



**TRAIL LIFE USA®**

Adventure › Character › Leadership

# TRAIL LIFE USA SHOOTING SPORTS AIRSOFT MENTOR GUIDE

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# Faith and Shooting Sports

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## CHARACTER

Character is defined as strength of moral fiber. A.W. Tozer described character as “the excellence of moral beings.” As the excellence of gold is its purity and the excellence of art is its beauty, so the excellence of man is his character. Persons of character are noted for their honesty, ethics, and charity. Descriptions such as “man of principle” and “woman of integrity” are assertions of character. A lack of character is moral deficiency, and persons lacking character tend to behave dishonestly, unethically, and uncharitably.

Character is influenced and developed by our choices. Daniel “resolved not to defile himself” in Babylon ([Daniel 1:8](#)), and that godly choice was an important step in formulating an unassailable integrity in the young man’s life. Character, in turn, influences our choices. “The integrity of the upright guides them” ([Proverbs 11:3a](#)). Character will help us weather the storms of life and keep us from sin ([Proverbs 10:9a](#)).

It is the Lord’s purpose to develop character within us. “The crucible for silver and the furnace for gold, but the LORD tests the heart” ([Proverbs 17:3](#)). Godly character is the result of the Holy Spirit’s work of sanctification. Character in the believer is a consistent manifestation of Jesus in his life. It is the purity of heart that God gives becoming purity in action. God sometimes uses trials to strengthen character: “we also rejoice in our sufferings, because we know that suffering produces perseverance; perseverance, character; and character, hope” ([Romans 5:3-4](#)). The Lord is pleased when His children grow in character. “You test the heart and are pleased with integrity” ([1 Chronicles 29:17](#); see also [Psalm 15:1-2](#)).

We can develop character by controlling our thoughts ([Philippians 4:8](#)), practicing Christian virtues ([2 Peter 1:5-6](#)), guarding our hearts ([Proverbs 4:23](#); [Matthew 15:18-20](#)), and keeping good company ([1 Corinthians 15:33](#)). Men of character will set a good example for others to follow, and their godly reputation will be evident to all ([Titus 2:7-8](#)).

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## SCRIPTURE REFERENCES

2 Peter 1: 5 - 7	5 But also for this very reason, giving all diligence, add to your faith virtue, to virtue knowledge, 6 to knowledge self-control, to self-control perseverance, to perseverance godliness, 7 to godliness brotherly kindness, and to brotherly kindness love.
Gal. 5: 22 - 23	22 But the fruit of the Spirit is love, joy, peace, longsuffering, kindness, goodness, faithfulness, 23 gentleness, self-control. Against such there is no law.
Phil. 4: 8	8 Finally, brethren, whatever things are true, whatever things are noble, whatever things are just, whatever things are pure, whatever things are lovely, whatever things are of good report, if there is any virtue and if there is anything praiseworthy—meditate on these things.
1 Tim 4: 12	12 Let no one despise your youth, but be an example to the believers in word, in conduct, in love, in spirit,[a] in faith, in purity.
James 1: 19	19 So then,[a] my beloved brethren, let every man be swift to hear, slow to speak, slow to wrath;
Col. 3: 8	8 But now you yourselves are to put off all these: anger, wrath, malice, blasphemy, filthy language out of your mouth.
James 1: 22 - 27	12 So speak and so do as those who will be judged by the law of liberty. 13 For judgment is without mercy to the one who has shown no mercy. Mercy triumphs over judgment.
James 4:1	Pride Promotes Strife 4 Where do wars and fights come from among you? Do they not come from your desires for pleasure that war in your members?

James 4: 11 - 12	Do Not Judge a Brother 11 Do not speak evil of one another, brethren. He who speaks evil of a brother and judges his brother, speaks evil of the law and judges the law. But if you judge the law, you are not a doer of the law but a judge. 12 There is one Lawgiver,[a] who is able to save and to destroy. Who[b] are you to judge another?[c]
Titus 2: 7 - 8	7 in all things showing yourself to be a pattern of good works; in doctrine <i>showing</i> integrity, reverence, incorruptibility,[a] 8 sound speech that cannot be condemned, that one who is an opponent may be ashamed, having nothing evil to say of you.[b]
Lev. 19: 18	18 You shall not take vengeance, nor bear any grudge against the children of your people, but you shall love your neighbor as yourself: I am the Lord.
Rom. 12: 9 - 13	9 Let love be without hypocrisy. Abhor what is evil. Cling to what is good. 10 Be kindly affectionate to one another with brotherly love, in honor giving preference to one another; 11 not lagging in diligence, fervent in spirit, serving the Lord; 12 rejoicing in hope, patient in tribulation, continuing steadfastly in prayer; 13 distributing to the needs of the saints, given to hospitality.
Heb. 13: 18	18 Pray for us; for we are confident that we have a good conscience, in all things desiring to live honorably.

