



Instructions for the AK 20 – ball machine

1. Safety rules

- ALWAYS treat the marker as if it was loaded and ready to fire.
- The marker is not a toy! Careless use can cause serious injury or death.
- Never look into the barrel of the marker.
- Always keep the marker secured until the start of the game. Locking means that the firing mode lever is in position 1 - "SAFE" - and the sleeve is on the barrel.
- Do not touch the trigger until you want to fire.
- Be careful when shooting. The marker has recoil!
- Never aim at anything you do not intend to shoot.
- Never shoot animals!
- Never shoot at fragile things (eg windows, etc.)
- Before disassembling the marker, first remove the air system from it and take out all the balls - the magazine.
- Always store the marker empty (without balls) and without the air bottle attached.
- Use only bottom feed balls.
- Always follow safety rules for handling, using and storing air systems.
- Never use the marker with CO2.
- Only use air system regulator output pressure between 800 to 900 PSI max on this marker.
- Every person within range of the marker must wear a paintball mask to protect the eyes, ears and face.
- Measure the marker's muzzle velocity before each game. NEVER set marker speed to more than 300 feet per second (91.44 meters per minute)
- The sale is regulated only for persons over 18 years of age.

Before use, read the instructions for use thoroughly and make sure you understand everything!

If something is not clear to you, immediately contact professional help or the seller/manufacturer.

Repairs: Do not attempt to repair the marker yourself, always seek professional service. A weapon that doesn't work properly is dangerous!

This product has a warranty period of 24 months from the date of sale.

If the product is used for commercial use (paintball field and rental shops), the warranty period is reduced to 6 months. A warranty period of 6 months is provided for the sealing cylinder and projectile feeder. The warranty applies to manufacturing defects or material defects.

The warranty does not cover defects caused by:

- Mechanical damage
- Transport
- An unavoidable event (natural disaster), due to the action of water
- Intervention by an unauthorized person (including the user)
- Other unprofessional interventions
- Bad setting by the user, inappropriate or insufficient maintenance
- By using unsuitable means for maintenance (oils, lubricants)
- Wearing of consumables (filler, spring, seal)

All warranty work is applied directly to the manufacturer or companies verified by him.

2. Marker specification

Caliber68.....

Barrel threadwithout thread – on locking pin...

Basic barrel length400mm.....

Firing Modes locked, full auto, semi firing.....

Propulsion systemHPA air system.....

Materialmetal, wood, plastic.....

3. Build the marker

Before use, read the instructions carefully and make sure that everything is understandable to you.

Follow all the rules.

Barrel sleeve

Put the sleeve on the barrel and secure it by pulling its cord, which we pass through the ring and then pull the end of the cord and secure it behind the front sight or behind the magazine.

Safety - firing mode lever (15)

The marker fuse can be found on the body above the trigger,

- If the firing mode lever is set to position 1 ("SAFE"-locked) the marker is locked and cannot be fired.
- Once the firing mode lever is set to position 2 ("FULL AUTO) the marker is ready to fire.
- If the fire mode lever is set to position 3 ("SEMI"-single shots), the marker is ready to fire.



15 - fire mode lever and its modes

In the instructions, you will come across the expression "SECURE THE MARKER" several times. This term means not only moving the firing mode lever to position 1 "SAFE - locked", but also putting the safety sleeve on the barrel!!

Barrel installation

- Secure the marker, make sure it is not under pressure and that there are no balls in it.
- Point the marker in a safe direction and insert the barrel into the marker until it hits the rear and secure it with the barrel pin (57).
- Put a safety sleeve on the barrel.



57- barrel pin

Air system installation

A high pressure air system (800 to max. 900 PSI regulator output pressure) is used to drive the marker.

