

TK.45 AEG 3





Please read this manual carefully before using the Airsoft gun.

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Warranty Coverage

Except as specified below, this warranty covers all defects in material and workmanship in KWA products that occur during the above warranty period. The following are not covered by the warranty: (1) Any product which is not imported and distributed in the U.S.A. by KWA PERFORMANCE INDUSTRIES, INC. (2) Any products not purchased in the U.S.A. from a KWA AUTHORIZED RESELLER. If you are uncertain as to whether a reseller is a KWA AUTHORIZED RESELLER, please contact KWA PERFORMANCE INDUSTRIES, INC. as listed above or visit our website at www.kwausa.com to contact us. (3) Damages, deterioration, or malfunction resulting from: a) An accident, act of nature, abuse, misuse, neglect, opening of mechbox, or failure to follow instructions supplied with the product. b) Repair or attempted repair by anyone other than KWA PERFORMANCE INDUSTRIES, INC. (4) Products that are used outside the U.S.A. (5) Products damaged by damaged or incorrect batteries, (6) Products that have been used with

low-grade or used ammo (BBs), (7) Products that have been used with

RETROTATION

non-approved propellants (ie. Propane, Red/Black Gas, 134a...etc.) (6) Products used in industrial, commercial, and/or professional applications. Products used as rental units are considered commercial units and carry no warranty with KWA.

What KWA Will Pay For

If your KWA product is found to be defective by KWA Performance Industries, Inc. during the applicable warranty period (which begins from the date of original purchase), KWA Performance Industries, Inc. will repair, or at its option, replace with a new, used, or equivalent model, the defective product without charge for parts or labor. Proof of purchase must be present for the warranty to be honored.



- If shipment of your unit is required; you must pay the initial shipping fee, but we will pay the return shipping charge if the repairs are covered by the warranty
- WHEN RETURNING YOUR UNIT FOR WARRANTY SERVICE, A COPY OF THE ORIGINAL SALES RECEIPT MUST BE ATTACHED.
- You must include the following: RMA number, your name, address, daytime telephone number, model and serial number (if applicable) of the product and a description of the problem.

This Warranty is Only Valid in the United States

If your product does not require service, but you have questions regarding its operation, please contact our Customer Service Team at www.kwausa.com.

THIS WARRANTY IS EXPRESSLY MADE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

OUR LIABILITY IS LIMITED TO THE REPAIR OR REPLACEMENT. AT OUR OPTION, OF ANY DEFECTIVE PRODUCT AND SHALL IN NO EVENT INCLUDE INCIDENTAL OR CONSEQUENTIAL COMMERCIAL OR PROPERTY DAMAGES OF ANY KIND. WE ARE NOT RESPONSIBLE FOR PRODUCTS LOST, STOLEN AND/OR DAMAGED DURING SHIPPING.

SINCE SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS AND/OR DO NOT ALLOW THE EXCLUSION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, THE ABOVE LIMITATIONS AND EXCLUSIONS MAY NOT APPLY TO YOU.

This warranty gives you specific legal rights, but you may also have other rights which vary from state to state. This warranty may not be altered other than in writing signed by an officer of KWA Performance Industries, Inc.



USE OF THIS MANUAL

Before operating your KWA product, read this manual in its entirety. Important safety topics and tips are discussed throughout all of the chapters. It's important that the operator know the principles of gun handling, safety, and operation prior to attempting to operate an airsoft product.

SAFETY GUIDELINES

Safety Distance

The effective shooting range of this product is approximately 175 feet. BBs fired from this airsoft rifle may travel farther than intended. Make certain that you have an adequate backstop.

Eye Protection

Eye protection should be worn at all times when either using or conducting maintenance and cleaning on your airsoft product.

Assume Every Gun is Always Loaded

This is the first rule of gun safety, so don't forget it! Treat every gun as if it were loaded, all the time. Never assume that the chamber is empty based on your memory or someone else's word. Always remove the magazine and visually check to confirm that the chamber is empty, and that there is no power present (battery or gas) in the airsoft product before beginning cleaning or maintenance.

Beware of Barrel Obstructions

Ensure that the airsoft product's barrel is free of obstructions before you fire the gun. Even the smallest obstruction such as dirt, dust, or a stuck cleaning patch can cause a jam, misfire, or malfunction.

Muzzle Control

Always keep the muzzle of the gun pointed in a safe direction. Never point the muzzle at a person or object that you do not intend to shoot.

Keep Your Safety On

ALWAYS keep the muzzle of the gun pointed in a safe direction. NEVER point the muzzle at a person or object that you do not intend to shoot.

