

**MODEL
S510TC**
CARBINE & RIFLE
HIGH POWER
5 & 10 SHOT



USERS HANDBOOK

THIS HANDBOOK REFERS TO S510TC HIGH POWER SIDE LEVER MODELS

PLEASE READ THIS MANUAL BEFORE USING YOUR NEW RIFLE, IT CONTAINS IMPORTANT SAFETY INFORMATION AND INSTRUCTION ON ADJUSTMENT AND MAINTENANCE.



Illustrated with optional telescopic sight and mounts.

HIGH POWER MODELS - OVER 12ft/lbs MUZZLE ENERGY

***** SAFETY CODE *****

- 1 - TREAT THIS AIR RIFLE AS IF LOADED.
- 2 - NEVER POINT IT AT ANYONE, EVEN IF UNLOADED.
- 3 - NEVER LEAVE THIS RIFLE UNATTENDED WHEN COCKED OR LOADED.
- 4 - ALWAYS BE SURE OF WHAT LIES BEYOND YOUR TARGET.
- 5 - ALWAYS CONDUCT YOURSELF IN A SPORTSMAN-LIKE MANNER.

ALWAYS BE AWARE THAT YOUR ACTIONS WILL BE UNDER THE SCRUTINY OF OTHER MEMBERS OF THE PUBLIC WHO MAY NOT SHARE YOUR ENTHUSIASM FOR AIR WEAPONS. BAD PRACTICES PROMOTE BAD PUBLICITY. DO NOT JEOPARDISE

WARNING ! - UNAUTHORIZED DISASSEMBLY OF THIS RIFLE WILL INVALIDATE THE MANUFACTURERS WARRANTY

IMPORTANT INFORMATION, PLEASE READ

Before leaving the factory this rifle was Q.A. inspected and test fired using Air Arms PELLETS to check operation and final adjustment.

It was dispatched in a sealed purpose designed box with a contents label on the lid. Air Arms may not be responsible for any damage to the contents or missing items if the box is not original, if it is damaged or the seals are not intact.

Air Arms cannot be held responsible for damage or missing items due to transit damage, mishandling or being tampered with after leaving the factory.

If this rifle is not received in the original box with the seals intact, please examine carefully for any damage, missing tools or documentation.

In the first instance any problems or complaints regarding this product should be referred to the supplier.

The air cylinder is a highly pressurised unit that must not be modified in any way. Serious personal injury may result if this, and the advice below is not followed.

Do not pressurize the cylinder if there are any surface abrasions or dents. Contact Air Arms for advice.

Do not store the rifle in places with, or near sources of high temperature such as fires or boilers.

Do not attempt to dismantle when pressurised.

Do not pressurize beyond the stated filling pressure (see filling instruction section). Damage caused by such action is not covered by the manufacturers warranty.

Only use clean, filtered and dry compressed air. Never use any other gas, particularly industrial or welding gases such as oxygen, carbon dioxide, acetylene, hydrogen, argon, etc.

If compressed air is being used other than from a diving shop, the inside of the cylinder should be inspected for corrosion at least annually. If in doubt contact Air Arms for advice.

In any event the cylinder should be inspected every two to three years depending upon usage. Air Arms can provide this service at a reasonable cost.

To maintain this rifle in good working order it should be serviced annually by a competent gunsmith, your supplier may be able to provide this service or contact air arms.

A reasonable amount of advice will be provided to enable the end user to service their own rifle, however this is at the discretion of Air Arms and may not be given in all cases.

The velocity of this rifle has been set using Air Arms field pellets. If any other make or type of pellet is to be used the rifle must be re-tested with the pellet that is to be used, to ensure the muzzle energy is within the limits determined by current legislation.

Due to the nature of hand pumps and their relative inefficiency in removing moisture from the compressed air, the chances of corrosion damage to the cylinder and other internal components are increased.

Therefore the rifle should be regularly serviced and/or checked for any signs of damage by a competent gunsmith.

Air Arms recommend using a dry pack filter kit on any hand pumps used to fill our air rifles.

