ARMOTECH WG65 SERIES PAINTBALL MARKER OWNER'S MANUAL

WARNING

ARMOTECH PAINTBALL MARKERS ARE NOT A TOY. ANY MISUSE MAY CAUSE SERIOUS INJURY OR DEATH. THE USER AND ANY PERSON WITHIN RANGE MUST WEAR EYE PROTECTION DESIGNED FOR PAINTBALL USE. READ THIS OWNER'S MANUAL COMPLETELY BEFORE LOADING, PRESSURIZING, OR OPERATING YOUR ARMOTECH PAINTBALL MARKER.

This paintball marker is intended for sale to adults only, for use in compliance with all applicable laws and regulations. Adult supervision is recommended at all times whenever a minor is handling this paintball marker. All persons within range MUST wear protective goggles & headgear specifically designed for paintball when a paintball marker is in use. Paintball safety rules must be followed at all times.

ARMOTECH WG065 OWNER'S MANUAL, Compiled for ARMOTECH International, by
John L.R. Dovale, Dangerous Enterprises. Imagery by Mark Chance, Island Designs (ala Section 8)
Armotech International / Armotech Taiwan Ltd. http://www.armotech.net, http://www.armotech.us
6F No 10 Sec 4 Tzu Chiang Rd, San Chung, Taipei Hsien, Taiwan R.O.C.
Technical support forum http://www.armotech.us/forum

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This owner's manual is provided with several models of the MARS series paintball marker. Armotech Inc reserves the right to modify or change its markers without incurring any obligation to incorporate such modifications or changes in any of its products that were sold prior to the modification. The information in this owner's manual may be updated or changed without notice.

This owner's manual is intended to remain with the paintball marker upon any subsequent transfer of the marker, whether through sale, resale, or furnishing in any manner.

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Chapter 1

Paintball Safety Rules

Safety First!

⚠WARNING

ARMOTECH PAINTBALL MARKERS ARE NOT A TOY. ANY MISUSE MAY CAUSE SERIOUS INJURY OR DEATH. THE USER AND ANY PERSON WITHIN RANGE MUST WEAR EYE PROTECTION DESIGNED FOR PAINTBALL USE. READ THIS OWNERS'S MANUAL COMPLETELY BEFORE LOADING, PRESSURIZING, OR OPERATING YOUR ARMOTECH PAINTBALL MARKER.

- Always wear protective goggles & headgear designed for paintball when shooting this marker
- Everyone within range of an area where this paintball marker is used should wear protective goggles and headgear specifically designed for paintball
- Operate this paintball marker only in areas where it is safe and lawful to do so
- Misuse of this marker may result in criminal charges or imprisonment
- This marker is intended for sale to adults. Adult supervision is recommended at all times whenever a minor is handling this marker
- READ THIS OWNER'S MANUAL COMPLETELY BEFORE LOADING, PRESSURIZING, OR OPERATING THE ARMOTECH WG SERIES PAINTBALL MARKER!
- Never aim or shoot this paintball marker towards anybody who is not wearing protective goggles or headgear specifically designed for paintball
- During game play, follow referee's instructions and all field safety rules. Avoid shooting at another player's head, neck or groin area
- Play paintball only where the rules of safety for paintball are followed
- All paintball markers must be chronographed regularly. Adjust the marker to shoot paintballs at a velocity this is 300feet per second (fps) or less and that does not exceed the velocity limit set by

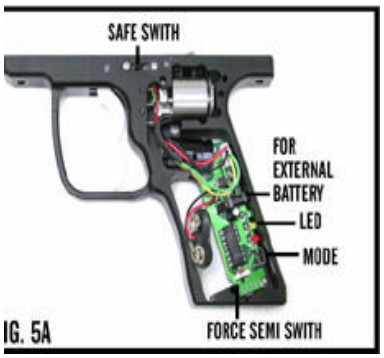
the Paintball Park or field where the marker is in use. Chronograph the marker at regular intervals during the day, as well as any time the power source is refilled or changed, any time the barrel or any part of the power system is changed, and upon request of any player or game official

- This paintball marker operates using compressed gas or air at specified pressure ranges. Follow safety procedures when handling compressed gas or air. All filling of compressed gas or air cylinders must be done by qualified persons
- Follow the rules of safe marker handling: keep finger off the trigger until ready to shoot. Keep muzzle pointed in a safe direction. In addition, firmly insert a barrel plug into the muzzle and push the mechanical or electronic safety to "ON" or "SAFE" when the marker is not in use and when in any non-shooting area
- Never shoot at domestic animals or wildlife
- Never mark objects outside the confines of the game or authorized shooting areas
- Never look down the barrel of a marker
- Before disassembly, storage, or transport of this marker, remove ALL paintballs from the marker, barrel, and loader: remove power source: and remove all gas or air from the power system. Insert a barrel plug and put the safety "ON"
- Carry your marker in a case or sturdy bag when transporting it in public
- Safely and securely store marker to prevent access to it by unauthorized persons or minors.

Operating Instructions

⚠ WARNING

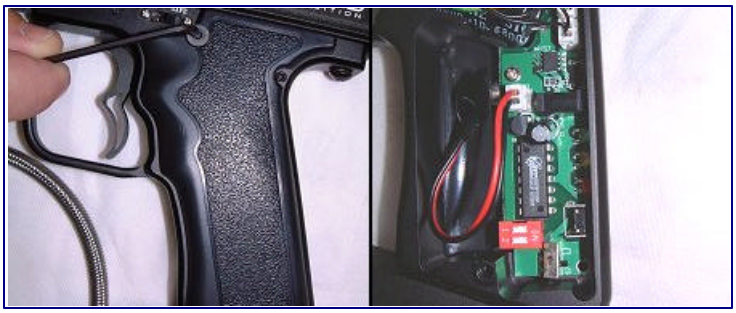
Every person within range of this paintball marker must wear protective goggles and headgear specifically designed for paintball.



IG. 5A

1. Before continuing with these instructions please refer to the section in Chapter 2 on maintenance and lubrication (pg 16). Your marker should first be properly cleaned internally & lubricated prior to firing to avoid unnecessary wear or damage on the internals. After completing that task, return to this section and continue with step 2 if you have the WG65E (which comes standard with electronic trigger). If you have a WG65 skip to instruction point 5 and continue.

2. Use the supplied hex-wrench tools to unscrew the two screws on the trigger frame on the left side of the gun – (the side with the pressure gauge) and remove the trigger frame cover.



3. Use a rechargeable 9.6v battery to power the trigger frame. Insert the battery into the frame, and ensure that no wires are loose, pinched or unsecured before replacing the frame cover.

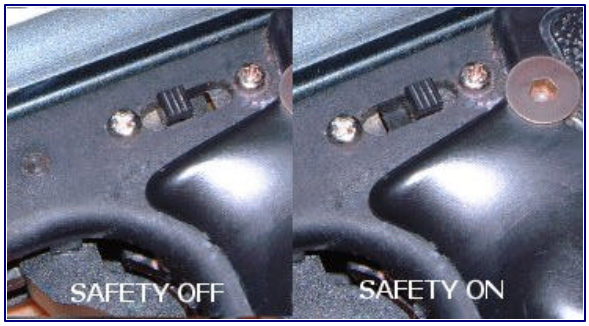
> ⚠ **WARNING:** Do not recharge the battery while it is in the grip frame. The battery will over heat and damage the electronic circuit board.
> For optimal performance we suggest that a Armotech 9.6 volt rechargeable battery is used.

FIG. 5B

4. Turn the trigger frame ON, by pressing the mode button at the back of the trigger frame one time - the green LED should light up. This signifies that the marker is in SEMI shot mode. Pressing the MODE

button again will put the marker in 3-BURST mode. Pressing MODE one more time will put the marker in FULL AUTO mode. To turn off the trigger frame, press and hold the MODE button for a few seconds until ALL LEDs are off.

5. Make sure the safe switch is in the SAFE position. On the WG65E push the switch to the right to turn safe ON, or the left to put marker in active firing mode. On the WG Semi, press the button on the trigger frame to the right for SAFE ON, and to the LEFT (red ring should be visible on the button) for SAFE OFF.

