A shot sounds weak or abnormal.

In such cases it is possible that a bullet is lodged part way down the barrel. Firing a subsequent bullet into the obstructed barrel can wreck the firearm and cause serious injury to the shooter or to bystanders.

**5** Bullets can become lodged in the barrel:
- If the cartridge has been improperly loaded without propellant powder, or if the powder fails to ignite, (ignition of the cartridge primer alone will push the bullet out of the cartridge case, but usually does not generate sufficient energy to expel the bullet completely from the barrel), or
- If the bullet is not properly seated tightly in the cartridge case. When such a cartridge is extracted from the chamber without being fired, the bullet may be left behind in the bore at the point where the rifling begins. Subsequent chambering of another cartridge may push the first bullet further into the bore.

**6** If there is any reason to suspect that a bullet is obstructing the barrel, immediately unload the firearm and look through the bore. It is not sufficient to merely look in the chamber. A bullet may be lodged some distance down the barrel where it cannot easily be seen.

IF A BULLET IS IN THE BORE, DO NOT ATTEMPT TO SHOOT IT OUT BY USING ANOTHER CARTRIDGE, OR BY BLOWING IT OUT WITH A BLANK OR ONE FROM WHICH THE BULLET HAS BEEN REMOVED: SUCH TECHNIQUES CAN GENERATE EXCESSIVE PRESSURE, WRECK THE FIREARM AND CAUSE SERIOUS PERSONAL INJURY.
If the bullet can be removed with a cleaning rod, clean any unburned powder grains from the bore, chamber, and mechanism before resuming shooting. If the bullet cannot be dislodged by tapping it with a cleaning rod, take the firearm to a gunsmith.

**7** Dirt, corrosion, or other foreign matter on a cartridge can impede complete chambering and may cause the cartridge case to burst upon firing. The same is true of cartridges which are damaged or deformed.

**8** Do not oil cartridges, and be sure to wipe the chamber clean of any oil or preservative before commencing to shoot. Oil interferes with the friction between cartridge case and chamber-wall that is necessary for safe functioning, and subjects the firearm to stress similar to that imposed by excessive pressure.

**9** Use lubricants sparingly on the moving parts of your firearm. Avoid excessive spraying of any aerosol gun care product, especially where it may get on ammunition. All lubricants and aerosol spray lubricants in particular, can penetrate cartridge primers and cause misfires. Some highly penetrative lubricants can also migrate inside cartridge cases and cause deterioration of the propellant powder; on firing, the powder may not ignite. If only the primer ignites, there is danger that the bullet may become lodged in the barrel.

**NEVER completely trust any safety**

**1** Your firearm comes equipped with an effective, well-designed safety device. HOWEVER, NEVER RELY COMPLETELY ON ANY SAFETY MECHANISM. It is NOT a substitute for cautious gun handling. NO safety, however positive or well-designed, should be totally trusted. Like all mechanical devices, the safety is subject to breakage or malfunction and can be adversely affected by wear, abuse, dirt, corrosion, incorrect assembly, improper adjustment or repair, or lack of maintenance. Moreover, there is no such thing as a safety which is "child-proof" or which can completely prevent accidental discharge from improper usage, carelessness, or "horseplay". The best safety mechanism is your own good sense; USE IT! Always handle your firearm as though you expect the safety NOT to work!

**2** While handling any firearm, do not allow it to point at any part of your body or at another person. No harm will result if you obey this rule, even if an accidental discharge occurs.

**3** Never carry this rifle with a cartridge in the chamber and the trigger-cocked.

**4** Always keep your finger off the trigger and point the muzzle in a safe direction when operating the gun release.

**Loading**

**1** Always make sure the muzzle is pointed in a safe direction!

**2** Never attempt to load or unload any firearm inside a vehicle, building or other confined space (except a properly constructed shooting range). Enclosed areas frequently offer no completely safe direction to point the firearm; if an accidental discharge occurs, there is great risk of injury or property damage.

**3** Before loading, always clean all grease and oil from the bore and chamber, and check to be certain that no obstruction is in the barrel. Any foreign matter in the barrel could result in a bulged or burst barrel or other damage to the firearm, and could cause serious injury to the shooter or to others.

**Firing**

**1** Keep the muzzle pointed in a safe direction and your finger away from the trigger when cocking any firearm.

**2** Never carry about or leave unattended any firearm which is cocked and ready to fire! When cocked, it will fire from slight pressure on the trigger. An accidental discharge could easily result if you fall or drop the firearm, or if the firearm is struck or disturbed by someone or something.

**3** Never fire any firearm with your finger, hand, face, or other part of your body over or adjacent to the ejection port, or in any position where you may be struck by reciprocating movement of the breech. Both the ejection of empty cartridge cases and the movement of the breech are part of the normal operating cycle of firearms, and pose no safety hazard to the shooter if the firearm is held in a normal grip and fired at arm's length.

**4** Never allow other persons to stand beside you where they might be struck by an ejected cartridge case. The case is hot, and may be ejected with sufficient force to cause a burn or cut or injure an unprotected eye. Make certain there is a clear, unobstructed path for safe ejection of the fired case. Remember, the case may bounce off a hard object nearby and strike you or someone else.

**5** If, while shooting, your firearm develops a mechanical malfunction or binding, or "spits" powder gas, or if a cartridge primer is punctured or a cartridge case is bulged or ruptured, or if the report on firing does not sound quite right, STOP SHOOTING IMMEDIATELY! It may be dangerous to continue. UNLOAD THE FIREARM – do NOT try "one more shot". Take the firearm and the ammunition to a gunsmith for examination.

**6** While shooting any firearm, an unfired cartridge or fired cartridge case may occasionally become jammed between the slide and the barrel. Clear the jam as follows, WHILE KEEPING THE MUZZLE POINTED IN A SAFE DIRECTION: Remove the magazine, then pull back the slide and lock it to the rear by pushing up the slide release. The jammed cartridge or case now can be removed by shaking it out or by picking it out with the fingers.

**Unloading**

**1** Always make sure the muzzle is pointed in a safe direction!

**2** Remember to clear the chamber after the magazine has been removed.

**3** Never assume that any gun is unloaded until you have personally checked it!

**4** After every shooting practice, make a final check to be certain the firearm is unloaded before leaving the range.

**Transport and storage**

When transporting your firearm to and from shooting activities, keep it unloaded for your safety and for the safety of others.

When storing your firearm, keep it separated from ammunition, under lock and key if possible, and out of the reach of children and other inexperienced or unauthorized persons.

**Maintenance**

All firearms require periodic maintenance and inspection which may reveal a need for adjustment or repair. Have your firearm checked by a competent gunsmith annually even if it seems to be working well, since breakage, improper functioning or corrosion of some components may not be apparent from external examination. If you notice any mechanical malfunction, do NOT continue to use the firearm. UNLOAD the firearm and take it to a competent gunsmith immediately for a thorough examination. Similarly, if water, sand, or other foreign matter enters the internal mechanism, immediately dismantle the firearm for a complete and thorough cleaning. Failure to keep your firearm clean and in proper working order can lead to a potentially dangerous condition and an accident causing serious bodily injury or property damage may result.

**Care and cleaning**

**1** Your firearm is delivered factory packaged and preserved with a light coating of protective grease and oils. Before loading make certain that all packing grease and oil has been cleaned from the bore and exposed mechanism.

**2** Before you begin to disassemble your firearm for cleaning, always double-check to make sure it is unloaded!

**3** After cleaning always check to be sure that no cleaning patch or other obstruction remains in the bore or chamber!

**Parts**

Our Service Department maintains a full complement of replacement parts. Even though most gunsmiths have the knowledge, training and ability to make the necessary repairs to your firearm, the skill and workmanship of any particular gunsmith is totally beyond our control. Should your firearm ever require service, we strongly recommend that you return it to SIGARMS INC. Follow the instructions outlined below. Remember, unauthorized adjustments of parts replacement can void your warranty.

A firearm is a precision instrument and some replacement parts will require individual fitting to insure correct operation.

A wrong part, improper fitting or incorrect mechanical adjustment may result in an unsafe condition or dangerous malfunction, damage to the firearm, or possible serious injury to the shooter or to others. IF ANY PART IS ORDERED WITHOUT RETURNING THE FIREARM TO SIGARMS INC, the customer bears full responsibility for ensuring that the part supplied is correct for his particular firearm and is properly installed and fitted by a qualified gunsmith. SAN Swiss Arms and SIGARMS INC CANNOT BE RESPONSIBLE FOR THE FUNCTIONING OF ANY FIREARM IN WHICH REPLACEMENT PARTS ARE INSTALLED BY OTHERS.