This model is a high power version that requires the user to hold a firearms certificate.

If accessories not manufactured by Air Arms are used on this rifle, Air Arms can not be held responsible for any loss of performance.

Contact your supplier or Air Arms for any advice on this matter.

General Maintenance And Lubrication

Fixings

Regularly check the tightness of all fixings. However do not be tempted to over tighten as some parts are made from aluminium and stripped threads may result. Stripped threads are not covered by the manufacturers warranty.

Barrel

For ultimate accuracy, clean and re-lube the barrel frequently. It is difficult to advise how often is best for every circumstance, but every 250 shots is not too often if the desire is to keep the barrel in the best possible condition.

The correct materials are very important. Air arms only use products made by napier. Listed below are the napier products and a more generally available alternative. If possible use napier for the best results.

CLEANER :	'NAPIER GUN CLEANER', ALTERNATIVELY WHITE SPIRIT.
OIL :	'NAPIER GUN OIL', ALTERNATIVELY '3 IN 1' OIL.
PULL-THROUGH PAD :	'NAPIER RIFLE CLEAN', ALTERNATIVELY SOFT COTTON CLOTH.
PULL-THROUGH LINE :	'NAPIER PULL THROUGH KIT', ALTERNATIVELY 20lb FISHING LINE.

As a rule cleaners and oils intended for shotguns and small/full bore weapons are not suitable.

1. Cut a piece of line three times the length of your barrel, fold in half and tie ends together. Remove silencer if fitted. Open loading bolt.
2. Feed un-knotted end down barrel from the muzzle end until folded end protrudes about 50mm.
3. Cut a 100mm length of 'rifle clean' or 100 x 50mm piece of cloth and pass it between the protruding loop. Spray the pad with 'gun cleaner' or white spirit, turn the rifle upside down and pull the line back through the barrel slowly.
4. Repeat steps 2&3 until the pad is clean.
5. Repeat steps 2&3 once more without any cleaner on the pad to dry the barrel.
6. Repeat steps 2&3 once more with the pad sprayed with 'gun oil' or 3 in 1 oil.

Important The reason for turning the rifle upside down is to prevent excess cleaner/oil from passing down the transfer port into the firing valve chamber.

Lubrication

Lubrication of the internal mechanism is not covered in this handbook. This is best performed by a competent gunsmith or the factory and in any case should not be required until the annual service. Apply a small dab of grease or oil, on the two pivot points shown in the diagram, and work -in by moving the bolt forwards and backwards. Wipe off excessive grease. Preferred grease is 'napier g95 gun grease'. On return from every shooting session, wipe all over the exterior with an oily rag to preserve the surface finish during storage.

A small drop of oil should be applied to the magazine O ring to keep it moist, and increase its life span.



