Perun V3 Integrated

User and installation manual



Perun

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1. Technical data

Recommended power sources

Perun V3 Integrated works with any power source that provides 7–17 V and can deliver sufficient current for smooth cycling of the replica. Li-Po and Li-Ion batteries with nominal voltages of 7.4 V, 11.1 V, or 14.8 V are recommended. Use batteries with the highest practical capacity and "C" rating. This reduces battery stress by preventing operation near the battery's discharge limit. The following video explains why:

https://www.youtube.com/watch?v=s8RKcly810A

Battery capacity and the "C" rating also affect the replica's ROF:

https://www.youtube.com/watch?v=5hO25aPvHcU

Compatibility with high-ROF and high-power builds

Perun V3 Integrated can be used in both standard and highly tuned replicas, including high-power and high-ROF builds.

Compatible gearboxes, gears, and triggers

Perun V3 Integrated works in both electric airsoft replicas and gel blasters. It is designed for Version 3 gearboxes built to the Tokyo Marui standard. Perun V3 Integrated has been successfully tested in and should fit without modification in gearboxes made by the following manufacturers: Arcturus (Tokyo Marui-compatible versions, such as the PE models), D BOYI, CYMA, E&L, G&G, ICS, JG, LCT, and Snow Wolf. Minor modification of the Perun V3 Integrated housing may be required in Retro Arms gearboxes. Please note that replica manufacturers may change part dimensions between production batches. As a result, minor fitting may be required and, in rare cases, a listed gearbox may be incompatible with Perun V3 Integrated.

The color or reflectivity ("shininess") of the gears or gearbox shell does not affect the operation of Perun V3 Integrated.

Perun V3 Integrated works with any gearset, including DSG, TSG, short-stroked, helical, and non-helical gearsets, in any ratio (including 32:1 "max/infinite torque").

Both stock and aftermarket triggers built to the Tokyo Marui standard can be used with Perun V3 Integrated. Trigger color does not affect operation.

Electronic fuse

Perun V3 Integrated has an integrated electronic fuse that automatically cuts power in the event of a short circuit or gearbox jam. The fuse does not wear out when activated.

Wiring

No soldering is required for a standard installation. Soldering is required only when connecting an optional tracer or gel-blaster magazine. Two sets of wire extensions allow Perun V3 Integrated to be installed in replicas such as AK models with the battery under the top cover or in the stock, G36 models, and MP5K models.

Battery connector type

Perun V3 Integrated is supplied with a factory-installed T-Plug (T-Deans) connector.

Brushless motors (BLDC)

Perun V3 Integrated works with both traditional brushed and brushless (BLDC) motors. When using a brushless motor, adhere to motor manufacturer's guidelines regarding the use of active brake or rate of fire reduction based on PWM (pulse width modulation), which is the reduction method used in Perun.

Standby current consumption

With the battery connected, Perun V3 Integrated draws approximately:

- **0.4 mA in SAFE**
- **0.6 mA in SEMI or AUTO**

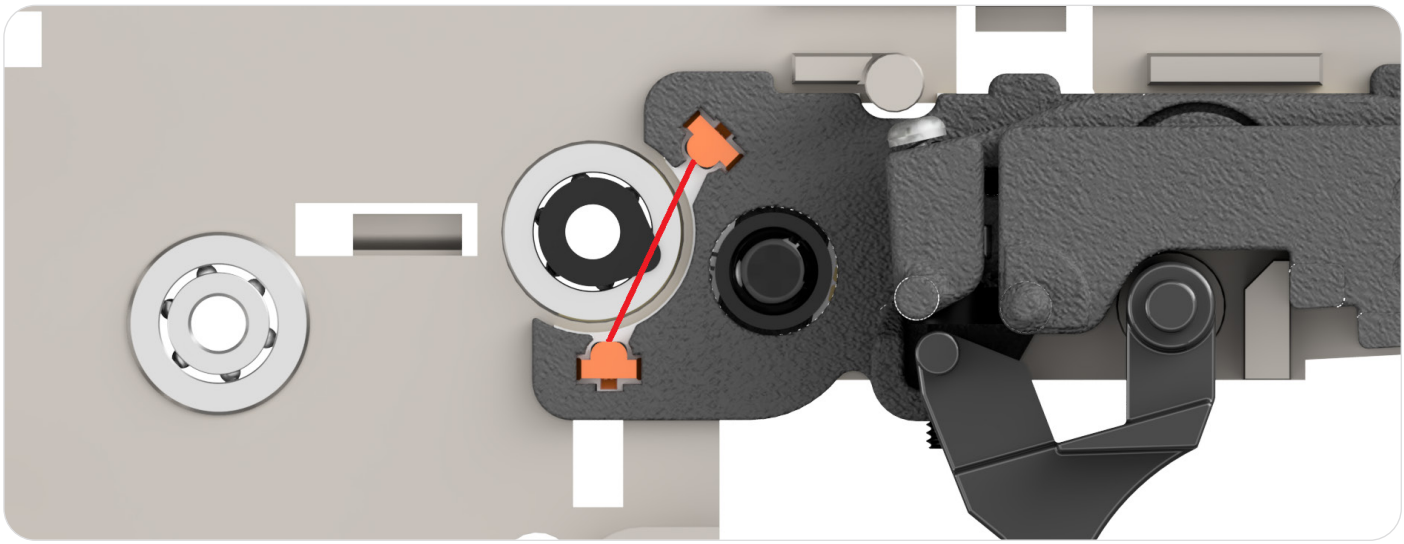
Always disconnect the battery after use!

2. How does it work?

Optical sector-gear and selector-plate sensing, together with magnetic trigger sensing, eliminates wear-prone electrical contacts and provides reliable operation across a wide range of component combinations. The electronic sensing system contains no wear-prone mechanical contacts.

Sector gear detection

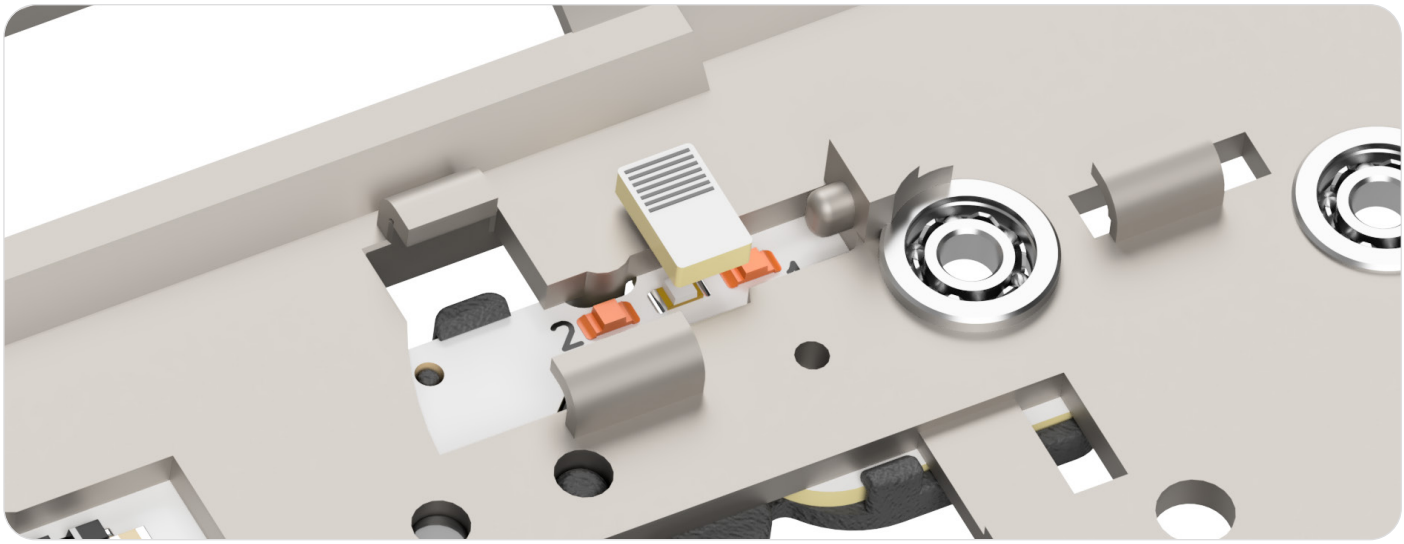
The sector-gear phototransistor (sensor) and IR LED work as a pair, forming an optical barrier. When the sensor and LED cannot "see" each other, the sector gear's cut-off cam is between them. Perun V3 Integrated uses this information to determine the current phase of the gearbox cycle. The figure below shows the line between the sensor and the LED.