- Never use CO2 systems.
- Make sure everyone within range of the marker is wearing a paintball mask before installing the propulsion system.
- Check that the small (21) and large (20) pins of the rear parts are properly engaged. Alternatively, snap them correctly into the body (1).
- Make sure there are no balls in the marker.
- Secure the marker and put the safety sleeve on the barrel.
- Point the marker in a safe direction and screw the drive system into the back part (3) of the marker.
- Turn the drive system clockwise and fully screw it into the rear part (3).
- Collapsible stock - the support (16) can now be folded down by squeezing the stock pin and thereby releasing the entire support, which we fold down to the bottle and lock it there. Straighten the horseshoe of the stock.
- Now the marker is under pressure and ready to fire.

WARNING

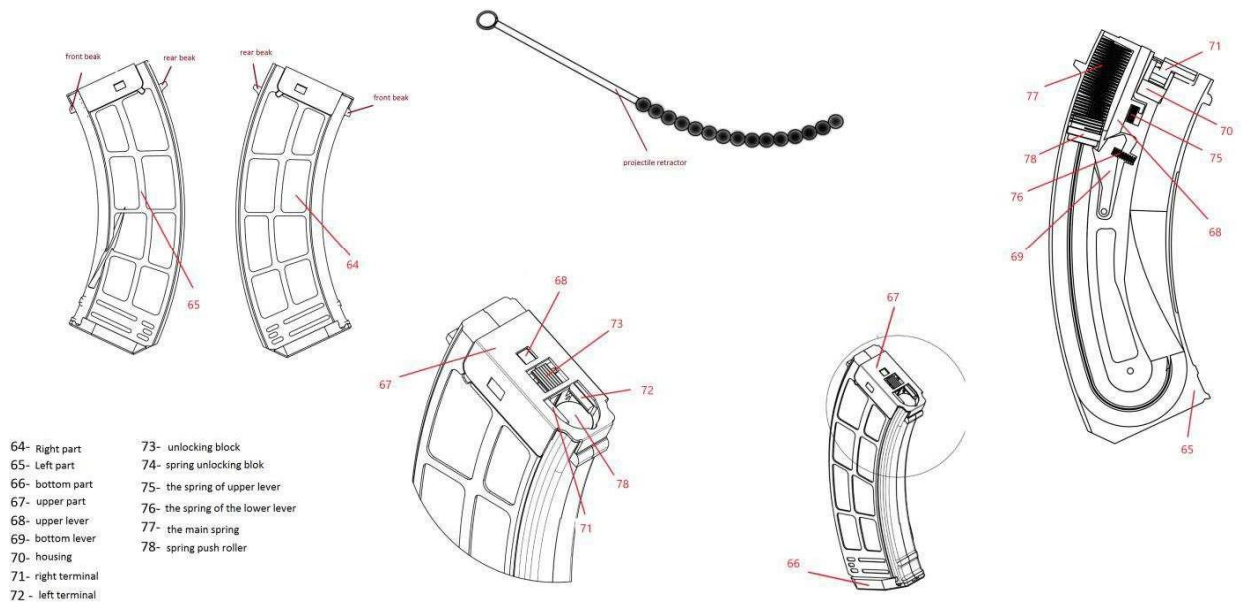
- Air systems can cause serious injury or death if not used properly. Only use systems with a valid certificate.
- Never disassemble or modify the air system in any way unless you are a qualified person.
- Never pour any oil or apply vaseline to the filler pin on the air system.
- Always follow the corresponding safety rules when handling, using and storing the propulsion system.
- Not following the above warning could damage the internal parts of the marker.