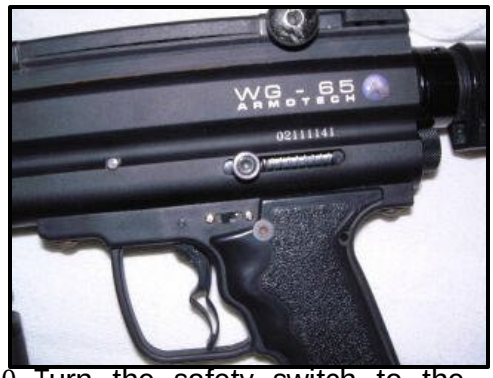


6. Attach threaded barrel firmly to marker.

7. At this time do not attach power source or loader, and do not load any paintballs into the marker.

8. Insert barrel plug firmly into the barrel.

9. Pull the cocking handle (left side as illustated) straight back until the cocking mechanism locks back in the cocked position



10. Turn the safety switch to the FIRE position and then squeeze the trigger with an even pressure. The cocking knob should snap forward into the un-cocked position. You have just dry-fired your Armotech marker. Do this a few times until you are comfortable with this operation and the feel of the marker when cocking, and firing it.

11. Using the supplied hex-wrench make certain to properly tighten all screws on your marker. These include the trigger frame, the secure positioning screws on the powerfeed, and the lug inside the cocking knob. Do not overtighten and take care not to strip ANY of these screws. Tighten the screw holding the cocking knob – DO NOT TIGHTEN THIS ALL THE WAY DOWN – IT CAN CAUSE DAMAGE TO THE SPRING.

12. Attach the loader or hopper to the powerfeed via the supplied elbow . Some loaders may require their feed-necks to be sandpapered in order for them to fit properly into the elbow or powerfeed of the marker. Do not overtighten the screws on the elbow as you can crack it (its plastic)

WARNING: Use .68 caliber paintballs only. Never reuse ammunition. Use of any other ammunition can cause injury to you and/or others, or damage to the paintball marker. Do not remove or replace the POWER FEED PORT.

Compressed Air/Gas

WARNING

The power system contains compressed gas or air when pressurized. Never disassemble the marker until removing ALL the gas or air from the power system. Always keep hands away from escaping CO2 gas. It can cause frostbite if allowed to come in contact with skin.

- Before attaching any air or gas power source, read and understand this section of the owner's manual. Follow safety rules for handling compressed air/gas. If any leaks occur in the power system, refer to troubleshooting section or Armotech support. Use only cylinders for compressed gas or air that comply with all applicable laws and regulations, including but not limited to those of the US dept of transportation, OSHA, Compressed Gas Association and/or American Society for Testing and Materials.

- VERTICAL AIR: The power source is attached by screwing the threads of the tank or power source adapter into the threaded ASA in front of the trigger frame – you can screw it into the 90 degree adaptor, or remove that and screw into the vertical ASA directly.

- When cocking the pressurized marker do not release the cocking knob until after the cocking mechanism has locked back into the cocked position. The marker is now ready to fire.

- Test for function – now that the power source is loaded and the marker cocked, turn the trigger frame ON (for electronic triggers), and flip the safety switch to the FIRE position and squeeze the trigger. The marker should shoot air, and the cocking knob should cycle back to the cocked position ready to fire again. Repeat this several times to get used to the action of the marker. You have now fired your marker WITH loaded power source.

The ARMOTECH paintball marker may be powered by CO2, regulated compressed air (HPA), or regulated nitrogen. From the source of gas or air through the entire power system, there are varying pressures that are applied to the marker and the components of the power system.

The marker requires a minimum of 450psi for proper operation – if you are using CO2 please refer to the manufacturer's information to learn how to adjust, control and properly maintain your input pressure. The WG marker does not have an inline regulator system.

If you are using HPA please ensure that the HPA bottle regulator output is at least 550 PSI.

WARNING: Keep hands away from escaping CO2 gas. It can cause frostbite if allowed to come in contact with skin. If the CO2 source you are using has an on/off valve, make sure it is in the "OFF POSITION" before attempting to remove it from the paintball marker. Do not expose the CO2 source to heat or store the CO2 source at temperatures above 130^{0}F (54^{0}C). Always follow the manufacturer's warnings listed on the CO2 source for handling and storage.

SAFETY RULES FOR HANDLING COMPRESSED AIR OR GAS MUST BE FOLLOWED AT ALL TIMES!

OPERATING PRESSURES AND INPUT PRESSURE

- Operating pressure range 450 p.s.i. to 1150 p.s.i. (Although some markers have been known to operate at pressures as low as 330 p.s.i. or pressures over 1200 p.s.i. it is recommended that the specified operating pressure of the Armotech marker be used in order to avoid problems.)
- Never exceed recommended pressures, as this may be dangerous to you and damaging to the marker.
- Do not leave a pressurized marker or cylinder in direct sunlight or exposed heat source. Increased temperatures will increase the internal pressure of the compressed gas or air and could cause problems.

VALVE CYLINDER CONNECTION

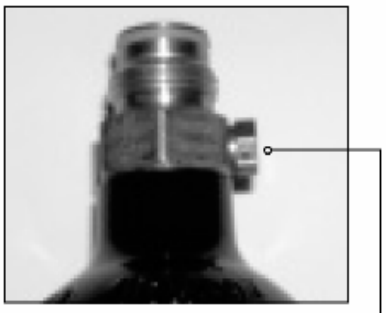


Figure 5 Safety burst disk.

- The Valve on a cylinder is to remain screwed into the cylinder. Should it loosen, the cylinder may detach from the valve with an extremely dangerous force.
- Every time a cylinder is filled, the connection between the valve and cylinder must be inspected. If any looseness or leak is detected between the valve and the cylinder, do not fill. Drain the cylinder and have it inspected by qualified persons.
- During filling if any looseness or leak is detected between the valve and the cylinder, filling should be stopped and the cylinder should immediately be drained to avoid problems.

FILLING COMPRESSED AIR/GAS

- An overfill of any compressed air or gas cylinder can cause the safety burst disk on the cylinder to rupture. A cylinder may rupture with excessive force. Use properly rated disk only for the burst disk.
- A scale must be used for ALL CO2 fills to prevent an overfill. A pressure gauge must be used for all compressed gas or air fills to prevent overfills.

- Many cylinders are required to have US Department of Transportation hydrostatic tests done at periodic intervals. This interval varies depending on the cylinder type. The date of the cylinder's initial or last testing appears on the cylinder. Out of date cylinders should not be used.

- Installing the Gas/Air Power Source
    - Make sure the BARREL PLUG is placed in the barrel
    - Put the trigger frame on SAFE
    - Screw the compressed air/gas source into the ASA Adapter
    - Tighten until you feel a solid stop
    - Turn the gas/air on if it has an on/off valve, otherwise it should be active and ready to go.
    - Do not store the marker with power source installed and full

- Removing the Gas/Air Power Source
    - Always remove power source before performing disassembly of marker
    - Unload all paint from the marker and detach the hopper/loader
    - Put the trigger frame on SAFE, (or turn trigger frame OFF if it's the electronic version)
    - If the power source has an on/off valve– shut it OFF. Otherwise point the marker in a safe position and slowly unscrew the power source.
    - You will hear some compressed gas/air escaping via a bleed-hole while unscrewing the power source. If you prefer you can fire the marker to release ANY pressure in the system, while continuing to unscrew the power source.
    - If the unscrewing is difficult the system still has too much pressure in it – check to make sure the power source is OFF (if it has an on/off valve), or to ensure it is completely discharged before continuing. CO2 can cause damage to O-rings. These need to be inspected regularly to avoid leaks.

Velocity Adjustments

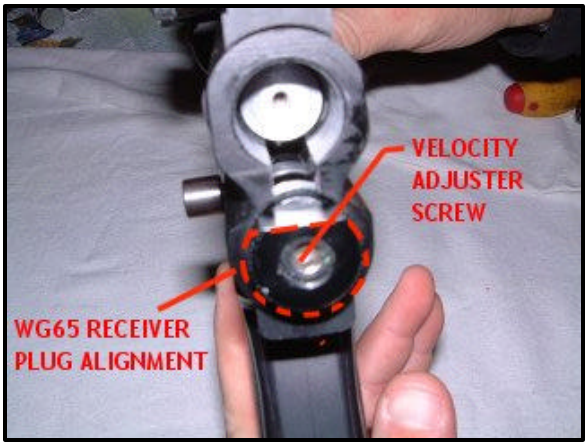
⚠ WARNING

All paintball markers must be chronographed regularly. Adjust marker to shoot paintballs at a velocity that is 300 feet per second (fps) or lower. Make sure the velocity setting is not in violation of the limit set by the authorities of the location where you are playing.

Chronograph the marker at regular intervals during the day as well as any time the power source is refilled or changed or any time a player or game official requests.

