

# OWNER'S MANUAL

## HoVR™ 5-20 x 50

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Record the riflescope serial number below for future reference:

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**WARNING!**

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**Make sure that your rifle is not loaded before proceeding. Reconfirm that the chamber is empty if you stop the procedure then resume later.**

!

**WARNING!**

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**HVRT Corp. does not authorize the export of these items outside of the United States of America. Riflescopes and accessories listed within, are controlled for export by the U.S. Department of State, under the International Traffic In Arms (ITAR) regulations (22 CFR, Parts 120-130), and/or the Department of Commerce under the Bureau of Industry and Security Export Administration Regulations (15 CFR, Parts 730-774). To export these products outside of the United States of America, you must comply with the regulatory agency’s license and documentation requirements.**

Product specifications, features, appearances and information subject to change without notice. For the latest updates and information regarding our products, visit [www.horusvision.com](http://www.horusvision.com).



- A:** Objective/Objective Lens

**B:** Eyepiece

**C:** Fast-Focus Eyepiece

**D:** Side Parallax Adjustment

**E:** Elevation Adjustment
- F:** Windage Adjustment

**G:** Power Zoom Ring

**H:** Zero Set Elevation Adjustment (5-20 x 50)



Unscrew cap to access windage adjustment.



## WARNING!



**To avoid permanent eye damage or blindness, do not look directly at the sun or other extremely bright lights through the riflescope.**

## FOCUSING THE RETICLE

There are two user-adjustable optical settings on HoVR™ riflescopes: the reticle focus and the parallax adjustment. The reticle focus is used for setting the reticle focus to match your particular vision. It should not be used to try to focus for parallax. If you plan to wear vision correction when shooting, then set this focus while wearing your corrective lenses. **The reticle focus should be set before setting the parallax adjustment.** If the reticle focus is inadvertently set to the extreme ends of travel it can adversely effect parallax.

**Note:** All Horus Vision riflescopes are factory set for average eye strength, so this adjustment may not be necessary

## Reticle Focus Adjustment

Horus Vision riflescopes have a fast focus eyepiece without any locking mechanism. Turn the rubber ring on the end of the eyepiece inward until the reticle is out of focus, then turn it outward until the sharpest reticle image is achieved. The friction-fit design maintains the focus once set.

1. Set the power zoom ring at the highest magnification.
2. Set the parallax adjustment to the infinity setting [ $\infty$ ].
3. Look through the riflescope eyepiece at a light colored background such as a white wall, overcast sky, or drape a thin white cloth over the objective to eliminate background clutter. Determine if the reticle is clear and in focus instantly when you look through the eyepiece. Be aware that staring at the reticle for more than two seconds during this process will cause your eye to compensate, resulting in a false indication of reticle focus. Look away for a few seconds then retry for best results. You are looking for a sharp, crisp and well defined reticle image.
4. If adjustment is necessary, follow the steps outlined for the type of Horus Vision riflescope you have. Due to the way the human eye focuses, best results are usually obtained by turning the eyepiece inward until the reticle is slightly blurred then moving it outward until sharp focus is obtained. Refer to Figure 1.



Figure 1: Reticle Focus

If the reticle tends to fade in and out of focus, or you are experiencing eye strain with extended shooting sessions, that is an indicator that the reticle is not properly focused for your eye. Once you have achieved the best focus you can, using the method above, it is recommended that you fine-tune the focus in either direction, on a target at 100 to 200 yards. Use a target of medium value such as light tan or gray, rather than white, for best results. A properly focused reticle will remain sharp for extended periods.

## PARALLAX ADJUSTMENT

Horus Vision riflescopes have parallax adjustment mechanisms. Parallax is the apparent movement of the reticle in relation to the target as the shooter moves his/her eye across the exit pupil of the riflescope. This condition is caused by the target and the reticle appearing on different focal planes within a riflescope.

At longer distances, and higher magnification settings, significant sighting error can result if parallax is not removed.

Be sure to register your warranty at [www.horusvision.com/warrantyregistration](http://www.horusvision.com/warrantyregistration)



Figure 2: Parallax Adjustment

**For best results we recommend checking for parallax, and removing if necessary, at each change in target distance.**

## Checking for and removing parallax

While keeping the rifle stable and looking through the riflescope at a specific point of aim on your target, a nod of the head up and down will quickly determine if parallax is present. When parallax exists, the reticle will appear to move even though the riflescope is stationary as the head is nodded up and down.

To remove parallax, adjust the parallax adjustment mechanism until the reticle remains stationary in relation to the target regardless of head movement.