Loading and inserting the magazine into the marker

- Magazine loading begins by pressing and holding the release button (73), at which time the right clamp (71) and left clamp (72) will expand and the spring push roller (78) on the main spring (77) will move upwards.
- The unlocking block (73) together with the left (72) and right (71) clamp are part of the housing (70).
- With the magazine stretcher, which we put on the pressure roller of the spring (78), we begin to press the main spring (77) inside the magazine. We push the tensioner until the pressure roller of the spring (78) is secured against the lower lever (69). Now we can pull the stretcher out, but we still have to keep the release button (73) depressed, and this will allow us to smoothly pull the stretcher out of the magazine.
- At this moment, the magazine is ready to load the projectile. The magazine can hold 21 paintball balls or 20 First Strike - registered ammunition.
- The magazine is now ready to be inserted into the body (1) of the marker where the internal system will start.
- The magazine is inserted into the body (1) of the marker from below. There are two unlocking blocks in the body (1) of the marker, which unlock the unlocking block (73) when the magazine is inserted. This will allow the left (72) and right (71) clamps to open, and the upper magazine lever (68) to unlock the lower magazine lever (69).
- When the lower lever of the magazine (69) is unlocked, the push roller of the spring (78) moves. It presses on the projectiles loaded in the magazine, and with the help of the main spring (77), which expands, it moves the projectiles from the magazine into the marker.
- When the loaded magazine is emptied, the spring push roller (78) stops against the upper part (67) of the magazine, which holds the spring push roller (78) and the main spring (77) inside the magazine.

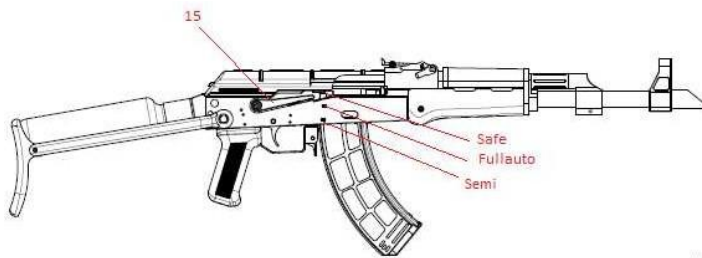
- When inserting the magazine into the marker, grasp the magazine and insert the upper part (67) into the body (1) with the front beak towards the barrel (5), where it hooks and then secure the rear beak behind the catch of the magazine (18) in a semi-circular motion.



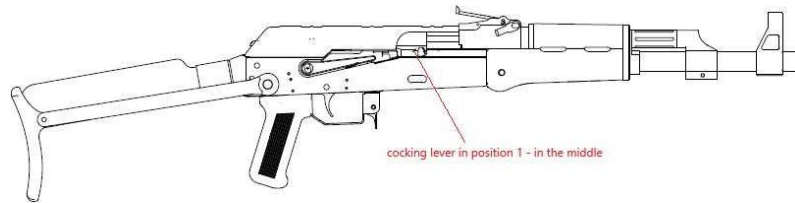
4. Shooting from the marker

Before firing the marker, keep the marker locked and the safety sleeve on the barrel. Make sure all players within range are wearing a paintball mask.

- Assemble the marker according to the instructions above.
- Connect the air system (cylinder) and insert a fully charged cartridge.
- Remove the safety sleeve from the barrel and set the firing mode lever (15) to position 2 ("FULL AUTO") or position 3 ("SEMI").
- Pull the tension lever from position 1 (middle) backwards to position 2 (back), which is not permanent, and release it forwards to position 3 (front). This signals that the internal system is loaded and ready to fire.
- Aim at the target and squeeze the trigger. In position 2 ("FULL AUTO") you keep holding the trigger, in position 3 ("SEMI" shooting) the trigger must be reset after each shot (release and press the trigger again).
- The magazine can be removed from the body (1) even if it is not completely emptied and replaced with a fully loaded one without the projectile falling out of the marker body (1) or from the magazine.