Mounting/Demounting the Magazine & Pellets

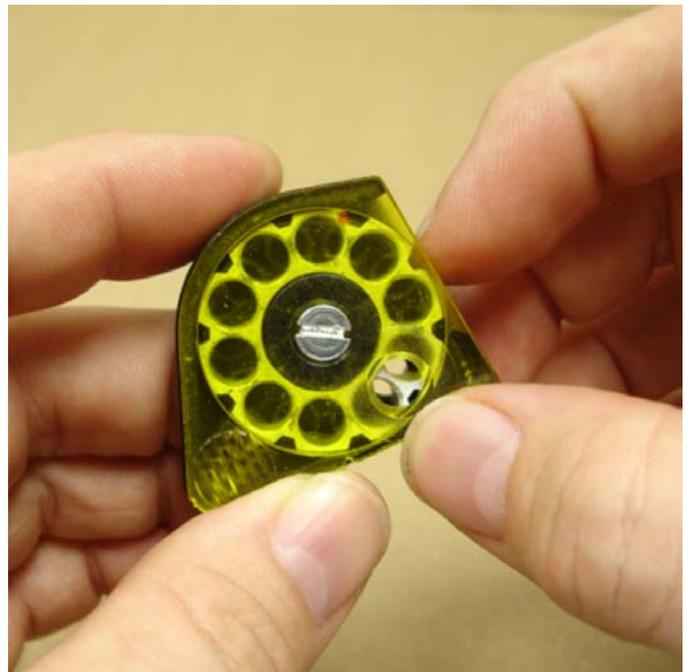
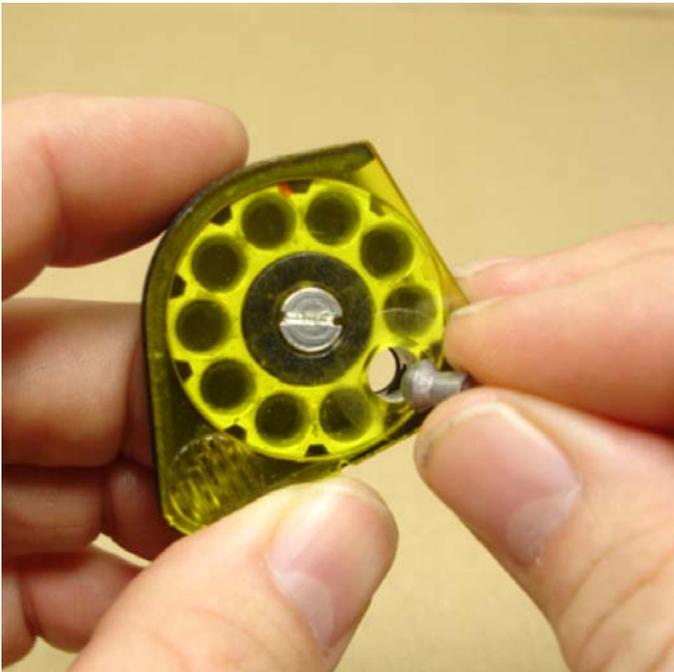
Demounting

Fully cock the rifle, grip the magazine and slide out of the bolt housing without lifting. **Do not** attempt to lift vertically as damage to the indexing spring will result.

To refit the magazine, fully cock the rifle, grip the magazine and slide in the bolt housing applying downward pressure with the fore finger to keep the base of the magazine against the bottom of the slot in the bolt housing. Take care not to damage the indexing spring.



Loading pellets



Hold the magazine and drop a pellet into the chamber. Manually index to the next empty chamber and repeat until the magazine is full. Finally line up the red dot on the pellet carrier with the 'V' notch on the clear magazine cover.

Operating Instructions

Cocking

Hold securely in one hand and with the other pull the cocking lever out and to the rear. At the end of the stroke the magazine will index and present a new chamber, also the trigger mechanism will engage. This can be determined by the trigger blade 'kicking' forward at the end of the cocking stroke.

The effect required to cock the gun is quite low so minimal force should be used.

Note ! It is very important that the cocking lever is pulled back to the correct position. In one positive motion. The magazine indexes to the next pellet position as the bolt is retracted and it is possible for a partial index if the lever is not pulled back fully.

If you find the mechanism has not cocked completely but the magazine has indexed, Re-cock but before closing the bolt, remove the magazine and manually index it back to the empty chamber. Replace the magazine and fire as normal. If this procedure is not followed it is likely that you will load a second pellet into the barrel. Push the lever back to the forward position. The rifle is now cocked and loaded, treat with caution.



Power adjuster

There are two versions of the S510TC, one fitted with a power adjuster on the side of the rifle and one without.

The adjuster can be used to adjust the power at any time by just turning anti clockwise to increase and clockwise to decrease the power. Adjusting the power between shots will not harm the rifle.



On the left hand side of the rifle is a indicator to help select your most common power settings + = High. - = Low. The marks do not indicate a particular power as this would change depending on the pellets used. The engraving may be marked the other way round to the image below. This is normal and for manufacturing purposes.



Filling Instructions

NOTE ! ONLY USE CLEAN, DRY AND FILTERED COMPRESSED AIR, PREFERABLY FROM A DIVING SHOP.

