ELEMENT



HELIX HD COMPACT
2-12x42

OWNER'S MANUAL
& RETICLE INFORMATION

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MEET THE HELIX HD COMPACT

The HELIX HD COMPACT is a versatile hunting optic designed with form, clarity and reliability in mind. The 2-12 HD optical system provides a broad zoom range for close to intermediate distances, and the RAPTR-1F reticle with fiber optic illumination ensures a crisp, uncluttered image for targeting in a variety of light conditions and ranges. Capped turrets keep critical components sealed and shielded, and as with all Element Riflescopes, our Platinum Warranty has you covered for life!



Your rifle system is only as good as its weakest point, and so mounting of a riflescope is a very critical process that requires time and precision. If you feel uncomfortable doing this yourself we suggest visiting a gunsmith, as incorrect mounting can cause many issues down the line.

Choosing Rings

The HELIX HD COMPACT requires 30mm rings. When purchasing rings for this riflescope, choose a quality product - Inferior rings may not align correctly and can damage your scope.

Ensure that your rings are the correct height above the bore & action for safe clearance and a comfortable cheek weld.

NEVER USE SCOPE SHIMS, as these can cause damage to your body tube and void your warranty. DO NOT torque the rings down using more than 18 in-lbs (2 NM) of force, as this can also cause damage to the body tube or affect internal components.

Element Accu-Lite or XT Mounts are available for this product in a variety of heights and mounting options.

Alignment & Eye Relief

1) When fitting the riflescope to your rifle, ensure that the rings are firmly attached to the rifle BEFORE you tighten the top screws down.

2) With the riflescope in place, torque the screws down until you begin to feel some resistance, but make sure you are still able to move the riflescope back and forth.

3) Get behind the rifle in a shooting position and move the riflescope forward or backward until the eye relief is best suited to your position.

4) With the eye relief set, use a set of bubble levels or a plumbline to ensure that the riflescope is level. A canted reticle will cause point of impact drift to the left or right, and affect accuracy.

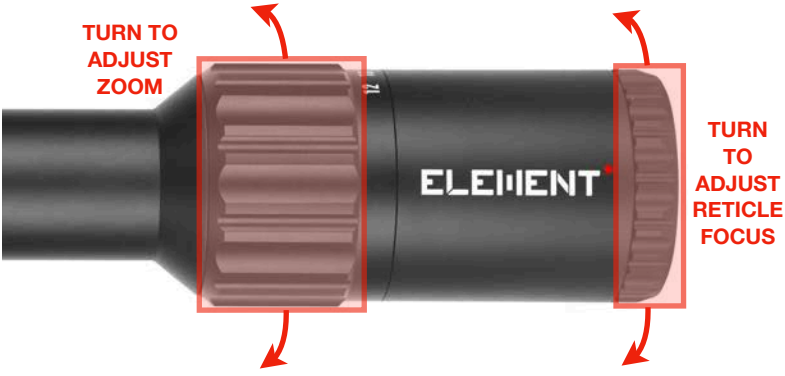


5) Once you are happy with the position of your riflescope, begin to torque down your rings in a criss-cross pattern, moving between screws and turning small amounts at a time. Use a torque of 15-18 in-lbs. This will ensure that the riflescope does not shift position while tightening.

Diopter - Focusing the Reticle

Everybody's eye is different, and the ocular lens will need to be adjusted for your eye in order for the reticle to appear in focus.

To do this, point the riflescope towards a blank or featureless background (i.e. a white wall or blue sky) and turn the ocular adjustment ring clockwise and counterclockwise until the reticle appears in optimum focus.



Adjusting Magnification

The HELIX HD COMPACT features a magnification of 2-12x, and can be adjusted using the magnification ring near the rear of the riflescope. The ring is marked with magnification powers from 2x up to 12x, and will line up precisely with the arrow on the ocular tube to indicate magnification. This model is in Second Focal Plane, which means that the subtensions of the reticle will change with respect to the target as magnification is changed - The reticle is calibrated at 8x, and reticle subtensions will be correct at this setting.

Your HELIX HD COMPACT will need to be zeroed after it has been fitted to your rifle. The first step is to remove the turret caps to expose the turrets.

Remove the Turret Caps

The HELIX HD COMPACT is fitted with turret caps that protect the turret mechanisms. Turn counterclockwise to remove.

Adjusting the Turrets

This riflescope has turrets that use Minutes of Angle (MOA). These are angular units of measurement. For in-depth information on these different units, see the guide on page 12 - But to keep things simple, this is all you need to know when zeroing: At 100yds, 1 click will move your point of impact 1/4"

-To move your Point of Impact UP, turn ANTI-CLOCKWISE on your ELEVATION TURRET.
-To move your Point of Impact DOWN, turn CLOCKWISE on your ELEVATION TURRET.
-To move your Point of Impact RIGHT, turn ANTI-CLOCKWISE on your WINDAGE TURRET.
-To move your Point of Impact LEFT, turn CLOCKWISE on your WINDAGE TURRET.