15 - fire mode lever and its modes



4 - cocking lever

5. Speed setting

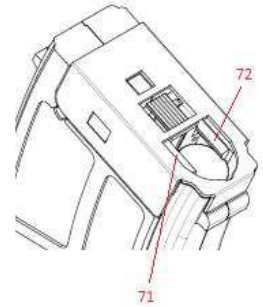
Marker speed must be checked before each game. **MARKER SPEED SHALL NEVER EXCEED 300 FEET PER SECOND (91.44 METERS PER MINUTE)**

- When checking and changing speed settings, wear a paintball mask and make sure everyone within range of the marker is wearing it. FOLLOW THE SAFETY RULES!
- Check the speed of the balls after the shot with the paintball speed radar.
- The muzzle velocity adjustment worm (60), which changes the velocity, is on the left side of the marker body (1), under the steel cover (14). You will need the included flathead screwdriver to change the speed.
- If you want to reduce the speed, turn the control worm clockwise.
- If you want to increase the speed of the shot, turn the adjusting worm counterclockwise.
- After each adjustment of the control worm, fire 3-5 times and then check the speed again.

NEVER completely remove the speed control screw!!! Unless you don't want to do internal system maintenance.

6. Marker discharge

- Wear a paintball mask when the marker is discharged and make sure everyone within range is wearing it.
- Make sure the magazine is empty. By pulling the cocking lever (4) to position 2 (back) and if it stops at position 1 (middle), the projectile is neither in the chamber nor in the magazine.
- Remove the magazine from the body of the marker. When removing the magazine from the body of the marker, we must first press the catch of the magazine (18), which is next to the trigger (25). This will cause the rear beak of the magazine to be pushed out and the front beak of the magazine to be removed from the body (1) of the marker with a semi-circular movement.
- Switch the firing mode lever (15) to position 1 ("SAFE"-locked) and put the safety sleeve on the barrel.
- By removing the magazine from the body (1) of the marker, the left (72) and right (71) clamps will be closed inside the magazine.
- Now the clamps don't secure anything and they wait for the magazine to reload.



- 1- body
- 18- catch of the magazine
- 25- trigger
- 71- right terminal
- 72- left terminal

Removal of the propulsion system

- Put on your paintball mask and make sure everyone within range has it on.
- Check that you have a safety sleeve on the barrel and that it is secured.
- By pressing the pin of the support (16), we lower it to the body (1) of the marker, we also lower the horseshoe of the stock.
- Start unscrewing the drive system from the back part (3) of the marker by turning it slowly.
- The marker is now ready for routine maintenance, storage or transport.



- 3 - the rear part
- 20 - large pin of the rear parts
- 21- small pin of the rear parts

7. Lubrication and maintenance of the marker and magazine

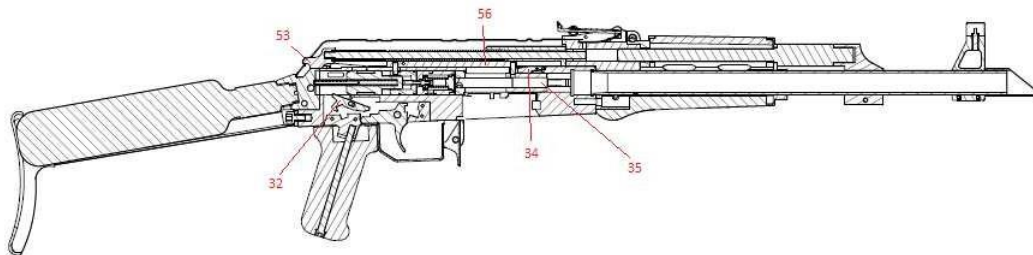
CAUTION: before any maintenance, first make sure that there are no balls left in the marker and that you have removed the propulsion system from the marker.

From the outside, clean the body of the marker with a damp piece of cloth. After cleaning, dry the marker, do not leave it wet. Then you can move on to smearing the marker. Use only the supplied lubricant to lubricate the marker.

Cleaning the barrel and chamber

A dirty barrel and chamber can reduce the accuracy of the marker and cause other problems.