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## SPORTSMANSHIP

*Sportsmanship is the ability to win without bragging, lose without complaining, and play while respecting others.*

**Learn as much as you can about your sport, play by the rules and don't cheat.** A victory gained as a result of cheating is hollow. According to ([Colossians 3:23-24](#)),

*Whatever you do, work at it with all your heart, as working for the Lord, not for human masters, since you know that you will receive an inheritance from the Lord as a reward. It is the Lord Christ you are serving.*

**Act courteously and treat others kindly.** This includes the officials, spectators, and teammates before, during, and after games or events. Even the opposing team, their coaches, and fans deserves your respect. In ([Philippians 2:3](#)) it says,

*Do nothing out of selfish ambition or vain conceit, but in humility consider others better than yourselves.*

**Don't lose your cool.** Even if other players and teammates lose their tempers, it doesn't mean you have to. It's tough when the ref calls a play that you think is wrong or you lose the game. Remind yourself that the Bible says in ([2 Timothy 1:7](#)),

*For God gave us a spirit not of fear but of power and love and self-control.*

**Be a team player.** Just like in the body of Christ, we each have different talents and strengths, that when used together, can accomplish great things. (1 Corinthians 12:27) No one person can win without the help and support of others. ([Ecclesiastes 4:9-10](#)) says,

*Two are better than one, because they have a good reward for their toil. For if they fall, one will lift up his fellow. But woe to him who is alone when he falls and has not another to lift him up!*

**Encourage your teammates.** Criticizing teammates for a strikeout or a missed catch distracts from the focus of working together and gives your opponent an advantage. Also, avoid trash-talking the other team. Words are powerful and you don't want to use them to harm others. ([Ephesians 4:29](#)) says,

*Do not let any unwholesome talk come out of your mouths, but only what is helpful for building others up according to their needs, that it may benefit those who listen.*

**Acknowledge and applaud good plays, even when it's your opponent that makes them.** Whether you win or lose, congratulate the other team on a game well played.

Therefore, encourage one another and build each other up, just as in fact you are doing.– ([1 Thessalonians 5:11](#))

## What is Airsoft?

Despite their quite safe-sounding name, airsoft guns, although not lethal, can be very dangerous. However, with the right airsoft gun safety equipment and an adherence to some basic safety guidelines, you can shoot without fear of unexpectedly injuring yourself or someone else.

Since the mid-1980s, airsoft guns have been adapted with a purely recreational application in mind, and the sport is enjoyed by all ages. Airsoft guns are non-lethal replicas of real firearms and used generally within a game format at designated places.

Airsoft replicas are produced globally, with the majority being manufactured in Asia. Many law enforcement agencies in the US use airsoft for force-on-force training drills. Read on for some basic guidelines for the use of airsoft guns.

Airsoft, by definition, is a War Game (MilSim) sport that employs the use of airsoft replicas (of real firearms) that typically fire a 6mm plastic pellet at relatively low velocities. A typical airsoft game involves two teams that are differentiated by colors such as tan versus green with a specific goal such as domination or capture the flag.

More advanced and larger games involve much more in depth "objectives" that involve a story or scenario. In an airsoft game a player is eliminated or "killed" by taking a shot from a 6mm pellet to either their body or gear. When the player is struck with a 6mm pellet or BB, as it is commonly referred to in the industry, the player is supposed to loudly call "hit" and take out their red rag to notify other players that they have been eliminated. As the BB does not provide any form of a definite and clear hit airsoft is known as an "Honor Sport" meaning that the game play depends on the participant's honor to call themselves out when hit, unlike paintball which actually leaves a mark on the target.

*Airsoft guns can provide a great deal of fun. Misuse of these types of replica guns can bring unnecessary injury or harm to users and innocent bystanders alike. Having rules should not put you off playing airsoft gun games. Having guidelines helps everybody to get the best out of the use of the guns and keeps everybody safe. Remember to purchase the right gun for your particular need and level of ability. A whole range of cheap and more expensive models can be purchased from quality retailers selling airsoft guns and self-defense products. Choose your gun wisely, follow the safety guidelines, and have lots of fun.*

# General Gun Safety

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## AIRSOFT GUN HANDLING SAFETY

- Always treat your airsoft gun(s) as if they are loaded and handle them with care.
- Always point your airsoft gun in a safe direction.
- Always keep your finger off the trigger until you are ready to shoot.
- Never point your airsoft gun at another person unless in a supported organized game.
- Always be aware of what is behind, beyond, and on either side of your target before you fire your gun at your target.
- Always remove your magazine and/or disconnect your battery until you are ready to use the gun - simply turning on the safety is not enough.
- When playing with airsoft guns, you and everyone around you must be at least wearing eye protection - full face masks are highly recommended.

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## TREAT ALL AIRSOFT GUNS AS IF THEY ARE REAL GUNS

- The orange tip does NOT protect you: most people do not know about airsoft guns and they will assume that these are real guns.
- Use airsoft guns only in areas where it is not prohibited by law.
- Do not use or display airsoft guns in public places such as schools, parks, etc.
- When transporting your gun to and from a game carry it in a gun case. The gun case is safe, protects your gun, and can be used to store airsoft pistols, accessories, and spare magazines. Remember in some places using a case is the only legal way to carry your gun. Respect the laws of the area in which you are carrying your gun
- When using airsoft guns, make sure everyone within view of you understands what you are playing with and what you are doing.

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## BE RESPONSIBLE. RESPECT YOUR COMMUNITY. OBEY THE LAW.

