



LAM 3 IR
RED / INFRARED LASER
AIMER / ILLUMINATOR

105 Sparks Ave., Toronto, ON M2H 2S5, Canada



**LASER RADIATION –AVOID
EXPOSURE TO THE BEAM**

INFRARED LASER

OUTPUT POWER <25 mW

WAVELENGTH 830-860 nm

RED LASER

OUTPUT POWER <8 mW

WAVELENGTH 630-660 nm

CLASS 3B LASER PRODUCT

**LASER WARNING LABEL IS LOCATED ON TOP
OF THE DEVICE**

IMPORTANT INFORMATION

Read prior to activation

You have just purchased a sophisticated electronic device. To operate it properly, please read this manual carefully. LAM belongs to Class 3b laser products in accordance with IEC 60825-1. **This radiation is hazardous for your eyes.** Here are some common precautions that must be observed.

Avoid any exposure of the eye to direct or closely reflected laser beam. Naked skin exposure to laser beam is not recommended.

- **ALWAYS** turn the device off when it is not in use and when you change the battery!
- **NEVER** look into the beam!
- **NEVER** subject LAM to excessive impacts
- **NEVER** transport LAM without the case
- **NEVER** disassemble LAM

- **NEVER** reverse polarity of the battery
- **ALWAYS** make sure that the device is fixed firmly on the weapon
- **ALWAYS** remove battery when not in use for a long period
- **ALWAYS** store in a warm dry place when not in use
- **ALWAYS** clean output windows with soft cloth only
- **ALWAYS** check the O-ring when replacing the battery.

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**Carefully read all the instructions prior to use.
Failure to obey the instructions will void the
warranty!**

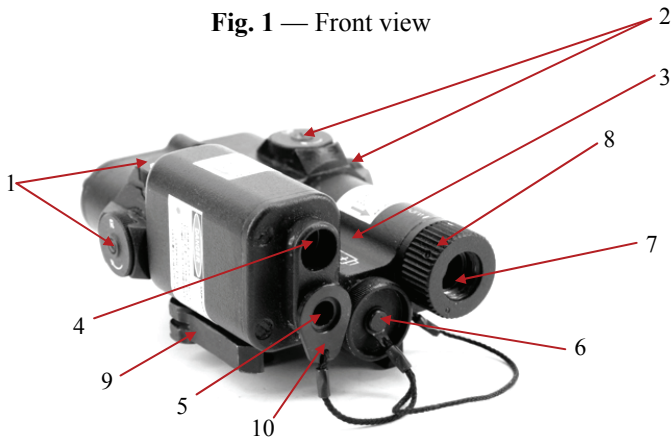
**INVISIBLE LASER RADIATION
CLASS 3B LASER PRODUCT
830–860 nm 25 mW, 630–650 nm 8 mW.
DON'T LOOK INTO THE BEAM!**

1. Brief description

LAM laser aimer/illuminator (hereinafter referred as LAM) is designed for precise aiming at day and night. LAM forms an IR laser radiation spot on the target visible by naked eye (red colour) or visible only through the night vision goggles. It can be attached to a weapon equipped with Picatinny rail MIL-STD-1913.

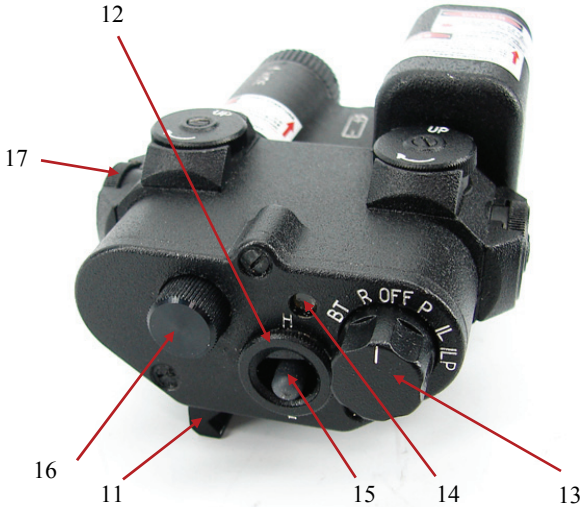
1. LAM 3IR APPEARANCE

Fig. 1 — Front view



- 1 - Windage and elevation adjustment knobs, for Visible & IR aimer channel
- 2 - Windage and elevation adjustment knobs, for illuminator channel
- 3 - Housing
- 4 - IR aimer
- 5 - Visible red aimer
- 6 - Battery compartment cover
- 7 - Illuminator
- 8 - Illuminator beam divergence adjustment ring
- 9 - Quick release lever
- 10 - Red channel filter