Keep Your Finger Off The Trigger

Keep your finger off of the trigger and out of the trigger guard until your sights are aligned on your target and you are ready to fire.

Identify Your Target and Backstop

Before you pull the trigger, make certain of your target and what is beyond it. The Airsoft gun should never be fired at surfaces such as rocks, glass, water, or other hard surfaces where BBs are likely to ricochet in unpredictable directions.

WARNING:

- Airsoft BBs can be a choking hazard. Keep them away from children.
- Failure to follow safety guidelines may result in serious injury.

SAFETY GUIDELINES (CONTINUED)

Failure To Fire

If the airsoft gun fails to fire, misfires, or malfunctions, do not look into the gun barrel. BBs may be lodged in the chamber, and serious eye injury may occur if the BBs are expelled suddenly. Remove the battery/gas, and safely attempt to dislodge the obstruction.

Maintain Your Gun Properly

Performing proper maintenance, as outlined in this manual, ensures that your airsoft gun will be safe to shoot and will perform to its designed specifications for many years. Alterations, modifications or adjustments may damage your airsoft gun, make it unsafe to shoot, and will immediately void all warranty claims with KWA.

Store Your Gun Safely

Always store the airsoft gun in a safe place, and out of reach of children. Keep the safety engaged, and remove the magazine, and any batteries or gas before storing your product over any extended amount of time.

NOTE: IT IS YOUR RESPONSIBILITY TO TAKE EVERY REASONABLE PRECAUTION TO ENSURE THE SAFE STORAGE AND TRANSPORTATION OF YOUR AIRSOFT GUN.

Orange Tip

The orange tip on Airsoft guns help Law Enforcement distinguish the replica guns from their real firearm counterparts. Altering the coloration or markings required by state or Federal law so as to make the product look more like a firearm is dangerous and may be a crime. Operator assumes all risks and responsibility when doing so.

Hazards of Being Mistaken for a Real Firearm

Airsoft guns have been mistaken by Police and Law Enforcement as real firearms. A confrontation with law enforcement while carrying an airsoft gun can result in serious injury or even death. It is strongly advised to operate this airsoft product at a safe and legal location. In the event that you are approached by Law Enforcement personnel, you must comply with their instructions immediately to avoid an incident. Always transport any airsoft products in a carrying case and never display them in a public place.

Alcohol, Medications, and Drugs

Do not handle or operate your airsoft gun while under the influence of alcohol, medication or drugs.

Your Responsibility

Your KWA product is well-engineered and manufactured to the highest standards. It was carefully inspected before it was packaged and shipped from our factory. Its safe use depends on you alone. You are the ultimate safety device. Like many other devices, your airsoft gun is safe unless handled in an irresponsible or uneducated manner.



WARNING:

 Adult supervision is required for any person under the age of 18.
Alterations and/or modifications to your KWA airsoft gun will void all warranty claims.

SPECIFICATIONS: RONIN TK.45 AEG 3

Weight (without mag): 7.12 lbs Magazine Weight .37 lb Length Retracted: 29.25 in Length Extended: 32 in Outer Barrel Length: 11 in Inner Barrel Length: 337 mm (13.25 in) Magazine Capacity: 120 rds Rate of Fire (ROF): 19 RPS Velocity: 380 FPS +/-Energy Output (with .20g BBs): 1.34 Joules Power Source: NiMh or Li-Po/Li-Fe

*Individual test results may vary depending on BB brand, ambient temperature, and chronograph used.

SPECIAL FEATURES:

-Sleek, lightweight aluminum M-LOK free float accessory rail with MIL-STD 1913

Picatinny section along top of rail and under front portion of rail.

-Metal alloy mock suppressor

-Ambidextrous and oversized controls, including selector switch, mag and bolt

catches, and aggressively styled ambidextrous charging handle

-Ergonomic and ruggesd nylon polymer pistol grip

-Oversized trigger guard for gloved hands

-KWA's Kinetic Feedback System delivers a hard kick with each shot

-Upgraded all-metal mechbox is reinforced and radiused and features an ultra-

durable heat-treated gear set, 9mm steel bearings, and is drop-in ready for

electronic trigger systems

-Upgraded gear set provides a high Rate of Fire (ROF)

-Upgraded high-torque motor is 20% faster

-PTS Enhanced Polymer Flip-up Sights

-PTS Enhanced Polymer Stock

-Switch Life Extender (SLE) protects trigger contacts for 400% longer use

-Newly upgraded 1-piece rotary hop up

-Upgraded wiring harness with blade fuse

-Li-Po ready right out of the box



BATTERY INSTALLATION

If the airsoft gun fails to fire, misfires, or malfunctions, do not look into the gun barrel. BBs may be lodged in the chamber, and serious eye injury may occur if the BBs are expelled suddenly. Remove the battery/gas, and safely attempt to dislodge the obstruction.

