

# Bushnell®



# BANNER® 2

*RIFLESCOPE OWNER'S GUIDE*



Congratulations on your purchase of a Bushnell® **Banner®2** riflescope! You are now the owner of one of the most well known, most reliable riflescopes in the industry. Bushnell maintains absolute product integrity and quality control throughout the entire design, production, and delivery cycle of these riflescopes.



**WARNING: NEVER LOOK AT THE SUN THROUGH THE RIFLESCOPE (OR ANY OTHER OPTICAL INSTRUMENT). IT MAY PERMANENTLY DAMAGE YOUR EYES.**

### **BANNER2 RIFLESCOPE FEATURES**

Bushnell® is constantly at the forefront of quality and value, and Banner®2 riflescopes are the next step in the revolution. Banner2 riflescopes are built with premium technology. Multi Coated Optics and waterproof construction offer crisp, bright images in every environment.

All Banner2 riflescope models feature:

- **CLARITY** - Excellent resolution and contrast in all lighting conditions
- **SECOND FOCAL PLANE** - Ensures accuracy at highest magnification
- **HIGH LIGHT TRANSMISSION** - Multi-coated optics provide a brighter image in every lighting condition.
- **VALUE** - Industry-best technology at an affordable price.

### **KEY ELEMENTS OF A SCOPE**

There are four major elements of a scope:

- 1. Objective Lens:** This lens has three functions. First, it permits light to pass into the scope. Second, it determines resolution. Generally, larger lenses allow more light to enter the scope and resolve details better than smaller ones. Finally, it forms an image for the other lenses to magnify to a usable size. The image formed by this lens is upside down.
- 2. Erector System:** The erector system serves three functions. Its primary function is to erect the image (that is, flips the image right-side up) and align it to the reticle. During this process, primary magnification of the image takes place. These two functions are the result of lens action.  
  
The third function is a mechanical one. The erector lenses are housed in a tube that is fixed at one end, while the other end of the tube is free to move and respond to dial adjustments. By moving the erector system, the point-of-aim of the scope is adjusted to match the point-of-impact of the bullet.
- 3. Reticle:** In simple terms, the aiming device around which the scope is built. This element replaces the iron sight system of non-scoped rifles.
- 4. Ocular or Eye Lens:** This element provides the secondary and final magnification of the image.

### **PARTS GUIDE**



## MOUNTING YOUR SCOPE

Your new scope, even with its technologically advanced design and features, will not perform at its best if not properly mounted. One of the most important contributing factors to the accuracy of your scope and rifle is the selection of the mount and the care with which mounting is done. Dependable mounts are included that attach your scope solidly to the rifle to provide dependability and consistent accuracy. The supplied mounts are compatible with all Weaver and most Picatinny style rails.

Remember, not all scopes are compatible with all mounts on all rifles. If there is any doubt in your mind, you should seek the advice of your local retailer or gunsmith.



**WARNING: A RIFLESCOPE SHOULD NEVER BE USED AS A SUBSTITUTE FOR EITHER A BINOCULAR OR SPOTTING SCOPE. IT MAY RESULT IN YOU INADVERTENTLY POINTING THE GUN AT ANOTHER PERSON.**

## PRELIMINARY SCOPE ADJUSTMENTS

Before installing the scope, we recommend you set the focus of the eyepiece to fit your individual visual requirement. Refocusing the ocular distance will result in a sharper reticle focus, an improved optical image, and will help to avoid eye fatigue when using the scope over prolonged periods of time. To refocus, hold the scope about 3 to 4 inches from your eye and point at the open sky or other flatly lit area such as a monotone painted wall.

Quickly glance into the scope. If the reticle appears blurred at first glance, it is out of focus. Turn the eyepiece clockwise or counter clockwise several turns. Glance into the scope again to check the sharpness of the reticle. Remember to take quick glances, as the eye will compensate for slightly out of focus conditions with prolonged looks. If the reticle still appears blurred, turn the eyepiece another two or three turns. Repeat this procedure until the reticle is sharp and clearly defined.

Unless your eyes undergo a significant change over the years, you will not have to make this adjustment again.

