ASAR

AIRSOFT SYSTEMS

www.airsoftsystems.com



USER MANUAL

PLEASE READ BEFORE USING THIS PRODUCT!

Congratulations on purchasing the first completely designed and made in Europe M4/AR-15 type airsoft replica.

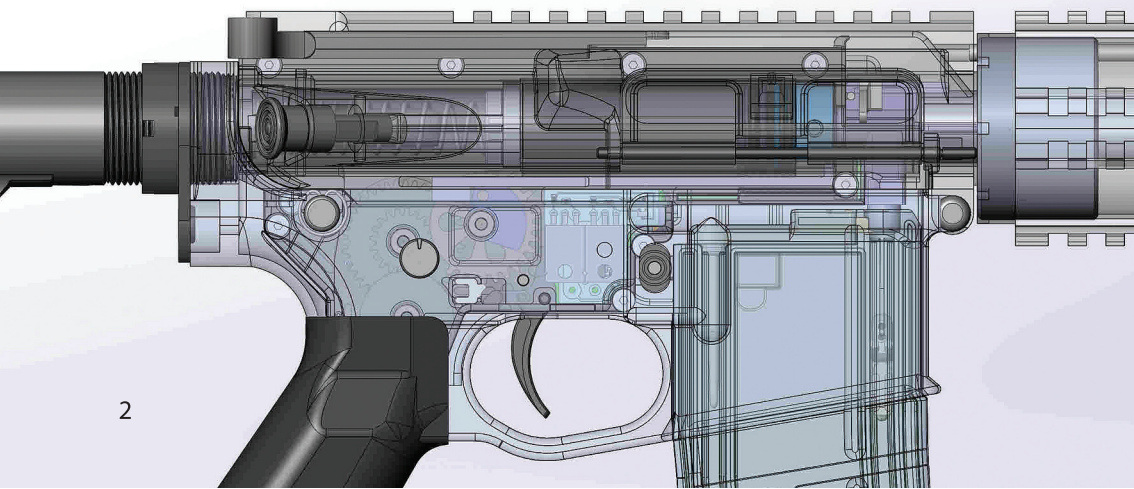
As devoted airsoft players ourselves, we have put together our passion for airsoft and mil-sim games with our vast experience in mechanical design, electronics and software, to bring out the best possible airsoft electric gun made form airsoft players for the airsoft players.

The ASAR-15... 4 years in in extensive field testing, improvements and refinement.

The goal... **A perfect airsoft machine made with absolutely zero compromise...**

THE ASAR-15 FEATURES:

- Realistic disassembly.
- Quick spring change on the field.
- Detachable cylinder.
- Realistic mechanical trigger feel.
- Realistic trigger reset.
- Empty Magazine Detection.
- Functional Bolt Catch.
- Resumes fire after magazine change.
- Uses standard AEG M4 magazines.
- CNC finishd aluminium receivers.
- CNC stock tube.
- Hard phosphate finish.
- Reinforced metal split gearbox.
- Designed and built for the toughest mil-sim games.
- Fully upgraded out of the box.
- Internals for spring up to M150.
- Accuracy focused hop-up and rubber.
- Precision 6.02mm stainless steel barrel.
- Compatible with AEG internals.
- CNC Steel gears 16:1.
- CNC Stainless steel bushing.
- Full steel piston rack.
- Aluminum CNC cylinder head.
- Aluminum CNC piston head.
- Aluminum CNC nozzle.
- High Torque motor.



BEFORE USING YOUR NEW AIRSOFT GUN PLEASE READ CAREFULLY THIS MANUAL!

⚠ **Keep this manual always together with your airsoft gun in your gun case.**

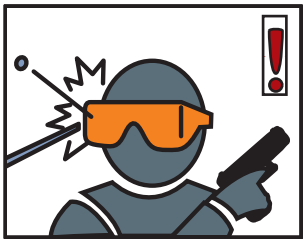
⚠ This airsof replica is not a children`s toy!
It can cause serious injury when used careless or improperly.

⚠ Not to be used by persons under legal age (under 18 years; 21 for some countries).

⚠ The airsoft gun is not a firearm, but for safety reasons treat the arisoft replica with the same attention and caution as a real firearm.

