16440 - ENDURANCE 30 FD 4.5-27x56

Mounting The Riflescope

Warning: Be sure that the firearm is not loaded. Always practise safe firearms handling. Always check that the diameter of the riflescope body tube matches the diameter of the riflescope rings that you wish to use. Always make sure that the base of the rings will fit your rifle. High recoil rifles may require rings fitted with a recoil stop pin.

1. Fix the rings to the rifle base – do not completely tighten.

2. Remove the ring tops and lay the riflescope into the rings. The riflescope should be mounted as low as possible without touching the barrel, rear sight, or the receiver.

3. Before tightening the rings, look through the riflescope in your normal shooting position. Adjust the riflescope (forward or backward) until you find the furthest point forward (to ensure maximum eye relief) that allows you to see a full field of view.

4. Rotate the riflescope in the rings until the reticle pattern is upright and the elevation turret is on top.

5. Tighten the base screws evenly, securing the mounts to the rifle base and tighten the ring top screws evenly on each side.

Warning: Avoid over tightening the rings. This can damage the riflescope affecting performance or rendering it inoperable.

16 in/lbs (1.33 ft/lbs, or 1.8 Nm) for ring top screws and 30 in/lbs (2.5 ft/ lbs, or 3.4 Nm) for ring base screws.

Warning: When installing a riflescope to a rifle with high levels of recoil, always

ensure that there is adequate eye relief. This will avoid eye injury.

Turret Adjustment

1. Before adjusting the turrets, you must first remove the windage and elevation caps to expose the turret adjusters. They will now click when rotated.

2. The turrets can then be adjusted until the point of aim matches the point of impact.

3. When a satisfactory zero is achieved, the turrets can be reset. To do this, loosen the screws on the top of the turret, rotate the turret cover to the “0” position, and then re-tighten the screws. The riflescope is now “zeroed”.

¼ MOA Turrets

Each click of adjustment is measured in MOA (Minutes Of Angle) on the target.

1 click = ¼ MOA = ¼ in at 100yds, or 7mm at 100m.

Therefore at different ranges, each ¼ MOA click of adjustment changes:
50yds = ![in, 100yds= ¼ in, 200yds = ½ in, 300yds = ¾ in.
50m = 4mm, 100m = 7mm, 200m = 15mm, 300m = 22mm.

Parallax Adjustment

To give the best accuracy all riflescopes should be parallax error-free at the required target distance. Most non-parallax adjustable

riflescopes are set at 100 yards (91 meters) to be parallax error-free. Any other distance can cause a parallax error; this will show itself as a movement of the reticle relative to the target when you move your eye position. Riflescopes with parallax adjustment allow the shooter to correct this error for any target distance.

After the zero-in process, we recommend that the parallax adjustment is checked. The riflescope has printed preset distance markings on the parallax adjuster, these are only a guide to get you started. Check the parallax markings by setting the riflescope on maximum magnification, then proceed to check the printed markings against known target distances. If required be prepared to re-mark the adjuster to your own personal settings.

Ocular Lens Adjustment

All Hawke riflescopes are fitted with an adjustable ocular focus, also known as diopter setting. To focus your eye characteristics to the riflescope, giving a crystal clear picture of the reticle, carry out the following adjustment:

1. With the riflescope set to roughly half magnification, hold the riflescope about three or four inches from your eye and look through the eyepiece at a blank, flatly lit, bright area such as a wall or open sky.

2. If the reticle is not sharply defined instantly, turn the eyepiece (either direction) a few turns. Quickly glance through the riflescope again. If the focus has improved, but is still not perfect, continue focusing.

3. If the focus becomes worse, turn it the opposite direction until correct.

Warning: Never look at the sun with a riflescope, it may permanently damage your eyes.

Zeroing – Rimfire & Centerfire Rifles

Pre Zeroing:

The Zero-Stop elevation turret has a built-in return to zero feature. This physical stop can be set after zeroing the riflescope so you can return to the same zero position without the need to count clicks and rotations. The turret can be rotated counter-clockwise and physically stops at ‘0’ when turning back clockwise. This allows you to dial out to further distances, but always return to zero. Note, the windage turret does not have a zero-stop feature.

Adjusting the Zero-Stop turret:

1. With the firearm in a steady rest position, open the action of the firearm and look along the bore to a predetermined target (at approximately 50 yards/meters).

2. Adjust the parallax setting to the 50 yard position (parallax adjustable models only). Set the magnification setting to an appropriate level for the distance.

3. Adjust the windage and elevation adjusters to position the reticle on the center of the target.

4. For windage adjustment, turn the windage adjustment turret clockwise to move the rifle’s point of impact left and counter clockwise to move the rifle’s point of impact right. In the same manner, adjust the elevation by turning the elevation adjustment clockwise to lower the rifle’s point of impact and counter clockwise to raise the rifle’s point of impact.

Note: If using adjustable ring mounts, make any necessary major adjustment with them, allowing for minor adjustment using the riflescope turrets. In certain shooting situations, such as long range bench rest shooting, when elevation adjustable rings are not available, the rings may have to be shimmed. We recommend using Hawke

Mount Inserts, these will prevent damage to the riflescope tube. Only final precision adjustment should be made with the riflescope's adjustment turrets.