## ATTACHING A MOUNT, RINGS AND SCOPE TO YOUR RIFLE



**WARNING: BEFORE BEGINNING THE MOUNTING PROCEDURE, BE SURE THE ACTION IS OPEN, THE CLIP OR MAGAZINE IS REMOVED AND THE CHAMBER IS CLEAR. DO NOT ATTEMPT ANY WORK UNTIL YOUR FIREARM HAS BEEN CLEARED AND DETERMINED TO BE SAFE.**



**WARNING: IF THE SCOPE IS NOT MOUNTED FAR ENOUGH FORWARD, ITS REARWARD MOTION MAY INJURE THE SHOOTER WHEN THE RIFLE RECOILS.**

In mounting your scope, we recommend that you DO NOT take short cuts as it may lead to damage to either the mounting system or to the scope. Each mounting system will have its own instructions to follow, and it is best to read the instructions first to be sure you understand them and have the necessary tools on hand.

We further recommend that you plan to go through the mounting procedure twice. The first time, to be sure everything fits together and functions properly. On the first run through, please keep the following in mind:

- Before attaching the base, clean the mounting holes in the receiver and the threads of the attaching screws with acetone or any good solvent to free them of oil or grease.
- If the mount manufacturer has recommended the use of a thread adhesive, do not use it on the first mounting trial. Once adhesive has set, it is difficult to demount if anything needs correction.
- Be sure the mounting screws do not protrude into the receiver or the barrel.
- When using dovetail mounts, do not use the scope as a lever when installing the scope. The initial resistance to turning may cause damage to the scope, and is not covered by the warranty. We recommend using a 1" wooden dowel or metal cylinder to seat the rings.
- Be sure the position of the scope does not interfere with the operation of the action.
- Be sure there is at least 1/8" of clearance between the edges of the rings and any protruding surfaces such as the turret housing (saddle), power selecting ring, and the flare of the objective bell. Also be sure there is at least 1/8" of clearance between the objective bell and the barrel.
- You should test position the scope for the proper eye relief. The scope rings should be left loose enough so that the scope will slide easily. Variable power scopes should be set at the highest magnification when performing this procedure. Mount the rifle and look through the scope in your normal shooting position.
- Test position the rifle for the proper cheek weld a number of times to ensure that your scope is positioned properly.
- When you are satisfied that everything is okay, demount and start again. This time, seat all screws firmly. **CAUTION: Do not overtighten.** Recommended torque settings for the included mounting rings are 30-35 lbf\*in (*pound-force inch*) for the cross-bolts/lugs and 13-15 lbf\*in for the ring cap screws.

## PARALLAX

You may have noticed that placing your eye at different positions behind the scope's eyepiece causes the reticle crosshairs to appear to move around to different points on your target. This is called "parallax error" (target and reticle are not in the same focal plane), and it becomes more noticeable (and more of a problem) at shorter distances and/or when the scope is set to higher powers. In most cases, parallax will not affect bullet point of impact enough to be of significant concern in large game hunting situations. **Banner2** models with a high magnification setting greater than 9x (4-12x, 6-18x) provide an adjustment for parallax compensation (adjustable objective), which works by moving an optical element until the target (based on its distance) appears in the same plane of focus as the reticle. All **Banner2** 3-9x models are set at the factory to be parallax-free at 100 yards.

## USING THE ADJUSTABLE OBJECTIVE (*Parallax Compensation on High Power Models*)

The 4-12x and 6-18x models use a parallax compensation design which internally adjusts the position of the scope's objective lens ("adjustable objective" or "AO"). Just line up the estimated distance to your target with the index dot, and you will eliminate the aiming errors caused by parallax. After setting the adjustable objective, you can double check by moving your head around from side to side behind the eyepiece—the point of aim should not shift if the side focus is correctly set. An alternative method is to look through the scope and turn the AO until the target, at whatever range, is sharply focused.

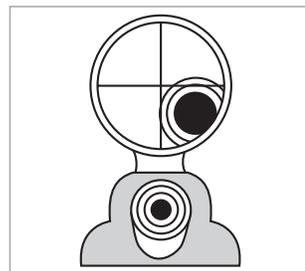
## PRELIMINARY SIGHTING-IN

You can save a significant amount of expense and frustration by pre-sighting the scope to the rifle before you take it to the range for zeroing.