⚠ Always treat the airsoft gun as if it is loaded. Store and transport unloaded and with the battery disconnected in a locked gun case.

⚠ Do not display your airsoft gun in public areas and outside the specified airsoft game areas or shooting ranges, as it can be taken as a thread by bystanders and law enforcement.



Always wear safety goggles when using your airsoft gun. Do not use it if there are persons without safety goggles in the area.



Do not look into the barrel. Do not put your fingers in-front of the barrel.



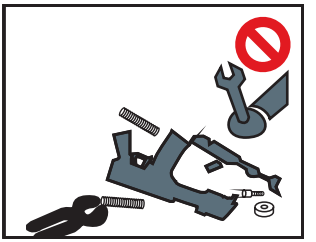
Never point or shoot your gun at people or animals. Allays keep the Safety ON until you are ready to shoot a target.



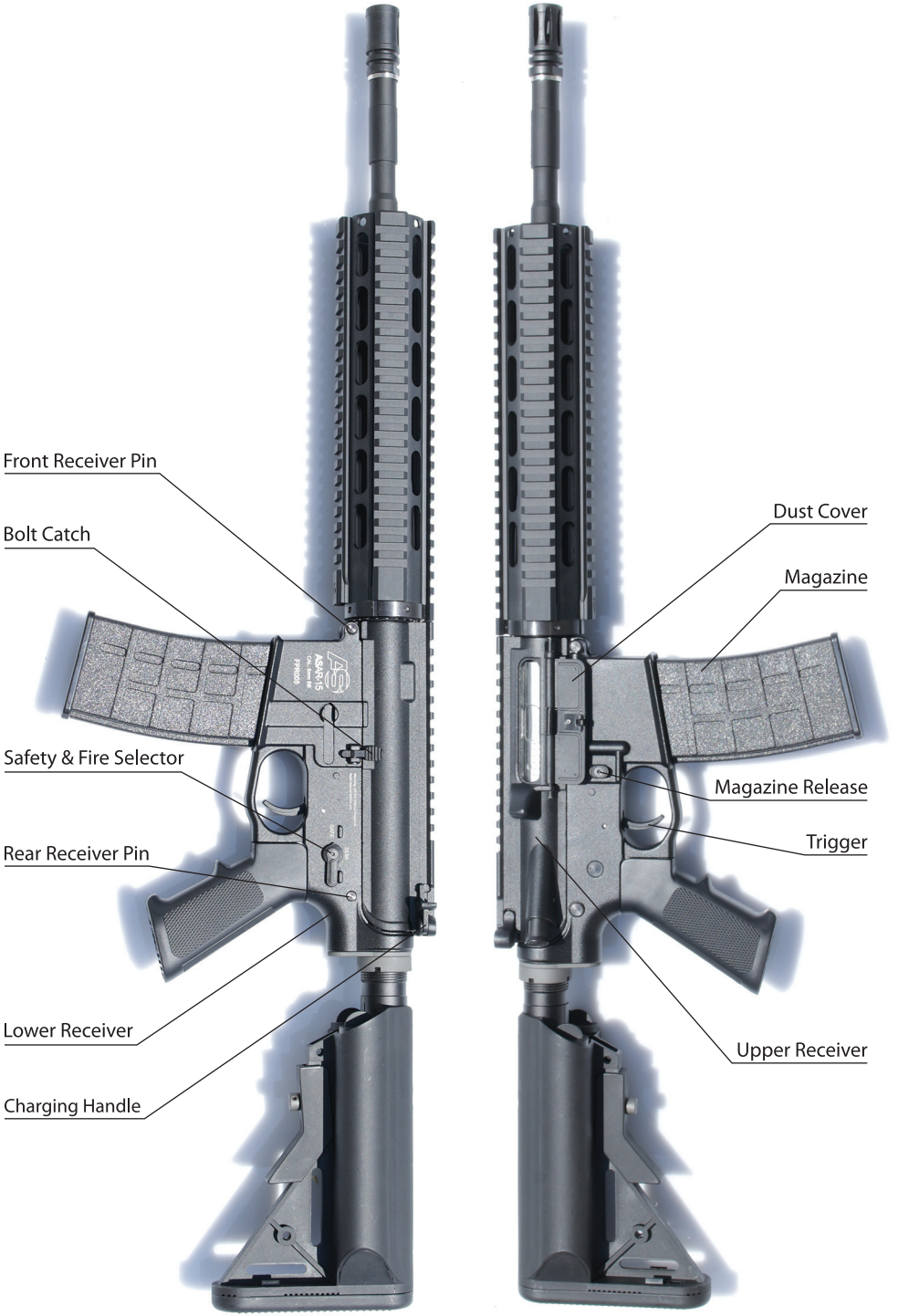
Do not use or carry your air soft gun at public areas. Transport only in gun case with the battery disconnected.



