



LASER AMMO
TRAINING TECHNOLOGIES



USER GUIDE

LASER BASED, WEARABLE SENSOR SYSTEM FOR
FORCE-ON-FORCE AND ACTIVE SHOOTER TRAINING

GENERAL

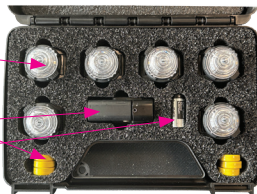
The Shot Body System (SBS) is a wearable sensor system that relies on Laser Ammo's proprietary laser technology. It is specifically designed for force-on-force scenarios, active shooter simulations, and decision-making shooting exercises. The SBS system provides immediate feedback on shot placement and shooter identification, thereby aiding users in refining their techniques when responding to potential threats. The sensors can be attached to a person's clothing, outer vest or uniform. Using one of Laser Ammo's Recoil Enabled Training Firearm, the system effectively replicates real-life conditions when addressing threats. As the laser makes contact with a body sensor, it registers up to 3 hits, and visually indicates by color, and order of flash, who shot and where contact was made. This instantaneous, real-time feedback enables users to analyze and enhance their entry techniques and cover choices. In the ever-evolving realm of dynamic and tactical shooting, this system proves to be an invaluable tool for firearms training.



I. YOUR SHOT BODY SYSTEM (SBS) INCLUDES

A padded hard case containing:

- 6 - Shot on Body Sensors
- 6 - Dual Packs of CR2032 Batteries
- 1 - Firefly Laser (or SureStrike Cartridge)
- 1 - CR2 Firefly Laser Battery
- 2 - Firefly Allen Wrenches



*Other accessories available separately:

- Sensor Reset Firefly Module
- Sighting/Resetting Cable
- Firefly Programming Terminal
- 9mm Laser Cartridge

II SAFETY PRECAUTIONS

- **Firearms are dangerous and can cause injury or death.**
- **This product was designed for dry fire training only, make sure both the firearm and the training area are clear of live ammunition.**
- **Caution:** The Firefly includes an eye safe Class 1 laser. Ensure that the laser is used only in controlled environments and avoid direct eye exposure to prevent potential harm.
- Our products are powered by consumer grade, alkaline, non-rechargeable batteries.
 - Do not use any other battery types.
 - Do not mix different battery types.
 - Do not remove the shrink wrap from the provided CR2032 batteries.
- **Please read the user guide before using the SBS equipment.**

III ASSEMBLY

The SBS is equipped with 2 elements:

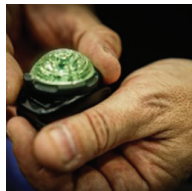
- six (6) Body Sensors
- one (1) Firefly laser unit / SureStrike Laser cartridge.

add batteries to the Sensors and Firefly and you're ready to go.

TIP: Remove batteries from SBS sensors and Firefly when not in use and in storage.

1. SENSOR ASSEMBLY – HOW TO INSTALL THE DUAL CR2032 BATTERIES:

- Hold the SBS sensor firmly in one hand black side down and the clear plastic dome on top.
- Unscrew the clear dome by pushing down slightly on the dome and turning it counterclockwise firmly about a quarter of a turn. The two pieces should separate easily.



Note: DO NOT PRY OPEN OR USE A SHARP OBJECT TO FORCE OPEN!!! Doing this could damage the sensor and void your warranty for the product.

- Take one of the supplied wrapped CR2032 Batteries and place it in the lower half of the SBS sensor.

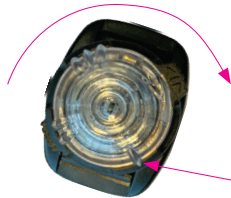
Tip: It does not matter if the batteries are placed with the positive (+) side up or negative (-) side up.

- Place the clear dome back on the black base. With the dome level, press down firmly, turn clockwise, a quarter of a turn, until the dome seats itself.

Tip: To check you have properly installed the battery, turn the bezel at the base of the dome to the #1 position. The SBS should flash one time.



Turn clockwise to close the dome after inserting battery.



Position 1

FIREFLY ASSEMBLY

- Remove Firefly from packaging:
- Remove the battery cap at the rear of the Firefly using a coin or a flat screwdriver.
- Insert the CR2 battery Positive (+) side first.
- Place battery cap back on the compartment and tighten.
 - Be careful not to cross thread the cap.
- Take the Firefly and loosen the side screw until the picatinny clamp will fit on to or slide on to your recoil enabled training firearm's rail.
 - Try to keep the tip of the Firefly laser as close to, or flush with the firearm's barrel.
- Tighten the picatinny clamp screw tightly on to the rail of your training firearm.

Side screw



Note:

- Each Firefly is preset from the factory in a specific color ID
- To check the Color ID, user can shoot on a sensor on setting II.
- ID color can be changed by the terminal unit (optional).