Boresighting

The HELIX HD COMPACT is optically zeroed at the factory, so it should be close to center when fitted. Even so, it is important to check that you are "on paper" to avoid frustration. Bore-sight your rifle to ensure that your reticle is roughly aligned before fine-tuning. If using an airgun or rimfire, shoot a large target at a close distance to check basic alignment.

Fine-Tuning your Zero

You will need to fine-tune your zero after bore sighting, and this is done by putting shots on paper at a set distance. You can then assess the point of impact and adjust the turrets to shift your POI (point of Impact) back to center.

We recommend taking a 3-shot group to confirm your zero before continuing to the next step. We recommend a zero distance of 100yds/m.



If you cannot boresight your rifle, start at a closer distance to get on paper, and then move out further to make precise adjustments.

Slipping your Turret back to Zero

Once zeroed, you may want to set your turret housings so that the "0" on your turrets line up with the indicator.



1) This is an extremely simple process with the HELIX HD COMPACT, which features tool-free turrets. Simply lift to disengage the outer turret from the internal mechanism. From here it can turn freely.
2) Line up the "0" on the turret housing with the indicator line and push it down into position. The teeth on the turret housing will match up with the teeth on the turret rod.
3) The turret is now reset to zero.



4) The windage turret can be reset in the same way.
5) Replace protective turret caps.

With your turrets set, you will now be able to use data from ballistics

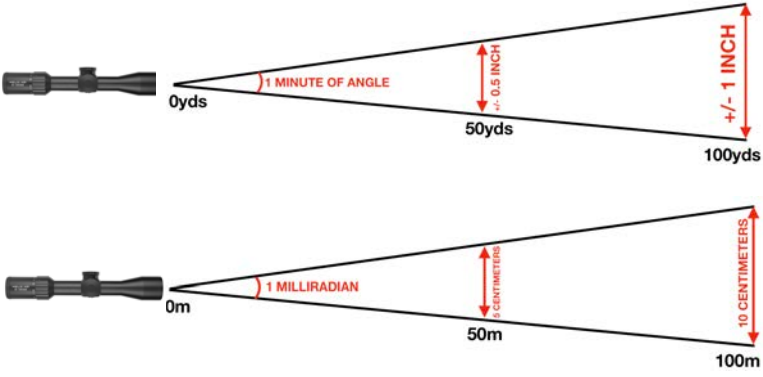


calculators and dial your turrets for long-range shooting instead of using reticle holdover if preferred.

While it is possible to use your riflescope without understanding how these systems work, it is best to know the basic concepts, as they are an integral part of "Shooting Education", and will help you get the best out of your riflescope.

The two units we use in the shooting world are Milliradians (MRAD or MIL for short) and Minutes of Angle (MOA for short). The concept behind these two is very similar: They are angular units of measurement, meaning they can be used at any distance to quantify the distance between turret clicks and reticle markings. Technically speaking, one MRAD = 1/1000 of a Radian, and one MOA = 1/60 of a Degree. But that doesn't help us.

In simple terms, ONE MRAD = 10cm at 100m, and ONE MOA = 1.047" at 100yds. This makes these two units very useful, because we can relate them to units of measurement we use every day.



Most riflescope turrets are divided up into smaller units for more precise adjustments. The HELIX HD COMPACT features 1/4 MOA click adjustments.

The 2-12x42 HELIX HD COMPACT features the RAPTR-1F Reticle.

RAPTR stands for RAPid TRajectory, and is a BDC (Ballistic Drop Compensation) reticle, which means that the hold marks are designed to align with a bullet's trajectory instead of with a specific set of angular units. The "F" in this variant denotes the Fiber Optic illumination.

With the IRIS being designed around the needs of hunters, we've designed the RAPTR-1F to be as simple and uncluttered as possible while providing hold data for Centerfire hunting cartridges that we expect most shooters to use.

If you don't plan to shoot much further than your zero distance, then you can simply ignore the hold points and use the center dot. However, if you do plan to use the hold markings, then there are a few things you should know:

1) Every hunting rifle/cartridge combination has a slightly different trajectory. Things like scope height, barrel length, muzzle velocity and even the weather can change the way the bullet drops, and therefore it is impossible to create a BDC reticle that perfectly matches the trajectory of every rifle.
2) If you are using a cartridge other than .308 Win (which the reticle was designed around), You can work out the distance that corresponds with each hold point and draw up your own drop card.
3) The WIDTH of the BDC Hashes correspond with a 5mph crosswind. Once again, this may not be exact for your cartridge every bullet is affected differently by wind, but these markings can be used as a baseline for your estimations.