Never shoot holding the airsoft gun sideways, as the BB will curve due to hop-up effect.



Do not disassemble the airsoft gun yourself. For service contact your local airsoft service.
Always use top-quality 6 mm BBs.


Front Receiver Pin
Bolt Catch
Safety & Fire Selector
Rear Receiver Pin
Lower Receiver
Charging Handle
Dust Cover
Magazine
Magazine Release
Trigger
Upper Receiver

BATTERIES & CONNECTING THE BATTERY:

* Do not connect the battery to you airsoft gun before you have completely read and understood this manual.

For springs up to M90 use 7,4 V battery.
For springs M100 up to M150 use 11,1V battery.

*** Use only high quality LiPo batteries from 7,4 up to 11,1V**
For battery charging use only LiPo specific high quality charger to charge your LiPo battery.
* **Follow battery charging safety instructions as batteries can catch fire.**

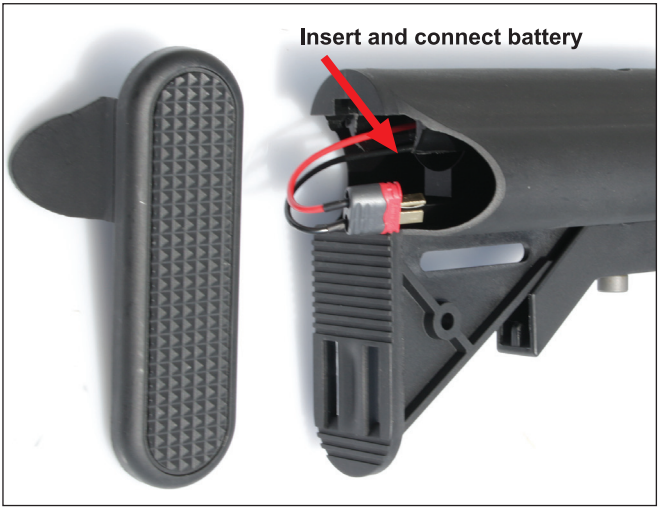
Connect the battery only on the game area, and disconnect it right after the game or shooting session is over and the gun has to be stored or transported.
*** A battery left in the airsoft gun for a long period (over 48 hours) might be damaged due to deep discharge.** Deep discharge period might vary on battery capacity.

*** Make sure the battery has the proper connector and that the polarity is the same as the one of the air-soft gun. Red wire is (+) Black wire is (-).**

Before connecting the battery make sure the fire selector is on SAFE and there is no magazine attached and no BB in the Hop_up chamber.

Open the butstock cap slide the battery into the stocks battery compartment or stock tube. Be sure that the battery is the proper size for this stock. Connect the battery and wait for the motor to vibrate/buzz. Attach the butstock cap.





* Only if local safety regulations allow, point the gun in a safe direction and put the safety in SEMI make one dry shot to make sure the airsoft gun operates properly. Then put the safety back to SAFE.

MAGAZINE & LOADING THEMAGAZINE:

The ASAR-15 is designed to accept almost all available standard M4/M16 AEG magazines. However it will work best with theAirsoft Systems Polymer Magazine.
For other brands magazines only low cap and up to 120 BBs mid-caps to be used.
* With other brands magazines the empty magazine detection function might not work properly.

1. Load BBs in your magazines**.**
***Use only top-quality BBs. Do not use soft or used BBs.**

2. Insert the magazine in to the mag-well and make sure it is securely locked in to place.

SHOOTING THE ASAR-15:

To shoot the airsoft gun, point it to your target, choose SEMI or AUTO mode and then gently pull the trigger. Pulling the trigger hard will not make the gun shoot any faster or further!