**SIGARMS INC service policy**

Before shipment your firearm was carefully inspected and test fired in order to ensure that it conformed to our specifications and standards. Should your firearm require adjustment, repair or refinishing, we strongly recommend that you return it to SIGARMS INC for factory service.

# Safety warnings

If there is any question regarding the performance of your firearm, please write to SIGARMS INC. Service Department fully describing all circumstances and conditions involved. If our Service Department makes the determination that your firearm requires factory service, you will be so advised and will be given instructions for the most expeditious handling of your shipment.

Our Service Department will give your firearm a complete inspection, and evaluate the problem(s) specified in your letter.If the work required is not covered under the terms of our "Limited Warranty" (a copy is enclosed with your firearm), you will receive an actual cost quotation, not an estimate. Any repair work must be authorized by you, and no work will be done without your express approval.

To return any firearm to us for adjustment, repair or refinishing, please follow these suggestions to expedite service:

**1** Only Federally licensed dealers may ship handguns via the U.S. Mail. Handguns mailed by individuals are confiscated by the Post Office.

**2** Federal law permits you to return your firearm to the manufacturer for service via common carriers such as United Parcel Service (UPS) or, if your firearm is a rifle or shotgun, by U.S. Mail. However, state and local firearms laws vary greatly; you should consult your local prosecuting attorney regarding any restrictive laws in your jurisdiction regarding your shipment or receipt of firearms. With the above in mind, it is strongly recommended that any firearm sent to us for repair be sent through a Federally licensed dealer.

**3** All firearms must be shipped to us prepaid. WE WILL NOT ACCEPT COLLECT SHIPMENTS.

**4** Firearms returned for repair should be addressed to:
SIGARMS INC
Industrial Drive
Exeter, NH 03833

**5** Be sure to enclose a letter stating serial number, caliber and barrel length of your firearm. Also state nature of trouble experienced or work required. Merely stating "defective" or "repair as necessary" is inadequate information. Be specific and enclose copies of any previous correspondence. Work (otherthan warranty repair) will bear a minimum labor charge of $ 10.00.

**6** FIREARMS MUST BE SHIPPED UNLOADED. Double-check the chamber of your firearm before shipping. If firearms are sent to SIGARMS INC in a loaded condition, we are required by law to notify the Federal authorities.

**7** DO NOT include telescopic sights, custom stocks, slings, or other accessories with any firearm shipped to us.

**Semi-automatic rifles SG 550 SP and SG 551 SP**

**Caliber 5.56mm (.223)**

# Manual

# Contents

**I. Safety rules**

– The shooter should always consider the weapon as loaded and ready to fire until he has personally convinced himself of the contrary by unloading it.

– Use only commercial grade ammunition.

– Use only ammunition that corresponds to the caliber of the weapon.

– During all manipulations point the weapon in a safe direction.

– Never aim the weapon at any object you do not intend to shoot at.

– Do not load the weapon until immediately before use.

– Do not place your finger on the trigger until the target has been sighted.

– Unload weapon immediately after shooting is finished.

– Detach bolt and magazine from the weapon prior to transportation.

– Keep weapon and ammunition separately and under lock and key.

– Never leave the weapon unattended and keep it out of the reach of children.

1

2

## 2. Weapon theory

### *2.1. Weapon description*

2.1.1. General

The semi-automatic SG 550/551 SP is a gas operated weapon with rotary bolt mechanism. The operation and maintenance of the standard version SG 550 SP and the short version SG 551 SP are identical.

*SG 550 SP (1)*

Standard version with folding butt, bipod and carrying sling.

*SG 551 (2)*

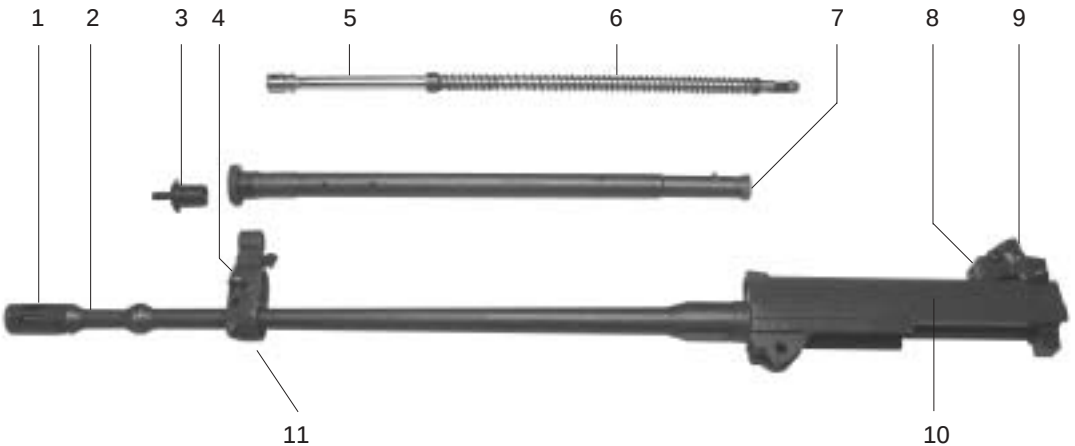
Short version with folding butt.

## 2.1.2. Barrel with receiver and gas system

The barrel is screwed into the receiver. The muzzle is fitted with a flash suppressor. The front sight mount, which is fixed to the barrel, contains the gas port, accepts the front sight and gas system and also serves as a support for the handguard.
The receiver guides the bolt and houses the locking system. The rear sight mount with diopter drum are also mounted on top of the receiver.

*Barrel with receiver and gas system.*

1 Flash suppressor
2 Barrel
3 Gas valve
4 Front sight
5 Gas piston
6 Recoil spring
7 Gas tube
8 Rear sight mount
9 Diopter drum
10 Receiver casing
11 Front sight mount



2.1.3. Bolt

The bolt consists of two main parts:
– Bolt head
– Bolt carrier

*Bolt head*

The bolt head locks the bolt assembly, houses the firing pin and the extractor and feeds the cartridges to the chamber.

*Bolt head*

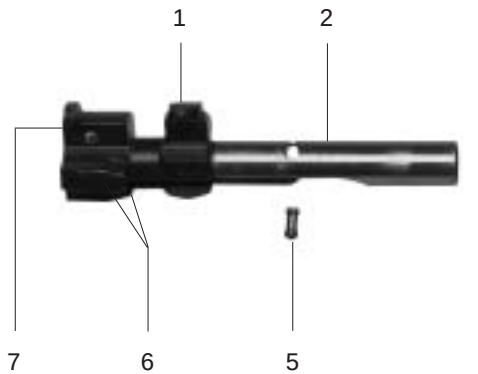
1 Control cam
2 Bolt head
3 Firing pin
4 Firing pin spring
5 Firing pin stud
6 Locking lug
7 Extractor

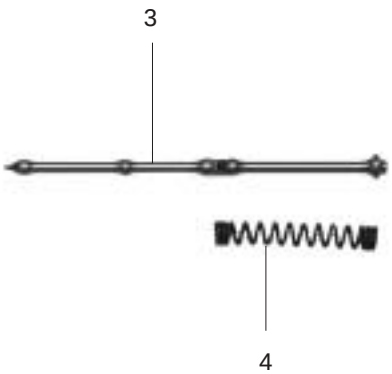
*Bolt carrier*

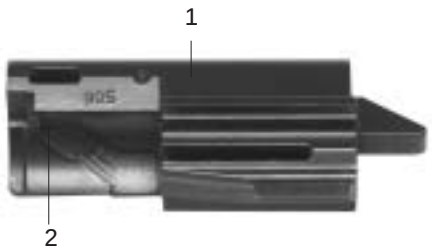
The bolt carrier guides the bolt head, controls the locking and unlocking by means of the cam, connects the bolt to the gas system and cocks the hammer.

*Bolt carrier from left*

1 Bolt carrier
2 Cam



*Bolt carrier from right*

1 Cocking lug
2 Bolt carrier
3 Bolt handle catch
4 Bolt handle

2.1.4. Handguard and bipod

The handguard protects the barrel and the gas system from damage and provides protection from burning. The bipod on the SG 550 SP can be used to support the rifle when firing.