- The velocity knob is located at the back on the receiver (marker body). On the Armotech WG65, 65E, marker this velocity adjuster can be turned by hex tool only. On the Wg65A1 and A2 there is NO adjustment screw for velocity.

- The illustrations below show how to adjust the velocity screw on the standard WG65 (does not apply for A1/A2). It also shows the setup



at the rear of the A1/A2 models which do not have a velocity screw. You can adjust the velocity by turning the complete striker plug assembly or by adjusting the length of your spring on this

model of marker. To adjust velocity after, turn the velocity screw clockwise in ½ turn increments. To decrease velocities turn the velocity screw counter-clockwise. Once the desired velocity has been reached, lock the velocity screw in place.

- Note: velocity may fluctuate depending on factors such as altitude, type of power source used, and climate conditions. Before using your marker make sure to perform a safe velocity test.

- Use a chronograph and let's ensure we are within the safely allowable velocity range. Velocity should NEVER exceed 300 f.p.s. Some paintball fields may require your marker to be set under 300 f.p.s. Most Armotech markers are shipped shooting above 300fps and will require adjustment to turn them down to acceptable limits.

- Velocity of the marker can also be affected or controlled by the settings of a regulated air/gas supply. On the Armotech WG series an aftermarket regulator would have to be added for CO2 users (such as the palmer stabilizer, or the CM2000 from fun supply).

- The marker is factory set to operate at 450-500 p.s.i. as the minimum required operating pressure – Additionally should your p.s.i. limit exceed 1000 p.s.i. the marker may exhibit strange behavior such as rapid-firing, or no-recocking. You will either need to relieve some of the internal pressure on the air bottle, or regulate your supply to avoid these issues.

Electronic Trigger Operations

⚠ WARNING FOR WG65 E - MARKERS ONLY

If using the trigger frame to recharge the battery do not exceed 3 hours of charging time. Recharging the battery via the trigger frame for longer than this could cause overheating and damage the internal circuitry

For optimal performance we recommend using rechargeable batteries with no less than 180mA rating.

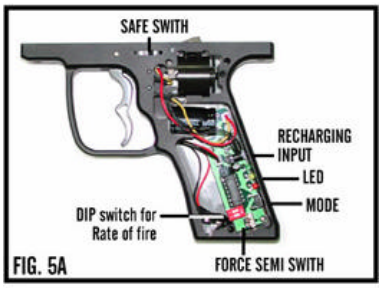


FIG. 5A

FIG. 5B

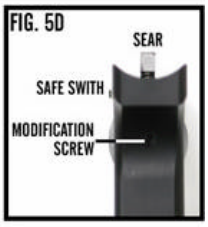


FIG. 5D

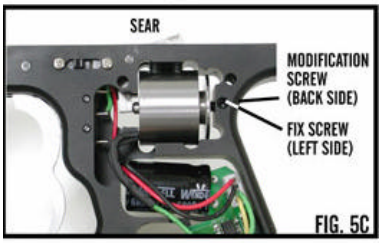


FIG. 5C

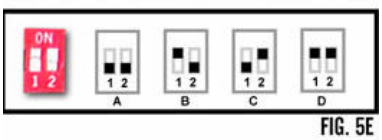


FIG. 5E

- The Armotech Electronic trigger frame is outfitted with an electronically controlled SAFE switch. The SAFE switch is located on the left-hand side of the trigger frame just above and to the back of the trigger assembly.
- To put the marker in SAFE mode – flip the safe switch to the “SAFE” or “ON” position by sliding it to the right. To put the marker in LIVE FIREmode – slide the switch to the left.
- All the Electronics as well as the battery pack connection are accessible by removing the grip frame cover on the left side of the trigger frame (same side as the SAFE switch). After removing this cover carefully examine the electronics and become familiar with them.
- The trigger is TOURNAMENT ready. It has a tournament locking switch (or FORCE SEMI SWITCH) which forces the trigger frame into SEMI fire mode and cannot be changed from the mode button on the back of the trigger during play. Some field require this to be activated in order to use the marker. To turn on SEMI LOCK flip the switch to the left (see fig 5A)
- When the FORCE SEMI SWITCH is off the trigger operates normally. In this mode, the player can change firing modes using the mode button to the back of the frame. With a battery inserted, click the MODE button to activate the trigger. It should activate in SEMI mode, indicated by the green

LED. Press the MODE button one more time – the setting should change to TRIPPLE BURST (orange). Press the MODE button again and the mode changes to FULL AUTO (red). Press and hold the MODE button for a few seconds and the system will power off.

- Depending on how sensitive you want your trigger frame to function, some adjustments will be needed. Please consult the ARMOTECH ONLINE FORUM at http://www.armotech.us/forum/ for details and information on this task, or request assistance from your authorized dealer. In most cases the marker should arrive with all the required trigger frame settings pre-adjusted to optimal operation

- Armotech recommends that this marker be used with some form of agitated or force fed electronic loader/ball feeder if a player plans to use burst mode or full auto mode on the trigger frame. Using an electronic hopper will allow a player to shoot at a higher rate of fire. Fig 5E shows the rate of fire DIP SWITCH and the various settings for the different rates of fire which the trigger frame can handle.

- The marker comes standard set to 6 balls per second (b.p.s.). However, the rate can be changed up to 13 b.p.s. Set the rate of fire based on the rating of your loader and test it for optimal performance and minimal ball breakage.

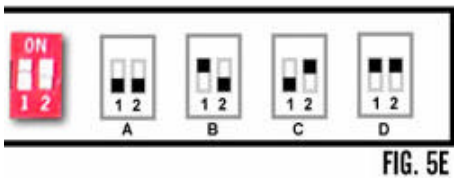


FIG. 5E

  - Fig 5E block A shows the settings for 6 b.p.s.
  - Fig 5E block B shows the settings for 7 b.p.s.
  - Fig 5E block C shows the settings for 10 b.p.s.
  - Fig 5E block D shows the settings for 13 b.p.s.