OVER PRESSURIZATION MAY DAMAGE THE CYLINDER BEYOND REPAIR.

First the female part of the filling kit (this was supplied with the rifle) must be fitted to your filling equipment. The female part (S475) has a 1/8th BSP male thread that screws directly into the hose of your pump or bottle. Next remove the dust cover from the end of your rifle.



This is achieved by unscrewing the cover in an anti-clockwise direction. There is only one filling connector on the rifle and this fills both cylinders.

Once the connector is exposed the female part of the filling kit can be placed on the male and press all the way on making sure that the 'O' rings on the male part are covered.

It is a wise precaution to hold the female part of the connector, during the filling procedure, as shown in the pictures below. This will ensure the female adaptor is located completely over the male part and prevent any accidental dislodging of the connector before you start to refill the cylinder.



Using hand pumps

The procedure for using hand pumps is the same as for bottle. It is more important to turn the female on the gun to lock it in place.

When using the pump it must be remembered that the first few pumps are filling the hose and NOT the gun. When the pressure in the hose equalizes to that in the gun, the gun will start to fill.

It can take some effort to fill the gun using a pump and we recommend using the pump to top up instead of filling from empty.

With the female in place the gun can now be filled.

If the rifle is empty the mechanism will need to be cocked to allow the firing valve to close. If the rifle is not cocked when the bottle is opened or the pump used, the air will past the valve and exhaust through the barrel.

Check that the bleed valve on the filling equipment is closed (turn clockwise to close) then slowly open the main valve on bottle or start using the pump. The pressure in the hose will equalise and then the rifle will start to fill.

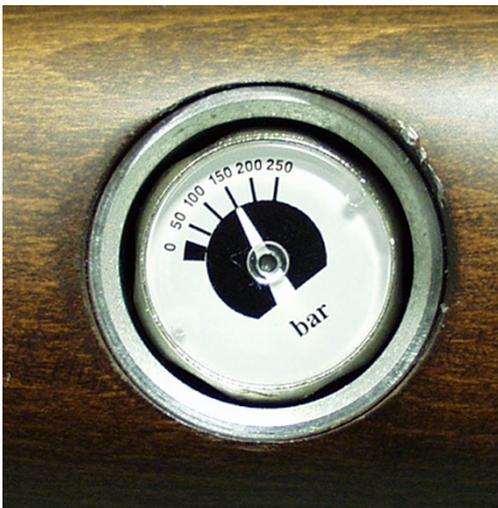
If you are filling your rifle from empty there may be some air exhausted through the barrel until the air pressure is sufficient to over come the firing valve spring (S306) this will happen at approximately 50 bar (750psi).

The filling pressure of the S510TC is 200 bar (2900psi) for .177 and .22 calibres and 170 bar (2465psi) for .25 calibre. Filling to a higher pressures will not increase power. Number of shots may increase but ther will be a higher spread between the lowest and highest power shot. Over filling will lower the power and may cause irreparable damage to the cylinder.

Once the filling pressure has been reached, close the valve on the bottle or stop pumping, open the bleed valve on the filling kit (to vent the hose, if you do not vent the hose you will not be able to remove the female from the rifle). Now the female connector can be removed from the rifle and end cap (E483BK) can be replaced over the male connector ensuring not to over-tighten.

The S510TC range of rifles are fitted with a pressure indicator mounted on the underside of the rifle just in front of the stock screw. This provides the user with a visual check on the amount of air remaining in the cylinder this indicator should not be used during the filling process as the needle reaction speed has been slowed to prevent damage whilst filling. After filling the needle can take several seconds to synchronize with the air in the cylinder.

The picture below shows a guns with just over 150 bar of pressure. Although every gun is slightly different the recommended refill pressure for the S510TC is between 100 and 110 bar.