*Handguard with bipod*

1 Handguard, upper part
2 Handguard, lower part
3 Bipod

1

2

3

2.1.5. Trigger assembly and butt

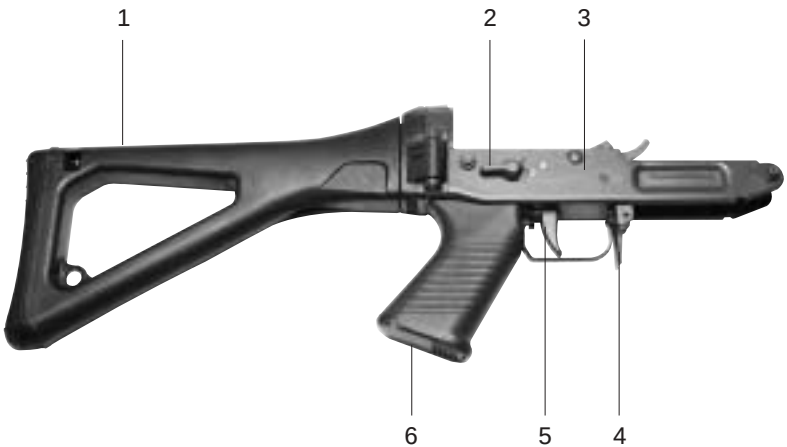
The trigger assembly comprises all the parts required for firing a shot. The safety lever on both sides can be set to two positions:

Position "S" = The weapon is locked in the safe position.
Position "1" = The weapon will fire semi auto.

By pivoting the trigger guard to the right or left side the trigger becomes accessible for shooting with mittens. For safety reasons the trigger guard must not be shifted until just before firing the weapon, and after firing it should be immediately replaced in the normal position.
The folding butt is made of high strength synthetic material. In the firing position it is held by the butt locking mechanism, and when folded it is held by spring pressure on the hand-guard.

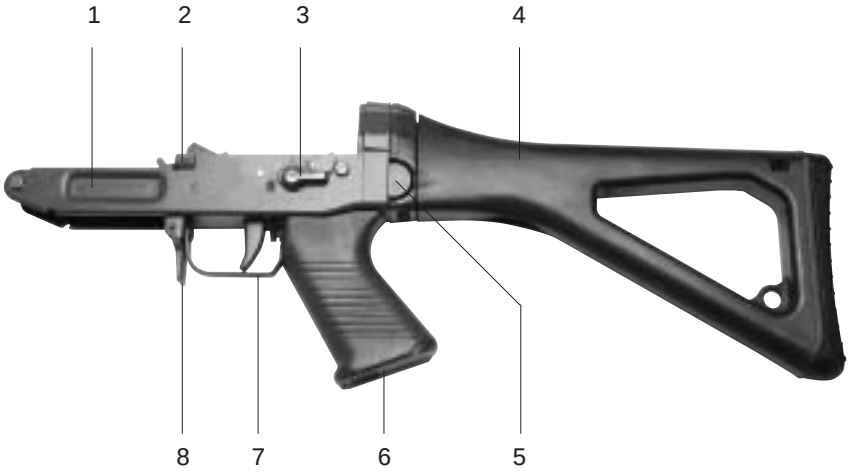
*Trigger assembly and butt from right*

1 Butt
2 Safety lever
3 Trigger casing
4 Magazine catch
5 Trigger
6 Pistol grip



*Trigger assembly and butt from left*

1 Trigger casing
2 Bolt catch
3 Safety lever
4 Butt
5 Butt catch
6 Pistol grip
7 Trigger guard
8 Magazine catch



2.1.6. Sights mechanism

The sights mechanism comprise the rear sight and foresight.
The rear sight is made up of the:
– Rear sight mount
– Diopter drum
– Windage correction screw
– Elevation correction screw

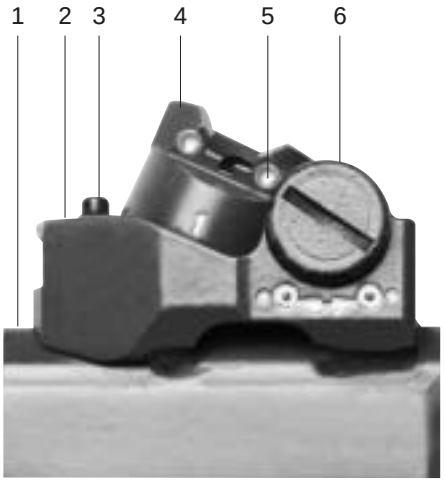
The diopter drum can be set to positions “1”, “2”, “3” and “4”, corresponding to firing ranges 1OO m, 2OO m, 3OO m and 4OO m. The positions marked in white correspond to aiming point = point of impact. The red “3” position corresponds to aiming point “black 6” at 3OOm.

Sighting position “1” is designed for immediate firing, and two luminous dots are fitted laterally for aiming at night.

The foresight with tunnel is fixed to its mount with the foresight screw. A folding foresight is provided for use at night with the night sights on the diopter drum.

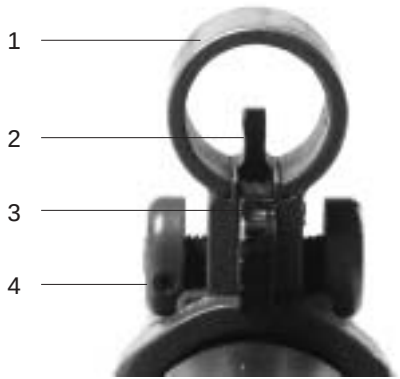
*Rearsight assembly*

1 Receiver casing
2 Rear sight mount
3 Elevation correction screw
4 Rear sight drum
5 Night sight
6 Windage correction screw




*Front sight*

1 Front sight tunnel
2 Front sight
3 Night front sight
4 Front sight screw

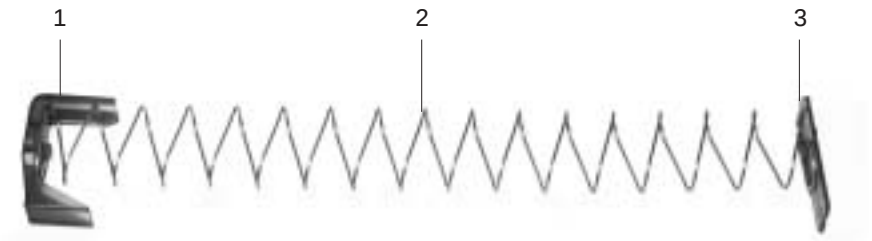


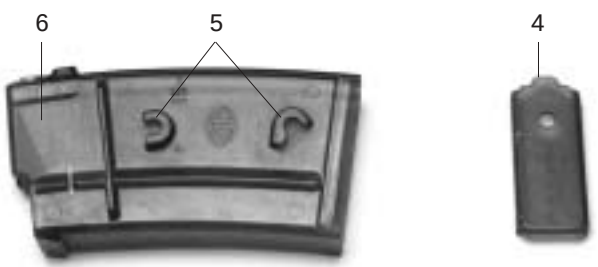
2.1.7. Magazine

The magazine is transparent and has a capacity of twenty rounds. On either side of the casing there is a mechanism which allows several magazines to be connected if required.

*Magazine, dismantled*

1 Feeder
2 Magazine spring
3 Magazine floorplate catch
4 Magazine floorplate
5 Magazine coupling lugs
6 Magazine casing



### *2.2. Technical specifications*

| | | SG 550 SP | SG 551 SP |
|---|---|---|---|
| *Dimensions* | | | |
| Caliber | inches | .223 | .223 |
| Total length | inches | 39.29 | 34.53 |
| Length with butt folded | inches | 30.39 | 25.63 |
| *Barrel* | | | |
| Barrel length | inches | 20.78 | 16.02 |
| Number of grooves | | 6 | 6 |
| Rifling: | | | |
| SG 550-1 SP/SG 551-1 SP: right | inches | 10 | 10 |
| SG 550-2 SP/SG 551-2 SP: right | inches | 7 | 7 |
| *Sights* | | | |
| Type | | diopter sights | |
| Sight base | inches | 21.26 | 18.34 |
| Range adjustment | m | 100 to 400 | |
| | yards | 110 to 440 | |
| *Weight* | | | |
| Weapon incl. empty magazine | lb | 9.03 | 7.49 |
| Empty twenty-round magazine | oz | 3.35 | 3.35 |
| Empty thirty-round magazine | oz | 3.87 | 3.87 |
| Loaded twenty-round magazine | oz | 11.99 | 11.99 |
| Loaded thirty-round magazine | oz | 16.75 | 16.75 |

Subject to change without notice.