- 1. Set fire selector to safe mode and keep muzzle pointed away from any person or object.
- 2. Move adjustable stock to its shortest, forwardmost position.
- 3. Press both tabs on the side of the stock, releasing the butt plate.
- 4. Swing the butt plate upward from the rear as indicated by the black arrow.
- 5. Insert battery into stock, then push Tamiya battery connectors firmly together.

FOR THE BEST PERFORMANCE, KWA RECOMMENDS THE USE OF AND 11.1V LI-PO BATTERY, WITH A MAXIMUM RATING OF 1600 MAH, AND A DISCHARGE RATE OF AROUND 20C!

- 6. Reinstall the butt plate. To avoid losing the plate, make sure the lower section snaps into place!
- 7. Readjust the retractable stock to desired position

FUSE CHECK/REPLACEMENT

To check and replace your fuse, first press the release tab on the black polymer case. If the connecting metal piece in the middle of the fuse is broken, replace the fuse with an ATM-type (also called mini-blade) fuse rated at either 20 or 25 Amps. ATC fuses are too large and will not fit.









LOADING BBS

1. Release the magazine from the airsoft gun by pressing the magazine release button.

2. Feed the BBs into the magazine through the magazine feed lip as shown.

* *NOTE: The use of a BB loader, such as the KWA High Performance Speedloader, can help make the loading process easier and faster. See page 10 for a diagram showing use of the KWA Speedloader.

Loading Safety Tips:

- Switch the selector to safe
- Eye protection is strongly recommended
- Keep your finger off of the trigger during entire loading process

BB USE

KWA strongly recommends the use of high-quality performance BBs, such as the KWA Perfect BB or KWA Bios. Although you should only use BBs that are .20g or heavier, KWA recommends the use of .25g or .28g BBs for the best performance. Never reuse BBs, as this can cause damage to the internals of your airsoft products, and will cause a loss of accuracy and performance. Many BBs are advertised as "high performance", or "seamless" BBs, but many of these will cause damage to your KWA product and will negatively impact performance. Be sure to purchase BBs from a knowledgeable airsoft reseller, as BBs purchased from generic sporting goods stores are generally very low quality and will cause warranty voiding damage to your airsoft product! Stay away from brightly colored / neon, glow in the dark, marking, or transparent BBs!







WARNING:

Always use high quality 6mm BBs, weighing 0.2g or heavier. For best results use 0.25g KWA Perfect BBs. To prevent damage to your gun, avoid using recycled or low grade BBs.

USING THE KWA HIGH PERFORMANCE BB SPEEDLOADER (SOLD SEPARATELY)

1. Slide open the trap door on top of the speedloader, and fill it with BBs. *Do not overfill.

2. Flip down the nozzle cover to reveal the brass loading nozzle.

3. Fit loader into the magazine feed lip, or up against it. The included adapter helps the nozzle fit to a variety of magazines and stores away in a convenient storage section on the front of the speedloader.

4. Press on speedloader's plunger repeatedly to load BBs into magazine. You will feel firm tension on the plunger when the magazine is full. Do not force any more BBs into magazine beyond this point or damage can occur.



INSERTING THE MAGAZINE

- 1. Place the loaded magazine into the magazine well until it clicks into place.
- 2. Lightly pull on the magazine to ensure it is locked in properly.



1. Safe

Safe mode is the setting to the left as indicated in the diagram. In this mode the gun will not fire. For safety reasons, you should keep the switch in safe mode at all times when you are not ready to fire

2. Semi-Auto

Semi-Auto mode is the middle setting. In this mode the gun will fire once every time the trigger is pulled

3. Full-Auto

Full-Auto mode is the setting to the right. In this mode the gun will fire continuously as long as the trigger is engaged



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HOP-UP

The hop-up device is a standard feature on all KWA pistols, rifles, and SMGs, giving BBs greater stability, farther travel, and increased accuracy. Airsoft BBs are lightweight and can be affected by wind when fired. With the hop-up system, the trajectory of the BBs can be adjusted according to the shooting environment.

HOP-UP ADJUSTMENT

1. Pull back on the charging handle to open the mock ejector port cover.

 Engage the bolt catch by manually lifting up on the right side catch or by pulling the left side catch outward (pictured). This will keep the mock bolt plate open for hop adjustment.
Pulling the charging handle also pulls the mock bolt plate back, exposing the hop-up's rotary adjustment wheel.