- The state of California for example requires that you be 18 years or older to purchase and own an airsoft gun. (Parents are Liable)
- Be aware of all local and federal laws governing the buying, carrying, and use of airsoft guns. Contact your local police department for more information.
- Only parents and legal guardians may give permission for a minor to own an airsoft gun and those parents are responsible for how they are used.
- If a law enforcement officer approaches you while you are using airsoft guns, immediately **STAND STILL AND PUT THE GUN DOWN.**
- If a neighbor or nearby person asks you to stop playing with your airsoft guns, immediately stop and store away your guns.
- If you use your airsoft guns to threaten another person or vandalized property, you **WILL** be charged with committing a serious crime.
- **NEVER LEAVE YOUR AIRSOFT GUN AND/OR AMMUNITION:**
  - **UNATTENDED!**

- LOADED WHEN NOT IN USE!

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## NEVER SHOOT TARGETS AT CLOSE RANGE / NEVER BLIND FIRE!

- Average airsoft guns fire at velocities between 200 and 600 feet per second. Without the added risk of modified equipment, which fire BBs at even higher velocities, close in range airsoft shooting could cause unforeseen injuries, this risk is especially increased during direct close in range firing. Due to this inherited risk, *never shoot targets at less than 25 feet away.*
- All "Devices" (Hand-Grenades, Claymore Mines, M203 Canisters 40mm Shells, Land Mines, CO2 Sound Effect Grenades, and 40mm Gas Rocket) should not be triggered or detonated within the 25 feet mandatory no shoot zone. All "Devices" should not exceed the Maximum of 330 FPS for safety.
- Do not **Blind Fire**. EXAMPLE: If you are on one side of a structure and think someone may be on the other side, don't stick your gun around the wall and fire without looking as you shoot.
- Bunker Clearing or Grenade rule-Bang on any bunker with your hand, yell grenade and every player in (or under) that bunker is hit. This rule applies only to man-made bunkers.

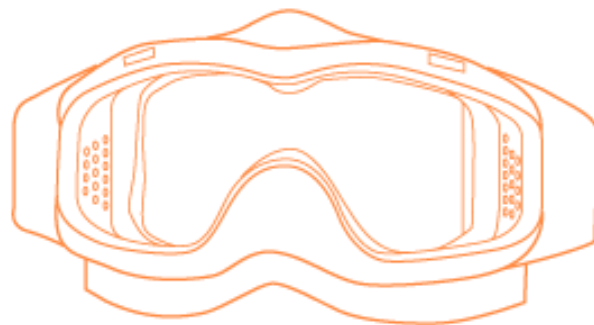


## Protection Gear

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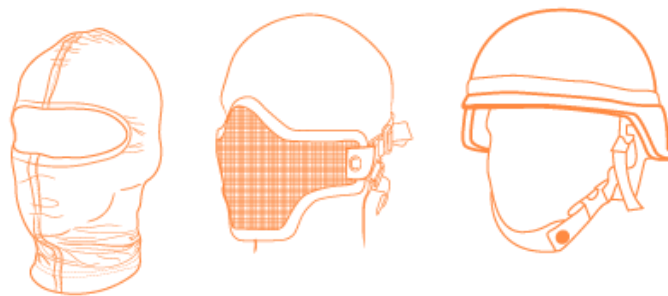
### EYE & FACE PROTECTION

- EYE PROTECTION IS REQUIRED AT ALL TIMES!
- Proper airsoft eyewear protection is essential. Some airsoft guns can shoot BBs at velocities in excess of 600 feet per second. Although such speeds should not be allowed in airsoft games, the mere possibility of unprotected eye contact with a BB traveling at high speed is clearly DANGEROUS!
- Additionally, some BBs could fragment upon impact posing unforeseen risks for eye injury. Regular reading, sun, and gun shooting glasses, swimming or diving eyewear, skiing, skydiving, welding, or military goggles, are not appropriate airsoft gaming eye protection. All these products have only been conceived to protect your eyes from light, dust, weather conditions, and indirect impacts.
- Appropriate airsoft eyewear needs to withstand and fully protect your eyes from direct impacts, shocks, and fragmentations. ONLY specially conceived eye protection for airsoft gaming, with at least an ANSI Z87.1 standard, should be used. Such a standard calls for thorough manufacturer testing of complete devices (frame, lenses, and shield) for the specified application. Never risk eye injury by playing/shooting/using any airsoft game or shooting equipment without proper eye protection.
- For all Trail Life USA Airsoft events full seal eye enclosure is mandatory. Trail Life USA reserves the right to approve or disapprove all shooting glasses or safety glasses. If your eye protection cannot stop an AEG shooting 400fps at point blank range AND are not full seal, do not bring them.





- If your glasses are removed during the game, immediately call out Blind Man, and all shooting must stop until an all Clear is called by a game referee or marshal. Anyone can call Blind Man to stop the game if there is a safety concern. The young man will be given a warning, and upon second offense will be removed for the game, plus 1 additional game. Disciplinary action will have to be taken. We take your safety very seriously.
- There are numerous brands of full-coverage face masks to choose from. Generally, they start at the bottom of the chin, continue up to the upper part of the forehead, and wrap around the back of the head to hold it on. They have lenses to protect the eyes, and are constructed of a hardened polymer to protect the rest of the face.
- Many of them also come with visors that can be attached to the top of the mask or are built onto the mask to help block the glare from the sun.
- Players who choose to wear goggles instead of full face masks often use half masks to help protect the lower section of the face. Half masks are made of either a metal mesh as shown here or hard plastic to help protect from BB fire. Utilizing the half mask and goggle approach to face protection often solves the problem of goggles fogging up, as it allows more airflow to be circulated throughout the area. This set up also takes away from blocking your sightline to your sights, so you may properly utilize your weapon's sights.
- Trail Life USA requires all Trailmen to wear some form of face protection:
  - Full Facemask
  - Approved ANSI Z87.1 Goggles for eyewear with a Mesh Mask, Balaclavas, Helmets, or Recon Wraps.