In SEMI mode the gun will fire a single shot for each trigger pull. In AUTO the gun will fire 3 BBs burst in a short trigger tap or a fully automatic chain of shots until the trigger is pressed.

*** NOTE - for some countries this airsoft gun is limited to SEMI mode only.**

When the magazine is empty, a new full magazine has to be loaded.
To detach the empty magazine push in the magazine release button.

If empty magazine detection is engaged (factory preset) the gun will stop shooting onse the magazine is empty. To resume firing function after a new full magazine is inserted the bolt catch button has to be pressed.

If the empty magazine detection function does not work property it can be switched off. For instructions check page 8.

*** When the airsoft gun is not shooting, always set the fire selector to SAFE to avoid accidental shot.**

WARNING! When the magazine is detached one BB is left in the hop-up chamber; that BB can be shot even with the magazine detached.

To remove the BB from the hop-up chamber: detach the magazine, turn the airsoft gun with the mag-well facing up, point the airsoft gun to safe direction and fire the BB.

When shooting session is over:
1. Detach the magazine.
2. Empty the hop-up chamber.
3. Disconnect the battery.

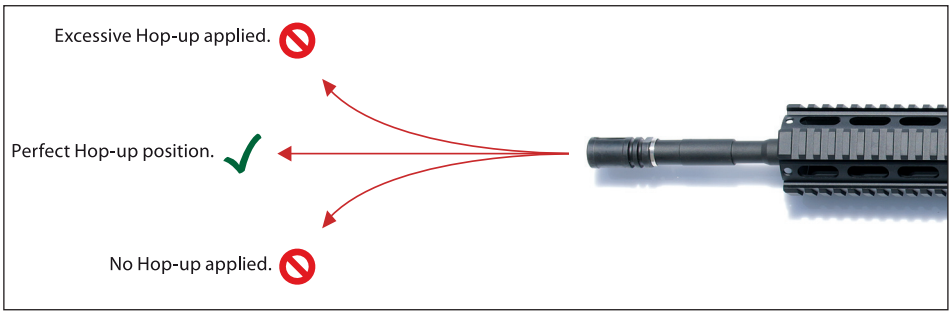
ADJUSTING THE HOP-UP:

The ASAR hop-up system is optimized for heavy BBs, it works best with BBs from 0.30 to 0.46 gram.

To access the hop-up adjuster open the dust cover, and pull the charging handle all the way back.



To increase the hop-up effect on the BB rotate the wheel to the front. To reduce the hop-up effect rotate the wheel to the back. Make the adjustments in small steps.



If the hop-up needs too much forward input in order to achieve the desired trajectory:
1. The hop-up rubber is dirty with oil or grease. To fix that clean the barrel.
2. You are using a BB that is too heavy for the current spring power setting. To fix that switch to a lighter BB.

If your have too-much hop-up effect on the BB at minimum hop-up setting, that means your BB is too light for the current power setting, you have to use heavier BB.

***Always use only top quality BBs**

FIRE SELECTOR MODES:

The ASAR-15 has 4 firing modes:
1. Safe – Semi - Burst+Full Auto combined. (Factory preset)
2. Safe - Semi - Full Auto
3. Safe- Semi – 3 rnd. Burst
4. Safe -Semi only

CHOOSING FIRE MODE:
Set the fire selector to "SAFE", then connect the battery, and within 3 seconds move the fire selector to "FULL AUTO" and pull the trigger. A long buzzing sound will indicate that you are now in "Program mode".

A grip buzzing sequence will start: one buzz for mode-1; two buzzes for mode-2; three buzzes for mode-3 and four buzzes for mode-4. Once you hear the number of buzzes for the desired mode, pull the trigger and the mode will be selected. A single buzz will indicate that the mode has been selected and the ASAR-15 is ready to operate.
The ASAR-15 will remember the last chosen mode and will keep it until another mode is selected.

CHOOSING HOP-UP MODE:

The ASAR-15 has an Empty Magazine Detection function (EMD), that can be switched ON or OFF.