Tip:

- The Firefly is vibration operated and will be activated by the recoil of the firearm.
- It was designed to work with Laser Ammo Recoil Enabled Training Pistols and Rifles. Using other recoiling firearms may require changing the laser's sensitivity with the optional programming terminal.

USE OF CUSTOM SURESTRIKE™ LASER CARTRIDGE: (OPTIONAL CONFIGURATION)

Lasers will activate SBS in a distance between 7ft/2.1m to 35ft/10.5m.

- The optional custom SureStrike™ Laser can work inside a real firearm and in conjunction with the SureStrike™ reset magazine, or with the Laser Ammo Recoil Enables Training Firearms.
- Using the optional laser will allow the customer to use the training gun with their own holster.
- These lasers include custom wide aperture lens and are programmed to only work with the Shot Body System.

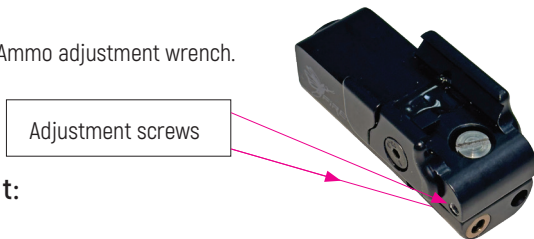
NOTE: To align the SureStrike™ laser cartridge in Laser Ammo Recoil Enabled Pistols, please refer to the REAL Kit User guide provided with the optional laser.

Optional custom programmed Surestrike laser cartridge



IV. ALIGNING THE FIREFLY LASER FOR THE SBS

- Alignment is similar to sighting in optics on a standard firearm.
- The elevation screw is located underneath just in front of the seam and the windage on either side just below the laser lenses.
- The adjustment tool is the Laser Ammo adjustment wrench.



Method 1 – Manual Alignment:

With the Firefly properly mounted under the Recoil Enabled Training Firearm and the sensors turned to settings number II (See Page 13)

- Place the sensors in a "Cross" pattern spaced 10-12" (25cm-30cm) apart.
- While standing a minimum of 7 yards away (5m-6m), aim directly at the center sensor and shoot the firearm.



- If any sensors other than the center one activates (flashing the Firefly's dedicated color), make appropriate adjustments to the windage and elevation screws.
- Repeat these steps until the user is satisfied with the accuracy.
- If the shot is between 2 sensors it may illuminate 2 sensors at one time.

NOTE: As the Firefly is mounted below the barrel, please be aware that some "height over bore" difference may occur.

Note: The Firefly has 2 light sources.

- For long range (more than 7 yards/meters)
- For short range (less than 7 yards/meters)

It is very important to align the long-range laser at a minimum of 7 yards/meters away.

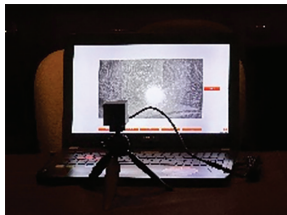
Method 2 – Aligning the Firefly with the Optional Firefly Cable

- Repeat placing the sensors in the pattern mentioned in Method 1. Standing a minimum of 7 yards away (~6m)
- Plug alignment cable into the port on the side of the Firefly.
- Press and hold the alignment cable button for 4 seconds.
- This will activate a 1-minute cycle of continual laser from the Firefly.
- Sweep your firearm, with the firefly properly mounted, across the sensor pattern as described in Method 1 and note the point of aim for any sensor activations.
- The sensor will flash white when the laser is directly hitting it.
- Make appropriate windage and elevation adjustments.
- Repeat these steps until the user is satisfied with the accuracy.



Method 3 - Aligning the Firefly Laser with the Smokeless Range® Camera.

- For customers that have a Smokeless Range® simulator. Connect your Smokeless Range® Camera to a laptop computer (no need for a projector).
- Turn on your Smokeless Range® simulator to enter the camera calibration options in the upper right corner.
- In the Camera calibration settings (Before clicking Calibrate) turn the camera backwards looking towards the user using the firearm with the Firefly installed correctly approximately 7 yards (~6m) away.
- Activate the Firefly using either the Firefly cable or by shooting the firearm by aiming at the camera lens.
- Adjust the windage and elevation until the flash appears bright on the projection screen.
- When the laser is aligned correctly you will see the laser flash or flare on the projector screen.



Set up camera before computer with SR calibration screen. Aim to shoot at the camera from 7 yards. when aligned you will see a splash of light on the screen.



