



Trijicon®

Brilliant Aiming Solutions™



Instruction Manual for
Trijicon MRO® SD and MRO® HD
(Miniature Rifle Optic)

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The Science of Brilliant®

At Trijicon, we are bound by a commitment to industry-leading research, design, and testing to seek innovative aiming solutions that constantly redefine “brilliant.” That’s why Trijicon products are subjected to the below testing methods.



Alaska-to-Africa Tested | Immersion Tested | Solid Zero Tested
Vibration Tested | Drop Tested

Warnings & Cautions

-  Before installing the optic on a firearm, ensure the firearm is UNLOADED.
-  This Trijicon® product is shipped with a new lithium battery. Lithium batteries or lithium button cells pose the risk of fire. The battery can explode or leak and cause injury if installed backwards, disassembled, charged, crushed, or exposed to fire or high temperature. Keep out of reach of children.
-  DO NOT allow harsh organic chemicals such as Acetone, Trichloroethane, or other cleaning solvents to come in contact with the Trijicon MRO®. They will affect the appearance but they will not affect its performance. Repair or maintenance other than that described in this manual is prohibited by anyone other than the manufacturer.

Warnings & Cautions

WARNING

- **INGESTION HAZARD:** This product contains a button cell or coin battery.
- **DEATH** or serious injury can occur if ingested.
- A swallowed button cell or coin battery can cause **INTERNAL CHEMICAL BURNS** in as little as **2 HOURS**.
- **KEEP** new and used batteries **OUT OF REACH OF CHILDREN**.
- **SEEK IMMEDIATE MEDICAL ATTENTION** if a battery is suspected to be swallowed or inserted inside any part of the body.



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- ⚠ Remove and immediately recycle or dispose of used batteries according to local regulations and keep away from children. Do NOT dispose of batteries in household trash or incinerate.
 - ⚠ Even used batteries may cause severe injury or death.
 - ⚠ Call a local poison control center for treatment information.
 - ⚠ Compatible with 3.0 Vdc CR2032 batteries only.
 - ⚠ Non-rechargeable batteries are not to be recharged.

Warnings & Cautions

-  Do not force discharge, recharge, disassemble, heat above (manufacturer's specified temperature rating) or incinerate. Doing so may result in injury due to venting, leakage or explosion resulting in chemical burns.
-  Ensure the batteries are installed correctly according to polarity (+ and -).
-  Do not mix old and new batteries, different brands or types of batteries, such as alkaline, carbon-zinc, or rechargeable batteries.

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-  Remove and immediately recycle or dispose of batteries from equipment not used for an extended period of time according to local regulations.
 -  Always completely secure the battery compartment. If the battery compartment does not close securely, stop using the product, remove the batteries, and keep them away from children.

Introduction

The Trijicon Miniature Rifle Optic (MRO®) is a reflex-style, sealed sight intended for use on rifles, carbines, and shotguns to provide fast target acquisition. It is designed to be used with both eyes open, providing the operator with maximum situational awareness.

The large aperture and tapered light path maximizes the viewing area in such a small optic, allowing for fast target engagement – especially from non-standard shooting positions. Advanced lens coatings and electronics produce a crisp reticle.

The brightness control dial on the MRO is specifically designed for ambidextrous usage. With a mid-adjustment “off” position and eight discernible brightness levels, this brightness dial allows for quick and ergonomic adjustments.

The MRO features fully protected adjusters that maintain zero even during rough handling, and can be adjusted without the need for special tools. Hard-anodized, forged 7075-T6 housing is fully sealed and waterproof, providing durability in demanding conditions.

Characteristics

	All MRO® Models
Magnification	1x
Objective Lens	25mm
Clear Aperture	0.805 in (20.4mm)
Adjustments	½ MOA per click
Adjustment Range (Windage)	70 MOA Total Travel
Adjustment Range (Elevation)	70 MOA Total Travel
Illumination Source	LED Powered by a CR2032 Lithium Battery
Waterproof Depth	100 ft. (30m)
Housing Material	7075-T6 Forged Aluminum Housing

For available mounting adapters, please visit our website.