To activate or deactivate the EMD function connect the battery and within 3 seconds push the bolt-catch lever. A long buzz followed by a short buzz will indicate the switch of the status. If the EMD was ON it will turn OFF, and if it was ON it will turn OFF.

Warning: the EMD will not work properly with all airsoft M4/M16/AR15 magazines available on the market. In that case turn OFF the EMD.
For best EMD function use original Airsoft Systems polymer magazines.

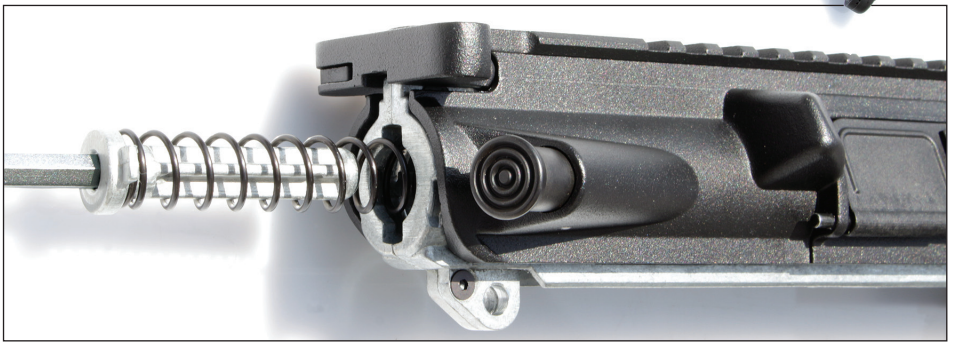
CHANGING THE SPRING POWER :

The ASAR15 is designed in a way that the main spring can be quickly changed to adjust the power of the gun to the desired setting or game regulation. This can be done even on the field with simple tools for less than one minute.

TO CHANGE THE MAIN SPRING:

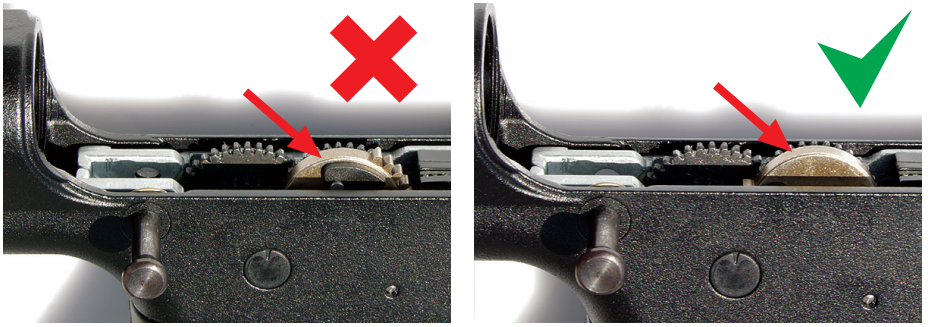
1. Detach the magazine and put fire selector on SAFE.
2. From the left side of the airsoft gun push the rear receiver pin. And then from the right side pull it out until it stops.
3. Hold the upper receiver with one hand and give a light tapp on the stock tube with the other hand. The receiver will tilt oppen.
4. Insert a 6 mm (.23") hex key into the spring guide. Push in and rotate 90 degrees CCW.
5. Pull out the spring guide and the main spring.
6. Insert the new spring and push the spring guide all the way in and rotate 90 degrees CW, then take out the hex key.
7. Close firmly the upper and lower receiver and push the rear receiver pin all the way in.





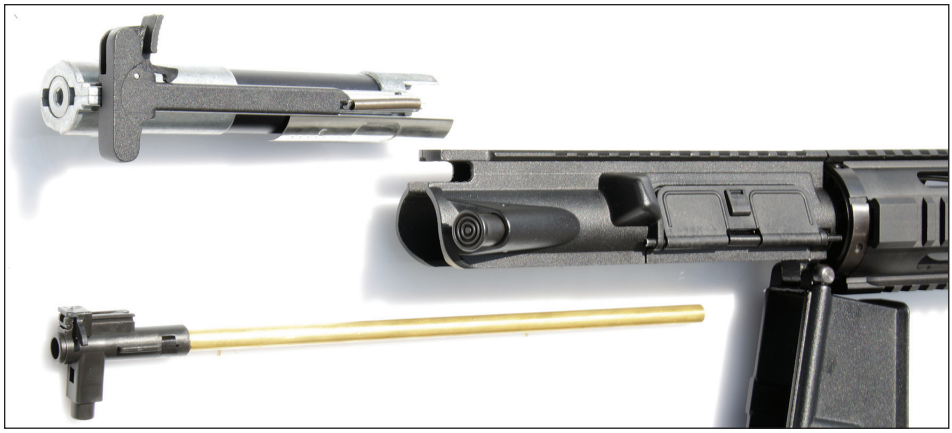
ATENTION! never exceed local airsoft regulations for spring power.