***2.3. Accessories***

Every SG 550/551 SP has the following accessories:
– carrying sling
– loading aid
– cleaning kit

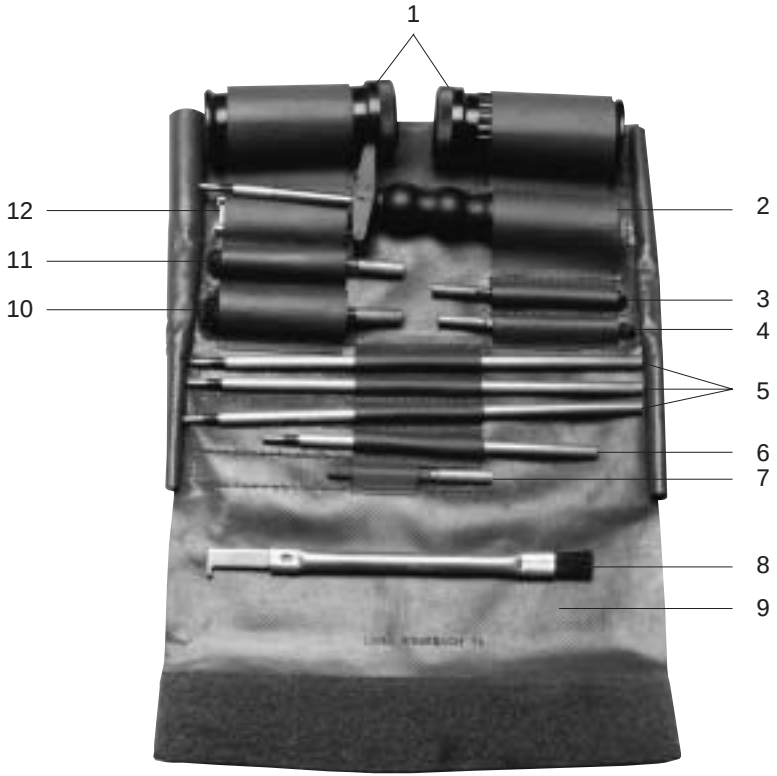
*Carrlying sling in woven nylon with two hooks, an adjustment clip and a buckle*

*Loading tool*

# Accessories

*Cleaning kit*

1 Weapon grease tube
2 Cleaning rod handle
3 Grease brush
4 Barrel brush
5 Cleaning rod sections
6 Extension rod with ferrule
7 Cleaning jag
8 Cleaning brush
9 Cleaning brush
10 Gas tube brush
11 Chamber cleaning tool
12 Barrel inspection mirror



## 3. Handling

### *3.1. Important instructions*

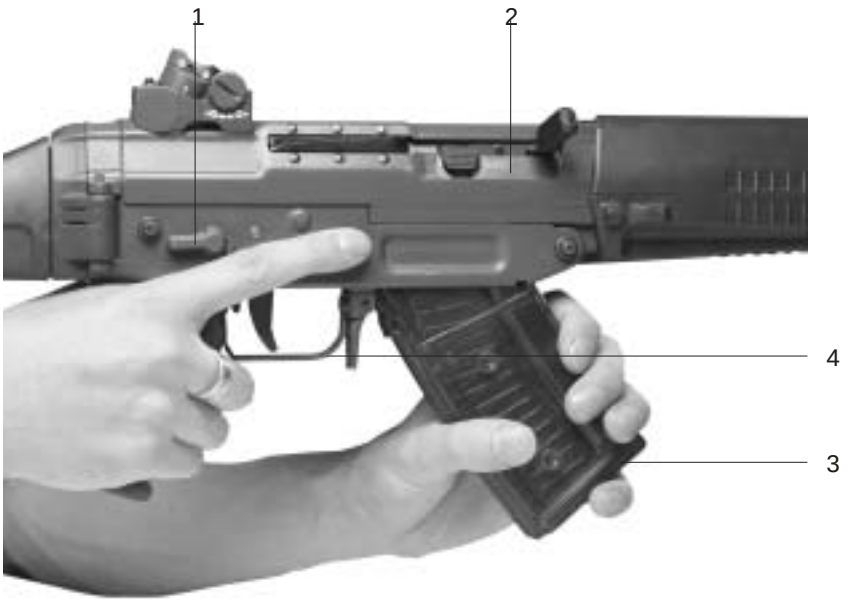
– Before manipulating the weapon, make sure it is safe and that the trigger guard is put in vertical position.
– Use only commercial grade ammunition.
– Use only ammunition that corresponds to the caliber of the weapon.
– During all manipulations point the weapon in a safe direction.
– Do not place your finger on the trigger until the target has been sighted.
– Do not load the weapon until immediately before use.
– Unload weapon immediately after shooting is finished.
– Detach bolt and magazine from the weapon prior to transportation.

### *3.2. Loading the weapon*

1. Put the safety lever to position “S”.
2. Swing the trigger guard into the vertical position.
3. Insert the magazine and check that it is properly seated by pressing forward.
4. Carry out loading movement (pull the bolt handle fully back and let it fly forward).

1 Safety lever
2 Bolt
3 Magazine
4 Trigger guard

*Inserting the magazine*



### *3.3. Unloading*

1. Put safety lever to position “S”.
2. Swing trigger guard into vertical position.
3. Remove magazine by pressing magazine catch.
4. Carry out loading movement, with bolt retracted, check for empty chamber.
5. Switch safety lever to “1”, pull trigger (with weapon pointing at target), switch safety lever to “S”.

### *3.4. Changing the magazine*

1. Put the safety lever to position “S”.
2. Swing trigger guard into vertical position.
3. Remove magazine.
4. Insert loaded magazine and check that it is properly seated by pushing forward.

### *3.5. Reloading*

1. Put the safety lever to position “S”.
2. Swing trigger guard into vertical position.
3. Remove empty magazine by pressing magazine catch.
4. Insert loaded magazine and check that it is properly seated by pushing forward.
5. Push the bolt catch up or pull back the bolt handle slightly and allow the bolt to fly forward.

*Check the chamber*

1 Chamber


*Push the bolt catch up*

### *3.6. Filling and coupling of magazines*

3.6.1. Filling the magazine

1. Place loading tool on magazine.
2. Insert the ammunition clip and press cartridges into magazine.
3. Remove loading tool.

*Loading the cartridges into the magazine by means of the loading tool*

3.6.2. Coupling of magazines

1. Hold magazine vertically.
2. With the floorplate of the second or third magazine pointing to the rear, firstly connect the upper lugs, then rotate forward and connect lower lugs.

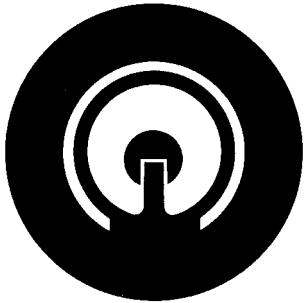
*Coupling of magazines*

### *3.7. Aiming, firing*

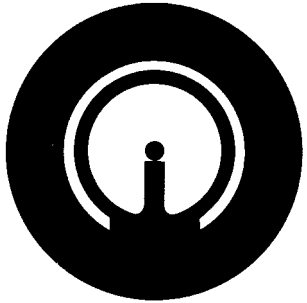
To aim, align the eye, diopter or battle sight, foresight and target. When using the diopter, ensure that the periphery of the foresight tunnel and the diopter aperture are concentric.

At all ranges, the foresight should be aimed at the center of the target. Firing is therefore to point of aim.