	MRO® SD	MRO® SD Patrol	MRO® HD	MRO® HD Patrol
Dimensions* (L x W x H)	2.9 x 1.7 x 2.1 in. (74 x 43 x 53mm)	3.6 x 1.8 x 2.0 in. (91 x 43 x 51mm)	2.9 x 1.7 x 2.1 in. (74 x 43 x 53mm)	4.35 x 1.7 x 2.0 in. (110 x 43 x 51mm)
Weight**	4.1 oz. (116g)	5.0 oz. (141.7g)	4.6 oz. (130g)	5.0 oz. (141.7g)
Red Dot Battery Life	2.5 years of continuous use on Day Setting 3 (5 of 8) at 70°F		2.5 years of continuous use on dot-only day setting 3 (5 of 8) 75 days of continuous use for complex reticle day setting 3 (5 of 8) at 70°F	
Brightness Settings	8 Total Settings (2 for use with Night Vision devices, 6 day settings, of which 1 is super bright)		16 Total Settings Reticle with Center Dot: NV1, NV2, Day 1, Day 2, Day 3, Day 4, Day 5, Day 6 (Super-Bright) Center Dot Only: NV1, NV2, Day 1, Day 2, Day 3, Day 4, Day 5, Day 6 (Super-Bright)	

*without mount

**with battery and without mount

Controls & Indicators

- A** Elevation Adjuster
- B** Ocular Lens
- C** Battery Compartment
- D** Ambidextrous Brightness Adjustment Knob
- E** Objective Lens
- F** Windage Adjuster

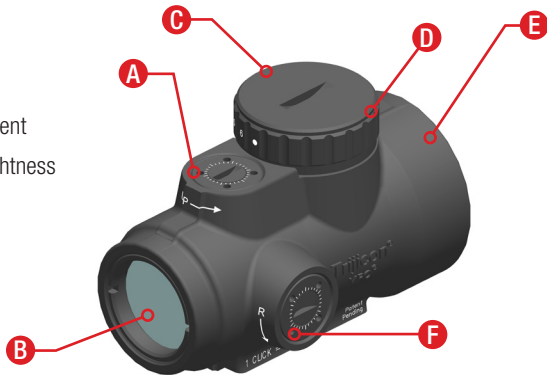


FIGURE 1

Identification & Markings

External Markings

The MRO SD and MRO HD have external identification markings that are laser etched on the housing (**Figure 2**).



FIGURE 2

Preparation for Use

Installing the Battery

Using a flat edge tool, unscrew the battery cap (**Figure 3**) by turning it counterclockwise.

MRO SD and MRO HD
Battery Cap with Lanyard



FIGURE 3

When installing the CR2032 battery, place the battery positive side (+) up and insert the battery towards the lanyard retainer, then press flat against the bottom (**Figure 4**). Inserting the battery improperly may bend the contacts, and will keep the optic from illuminating.



FIGURE 4

Operation

WARNING: This Trijicon® product is shipped with a new lithium battery. Lithium batteries or lithium button cells pose the risk of fire. The battery can explode or leak and cause injury if installed backwards, disassembled, charged, crushed, or exposed to fire or high temperature. Keep out of reach of children. Check local municipality for proper disposal. California Only; Perchlorate Material – special handling may apply.

The MRO SD and MRO HD use one (1) CR2032 lithium battery to power the unit, which is included in the original packaging.

The battery life (under normal operating conditions) for the various MRO models can be found on pages 8-9. Extremely high or low temperatures, and prolonged usage on higher settings will greatly affect the battery life.

For optimal performance, Trijicon recommends replacing the battery once per year at a minimum (more frequently if used on higher power settings).

Operation

To turn the MRO SD and MRO HD on, simply rotate the *Brightness Adjustment Dial* to the setting which yields the preferred brightness level (**Figure 5**).

The numbered positions “1” through “6” are suitable for use without night vision equipment.



FIGURE 5

Settings “1” and “2” are suitable for low-light conditions, and setting “6” is a super-bright setting suitable for use in extremely bright environments.

The positions labelled “n” and “N” are the two settings for use in conjunction with an I² (image intensifier) night vision device. They will not be visible to the unaided eye in any conditions.



FIGURE 6

Operation

The positions labelled by a dot symbol indicate unit is turned “Off” (**Figure 7**).