Note: All internals of the ASAR15 are designed to work with springs up to M150.

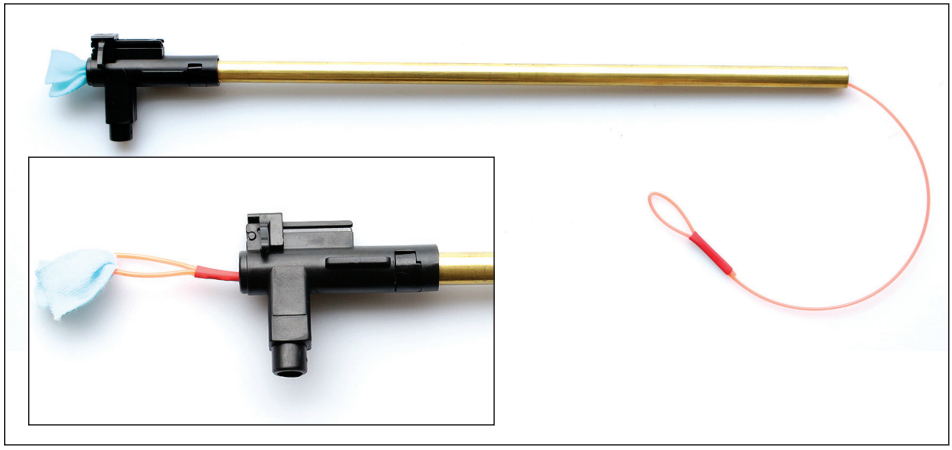


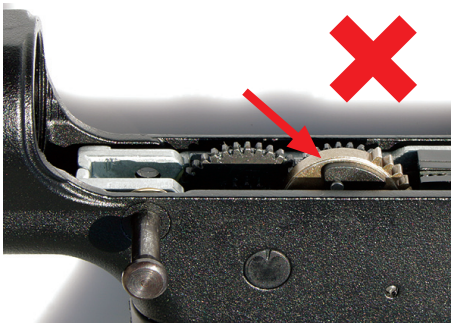
ATTENTION! Make sure the eccentric on the Sector gear is hidden in the lower receiver. If it is shown above, use a small screw driver to rotate the spur gear backward until the eccentric hides in. Be careful as there is a risk of breaking the tappet plate.

CLEANING THE BARREL:



1. Remove the battery.
2. Detach the magazine.
3. Open the receiver, by pulling out the rear receiver pin.
4. Take out the cylinder unit together with the charging handle.
5. Take out the inner barrel together with the hop-up chamber. Be careful not to loose the inner barrel spring. (the spring sits inside the outer barrel)
6. Make sure the hop-up adjustment slider is all the way back.
7. From the front end of the inner barrel push in the cleaning wire all the way inn until its loop shows from the hop-up chamber.
8. Insert a 2 cm x 4 cm cotton cloth in the loop. (you can use some alcohol based degreaser or pure alcohol on the cloth).
9. Gently pull the wire all the way out.
10. Repeat with a clean dry cloth.
11. Insert the inner barrel together with the barrel spring back in its place.
12. Insert the cylinder unit in the upper receiver together with the charging handle.
13. Close firmly the upper and lower receiver and push the receiver pin all the way in.





ATTENTION! Make sure the eccentric on the Sector gear is hidden in the lower receiver. If it is shown above, use a small screw driver to rotate the spur gear backward until the eccentric hides in. Be careful as there is a risk of breaking the tappet plate.