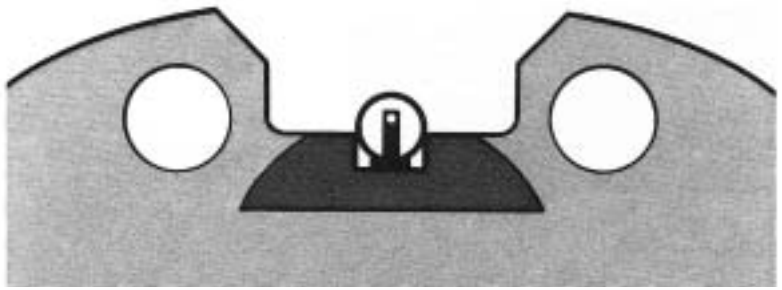
*Sight picture point of aim*



*Bull's eye 6 o'clock with sight setting "red 3" at 300 m*



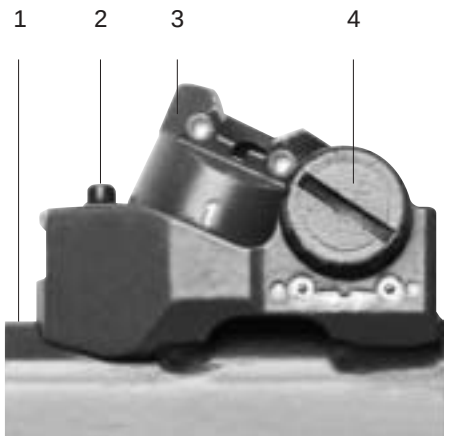
*Sight picture night sight*



### *3.8. Adjusting*

To correct for elevation and windage, the corresponding correction screw is turned with a screwdriver.

By rotating the elevation correction screw and the windage correction screw by one click, the average point of impact in the vertical respectively the horizontal axis is displaced by approximately 0.15 ‰.




*Rear sight*

1 Receiver casing
2 Windage correction screw
3 Rear sight drum
4 Elevation correction screw

*Elevation*

High shots are corrected by turning the elevation correction screw to the left. Low shots are corrected by turning the screw to the right.

*Correction symbol on rear sight (correction of elevation)*

*Windage*

Shots to the right are corrected by turning the windage correction screw to the left.
Shots to the left are corrected by turning the screw to the right.

*Correction symbol on rear sight (correction of windage)*

| *Firing-range* | *(average point of impact correction per notch)* | |
|---|---|---|
| | SG 550 | SG 551 |
| 100 m | 1,5 cm | 1,8 cm |
| 200 m | 3,0 cm | 3,6 cm |
| 300 m | 4,5 cm | 5,4 cm |
| 400 m | 6,0 cm | 7,2 cm |

To adjust for elevation or windage the corresponding correction screw is turned with a screwdriver.

### *3.9. Gas valve position*

With the SG 550/551 SP, the gas volume required for the function of the weapon can be controlled by the gas valve.

*Position I* (Rib of gas valve in vertical position)

Under normal conditions, firing is effected in this position.

*Gas valve in position I*

*Position II* (Rib of gas valve in slanting position)

When cycling or ejection problems are encountered due to heavy fouling or icing-up, the gas valve is to be turned clockwise as far as the stop. In this position, a larger gas quantity acts on the gas piston.

The adjustment of the gas valve is effected manually, and, in case of a hot or heavily fouled weapon, by means of a cartridge or auxiliary aid.

Firing with gas valve in position II is an exception. As soon as the weapon works, the gas valve must be turned back to position I, otherwise the recoil is intensified and the weapon is unnecessarily stressed.

*Gas valve in position II*

### *3.10. Folding the butt*

Thumb in the butt catch and fold the butt so that it registers with the handguard under spring pressure.


*Butt folded*

1 Butt catch
2 Butt

### *3.11. Firing with mittens*

For firing with mittens the trigger guard can be pivoted to the left or right. For safety reasons the trigger guard must be placed in the vertical position before carrying out any manipulations.

*Trigger guard folded*

1 Trigger casing
2 Trigger guard

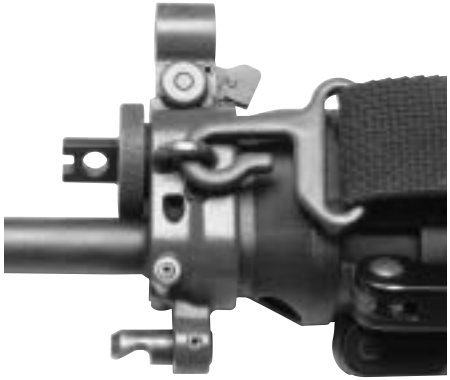
***3.12. Use of accessories***

3.12.1. Carrying sling

One end of the sling hooks into the lug on the foresight mount; the other end is attached to the butt.

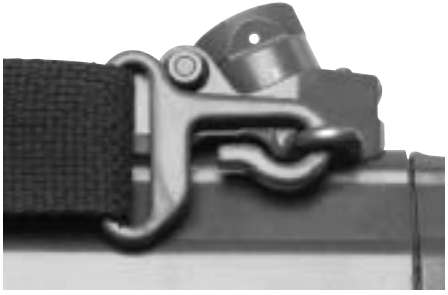
To fix the taut sling, use the clip.

To maintain a taut sling, slip the clip over the sling strap.



*Sling hooked to foresight mount.*

*Sling attachment to the butt*



*Sling hooked to rearsight mount*

*Fix the taut sling*

### *3.13. Field stripping*

1. Unload weapon.
2. Unlock carrying sling.
3. Press the rear trigger casing stud from both sides and withdraw it from the stud head side as far as the stop.
4. Lay the weapon on its left side and swing out the trigger assembly.
5. Withdraw the front trigger casing stud as described in point 3 and remove the trigger assembly.
6. Press down the bolt handle catch and remove the bolt handle.
7. Use the bolt handle to push the bolt to the rear, remove the bolt from the receiver.
8. Twist the bolt head to remove it from the bolt carrier.

*Remove the trigger housing stud*

*Remove bolt handle*

*Push bolt to the rear, using bolt handle*


*Remove bolt head*

1. Push in
2. Rotate

*Remove bolt head*

9. Pull lower handguard to the rear and remove, swing out the bipod legs and remove laterally
10. Lift upper handguard at the rear and remove at the front sight mount.

*Lift off lower handguard*

*Remove bipod carrier from the handguard*

11. Press in the gas-valve catch, remove the valve by simultaneously rotating it and pulling it forward.
12. Push the gas piston and recoil spring forward, reaching through the ejection port, and extract them from the front.
13. Press down the gas-valve catch and rotate the gas tube through 90° so that the notch on the headpiece lies on the barrel.
14. Pull the gas tube out from the front end.

*Remove gas valve*

15. Remove the firing pin:
    – Hold the bolt head against a firm surface in such a way that the firing pin is completely pressed into the bolt head.
    – Remove the retention stud using a knife-edge and extract the firing pin and spring.

*Push in gas piston*

*Remove firing pin*

16. Dismantle the magazine:
    – Press in the retention lug of the magazine floorplate with the thick end of the firing pin. Pull the magazine floorplate out from the rear.
    – Pull out the floorplate catch along with the spring and the follower.

*Dismantle magazine*

*SG 550 SP dismantled*

### *3.14. Assembly*

The weapon should always be reassembled in the reverse order of stripping:

1. Assemble magazine.
2. Insert firing pin:
   – Slip the firing pin and spring into the bolt head. Ensure that the notch is correctly placed to accept the retention stud.
   – Push the firing pin into the bolt head and secure it with the retention stud as soon as the notch is flush with the bore.
3. Install the gas tube:
   – Slip the gas tube (flange notch pointing downwards) through the bore of the foresight mount and insert the end into the corresponding opening in the receiver.
   – Press the gas tube against the foresight mount and turn it through 90° to the right so that the retention stud of the gas valve registers in the flange.
4. Insert the piston with recoil spring:
   – Insert the piston, with its retention notch slide facing against the barrel, into the gas tube.
   – Check with the forefinger that the gas piston moves freely in the tube.

*Insert firing pin*

Correct position of the notch

*Check correct position with index finger*

*Correct position of detention notch*

5. Install the gas valve:
   – With the notch for the retention stud facing downwards in the flange of the gas tube.
   – Press in the catch and turn the gas valve to the right up to positon I.
   – Check that the gas valve catch has registered.

*Install gas valve*

6. Install the upperhandguard.
7. Attach the bipod.
8. Install lower handguard.
9. Assemble bolt head and carrier.
10. Insert bolt assembly:
    – Slide bolt head completely to the front by pressing firing pin.
    – lide bolt into receiver casing.

*Inserting the bolt assembly*

11. Insert the bolt handle into its slot in the bolt carrier and check that it has registered with the catch.
12. Install trigger casing:
    – Ensure that the holes in the front trigger casing stud overlap.
    – Press the trigger casing stud through as far as the stop.
    – Tilt up the trigger casing and fix with rear trigger casing stud.
13. The function check should be carried out in accordance with Section 3.15.