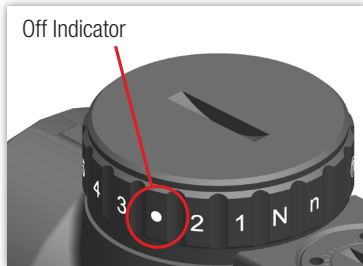


FIGURE 7

For MRO HD models, the user can choose “dot only” or a “complex reticle with center dot.” Postions labelled with circles on the *Brightness Adjustment Dial* (**Figure 8**) display the complex reticle with center dot, while settings without the circles indicate dot only illumination settings.

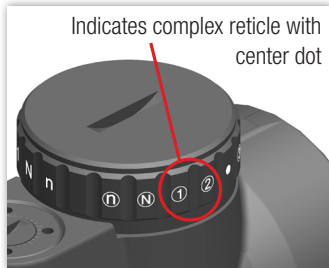


FIGURE 8 - MRO HD

Reticle Information

The center dot for the MRO SD and MRO HD measures 2 MOA (**Figure 9**). The MRO HD features a complex reticle plus dot. Specific measurements are shown in **Figure 10**.

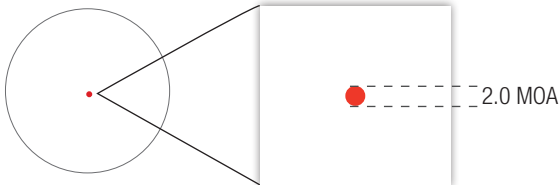
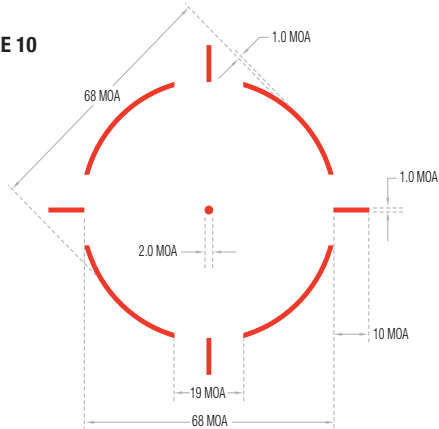


FIGURE 9 - 2 MOA Dot

FIGURE 10



Installation Procedures

WARNING: Before installing the MRO® onto any firearm, ensure the firearm is UNLOADED.

Mount Assembly

All MRO models have a unique interface for affixing to a mounting adapter. Trijicon, in addition to other after-market accessory manufacturers, specifically designed mounting adapters to work with this unique interface. Mounting adapters require four #4-48 screws.

The torque spec for the (4) #4-48 screws supplied with your mount should be torqued to 12 in./lbs. Any more than 12 in./lbs. and you risk stripping the threads out of the MRO housing.

Once a mounting adapter is attached to the MRO SD or MRO HD, it can be attached to the firearm as specified by the mount manufacturer.

Please use the instructions provided by the mount manufacturer for proper installation.

Adjustment Procedures

Internal Adjustment

The illuminated dot of the MRO SD and MRO HD models are internally adjustable by using the *Windage* and *Elevation Adjusters* (**Figure 11**). It is shipped with the illuminated dot in a factory centered position. Normally, this means that only small adjustments are necessary. Trijicon designed the MRO windage and elevation adjusters so that specialty tools were not required make adjustments. A coin, such as a dime or penny, rim of a cartridge case, or flat-head screwdriver will all fit the slot on the adjustment dial.

CAUTION: The windage and elevation adjusters should never be moved all the way to the extremes. It is possible that over-adjustment can damage the sight. When rotating the adjusters, the resistance will increase as you reach the limits of the mechanism. If adjusted past this point, the mechanism could break.

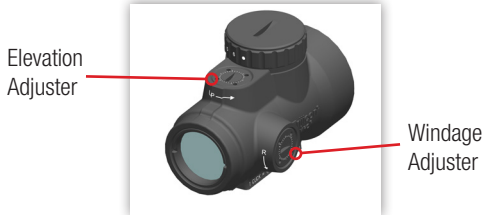


FIGURE 11

Adjustment Procedures

Elevation Adjustment

Moving the *Elevation Adjuster* in the direction of the arrow (counterclockwise) will move the bullet's Point of Impact (POI) UP as indicated on the adjuster (**Figure 12**). Adjustment increments are $\frac{1}{2}$ MOA per click, meaning that one click is required to move the bullet's impact approximately $\frac{1}{2}$ inch on a target at 100 yards. The amount of clicks can be detected through audible and tactile feedback.