Selector sensor

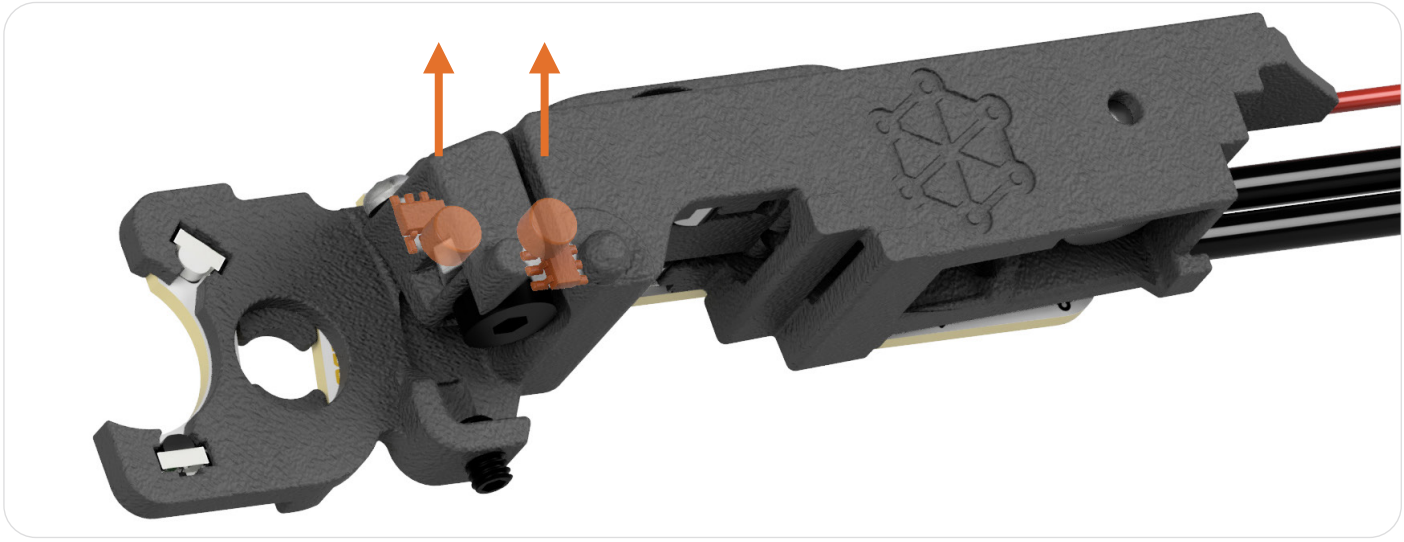
Perun V3 Integrated has two selector sensors. They measure the amount of infrared (IR) light emitted by an IR LED between them and reflected from nearby objects. White objects reflect most of the IR light, while black objects reflect almost none. Objects must be less than 1 mm from the sensors to be detected; if no object is present above them, the sensors register no reflection.

When the white selector plate insert is above the SEMI sensor, it reflects IR light back to the sensor and indicates that the corresponding selector position is engaged. The same principle applies to AUTO. SAFE is detected when the selector plate insert is above neither sensor. Exact positioning is not required, because selector calibration compensates for minor placement differences.



Trigger

Hall-effect sensors monitor the magnetic field generated by the magnet installed in the trigger's magnet holder. The readings are sent to the unit's microcontroller, which may initiate a shot according to the trigger position and sensitivity setting. The sensors can also detect an external magnetic object near the airsoft replica or gel blaster. If one is detected, the unit activates the external magnetic field alarm to prevent an unintended shot.



Integrated Clicker

The integrated Clicker creates a distinct trigger wall and break, producing a tactile response similar to that of a firearm trigger. Its magnetic mechanism provides a consistent feel and is highly resistant to wear.

The break force can be configured for a light, microswitch-like feel or removed completely. When the break is disabled, the trigger behaves similarly to other magnetic or optical trigger systems, with resistance provided mainly by the trigger spring. Ball bearings stabilize the integrated Clicker's moving lever and help ensure consistent trigger movement and sensor readings.

The integrated Clicker also allows the user to adjust pretravel, overtravel, and the trigger's resting position. Adjustment procedures are described in the Installation and integrated Clicker adjustment section.



3. Installation and integrated Clicker adjustment

Note for users of AK-type replicas: the physical AUTO and SEMI positions in most AK selector systems are reversed compared with many other AEG platforms. To keep the terminology in this manual consistent, the installation procedure uses the logical order SAFE > SEMI > AUTO. Once installation and calibration are complete, the selector positions can be programmed to reproduce the standard AK order SAFE > AUTO > SEMI.

3.1. Disassemble the replica and the gearbox. Remove everything from the gearbox.

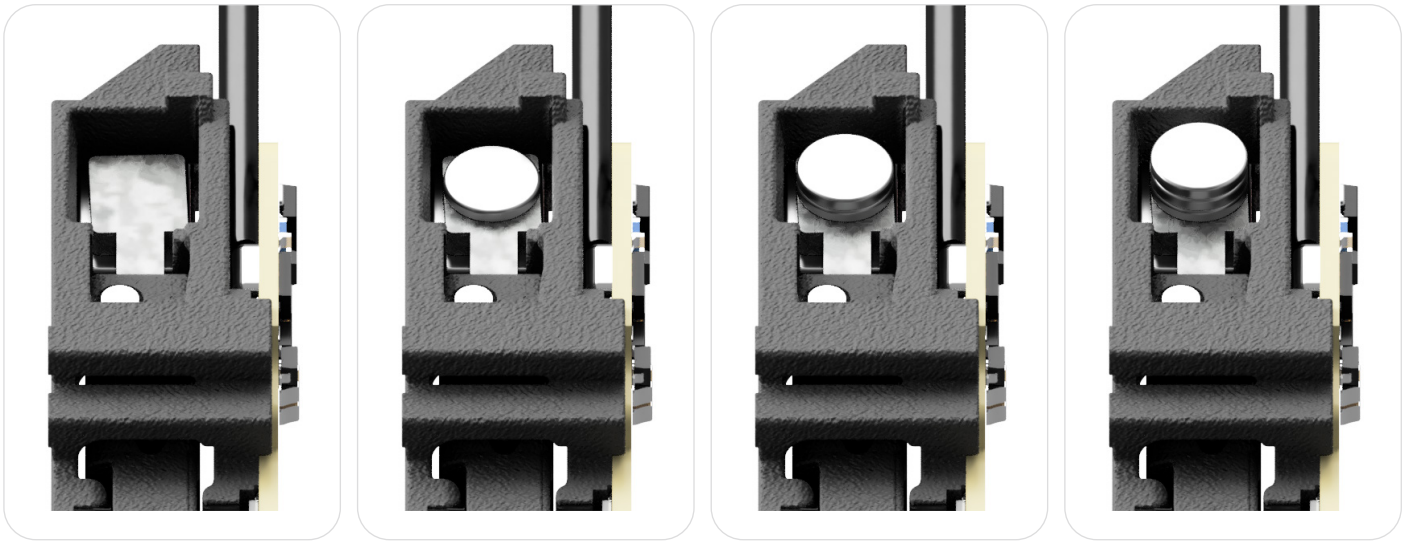
3.2. Perun V3 Integrated includes an integrated Clicker that can be adjusted to suit the user's preferences.

It can be configured for rapid semi-automatic fire in CQB or speedsoft applications, or for a heavier, more realistic trigger break. Ball bearings stabilize the integrated Clicker's main moving component, providing a predictable trigger pull and consistent sensor readings. Configure the integrated Clicker before continuing with installation.

3.2.1. Additional magnets for increased trigger pull weight in replicas with plastic receivers

In replicas with plastic receivers, such as G36 and some MP5K models, or where the receiver wall is not positioned directly above the integrated Clicker, the trigger pull weight can be increased using 6 × 1 mm disc magnets attached to the metal component. This compensates for longer triggers, such as the G36 trigger, which can make the perceived break force lighter. Perun V3 Integrated is supplied with three additional magnets. The magnets adhere to the metal component and are resistant to vibration. They may also be glued in place if required.