## Guide to Batteries

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### GENERAL - BATTERIES

What it basically boils down to is voltage and milliamp hours (mAh). Voltage will determine rate of fire and milliamp hours will determine how long the battery lasts while being used. Various things will change how long the battery lasts such as ambient temperature and how much current is being drawn.

In lower temperatures the battery will not last as long as it will on a nice summer day. While many factors still apply that haven't been covered, the basic rules should suffice for allowing you to get the most out of your batteries and guns without causing additional wear on the gun.

With stock guns of the midrange variety it is not recommended running voltages higher than 8.4v. Higher voltages will cause the motor to spin faster causing the gears to turn faster which causes additional wear and tear on the internals.

Higher end guns can withstand this extra stress but lower to midrange guns will strip gears, pistons, crack gearboxes, burn out trigger contacts, and various other issues that will cause the gun to stop working. In the end it boils down to higher voltage equals higher rate of fire and more stress on the gun. Keep in mind that this is a generality and does not exactly remain true when Lithium Polymer batteries are used.

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## BATTERY TYPES

### NiMH – Nickel Metal Hydride

- These are by far the most commonly used battery. The main advantage when compared to LiPo batteries is its relative low cost by comparison. The other large advantage over LiPo batteries is that they are commonly available and can be put into nearly every airsoft gun without any modification.
- The primary disadvantage to NiMH batteries is the overall size and weight compared to output. LiPo batteries can output similar voltages with similar capacities with a smaller footprint.



### LiPo – Lithium-ion Polymer

- LiPo batteries have many misconceptions about them and without a solid understanding of electronics it is difficult to truly explain how and why these batteries perform better at lower voltages.
- The simple explanation is to think of the two batteries as glasses of water. While they both contain the same water (have the same voltage), the LiPo battery has a thicker straw. This allows the same amount of water to be delivered much more quickly. Basically LiPo allows a larger current draw which provides better performance.
- An example is that a 7.4v LiPo can slightly out perform an 8.4v NiMH battery of similar quality. This being understood one of the primary advantages of LiPo batteries are that they will provide the best performance for high end and highly modified guns.
- The other advantage **over** NiMH is that they are smaller and lighter so higher output batteries can be fit into smaller spaces on guns that are too small to allow a NiMH battery of similar voltage and capacity.
- While these batteries have some serious advantages over NiMH batteries, they do have several disadvantages.
  - One disadvantage is their complexity. These batteries require some serious care, and attention, as these batteries require cell balancing.
  - These batteries **REQUIRE** use of a smart charger which incurs more cost, but avoids over charges, or shorting out the battery.
  - The final disadvantage is that these batteries can be somewhat dangerous if not handled properly (explode if left in cars, or not charged properly).

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## CHARGING BATTERIES

- Batteries can be a confusing thing to someone just getting into airsoft as instructions are somewhat limited. The best recommendation is to buy a smart charger and forgo a lot of the confusion and frustration that comes with charging a battery with a standard wall charger.
- The guidelines are designed as an attempt to prevent overcharging the battery. First and foremost never charge the battery pack unattended, it is important to keep an eye on the battery and to check its temperature from time to time, if it gets too hot disconnect the battery and wait for it to cool.
- The next equally important part of these guidelines is determining the output of the charger; this will be rated in mAh and located somewhere on the charger, normally it is around 300 to 600 mAh and varies from charger to charger.

- Once you locate this number you divide the capacity of your battery by the output of the charger. For example, if your battery capacity is 1500 mAh and the charger output is 500 mAh you would charge a completely dead battery for 3 hours.
- Since your battery is unlikely completely discharged you'll have to estimate some and reduce the charge time.
- An important side note is that NiMH batteries do not need to be conditioned nor do they suffer from "battery memory", so completely discharging the battery is not required. The need to completely discharge the battery is an extremely common myth and more information can be easily found with a little bit of searching.

## Airsoft Guns

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### HOW AIRSOFT GUNS WORK

An airsoft gun is an air powered gun that generally shoots 6mm round projectiles (other sizes do exist but are less common). They are typically used for military simulation. Typical airsoft guns make use of compression for launching its projectiles. With this in mind there are essentially two types of compression used: the first being spring which includes electric and manual types, and gas compression which includes green gas (propane with silicone lubricant), CO2, and HFC – 134a. Additionally each propulsion system has several sub categories which it can be broken down into which provides slight variations in functionality.

### Types of Actions

- **Bolt Action** - A bolt is pulled back by the bolt handle to the cocked position prior to each shot.
- **Lever Action** - A lever is used to cock the gun prior to each shot. There may be different locations of the lever depending on the design.
- **Pump Action** - The forearm of the stock is used to cock the gun by sliding it back toward the shooter. Returning the forearm to the forward position loads the next round of ammunition.
- **Semi-Auto Action** - The firing cycle of a round also re-cocks the gun and feeds the next round into firing position awaiting the next trigger squeeze. This action is also referred to as self-cocking. A separate squeeze of the trigger is required to discharge the next round of ammunition.
- **Full Auto Action** - Full auto incorporates the semi-auto cycle and adds the feature of continual shots as long as you keep the trigger depressed. You can empty your entire magazine just by holding the trigger in the squeezed position. This action is also called machine gun action.