**Note:** Yardage/meter markings are included on select Horus Vision riflescopes. These markings are approximate values as a guideline to begin adjusting parallax. These markings are not intended to be used for ranging purposes.

## ELEVATION AND WINDAGE VALUES

When making elevation and windage adjustments, you need to know how much the impact will move with each click. Scope adjustments are an angular system of measurement and do not move in a linear value. (e.g., 1 MRAD=3.6" at 100 yards, etc.). Depending on the model, your riflescope is going to have click values as follows:

- HoVR™ riflescopes with Mil-Radian adjustments are calibrated in 1/10th MRAD clicks, and based on the TRUE MRAD of 3.43775 MOA. 1 mil=3.6" at 100 yards.
- HoVR™ riflescopes with MOA adjustments are calibrated in 1/4 (0.25) MOA increments. They provide true MOA measurements, where a MOA is 1.047" at 100 yards.



### WARNING!



**Make sure that your rifle is unloaded prior to installing any Horus Vision riflescope or accessory. Recheck the chamber if you stop the procedure and resume later.**

## INSTALLING THE RIFLESCOPE

**FAILURE TO PROPERLY INSTALL THE RIFLESCOPE MAY CAUSE EQUIPMENT AND/OR PERSONAL DAMAGE WHICH CAN RESULT IN EQUIPMENT FAILURE OR DEATH RESPECTIVELY.**

**Note:** Please take time to record your serial number on the inside front cover of this booklet. It can then be easily referenced for your online Warranty Registration. Once the scope has been installed, you may not be able to read the serial number, as your rings/mounts may cover it.

## Ring and Base Selection

Your riflescope and rifle are only as good as the link between them. The mounting of your riflescope is as important as the bedding of the rifle's action to the stock. To ensure the highest level of performance, the following steps in the mounting procedure must be followed as described.

We recommend purchasing premium bases, rings and one-piece mounts for a solid and precise installation. Please use the following guidelines to select the proper mounting solutions for your rifle.

- A high quality ring and base combination using a 1913 Mil. Std. type rail is recommended for field use and/or high-recoil applications.
- Under no circumstances do we recommend the use of turn-in style rotary/dovetail-type ring and base designs, especially those equipped with windage adjustment.

## Mount Installation

**Note: Follow all mounting instructions provided by the ring manufacturer. Damage caused by incorrect mounting is not covered by the scope warranty.**

## Attaching the Base to the Action

Once you have determined that the base-to-action mating is acceptable, install the base to the action, torquing the mounting screws to the manufacturer's specifications.

## Attaching Rings to Base

Clean/degrease the inside of the rings and then clean the outside of the scope tube before installing in the rings.

Install the rings on the base per the manufacturer's specifications using the proper torque on the locking mechanism. Avoid positioning the rings where they will make contact with the adjustment assembly, the objective bell section, or the power zoom ring on the riflescope body. Apply forward pressure to the ring while tightening it in place to keep the cross bolt on the ring in firm contact with the forward surface of the cross slot in the base.

## Mounting the Riflescope

1. For initial fitting of the riflescope to the rifle, set the Horus Vision riflescope to the highest magnification. Place the riflescope in the lower portion of the rings as far forward as possible. Install both ring tops. Tighten ring top screws with just enough tension to hold the riflescope where positioned, while still allowing smooth movement fore and aft and rotationally.
2. Hold the rifle in your normal shooting position with the riflescope positioned fully forward in the rings, preferably while adjusted to maximum magnification. Place your head as far forward on the stock as you might position it in field use. Slowly move the riflescope back just to the point where the full field of view is obtained. It is recommended to mount the riflescope at this position with as much eye relief as possible (3.5" – 4") or slightly forward to ensure maximum eye relief. See Figure 3.



**WARNING!**



**With hard-recoiling rifles, serious injury or even death can result from eyepiece impact with the shooter during the recoil process when discharging the firearm. Be certain that your installation provides sufficient eye relief for the recoil generated by your rifle before shooting the firearm. NOTE: Give special attention to this warning when shooting uphill and/or from a prone position. These shooting conditions can dramatically reduce eye relief. PLEASE maintain maximum eye relief when shooting heavy recoiling and/or magnum firearms.**

## LEVELING THE RETICLE

For precision shooting, the reticle and the rifle need to be squared, or plumb, to each other. Any out-of-square condition can cause sighting errors that will be magnified even more at longer distances.