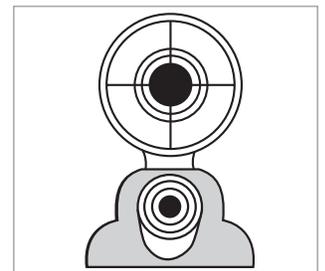
There are two basic methods that can be used for pre-sighting your scope. Method one is to use a Bushnell® Bore Sighter (laser, magnetic or standard). The use of a Bore Sighter saves time and ammunition and is the system most often used by gunsmiths. The second method is traditional bore sighting:

## BORE SIGHTING METHOD

1. Place a target at 25 to 50 yards.
2. Remove the bolt from the rifle.
3. Place the rifle on sandbags or a shooting rest.
4. Set the scope to its lowest magnification.
5. Peer through the bore from the receiver and adjust the position of the rifle to center the target bull's eye in the bore (*Fig. A*).
6. Without moving the rifle, look into the scope and note the position of the reticle on the target. Remove the caps from the windage and elevation adjustments. Adjust the windage and elevation adjustments to center the reticle on the bull's eye (*Fig. B*).



*Fig. A*  
Reticle not in alignment



*Fig. B*  
Reticle in alignment

## FINAL SIGHTING-IN



**WARNING: SINCE THIS PROCEDURE INVOLVES LIVE FIRE, IT SHOULD BE DONE AT AN APPROVED RANGE OR OTHER SAFE AREA. CHECK BORE FOR OBSTRUCTIONS. AN OBSTRUCTED BORE MAY CAUSE INJURY TO YOU AND OTHERS NEARBY. EYE AND EAR PROTECTION IS RECOMMENDED.**

1. From a steady rest position, fire two or three rounds at a 100-yard target. Note the impact of the bullet on the target and adjust the windage and elevation dials as needed.
2. To move the bullet impact, turn the windage and/or elevation adjustments in the direction on the dials that corresponds to where the impact point falls on the target (for example, if test shots are hitting low, adjust elevation "down"). The adjustments on your riflescope model are marked in MOA (minutes of arc), and the point of impact at 100 yards will change by 1/4 MOA for each click of the windage or elevation adjustment. One full revolution of the adjustment=15 MOA.
3. When the impact on the 100-yard target is satisfactory, switch to a target set at the desired distance for final zeroing. Set the magnification to the desired power on variable power models.

## THE DOA QUICK BALLISTIC RETICLE

The DOA QBR reticle in all Banner2 scopes gives hunters a series of aiming points that correspond to the ballistic trajectory of various centerfire rifle ammunition loads. These aiming (holdover) points allow hunters to expand their effective range. Designed to be used with today's most popular centerfire rifle cartridges, the DOA QBR reticle is intended to be sighted in at 100 yards, and provides aiming points at every 100 yd increment, out to 500 yds. The user can sight-in at 100 yds on any magnification setting, but for the ballistic reticle feature to function properly, the scope's magnification must be set to 9x, as the distance markings on the reticle are calibrated for that magnification.

### How To Use the DOA QBR Reticle:

1. Sight in at 100 yds on any magnification setting.
2. Determine distance to target. For the best accuracy in determining distance, utilize a Bushnell Laser Rangefinder (Prime™, Legend™ or Nitro™).
3. Set the scope's magnification to 9x on the power change ring.
4. Place the appropriate aiming point on the desired target. If the target is determined to be at 350 yds, hold directly between the 300 yd aiming point and the 400 yd aiming point.

