

MRF™ Finder Instructions

The Burgess Optical/TMB MRF™ finder is a single-power red-dot type finder adapted for mounting on telescopes and binoculars of all types. Features include four different reticules, seven levels of brightness control, and a light weight and compact design. The MRF™ finder has a precision ground reflex lens with minimal parallax. Included with the MRF™ finder is a base that allows the MRF™ finder to be easily removed and stored.

The MRF™ finder is used with both eyes open and one eye directly behind the MRF™ finder. One of four red reticules is superimposed on the sky, and the telescope is aimed by moving the telescope until the red dot of the reticule is superimposed on the target.

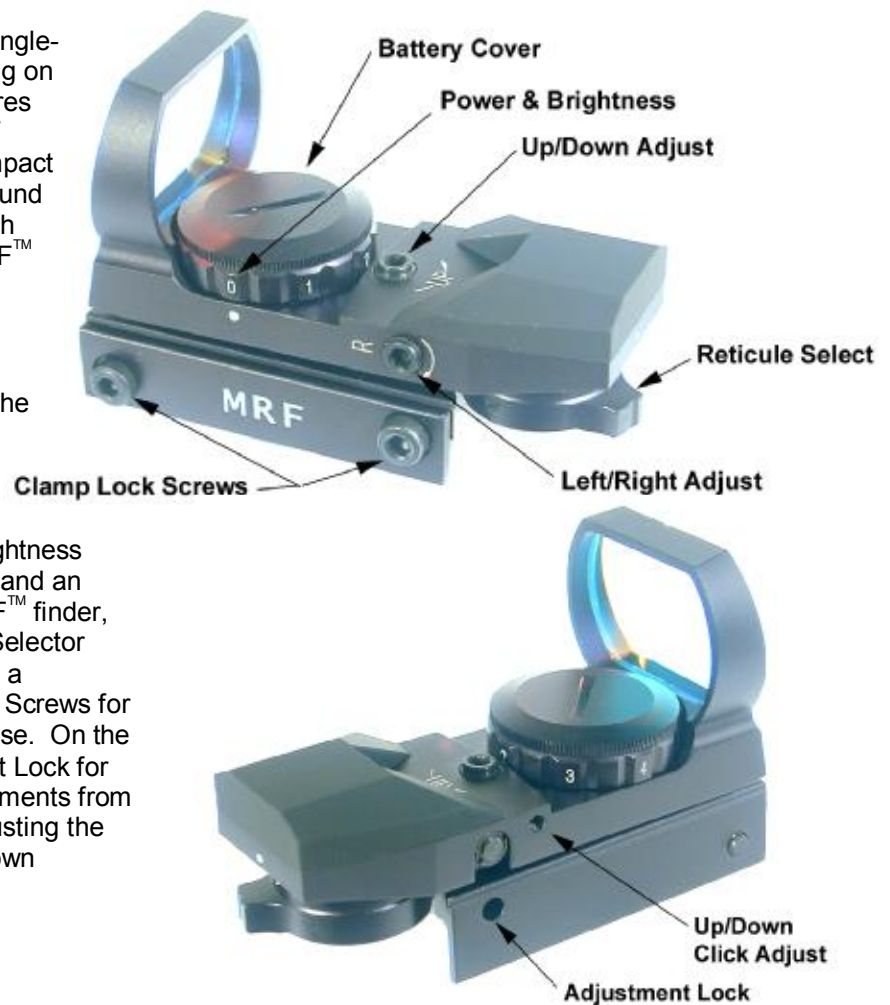
On the top of the MRF™ finder is a Power/Brightness Switch, which is topped with a Battery Cover, and an Up/Down Adjustment. On the rear of the MRF™ finder, and accessed from the bottom, is a Reticule Selector Switch. On the left side of the MRF™ finder is a Left/Right Adjustment and two Base Securing Screws for attaching the MRF™ finder to the mounting base. On the right side of the MRF™ finder is an Adjustment Lock for preventing the Up/Down and Left/Right adjustments from moving, and an Up/Down Click Adjust for adjusting the amount of click feedback when making Up/Down adjustments.

Use and Operation

First, turn on the MRF™ finder by rotating the Power/Brightness Switch. The Off position is as pictured with the 0 on the switch aligned with the white dot. The switch has click stops at the seven Brightness settings and the Off position. Turn the power/brightness control until the desired brightness of the reticule is reached. A setting of 1 is the dimmest setting suitable for night use.

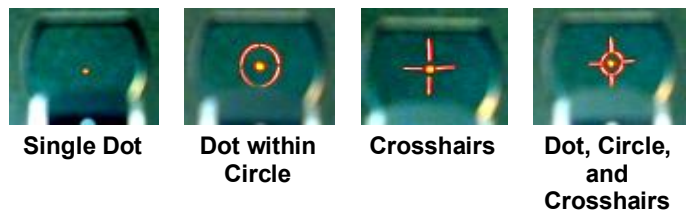
Second, rotate the Reticule Selector until the desired reticule is displayed. Lastly, it is a good practice to verify that the MRF™ finder is aligned with the telescope each time the MRF™ finder is attached to the telescope.