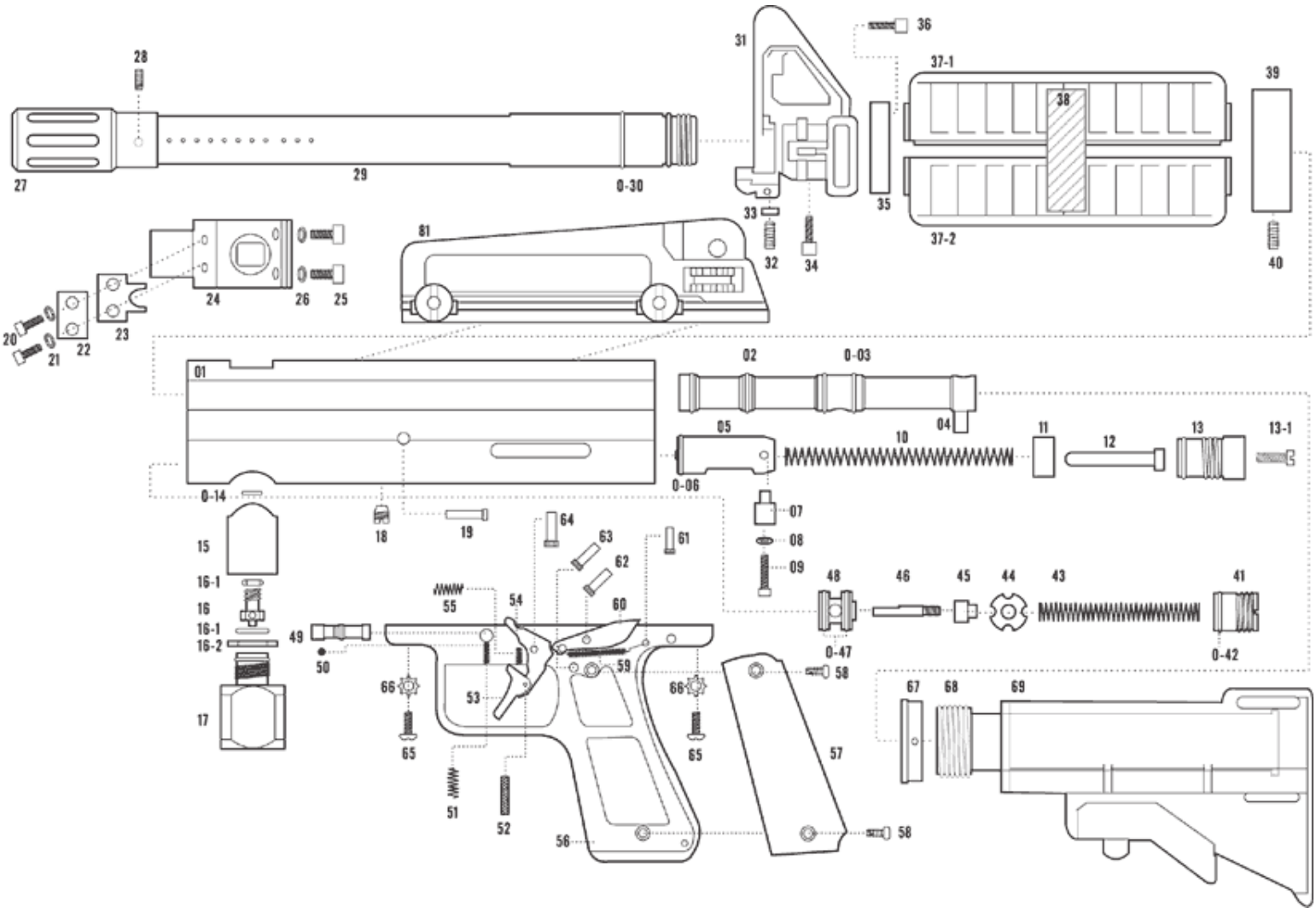
Chapter

2

WG Series Marker Specifications

1. Lightweight Aluminum Milled Receiver Body (realistic weight and feel)
2. Semi or Electronic Trigger Frame (WG65E only) with semi, 3-burst, and full-automatic modes
3. Adjustable rate of fire from 6 bps to 13 bps on e-trigger models only
4. Quickstrip Field Maintenance
5. Rear Velocity Adjustment (on all models except A1, A2)
6. Vertical ASA with 90 degree adapter
7. Standard 14" 1 piece barrel – ported
8. Side Cocking Blowback
9. Angled, Removable Ball Feed
10. Angel Style Ball-Bearing Ball Detent (new generation models only)
11. Feed mounted rubber adjustable Ball Detent system (all models)
12. AR-15 type Weaver Mount Sight Rail and integrated carry handle (removable)
13. .689 Caliber Bore
14. Adjustable –collapsible Carbine stock (WG65, 65E, 65 Elite, 65 RIS models
15. Fixed Rifle stock – WG65-A1 and A2 models only
16. Front grip rails on barrel (foregrips differ depending on model chosen)
17. Front barrel mounted AR15 sight rail system with sling loops

Parts Listing & Diagrams (WG65 standard)



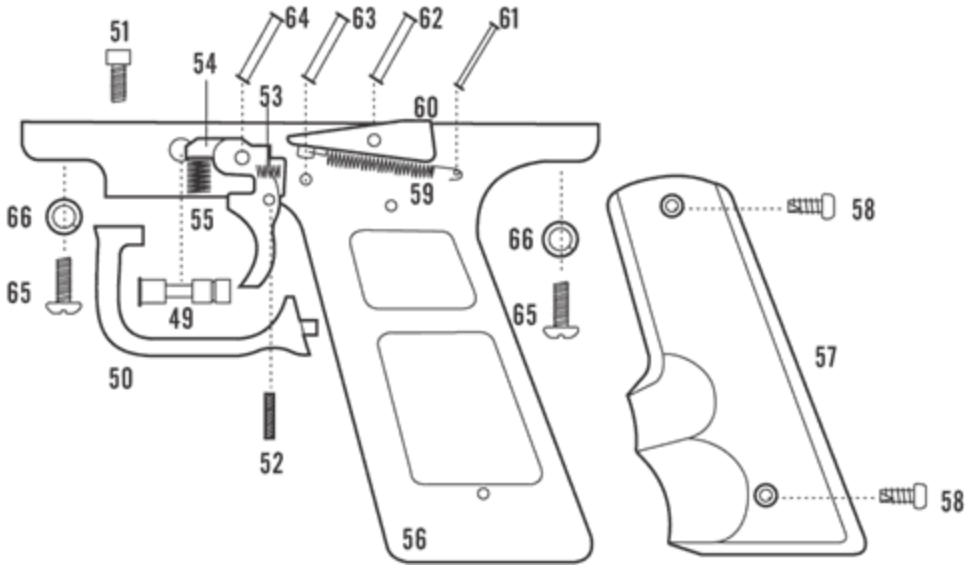
1. WG Standard Receiver Body	2. Bolt
3. Bolt o-ring grooves and 0-03 o-rings	4. Bolt /Striker Alignment Pin
5. Striker 0-06 striker o-ring	6. NA
7. Cocking knob housing	8. Cocking knob lockwasher
9. Cocking knob hex screw	10. Striker Spring
11. Striker Rubber Buffer	12. Striker Spring Guide
13. Rear Striker Plug/Housing 13-1 vel. adjuster	14. ASA Adapter Body 0-ring
15. Vertical ASA Threaded Section	16. Internal Valve Pin Airflow Assembly (16-1 o-ring, 16-2 locking adjuster nut for 90 degree ASA

17. Screw 90 degree ASA Section	18. Valve alignment retainer lug
19. Valve pin	20. Hex screws for rubber detent retaining plate
21. lock washers for detent retaining plate	22. Detent retaining plate
23. Adjustable rubber ball detent	24. Angled ball powerfeed unit (bolt on unit)
25. Hex screws for ball powerfeed	26. lock washers for ball powerfeed
27. Muzzle Break	28. locking lug for Muzzle Break
29. Standard WG 14" Barrel (20" on A1/A2 model)	30. Barrel O-ring and o-ring groove
31. Front AR-15 sight	32. Front site alignment/lockling lug
33. copper spacer for sight alignment lug	34. sling adapter locking hex lug on front site
35. Front handguard alignment housing ring	36. Handguard front ring to sight retainer screw
37. front handguard plastic pieces (2 piece)	38. handguard innerstrength ring (except A1/A2 models)
39. rear M4 handguard retainer alignment ring	40. retainer locking lug (now 4 hex lugs)
41. Front volumizer retaining plug	42. Volumizer O-rings
43. Volumizer Valve Pin Spring	44. Cup Seal Air guide/Spring Retainer
45. Cup-seal	46. Valve Pin
47. Valve O-rings	48. Turbo Valve Assembly
49. semi trigger safety pin	50. Trigger safety pin locking hex retainer hole
51. trigger safety pin locking lug	52. trigger retaining pin
53. semi single trigger	54. upper trigger firing mechanics
55. trigger-play fine adjustment lug	56. trigger grip-frame semi models
57. Grip-frame covers	58. Grip-frame cover screws (hex)
59. Sear tension spring	60. Sear
61. Sear tension spring retaining pin	62. Sear retaining pin
63. Sear tension spring lower retainer pin	64. upper trigger mechanism retainer pin
65. Trigger frame attachment screws	66. Locking washers
67. AR-15 carbine stock locking ring	68. AR-15 threaded stock rod
69. AR-15 carbine stock but with adjl. Handle	81. AR-15 carry handle and sight system

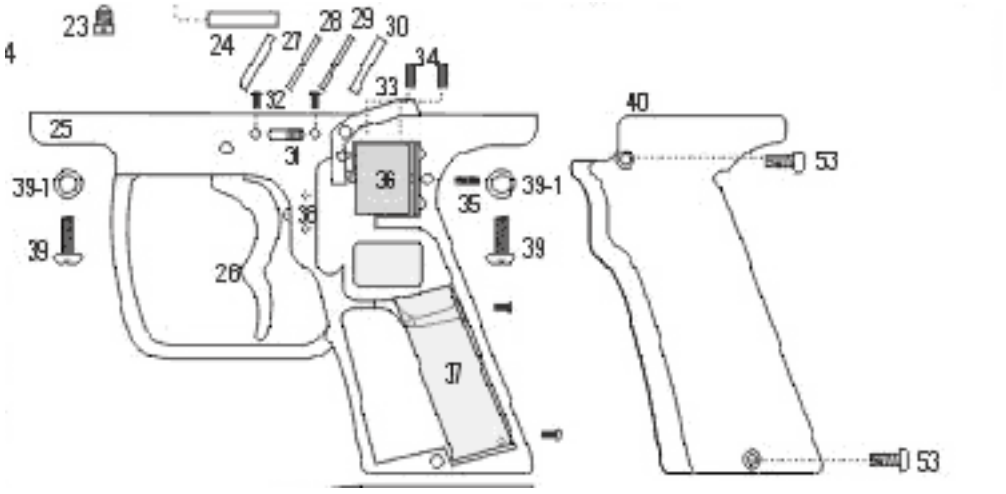
NOTE:

All WG65 units have the same parts with the exception of the WG65 A1/A2 where the striker retainer plug has no velocity adjustment screw, and the but stock, and handguards attach differently. This will be covered later in this manual

Semi Trigger Frame Cross Section of Parts



E-Trigger Frame Cross Section of Parts



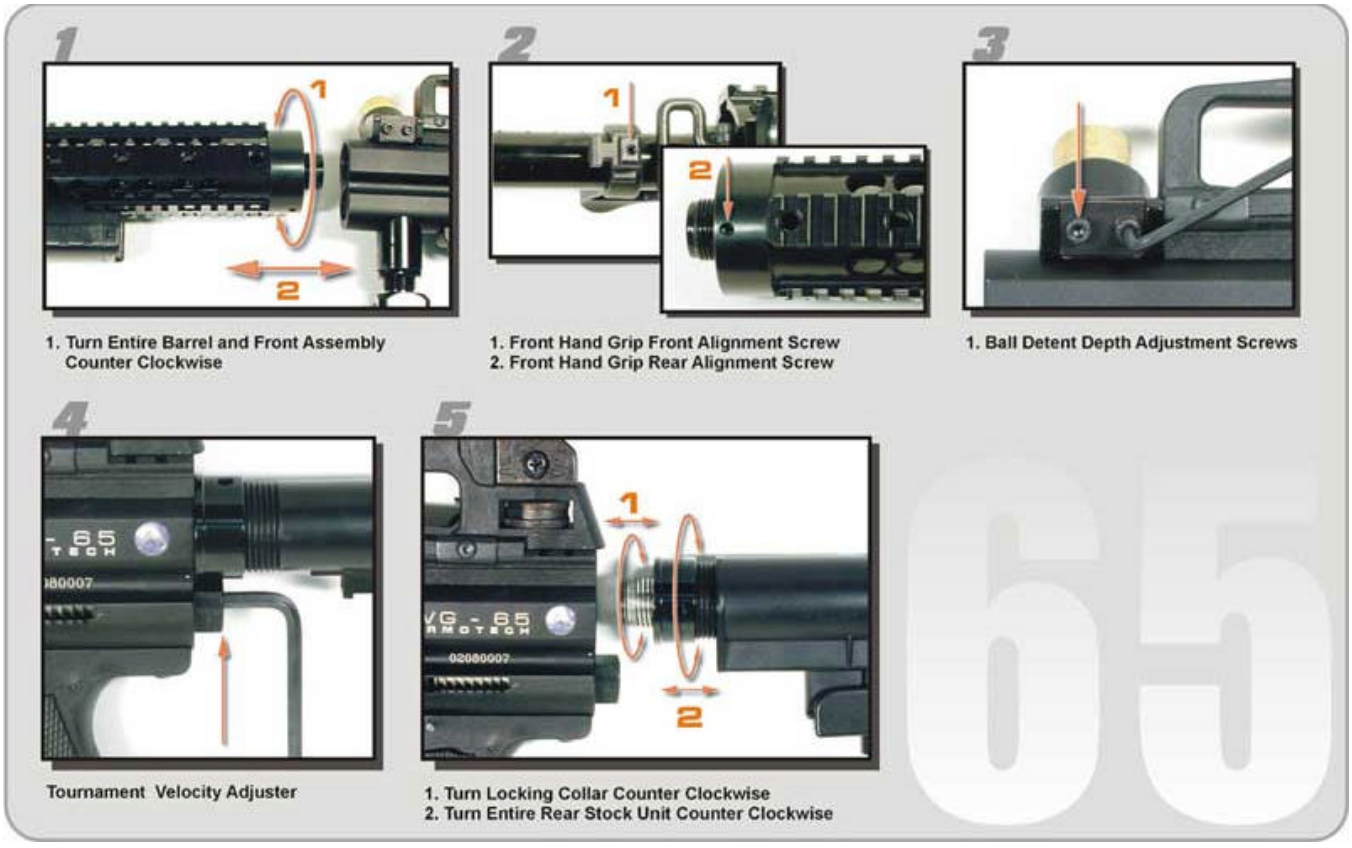
Maintenance, Cleaning and Lubrication

The Armotech marker should be cleaned and lubricated after every usage to ensure proper function and longevity of the product.

NOTE: It is not necessary to disassemble the ENTIRE MARKER to perform standard maintenance and lubrication tasks. DO NOT DISASSEMBLE OTHER AREAS OF THE MARKER UNLESS YOU ARE AN EXPERIENCED AIRSMITH, OR HAVE BEEN ASKED TO DO SO BY AUTHORIZED ARMOTECH SERVICE TECHNICIANS.

TIGHTENING SCREWS

- **Armotech ships all markers only lubed with machine oil and with most of the screws lightly tightened to allows for expansion and contracting from changes of temperature and pressure during shipping process. As such before doing ANYTHING with the marker, care should be taken to tighten the following:**
    - **the screws securing the trigger frame to the receiver body (ALL MODELS)**
    - **the front hand guards, sight rail and rings should be loosened,**



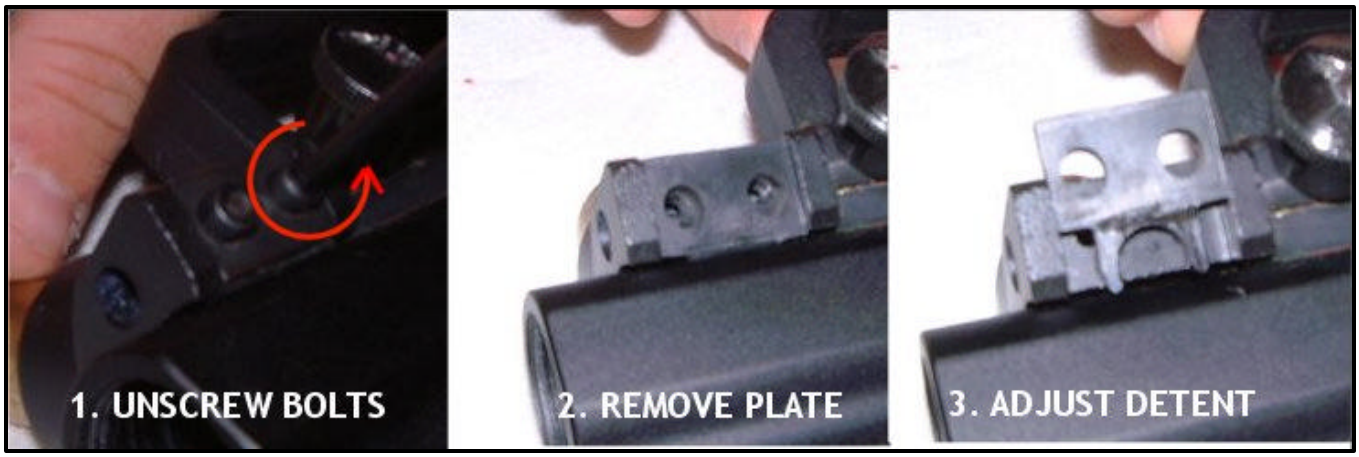
properly aligned in reference to the rear sight (tighten barrel first, align these elements after) in order to have the best performance.

- **Vertical Powerfeed securing/retainer lugs. Tighten these to ensure that the power feed does not wobble of become misaligned. Also check to ensure these have washers as tightening could cause the screws to protrude into the receiver housing and scratch the bolt.**
- **Cocking Knob should be well adjusted to avoid it falling off due to excessive vibration when firing the marker.**
- **Rear stock (if it's the AR15 type) should be properly aligned and locked in place.**
- **The following illustrations show the difference in stock and handguard assembly between the A1/A2 and other models of the WG65 line**