V. THE SENSOR SETTINGS

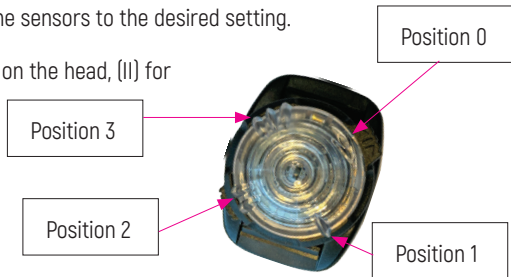
Before training starts, set each sensor to the appropriate setting.

Turn the black bezel at the base of the clear dome to desired position:

- Position (0) for Off and short-term storage.
- Position (I) – Single shot setting (Yellow flashes only).
- Position (II) – This setting registers 1 to 3 shots by opposing force.
- Position (III) – This setting registers a hit and begins a 120-second countdown for an individual to initiate tactical medicine/first aid.

Note: The sensor will flash 1, 2 or 3 flashes after turning the sensors to the desired setting.

Tip: We recommend using position (I) for sensors located on the head, (II) for the torso and (III) for the arms or legs.



VI. USE OF SHOT BODY SYSTEM

- After turning the sensors on to the desired setting, attach/clip each sensor to applicable clothing, uniforms, or vests in the desired locations.
- Using a charged Laser Ammo Recoil Enabled training firearm with the Firefly attached (Page 6), engage the subject as you would in real life.

Note: Remember that each Firefly has a specific Color ID to identify the shooter.

- There is NO NEED to aim at a specific sensor.
- When hit by the laser, the sensor will flash one time for each registered hit (Up to 3 hits), in the designated shooter's laser ID color.
- Depending on the hit zone chosen on the subjects, you may use less sensors on some individuals over others. Two (2) or three (3) sensors are typical on a person's torso.
- Positioning the sensors too close to each other may cause an activation of multiple sensors by a single shot.
- To conserve battery power, sensors will automatically shut off after 20 minutes.



VII. RESETTING THE SENSORS

To prevent the users from resetting the sensors each sensor will need to be deactivated by the trainer in one of the following ways:

1. Special deactivation sequence.

To deactivate, rotate the bezel to setting (II). Once on setting (II), turn the bezel clockwise to setting (III), then quickly counterclockwise to setting (I), and finally quickly back to setting (II) (similar to a padlock). If performed correctly, the sensor should cease flashing.

2. Using Sensor Reset Firefly:

Tip: Using the Firefly as a sensor reset is faster and recommended when using 5 sets of SBS and more.

To use the Sensor Reset Firefly, attach the reset cable to the Firefly (see Picture). Push and hold the button while aiming it towards the activated sensors. Briefly wave it across or by the activated sensor(s), will cause the sensors to reset immediately to their original settings.



VIII. PROGRAMING THE FIREFLY WITH THE PROGRAMMING TERMINAL (OPTIONAL)

For users with 10 or more SBS Systems we strongly recommend adding the optional programming terminal. This will allow the trainer to program the Firefly to their needs for the following options:

- Choosing between 6 different color ID's
- Change or Adjust the Activation Type
- Laser Shock Sensitivity

Using the Programming Terminal:

1. Download and open the software: "Firefly Setup Terminal for Shot Body System"
2. Connect the Firefly terminal to your computer with the provided USB cable.
3. Connecting the Firefly to the Terminal:

- Open the back of the Firefly using a coin or a flat head screwdriver. Take the battery out of the firefly.
- Gently push the firefly into the matching groove in the terminal (the pins in the terminal will go into the battery compartment of the Firefly).
- Screw the dial clockwise to lock it on the Firefly.

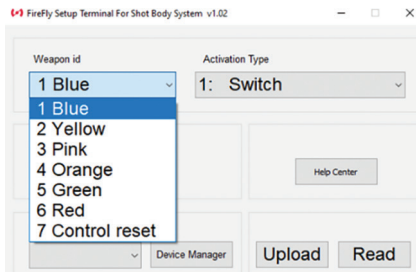


Terminal with inserted Firefly

1. The computer's software screen will show the status "Connected Device."

CHOOSING FIREARM LASER ID:

This assists with designating shooters' roles or ID's, determining team, or establishing groups. It will also allow you to change the Firefly to become a Sensor Reset Device.



The initial category that can be modified for each laser is the "Weapon ID."

The Weapon ID corresponds to the designated indicator color for each laser, which illuminates the activated sensor in the selected color.

You also may set the laser to be a "Sensor Reset Module" by setting it to "Control Reset." This will allow you to reset activated sensors (See Pg 15).

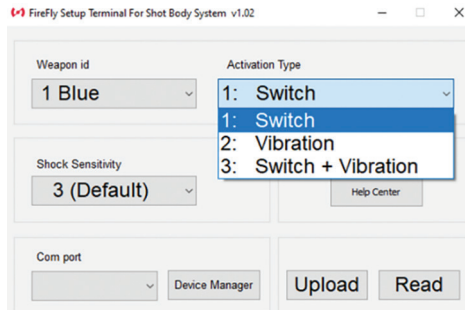
ACTIVATION TYPE SET-UP:

Choose to activate Firefly by a cable switch, vibration, or both. This can assist with using recoiling and non-recoiling firearms platforms.