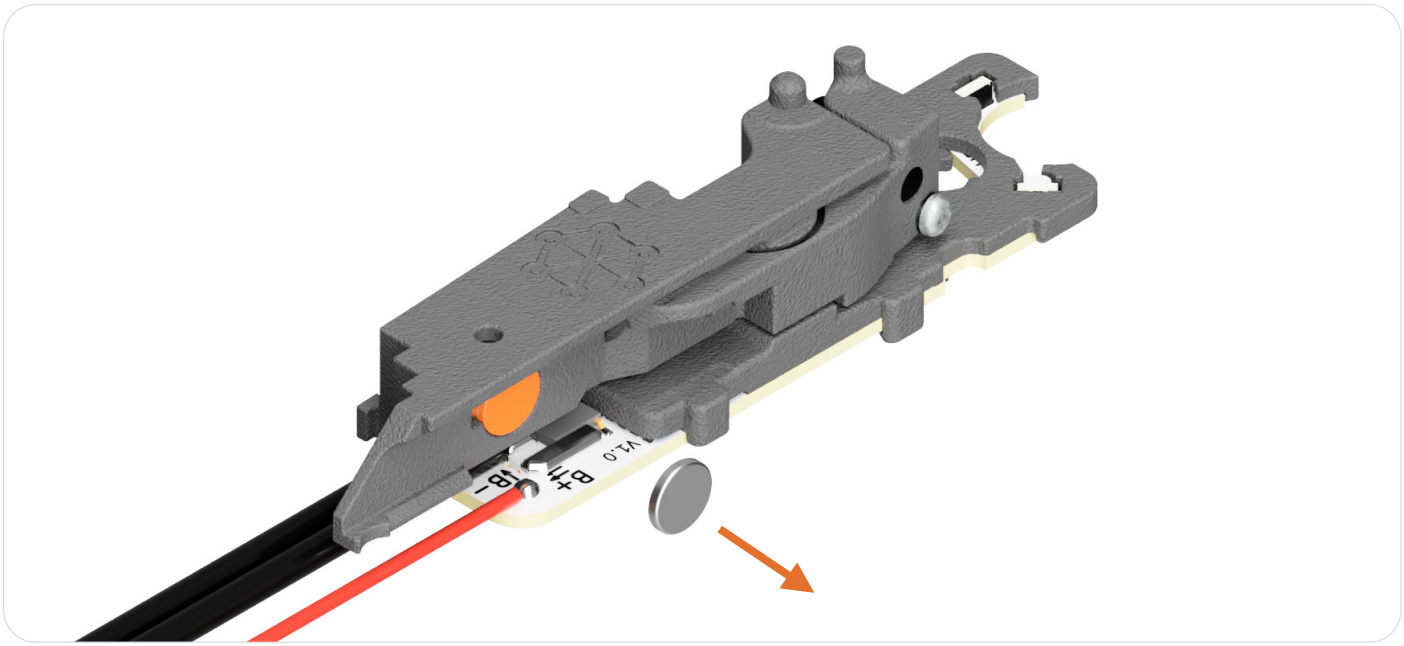
To reduce the trigger pull weight, remove one, two, or all three additional magnets as shown in the figures below. The configuration on the left provides the lightest pull; the configuration on the right provides the heaviest.



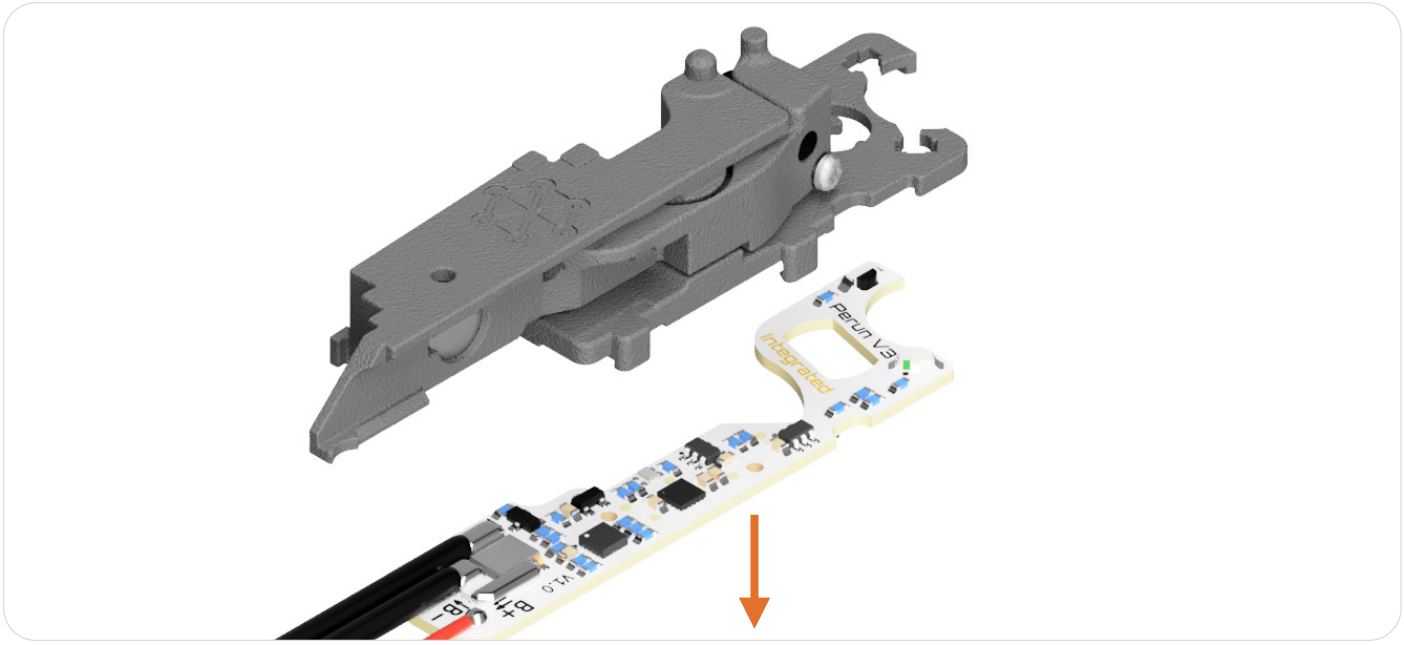
Using more than one or two additional magnets with a steel AK receiver may lock the integrated Clicker. The exact limit depends on the receiver geometry and the overtravel setting. If necessary, attach a non-ferromagnetic spacer to the top magnet so that it cannot adhere to the receiver. Note that this solution also reduces available overtravel.

3.2.2. Reducing or eliminating the break force

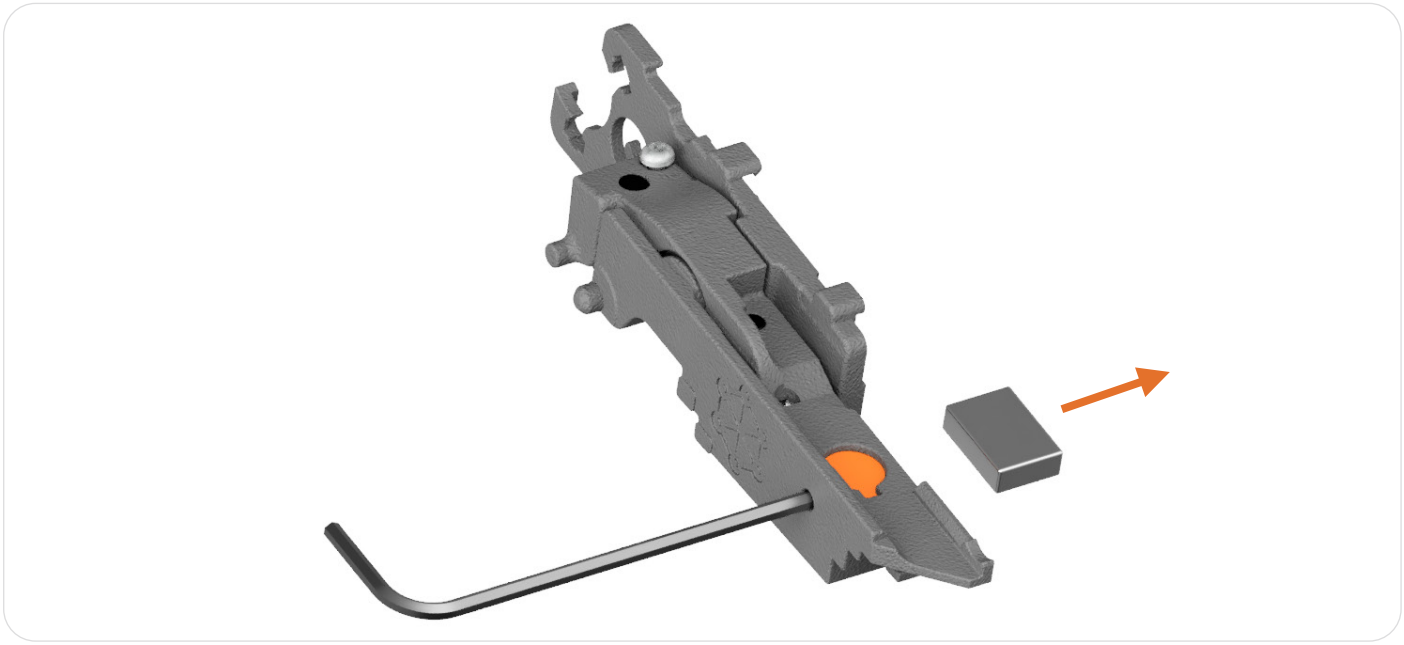
The trigger break can be reduced to create a microswitch-like feel or eliminated completely. To eliminate the break, remove the integrated Clicker's magnets. First, use a needle or small flat-blade screwdriver to remove the small additional round magnet.