The reticle in all Horus Vision scopes is confirmed plumb with the flat surface on the bottom of the adjustment saddle. See Figure 4. You can use pin gauges, a sliding sine bar or flat shims to align the flat surface with the top of the scope rail. To level the reticle using a plumb line, follow the three steps that follow.

1. Level the rifle on a steady rest such as sandbags or a stable shooting rest. This can be accomplished with a bubble level attached to the riflescope base, or on a flat section of the action.

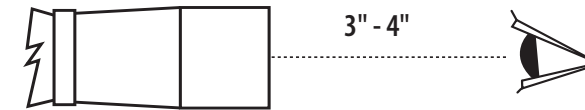


Figure 3: Eye relief

2. Use a plumb line or some other known plumb vertical line at a distance from the rifle where you can see it clearly through the riflescope. A distance of 100 yards is recommended, but good results can often be obtained as close as 50 yards.
3. Center the reticle on the plumb line and rotate the riflescope in the rings until the vertical line of the reticle is parallel with the plumb line. Recheck the rifle level and adjust the reticle position as needed. When both the rifle and the reticle are plumb, tighten all ring top screws evenly until the riflescope is secure in the rings. Recheck the rifle and reticle one more time for plumb, adjust as needed, then torque the screws to the recommended torque settings. Your Horus Vision riflescope is now properly mounted.

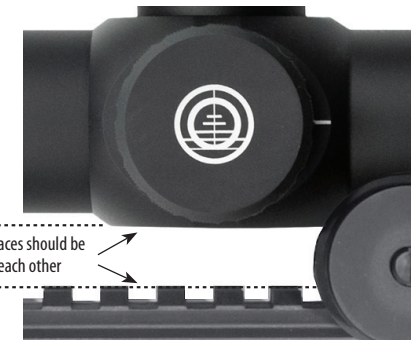


Figure 4

## ESTABLISHING A SIGHT-IN ZERO

A quick way to get your first shot on target with a new installation is to first bore sight the riflescope. A simple yet reliable method is by looking through the bore at a round, high contrast target, approximately 5"–6" in diameter, that can be seen clearly with the naked eye at either 25, 50 or 100 yards/meters, yet is small enough to "float" in the center of the rifle bore when viewed through the opened action. This can save you time and ammunition.

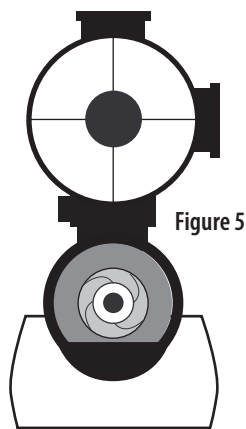


Figure 5

1. Ensure that the rifle is unloaded and the chamber is empty. Remove the bolt, place the rifle on a steady rest and adjust the riflescope to be parallax-free for the distance to the target. See the Parallax Adjustment section on page 5.
2. Looking through the bore from the action end, center the round target downrange so that it is floating in the center of the bore, then adjust the elevation and windage adjustments until the reticle is centered on the target while the target is still centered in the bore. See Figure 5.

3. If you feel confident in the bore sighting, proceed to live firing at 25, 50 or 100 yards/meters. To aid in the sight-in process, be sure your sight-in target is large in size, and offers a contrasting color (i.e., white). After confirming point of impact, proceed to step four. Note: if you have sighted in at 25 yards/meters, you will need to move the adjustments four times more than you would with a 100 yard/meter sight-in. If you sighted in at 50 yards/meters, you will need to move the adjustments two times more than you would with a 100 yard/meter sight-in. If the first shot isn't on target, recheck your bore sighting and/or move to a 25 yard/meter sight-in distance.
4. Without changing the adjustments, move the rifle to center the reticle on the target. Carefully turn the windage and elevation adjustments without moving the rifle, until the reticle is aligned on the center of the bullet hole from that first shot on the target.
5. Fire at least a three-shot group at the desired close-range zero distance, then fine-tune your zero as needed.

Be sure to register your warranty at [www.horusvision.com/warrantyregistration](http://www.horusvision.com/warrantyregistration)

## ZEROING ZERO SET ELEVATION ADJUSTMENT

The HoVR™ Zero Set elevation adjustment can be set to the zero position once you have zeroed the riflescope.

- A. Zero your rifle with your selected ammunition at your desired zero distance.
- B. To index the dial to zero and set your Zero Set, use the supplied allen key to loosen both screws on the elevation dial cap. Do not remove the screws (Figure 6a).
- C. Press down until the dial cap stops (Figure 6b).
- D. Re-index the dial to align the "0" (zero) position with the fixed index mark on the body of the riflescope.
- E. With the dial on "0," firmly press down on the top of the dial and torque the screws to 4 inch pounds.