Stock removal on the A1/A2 model of the WG65

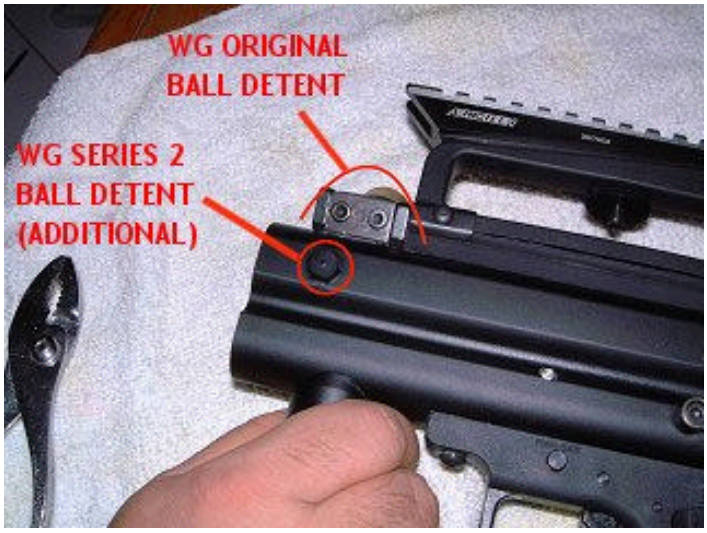
PROPER ASSEMBLY AND ADJUSTMENTS

Ball Detent Adjustment



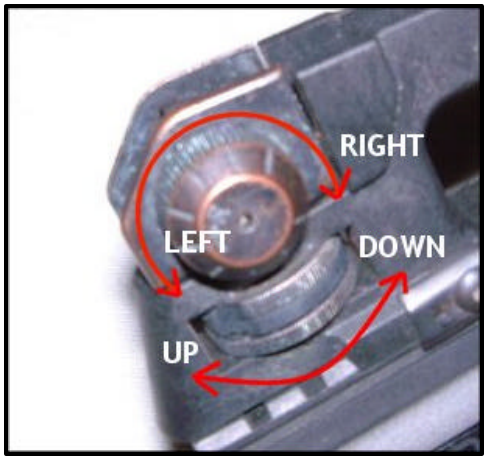
Unscrew the retaining bolts holding the ball detent plate, then remove the plate so that you have easy access to the rubber detent – depending on the size of paintball being used, and/or operational problem being experienced you will need to judge whether to adjust the ball detent for more or less resistance on the ball.

On the second generation of the WG65 receivers a second ball detent has been added. The illustration shows how the location of this detent.



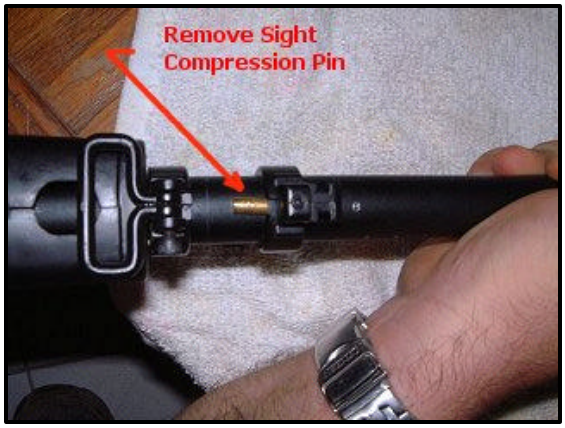
In some cases it, may be required to remove the original ball detent system to avoid ball breakage problems – in particular when using force-fed loaders such as the HALO or the EVOLUTION II. The second generation ball detent can also be adjusted by turning it with a socket to the desired depth.

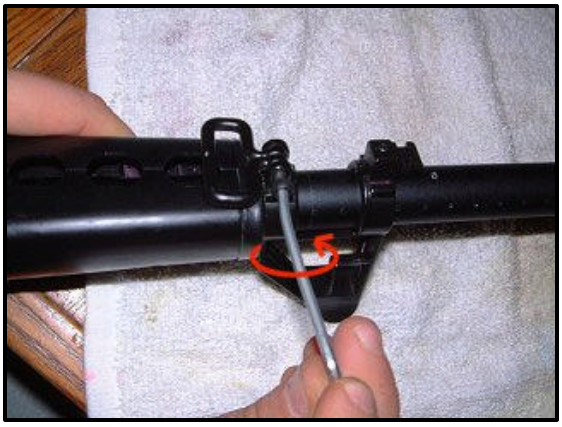
Sight Rail and Rear Sight Adjustment



Ensure that the rear sight rail and carry handle are secure – you can use the rear sight iron to make your sighting adjustment, however the font iron site needs to be properly aligned for best results.

To align the front sight and hand guards please review the following:

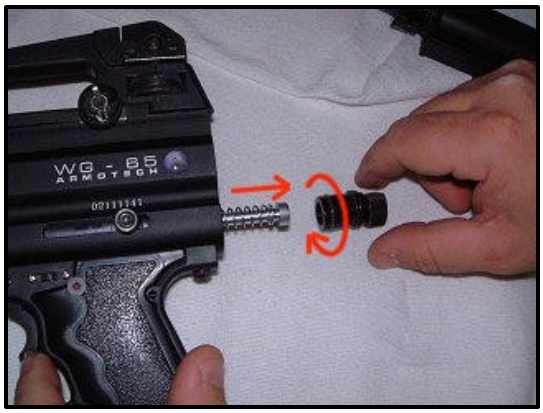




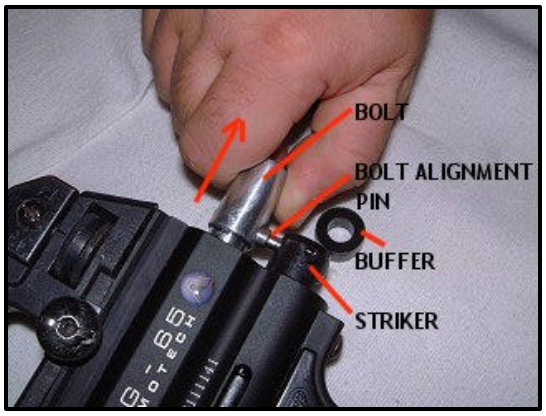
Loosen the lug that holds the sight compression pin, then loosen the the bolt that holds the sling attachment ring Next loosen the lugs on the rear section of the hand guards – the whole assembly should be loose enough to rotate and adjust so its properly aligned for sighting – make sure the barrel is tightly set into the receiver before doing the alignment – then retighten all screws

NOTE – this is the same process that needs to be followed should you want to remove the hand guards completely.

CLEANING AND LUBRICATION OF INTERNALS



- Remove the striker cap/velocity adjustment assembly at the back of the marker by unscrewing it.
- Cock the marker by pulling back the cocking handle. Do it carefully so that it slowly ejects the striker guide and spring. Remove the guide and spring
- Remove the Cocking Knob
- Remove the Venturi bolt by pulling it out the back of the marker
- Use an hex key wrench to guide the striker and striker buffer out the back of the marker



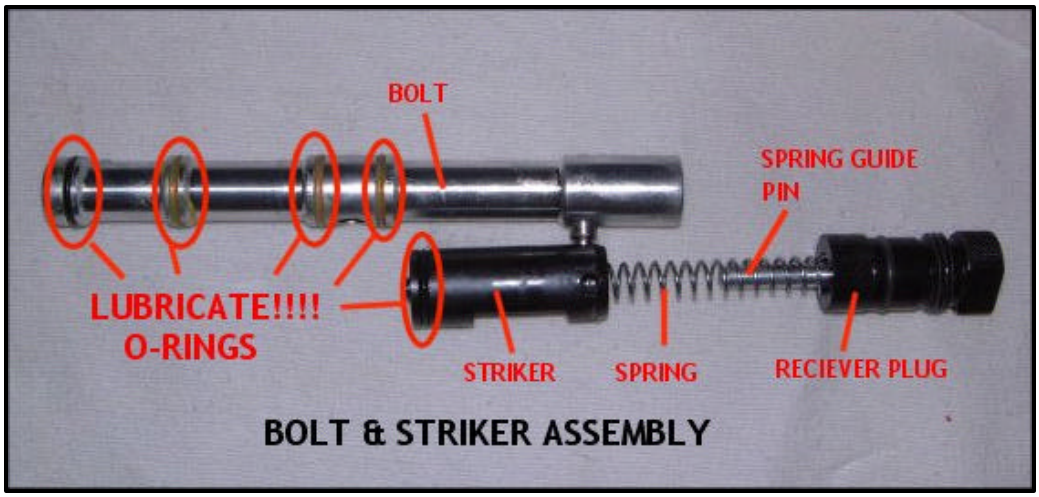
With the internals removed you should be able to look through the receiver body. In the top tube you should see the ball detent slightly sticking out. In the bottom tube you should see the back of the valve with the valve pin sticking through it.

- With all the internals removed, run a squeegee through the receiver body to clean it out – it is recommended that a latex/proflex squeegee be used for this to avoid damage to the ball detent
- The same squeegee can be reused (after cleaning it) to clean the barrel of any residuals
- The receiver body can be cleaned with a soft rag and warm water (careful not to get any on the electronics of the trigger frame if the marker has an etrigger) or with a solvent such as WINDEX, which dissolves the paintball residue nicely. DO NOT USE WINDEX TO CLEAN YOUR GOGGLES. FOLLOW THE MANUFACTURERS RECOMMENDATIONS FOR THAT PRODUCT!
- Use warm, water or Windex to clean the venture bolt, and striker of any residue and dry them with a lint free cloth.