### Electric Spring Powered (AEGs and AEPs)

Airsoft Electric Guns (AEG) are among the most popular airsoft guns for skirmish play as they have high capacities, high rates of fire, and decent accuracy. AEGs work on electricity as the name implies. The battery powers the motor which turns the gears which draws the piston back on the spring. When the piston is drawn it creates tension on the spring. The tension stored in the spring determines how hard (FPS) the AEG will shoot. When the tension is released on the spring, the piston shoots forward compressing the air which then propels the BB down the barrel. Airsoft Electric Pistols (AEP) work in a very similar manner to the larger AEGs just on a smaller scale. Things to note about AEGs:

- AEGs have gear boxes that either use plastic or metal gears. Metal gear boxes are much more durable and can support stronger springs and more robust internals making them much more reliable in addition to being more powerful.

- Increasing the battery voltage will not increase the power (FPS) of the gun. It will however, increase the rate of fire. By increasing the rate of fire it will likely cause additional wear on the gear box and its supporting systems (Motor, Spring and Spring guide, Piston, etc.).
- AEGs are complex machines and will require regular maintenance and care to keep it in good working order. Like most machines, most AEGs will eventually require repairs from a qualified technician.
- Both AEGs and AEPs have models capable of electric blowback action (EBB).

## Manual Action Spring Guns (Springers)

Springers are a technological step back from the AEGs and AEPs, while still using a spring compression propulsion system the user is required to manually draw the spring into compression which is referred to as working the action. These still work by drawing back the piston which stores tension on the spring. When the trigger is pulled, the spring tension is released which pushes the piston forward creating compression. This compression propels the projectile (BB) down the barrel. These guns tend to be on the cheaper end of the curve but happen to be very reliable as there is less that can go wrong. Things to note about Manual Spring Guns:

- Because the action is powered manually, semi auto and full auto are not available.
- While Manual Spring Guns are typically considered lower end guns, this category includes bolt action spring sniper rifles which can be very expensive and very high quality.
- Spring Guns are the most common gun and are widely available from a large number of retailers.

## Gas Powered Guns

Gas Guns offer some of the most realistic replica gun options, and operate much the same as a paintball gun. A gas gun has a storage tank for a pressurized gas (generally in the magazine) which holds green gas, propane, HFC-134a or CO2. When the trigger is pulled, the tank valve is opened which releases the pressurized gas into the gun. The gas propels the projectile (BB) down the barrel. Generalization is required as the specific details for how this works changes from gun to gun, and is slightly different between CO2 and the other gases. Things to note about gas powered guns:

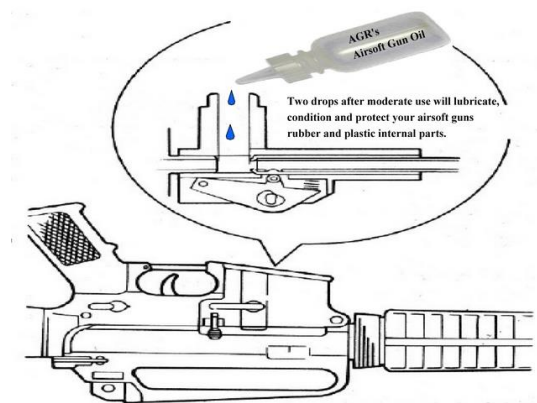
- The most used gas guns are generally handguns and sub machine guns, but rifles are closing the gap as technology improves performance.
- Gas guns are semi-automatic, and some have the option for full auto as well.
- These guns are among the most realistic, but also require a fair amount of care and maintenance than the other airsoft guns.
- They come in blowback and non-blowback varieties. Blowback guns are the most realistic, and feature a moving slide which recoils like a real firearm. Blowback gas guns require more attention as they have additional moving parts. The downside to blowback is that it can sacrifice gas efficiency and power to provide the recoil energy. These guns are much more expensive and have higher repair costs.
- Green gas is basically propane combined with silicone lubricant. Because of this, adapters are sold to use propane in green gas guns, it is important to remember to add silicone to the mixture. Green gas, propane and HFC-134a are susceptible to climate change, and are generally not recommended for use in cold environments.
- **CO2 guns are NOT permitted in Trail Life USA Airsoft events.** These guns shoot much harder (FPS 600 to 800 range) and will cause bodily injury if hit on exposed skin. Additionally, these guns have been known to crack safety glass if shot within 50 feet, and the normal safe distance is 25 feet.

## MAINTENANCE & TROUBLESHOOTING THE AIRSOFT GUN

- **ALWAYS CONSULT YOUR EQUIPMENT MANUALS BEFORE USAGE!**
- Each manufacturer of your airsoft equipment and ammunition should provide you with manuals and/or product usage warnings and indications that allow for safe and optimal gaming conditions. The warnings and recommendations therein should always be considered and followed to preserve everyone's safety, as well as the equipment's integrity.

