

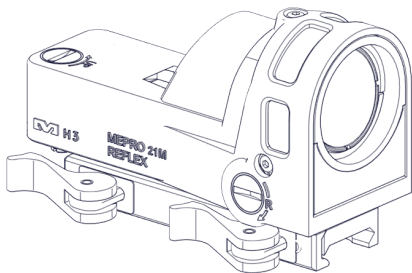


**MEPROLIGHT®**

SK GROUP MEMBER

**MEPRO 21**

**TRITIUM SELF-ILLUMINATED  
REFLEX SIGHT**



**USER MANUAL**



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# 1. Introduction

The MEPRO 21 is a dual illuminated "red dot" reflex sight especially designed for quick and intuitive accurate shooting with both eyes open. It provides instant, all light aiming without batteries.

Illumination of the aiming point is achieved by a fiber optic collector system during the day, and by a miniature self-powered tritium light source at night. The aiming dot brightness changes automatically to fit changing light conditions.

The MEPRO 21 is highly effective when engaging targets at ranges up to 300 meters. This sight is suitable for Night Vision Goggles or scopes, including those with GEN III tubes.

With no knobs or switches, no battery or other external sources of power, the sight is always ready for action.

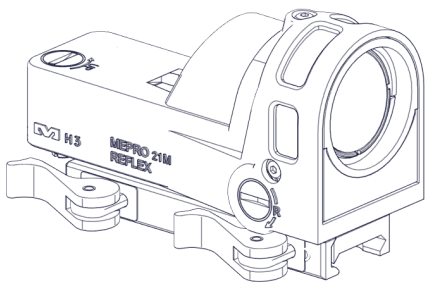
## Kit Content

Description	Qty
Mepro M21	1
Mepro M21 Polarizer + Flash Guard Kit (Optional)	1

**NOTE:** Actual accessories supplied may vary based on commercial requirements.

## 2. Inspection Before Use

- The MEPRO 21 Reflex Sight contains a small quantity of radioactive material, tritium in gaseous form (Hydrogen-3), used to provide nighttime illumination. If the MEPRO 21 is damaged, follow the procedures listed under "Safety" in Chapter 6. No attempt should be made to disassemble the sight. If the sight is defective or is no longer wanted, it must be returned to MEPROLIGHT for corrective measures or disposal.



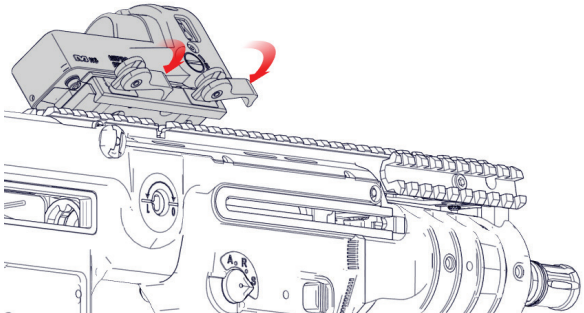
**Figure 1: M21 Reflex Sight**

- Upon receipt of your MEPRO 21 Reflex Sight, inspect it for any signs of external damage that may have occurred during shipment.
- Check to verify that the tritium light source is working properly: In a dark room, look through the aiming window and verify that you observe a red-orange aiming dot.

## 3. Mounting on a Weapon

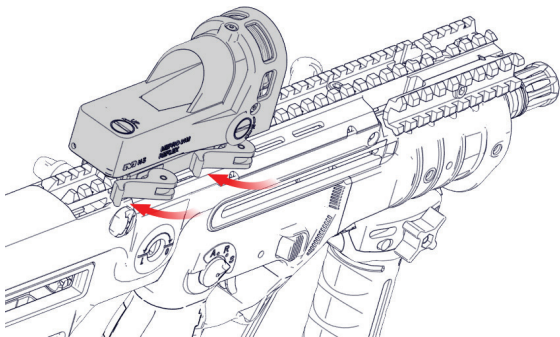
**To mount the MEPRO 21 on a Picatinny rail:**

- Verify that the adapter levers are in a fully open position.
- Mount the MEPRO 21 on a Picatinny rail. Tilt the sight to the left when mounting it on the rail. See Figure 2.



**Figure 2: Tilt and Mount**

- Tighten (close) the adapter levers. See Figure 3.



**Figure 3: Levers Closed**

- Ensure that the MEPRO 21 is firmly secured on the Picatinny rail.
- If the MEPRO 21 is not firmly secured, or if it is impossible to fully close the levers, adjust the adapter's nuts.
- When correctly adjusted, the levers should be firm but able to be moved to the fully open position for removal of the sight.