Keep both eyes open and position one eye at a comfortable distance behind the MRF™ finder. The eye behind the finder will see the reticule pattern superimposed upon the view seen by the other eye. Eye placement behind the MRF™ finder is not critical because the finder has very little parallax, that is, the reticule remains superimposed on the same part of the sky as the eye moves behind the MRF™ finder. The telescope is moved until the center dot overlays the object to be viewed.



Reticules

Any one of four different reticules can be selected. Illustrated below are the four reticule patterns: a single dot, such as those found with traditional red-dot finders, a dot within a circle, crosshairs, and a dot within a circle with crosshairs. To select one of the reticules, rotate the Reticule Selector Knob until the desired reticule is displayed. Remember to adjust the Brightness Switch to ensure that the reticule is visible.



The reticules do not have a fixed size when viewed with the stars as a background. The apparent diameter of the reticule varies with the distance between your eye and the finder, with the reticule getting larger as the eye moves further away from the finder.

Mounting

The MRF™ finder easily attaches to a telescope with the included flat, dovetail mounting base. The MRF™ finder has two Clamp Lock screws that, when loose, allow the MRF™ finder to slide onto the dovetail mounting base. After the MRF™ finder is positioned on the mounting base, the Clamp Lock screws are tightened with the supplied 3mm hex wrench to lock the finder to the base.



Additional mounting bases can be ordered. The mounting base can be attached to a flat surface of the telescope in a convenient location with either the included strip of double-sided tape or the included flat-head screws. The base can be permanently attached by using an adhesive, such as an epoxy.

Refractors often have the finder mounted on the focuser, although many users prefer the finder forward of the focuser. To attach the base to an OTA mounting ring, use the double-sided tape on a flat surface of the ring.

To mount the MRF™ finder on a pair of binoculars, attach the mounting base with the included double-sided tape. Alternatively, the base can be screwed to a Burgess Z-Bracket using the Z-Bracket screws.

To remove the base attached with double-sided tape, stretch a length of dental floss or fishing line tight and slide it under the base with a slight sawing motion. The base should easily separate from the telescope. Clean any adhesive residue from the telescope and base. **CAUTION:** Exercise care when using liquid solvents around optical equipment.

Specifications:

Dimensions	1-1/2" W x 3-1/8" L x 2-1/8" H 36mm W x 80mm L x 54mm H	Weight	4 oz. 115 grams
Material	All metal (aluminum) with plastic lens cap	Battery	CR2032
Aperture	1-5/16" W x 7/8" H 33mm W x 20mm H		
Controls	Power/Brightness, Reticule Selector, Up/Down Adjust, Left/Right Adjust, Adjustment Lock		
Reticules	Single dot, Dot within a circle, Crosshairs, Circle with crosshairs and dot		
Brightness	Adjustable with 7 levels		
Contents	MRF™ finder, lens cap, two hex wrenches: 1.5 & 3mm, battery, cleaning cloth, flat base, double-sided tape, two mounting screws		

Aligning the MRF™ finder

The MRF™ finder has an Up/Down Adjustment (Labeled UP with an arrow) and a Left/Right Adjustment (labeled R with an arrow). The Up/Down Adjustment moves the reticule up and down and the Left/Right Adjustment moves the reticule left and right, when viewing the reticule from behind the finder.

Caution: Before aligning the MRF™ finder, ensure that the Adjustment Lock is loosened. Use the supplied 1.5mm hex wrench to loosen the setscrew on the right side of the finder. For astronomical use, the Adjustment Lock is not necessary, and the setscrew can remain loose, allowing the MRF™ finder to be freely aligned.

Use the supplied 3mm hex wrench to make adjustments to the Up/Down Adjustment and to the Left/Right Adjustment. Both adjustment screws have a click stop adjustment, with each click moving the reticule approximately one minute of angle.

To align the finder, position a bright star in the center of the field of view of an eyepiece in the telescope. A long focal length eyepiece with a wide true field of view is useful for a rough alignment. While looking through the MRF™ finder, adjust the Up/Down Adjustment and the Left/Right Adjustment until the bright star is overlaid by the red dot in the reticule. After the finder is roughly aligned, the alignment can be fine tuned by using a higher magnification eyepiece. Once aligned, the MRF™ finder does not require realignment when reinstalling the finder on the same telescope.

Changing the Battery

When the reticule is no longer visible or is too dim to be useful, the battery must be replaced. Unscrew the Battery Cover on top of the Power/Brightness switch. The battery is a 3V Lithium button cell that is readily available at drug stores and other outlets.

CAUTION: Ensure that the battery is installed with the + side of the battery facing the Battery Cover.