

VIXEN

A70Lf, A80Mf, R130Sf

REFRACTORS



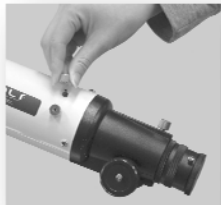
NEWTONIAN REFLECTORS

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PREFACE	Thank you very much for your purchase of a Vixen astronomical telescope
	This manual applies to the A70Lf, A80Mf and R130Sf telescopes. You may occasionally find descriptions in the text not relevant to your particular model.
	Read the instructions for your mount along with this manual if you purchased the telescope as a complete package.
WARNING!	Never look directly at the sun with the telescope or its finder or guide scope. Permanent and irreversible eye damage may result.
CAUTION	Do not leave the optical tube uncapped in the daytime. Sunlight passing through the telescope or finder scope may cause a fire.
	Do not use the product while moving or walking, injuries could result from a collision with objects or from stumbling or falling.
	Keep small caps, plastic bags, or plastic packing materials away from children. These may cause a danger of swallowing or suffocation.
	Do not use the product in a wet environment and do not handle with wet hands.
HANDLING AND STORAGE	
	Do not leave the product inside a car in bright sunshine or in other hot places. Keep any strong heat sources away from the product.
	When cleaning, do not use solvents such as paint thinner or similar products.
	Do not expose the product to rain, water, dirt or sand.
	Avoid touching any lens or mirror surfaces directly with your hands. In case a lens or mirror becomes dirty with fingerprints or general smears, gently wipe it using a commercially available lens cleaner and a lens cleaning paper or cloth, or consult your local Vixen dealer.
	Blow off dust on lenses using a commercially available blower brush. Do not use compressed air.
	For storage, keep the product in a dry place and do not expose to direct sunlight.
SETTING UP THE TELESCOPE- Refer to your mount instructions along with this manual.	
Attaching the telescope tube to the Mount (GP2 mount and A80Mf optical tube shown here)	
Loosen both the dovetail-plate lock screw and safety screw until the tips of these screws no longer extended into the inner part of the dovetail block.	
Slide the dovetail mounted scope into the dovetail mounting block as shown in the figure. Tighten the dovetail lock screw (centered on the notch) onto the dovetail tube plate until snug.	
First tighten the dovetail lock screw, and then tighten the small chrome safety screw onto the dovetail mounting block until snug.	

ATTACHING THE FINDER SCOPE (A70Lf)

1. Loosen the chrome finder bracket lock screw on the telescope.



2. Attach the finder scope as shown in the figure. Tighten the finder bracket lock screw securely.



ATTACHING THE FINDER SCOPE (A80Mf OR R130Sf)

Back out the two adjustment screws on the finder bracket to allow passage of the finder scope. (Make sure the adjustment screws do not fall off the bracket.)
One Pin does not screw in/out on some models.



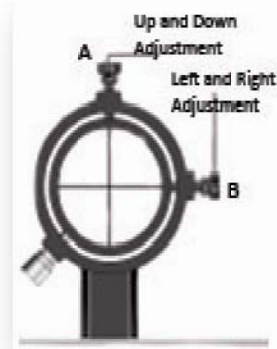
Slide the rubber O-ring onto the eyepiece end of the finder. There are two grooves on the finder tube. Position the O-ring on the narrow groove at the middle of the finder scope.



Pull up the fixed stud on the bracket ring so that the finder tube can slide into the bracket ring from its eyepiece end. Release the fixed stud into the wide groove on the finder tube.



Tighten the two adjustment screws so that the finder scope is aligned as shown in the figure.



Loosen the finder bracket lock screws on the telescope.



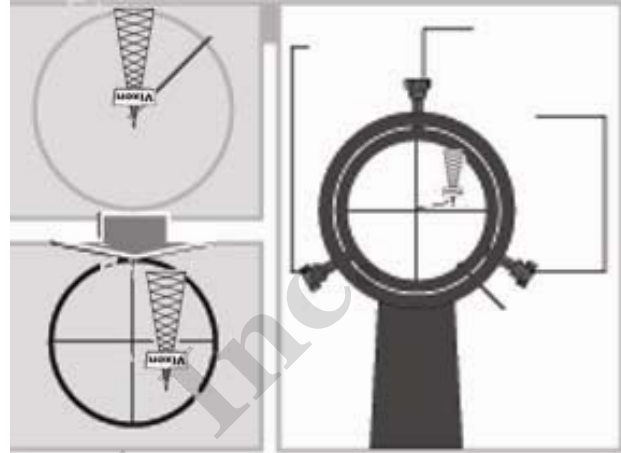
Attach the finder bracket as shown in the figure on the right. Tighten the finder bracket lock screw securely.