This permits individuals to customize whether the laser is activated by recoil vibration, a connected optional trigger switch, or a combination of both.

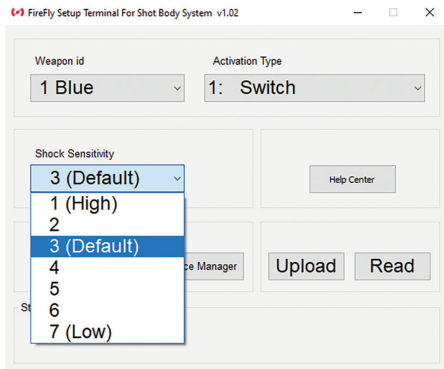
Factory default: Switch + Vibration.

Tip: Switch only is recommended when using the Firefly as a reset device, or when using the Firefly on a non-recoiling firearm or a “blue gun”.



SHOCK SENSITIVITY

Decide on the amount of sensitivity that will activate the Firefly.



This feature enables users to fine-tune the level of vibration required to activate the laser. Factory default is #3 which is ideal when using a Laser Ammo Recoil Enabled Firearm. If not using a Laser Ammo Recoil training firearm (i.e., UTM, Simuntions, Dvorak Systems, etc.) or electrically operated firearms, it is likely that the sensitivity will need to be adjusted to a higher or lower setting.

TIP: In cases where the laser activates unintentionally during regular operations, lowering the sensitivity level may be necessary, and if it doesn't operate during regular operations, raising the sensitivity may be necessary.

IX. LASER MAINTENANCE, SERVICE, AND SAFETY RULES:

The Firefly designated as Class 1 during all procedures of operation, maintenance, and service. No scheduled maintenance is necessary to keep the product in compliance.

It is strictly forbidden to modify the Firefly. Opening the Firefly is limited to battery replacement and programming with the optional terminal only.

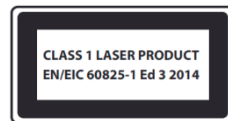
Due to Product size, product labeling only appears in this user information.

Warning: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Complies with FDA performance standards for laser products except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56., dated May 8, 2019.

Model # Firefly Lot/ serial # _____ Date _____

No liability is expressed or implied for damage or injury as a result of installation or use of this product. Warranty is limited to the replacement or repair of the original product only.



X. STORAGE

It is recommended that the SBS system be stored with the batteries removed from the equipment and in the provided case.

IMPORTANT INFORMATION

- This system was designed for Professional Use Only.
- Commercial use may void the warranty.
- All Lasers used are Class 1, Eye-Safe Lasers.
- The SBS system will only work with specific Laser Ammo Lasers. No other brand of lasers will work with this system.
- Do not try to disassemble, alter, or modify the SBS sensors or lasers.
- The Firefly and the optional lasers are programmed to work only with the SBS. They will not work with Laser Ammo reactive targets or the Smokeless Range Simulator®.

XI. WARRANTY

Laser Ammo USA Inc warrants this product to be free from defects in workmanship and materials at the time of delivery for a period of one (1) year after delivery of each Product. This warranty is limited to the replacement of the Product.

Notice of any warranty claim must be received by Laser Ammo USA Inc, in writing, prior to the expiration of the warranty period.

Laser Ammo reserves the right to inspect the product prior to the warranty being applied.

Laser Ammo's warranty is limited solely to the above guidelines and applies only for the period set forth. Laser Ammo will not be liable for any loss, damage, direct, incidental, or consequential damages of any kind, whether based upon warranty, contract, negligence, or strict liability, or arising in connection with the sale or use of the product by the user or any third party. Laser Ammo's warranty does not cover any damage to the product that results from improper installation, accident, abuse, misuse, natural disaster, insufficient or excessive electrical supply, abnormal mechanical or environmental conditions, or any unauthorized disassembly, repair, or modification. This limited warranty does not apply to any product on which the original identification information has been altered, obliterated, or removed. Laser Ammo will, at its sole option, either repair or replace any part of the product that proves defective by reason of improper workmanship or materials. In all events, Laser Ammo's maximum liability to the purchaser related to any warranty claim or defect with respect to the product shall not exceed the contract price for the specific product claimed to be defective or unsuitable, or alleged to have been the cause of any damage to the purchaser or any third party. The foregoing is in lieu of all other warranties, oral, expressed, or implied, including, but not limited to, any implied warranties of fitness for a particular purpose. The provisions of this section shall be applicable to both implied warranties (if any) and expressed warranties.



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Product of Laser Ammo USA Inc

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