4. To increase the amount of hop/backspin, turn the wheel upward in small increments until the desired BB trajectory is achieved. To decrease hop, turn the wheel down.

5. If jamming occurs, turn the hop-up wheel down to withdraw the nub from the hop-up, and remove any jammed BBs.



KWA airsoft guns are made with precision inner barrels, so use only new, high-quality 6mm BBs. The use of recycled or low-grade BBs are the primary cause of jamming, cycling, and accuracy issues. In many cases, they can damage the mechbox, hop-up, and inner barrel. Read more about using the correct BBs on page 9.

BB TRAJE	CTORY PATTERN	ADJUSTMENTS
	BB DROPS FREELY	
	BB TRAVELS AT SHORT TRAJECTORY PATH	
	BB TRAVELS DISTANCE AT FLAT TRAJECTORY PATH	NO ADJUSTMENTS NECESSARY
- • •	BB TRAVELS FLAT IN SHORT DISTANCE, THEN GOES UP IN CURVE AND DROPS FREELY	
\checkmark	BB TRAVELS AT UNSTABLE SPEED AND IRREGULAR PATH	

HOP UP ADJUSTMENT POINT

PTS Enhanced Polymer Back-Up Iron Sights

The TK.45 Series AEGs use the PTS Enhanced Polymer Back-Up Iron Sights, which are made from ultra-durable DuPont Zytel High Performance Reinforced Polymer. The sights feature a low-profile, snag-free design that allows for sight adjustment without the use of any tools.

Front Sight:

To adjust the elevation setting on the front sight, simply rotate the polymer wheel to either raise or lower the sight post. Do not rotate the wheel too far, or the post may fall out.



Rear Sight:

The rear sight features both large and small apertures and can be adjusted by shifting the center plate up or down. Windage is also adjustable by rotating the knob located on the right side of the sight.

AEG 3 QUICK-CHANGE SPRING SYSTEM

The TK.45 AEG 3 features KWA's Kinetic Feedback System, or KFS, which deals an explosive kick with each shot fired! Another benefit of the KFS is its quick-change spring system, which means you don't have to open your mechbox to raise or lower your FPS!

To change out your Tekken's main spring:

1. <u>Make sure that you are wearing proper eye protection for this procedure</u>, as the KFS is heavy and spring loaded, and will pop out when the KFS retention piece (part 359S on the TK.45 parts diagram) is removed!

2. Remove your stock's butt plate to access the KFS retention piece (part) on the end of your buffer tube.

3. As seen in the first photo, loosen the KFS retention place using the four holes. The most common practice is to use needle-nose pliers inserted into two opposing holes. Twist counterclockwise to remove the piece. Do not tamper with the Phillips-head screw in the center or the piece. USE CAUTION, THIS PIECE IS SPRING LOADED.

4. After removing the retention piece, the recoil spring will fall out, followed by the KFS, and then the main spring.

5. Replace the main spring with the desired spring (KWA recommends using a main spring rated at no more than M130, and no lower than an M110).

6. Reinsert the KFS, recoil spring, and finally the retention piece, screwing it back into place by turning it clockwise.

Reassembly tip: Although you should NOT use the center Phillips head screw on the KFS retention plate to attempt to remove the piece, you CAN use a Phillips head screwdriver when reattaching the piece at the end of assembly, since there is no danger of dismantling the assembly 502S by turning the screw clockwise. This is easier than using needle-nose pliers for reassembly, although the pliers should be used to tighten the piece into place after it is screwed in.





Assembly and Disassembly

When removing or installing the upper receiver, make sure that the front body pin (part 1009) is first pushed to an "open" position on the right side of the receiver. The pin uses a spring and detent to keep it in place, so it will stop before it is pushed out entirely. The upper receiver is released for disassembly by pulling the charging handle (part 7001).

Keep the ejector port door closed before beginning assembly or disassembly. During assembly, the door is designed to flip open on its own after sliding the upper onto the lower receiver.



During both assembly and disassembly, ensure that the mock bolt plate (part 7004) is being held firmly against the mechbox. This is to prevent it from being damaged by the upper receiver.

Inner barrel/ Hop-up Installation

The TK.45 features a one-piece rotary hop up, which is retained in the upper receiver by a polymer retention plate (part 6002). The photo on the left shows the plate and hop-up in place.

To remove the hop-up for inspection and cleaning, push the hop-up unit forward into the outer barrel, then lift the polymer retention plate out of place. Slowly release the hop-up assembly and it will spring backward. To reinstall, insert the hop-up and push it forward. While the unit is pushed forward, put the retention plate back into place, and then slowly release the hop-up. The plate will catch the hop-up, keeping it in place.