**Note:** If you need to dial below zero for a change in zero due to ammunition, environmental conditions or other reasons: simply reverse the above process and instead of pressing down on the elevation cap in step C; lift the cap up 1-3 rotation lines and then re-tighten the screws.



Figure 6a



Figure 6b

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## WINDAGE ADJUSTMENT

Standard HoVR™ elevation and windage adjustment indicators can be reset to the zero position once you have zeroed the riflescope. A round coin such as a U.S. quarter (25¢ piece) will be required to adjust the numbered cap.

- Zero your rifle with your selected ammunition at your desired zero distance.
- To index the dial to zero, while holding the adjustment in place, use a round coin or similar object to loosen the center screw of the dial. (Figure 7a)
- Remove the screw and set aside. (Figure 7b)
- The numbered dial can now be removed. (Figure 7c)
- Re-index the dial to align the “0” (zero) position with the fixed index mark and place the dial back on the main lead screw.
- With the dial on “0” and while holding the adjustment in place, reinstall the center screw and tighten until snug. Do not over tighten to prevent damaging the components inside. (Figure 7d)

**Note:** The dial must be removed to re-index, as the dial has splines that interface with the main lead screw. Adjusting the dial without lifting it completely clear of the lead screw can change your point of impact.



Figure 7a



Figure 7b



Figure 7c



Figure 7d

## CARING FOR YOUR RIFLESCOPE

With proper care your Horus Vision riflescope will give you many years of dependable service. Be sure to use your lens covers whenever you are not using your riflescope.

### Cleaning the Riflescope Exterior

Clean the riflescope body with a clean cloth lightly moistened with clean water or alcohol. Do not use strong solvents. While cleaning your rifle, be sure to protect your riflescope's lenses by installing the covers that came with the riflescope (or equivalent covers). Ammonia-based bore solvents can destroy the coating on the glass. Avoid spilling gun cleaning solvents anywhere on the riflescope.

In the event of submersion in mud, sand, dirty or salt water, flush the outside of the riflescope with clean water to remove encrusted material and salt. If your riflescope came with screw-on adjustment covers, install them before flushing with water. Wipe the outside metal surfaces dry with a soft cloth then proceed to the step below.

### Cleaning Lenses

We recommend using an optics cleaning kit to care for the lenses on your riflescope. The kit should contain an ultrasoft brush, microfiber cloth and cleaning solution.

With the lens facing down to allow the debris to fall away from the surface, remove loose dirt and dust with compressed air and/or a lens

brush. Do NOT use high-pressure compressed air from cans (such as found in office supply stores). They can, and have, been known to destroy lens coatings. If there is grit stuck to the lens that won't come off with the compressed air or a brush, flushing the surface with alcohol or distilled water will prevent that grit from being rubbed into the glass by the cleaning swabs.

Using a soft, clean, lint-free cotton swab or lens cleaning cloth, and lens cleaning fluid applied to the swab, clean the lens starting in the center, working to the outside in a circular motion. Make only one pass to the edge where the glass meets the metal. Once you reach the edge of the lens, do not re-use that swab as it will often contain abrasive grit that will scratch the surface. Start over in the center with a new swab and repeat the process until the glass is clean. Use a very small amount of cleaning solution for the last pass to prevent streaks.

### Long Term Storage

Keep the riflescope in a cool, dry, dust-free location.

For a list of frequently asked questions, video instruction, information on service and on Horus Vision accessories, visit [www.horusvision.com](http://www.horusvision.com).

# LIMITED LIFETIME WARRANTY

Congratulations on your purchase of a Horus Vision product. As provided herein, Horus Vision warrants (the "Limited Warranty") to its original purchasing customer and permitted transferees (collectively, a "Customer") that manufactured products (the "Product" or Products," as the context so requires) sold by Horus Vision will be free from defects in material or workmanship for the intended use and under normal conditions for lifetime of the product from the date of sale of such Product to the initial Customer. Date of sale shall be established by the initial Customer's purchase receipt or by the products serial number if purchased directly from Horus Vision.

## Remedies

If Customer believes that a Product is defective and covered by this Limited Warranty, Customer must notify Horus Vision in writing within 30 days of its discovery of the defect, at which time Customer will receive a Return Merchandise Authorization ("RMA") number. The Customer's notice must identify the Product, including by serial number, and contain a detailed description of the alleged defect. The method of such notification must be by completing an RMA Request Form at [www.horusvision.com](http://www.horusvision.com) or by telephone at (866) 568-2926. All returns must be accompanied by an RMA number and a purchase receipt.