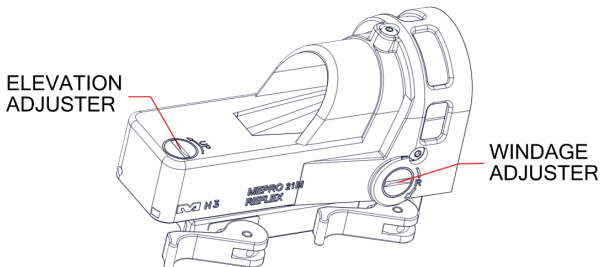
**To dismount the MEPRO 21:**

- Open the adapter levers.
- Detach the MEPRO 21 from the Picatinny rail.



## 4. Zeroing

- The MEPRO 21 has windage and elevation click adjusters for zeroing the weapon. Each adjustment click provides (max) 0.5 milliradian or 1.7 MOA (minutes of angle) of movement. Adjustments may be made using a screwdriver, a small coin, or the rim of a cartridge.



**Figure 4: Windage and Elevation Adjusters**

**CAUTION:** Do not apply excessive force to the windage and elevation adjusters. If you encounter resistance, do not continue to adjust. A properly installed sight with the correct adapter on a serviceable weapon requires only minimal adjustment around the factory set zero.

- The click adjusters are marked and have directional arrows.
- Turning the windage screw clockwise, in the direction of the arrow (marked "R") moves the mean-point-of-impact (MPI) at the target to the right.
- Turning the elevation screw counter-clockwise, in the direction of the arrow (marked "UP") raises the MPI at the target.
- Therefore, to bring the MEPRO 21 aiming dot into position with the front iron sight, you must turn the adjusters in the opposite direction – if the aiming dot is to the right of the front sight, turn the windage screw clockwise, and if the dot is too high, turn the elevation screw counter-clockwise.

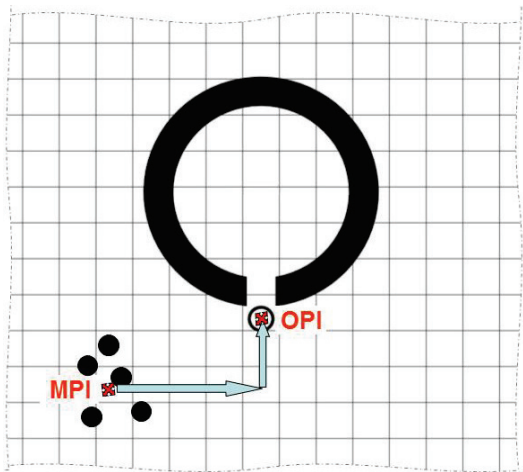
## Dry Zeroing

- Dry zeroing is possible when the MEPRO 21 is mounted on weapons where the front and rear iron sights are left in place. By adjusting the dot to be close to the iron sight point-of-impact, reasonable zeroing for short ranges can be performed without live firing.
- Using the iron sights as a guide, the MEPRO 21 aiming dot should be brought into alignment with the sights such that the dot is slightly higher (several mm) than the top of the front sight and centered on it horizontally.

## Live Fire Zeroing

- Attach the MEPRO 21 sight firmly to the weapon, preferably after having been dry zeroed to the iron sights or, when not possible, according to the factory set zero.
- Aim to a zeroing target at a distance of 25 meters. Aim to the target center.
- Fire a group of 5 rounds.

- Mark the MPI (Mean Point of Impact) and measure the vertical and horizontal distance between the MPI and the OPI (Optimal Point of Impact). See Figure 5.



**Figure 5: MPI Adjustment**

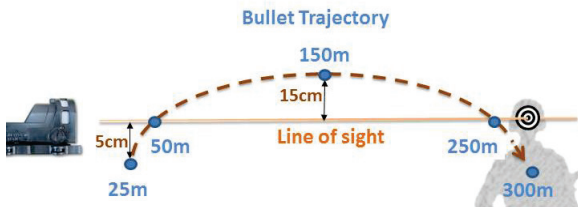
**NOTE:** The OPI is lower than the target center because of the bullet trajectory. See Figure 6.

- Use the elevation and windage adjustment screws to correct the MPI according to the measure taken in the previous step.
- Rotate the elevation adjustment screw marked "UP" counter-clockwise to raise the MPI and clockwise to lower it.
- Rotate the windage adjustment screw marked "R" clockwise to move the MPI to the right and counter-clockwise to move it to the left.
- Each click of the adjustment screws will move the MPI about 12.5 mm (millimeters) when aiming at a distance of 25 meters.
- Example: If the MPI is 50 mm below the target center, move it up by turning the adjustment screw marked "UP" 4 clicks counter-clockwise. If the MPI is 25 mm left of the target center, move it right by turning the adjustment screw marked "R" 2 clicks clockwise.
- Zeroing process is complete when the MPI overlaps the OPI.