Carefully detach the electronic board from the integrated Clicker body. It is secured only by snap-fit clips.

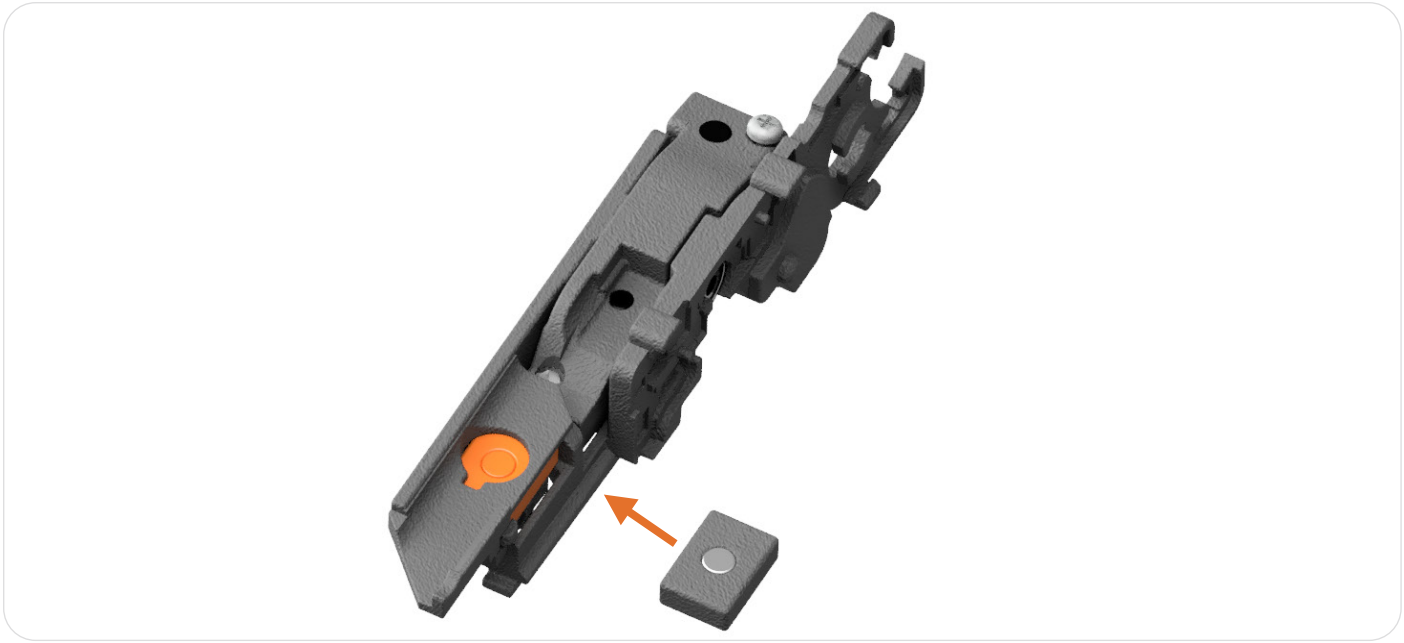


Use the supplied 1.5 mm hex key, or a similar tool, to push the main magnet out through the dedicated hole in the integrated Clicker housing.



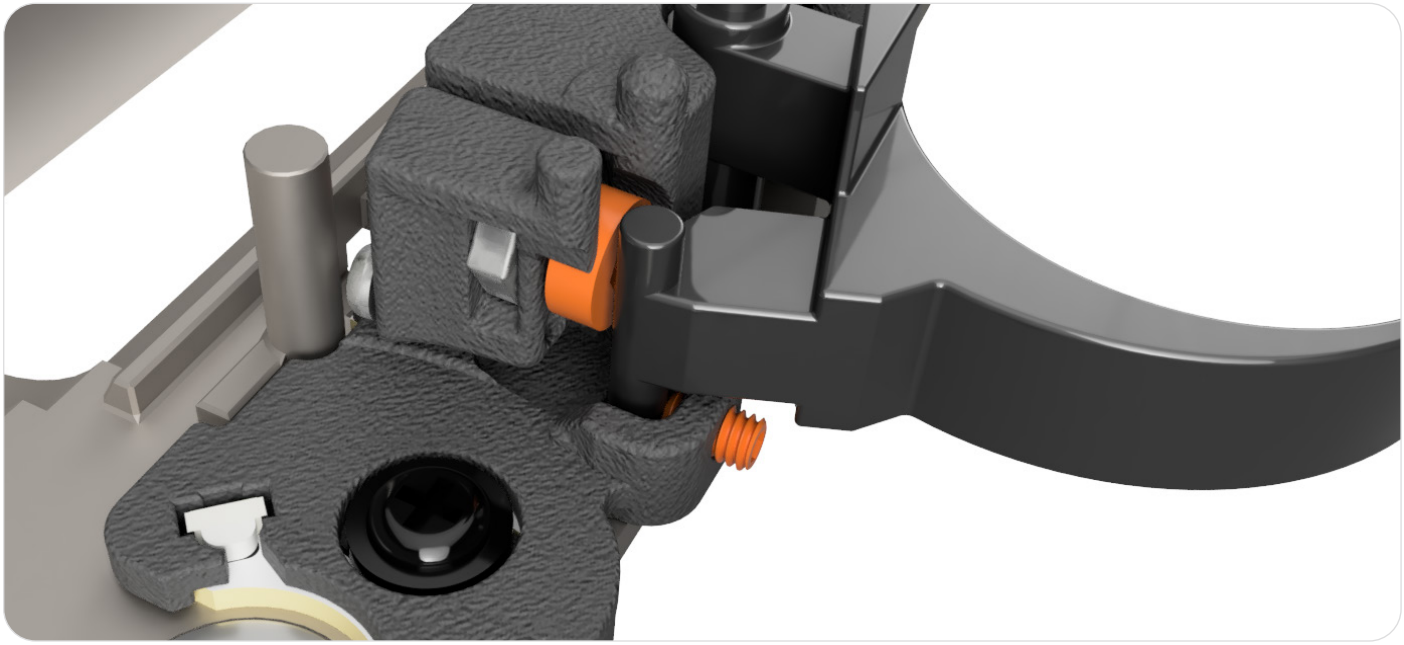
If you want to eliminate the break completely, no further action is required. Reattach the electronic board to the integrated Clicker housing.

For a light, crisp break, install the replacement magnet supplied with the product. Its plastic housing contains a much smaller magnet. Insert it into the cavity previously occupied by the main magnet.



3.2.3. Pretravel

Pretravel is the low-resistance portion of trigger movement before the trigger reaches the wall. Adjust pretravel using the two screws indicated below. These screws also allow adjustment of the trigger's resting position, preventing it from sitting too far forward.



If the trigger presses against the integrated Clicker at rest, the break force will be reduced.

