

**Night Owl Optics®**

NIGHT VISION



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## How to Care for your Night Vision Device

If you intend to store your unit for more than 24 hours, it is best to remove the batteries.

Keep the unit in a cool, dry place.

Clean lenses the same way you would your camera, with professional lens cleaning supplies.

The lenses are optically coated and may be scratched if abrasive material is used or if dirt is rubbed into the glass. Do not touch lens surface with fingers.

Do not drop or expose to shock. The Intensifier Tube is made of glass.

Do not disassemble or attempt to service the device. The power supply generates 17,000 volts inside!

If your device needs repair, please refer to your warranty card.

Do not leave inside car on a hot, sunny day.

Clean exterior with a soft, clean cloth.

If condensation is visible on the unit, return it to a normal temperature and wait until the condensation disappears before using.

## Product Specifications



	<b>NONB2FF</b> Fixed Focus	<b>NOB3X</b> Central Focus	<b>NOB5X</b> Central Focus
<b>GENERATION</b>	1	1	1
<b>MAGNIFICATION</b>	2.0X	3.0X	5.0X
<b>POWER SUPPLY</b> (not included)	1: CR-123 3V Lith	1: CR-123 3V Lith	1: CR-123 3V Lith
<b>WEIGHT</b> (with out battery)	25.3 oz. 759 g	30.6 oz. 918 g	38.8 oz. 1164 g
<b>DIMENSIONS</b>	5.9x5.8x2.9 in 150x147x74 mm	6.7x5.8x2.5 in 170x147x64 mm	7.8x5.8x2.9 in 198x147x74 mm
<b>OBJECTIVE LENS</b>			
<b>LENS DIAMETER</b>	24 mm	42 mm	50 mm
<b>ANGULAR FIELD OF VIEW</b>	30°	19.7°	15°
<b>FOV@200 ft / 64.4m</b>	106 ft. 32.2 m	70 ft. 21.2 m	53 ft. 16.1 m
<b>MINIMUM FOCUS RANGE</b>	16.5 ft	6.6 ft	6.6 ft

## In a DARK environment:

**Step 6** In the dark, remove LENS CAP.

**Step 7** Do NOT rotate EYEPIECE. No OBJECTIVE LENS rotation is necessary.

You have already adjusted the EYEPIECE to your individual eyesight. This binocular is a fixed focus field view binocular, no focusing for distance is needed.

**Step 8** Click on the INFRARED button.

A beam of infrared light, invisible to the human and animal eye, provides extra illumination.

**For technical assistance, call our customer service line at 1-800-444-5994.  
If you have any problems, call before returning the product to the store where purchased.**

## Image Quality

The image you see through a Night Vision device is VERY DIFFERENT from the image observed using day-time binoculars. A Night Vision image is electronically amplified and then reproduced on a phosphorus screen and therefore not as "clear" as a day-time binocular image.

Light and dark marks (spots) caused by the Electronic Intensifier Tube can be seen in the field of view. These are normal and are not defects in the Electronic Intensifier Tube.

Image sharpness is also not consistent across the field of view. The image has very high resolution in the center. The image becomes more distorted toward the periphery of the image. Due to our sophisticated corrective optics, the amount of distortion in your Night Vision device is less than the distortion found in other Night Vision devices.



## Typical Image Appearance

Use of the Infrared Illuminator in a closed room, or at close range, will exaggerate the light and dark spots on the Electronic Intensifier Tube. The Infrared Illuminator, although invisible to human and animal eyes, is very bright at close range when viewed through the device. This bright light exaggerates the spots on the Electronic Intensifier Tube. Testing your Night Vision device indoors with the Infrared Illuminator, at close range, is not representative of the performance of the device in its intended outdoor application.

# Performance under Various Light Conditions

## Complete Darkness

Your Night Vision device works by amplifying available natural light. In complete darkness, with no available natural light, you cannot see without the use of the Infrared Illuminator (IR). The IR works like a flashlight, but is invisible to human and animal eyes.

## Half-Moon

tial amount of ambient light to be amplified by the internal Electronic Intensifier Tube. Without the assistance of the IR, you can recognize a man-sized object about 100 yards away.

## Quarter-Moon

A quarter-moon provides the minimal amount of ambient light to allow viewing unassisted by the IR. Without the IR illuminated, a man-sized object can be recognized about 60 yards away. With the IR illuminated, this distance is more than 100 yards. The IR will greatly improve target recognition.

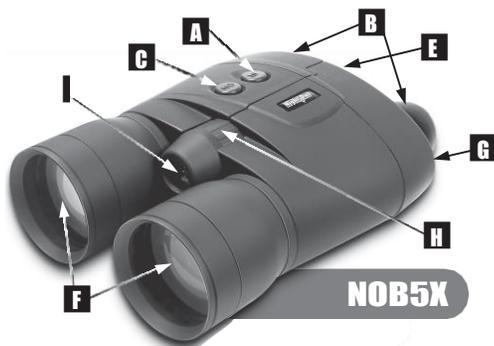
## Urban Environment (with man-made light sources)

Streetlights and headlights will generally not damage the Electronic Intensifier Tube, if a safe distance away. As a precaution, do not point the device directly into a light source. At a distance of more than 30 yards, most common man-made light sources will generally not damage the device.



## MODEL FEATURES

- A** Power Control
- B** Eyepieces
- C** Infrared Illuminator Control
- D** Infrared Illuminator
- E** Battery Compartment
- F** Objective Lenses
- G** Low Battery Indicator
- H** Focus Adjustment Knob



## Troubleshooting

Unit may require several seconds after power-on for image to appear. This is normal.

### Focus Problems

Try in lighted environment with lens cap on.

Are you able to focus the eyepiece?

- YES - Use in dark with lens cap off but do not rotate eyepiece.
- NO - Call our Customer Service Line

### Unit does not turn on.

Light does not illuminate when button is pressed.

- Check to see if batteries are installed correctly
- No batteries or Dead batteries
- Power light on, but no image
- Unit could be defective, call our Customer Service Line

### Image is too dark

- Use the Infrared (IR) Illuminator
- Take off the lens cap

### Projected image is dim.

- Batteries are low – insert new batteries

## How Night Vision Works

Light coming into the device from the direction of the object is gathered by the objective lens and focused onto the Image Intensifier Tube.

The front of the Image Intensifier Tube contains a photocathode which converts light into electrons.

The device contains a very high voltage power supply, which converts the 3 volts supplied by the batteries into 17 kilovolts.

The high voltage hurls the electrons into the phosphorous screen. The phosphorous screen illuminates with an image when struck by electrons. The eyepiece optic then focuses the phosphorous screen image to your eye.