Horus Vision will investigate warranty claims in good faith and with reasonable promptness. If Horus Vision determines that the Product is defective and covered by this Limited Warranty, Horus Vision will, at its option, either repair or replace the defective Product. Horus Vision may, at its option (a) send a replacement Product to Customer, (b) repair or replace Product on-site, or (c) require Customer to ship the Product to Horus Vision's authorized service facilities. This Limited Warranty does not include the cost of Customer's removal, shipment or reinstallation of Product, which shall all be at Customer's risk and expense. The foregoing are Customer's sole and exclusive remedies for any defect in any Product.

This Limited Warranty may be transferred to a transferee, provided adequate documentation can be provided to establish date of purchase to Horus Vision as set forth above.

## Exclusions

This Limited Warranty does not apply to: (a) damage caused by accident, abuse, misuse, negligence, general wear and tear, extreme temperatures, flood, fire, earthquake or other external or extraordinary causes; (b) damage caused by using or operating the Product outside the permitted or intended

uses described by Horus Vision; (c) damage caused by the failure to properly install, maintain and operate the Product in accordance with Horus Vision's recommendations; (d) damage caused by service (including repairs and modifications) performed by anyone other than Horus Vision; (e) any Product that has been modified; (f) any Product that has had its serial number altered or removed; (g) the inability of Customer to use the Product; (h) cosmetic damage, including but not limited to scratches and dents; (i) any accessories such as lens caps, straps and cases; and (j) any batteries, or damage directly or indirectly caused by batteries.

## Limitations

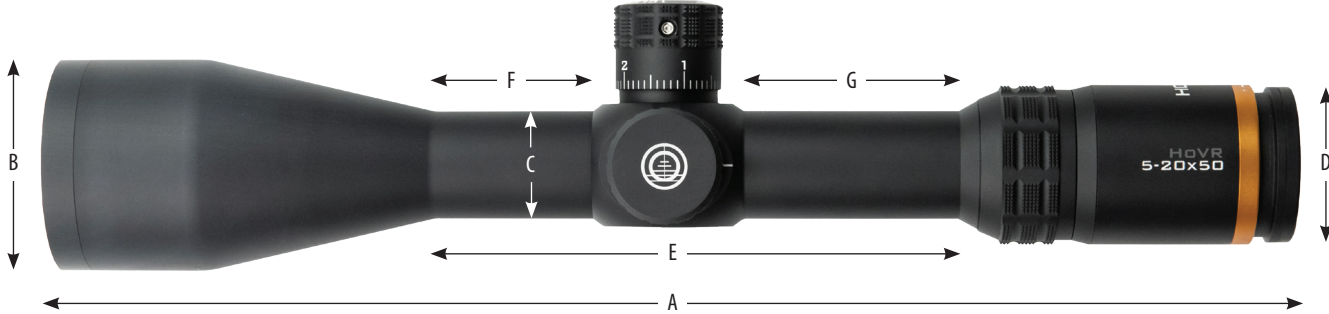
This Limited Warranty is given in lieu of all other warranties, express or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose. Horus Vision is not responsible for direct, indirect, special, general, incidental or consequential damages resulting from any breach of warranty or condition, or under any other legal or equitable theory, including but not limited to loss of use; loss of revenue; loss of actual or anticipated profits (including loss of profits on contracts); loss of the use of money; loss of anticipated savings; loss of business; loss of opportunity; loss of goodwill; loss of reputation; or any other indirect or consequential loss or damage howsoever caused. Please note that some states and countries do not allow the exclusion or limitation of certain types of damages or claims, so the foregoing limitations may not apply to every Customer. In states or countries where permissible, Horus Vision limits the duration of all implied warranties to the period of this Limited Warranty.

## General

This Limited Warranty grants specific legal rights. Customer may also have other rights which vary from state to state (or by country). This Limited Warranty may not be transferred by Customer, except as provided above. No person is authorized to make any modification, extension or addition to this Limited Warranty except an authorized agent of Horus Vision. If any term is held to be illegal or unenforceable, the legality or enforceability of the remaining terms shall not be affected or impaired. This Limited Warranty shall be governed by the laws of the State of Idaho, USA, without regard to any conflict of law provisions or the United Nations Convention on Contracts for the International Sale of Goods. Horus Vision reserves the right to discontinue manufacture of any Product or change Product materials, design or specifications without notice.