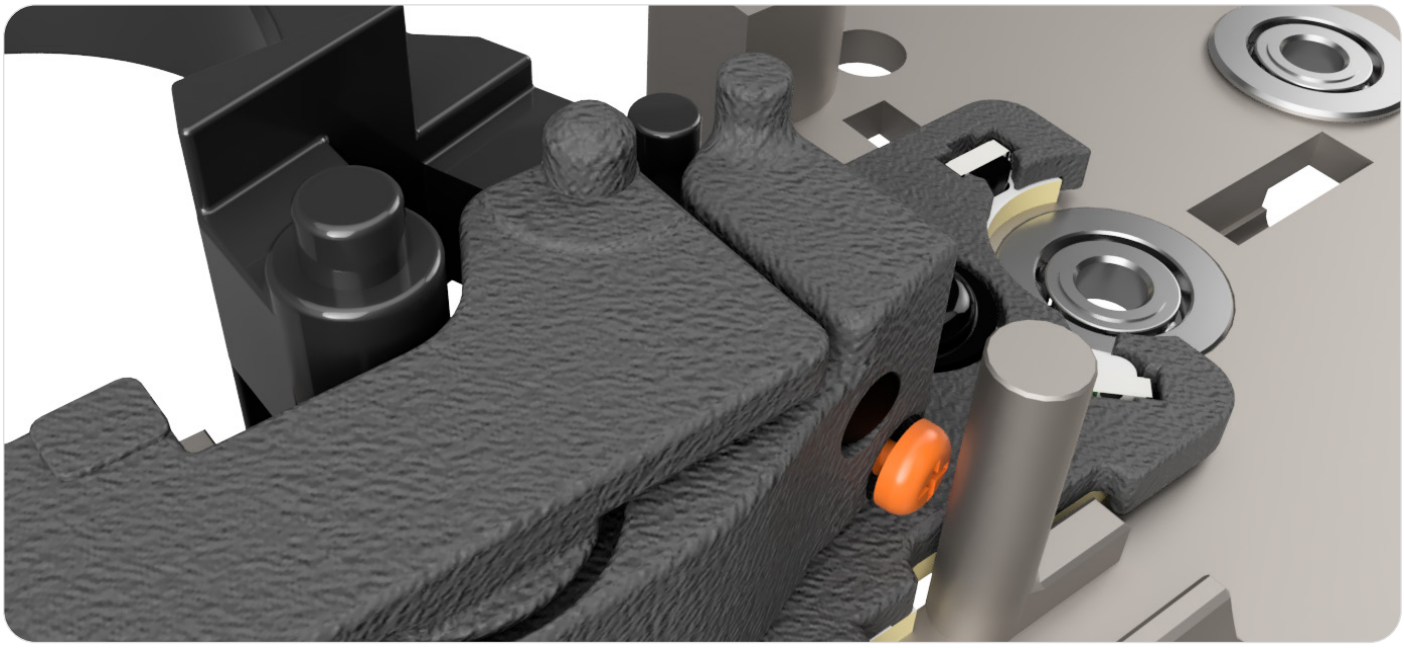
When adjusting pretravel with the larger screw, shim it—for example, with standard AEG gear shims—so there is no free space between the screw head and the plastic surface below it. This protects the integrated Clicker if the trigger is pulled firmly while the mechanical trigger lock is engaged. Without shimming, this may damage the integrated Clicker. Alternatively, the mechanical trigger lock may be removed.

The trigger spring is optional when the integrated Clicker is used. However, if substantial pretravel is set, the spring is required to prevent the trigger from hanging loose. For the best feel with a light break, reduce pretravel to zero and remove the trigger spring.

3.2.4. Overtravel

Use the screw shown in the figure below to limit trigger travel after the break. The overtravel screw may be removed completely if required.

Excessive overtravel limitation may prevent the trigger from resetting correctly. If the replica does not fire again unless the trigger is fully released, increase the amount of overtravel.



3.2.5. Additional modifications for increased realism

In some AK replicas, it may be difficult to reproduce the long pretravel of a real AK trigger because the available trigger movement is insufficient. In this case, identify the areas of the trigger that restrict movement and carefully remove material from them. The figures below show two examples, with the unmodified parts highlighted in red and the modified parts in green. Although the modifications are small, they allow the trigger to move farther forward while remaining smooth, producing a more realistic AK-style trigger feel.









3.2.6. Trigger settings in programming mode

If the replica does not fire when the trigger is pulled, increase trigger sensitivity until the unit reliably registers the trigger pull. This is particularly important when overtravel is very short.

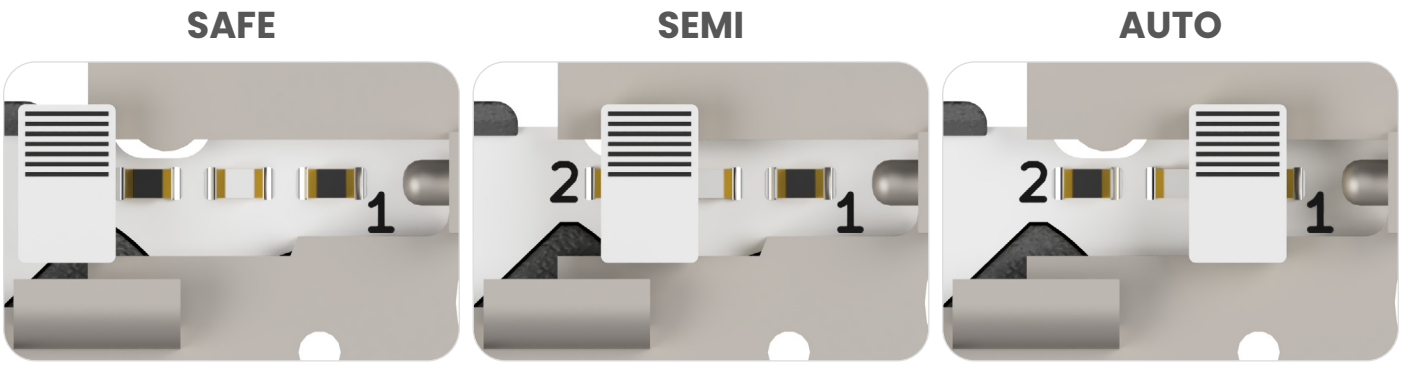
To use the two-stage trigger feature, completely disable the integrated Clicker's trigger break and set short or zero pretravel with long overtravel.

3.3. Secure Perun V3 Integrated and its plastic housing in place with the screw.

Ensure that the unit is held firmly and does not wobble. There are no conductive traces in the screw area, so no insulating washer is required. Do not overtighten the screw.

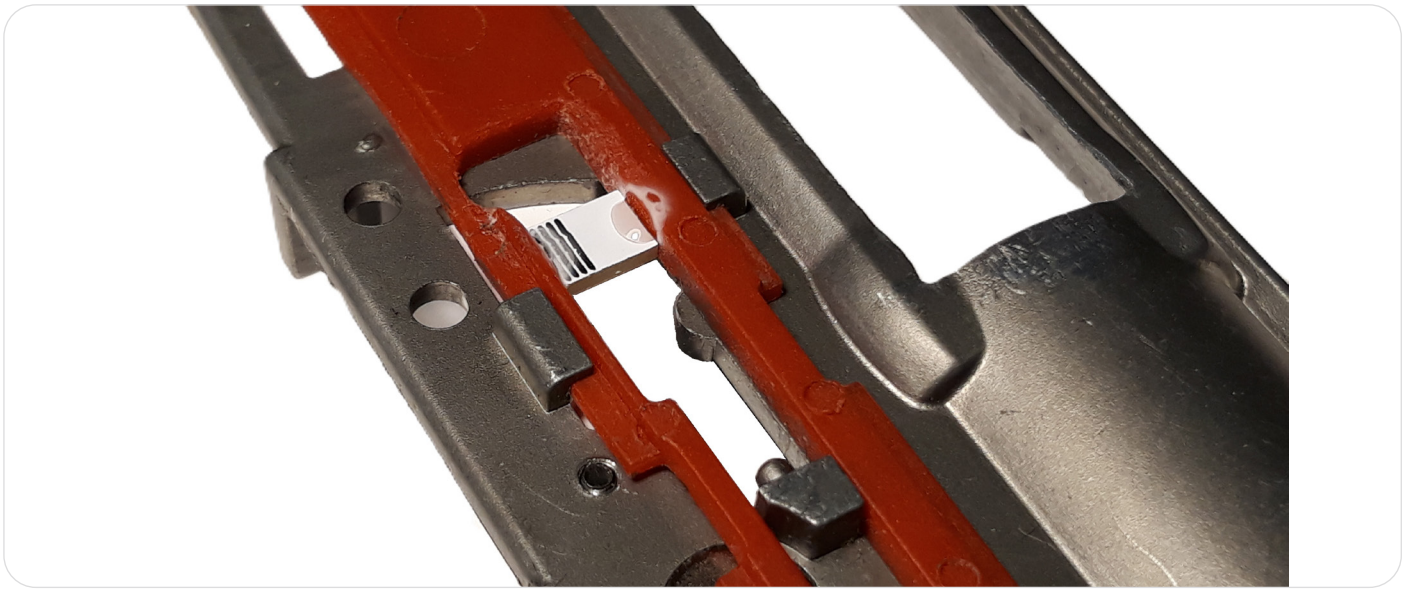
3.4. Separate one selector plate insert from the supplied set of three.

Cut it—or preferably sand it—to the length required for a snug fit in the selector plate. The insert should be as close to the sensors as possible. Use the horizontal black lines to monitor how much material you remove and to keep the insert even. After installation, the lines must face upward, away from the gearbox interior. The figure below shows how the selector sensor works and how the selector plate insert should be positioned relative to the sensors. Placement examples for popular replica models are provided in the Selector placement guides section.