NOTE: *On the front end of the cylinder is an engraved warning reading....*

READ MANUAL. MFP 200bar. DOM ###/###/#### 7075T6.
INSPECT BI ANNUALLY. #####

MFP = *Maximum Filling Pressure. The pressure is stated.*
MSP = *Maximum Safe Pressure. The pressure is stated.*
DOM = *Date of Manufacture. The date is stated.*

WARNING NOTE CONCERNING 300 BAR BOTTLES.

WITH THE ADVENT OF THE 300 BAR BOTTLE IT SHOULD BE NOTED THAT CARE HAS TO BE TAKEN WHEN FILLING YOUR RIFLE. THE FILLING PROCEDURE DESCRIBED IN THIS MANUAL MUST BE FOLLOWED TO AVOIDED DAMAGE TO THE RIFLE, PARTICULARLY THE SLOW OPENING OF THE VALVE ON THE BOTTLE. OPENING THE VALVE QUICKLY WILL ALLOW UP TO 300 BAR OF PRESSURE INTO THE CYLINDER AT ONCE, THIS COULD CAUSE SERIOUS PERSONAL INJURY OR IRREPARABLE DAMAGE TO THE CYLINDER.

Trigger adjustments

The S510TC models all have the same trigger mechanism. It is a two stage unit with adjustment to both stages plus a weight of pull adjustment. It is easy to upset the balance between the two stages and make the trigger inoperable if incorrectly adjusted.

If you have no experience of adjusting two stage triggers seek guidance or leave the trigger as set by the factory.

Note! Incorrectly adjusted trigger mechanisms are not covered by the manufacturers warranty. It is not possible to test this rifle with an incorrectly adjusted trigger, therefore all triggers leave the factory with correct adjustment.

WARNING! Please note that it is possible to stop the safety button working with incorrect trigger adjustment.

AN INCORRECTLY ADJUSTED TRIGGER CAN MAKE THE RIFLE UNSAFE TO HANDLE.

DESCRIPTION OF OPERATION

The S510TC rifles have a true two stage trigger mechanism. This means that as the trigger is pulled the bottom sear gradually disengages with the top sear until the two disengage completely and the rifle goes off. If the pressure on the trigger is released at any point before full disengagement, the bottom sear will automatically return back to full engagement. This type of trigger allows very fine but safe operation because it is the release of the 2nd stage that actually makes the rifle fire. This arrangement is vastly superior to pseudo two stage triggers where the first stage is just a pivoting trigger blade that does not move sears. The down side is that they are more difficult to adjust correctly.

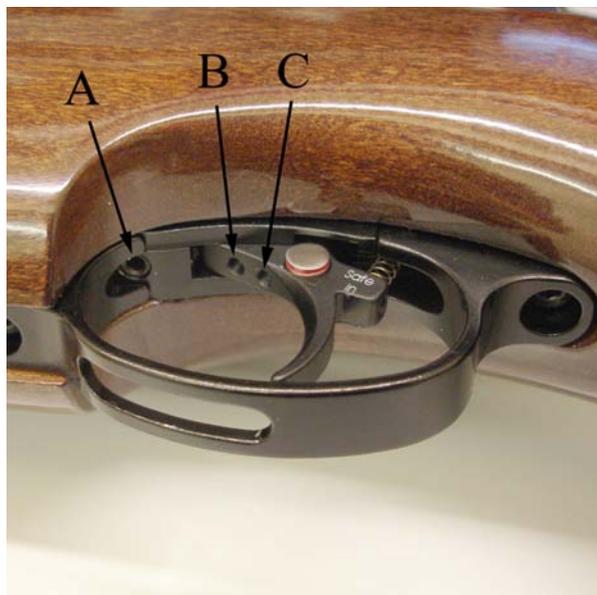
Adjustment

There are three adjuster screws, A-B-C.

The weight of pull adjuster (A) is located in the front of the trigger guard. Clockwise rotation increases pull weight. If adjusted too far the spring will become coil-bound and prevent trigger operation.

The second stage adjuster (B) is the rear screw located in the trigger blade. This screw determines the exact point that the 2nd stage starts. If the 1st stage screw is incorrectly adjusted this screw may not have any effect.