### Gun & Magazine Cleaning

- When cleaning your airsoft gun, **never use strong solvents, strong cleansers, or petroleum lubricants.** You only need to use a **soft, damp cloth.**
- Use the cloth to **clean the exterior** and spray **silicone spray** to clean inside the barrel. The silicone spray has to be **100% silicone.**
- If you want to perform maintenance on the **interior** of the airsoft gun's gearbox mechanisms, it is highly recommended that it be performed by a professional. **Never soak** the airsoft gun with any lubricants - especially water.
- **Airsoft electric guns (AEG's)** and Airsoft spring guns only require minimal cleaning. The **barrel** is the most important part of the airsoft gun, and it should be cleaned on a **regular basis.**
- To clean the barrel properly, take a **cleaning rod** and a **.22 caliber patch**, and spray small amounts of silicone spray to the patch. Turn your hop-up **completely off** before you insert the cleaning rod.
- If the hop-up is on, you can **damage the hop-up** and the cleaning rod can become **stuck.** Insert your cleaning rod inside the barrel.
- The inside of the barrel needs to be wiped down in a **back and forth motion.** Remove the **.22 caliber patch** from your cleaning rod. Use a **new, dry patch** inside the slit.
- You will have to repeat the process to clear out the **remaining residue** that was left over from inside the barrel.
- Once you have cleaned the barrel, **test fire** your airsoft gun and turn the hop-up to **zero.** It is recommended that if you have an AEG gearbox, you have to clean and re-lubricate it **every 6 months.** Do not perform the gearbox cleaning yourself. A trained professional must clean it.
- Only lubricate the magazine feed nozzle and BB canal if dust/debris have entered the magazine. If lubricant is required to restore proper magazine functioning, use silicone lubricant sparingly. Remove any excess lubricant with a Q-tip until the lubricated surface is dry. Otherwise, lubricating the magazine is not recommended.
- With some magazines and fixed loading ports, BBs are loaded by inserting them against the resistance of a spring until the magazine or loading port is full (the spring is fully compressed). Do not store magazines loaded with BBs. Over time, a fatigued magazine spring may not have enough tension to properly feed the BBs.



### Clearing a Jam

## **NEVER LOOK DOWN THE END OF BARREL TO SEE IF A JAM HAS BEEN CLEARED.**

1. Make sure the airsoft gun is "ON SAFE" and pointed in a SAFE DIRECTION and Battery disconnected when it is an AEG.
2. Remove magazine.
3. Turn off hop-up. (Hop-ups differ on every gun. Be sure to read the manual before adjusting.)
4. Insert the tapered end of the cleaning rod into the barrel with the angle toward the breech (where the magazine connects).
5. CAREFULLY and slowly apply more pressure until you push the BB out of the breech.
6. Re-adjust the hop-up.
7. Reinstall the magazine and test gun.

## Troubleshooting

- Velocity drop - If you're using a gas-powered airsoft, you may be losing pressure, and need to replace/recharge the power source. An AEG's battery may require recharging. A spring gun can develop spring fatigue (weakening) if the gun is left cocked for extended periods of time. If this happens the mainspring will require replacement in order to restore optimal performance. In airsoft guns equipped with a hop-up system, increasing hop-up will decrease FPS (this is normal). If you are using paint filled marker BBs or powder coated marker BBs, check for possible build up in the hop-up system and/or the barrel. Clean these areas in accordance with the maintenance instructions that came with your airsoft.
- Battery no longer holds a charge/charge or drains quickly - This is a clear sign of battery failure. Replace the battery. Remember, it is better for battery health that you deplete most of the charge prior to recharging rather than subjecting the battery to unnecessary frequent charges. Another tip is to not charge the battery beyond the duration specified in the charging instruction provided with your airsoft/battery. Doing so will reduce the life of your battery. Overcharging is the lead cause of short battery life.

## WARNINGS

- **DO NOT MODIFY OR ALTER YOUR AIRSOFT GUN.** Tampering with the airsoft gun or attempts to change the airsoft gun in any way may make it unsafe to use, and may cause serious injury or death.
- If you drop your airsoft gun, visually check to see that it works properly before you use it again. If anything seems changed, like a shorter or weaker trigger pull, this may mean parts are worn out or broken.

## General Game Play Rules

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### BASIC RULES

- All participants must **ONLY** use airsoft guns in their games. These guns must conform to the FPS (feet per second) for indoor and outdoor play. Indoor limit of 300-350 fps and an outdoor limit of 350-450 fps. Those playing as a designated sniper may shoot at a maximum of 450 FPS, provided they are shooting bolt action rifles and have at least a spacing to target of no less than 50 feet.
- **All Trailmen MUST wear ANSI Z87.1 standard approved eye protection!** Ideally, all airsoft players should have full face masks, long sleeve shirts, full pants, and gloves whenever they play airsoft. Full face

masks are necessary if playing at any professional Paintball/Airsoft facility. This is for legal/insurance reasons, and cannot be avoided.

