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Pro Sport 850
Laser Rangefinder

Code: 431540

Operating Instructions

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Pro Sport 850
Laser Rangefinder

Congratulations on your purchase of the Bushnell Sport 850 Laser Rangefinder. The Sport 850 is a precision laser rangefinding optical instrument designed to provide many years of enjoyment. This booklet will help you achieve optimum performance by explaining its adjustments and features as well as how to care for this device. To ensure optimal performance and longevity, please read these instructions before using your Sport 850 laser rangefinder.

HOW OUR DIGITAL TECHNOLOGY WORKS

The Sport 850 emits invisible, eye safe, infrared energy pulses. The Sport 850's Advanced Digital microprocessor and ASIC chip (Application-Specific Integrated Circuit) results in instantaneous and accurate readings every time. Sophisticated digital technology instantaneously calculates distances by measuring the time it takes for each pulse to travel from the rangefinder to the target and back.

RANGING ACCURACY

The ranging accuracy of the Sport 850 is plus or minus one yard/metre under most circumstances. The maximum range of the instrument depends on the reflectivity of the target. The maximum distance for most objects is 600yds/549m while for highly reflective objects the maximum is 850yds/777m.
Note: You will get both longer and shorter maximum distances depending on the reflective properties of the particular target and the environmental conditions at the time the distance of an object is being measured.
The colour, surface finish, size and shape of the target all affect reflectivity and range. The brighter the colour, the longer the range. White is highly reflective, for example, and allows longer ranges than the colour black, which is the least reflective colour. A shiny finish provides more range than a dull one. A small target is more difficult to range than a larger target. The angle to the target also has an effect. Shooting to a target at a 90° angle (where the target surface is perpendicular to the flight path of the emitted energy pulses) provides good range while a steep angle on the other hand, provides limited ranging. In addition, lighting conditions (e.g. the amount of sunlight) will affect the ranging capabilities of the unit. The less light (e.g. overcast skies) the farther the unit's maximum range will be. Conversely, very sunny days will decrease the unit's maximum range.

GETTING STARTED

INSERTING THE BATTERY

Remove the battery cap by lifting the battery door tab and then rotating counter clockwise. Insert a CR2 3V Lithium battery into the compartment positive end first, then replace the battery cap.
NOTE: It is recommended that the battery be replaced at least once every twelve months.

OPERATIONAL SUMMARY

While looking through the 4x eyepiece, depress the power button once to activate the in-view Liquid Crystal Display (LCD). Place the aiming circle (located in the centre of the field of view) upon a target at least 5 yards away, depress and hold the power button down until the range reading is displayed near the bottom of the in-view display. Crosshairs surrounding the aiming circle indicate that the laser is being transmitted. Once a range has been acquired, you can release the power button. The crosshairs surrounding the aiming circle will disappear once the power button has been released (i.e. the laser is no longer being transmitted). Note: Once activated, the LCD will remain active and display the last distance measurement for 30 seconds. You can depress the power button again at any time to distance to a new target. As with any laser device, it is not recommended to directly view the emissions for long periods of time with magnified lenses. The maximum time the laser is transmitted (fired) is 10 seconds. To re-fire, press the button down again.

OPTICAL DESIGN

The Sport 850 features a Perma Focus monocular optical system for viewing your target. A liquid crystal display (LCD) is mounted within the optical system and when activated, displays unit of measure, a reticle for targeting, when the laser is actively firing, when a target has been acquired and low battery indicators. Inherent in the manufacturing process are small black spots that appear in the optical system. These are a natural characteristic of the LCD and cannot be fully eliminated in the manufacturing process. They do not affect the distancing performance of the unit. A summary of these features is presented below.

UNIT OF MEASURE OPTIONS

The Sport 850 can be used to measure distances in yards or metres. The unit of measure indicators are located in the lower right portion of the LCD. To select between yards and metres, the unit should be off. While looking through the eyepiece, press and hold the POWER button down for approximately 5 seconds. During this time all liquid crystal segments and icons will be displayed. As you continue to depress the power button, the display will toggle back and forth between Yards and Metres. Once the unit of measure desired is displayed, simply release the power button. The device will return to the last unit of measure setting used each time the unit is turned on.

RETICLE FOR TARGETING OBJECTS

Place the aiming circle (located in the centre of the field of view) upon a target at least 5 yards away, depress and hold the power button down until the range reading is displayed near the bottom of the in-view display.

ACTIVE LASER

Crosshairs surrounding the aiming circle indicate that the laser is being transmitted. Once a range has been acquired, you can release the power button. The crosshairs surrounding the circle will disappear once the power button has been released (i.e. the laser is no longer being transmitted).

BATTERY LIFE INDICATOR

Battery indicator: Within the display is a battery icon

Full charge 

2/3 battery life remaining 

1/3 battery life remaining 

Battery indicator blinks - battery needs to be replaced and unit will not be operable.

SPECIFICATIONS:

Dimensions:	35 x 74 x 97mm
Weight:	170g
Ranging accuracy:	±1yd
Range:	5 - 850yds / 5 - 777m
Magnification:	4x
Objective diameter:	20mm
Optical coatings:	Fully coated
Display:	LCD
Power source:	3V Lithium (included)
Field of view:	430ft @ 1000yds
Extra long eye relief:	17mm
Exit pupil:	5.0mm

RainProof
Includes battery and carry case

CLEANING

Gently blow away any dust or debris on the lenses (or use a soft lens brush). To remove dirt or fingerprints, clean with a soft cotton cloth, rubbing in a circular motion. Use of a coarse cloth or unnecessary rubbing may scratch the lens surface and eventually cause permanent damage. For a more thorough cleaning, photographic lens tissue and photographic-type lens cleaning fluid or isopropyl alcohol may be used. Always apply the fluid to the cleaning cloth - never directly on the lens.

TROUBLESHOOTING TABLE

If the unit does not turn on - LCD does not illuminate:
• Depress the POWER button.
• Check and, if necessary, replace battery.

If the unit powers down (display goes blank when attempting to power the laser):
• The battery is either weak or low quality. Replace the battery with a good quality 3V Lithium battery.

If target range cannot be obtained:
• Make sure LCD is illuminated
• Make sure that the power button is depressed
• Make sure that nothing, such as your hand or finger, is blocking the objective lenses (lenses closest to the target) that emit and receive the laser pulses
• Make sure unit is held steady while depressing power button

NOTE: The last range reading does not need to be cleared before ranging another target. Simply aim at the new target using the LCD's reticle, depress the power button and hold until new range reading is displayed.

Specifications, instructions and the operation of these products are subject to change without notice.