- Once dry, check the o-rings for any damage or loose fit. If you believe the o-ring to be damaged or fitting loosely – replace it immediately. Do not use the rubber bottle o-rings on your striker or barrel. Use only the Urethane or Teflon o-rings for this purpose.

- Also check the oring on the velocity adjuster cap to ensure it's not damaged.

- Before re-assembling the internals, it is recommended that these be properly lubricated. ONLY PAINTBALL GUN LUBRICATION is recommended. DO NOT lubricate your internals with WD-40.



Acceptable lubricants are also TEFLON GREASE, SILICON GREASE.

- Lubricate ONLY the sections of the venturi bolt and striker where the o-ring is fitted. These are the only sections which make physical contact with the sidewalls of the receiver internally.

- Re-insert the striker first, making certain to orient it with the flat grooved section pointed down towards the trigger frame – this is the section that locks the assembly in place when the marker is cocked.

- On inserting the striker it may seem to JAM- this is the SEAR which is stopping it from passing – NOTE: Pull the trigger to allow the striker to bypass the sear on the SEMI trigger frame. If you have a battery in the e-trigger, turn it on, and fire the trigger while pressing on the striker to force it past the sear. If you do not have a battery in the e-trigger system, use a tool to depress the solenoid plate forward and lower the sear long enough to pass the striker into the marker.

- Once the striker is inserted, insert the striker buffer into the marker, and insert the striker spring into the center of the buffer until it contacts with the striker itself

- Replace the Velocity Adjustment Cap

- Re-insert the venturi bolt – make sure that the grooved section on the front side of the bolt is on the LEFT. This is the groove for the ball detent. Inserting the bolt incorrectly can damage the bolt as well as other internals of the marker. Slide the bolt as far in as possible

- Once this task is completed you have successfully maintained the core section of your marker.

UNLESS YOU HAVE LEAKS THE INTERNALS (BOLT/STRIKER) ARE THE ONLY SECTIONS THAT SHOULD BE REMOVED FROM THE MARKER ON A REGULAR BASIS FOR CLEANING.

- **NEVER LET PAINT RESIDUE SIT IN THE MARKER OVERNIGHT – THE CHEMICAL WILL ERODE THE O-RINGS.**

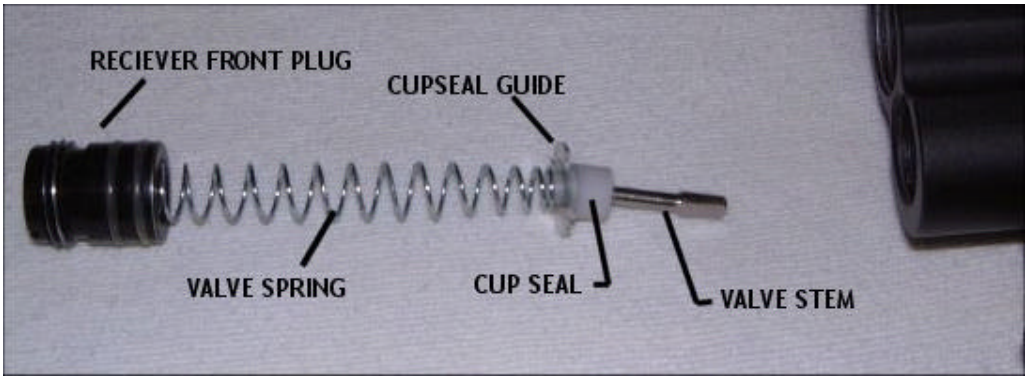
RECOMMENDED LIST OF ITEMS WHICH SHOULD BE KEPT AS SPARES, OR REPLACEMENT PARTS

- Teflon or Urethane O-rings,
- Rubber bottle and ASA O-rings,
- ARMOTECH spare parts/spring kit
- ✘ Extra 9v rechargeable battery if you have an e-trigger
- ✘ Replacement cup seal (original or a black magic)

CUP SEAL MAINTENANCE

1. Unscrew the VOLUMIZER (counterclockwise). Make sure there is NO air source on the marker.

2. REMOVE Spring, Cupseal / Valve Stem Assembly

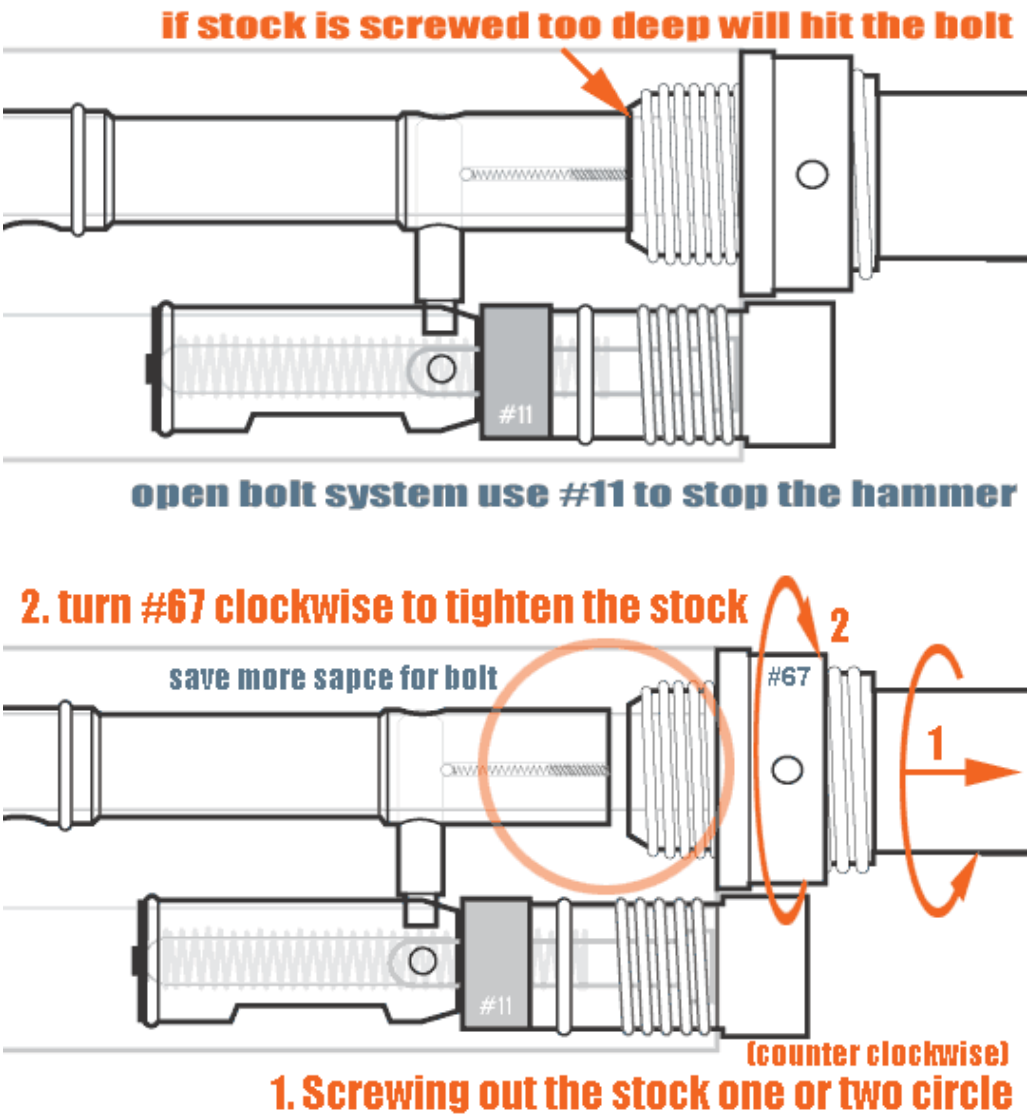


3. Service CUPSEAL as required

4. Reassemble – Remember to lube the Volumizer o-ring

REMEMBER TO LUBE THE VALVE O-RINGS IF YOU REMOVED AND REPLACED THE VALVE AND TAKE CAUTION NOT TO OVERTIGHTEN THE VALVE ALIGNMENT SCREW

COLLAPSING STOCK ADJUSTMENT PROCEDURE



On some older versions of the WG marker which came with bolts that had longer back-end sections, tightening of the stock too far in could cause the bolt to impact the stock on re-cocking. This could cause problems with bolts cracking and stocks vibrating loose.