The first stage adjuster (C) is the front screw located in the trigger blade. This screw determines the length of travel before the 2nd stage starts. Clockwise adjustment reduces the first stage travel.

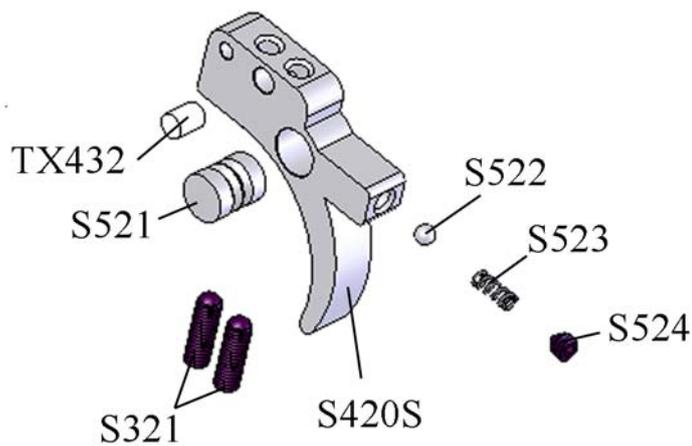


This rifle is fitted with a manual safety button located in the trigger blade. To make the rifle safe the button must be pressed until it is flush with the side of the trigger blade. Please note that it is possible to stop the safety button working with incorrect trigger adjustment.

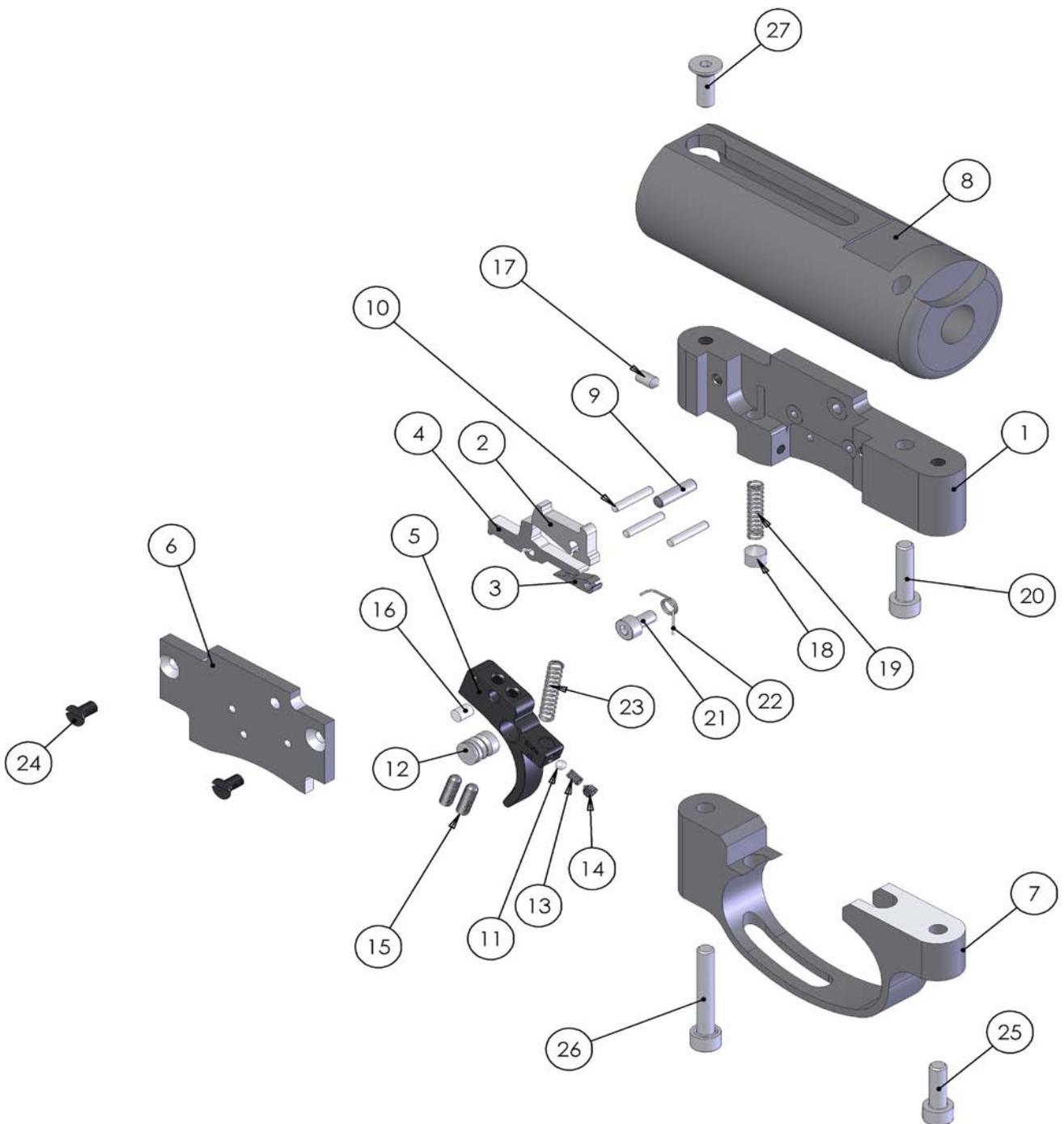
With the button pressed in the rifle is safe.