- It is strongly recommended that anyone who continues to be a problem in terms of wearing eye protection during games be banned from playing with the group. Nobody wants to be responsible for shooting someone's eye out. If the mask is fogging or needs to be cleaned during a game, the player should retreat to the "Respawn" or "Safe-Zone" which is isolated from the field of play. If any player removes their eye protection during the game, "Blind Man" should be called immediately which ceases all shooting and stops the game until the player is either removed, or is escorted to the "Safe-Zone". Only the Game Referee or Marshal can restart the game once stopped.
- If struck by an airsoft BB then the player is hit and is considered "Out." This means that the player is out of the current game unless specific game rules are being followed (see below for scenarios). All Trail Life games will require a safe-zone where the player that is out waits for the next game to begin or for a set time limit. Hits to the weapon are not considered a kill for some scenarios, so make sure that it is clearly agreed upon before starting a game. While playing the game, if uncertain about whether being hit or not, then the benefit of the doubt is considered and the player must count himself as OUT thus eliminating arguments during a game. Whenever a player is hit during the game, he must call out "HIT! HIT!" and then walk to the designated safe-zone with the weapon held high over the head with both hands. Be sure to do so since other players may assume the hit player is still in the game. It is highly recommended to use a red ribbon which is held in a player's hand while walking to the "Safe-Zone". This visual indicator will alert other players that he is out.
- Identification system: Teams need to wear opposing color ribbons or tape to indicate what team they are on to determine who is friend and who is foe. The colors should be bright enough to see in low light. Good sportsmanship and game integrity is important. If a player asks for your color, be ready to respond and surrender them.

## Game Conduct (Integrity & Honor)

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### FIELD CONDUCT

- Airsoft is a game of honor, and players must trust that other players will play honestly, and call themselves out when hit. As such, it is each player's responsibility to maintain a proper attitude toward all other players. Any player guilty of un-sportsmanlike conduct, including yelling, obscene behavior, cursing, or disrupting play, can be suspended from play.
- If another player is seen getting hit, and they did not feel or hear it, do not yell at them. Instead, indicate to player the specific area that was hit by a BB. If the hit player is not responsive to the indication and a second player also saw the hit, the second player should respond with "I second that hit." Upon hearing this, the indicated hit player must call himself out immediately. If said player is still not responsive, inform the game referee that unsportsmanlike conduct was witnessed by two players, and allow the referee to remove the offending player for the rest of the game or longer depending on circumstance.
- If a teammate gets hit, and he did not feel it, inform them of the hit so that he can call himself out.
- Any form of physical altercation (i.e. fighting) will not be tolerated. If a player is ever involved in a fight, he will be suspended from Trail Life USA play until the Troopmaster holds a conference with the Trailman and his parents. A mutually agreed suspension may apply. If that same player is ever involved with a second fighting occurrence, that Trailman will be suspended for no less than six months.
- Do not walk into a game that is already in progress. If a player is not ready by the time a game starts, he must wait for the next one.
- Do not shoot at the players in the field from the sideline.

- Do not intentionally block or provide cover for teammates after being hit.
- Eliminated players are forbidden to communicate with those still playing. This includes giving supplies (gas, BBs, etc.) to those that are still playing. "Deadman Don't Talk!"

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## HITS

- Any hit to any part of the body counts as a kill (including camel backs, etc.).
- Hits to the gun do not count as a kill. However, for some scenarios, it is a kill. Make sure the players agree to the rules before starting a game.
- Friendly fire counts! If hit by a fellow teammate, then this is considered a kill.
- When two players engage each other in combat (whether at a distance or in close quarters), and both players get hit, both players are out regardless of who said "hit" first.
- Rubber knife hits count as a kill (this includes being hit by a thrown rubber knife).
- Ricochets do not count.

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## SAFE ZONES

- Having an area where players can retreat to if they are not playing is very important. It allows them to safely remove their eye protection, have a break, a drink, and of course, reload. Naturally, safe zones **MUST** be protected from playing zones by either solid or mesh fencing that BBs cannot penetrate. The best material to use is debris netting, as used on building sites. This material can be expensive, but it is BB-proof, see through, and will not get caught by strong winds.
- Entrances should be a simple double turn so there is easy access, but still no risk of BBs entering. If playing in a large area, it is important to remember that players would prefer **NOT** to walk a long distance to the nearest safe zone. With two teams in a playing area where they meet in the middle, each safe zone must near their respective bases.
- If planning to play in darkness, it is also important to remember to light the safe zones. If a powered floodlight is not available, a battery operated strobe can light up a large area with great effect, and can provide a valuable beacon to guide players.

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## GAME BREAKS

- The most common option when involved in full day events is to allow game breaks which give tighter control over how games are run. Providing plenty of time between scenarios for players to rest and reload will increase the quality of play, plus increase a safer environment.
- Additionally, scores between teams are easier to keep and scenarios are easier to control.
- Fewer referees are required as a game ends since players are no longer still in the playing area. This option allows referees to leave the safe zone, and to rest, refuel, and re-hydrate.



# BB Types, Sizes and Recommendations

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## BB GUIDE

- Sometimes it's the smallest piece of the puzzle that is most important! Low quality cheap BBs will cause airsoft guns to have continual problems and cost more money in repairs. Plastic BBs are considered low quality and the source of several jams.
- High quality BBs provides many advantages such as accuracy, reliability, power, and they significantly reduce the chance of gun malfunction.
- Low quality BBs such as the BBs included with the airsoft gun, and those purchased at various sporting goods/retail stores have a large number of potential hazards. With low quality BBs numerous things can go wrong with the most common issues being shattering and jamming.
- Shattering happens because of poor materials, inconsistent sizing, and voids (air pockets) inside the BBs. When a BB shatters it can create blockage which can cause jams. Often, these can be easily fixed by using a clearing rod. However, shattering can cause a surge of back pressure which can strip the gears or destroy the piston. Both events will require professional repair.
- High grade BBs are seamless, consistent in size and weight, and will not have air voids.