Be sure to register your warranty at [www.horusvision.com/warrantyregistration](http://www.horusvision.com/warrantyregistration)

# SPECIFICATIONS



<b>A. Overall Length @ 0 Diopter</b>	.....341 mm/ 13.42 in
<b>B. Objective Outer Diameter</b>	.....59 mm
<b>C. Tube Diameter</b>	.....30mm/1.18 in
<b>D. Eyepiece Outer Diameter</b>	.....43 mm
<b>E. Mounting Length</b>	.....142 mm/5.6 in
<b>F. Front Mounting Length</b>	.....F: 57mm/2.27 in
<b>G. Rear Mounting Length</b>	.....R: 43mm/1.7 in

<b>Weight</b>	.....762 g/28.88 oz
<b>Illumination</b>	.....non-illuminated
<b>Elevation</b>	.....Exposed, Setable zero
<b>Windage</b>	.....Capped
<b>Focal Plane</b>	.....First
<b>Magnification Range</b>	.....5-20x
<b>Objective Lens Diameter</b>	.....50mm
<b>Internal Adjustment Range</b>	.....e: 60 MOA
	.....w: 50 MOA
	.....e: 17.5 MRAD
	.....w: 14.5 MRAD

<b>Click Value</b>	.....0.1 mrad /0.25 MOA
<b>Parallax Adjustment</b>	......25 m - ∞
<b>Eye Relief</b>	.....64-78 mm/2.52-3.7 in
<b>Exit Pupil Diameter</b>	......5x: 9.9 mm
	......20x: 2.6 mm
<b>Diopter Range</b>	.....+/-2.5
<b>Field of View</b>	......5x: 20 ft
	......20x: 5.3 ft
	......5x: 6.1 m
	......20x: 1.62 m

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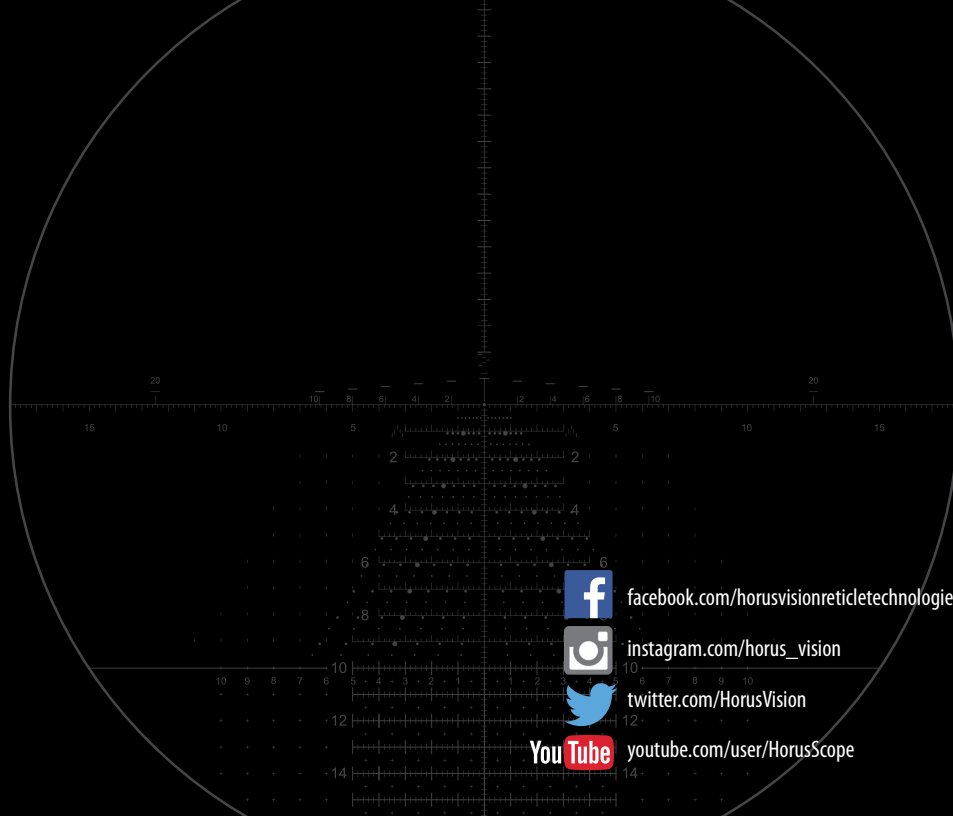


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