- When disassembling the marker, we must first disconnect the air system / unscrew the bottle. Then we unlock the barrel (5) by pushing the barrel pin (57), which will allow us to slide the barrel (5) out of the body of the marker. We unlock the steel cover (14) by pressing the cover holder (53). Remove the tension lever (4) together with the guide rod (55) and the pull rod (56) from the body (1) of the marker.
- Lift the fuse of the projectile feeder (34) by hand and use the imbus key to move the projectile feeder (35) of the front part out of the marker.
- At this point, we can clean the marker, from the remaining paint, with water and a clean cloth.
- After cleaning, insert the projectile feeder (35) back into the body (1) of the marker so that the hole in the feeder is facing the upper part of the body = the hole in the feeder must be exactly in the groove on the body = to attach the rod (56). Then we put on the barrel (5), which is secured with the barrel pin (57). Then we put on the tie rod (56) that connects the projectile feeder (35) and the stretching cylinder (46), the guide rod (55) with the stretching lever (4) and the steel cover (14) and snap it behind the cover holder (53). Now the marker is cleared and we can connect the air system and continue shooting.
- Clean the barrel and chamber with a dry piece of cloth or a broach.



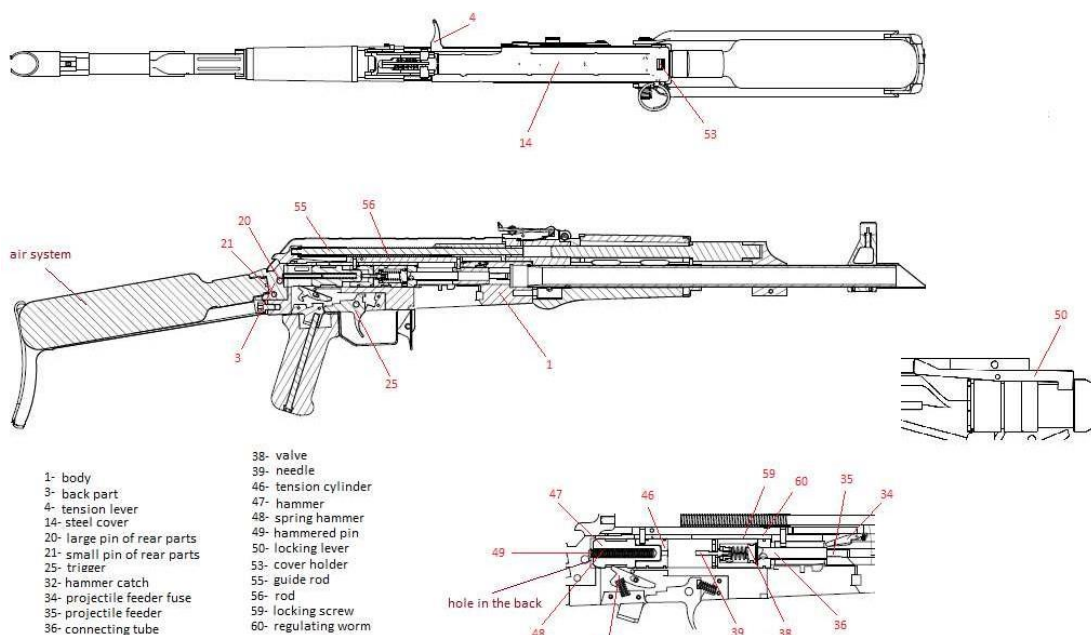
- 1- body
- 4- tension lever
- 5- barrel
- 14- steel cover
- 25- trigger
- 32- hammer catch
- 34- projectile feeder fuse
- 35- projectile feeder
- 53- cover holder
- 56- rod
- 57- barrel pin



Internal system cleaning

After cleaning the front part of the marker, see the description above, we will move on to cleaning the internal system from the back of the marker.