## Popular Weights

The weight of the projectile (BB) has a large effect on its flight characteristics. Heavier BBs tend to fly more accurately over a greater distance. They will travel at a lower FPS but still have about the same kinetic energy as a lower weight BB shot from the same gun.

- .20g – Very common and very popular weight. This is the minimum recommended weight for higher end AEGs and gas guns.
- .25g – This is a fairly common weight. It is growing in popularity as it provides better accuracy at a longer range but lower FPS. This is the heaviest weight recommended for mid-range and stock AEGs.
- .30g- .30g and higher weights are typically used by high FPS sniper rifles, and provide the best accuracy at the longest of ranges. These are not recommended for mid to lower range stock AEGs.

## Trail Life USA – BB Recommendations

### Biodegradable (Most Commonly Used) – Tread Lightly! Approved

- Biodegradable BBs are made of a special resin which allows them to degrade over time into the earth whereas regular BBs will remain for at least several hundred years. Many outdoor fields require Biodegradable BBs to be used. These BBs are of the same quality standards as plastic and follow the same guidelines for precision in both weight and size.
- Biodegradable BBs only are allowed at outdoor professional fields. Most fields will require a player purchase their own BBs to ensure adherence. Trailmen will abide by all field rules and conditions.

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## BB FEET PER SECONDS

### OUTDOOR LIMITS:

**AEG**

bb mass	FPS
0.12g	517
0.20g	400
0.23g	373
0.25g	358
0.29g	332
0.30g	327
0.34g	307
0.36g	298
0.43g	273

**ALL GUNS**

bb mass	FPS
0.20g	330
0.23g	307
0.25g	295
0.29g	274
0.30g	269
0.34g	253
0.36g	246
0.43g	225

**BOLT-ACTION**

bb mass	FPS
0.20g	550
0.23g	513
0.25g	492
0.29g	457
0.30g	449
0.34g	422
0.36g	410
0.43g	375

**INDOOR LIMITS:**

# Tread Lightly! (<https://www.treadlightly.org/>)

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## TRAVEL RESPONSIBLY ON DESIGNATED ROADS, TRAILS, AND AREAS.

- Practice target shooting and other shooting sports only on lands opened to shooting.
- Always practice minimum impact travel techniques for your mode of transportation.
- Stay on the trail.
- Comply with all signs and respect barriers.
- Buddy up with two or three shooters, reducing vulnerability if you have an accident.
- Don't mix shooting with alcohol or drugs.

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## RESPECT THE RIGHTS OF OTHERS

Respect the rights of others, including private property owners, all recreational trail users, campers, and others so they can enjoy their recreational activities undisturbed.

- Be considerate of others on the road, trail, or within the shooting area.
- Never take a shot unless you see the target clearly and you know what lies between you, the target, and beyond.
- Property such as signs, kiosks, and buildings are not targets.
- Do not shoot across roads, trails, waterways, or into caves.
- Do not shoot in developed recreation sites such as campgrounds, trailheads, parking areas, or boat launches.
- Leave gates as you find them.
- If crossing private property, be sure to ask permission from the landowner(s).

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## EDUCATE YOURSELF

Educate yourself prior to your trip by obtaining travel maps and regulations from public agencies, planning for your trip, taking recreation skills classes and knowing how to operate your equipment safely.

- It is your responsibility to contact the land manager to learn of any permit requirements, closures, or restrictions related to shooting sports.
- Obtain a map of your destination and determine which areas are open to your type of travel.
- Make a realistic plan and adhere to it.
- Always tell someone of your travel plans.
- Check the weather forecast before you go.
- Prepare for the unexpected by packing a small backpack full of emergency items.

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## AVOID SENSITIVE AREAS

Avoid sensitive areas such as meadows, lakeshores, wetlands, and streams. Stay on designated routes.

- Other sensitive habitats to avoid include living desert soils, tundra, and seasonal nesting or breeding areas.
- Don't use trees or other natural objects as targets. These impacts leave a permanent negative image about shooters' relationship with nature.
- Do not disturb or shoot historical, archeological, or paleontological sites. They cannot be replaced.
- Motorized and mechanized vehicles are not allowed in designated Wilderness Areas.

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## DO YOUR PART

Do your part by modeling appropriate behavior, leaving the area better than you found it, properly disposing of waste, minimizing the use of fire, avoiding the spread of invasive species, and restoring degraded areas.

- Respect the shooting community by only shooting legitimate targets.
- Pack out all target trash including shotgun shells, fragmented clay pigeons, or any targets. These leave a negative image about shooters.
- Carry a trash bag in your vehicle and pick up litter and target trash left by others.
- Do not shoot household appliances and other objects dumped in shooting areas. It is misconstrued that shooters are the dumpers.
- Practice minimum impact camping by using established sites or durable surfaces and camping 200 feet from water resources and trails.
- Observe proper sanitary waste disposal or pack your waste out.
- Before and after your trip, wash your gear and support vehicle to reduce the spread of invasive species.