HOW TO ALIGN THE FINDER SCOPE- Be sure to align the finder scope with the telescope before you start observing.

ALIGNING THE FINDER SCOPE – A70Lf

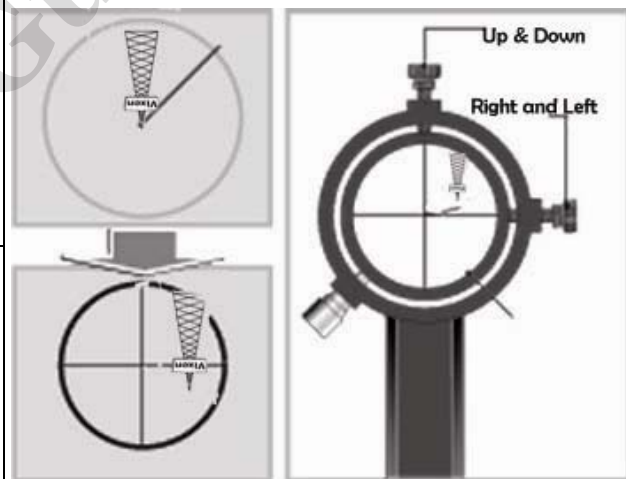
*Choose a conspicuous target in the distance and place the target in the center of the field of view of the telescope. In the illustration, a distant tower is brought into the center of the field of view of the telescope.
 *Next, look through the finder scope. You should find the same target within the finder’s field of view. In the illustration, the tower is seen in the upper right of the finder’s field of view.



*Align the optical axis (field of view) of the finder scope with the optical axis (field of view) of the telescope. Adjust the finder scope by loosening or tightening two or three adjustment screws at a time in turn until the target is in the same position, in the center of the cross hairs. In the illustration, the top of the tower is in the center of the crosshairs. The top of the can be moved toward the center of the crosshairs by loosening the adjustment screw A, B and tightening the adjustment screw C.

ALIGNING THE FINDER SCOPE – A80Mf or R130Sf

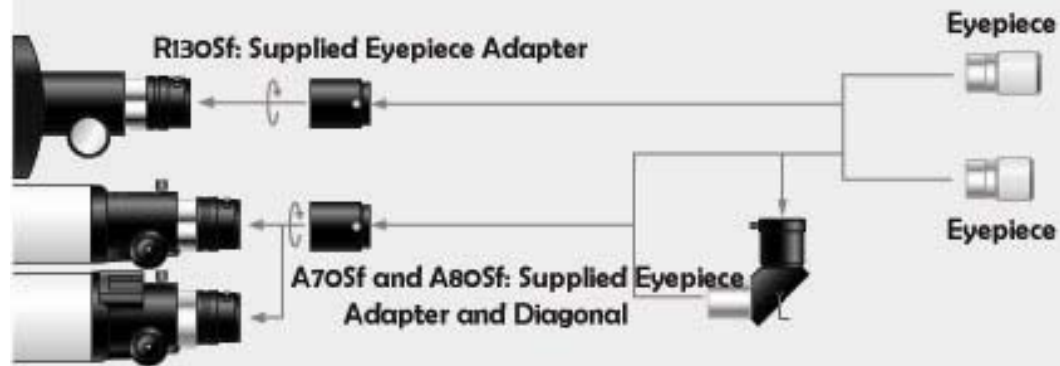
*Choose a conspicuous target in the distance and place the target in the center of the field of view of the telescope. In the illustration, a distant tower is brought into the center of the field of view of the telescope.
 *Next, look through the finder scope. You should find the same target within the finder’s field of view. In the illustration, the tower is seen in the upper right of the finder’s field of view.