### *3.15. Function check*

The function check described below is to be made after every stripping.

1. Unload per Section 3.3.

2. Make sure that bolt handle is engaged in correct position.

3. Functions:

   a) Safety lever set to “S”, carry out loading movement, pull the trigger: the hammer must not trip, the trigger must be blocked.

   b) Safety lever set to “1”, pull the trigger and hold it: the hammer must trip.
   Carry out a loading movement with trigger being pulled: the hammer must not trip.
   Release the trigger and pull it again: the hammer must trip.

   c) Loading movement: Safety lever on “1”: verify serveral times that there is a discernible pressure point.

4. Insert empty magazine and check firm seating.

5. Bolt catch.

   a) Carry out loading movement: the bolt must be retained in the rear position.

   b) Thumb up the bolt catch: the bolt must run forward.

6. Check engagement of folded butt, pull the trigger and put the weapon on safe.

### *3.16. Procedure in case of malfunction*

Whenever an SG 550/551 SP no longer works due to a malfunction, proceed as follows.

– Carry out loading movement.
– Continue firing.

If the weapon does not fire:

– Insert a fresh magazine.
– Loading action.
– Continue firing.

If the weapon still does not fire:

– Put weapon on safe.
– Remove magazine.
– Loading action, hold bolt in rearmost position, check ejection of cases and, if necessary, remove any jammed cases or cartridges.
– Turn gas valve on position II when weapon is heavily fouled or iced up.
– Insert fresh magazine and load.
– Set safety lever to desired firing mode, continue firing.

If the weapon still will not fire:

– Put weapon on safe.
– Unload per section 3.3.
– Clean weapon in accordance with 4.1.
– Take up firing position.
– Load.
– Set safety lever to desired firing mode, continue firing.

If the weapon cannot be unloaded or the fault rectified by the rifleman in accordance with the operating instructions, a trained expert must be consulted. The following points must be borne in mind:

– If the weapon cannot be unloaded immediately and there is any danger of self-ignition due to a hot barrel (140° C), wait at least 15 minutes.
– The weapon must remain in position as long as it is loaded.
– Spectators and other unnecessary persons must be sent away so that the problem can be tackled carefully without disturbance.
– As long as the weapon is loaded, only trained experts should be allowed to manipulate the weapon.

Malfunctions can largely be avoided by:

– Cleaning the weapon according to item 4.1. after each period of firing, at the latest just after setting the gas valve to position II.
– Carrying out cleaning in accordance with the regulations.
– Loading the magazine correctly.

## 4. Maintenance

### *4.1. Cleaning*

The SG 550/551 SP must be cleaned after each period of shooting. The following sequence must be adhered to:

1. Unload the weapon per Section 3.3.
2. Field strip the weapon (see Section 3.13.)
3. Clean the barrel and cartridge chamber from the rear.
4. Clean the other parts of the weapon.
5. Lubricate the barrel and chamber with gun oil or grease.
6. Smear the other parts of the weapon lightly with gun oil or grease.
7. Reassemble the weapon in accordance with item 3.14.
8. Carry out a function check in accordance with item 3.15.

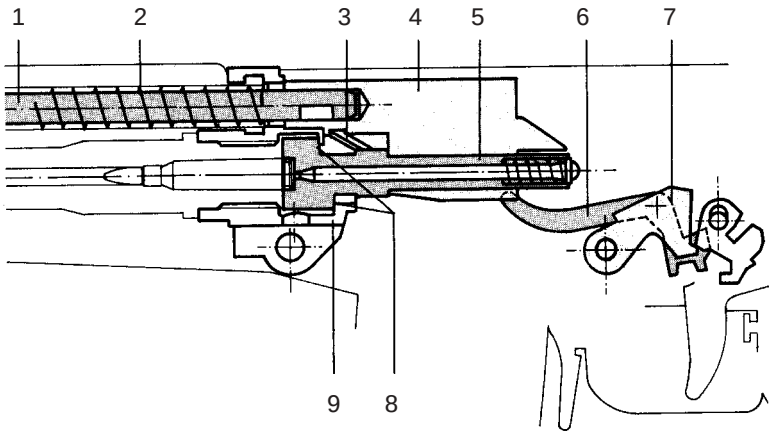
## 5. Function

### *5.1. Weapon function*

5.1.1. Readiness to fire

At the moment of readiness to fire the bolt is closed and locked.

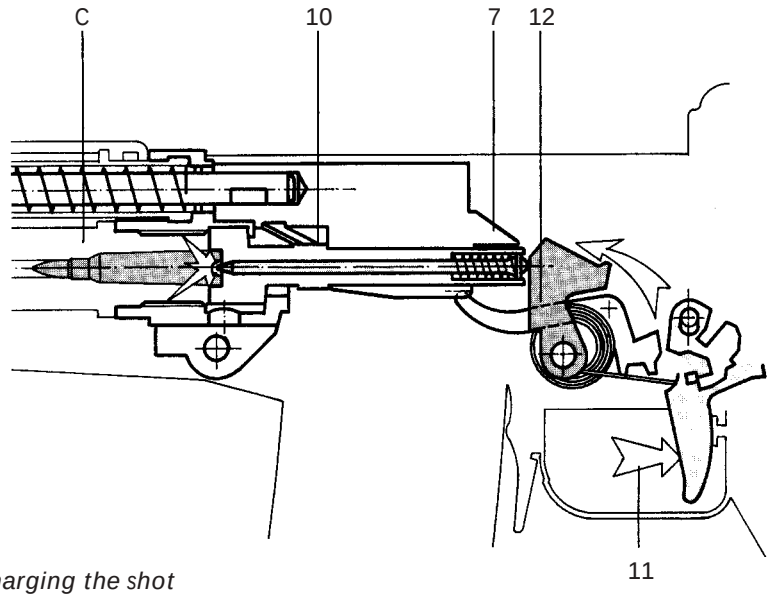
- the recoil spring (2) holds the bolt carrier (4) in the front final position, via the gas piston (1 ).
- the bolt head (5) is rotated by the control cam (3) of the bolt carrier (4) in such a way that its locking lugs (8) engage in the corresponding recesses of the locking piece (9).
- in this position the hammer (7) is cocked.




*Weapon loaded*

5.1.2. Discharging the shot

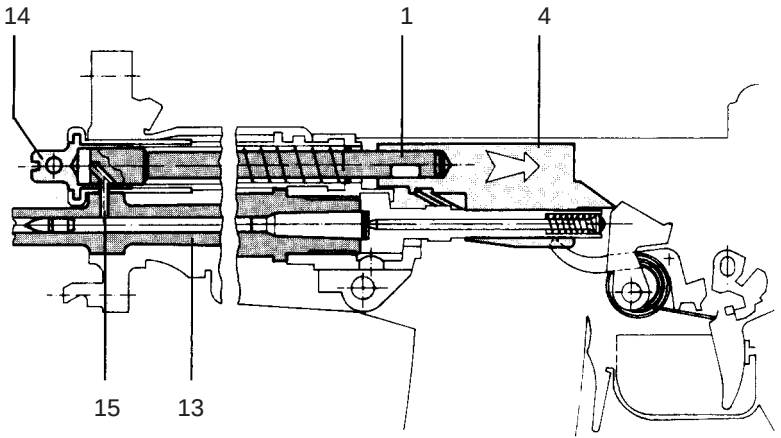
By pressing the trigger (11) the hammer (7) is released. The hammer is under pressure of the hammer spring (12) and strikes the firing pin (10) which, in turn, impacts against the cartridge primer of the cartridge (C) thus discharging the shot.




*Discharging the shot*

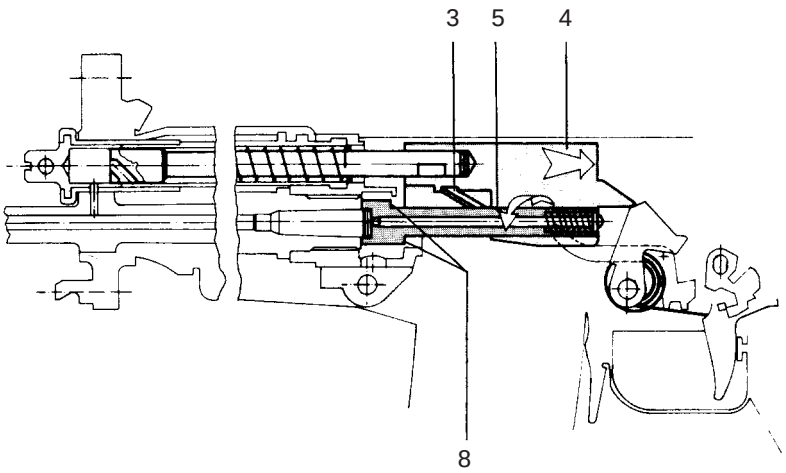
5.1.3. Unlocking and recoil of bolt

The gas pressure, generated by the burning powder, drives the bullet up the barrel (13). As soon as the projectile passes the gas port (15), propellant gas flows through the adjustable gas valve (14). The gas pressure acts on the gas piston (1) which pushes the bolt carrier (4) to the rear.