The solution to this problem is simply not to screw the stock in ALL the way – and use the Locking Ring (part 67) to lock the stock into place after having inserted and aligned it to your desired setting.

Chapter

3

Troubleshooting Tips, Hints ‘n Tricks

- Marker not firing:
    - Check to ensure there is a 9 v battery in the e-trigger frame (WG65E only), and that is connected and has a fresh charge.
    - Check to ensure the trigger frame is ON by pressing the mode switch 1 time (WG65E)
    - Check to ensure the safe switch is in LIVE FIRE mode (switched to the left) (ALL MODELS)
    - Check to ensure the marker is cocked
    - Check to ensure that the attached power source (bottle) has sufficient compressed air/gas in it to power the marker. Min pressure required is 450 p.s.i.
- I hear a hissing sound when I attach the power source:
    - Check the o-ring on the air supply bottle – it may not look worn but could be – and will leak
    - If leak is not at bottle attachment, check the airhose connections to ensure they are not leaking. If they are, they may require tightening. Use proper wrench for this task to avoid damage to marker or fittings.
    - If leak is not at the hose, check the o-rings ensure they are not damaged or dried out – sometimes a drop of lubrication can be all that is needed to solve an 0-ring leakage problem.

- Check the o-rings on the volumizer section to ensure it is not damaged or leaking (ie listen to where the hiss is coming from so you can narrow down where to check things)

- If none of these sections are leaking, check the cup-seal to make sure it is sitting properly against the valve. In most cases the first leak that you will encounter will be at the bottle attachment – o-ring on the air supply bottle. The other most common leak that could occur after some time is the cup-seal. This is easily replaced with an Armotech cup-seal or any spyder compatible equivalent – the BLACK MAGIC cup-seal is highly recommended to cure cup-seal leaks.

- Systems will also exhibit leaking hiss like symptoms if the pressure is TOO LOW in the bottle, or if the cupseal section is depressed into the valve – simply cock the marker before airing it up to avoid these problems – and then if the marker still leaks – narrow down the location and proceed with troubleshooting as required.

- I cannot cock the marker:

  - Remove the velocity adjuster cap and examine the striker pin section to ensure it is assembled properly

  - Adjust the sear on the trigger frame to lower the sear as it may be too high (hard) and stopping the striker hammer from moving (this procedure is only valid if your WG has an electronic trigger frame)

  - Check the hex screw at the back of the trigger frame as it may be too tight and causing a misalignment problem

  - If this jam occurred after a ball break, carefully check to ensure there is no residual skin fragments of the ball stuck between the receiver housing and the barrel. If there is it will need to be cleared out by totally removing the internals and properly cleaning the marker.

  - If this jam occurred not from a ball break, carefully disassemble the internals and check to see if the o-rings are not dislodged or broken. Sometimes o-rings can swell inside the marker and cause difficulty with the motion of the bolt and striker assembly.

- The marker shoots once and does not re-cock:
    - The o-ring on the striker hammer could be damaged and needs replacing
    - Check the cup seal to ensure the whole assembly is sitting properly and is not leaking
    - Check your air supply to ensure you have sufficient pressure to operate the marker
    - The metal peg holding the striker and bolt assembly together may have become misaligned and will need to be adjusted.
- The marker fires and continues to rapid fire, the re-cock does not hold:
    - The sear adjustment is too low – check the section on trigger adjustments and make the appropriate changes to correct the problem (this is only valid for WG markers with electronic triggers)
    - Check the screws which hold the trigger frame to the receiver – if they are loose – tighten them, in particular the rear screw
    - The battery on the trigger could be LOW and in need of replacement (electronic triggers ONLY)
    - The WG series marker MAY be over-pressured. It has been noticed that overpressure on the marker can cause these symptoms. The optimal pressure ranges for efficient operation is between 550 and 750 p.s.i. Min operating pressure is 450 p.s.i. Max operating pressure is 1000 p.s.i.
- The marker is set to SEMI mode but requires multiple trigger pulls to fire once: (electronic trigger frames ONLY)
    - The battery in the trigger frame is LOW or dying. Replace it!
    - Check the sear adjustment - it may be too high

- Balls break in the breach when attempting to rapidly fire the marker:
    - You may be outshooting the marker if its outfitted with electronic trigger frame – in this case get a force fed loader system.
    - Check your hopper/loader to ensure balls are not jamming inside it. The feedneck elbow may be too tight and warping the diameter of the feedtube.
    - You may have a marker with the double detents – in this case – remove the rubber detent system and ONLY use the marker with the generation 2 detent installed
    - Use an electronic hopper, or force fed loader for best performance.

- Balls are not flying straight when fired:
    - Clean the barrel with a squeegee
    - Make sure the balls are the correct size/caliber for the bore of the marker .689
    - When tightening the muzzle, and the rings that hold the handguards, DO NOT OVERTIGHTEN – the screws can cause indentations in the barrel which in turn create ripples on the inside bore of the barrel and this affects the balls flight path – not to mention damages the barrel.
- Balls roll out of the barrel or shoots 2 at a time:
    - Ball bore is too small. It needs to be .689
    - Armotech recommends using tournament quality paint
        - RPS / PMI Brand (Big Ball/Warrior, El Tigre, Slam, All Star, Premium, Premium Gold, Marballizer)
        - TC Paintballs (Viper Venoms, Viper Platinum, Pro Series)
        - Nelson Paintballs (Nel Splat, Anarchy, Nelson Gold)
        - PowerBall Paintballs

- Barrel threads look worn down and barrel wobbles a bit
    - Check to ensure barrel o-ring is in place properly
    - Always use some grease type lubricant on the threads to avoid metal-to-metal wear
    - Barrel threads may have become worn from excessive usage – or cross threading – you can have these machined over but would loose 1/2inch off the barrel length.
- Balls shoot but they do not appear to go the distance:
    - Adjust the velocity and check it with a chronograph
    - Check to ensure the striker spring is not damaged, weakened or broken
    - Check your air supply to ensure there is sufficient pressure
    - Check to ensure regulator settings (if using one) are properly adjusted. Min pressure should not be less than 450 p.s.i. Optimal is 550 to 750 p.s.i.
    - Check your main striker spring, it may be too short. If so replace with original armotech WG spring kit, or with 32-degrees madman gold spring.
- Powerfeed wobbles a bit when hopper is attached
    - Check to ensure the retainer screws have not come undone. There is one hex lug which holds the copper feedneck tube into the feedneck mechanism. This needs to be tight. Additionally the two bolts that hold the feedneck mechanism to the receive body should be securely tightened – remember to retain the lock washers with these bolts in order to avoid them protruding into the bolt on the inside of the receiver body
    - Always hold the powerfeed when attaching or removing the hopper and elbow to avoid stressing it or damaging its seating on the marker

Warranty Information

LIMITED 1 YEAR WARRANTY

This product is warranted to the retail consumer for one year from date of retail purchase against defects in material and workmanship and is transferable. To register the serial number of your paintball marker, please return the Product Registration form found in your owner's manual packet. The warranty is not conditioned on the return of the card.

WHAT IS COVERED

Replacement parts and labor. Transportation charges to consumer for repaired product.

WHAT IS NOT COVERED

Transportation charges to ARMOTECH for defective product. Damages caused by abuse or failure to perform normal maintenance. (See Step 9) Any other expense. CONSEQUENTIAL DAMAGES, INCIDENTAL DAMAGES, OR INCIDENTAL EXPENSES, INCLUDING DAMAGE TO PROPERTY. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

WARRANTY CLAIMS

USA customers: Attach your name, address, description of problem, phone number and copy of sales receipt to product. Package and return to Armotech US P.O. Box 607 Berlin, NJ 08009. International Customers: Please return product to your nearest distributor. If you do not know your distributor, please call 1-856-753-2662 and ask for our International Department for assistance.

IMPLIED WARRANTIES

ANY IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO ONE YEAR FROM DATE OF RETAIL PURCHASE. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU. To the extent any provision of this warranty is prohibited by federal, state, or municipal law which cannot be preempted, it shall not be applicable. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state and country to country.

SUGGESTED ITEMS FOR PROPER MAINTENANCE

Flexible Squeeqee

Rod Squeege with Swab on the end

Cleaning cloths (soft terry-cloth material)

Paintball Marker Lubrication (OIL designed for paintball markers , or Teflon grease)

Rechargeable Battery Packs for the e-trigger

o-ring and spring replacement kit (as a spare)

hex-wrenches of various sizes (marker comes with most commonly needed ones)

Barrel Plug or Condom