Zeroing with Live Ammunition:

Warning: All shooting should be carried out at an approved range or other safe area. Eye and ear protection is recommended.

Final sighting-in of your rifle should be carried out with live ammunition, based on your preferred target distance.

Warning: If a bore sighting collimator or any other bore obstructing device was used, it must be removed before zeroing with live ammunition. An obstruction can cause serious damage to the rifle and possible injury to yourself and others nearby. Sighting in should be at the distance that you are normally going to shoot. On side focus models, the parallax should be set to this distance during the sighting in process.

1. Choose an appropriate magnification power for the target distance.

2. From a steady rest position fire three rounds at a target. Observe point of impact on the target and adjust windage and elevation turrets as needed to correct aim. For left/right adjustment, turn the windage turret clockwise to move the point of impact left and counter-clockwise to move the point of impact right. For up/down adjustment, turn the elevation turret clockwise to lower the point of impact down and counter-clockwise to raise the point of impact up. E.g. if the round has landed below where aimed, then the point of impact needs to be raised. This is done by adjusting the elevation turret counter-clockwise in the direction of "Up".

3. Repeat until point of aim and point of impact are the same.

Zeroing – Air Rifles

Zeroing can be done either manually or with a bore sighting collimator. If a bore sighting collimator is not available, it is recommended to zero manually.

1. For air rifles start by taking aim at a nearby target (at approximately 20 yards/meters).

2. On side focus models, the parallax should be set to this distance during the sighting in process.

3. Choose an appropriate magnification power for the target distance.

4. From a steady rest position fire three rounds at a target. Observe the point of impact on the target and adjust windage and elevation turrets as needed to correct aim and position the reticle on the center of the target. For left/right adjustment, turn the windage turret clockwise to move the point of impact left and counter-clockwise to move the point of impact right. For up/down adjustment, turn the elevation turret clockwise to lower the point of impact down and counter-clockwise to raise the point of impact up. E.g. if the round has landed below where aimed, then the point of impact needs to be raised. This is done by adjusting the elevation turret counter-clockwise in the direction of “Up”.

5. Repeat until point of aim and point of impact are the same.

Note: if the point of impact is significantly off target after firing your initial rounds, inspect the mounting of the riflescope to ensure it is not poorly aligned or positioned. If required try removing the riflescope from the mounts and mounts from the rifle and starting again. This may remove any error in initial mounting.

Second Focal Plane (SFP)

Second focal plane optical systems have their reticles positioned toward the eyepiece of the scope. The reticle pattern, as you see it, does not change size with alteration to the scope's magnification. This is useful, as it means the reticle pattern is not large and does not obstruct your view when on higher magnifications.

Each reticle is designed with its aim points calibrated on a specific magnification.

Illumination

The illumination rheostat is located on the side of the saddle.

High brightness settings are recommended for daytime use when ambient light is bright, this will allow the reticle to be visible against dark backgrounds. Note, highest brightness settings will produce an amount of glare that is visible when ambient conditions are not bright.

At times of low light such as dawn or dusk, a lower brightness setting is recommended. The lower settings may not be visible during bright daylight. Reticles are black in the off position or if the battery is flat.

All Hawke illuminated models use a CR2032 coin style lithium battery. To insert a battery, unscrew the battery compartment cap on the top of the rheostat adjustment turret and insert a new battery "+" side up.

Warning: Always hold onto the lower half of the rheostat when loosening or tightening the battery compartment cap to ensure no damage is done.

Maintaining your scope

Each Hawke scope is a precision instrument that deserves a high level of care. During manufacture the scope is purged with dry nitrogen and sealed to give a lifetime of reliability. Do not attempt to

disassemble or clean the scope internally.
Keep the protective lens covers in place when the scope is not in use.

The external lens coatings should occasionally be wiped clean with the lens cloth provided or an optical quality lens paper. Remove any external dirt with a soft brush to avoid scratching the lens.

Note: Unnecessary rubbing or use of a coarse cloth may cause permanent damage to lens coatings. To clean the external surface of the scope it is recommended that a silicone impregnated cleaning cloth is used to protect the scope.

Tips for safe storage:

• Always store in a moisture-free environment.

• Never store the scope in places such as the passenger compartments of vehicles on hot days, the high temperatures could adversely affect the lubricants and sealants.

• Avoid direct sunlight that can enter the objective or the ocular lens, damage may result from the concentration (burning effect) of the sun’s rays passing through the scope.

Sunshade

The sunshade can be attached to the riflescope by screwing it into the objective thread. Multiple sunshades can be combined to create a larger sunshade.

Zoom Lever

All models are supplied with a removable zoom lever for fast and precise adjustment of your riflescope magnification with minimum

effort. To install the zoom lever you must first remove the blanking screw in the zoom ring using the supplied 2mm Allen wrench.

Warranty

Hawke products are covered by our lifetime warranty. For full details and conditions or to make a claim please see hawkeoptics.com/warranty or contact your in-country distributor.

Please note: your proof of purchase should accompany any warranty claim.

Product Registration

You can register your purchase with us now at hawkeoptics.com/registration

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