Use the figure above to determine the correct position, then secure the selector plate insert with a small amount of cyanoacrylate adhesive.

The result should resemble the figure below. The exact position of the selector plate insert may vary between replica models.



3.5. Assemble the gearbox with only the sector gear, Perun V3 Integrated, and the trigger installed.

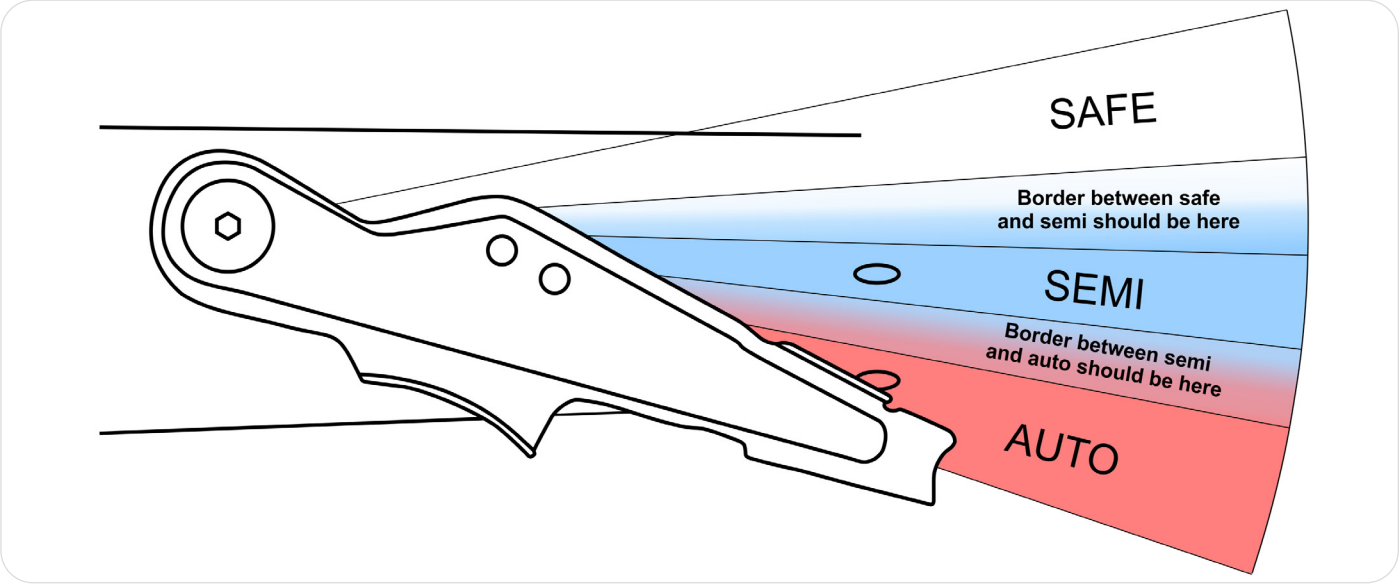
3.6. If you need to connect an optional tracer or gel-blaster magazine, solder its wires to the solder pads indicated in the figure below or to the wires connected to those pads.

The pads are connected in parallel with the motor and do not regulate current or voltage; they are provided only to simplify wiring. Observe the correct polarity.

3.7. Place the gearbox in the receiver and install the selector lever.

3.8. Connect the battery to Perun V3 Integrated while leaving the motor disconnected.

Use Sensor check (see the Sensor check section) to verify that all sensors operate correctly. The selector should respond approximately as shown below:



Perfect alignment is not required, because selector calibration can compensate for minor inaccuracies. However, placing the selector plate insert as close as possible to the recommended position increases the likelihood of successful calibration.

3.9. If everything works correctly, remove the gearbox from the receiver.

3.10. Open the gearbox again and install the remaining components.

The mechanical safety mechanism may be retained or removed, depending on user preference.

3.11. Assemble the gearbox and then the complete replica.

Take care not to pinch the wires or damage their insulation during assembly. If longer wires are required, use the extension supplied with Perun V3 Integrated.

3.12. Use a multimeter to check for short circuits between the connectors, gearbox shell, and receiver before connecting the motor.

3.13. Perform selector calibration.

4. Selector calibration

Two selector plate detection modes are available: default and calibrated. The default mode is the factory setting and relies on correct placement of the selector plate insert, so its operation may not always be perfect. Selector calibration is recommended for every installation. After successful calibration, the selector operates in calibrated mode. After an unsuccessful calibration, it returns to default mode.

Perform selector calibration only after installation is complete and all components are in place. The replica must be fully assembled, except that the motor must remain disconnected.

1) Enter Sensor check mode

Connect the battery while the motor remains disconnected.
A slowly blinking yellow LED indicates that Sensor check is active.

2) Start calibration

Pull and hold the trigger. The LED should remain solid purple while the trigger is held.
After a few seconds, the LED begins blinking white rapidly, indicating that calibration has started.

3) Calibrate the SAFE position

Set the selector to SAFE. Hold the trigger until the LED turns green, then release it.
The LED should now blink blue rapidly.

4) Calibrate the SEMI position

Set the selector to SEMI. Hold the trigger until the LED turns green, then release it.
If calibration is proceeding correctly, the LED should now blink red rapidly.

If the LED immediately turns red instead of first turning green and then begins blinking yellow, the unit did not detect a change between SAFE and SEMI. The unit has returned to Sensor check. Refer to Unsuccessful calibration below.

5) Calibrate the AUTO position

Set the selector to AUTO. Hold the trigger until the LED turns green, then release it.
If the LED turns red, refer to Unsuccessful calibration below.
The LED should now blink blue rapidly.

If the LED immediately turns red instead of first turning green and then begins blinking yellow, the unit did not detect a change between AUTO and SEMI. The unit has returned to Sensor check. Refer to Unsuccessful calibration below.

6) Confirm the SEMI position

Set the selector back to SEMI. Hold the trigger until the LED turns green, then release it.
If the LED turns red, refer to Unsuccessful calibration below.

7) Verify calibration

Remain in Sensor check.
Cycle through the selector positions and verify the following LED colors:

SAFE > White

SEMI > Blue

AUTO > Red

Unsuccessful calibration

If calibration is unsuccessful, check the following:

1. Incorrect positioning of the selector plate insert. Ensure that it is correctly positioned and securely attached to the selector plate.
2. Excessive selector plate play or obstruction. Ensure that the selector plate moves freely and has no excessive play.

5. During the start-up

If selector calibration has not been performed, set the selector to SAFE before connecting the battery. This is important for safety and allows Perun V3 Integrated to identify the SAFE position. If the battery is connected while the selector is in SEMI or AUTO, the replica may not fire until SAFE is selected. Even if it does fire, the unit may behave abnormally until SAFE has been selected at least once.

During successful initialization, provided that the motor is detected correctly and no faults are found, Perun V3 Integrated emits one sound signal and the LED lights green for one second. The unit then remains silent and dark until a shot is fired or programming mode is activated.

6. Features and programming

A video showing how to change settings in Perun V3 Integrated and other newer Perun products is available here: https://youtu.be/a0bWR79-Foo

The video covers the basic programming procedure. Complete information about the available modes and settings for Perun V3 Integrated is provided in this manual.

To enter programming mode:

For SEMI: leave the selector in SEMI for a few seconds, then move it to AUTO and back twice in quick succession: SEMI > AUTO > SEMI > AUTO > SEMI.

Successful entry into SEMI programming mode is confirmed by one sound signal and a blue LED.

For AUTO: leave the selector in AUTO for a few seconds, then move it to SEMI and back twice in quick succession: AUTO > SEMI > AUTO > SEMI > AUTO.

Successful entry into AUTO programming mode is confirmed by three sound signals and a red LED. Move the selector between AUTO and SEMI to navigate between functions. Pull the trigger to enable or disable a function or to change its level.

Programming is available only for 5 minutes after the battery is connected or after the most recent activity in programming mode.

Full feature description

All settings are configured independently for the SEMI and AUTO selector positions, except the Li-Po/Li-Ion alarm and Master reset, which apply to both positions.