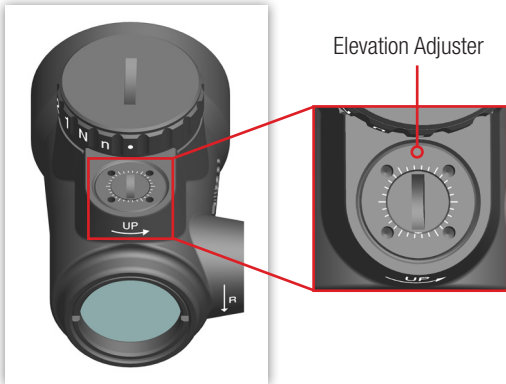


FIGURE 12

Adjustment Procedures

Windage Adjustment

Moving the *Windage Adjuster* in the direction of the arrow (counterclockwise) will move the bullet's Point of Impact (POI) RIGHT as indicated on the adjuster (**Figure 13**). Adjustment increments are $\frac{1}{2}$ MOA per click, meaning that one click is required to move the bullet's impact approximately $\frac{1}{2}$ inch on a target at 100 yards. The amount of clicks can be detected through audible and tactile feedback.



FIGURE 13

Zeroing Procedures

Zeroing for Firearm and Ammunition

Center the aiming dot on a target at the desired zero range and fire a precise shot group (minimum 3 rounds). Evaluate the location of shot group compared to your point of aim. The example in **Figure 14A**, the Point of Aim (POA) is the center of the target. The Point of Impact (POI) is high and to the right. Follow the procedures outlined in pages 16-20 until the Point of Aim is zeroed to the Point of Impact as shown in **Figure 14B**.

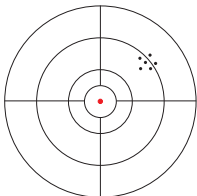


FIGURE 14A

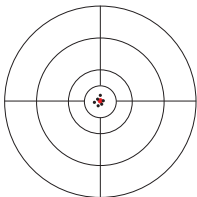


FIGURE 14B

Verify the POA/POI with another shot group (minimum 3 rounds). If the POA/POI coincide, the optic is properly zeroed for the chosen bullet at the selected distance. 1 click = $\frac{1}{2}$ MOA, which provides about $\frac{1}{2}$ inch shift in bullet impact at 100 yards or $\frac{1}{4}$ inch per click at 50 yards.

NOTE: Anytime the MRO SD or MRO HD is moved to a different firearm, the optic needs to be re-zeroed for the new firearm. If the same firearm is used with different ammunition, re-confirm the zero.

Cleaning & General Care

General Information

This Trijicon® product requires very little maintenance. If the lenses become dirty, wash using fresh water and a soft clean cloth. Be sure to remove all foreign matter from the lens surface fully before wiping them with a soft cloth. The lenses can be scratched if any foreign matter is pulled along the lens by the cloth.

The outside lenses may fog over in cold weather. Remove fog by using a dry, clean, soft cloth. Anti-fog solutions can be applied to the exterior of the lenses to help prevent fogging during temperature changes.

Models & Accessories

Contact Trijicon Customer Service at 1-800-338-0563 or visit our website at www.Trijicon.com for all available mounts and accessories.

Troubleshooting

Please visit our FAQ page at www.Trijicon.com for answers to any questions you might have regarding your product. For more detailed information, please contact our Customer Service Department at 1-800-338-0563 or email us at customerservice@trijicon.com.

Limited Lifetime Warranty

The original owner of the Trijicon® product registered with the warranty card is entitled to repair or replacement (at our option) of the registered item if it should fail due to defects in material or workmanship during normal use. This warranty specifically applies to the optical systems and metal structure of the product and does not apply to the illumination system. Electronics are warranted to be free of defects in material and workmanship during normal use for a period of 5 years from the date of manufacture. If repair is necessary, please contact our Customer Service Department for return instructions. This warranty does not apply to defects caused by anything which is deemed abnormal, abusive, or improper including any fault resulting from an accident or improper service. Please note that the manufacturer's warranty will be void and the product cannot be serviced if it is exported from the United States in violation of U.S. Export Control Laws and Regulations. Any attempt at disassembly or repair will annul this warranty. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Patents & Trademarks

U.S. patents may apply to this product. For details, visit www.Trijicon.com/patents.



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