MAINTENANCE AND TAKING CARE OF YOUR ASAR-15

We have spent years into developing the ASAR to be as tough as possible, but still it will need some bit of attention and care to keep it in top working condition.

● It is important to use high quality batteries and to take good care of your batteries, as they are the ones providing the power for your airsoft gun. Do not use old or damaged batteries. A short-circuit inside the battery can damage the ASAR's electronics.

● When connecting the battery and closing the but-stock, be careful not to squeeze or damage the wires.

● Always disconnect the battery when the ASAR-15 is not in use, when it is transported and when it is stored.

● When the receiver is opened to change the spring or to inspect the gearbox, keep the gearbox from any kind of contamination getting in.

● When closing the receiver make sure the eccentric on the Sector gear is hidden in the lower receiver. As it is shown above, use a small screw driver to rotate the gears until the eccentric hides in.

● The ASAR-15 can be used in rain but do not submerge it in water.

● To maintain your ASAR-15 accuracy, clean the barrel with the provided cleaning wire once every 5 games. For cleaning procedure check page 10 of this manual.

● Depending on the intensity of use the gearbox can be cleaned and re-lubricated once every 25 to 50 games depending on the intensity of use and the dustiness of the game area. This operation has to be performed by an experienced airsoft technician. For detailed instructions on gearbox srevice please check at www.airsoftsystems.com.

● Every airsoft gun equipped with MosFet with active breaking will wear the brushes of the motor faster. At some point the motor of the ASAR will need its brushes to be replaced. This has to be done by an experienced airsoft technician.

TROUBLESHOOTING:

This is a list of problems that can be solved on the field with basic tools and skills. For any other problem contact Airsoft System's Support Team at info@airsoftsystems.com

Problem:
Battery connected but no start-up signal.
What to check:
1. check if battery is charged.
2. check battery connection.
3. Check the wires connection to the motor.

Problem.
Empty magazine detection is not working.
What to check:
1. Maganies might not be compatible with the ASARs EMD function.
2. The connecting flat pins on the cylinder might be bent and not touching the connection pads on the control unit. With small tool bend them very gently to improve contact.
3. The detection switch can be broken; in that case cylinder sensor board has to be relapsed. Contact Airsoft Systems for spare part.
* To switch off the EMD function please check the procedure on page 8 .

Problem.
Error signal with charged battery.
What to check:
1. Try with another charged battery.
2. Check motor height adjustment.
3. Inspect the gearbox for any debris or obstruction of the gears.
4. Check if cut-off lever works properly.
5. Check for any deformation and the integrity of the piston.

TESTING THE ASCU OF THE ASAR-15

The ASCU of the ASAR-115 is the most advanced we have ever build. As any high power electronics it can also fail due to multiple reasons. This is why we have integrated a test program to check the condition of the electronics inside the ASAR-15.

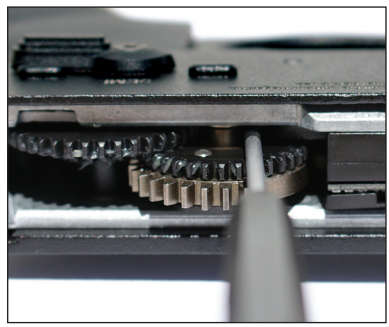
* For this test a thin tool (3mm screwdriver) must be used to push down the cut-off lever.

To test the ASAR-15 ASCU:

1. Disconnect the battery and remove the magazine.

2. Push out the rear receiver pin and open the receiver.

3. Connect the battery and before 3 seconds run out with the thin tool push down the cut-off lever as close as possible to the axis of the sector gear. A 3 times buzzing sequence will indicate that you are in Test Mode. **Take the tool out of the gearbox.**



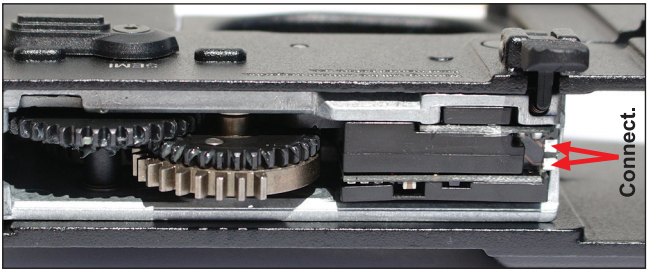
4. Push again the cut-off sensor, you have to hear buzzing while holding it ; (no buzzing means that the cut-off switch is not working).