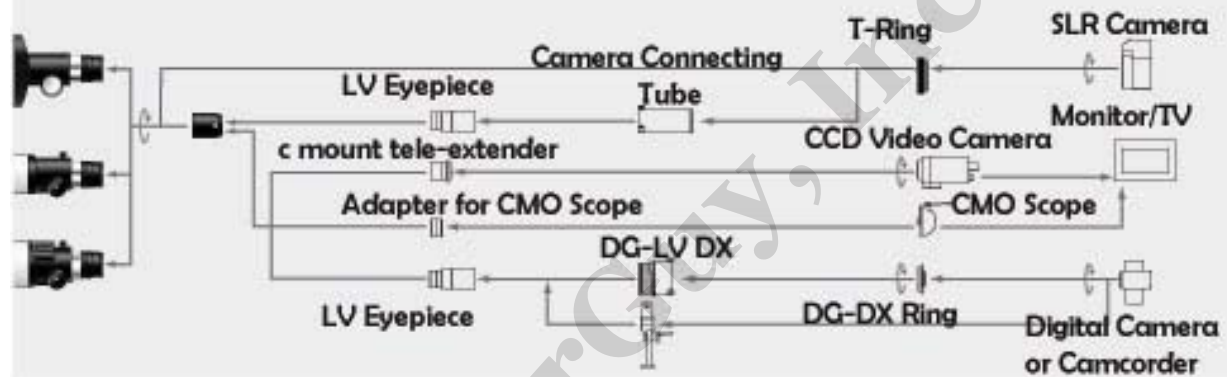
Align the optical axis (field of view) of the finder scope with the optical axis (field of view) of the telescope. Adjust the finder scope by loosening or tightening the adjustment screws A and B in turn until the target is in the same position, in the center of the crosshairs. The top of the can be moved toward the center of the crosshairs by loosening the adjustment screw A and tightening the adjustment screw B.

ACCESSORY CHART

A70Sf, A80Sf and R130Sf Visual configuration



A70Sf, A80Sf and R130Sf Photographic configuration



SPECIFICATIONS- *The Specifications are subject to change without notice.*

Specifications	A70Lf	A80Mf	R130Sf
Item #	2602	2603	2604
Optical Design	Achromatic Refractor		Newtonian Reflector
Effective Aperture	70mm	80mm	130mm
Focal Length	900mm (f/12.9)	600mm (f/7.5)	650mm (f/5.0)
Resolving Power	1.66 arc.; 11.0	1.45 arc sec; 11.3	0.89 arc sec; 12.3
Light Gathering Power	100x	131x	345x
Tube Diameter, Length & Weight	76mmx865mm; 1.9 kg	90mm x 860mm; 2.5kg	160mm x 572mm; 4.0 kg
Finderscope	6x42mm	6x30mm	
Threads	42mm for T ring/31.7mm push-fit		
Magnification	PL20mm, PL6.3mm	PL20mm, PL6.3mm	PL20mm, PL6.3mm
Accessories	Round Tray, Diagonal Prism		Round Tray
Photography			
Total Weight	7.4kg	8 kg	8.9kg

Magnification equals focal length/Eyepiece

COLLIMATION

The optics of the telescope are aligned correctly at Vixen's factory before shipment. It is rare that telescopes go out of alignment, unless its tube is knocked strongly. Follow procedure below to determine if the telescope is out of collimation.

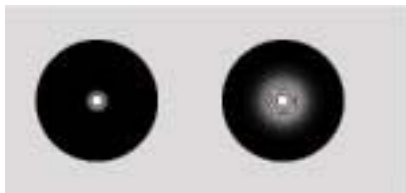
Examine the Collimation

Select a second- or third-magnitude star and place it the center of the telescope's field of view by using a moderately high power eyepiece. Focus the star precisely. And then defocus slightly and you will look for striped patterns that surround the star. If the striped pattern can be seen as a concentric image, your telescope is properly aligned

Collimated Properly

In Focus

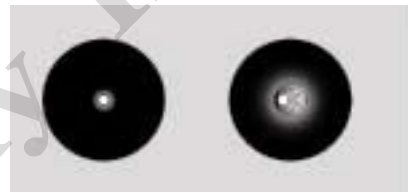
Out of Focus



Mis-Collimated

In Focus

Out of Focus



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