Function and LED color	Description
Firing mode Green	Choose the firing mode for each selector position: SAFE, semi-automatic, burst, automatic, or binary. No sound signal and steady green LED – SAFE 1 short sound signal and LED flash – semi-automatic 3 short sound signals and LED flashes – burst 1 long sound signal and LED flash – automatic 2 long sound signals and LED flashes – binary (semi-automatic; one shot is fired when the trigger is pulled and another when it is released) Tip: In binary trigger mode, hold the trigger for 2 seconds to cancel the second shot.
Burst count Green and white blinking alternately	Set the number of shots in a burst. 2–5 short sound signals and LED flashes – 2–5-round burst
AB Blue	Active brake (AB) stops the motor after a shot, preventing the spring from remaining compressed and eliminating double shots in semi-automatic mode caused by overspin in high-ROF replicas. Five braking levels are available, from 1 (weakest) to 5 (strongest), and braking can also be disabled. Unless stronger braking is necessary, disable AB or use the lowest effective level, because stronger braking increases motor-brush wear and heat. Tip: To release the spring, select SEMI, fire one shot, and continue holding the trigger. After 3 seconds, the unit fires a second shot using the strongest AB setting, ensuring that the spring is left uncompressed. Perform this procedure after shooting **On Perun V3 Integrated, active brake is independent of precocking settings.** No sound signal while the LED glows blue means that active brake is disabled. One to five signals indicate braking levels from 1 (weakest) to 5 (strongest).

Function and LED color	Description
Precocking Yellow	In semi-automatic mode, precocking holds the piston in the rear position, ready for the next shot. This reduces the delay between pulling the trigger and firing, increases realism, and can provide an advantage in CQB. Select the correct precocking level individually for each replica and according to user preference. Precocking power is adjusted automatically to battery voltage and firing mode. Tip: To release the spring after using precocking, select SEMI, fire one shot, and continue holding the trigger. After 3 seconds, the unit fires a second shot using the strongest AB setting, ensuring that the spring is left uncompressed. Perform this procedure after shooting. **On Perun V3 Integrated, precocking is independent of active brake settings.** No sound signal while the LED glows yellow means that precocking is disabled. One to eight signals indicate precocking levels from 1 (weakest) to 8 (strongest).
Two-stage trigger Purple and green blinking alternately	The two-stage trigger fires one mode when the trigger is pulled slightly and another when it is pulled farther. The following combinations are available: semi-automatic > burst semi-automatic > automatic burst > automatic Burst count is set to 3 by default. If a 2-, 4-, or 5-round burst is selected under Burst count, the same burst length is used by the two-stage trigger. **The two-stage trigger is not compatible with binary mode. Enabling the two-stage trigger automatically disables binary mode.** **To use the two-stage trigger, completely disable the integrated Clicker's trigger break.** No sound signal while the LED alternately blinks purple and green means that the two-stage trigger is disabled. When it is enabled, the sound-signal pattern identifies the selected combination.

Function and LED color	Description
Trigger sensitivity Purple and yellow blinking alternately	This setting determines trigger sensitivity. Eight levels are available. A shot is fired after the lower tip of the trigger travels approximately: 1 – 7 mm 2 – 6 mm 3 – 5 mm 4 – 4 mm 5 – 3 mm 6 – 2 mm 7 – 1 mm 8 – 0.5 mm **These values are approximate and may vary depending on the parts used.** One to eight signals while the LED alternately blinks purple and yellow indicate sensitivity levels from 1 (lowest) to 8 (highest).
ROF reduction White	This function reduces the rate of automatic fire. Five reduction levels are available: 1 – 6% 2 – 12% 3 – 18% 4 – 24% 5 – 30% **These values are approximate and may vary depending on the replica configuration.** **Semi-automatic shots and the first shot in each burst are always fired without power reduction to preserve trigger response.** No sound signal while the LED glows white means that ROF reduction is disabled. One to five signals indicate reduction levels from 1 (smallest) to 5 (greatest).
DMR mode Purple	DMR mode permits only semi-automatic fire and limits shot frequency. It is intended primarily for high-power DMR-style replicas used at fields that require such limitations. Intervals of 0.25 s, 0.5 s, 1 s, 2 s, and 3 s are available. No sound signal while the LED glows purple means that DMR mode is disabled. One to five signals indicate interval levels from 1 (shortest) to 5 (longest).
Li-Po and Li-Ion alarm Teal	The Li-Po/Li-Ion alarm indicates that battery voltage has fallen below 3.7 V per cell. Stop using and recharge the battery. The unit automatically detects the number of cells and determines the safe voltage range. Short sound signals every 30 s indicate that the battery must be replaced or recharged. Disable this function when using other battery chemistries. No sound signal while the LED glows teal means that the alarm is disabled. One signal indicates that the alarm is enabled.

Function and LED color	Description
DSG  Green and blue blinking alternately	Enable this function when using a dual sector gear (DSG) to improve cycle control. No sound signal while the LED alternately blinks green and blue means that DSG mode is disabled. One signal indicates that DSG mode is enabled.
Master reset  Red	Master reset restores the unit's factory settings. To reset the unit, pull and hold the trigger for 2 seconds, or wait 10 seconds without pulling the trigger while the LED glows red. A long sound signal confirms that factory settings have been restored.

7. Factory settings

New units and units restored with Master reset use the following factory settings:

- **Firing mode – semi-automatic in SEMI; automatic in AUTO**
- **Burst count – 3-round burst**
- **AB – level 2**
- **Precocking – disabled**
- **Two-stage trigger – disabled**
- **Trigger sensitivity – level 4**
- **DMR mode – disabled**
- **ROF reduction – disabled**
- **Li-Po and Li-Ion alarm – enabled**
- **DSG – disabled**

8. Diagnostic system

Perun V3 Integrated includes a diagnostic system to help identify the source of a problem. After the battery is connected, the unit performs a start-up check to verify that the airsoft replica or gel blaster is ready to operate. Successful completion is indicated by a short green LED flash.

Problem and LED color	Description
Disconnected motor / Sensor check Yellow, blinking	This indicates that the motor is disconnected and activates Sensor check for the trigger, selector, and sector-gear sensors. With the motor disconnected, activating a sensor briefly lights the LED purple (trigger), white, blue, or red (selector), or green (sector gear). Use this mode for troubleshooting. Reconnect the motor to restore normal operation.  Motor status is checked only at start-up. A disconnection after start-up is not indicated.

Problem and LED color	Description
Fuse activation  Red, continuous, or blinking	Fuse activation indicates either a short circuit (continuous red) or a gearbox jam (blinking red). In some cases, the unit may classify one condition as the other. The electronic fuse may also activate when a component combination draws excessive current, for example a high-speed motor and high-speed gears. After the battery is reconnected, the unit resumes normal operation unless a short circuit remains and is detected during the next start-up.
Gearbox cycle detection failure  Yellow and green blinking alternately	The sector-gear sensor did not detect a gearbox cycle. If the replica fires an unintended burst in semi-automatic mode, check the gears and sensors for damage and ensure that the sector gear correctly interrupts the sensor beam. If the replica does not fire, the motor may be faulty or worn, or an electrical connection may be unreliable.
Unit temperature is too high Yellow and white blinking alternately	The electronic board is too hot. The unit remains disabled until it cools down, after which normal operation resumes.
Battery with too low voltage is connected  Yellow and teal blinking alternately	A battery below 7 V is connected. Replace it with a battery providing 7–17 V.
Battery with too high voltage is connected  Red and teal blinking alternately	**A battery above 17 V is connected. Disconnect it immediately, because it may permanently damage the unit. Replace it with a battery providing 7–17 V.**
An external magnetic field was detected  Red and purple blinking alternately	The trigger sensors detected an external magnetic field not generated by the trigger magnet. The unit will remain blocked until the source of the magnetic field is removed.
Main transistor or driver damage  Red and yellow blinking alternately	The main transistor or driver is damaged. The unit needs to be sent back for repair.
Battery voltage sensing malfunction  Red and white blinking alternately	The battery detection system is malfunctioning. The unit needs to be sent back for repair.