With the button out the rifle is now ready to fire.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	S313	TRIGGER CHASSIS	1	15	S421	SCREW	2
2	S320-2	TOP SEAR	1	16	TX432	ADJSCREW LOCKING PAD	1
3	S321-2	BOTTOM SEAR	1	17	RN191	TUF-LOCK SCREW	1
4	S325-2	MIDDLE SEAR	1	18	TX381	TUF-LOCK SCREW	1
5	S420S	TRIGGER BLADE	1	19	S319	WEIGHT OF PULL SPRING	1
6	S318	COVER PLATE	1	20	TX236	SCREW	1
7	S314	TRIGGER GUARD	1	21	S496	SCREW	1
8	S310-SL	STRIKER BODY - SIDE LEVER	1	22	S495	TOP SEAR SPRING	1
9	TX398	3x11.8 Roller	1	23	S311	TRIGGER LOAD SPRING	1
10	S326	2x11.8 ROLLER	3	24	RN106	SLOTTED SCREW	2
11	S523	3/32" BALL BEARING	1	25	TX460	SCREW	1
12	S521	SAFETY BUTTON	1	26	S316	SCREW	1
13	S522	SAFETY BUTTON SPRING	1	27	S322	SCREW	1
14	S524	SCREW	1				



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	S507E-SL	FIRING VALVE BODY - ADJ	1	41	S600-3	BARREL TUBE SUPPORT	1
	S507ENA-SL	FIRING VALVE BODY - NON ADJ		42	S600-4	BARREL SUPPORT O RING	2
	S507G-SL	FIRING VALVE BODY - LOCKED		43	S600H-SL	BARREL TUBE - CARBINE	1
2	RN234	BS213 O RING	1	44	S600HC-SL	BARREL TUBE - CARBINE	5
3	S340	STRIKER ROD	1	45	PS224G	BAFFLE	1
4	S370H	FIRING VALVE	1	62	S133	SHROUD INSERT	1
6	S306	FIRING VALVE SPRING	1	68	S319	WEIGHT OF PULL SPRING	1
7	RN191	SCREW	1	69	TX460	SCREW	1
8	S508	POWER ADJ KNOB HP MODELS (ADJ MODELS ONLY)	1	70	S316	SCREW	1
	S508-L	POWER ADJ KNOB LP MODELS (ADJ MODELS ONLY)		71	S550	SIDE PLATE	1
9	S562	PIN (ADJ MODELS ONLY)	1	74	S515A	INDEXING POST ASSY	1
10	S519	POWER ADJ O RING (ADJ MODELS ONLY)	2	75	S565	SCREW	3
11	S517	LOCKING PIN (ADJ MODELS ONLY)	1	76	S505	MAGAZINE SPRING	1
12	S522	SPRING (ADJ MODELS ONLY)	1	77	RN113	SCREW	4
13	S524	SCREW (ADJ MODELS ONLY)	1	78	RN193	SCREW	2
14	S640AT	GAUGE MOUNT	1	79	TX234	BISSEL PIN	1
15	S427	6x1 O RING	1	83	RN135	SCREW	1
16	S536	B5008	1		S555A	MAGAZINE -.177 (10 SHOT)	