Fig. 2 — LAM rear view



- 11 - Bracket
- 12 - blocking ring
- 13 - mode switch
- 14 - low battery indicator
- 15 - high / low (working / training modes) power switch
- 16 - remote button connector
- 17 - windage adjustment knob, illuminator channel

LAM consists of three laser emitters – IR aimer (4, Fig. 1), visible aimer (5, Fig.1) and IR illuminator (7, Fig. 1) – combined in one housing (3, Fig. 1) with interaxis distance of 44.8 millimeters. LAM is powered by a lithium battery (CR123 type). The battery is installed between aimer and illuminator and covered with battery compartment cover (6, Fig.1), which is attached to the housing by a rubber band.

The junction of battery compartment cover (6, Fig. 1) and housing (3, Fig. 1) is sealed with rubber O-ring. A spare O-ring is included in the standard delivery set.

Quick release lever mount (9, Fig.1) fixes LAM on a weapon (Picatinny rail MIL-STD-1913).

Beam divergence can be changed in between 3 and 105 mrad (3'-4°30') by turning the grooved adjustment ring (8, Fig. 1).

Operating modes switch (13, Fig.2) has the following positions:

- OFF** LAM is off
- R** Visible aimer is on
- P** IR aimer is on
- IL** Illuminator is on
- ILP** Both IR aimer and Illuminator are on
- BT** Battery test

The LED (14, Fig. 2) in **BT** mode indicates battery level: solid red LED means the battery charge is normal, if it is blinking - the battery must be replaced.

IR channels of LAM can operate at high (H mode) and low (L mode) power levels of laser. Low mode or IR channels are used for training purposes. Appropriate level can be chosen with switch (15, Fig. 2). Red channel is switched into the training mode by means of removable filter.

To prevent unintentional switching to high power mode, switch (15, Fig. 2) is blocked with the ring (12, Fig. 2). To unblock the switch and allow high power mode (H) the ring must be pulled out and turned.

High power mode is a health hazard!

Lock switch (15, Fig.2) with blocking ring (12, Fig.2) when you do not intend using LAM in high power mode.

Use filter with the Red Channel in the training mode

LAM can be turned on either with a switch (13, Fig. 2) or with a remote control pressure switch, when it is connected through the remote control connector (16, Fig. 2). When the remote button is connected, switch (15, Fig. 2) only pre-selects modes, but does not activate them; LAM goes on in the selected mode only while the remote button is pressed. Connector (16, Fig. 2) should be covered with the cap when it is not used. The remote button can be attached to a rifle pivot or grip with provided Velcro tape.

LAM has independent windage / elevation adjustment mechanisms for aimers and illuminator channels. Knobs (1, Fig. 1) adjust aimers channel, while knobs (2, Fig. 1) and (17, Fig. 2) adjust illuminator channel. Rotation of the adjustment knobs moves radiation spots on the target. Directions of adjustment are marked on the knobs with **UP** (beam moves up) and **R** (beam moves right).

When shooting with LAM, keep in mind that the ballistic trajectory is a complicated curve, while laser beam is a straight line, and these two lines cross in one or two

points (depending on the location of LAM on the weapon).

For precise shooting you should know the distance to the target and have trajectory correction table for your weapon. The shooter should estimate the distance and determine the shift of the aimer spot in accordance with the correction table.

Use illuminator when light conditions do not allow seeing the target in night vision goggles, rifle scope or monocular.

There is no need to adjust LAM each time it is remounted on the same Picatinny rail.

2. DELIVERY SET

Standard delivery set

	Quantity
Laser aimer / illuminator LAM 3 IR with mount	1
Remote pressure switch	1
O-Ring	1
Soft case	1
Manual	1
Warranty card	1

3. SPECIFICATIONS

	Aimer		Illuminator
	V	IR	
Laser wavelength	635 ± 10 nm	830-860 nm	830- 860 nm
Beam divergence	0.4 mrad (1')		0.9-80 mrad (3'...4°30')
Power of laser emission, L mode H mode	0.24 mW±10% with filter	25 mW±10% 2 mW±10%	25 mW±10% 2 mW±10%
Windage / elevation adjustment range	± 20 mrad (±1°10')		
Adjustment step	0.5±0.05 mrad (50mm @100m)		
Adjustment accuracy after 1000 shots	0.5 mrad		
Adjustment accuracy after 100 installations on the rail	1 mrad		
Battery type	3V Lithium CR 123		
Operating temperature range	-40°C ..+60°C		
Storage conditions, temperature range relative humidity	-40°C .. +50°C up to 55% at 25°C		
Dimensions	105x75x55 mm		
Weight	380 g		