- When disassembling the marker, we must first disconnect the air system / unscrew the bottle and remove the barrel (5) and projectile feeders (35), see description above. We remove the steel cover (14) from the upper part, which we unlock with the cover holder (53). Take out the tensioning lever (4) together with the guide rod (55) and the tie rod (56).
- To release the small (21) and large (20) pins of the rear parts, we have to push the back part (3) and by squeezing the pins, you can remove them from the back parts (3) of the marker. So we release the back (3) part from the body (1) of the marker. The hammer pin of the spring (49) with the hammer spring (48) will be released, which we will remove from the body (1) of the marker. Then, using a narrow object, slide out the hammer (47) and the tension cylinder (46) from the rear part.
- The valve (38) with the needle (39) inside, loosen the securing worm of the valve (59), which is under the steel cover (14) in the upper part of the body (1) of the marker, next to the regulating worm of the muzzle velocity (60).
- By unscrewing the securing worm of the valve (59) and the regulating worm of the muzzle speed (60), we allow the displacement of the valve (38) together with the connecting tube (36) from the body (1) of the marker. We slide the valve (38) with the connecting tube (36) out of the body (1) by taking, for example, the barrel cleaner = cat= and pushing it to slide the front part into the back part of the body (1) and out.
- At this time, we can clean the inside of the marker body from dust, dirt and lubricate it with the included lubricant.



Reassembly of the marker

After cleaning the front and back of the marker, see the description above, we will move on to the composition of the marker back to its original state. We always work backwards (compared to discharge of the marker) before the marker dissection begins. The composition of the marker from the front is described above.

- When reassembling the marker to its original state, we must ensure that the hammer (32) is caught in the body (1). Switch the firing mode lever (15) to position 2 ("FULL AUTO") and press the trigger (25). This secures the grip of the hammer (32) in the body (1) and allows us to smoothly assemble the parts of the internal system. We hold the trigger (25) the entire time we reassemble the marker.
- First, insert the projectile feeder (35) from the back into the body (1) of the marker with the opening towards the upper part = the hole in the feeder must be exactly in the groove on the body=.
- Before inserting the connecting tube (36), we must press the locking lever (50) into the body (1) and hold it during the entire reassembling process. Then we insert the connecting tube (36) = through the opening with the connecting tube towards the upper right corner of the marker body=, which we secure with the muzzle velocity regulating worm (60) so that it does not move. Then valve (38) with needle (39). We must insert the valve (38) into the body (1) through the hole in the valve to the upper right corner of the marker body carefully so that the o-ring does not get damaged or moved. Then we secure the valve (59) with a securing worm.
- After inserting and securing the valve (38), we insert the tensioning cylinder (46) into the body (1) of the marker through the hole towards the upper part = you have to be careful that the cylinder does not turn over, the hole serves to catch the rod = and lastly we insert the hammer (47)). Now remove the wire from the hole in the body (1), thereby unlocking the hammer catch (32).
- We insert the spring (48) together with the spring pin (49) into the hole in the back part of the hammer (47), which we place in the hole in the back part (3) of the marker.
- We press the back part (3) and insert it into the holes in the back part of the body (1), where we secure it with the small (21) and large (20) pins of the back part.
- At this moment, we insert the rod (56) into the hole in the stretching cylinder (46) and in the projectile feeder (35) and then the guide rod (55), connected to the cocking lever (4), which we secure behind the cover holder (53) and put on steel cover (14).
- Now the marker is assembled and ready for air system connection and further handling.