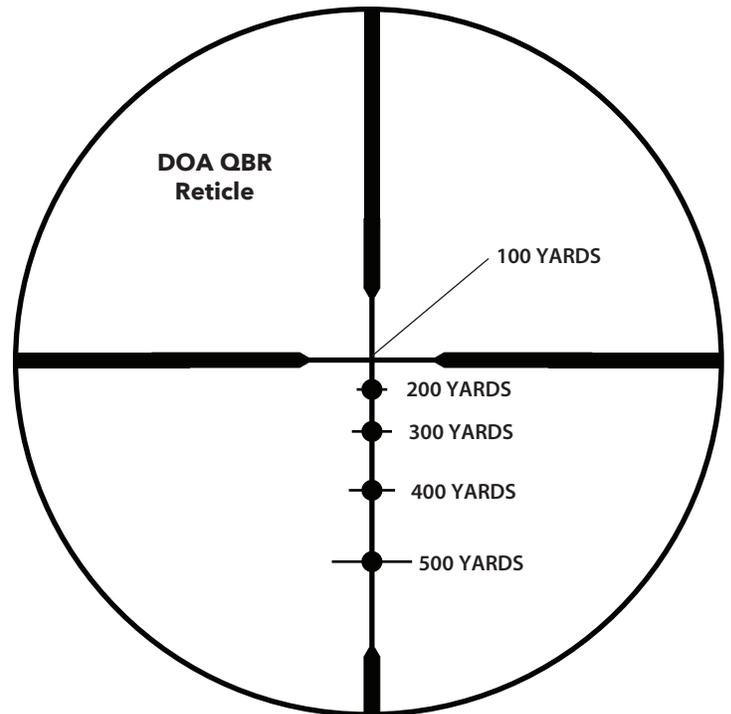
Bushnell would like to stress that these tools are only as good as the time spent practicing with them. Nothing can replace range time and becoming comfortable shooting at each of the prescribed yardages, while noting bullet placement with your specific combination of firearm and ammunition. Ballistic performance can vary depending upon a number of factors, including barrel length, powder type, bullet type, and numerous weather/atmosphere related variables.

The Bushnell Ballistics Application (powered by Applied Ballistics®) is available for your smartphone or tablet as a free download (via the App Store for iOS devices or Google Play for Android). It is a full-featured ballistics solver to use with your Bushnell rangefinders and riflescopes to calculate firing solutions. It allows you to use current atmospheric conditions to calculate the holds and display the ranges at each subtension on your reticle.

### ILLUMINATED RETICLE OPERATION/BATTERY REPLACEMENT (Models RB3940BS12 & RB6185BS12 only)

The DOA QBR reticle in these two models (see *Technical Specs, next page*) is illuminated. The illumination adjustment dial is located opposite from the windage adjustment. To increase the brightness, set the control to a higher number (opposite the white index dot). To turn off the illumination and when storing the scope, set the dial to any of the "Off" positions (dots) between each numbered illumination setting.

To replace the battery, remove the cap on the brightness adjustment control knob using a coin (see *photo, right*), and insert a CR2032 battery with the "+" mark facing up.



### The DOA QBR reticle is calibrated for the following ammunition loads:

.223 Win, 55 gr.	.7mm WSM, 150 gr.
.243 Win, 95 gr.	.30-06 Sprg, 150 gr.
.25-06 Rem, 115 gr.	.300 Winchester Mag, 180 gr.
.270 Win, 130 gr.	.300 WSM, 180 gr.
.270 WSM, 150 gr.	.338 Win, 200 gr.
.7mm Rem Mag, 150 gr.	

**It is always recommended to test your preferred ammo at all ranges to verify its performance.**

### ALTITUDE AND TEMPERATURE

Ballistic charts published by ammunition manufacturers are based upon standard sea level conditions. When sighting in, it is well to keep in mind that altitude and temperature affect trajectory. It is best to sight-in under the same conditions in which you will be hunting.

## Technical Specifications

SKU	Mag x Obj. Diam.	Reticle	Turrets	Elev. Travel (MOA)	Travel per Revolution	Parallax Adjustment	Min. Parallax (Yards)	Eye Relief, Max Mag.	Field of View @ 100 Yds (Feet)	Length (inches)	Weight (oz)
RB3940BS11	3-9x40	QBR	Capped	30/30	15	Fixed	100	3.5"	37.5-12.2	12.3	14.8
RB3940BS12	3-9x40	Illuminated QBR	Capped	30/30	15	Fixed	100	3.6"	38-13	12.2	15.3
RB3950BS11	3-9x50	QBR	Capped	30/30	15	Fixed	100	3.5"	34-10	13.5	16.9
RB4124BS11	4-12x40	QBR	Capped	30/30	15	Adj Obj	10	3.3"	27-9	13.4	17.8
RB6185BS11	6-18x50	QBR	Capped	25/25	15	Adj Obj	10	3.9"	17-6	13.0	21.2
RB6185BS12	6-18x50	Illuminated QBR	Capped	25/25	15	Adj Obj	10	3.9"	18-6	13.1	21.8
RB6394BS11*	3-9x40	QBR	Capped	30/30	15	Fixed	100	5.1"	32-11	12.09	14.8

\* Long eye relief model for muzzleloaders

### CARING FOR YOUR RIFLESCOPE

Your scope needs very little maintenance. Exterior metal surfaces should be kept clean. A light dusting with a slightly dampened soft cloth is enough in most cases.