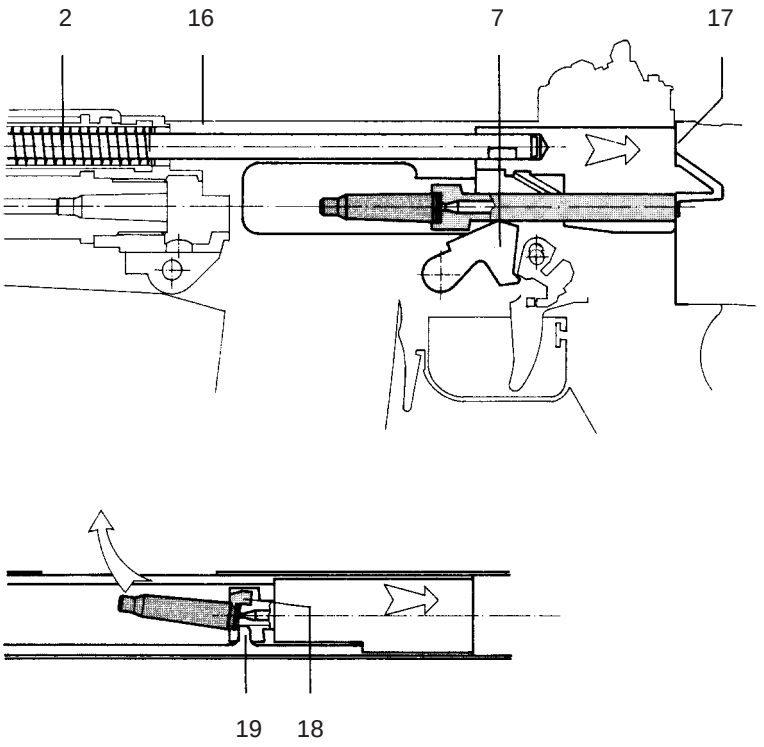

*Bolt carrier recoil begins*

During the rearward motion of the bolt carrier (4) the bolt head (5) is rotated by the control cam (3) so that the locking lugs (8) are disengaged. The bolt is now unlocked.




*Unlocking begins*

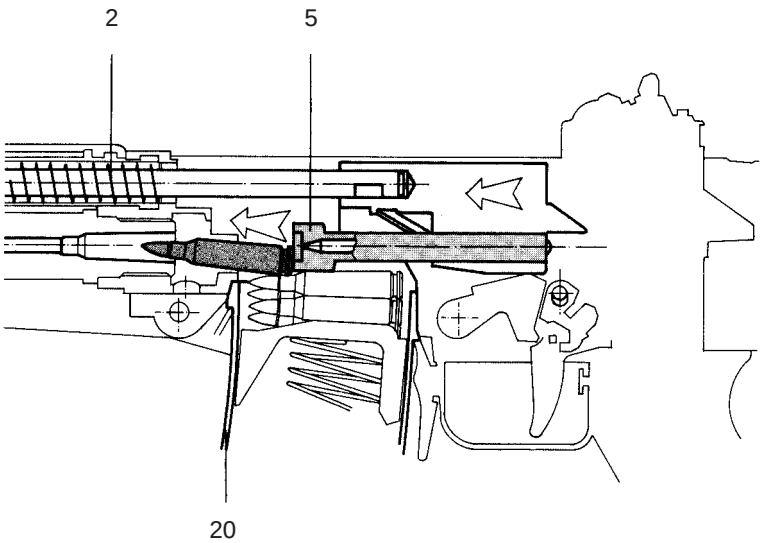
The bolt assembly moves back along the rails in the receiver (16) as far as the stop (17) whereby:
– the recoil spring (2) is compressed;
– the hammer (7) is cocked;
– the extractor (18) extracts the case from the chamber;
– the ejector (19) ejects the case through the port in the receiver (16).




*Case ejection*

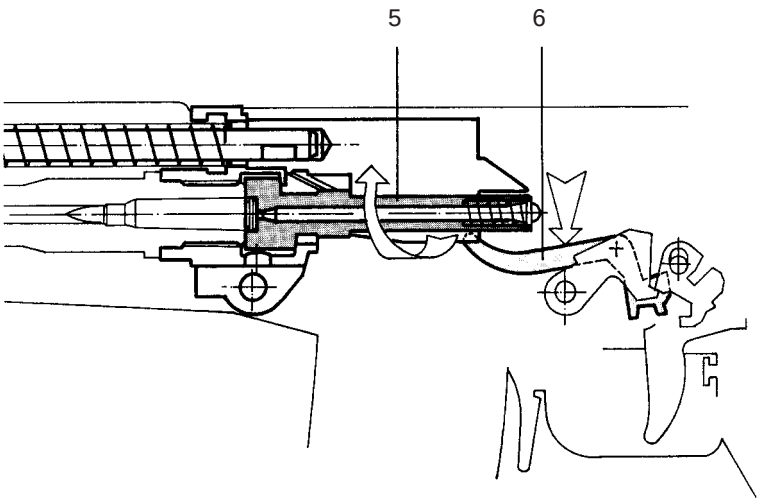
5.1.4. Bolt advance

The force of the compressed recoil spring (2) thrusts the bolt forward. The bolt head (5) feeds the next round from the magazine (20) into the chamber.




*Bolt advance*

In the final stage of the advance, the bolt head (5) locks up. The weapon is ready to be fired.




*Locking*

## 6 .Appendix

### *6.1. List of parts*

*100 Receiver*
111 Receiver casing
141 Bolt cover
142 Rivet
151 Rear sight drum
152 Drum spring
153 Drum stud
154 Luminous ampule*
155 Insert
156 Rubber disc
161 Pivot
162 Drum axle
163 Spring washer
164 Safety washer
165 Leaf spring
171 Windage correction srew
172 Click stud
173 Rear sight spring
174 Limitation ring
175 Spring pin
181 Elevation correction screw

*200 Barrel/gas system*
211 Barrel*
212 Front sight mount*
213 Roll pin
223 Stop pin
224 Compression spring
225 Spring pin
231 Front sight
232 Night front sight
233 Positioning bolt
234 Night front sight spring
235 Spring pin
236 Front sight screw*
237 Front sight disc*
238 Spring pin
241 Gas valve
251 Gas tube
261 Gas piston
262 Recoil spring
263 Spring pin
264 Spring pin
265 Spacer
268 Support washer

*300 Handguard*
311 Upper handguard
321 Lower handguard
330 Bipod complete**
331 Leg, left**
332 Leg, right**
333 Bipod carrier**
334 Stud**
335 Circlip**
336 Click stud**
337 Bipod spring**

*400 Bolt*
411 Bolt head
412 Firing pin
413 Firing pin stud
414 Firing pin spring
415 Extractor
416 Extractor spring
417 Pin
421 Bolt carrier
422 Bolt handle catch
423 Axle of bolt handle catch
424 Spring of bolt handle catch
425 Bolt handle

*500 Trigger assembly*
501 Trigger casing
521 Magazine catch
522 Magazine catch spring
523 Magazine catch pin
524 Bush
541 Pistol grip
542 Floorplate
543 Allen screw
544 Stop nut
545 Nameplate
551 Pressure point screw
552 Stop nut
553 Pressure point spring
554 Trigger guard
555 Trigger guard bearing
561 Hammer
562 Hammer axle
563 Main spring
564 Bolt catch
565 Bolt catch spring
566 Spring bolt
571 Safety lever
572 Safety shaft
573 Locking spring
576 Spring pin
581 Trigger
582 Trigger spring
583 Trigger rod
584 Pivot, trigger
585 Trigger bush
586 Trigger rod spring
591 Trigger casing stud
592 Spring-pressure pin
593 Spring for trigger casing stud
594 Spring pin
595 Pin
596 Cup spring