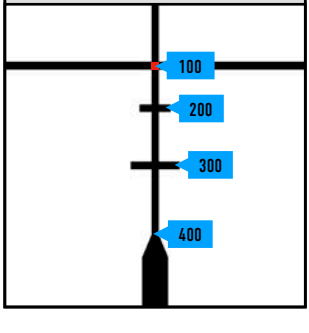
The RAPTR-1F Hold Marks are designed to correspond at 8x with the drop data for a .308 Winchester shooting a 168gr Bullet at 2600fps, at sea level. Of course, this is rather specific, but the spacings between each hash mark are such that they should still match pretty closely when using other centrefire cartridges with similar muzzle velocities.

For those who want to make use of the smart features of the holdover markings, here's what you need to know:

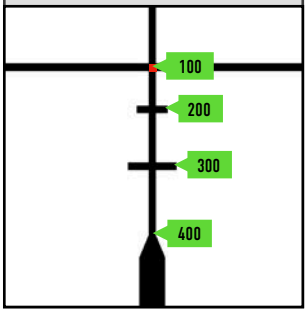
1) The hash marks below the reticle center are spaced to follow the trajectory of a rifle bullet, with the gap increasing each time to better match fixed distances (e.g. 200, 300, 400 Meters/Yds)
2) The width of these hash lines roughly indicate wind drift at these intercept points, assuming a 5mph crosswind at 90 degrees (halve the wind hold for a half value wind, etc)
3) Adjusting your magnification higher or lower changes the subtensions of the reticle relative to your target, allowing you to CALIBRATE your reticle to roughly match your bullet's trajectory.

Reticle Subtensions (8x)			
Distance (m)	200	300	400
Drop (MOA)	2.4	5.8	9.6
Windage (MOA)	0.9	1.4	NONE

.308 Winchester
168gr Soft Point
2600fps (792m/s)
8x Magnification



6.5 Creedmoor
143gr ELD-X
2700fps (823m/s)
10X Magnification



The HELIX HD COMPACT has a 11-step Fiber Optic illumination.

We use two types of illumination in our riflescopes: Reflective, and Fiber Optic. Reflective illumination is used on etched reticles where large parts of the reticle needs to be illuminated. This works by filling these parts of the reticle plate with a reflective material, and then shining a red light on the entire reticle. The reflective parts illuminate, allowing the shooter to see them in darkness.

Fiber Optic illumination can only be used to illuminate a single point of light. A physical optical fibre is run behind the reticle, and terminates in the center of the crosshairs. This allows all the light to be directed to a single point, and provides a crisp, focused and bright point of light that is generally easier to see than a reflective-style illumination.



Each illumination type has its strengths and weaknesses, but for this model, fiber optic was the obvious choice. The 11 brightness settings can be cycled through using the dial on the left hand side of the riflescope. This illumination system uses a CR2032 battery, which can be found at most hardware stores.

As shooters, we know that there is nothing worse than being let down by your equipment. We have made every effort to build a rugged, reliable product that will not break under any normal circumstances, and have implemented some of the strictest quality control measures in the industry. However, we know that things can go wrong, and therefore ALL ELEMENT Riflescopes are covered by our PLATINUM LIFETIME WARRANTY. This includes lifetime cover for any riflescopes damaged through normal use, and requires no registration, proof of purchase or transfer. If you have a problem, we will fix it - It's that easy!

For any warranty claims, please contact support@element-optics.com or complete a claim form on our website.



The Element Optics PLATINUM LIFETIME WARRANTY applies to riflescopes only, and does not cover accessories. Theft, loss, deliberate damage and cosmetic damage that does not hinder the operation of the riflescope is not covered. If your product can not be repaired and a replacement model is no longer in production, a model of equal value will be substituted. For more details, visit www.element-optics.com/warranty

RECORD YOUR DROP DATA HERE:

CARTRIDGE: _____		BULLET: _____	
MV: _____		TEMP:_____ ALT: _____	
SCOPE HEIGHT:_____			
ZERO	HASH 1	HASH 2	BASE

CARTRIDGE: _____		BULLET: _____	
MV: _____		TEMP:_____ ALT: _____	
SCOPE HEIGHT:_____			
ZERO	HASH 1	HASH 2	BASE

CARTRIDGE: _____		BULLET: _____	
MV: _____		TEMP:_____ ALT: _____	
SCOPE HEIGHT:_____			
ZERO	HASH 1	HASH 2	BASE

SPEC SHEET

MAGNIFICATION RANGE	2-12x	
TUBE DIAMETER	30mm	
OBJECTIVE LENS DIAMETER	42mm	
EXIT PUPIL	9.5-3.5mm	
EYE RELIEF	97mm (3.8")	
FIELD OF VIEW	63ft -10.5ft@100yds (21-3.5m@100m)	
CLICK VALUE	1/4 MOA (25 MOA / REV)	
ELEVATION ADJUSTMENT RANGE	135 MOA	
WINDAGE ADJUSTMENT RANGE	135 MOA	
PARALLAX	FIXED 100yd	
LENGTH	12.5"	318mm
WEIGHT	21.7oz	615g

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