4. OPERATION INSTRUCTIONS

**DANGER! THIS LASER EQUIPMENT IS
HAZARDOUS FOR YOUR EYES!**

- **Do not look into laser beam with naked eyes or through any optical device.**
- **Do not point an active unit at highly reflective surfaces or towards other individuals or animals.**

Battery installation

- Ensure the mode switch (13, Fig. 2) is in OFF position.
- Unscrew battery compartment cover (6, Fig. 1) and insert the battery observing the polarity marked on the body. Screw back the cap (6, Fig. 1) tightly.

When installing battery pay attention to the O-ring condition. It should have no visible defects to ensure waterproofing ability. Replace the O-ring if it is worn or torn.

Mounting LAM on a weapon

- Mount LAM on the Picatinny rail using the quick release lever mount (9, Fig. 1) so that the laser emission is directed towards the target;
- If desired, connect the remote switch cable to the connector (16, Fig. 2) and tighten the nut. Fix the remote switch on the weapon pivot or grip by Velcro tape in place, which would be comfortable for pressing the key. Trim the tape if necessary.

Adjusting LAM on a weapon

LAM can be adjusted on a weapon using two techniques:

- with laser boresight and boresight target;
- with iron weapon sight and special target.

In both cases you will need a night vision device, a boresight target and a gun rest (or its substitute).

If the weapon is boresighted using field means (sandbags, rucksacks) and the weapon is laid on its side for stability, turn the boresight also.

Prior to adjusting LAM, which has never been in operation, carry out 10 shots to stabilize the adjustment mechanisms under the influence of recoil.

Adjusting with help of laser boresight

1. Mount LAM on the weapon.
2. Fix the weapon in the aiming rest.
3. Insert the laser bore sight into the barrel.
4. Zero the bore sight in accordance with its operation manual.
5. Set the target at the distance, required for this weapon and this target.
6. Activate LAM in ILP mode.
7. Set minimal divergence of the illuminator channel.
8. Set laser boresight on the aiming mark on the target.
9. Superpose centers of the spots produced by the aimer and illuminator on the aiming mark by rotating adjustment knobs (1, Fig. 1), (2, Fig. 1), (17, Fig. 2).
10. Check again that all three spots (laser bore sight mark, aimer mark and center of the illuminator mark) are on the correct aiming point on the target.
11. Turn LAM off.

Adjusting with iron weapon sight

1. Mount LAM on the weapon.
2. Fix the weapon in the aiming rest and aim it by means of an iron sight at the aiming mark on the target.
3. Activate LAM in ILP mode.

4. Set the minimal divergence of the illuminator channel.
5. Superpose centers of the spots produced by the aimer and illuminator on the aiming mark by rotating adjustment knobs (1, Fig. 1), (17, Fig. 2).
6. Fire the weapon.
7. If point of impact is off the aiming mark adjust windage and elevation by rotating adjustment knobs (1, Fig. 1), (2, Fig. 1), (17, Fig. 2). (Each click of adjustment mechanisms shifts radiation spot by 5 cm on the target at 100 m.)
8. Repeat steps 7 and 8 until point of impact coincides with the aiming mark.

When adjusted unit is remounted on the same Picatinny rail of the same weapon no re-adjustment is required.

Aiming

When firing at a distance of up to 200 m the radiation spot is to be aimed at the target.

When firing at a longer distance elevation adjustment may be required.

Preparing LAM for transportation

1. Turn LAM off by turning operating modes switch (13, Fig. 2) to OFF position.
2. Disconnect the remote switch from the weapon.
3. Loosen quick release lever (9, Fig.1), remove LAM from Picatinny rail.
4. Pack LAM and remote switch into the case

5. CARE, STORAGE AND TRANSPORTATION

General

LAM is a sophisticated precise optical instrument equipped with electronics. Therefore, it should be handled with due care.

- Never disassemble LAM.
- Keep away from direct sunlight, impacts, dust, moisture, and sharp changes of temperature.
- Do not store LAM at temperatures higher than 70°C (158°F). Keep away from heating appliances and central heating.
- Do not touch the optical surfaces with fingers. Doing so may damage the anti-reflection coating.
- Avoid shocks and sharp jolts.
- Clean optical surfaces only with professional camera lens cleaning supplies.
- Use soft clean cloth to wipe the exterior of LAM.
- Remove battery when storing LAM for long period of time.
- All repairs must be performed by an authorized service.