*600 Butt*
611 Buttstock
612 Butt catch
613 Butt catch spring
614 Clip
615 Spring pin
616 Butt plate

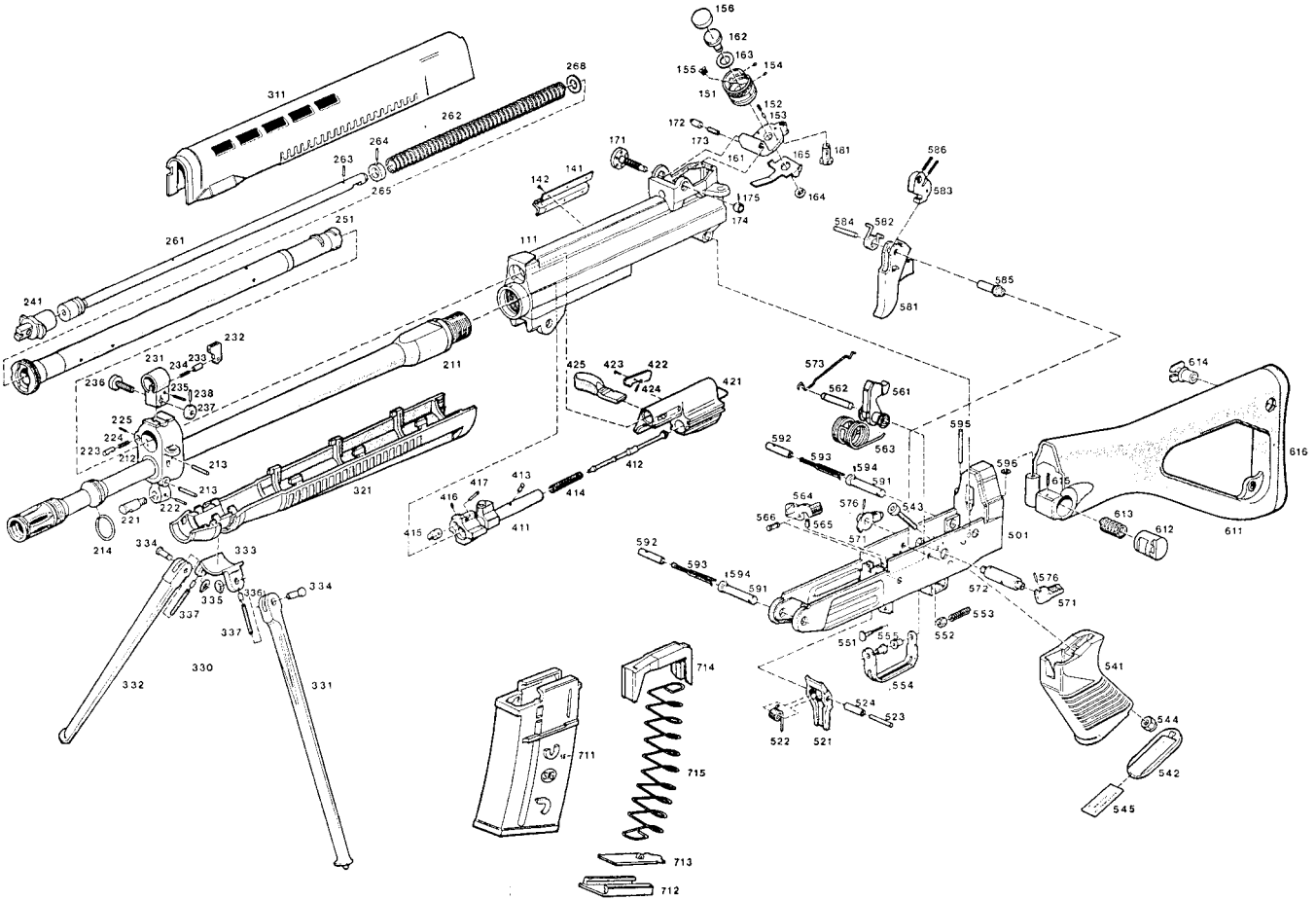
*700 Magazine*
711 Magazine casing
712 Magazine floorplate
713 Floorplate catch
714 Feeder
715 Magazine spring

* Cannot be ordered as individual parts
** Not on SG 551 SP

### *6.2. Exploded drawing*

Information to be supplied when ordering spare parts:
– Type of weapon
– Serial number
– Caliber
– Item number
– Parts designation

Subject to change without notice.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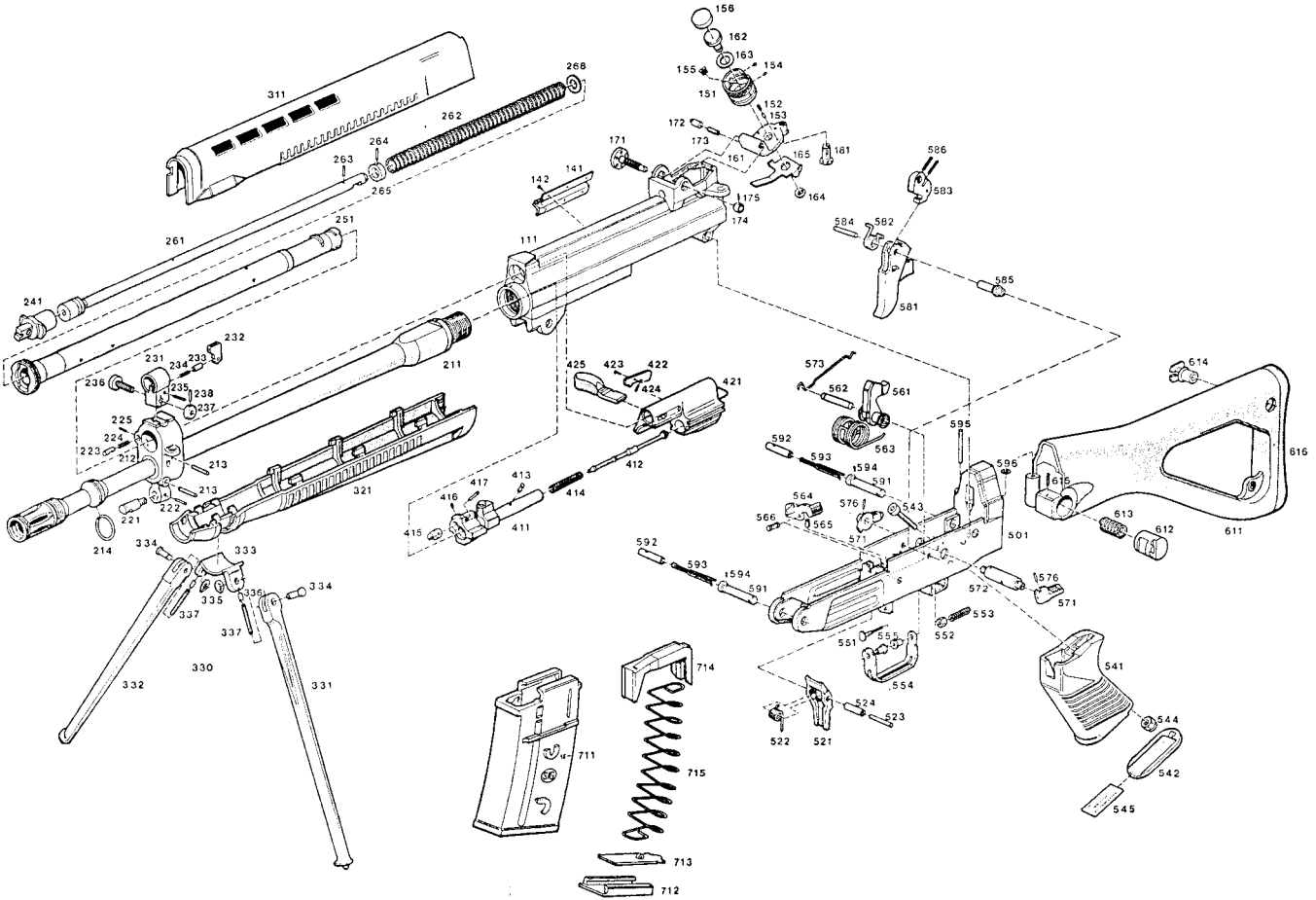
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