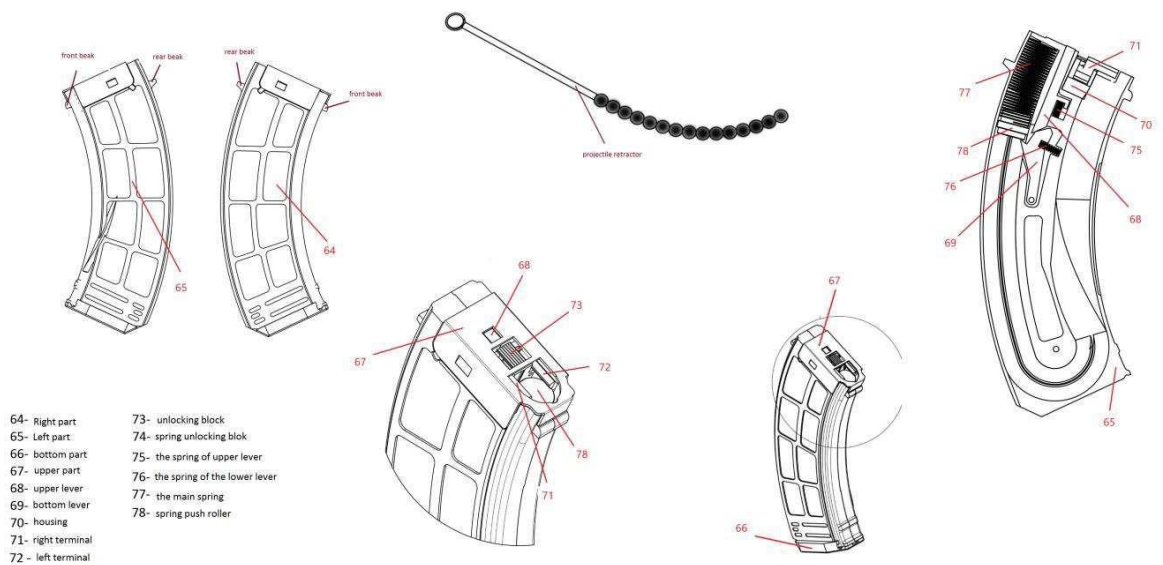
If you happen to hear an air leak when screwing in the air system, loosen the valve locking screw (59) by a quarter of a turn with the included imbus. This will seal the o-ring on the valve (38) and tighten the valve locking screw (59) again.

Charging magazine

The instructions for correctly charging the magazine are described above.

Cleaning the magazine

- A. Clean the outside of the tank first with a soft cloth soaked in water, do not use any chemicals.
- B. Make sure the main spring (77) is not stretched.
- C. The magazine has a removable top (67) and bottom (66) part.
- D. You can also disassemble the rest of the magazine, but follow the instructions below.
- E. To assemble the magazine, follow the manual below in reverse order.



Stack disassembly

- A. Before disassembling the magazine, we must have the main spring (77) unlocked. We will start disassembling the magazine from the top.
- B. Lift the upper part of the magazine (66) from the left and right sides with the supplied screwdriver to unlock it from the beaks on the right (64) and left (65) parts of the magazine. Remove the upper part (64), press and hold the unlocking block (73). This will unlock the spring push roller (78) with the main spring (77), which will come out of the magazine, and take it all out.
- C. If the main spring (77) remains caught in the magazine body, the upper lever (68) must still be pressed to release the caught spring.
- D. Then remove the lower part (66) of the magazine by sliding it forward. Which will allow us to separate the right (64) and left (65) parts of the magazine from each other. To separate the right (64) and left (65) parts, we must proceed carefully so as not to lose the springs. Remove the lower lever (69) together with the spring of the lower lever (76). We also remove the upper lever (68) with the spring of the upper lever (75). Now we take out the housing (70) from the body of the magazine, which can be disassembled by removing two small pins (on the left and right sides) and thus the housing is divided into the right (71) and left (72) clamp and its springs. At the moment, we have the magazine disassembled and ready for routine maintenance or removal of dirt such as paint residues from projectiles.
- E. Assembling the magazine begins with the house (70), where we insert the springs with the right (71) and left (72) clamps into the lower part and secure the entire house (70) with small pins. We will first test the assembled house (70) to see if the right (71) and left (72) clamps work correctly when the unlocking block (73) is pressed, and we will reinsert the house (70) into the right (64) part of the magazine. Then we insert the upper lever (68) with the spring of the upper lever (75) and the spring of the lower lever (76) with the lower lever (69).
- F. Attach the left part (65) of the magazine to the right part (64), in which the other parts of the magazine are assembled. We click the left (65) and right (64) parts together with slight pressure and then secure them with the lower part (66), which we insert and click.