CLEANING and MAINTENANCE

The TK.45's brass inner barrel should be cleaned after each shooting session. Regular cleaning prevents the effects of BB residue buildup that can hinder performance. When cleaning, be sure not to force the cleaning rod past/into the hop-up, as this can damage the hop-up and bucking.

1. Ensure that the safety is engaged.

2. Remove the magazine and remove the upper receiver (see disassembly instructions on page 15)

3. Clear any visible BBs from the hop-up chamber using the angled end of your cleaning rod.

4. Cleaning Instructions:

a. Cut a piece of lint-free or cotton cloth to 1 square inch. Insert one end of the cloth into the hole in the "needle eye" end of the cleaning rod (adjust the cloth for smooth entry into the inner barrel).

b. Wind the cloth around the cleaning rod.

c. Insert the cleaning rod into the front end of the inner barrel, and push the rod through. Again, be sure not to push the rod too far or the hop-up or bucking may be damaged.

d. Remove the cleaning rod and check the cloth for dirt. Repeats cleaning steps until a new piece of cloth comes out clean.

5. Use an ear-cleaning swab to gently clean your rubber bucking inside of the hop-up. Adjusting your hop-up to its lowest setting will allow easier access to the bucking. The bucking should always be kept clean and dry.



MAINTENANCE TIPS:

- Make sure to remove/disconnect your battery whenever beginning maintenance on your AEG. Eye protection is strongly recommended.

- For new AEGs, cleaning after every game/shooting session is strongly recommended, as grease from the mechbox will make its way over to the bucking (part E-014). This break-in period lasts for approximately 2,000 rounds.

- Do not use any oils to clean the inner barrel or bucking. Some oils are harmful to rubber and can cause premature damage or seal issues.

- Regularly check the condition of your magazine lips, air nozzle, and hop-up chamber for wear, which can cause feeding/cycling issues.

TROUBLESHOOTING AND OPERATING UNDER UNUSUAL CONDITIONS

SYMPTOMS	POSSIBLE CAUSE	SOLUTIONS
Not firing, no noise from gun	Selector set to Safe	Selector semi-auto or full-auto
	Fuse is damaged	Check fuse for damage. Replace with 20A or 25A mini-blade fuse
	Wiring is disconnected	Check Tamiya connections of battery and AEG to ensure that wiring is pushed fully into connectors. Check to ensure that wires are not disconnected from bottom of motor in pistol grip
	Pinched wiring	Return for professional care
Motor or battery is overheating	Pinched wiring	Return for professional care
	Wrong battery is being used	An under or over-powered battery can cause overheating in the wiring or motor. Use only an 11.1V. 20c Li-Po battery
Motor is grinding or sluggish	Bad SLE unit	Remove SLE from bottom of motor. Run AEG to see if problem persists, If gun works, replace SLE. If not, return for professional care
Gun is not fully cycling	Timing needs adjusting	If on full-auto, switch to semi-auto, or if on semi-auto, switch to full-auto and dry fire a few times to reset timing
o	Damaged selector plate or cutoff lever	Return for professional care
BBs are double-feeding or rolling out of the barrel	Hop-up needs adjustment	Pull charging handle to expose hop-up wheel and increase hop-up
BBs are not shooting straight OR are jamming	Bad BB weight/brand	BB weight should be .25g:.30g. Use only true performance BBs. See page 9 for more information
	Dirty inner barrel	Clean inner barrel according to instructions on page 16

Note: While troubleshooting, only take steps to repair your rifle that fall within warranty specifications. For any questions regarding warranty or troubleshooting, please contact KWA Customer Service at www. kwausa.com

OPERATING UNDER UNUSUAL CONDITIONS

Unusual conditions are defined as any condition requiring special maintenance or use of the product. Perform maintenance outlined for the climate similar to your operational area.

Extreme Cold: Operating an airsoft gun in extremely cold temperatures is not recommended. Cold temperatures will cause the hop-up bucking to harden, reducing its effectiveness. Gas will not expand properly in cold temperatures, so both the cycling rate and power will be dramatically reduced.

Extreme Heat: Please be mindful of battery, wiring, and motor temperatures in hot weather. Excessive heat can damage electrical or rubber components.

Dust or Sand: Dust or sand can get into a gun and cause malfunctions and/or excessive wear. Keep the gun covered whenever possible. Use lubricant sparingly, as lube naturally attracts dirt and other particles. After use in a dusty area, always field strip the gun (refer to Disassembly Section) and clean any areas you can reach with a soft, lint-free cloth.











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