Your new scope features windage and elevation turrets that are completely sealed against water intrusion. However, we recommend that you keep the windage and elevation caps on the turrets, except when making adjustments, to prevent dust and dirt from collecting in the turret area.

We also recommend that lens covers be kept in place when the scope is not being used. Lenses should be inspected regularly and kept clean at all times. Dust, dirt, and fingerprints that collect on the lens surfaces will severely degrade image quality, and if left unclean for long periods, the anti-reflection coating could be damaged. Although lens cleaning is not difficult, it does require care and some patience.

- Start with a lens brush or a small, soft bristle paintbrush. Gently whisk away loose dirt particles.
- Next, use an ear syringe or bulb aspirator (available in most drug stores) to blow remaining dirt or dust from lens surfaces.
- If further cleaning is needed, use a dry, soft lint-free cloth. Very gently wipe the lens, starting at the center using a circular motion, then working outward to the edge.
- If this has not corrected the problem repeat the process using condensation from your breath.

### DO YOU NEED TO SEND YOUR SCOPE TO US?

Before returning your scope for service, you should check the following points to make sure the problem is with the scope:

- Check the mounting system and rings for looseness or misalignment.
- Check to be sure the barrel and action are properly bedded and all receiver screws are tight.
- Check to be sure the mounting system allows sufficient clearance between the objective bell and the barrel.
- Check to be sure you are using the same type and weight ammunition that you used for sighting-in.



NO RECEIPT  
REQUIRED



FULLY  
TRANSFERABLE



WORKMANSHIP  
COVERED



MATERIALS  
COVERED

### COVERAGE YOU CAN COUNT ON

All Bushnell products are engineered to deliver to your expectation and manufactured to withstand the rigors of the outdoors for the lifetime of the product. In the event that our product fails you, we will stand behind it and repair it at no cost to you. If we can't repair it then we will replace it with a product of equal or better value. No receipt required and fully transferable.

All Bushnell® products carry a product lifetime warranty against defects in workmanship or materials. Product lifetime is defined as 30 years for riflescopes, 20 years for binoculars and spotting scopes, 5 years for electro-optics (laser rangefinders, red dot sights, reflex sights, speed gun radars, night vision, GPS) and electronic components (illuminated reticles) and 2 years for trail cams. Coverage period start date is determined by proof of purchase or manufacturing date of the product. This warranty does not cover cosmetic damage; damage caused by failing to properly maintain the product; loss; theft; damage as a result of unauthorized repair, modification, or disassembly; intentional damage, misuses, or abuse. This Warranty will be void if the date stamp or other serialization codes have been removed from the Product. We may replace your product with a product of equal or better physical condition.

To view the full warranty and download the details of the warranty, click this link: <https://www.bushnell.com/bu-warranty.html>  
To submit a repair request or check the status of a repair ticket: <https://service.bushnell.com/s/>

Alternatively, you can request a copy of the warranty by calling us at 1-800-423-3537 or writing to us at one of the following addresses:

IN U.S.A. Send To:

Bushnell Holdings, Inc.  
Attn.: Repairs  
9200 Cody  
Overland Park, Kansas 66214

IN CANADA Send To:

Bushnell Holdings, Inc.  
Attn.: Repairs  
140 Great Gulf Drive, Unit B  
Vaughan, Ontario L4K 5W1  
Canada

For products purchased outside the United States or Canada, please contact your local dealer for applicable warranty information.

This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.

We warrant that during the warranty period, with proper use and care, the product will be free from defects in materials and workmanship and will meet represented performance standards as defined by the warrantor in its sole discretion.

The remedies described herein are your sole and exclusive remedies and our entire liability for any breach of this warranty. Our liability shall under no circumstances exceed the actual amount paid by you for the defective product, nor shall we under any circumstances be liable for any consequential, incidental, special or punitive damages or losses, whether direct or indirect.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

Our responsibility for defective goods is limited to repair or replacement as described in this warranty statement.



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