- G. Again we have to press and hold the release button (73) in order to insert the main spring (77) with the spring push roller (78) inside the magazine. The spring push roller (78) is secured by the left (72) and right (71) clamps.
- H. Now we put on the upper part (67), which secures the entire magazine by clicking. At this point, we have the magazine folded and ready.

Lubrication of the magazine

We don't lubricate the magazine, we just wipe or blow out the dust. The only thing we can lubricate is the house (70). If the left (72) and right (71) clamp gets stuck, we can lubricate it with included lubricant.

8. Defects of the marker and their elimination

Defects and their removal again simulate the real weapon. If the right gun runs out of ammo, the internal system locks and the trigger cannot be pulled. After inserting a loaded magazine, the cocking lever (4) is cocked and we continue shooting.

If the cocking lever (4) does not go all the way to the front, you have to manually pull the cocking lever all the way back and it will feed the ammo into the chamber and you can pull the trigger. Our system does the same.

- Mistake 1:

If we have inserted a loaded magazine into the marker, the firing mode lever (15) is unlocked, and we release the cocking lever (4) from position 2 - rear, but it still gets stuck in position 1 - in the middle, it could be that either the projectile did not enter the chamber, because the magazine did not reach to feed the projectile into the projectile feeder (35) and thereby unlock the safety of the projectile feeder (34).

Defect No. 1: This malfunction should be removed by pulling the cocking lever (4) back to position 2 - rear and releasing it to position 3 - front.

- Mistake 2:

If the tensioning lever (4) does not reach position 3 - forward, as described in

Fault #1, the fault could be in the magazine. After removing the magazine from the body (1) of the marker, we check if there is no defective ammunition and if any of the projectiles are not damaged and thus prevent the movement to the projectile feeder (35).

Defect No. 2: We remove this defect by removing the magazine from the body and the defective ammunition behind the magazine. By pressing the release button (10) of the magazine, we remove the remaining ammunition and clean the magazine and ammunition or use another magazine during shooting. Disassembly and cleaning of the magazine, description above.

Defective ammunition: very fragile paintballs, chipped side of First Strike.

- Mistake 3:

If it were to happen that we fire but the ammunition does not come out of the barrel (5), but only paint sprays out, the projectile could have ruptured in the body (1) of the marker.

Defect No. 3 elimination: We need to eliminate this defect by removing the magazine from the marker body (1) and cleaning the marker, description above.

- Mistake 4:

When the tensioning lever (4) did not reach position 3 - forward, it could have happened that we could have messed with the tensioning lever (4) somewhere and that is why it reached position 3 - forward.

Defect No. 4: This fault can be fixed either by pulling the tensioning lever (4) again or by simply moving the tensioning lever (4) to position 3 - forward.

- Mistake 5:

If the cocking lever (4) is held or caught by an object or branch (while playing), the cocking lever (4) will only jump, but will not go to position 2 - back, where it would cock the whole system again, and the projectile could move to chambers. Therefore, neither the trigger (25) nor the shot can be pressed.

Defect No. 5: If the cocking lever (4) is not reached in position 2 - backwards, the next projectile will not be loaded into the chamber. So we have to take the tensioning lever (4) and stretch it again to position 2 and release it to position 3 - in front. This will move the projectile into the chamber and we can start shooting.

- Mistake 6:

If you happen to hear air escaping after putting the marker back together after disassembly and cleaning the internal system, it could be that the valve seals are not sealing properly.

Defect No. 6: We remove this defect by loosening the locking worm of the valve (59) by a quarter of a turn with the enclosed imbus key. This will ensure that the valve is sealed and the air will stop leaking and we will tighten the valve securing worm (59) back.