17	JT416	SCREW	1		S555B	MAGAZINE -.22 (10 SHOT)	
18	RN219-9	BS 011 O RING	1		S555C	MAGAZINE -.25 (10 SHOT)	1
19	S645	INDICATOR GAUGE	1		S557	MAGAZINE -.22 (5 SHOT)	
20	S610H	BOLT HSE TO FIRING VALVE BODY SEAL	1		S558	MAGAZINE -.177 (5 SHOT)	
21	S500H-SL	BOLT HSE - ADJ	1	87	RN102A	SCREW	5
	S500HNA-SL	BOLT HSE - NON ADJ		88	FP134	THREAD PROTECTOR	1
	S540A-SL	.177 LOADING BOLT STEM		89	S402AH	BARREL SEAL HOLDER -.22	1
	S540B-SL	.22 LOADING BOLT STEM		90	S402BH	BARREL SEAL HOLDER -.177	1
	S540C-SL	.25 LOADING BOLT STEM (RIFLE ONLY)		91	S503	10 X 1 O RING	2
23	S140	LOADING BOLT DETENT BUFFER .22 & .25	1	92	S336	CYLINDER EXTENSION -TWIN	1
	S142	LOADING BOLT DETENT BUFFER .177		93	S338	22 X 2.5 O RING	5
	S501-SL	BOLT HSE BUSH .22		94	S337	10 X 1.5 O RING	1
24	S502-SL	BOLT HSE BUSH .177	1	95	S655	6 X 12 X 1.5 WASHER	1
	S504-SL	BOLR HSE BUSH .25		96	TX440	SCREW	1
25	S130	COCKING ARM PIVOT BLOCK	1	97	RN515	11 x 2.5 O RING	2
26	S322	SCREW	1	98	S334	CYLINDER PLUG	2
27	E125	COCKING ARM	1	99	S335AL	CYLINDER - RIFLE	2
28	E144	PIN	1	100	RN235AL	CYLINDER - CARBINE	2
29	S541-1	BEARING SHIM	1	101	S491AL	CYLINDER PLUG	1
30	S540	BEARING	1	102	S491DAL	CYLINDER PLUG BLANK	1
31	S542	SIDE LEVER BUSH - FAC	1	103	S472	MALE CONNECTOR	1
32	S264	COCKING LINK	1	104	S471	FILTER	1
33	E127	PIN	1	105	S473	FILLING VALVE	1
34	S355H-SL	LINK SCREW	1	106	S327	BS005 O RING 90 SHURE	1
35	S520E	STRIKER	1	107	S474	MALE CONNECTOR O RING	2
36	S520-1	BUSH	2	108	S484	12x1.5 O RING 70 SHURE	1
37	S356H	STRIKER SCREW	1	109	S380D	BARREL CLAMP - TWIN	1
38	S331H	MAIN SPRING	1	110	S484H	BARREL SUPPORT O RING	1
39	S530H	SPRING GUIDE	1	111	E483BK	END CAP	2
	S401A-BO	BARREL .22 - RIFLE		112	O RING	O RING	1
	S401B-BO	BARREL .177 - RIFLE		113	S360D	POT - TWIN	1
40	S401F-BO	BARREL .22 - CARBINE	1		S560	CAM PLATE	1
	S401G-BO	BARREL .177 - CARBINE			S339	TWIN MOUNT	1
	S401J	BARREL .25 - RIFLE ONLY					