Other known problems:

Problem	Cause	Solution
Replica fires a 2-round burst in semi-automatic mode.	The motor and battery are too powerful for the main spring, causing overspin.	Enable AB or precocking.
	The precocking level is too high.	Set precocking to a lower level.
Replica does not fire; the unit emits no light or sound.	Incompatible T-Deans battery connector.	T-Deans plugs and sockets from different manufacturers may not make reliable contact. A plug may appear to fit while the conductive surfaces do not touch. Test with another battery, preferably one with a T-Deans socket from a different manufacturer.
The battery, motor, or both become very hot.	The battery capacity (mAh) and/or "C" rating is too low.	Use a battery with a higher capacity and/or "C" rating.
	The motor is too weak.	Use a stronger motor, possibly with neodymium magnets.
	Excessive friction increases motor load, for example due to: • **incorrect shimming;** • **motor misalignment in the motor cage or pistol grip.**	Remove the cause of the friction.
	The motor/gear ratio/spring combination draws excessive current, for example a high-speed motor, high-speed gears, and an M120 spring.	Use a softer spring, higher-ratio gears (lower speed, higher torque), or a motor with a higher TPA or lower rotational speed.
When the trigger is pulled, the replica remains silent or vibrates briefly; then the LED turns green and one sound signal is emitted.	A gearbox jam or short circuit is present, but low battery power or a poor battery connection causes the unit to reset because of voltage drop before the electronic fuse can activate correctly.	Remove the cause of the gearbox jam or short circuit.
	The build draws more power than the battery can provide, causing the unit to reset because of voltage drop.	Use a battery capable of delivering more current.
The number of shots differs from the programmed burst count, but no cycle-detection error is displayed.	The sector gear is too close to the sensor line, or dirt or excess grease interferes with sensor readings.	Unscrew the unit, move it as far to the right as possible, and secure it again.
		Remove excess grease and dirt from the sector gear.
An external magnetic field error appears even though no external magnet is near the replica.	The trigger was held during start-up.	Reconnect the battery without holding the trigger during start-up.
	The trigger has excessive lateral play, which can activate the error.	Shim the trigger so that it moves only forward and backward, not sideways.
	The trigger's movement is obstructed, so it may return to slightly different positions. If it moves farther back than it did during start-up, the error may be triggered.	Ensure that the trigger moves freely and without obstruction.
		Use a stronger trigger spring.

Problem	Cause	Solution
When ROF reduction is enabled, the electronic fuse activates or the replica does not fire.	ROF reduction is too high for the motor to cycle the gearbox.	Reduce the ROF reduction level or disable the function.
The motor emits sound signals periodically.	The Li-Po/Li-Ion alarm has activated.	Replace or recharge the battery. If the battery is not Li-Po or Li-Ion, disable the alarm.
SAFE mode does not work.	Selector position detection error.	If the receiver wall directly in front of the selector sensors is not black, apply black tape or a black sticker, or paint the area black. Remove any metal brace from the selector plate.

For technical assistance, contact us at info@perunairsoft.pl.

9. Sensor check

Sensor readings can be checked by disconnecting the motor. When Perun V3 Integrated is connected to the battery while the motor is disconnected, the LED blinks yellow. Activating a working sensor while the LED is blinking causes the LED to change color briefly. Sensor check remains active for 5 minutes, after which the unit shuts down. To restart the mode, reconnect the battery.

To enter Sensor check, disconnect the motor before connecting the battery.

LED color	Sensor
Disconnected motor / Sensor check Yellow, blinking	None of the sensors detects any change at this moment.
Selector in AUTO Red	The LED should turn red when the selector is moved to AUTO.
Selector in SEMI Blue	The LED should turn blue when the selector is moved to SEMI.
Selector in SAFE White	The LED should turn white when the selector is moved to SAFE.
Trigger Purple	Trigger pull detected.

LED color	Sensor
Sector gear Green	Sector gear movement detected.

Check the trigger and selector sensors by pulling the trigger and moving the selector between SAFE, SEMI, and AUTO. The replica does not need to be disassembled for these checks.

To check the sector-gear sensor, open the gearbox and remove all components except Perun V3 Integrated and the sector gear. Keep the sector gear shimmed exactly as it is in the assembled gearbox, because shimming may affect sensor operation. Rotate the sector gear by hand and verify that the LED turns green.

10. Warranty and liability limitations

Warranty

We offer a 24-month warranty on this electronic trigger unit from the date of retail purchase. This warranty covers defects in materials or workmanship under normal use conditions. The warranty does not cover:

- **Damage caused by improper installation, misuse, or neglect.**
- **Any alterations, modifications, or repairs made by unauthorized persons or third-party services.**
- **Damage resulting from the use of third-party components or accessories not approved by the manufacturer.**
- **Wear and tear due to regular use or external factors such as extreme conditions.**
- **Any incidental, consequential, or punitive damages, including damage to an airsoft replica or gel blaster, or to other components such as the gearbox, motor, or batteries, arising from improper use of the trigger unit.**

Claims Process

To submit a warranty claim, contact our customer service team at info@perunairsoft.pl with a detailed description of the defect. If your claim is approved, we will repair or replace the unit at our discretion. This warranty does not cover shipping costs for returning the product. This warranty gives you specific legal rights, and you may have other rights which vary depending on your region.

Limitation of Liability

The manufacturer and its affiliates are not liable for any personal injury, damage, or loss of property arising from:

- **Improper installation or use of this product.**
- **Failure to follow the instructions provided in this manual.**
- **Use of the product in a manner not intended or recommended by the manufacturer.**

11. Selector placement guides

The following guides show recommended selector plate insert positions for several popular replica models. These recommendations are based on replicas tested directly by Perun. To use a guide, the following parts must be original: gearbox, selector plate, receiver, selector lever and other selector system components. Changing any of these parts may shift the required selector plate insert position and make adjustment necessary.

Even when the replica is completely stock, immediate success cannot be guaranteed because dimensions may vary between models from the same manufacturer and between production batches of the same model. If the selector does not operate correctly, follow the correction guidance the Installation and integrated Clicker adjustment section.

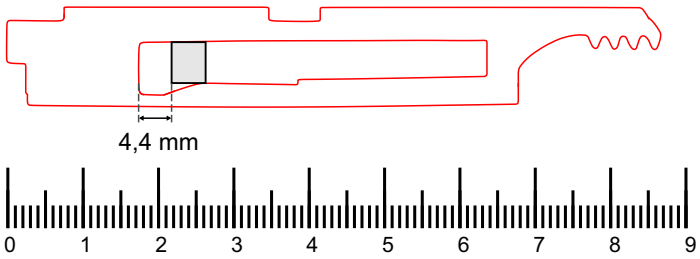
Print the relevant guide and use it as a stencil for precise and convenient placement of the selector plate insert. In the print settings, select Actual Size or 100%; do not scale the page.

Manufacturer:

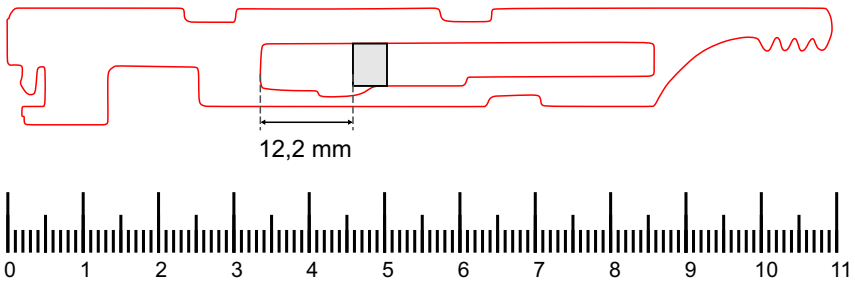
Perun Tech Sp. z o. o.
Barwicka 8 St.
60-192 Poznań, Poland
e-mail: info@perunairsoft.pl

- SELECTOR PLATE INSERT

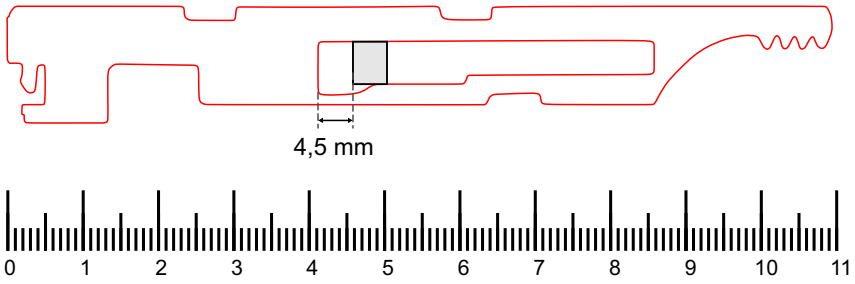
CYMA AK



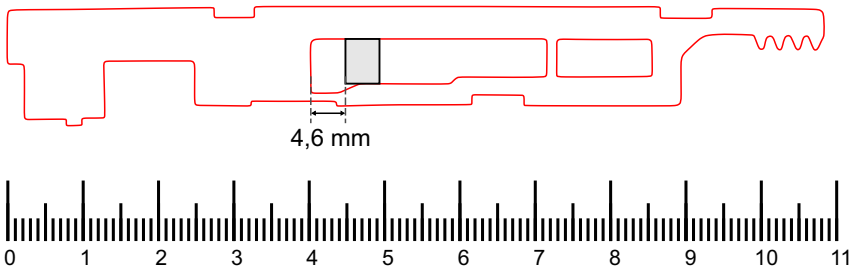
E&L AK GEN 1



E&L AK GEN 2



G&G AK



G36 ASG/JG