If LAM was exposed to salt water it should be rinsed in fresh water and dried outside at no more than 55°C.

Long-term storage

When preparing for long-term storage, cover the external metal surfaces of LAM with protective lubricant. Each 4 (four) years old layer of lubricant should be removed and new layer be applied.

To remove old layer of lubricant:

- Wipe LAM with clean dry cloth,
- Degrease metal surfaces of LAM with benzene moistened cloth,
- Dry LAM out-of-doors.

Do not touch unit's metal surfaces with fingers after cleaning.

To apply new layer of lubricant:

- Within two hours from the cleaning apply an even 0.2-0.5 mm thick layer of lubricant on metal surfaces with a brush.
- Do not cover plastic parts.

2. When preparing for a long-term storage LAM just received from manufacturer or from workshop ensure that actual set is the same as indicated in the Delivery Set section of this manual.
3. Cases with units should be placed on stands, shelves or in cupboards in dry heated and ventilated premises in accordance with Storage conditions as described in Specifications.
4. The temperature range during storage should be between from +5 to +40°C, relative humidity not higher than 55 % at temperature +25°C.
5. Battery should be stored separately from LAM.
6. Units can be stored in transportation cases at temperatures up to 70°C for no more than 16 hours.
7. It is unacceptable to keep units on the floor, near stoves or windows that let through direct sun rays.

8. Presence of acid and alkaline vapor, as well as of other aggressive admixtures in the air in the storage area may cause damage to LAM.
9. After 4 years of storage, it is necessary to perform thorough inspection of units' functionality.

Transportation

When packed, LAMs can be transported by any covered means in accordance with Storage conditions as described in Specifications.

When in operation, LAM is to be transported in its case or mounted on a weapon.

6. TROUBLESHOOTING

The LED indicator is off when switch is ON.

Turn the switch on again. If LAM still does not go ON check that battery is installed properly and has sufficient charge. Replace battery if necessary.

Spot shape or size has changed

Emitter objective lens is dirty. Flush emitter lens with fresh water and wipe it with soft cloth. If this doesn't help, send LAM for repair.

No radiation when activating LAM with remote switch

Turn the mode switch (13, Fig. 2) to OFF position and then turn LAM ON again. If this doesn't help, replace the remote switch.

Radiation doesn't stop when remote switch is released

Replace the remote switch.

Moisture in the battery compartment.

Check the O-ring on the battery compartment cover and replace it if necessary. If the battery compartment cover is damaged, send LAM for repair

Shift of zero line when firing

Send LAM for repair.

7. WARRANTY

NEWCON warrants this product against defects in material and workmanship for one year from the date of the original purchase. Longer warranty is available, subject to the terms of the specific sales contract. Should your Newcon product prove to be defective during this period, please deliver the product securely packaged in its original container or an equivalent, along with the proof of the original purchase date, to your Newcon Dealer.

Newcon will repair (or at its option replace with the same or comparable model), the product or part thereof, which, on inspection by Newcon, is found to be defective in materials or workmanship.

What This Warranty Does Not Cover:

NEWCON is not responsible for warranty service should the product fail as a result of improper maintenance, misuse, abuse, improper installation, neglect, damage caused by disasters such as fire, flooding, lightning, improper power supply, or service other than by a NEWCON Authorized Service.

Postage, insurance, and shipping costs incurred while presenting your NEWCON product for warranty service are your responsibility.

If shipping from North America please include a cheque or money order payable to NEWCON OPTIK for the amount of \$15.00 to cover handling and return shipping.

8. CUSTOMER SUPPORT

Should you experience any difficulties with your NEWCON OPTIK product, consult the enclosed manual. If the problem remains unresolved, contact our customer support department at (416) 663-6963 or toll free at 1-877-368-6666. Our operating hours are 9am-5pm, Monday - Friday, Eastern Standard Time.

At no time should equipment be sent back to Newcon without following the instructions of our technical support department.

NEWCON OPTIK accepts no responsibility for unauthorized returns.

To locate NEWCON Authorized Dealer call:

Tel: (416) 663-6963 Fax: (416) 663-9065

Email: newconsales@newcon-optik.com

Web: www.newcon-optik.com

Defective products should be shipped to:

US customers:

2498 Superior Ave. Cleveland, OH 44114

From all other countries:

105 Sparks Ave., Toronto, ON

M2H 2S5, CANADA

10. QUALITY CERTIFICATE

LAM 3 IR serial
number _____

complies with all technical specifications and has passed
the inspection.

Date of production:

Quality Inspector:

Quality Assurance Seal