## Range and Trajectory

- This paragraph describes aiming at ranges of 50 through 250 meters and beyond, considering the bullet trajectory.
- Following the zeroing process, your weapon and sight are now zeroed to a range of 50 and 250 meters.
- Figure 6 describes a bullet trajectory zeroed to a range of 50 and 250 meters. This allows the shooter to make quick adjustments when aiming at targets located at ranges of 50 through 250 meters. In this figure, the "line of sight" refers to the MEPRO M21 line of sight.

**NOTE:** The actual trajectory may be influenced by the type of weapon, ammunition, and wind force.



**Figure 6: Range and Trajectory**

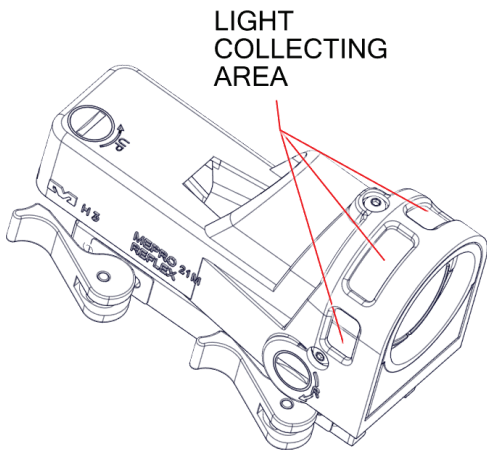
- When shooting to a target at a range of 50 or 250 meters, the aiming point should be on the target center.
- When shooting to a target at a range of 50 to 250 meters, the aiming point should be below the desired MPI.
- When shooting to a target at a range further than 250 meters, the aiming point should be above the MPI.



## 5. Principle of Operation

- The MEPRO 21, dual illuminated, "red dot" reflex sight provides instant, all light aiming without batteries. Whenever there is any available light, illumination of the aiming point is achieved by a fiber optic collector system located around the front top and forward surfaces of the sight.
- Whenever there is little or no available ambient light, illumination of the aiming point is achieved by a miniature self-powered tritium light source. Transition between the two lighting systems is instantaneous and automatic, according to change in ambient light. This provides good contrast between the aiming dot and the target area.

**NOTE:** Since the light is collected by the fiber optic system, the area of the sight where the collector is located must be kept unobstructed to assure maximum dot brightness. See Figure 7.



**Figure 7: Light Collecting Area**

## 6. Cleaning and General Care

- Inspect the MEPRO 21 daily. Inspect the body, lenses and windows for signs of damage, scrapes, cracks or broken pieces.
- Remove dust from the lens with rice paper or soft lens cloth.
- Remove dust from the fiber optic window with a special cleaning brush (provided).
- Remove dust from the body with rice paper or soft cloth.
- If the aiming dot appears weak or is only partially visible, it may be dirty. In such a case, the sight may be washed in clear water. In the absence of clear water, a soft cloth or cotton swab can be used to gently clean away any visible dirt from the cavity where the aiming dot is located.
- Prevent contact with solvents, oil, petrol etc.

- No attempt should be made to disassemble the sight. This may damage the tritium light source or the fiber optic system.

## Safety

- The MEPRO 21 contains a small amount of radioactive material in the form of gaseous tritium (Hydrogen-3) sealed inside a small glass tube.
- In this form, the tritium does not present any hazard to the user. If the light source should break, a small amount of tritium will be released to the surrounding surfaces and to the air. Tritium is very weak and can enter the body by only the following ways: breathing, eating, or through an open wound.
- If the tritium light source in a MEPRO 21 is broken or is suspected of being broken, the sight should be placed in a sealed plastic bag; and, the person handling it should wash his hands thoroughly with soap and water.
- Avoid handling a sight with a broken light source if you have open skin cuts or abrasions. Handling and bagging should be performed in a well-ventilated area. Do not eat, drink, or smoke in the presence of a defective unit.

- Repair of defective units is only authorized by the manufacturer, MEPROLIGHT, Ltd. Please contact MEPROLIGHT, Ltd. or your local distributor for handling and replacement instructions.



## 7. Technical Specifications & Features

Magnification	X1
Lens Diameter	1.18" (3 cm)
Field of View	Unlimited (Both eyes open)
Eye Relief	0.4" to 24" (1 cm to 61 cm)
Aiming Point Diameter	5.5 MOA/4.3 MOA/2 MOA
Other Shapes	Reticle Patterns: Dot, Triangle, Open X, Bullseye
Resolution	Limited by eye only
Length	4.48" ( 11.4 cm)
Width	1.81" (4.6 cm)
Height	2.20" (5.6 cm)
Weight (with a weapon adapter)	13.2 oz. (375 gr.)







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