5. Set the fire selector in SEMI and pull the trigger - the motor will start for a second and then stop. (no motor spinning means that trigger switch or selector switch is not working)

6. Set the fire selector in AUTO and pull the trigger - the motor will spin until the trigger is released. (no motor spinning means that trigger switch or selector switch is not working).

7. Push the Bolt-catch lever – the motor will start buzzing until the Bolt-catch is released. (no buzzing means that the bolt-catch switch is broken).

8. With a metal tool connect the two contact terminals for the EMD sensor – the motor will start buzzing until the connection is broken. (no buzzing means that the EMD terminal has failed).



9. To exit from test mode just disconnect battery.

To test the EMD sensor you will need a multimeter.

1. Take the cylinder unit out of the receiver.

2. Set the multimeter for connectivity test and connect its both terminals to the flat pins under the Cylinder unit.

3. Push the micro-switch in front of the cylinder. If the multimeter indicates connection then the EMD sensor is OK. If the multimeter shows no connection while the micro-switch is pressed in, then the EMD sensor needs replacement.

For any detected malfunction contact Airsoft Systems at info@airsoftsystems.com for support and instructions.

ASAR-15 WARRANTY:

The ASAR-15 comes out with a unique for the airsoft industry
36 months international warranty.

All of the components of the ASAR-15 are covered by warranty for production defects. That means if any component of the ASAR-15 shows a production defect for a period of 36 months after the date of purchase Airsoft Systems will replace that component free of charge.

Special 36 months "NO QUESTIONS ASKED" warranty on the upper, lower receivers and the gearbox shells. That means that if by any reason any of those parts gets broken Airsoft Systems will replace it with a new one free of charge.

The warranty does not cover the normal wear of parts, that means for example if the brushes of the motor do wear out - this is normal wear and they are not covered by warranty.

Motor pinion gear is not covered by warranty as it can be damaged due to improper motor height adjustment by the user.

The warranty does not cover cosmetic damages due to the use of the ASAR-15.

WARRANTY VOID IF:

1. There are clear signs of intentional damage.
2. If the main components of the ASAR-15 are modified in a way that it is interfering with the function of the gearbox, the cylinder unit and the electronics.
3. If battery with voltage higher that 12 V has been used. (*voids only the warranty for the electronic unit).
4. If the ASAR was completely submerged under water. (*voids only the warranty for the electronic unit).
5. If the gearbox has been damaged due to contamination – for example sand in the gearbox. (*voids only the warranty for gearbox internals).
6. If the cylinder unit has been damaged due to contamination – for example sand in the cylinder or on the piston. (*voids only the warranty for the cylinder internals).

HOW TO GET WARRANTY SERVICE OR REPLACEMENT:

You have to contact our support team at info@airsoftsystems.com for detailed instructions. Then you have to send the damaged or broken part to Airsoft Systems in Bulgaria. Then a new part will be sent to you.

*Airsoft Systems covers only the shipping cost of the replacement prat from our factory in Bulgaria to your address.

** Airsoft Systems does not take any responsibility for delays and losses due to the post or courier services.

*** Airsoft Systems does not refund customers and does not replace a complete ASAR-15. Airsoft Systems only replaces damaged or broken parts.

Replacement parts will be returned no later than 45 days from the date they are received.

AIRSOFT SYSTEMS
www.airsoftsystems.com

INTERNATIONAL
WARRANTY CARD
ASAR-15

Date of purchase

***Please attach a copy of the purchase order or the invoice.**

Dealer:

Dealer contact (e-mail and phone number)

Owner name:

Owner address:

Owner contact (e-mail and phone number)



DISCLAMER:
Manufacturer / distributor assumes no liability or responsibility of any injury, damage of any type, third party liability, diminished value or any other type of claim raised by the user, their collaterals, assigns and or agents of this product. By using this product the user accepts all personal and legal liability of any type listed under the UCC and all state regulatory agencies where applicable.

This Product is manufactured in Bulgaria (EU)
by Airsoft Systems Ltd.
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1220 Sofia
Bulgaria.

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