

Instructions for
THE CRITERION FIELD TRIPOD

CAUTION: Please read "SETTING UP THE TRIPOD" before attempting to open the Criterion Field Tripod.

INTRODUCTION

The Criterion Field Tripod is intended for use with the Dynamax 6 or the Dynamax 8, as well as other compact-portable telescopes. In terms of construction, utility and versatility, this is the finest astronomical field tripod available.

Parts and fixtures of this tripod are made of steel, brass, zinc-plated aluminum or aircraft-quality aluminum castings. The legs are gold-anodized aluminum.

Special features include:

- DYNAMACTION DESIGN -- An application of the engineering principle "tension/counter-tension," for the ultimate in overall stability.
- TELESCOPING LEGS -- For adjustments in height ranging from 33 to 50 inches, and for easy tripod-leveling even on unlevel ground.
- SURE-GRIP LEG LOCKS -- To eliminate flexure along the tripod legs and at the tripod head. (Patent pending.)
- HIGH-TORQUE HAND KNOBS -- To assure positive lock-and-release response with a minimum of applied force.
- MULTIPURPOSE EQUATORIAL MOUNT -- A heavy-duty, fold-down equatorial wedge which accepts your telescope in either an astronomical or a terrestrial observing mode. (With a latitude adjustment ranging from 0 to 90°.)
- BUBBLE LEVEL -- For built-in accuracy in tripod-leveling, and for faster successive polar alignments.
- 360° AZIMUTH ADJUSTMENT -- Which permits the attitude of the equatorial mount to be adjusted smoothly and rapidly along the horizontal, over angles large and small.
- CARRYING CASE -- A vinyl-fabric, added-touch accessory with zip-and-go convenience and one-hand portability.

Note: The high-torque hand knobs provided with this tripod require very little force to tighten. Caution should be exercised to avoid stripping these knobs.

Hint: The Criterion Field Tripod has been designed expressly for use in locations where the tripod legs can be embedded in the ground. Used in this way, the tripod offers the greatest freedom from the effects of vibration.

SETTING UP THE TRIPOD

When you remove the tripod from its shipping container, you will notice an accessory package which contains seven hand knobs and two metal bars taped together. The metal bars are referred to as "latitude-adjustor bars," and will be mounted using four of the hand knobs. The remaining three knobs will be used to mount your telescope onto the tripod.

To set up the tripod, remove it from its carrying case and stand it on end, tripod feet down, with the tripod still closed. Then, grasping any two legs, let the weight of the tripod rest on the remaining third leg, and spread the legs apart until the tripod stands by itself.

Caution: Do not attempt to open the tripod by spreading one leg at a time. This might damage the tripod's tension struts. (See "TRIPOD DESIGN" for parts identification.)

TRIPOD DESIGN

Now, notice the design of the tripod. There are four basic assembly groups-- in addition to the legs and the tripod head where the legs meet. These assembly groups are the equatorial-mount assembly, the leg-spreader assembly, the leg-tension assembly, and the three leg-lock assemblies.

The equatorial-mount assembly (or the equatorial-wedge assembly) is mounted permanently to the top of the tripod head. This assembly consists of tilt plate, which flips up; base plate, which is mounted to the tripod head; and the latitude-adjustor bars, which are found in your accessory package.

(On top of the base plate of the wedge is a hand knob, which permits adjustment of the wedge in azimuth. This azimuth adjustment, in conjunction with the bubble level on the base plate, makes polar alignment much easier than with other field tripods. See "POLAR ALIGNMENT.")

The leg-spreader assembly, immediately under the tripod head, consists of triple-arm leg spreader, threaded leg-spreader shaft and leg-spreader hand knob. When the tripod is shipped, the leg-spreader is secured under the tripod head.

The leg-tension assembly, beneath the leg-spreader assembly, consists of three leg-tension struts and a tension-strut ring. This assembly applies counter-tension to the tripod legs when the leg-spreader assembly is activated.

Each of the three leg-lock assemblies-- one for each tripod leg-- consists of leg-lock sleeve, upper hand knob and lower hand knob. Loosening the two knobs allows you to lengthen or shorten the tripod leg. The knobs activate a leather lock-plate inside the sleeve. This mechanism provides superior leg stability while protecting the finish of the leg.

STABILIZING THE TRIPOD

Once you have selected the desired height of your tripod, the tripod can be stabilized with the leg-spreader. To free the spreader, thread the spreader knob downward until the spreader arms clear the tripod legs when the spreader is rotated.

Then, to stabilize the tripod, rotate and raise the spreader manually until its arms cup the legs of the tripod, and thread the spreader knob upward until the desired tripod stability is achieved. The tripod head should not flex with respect to the legs, and the tension struts should be

taut and immovable.

SETTING UP THE WEDGE FOR ASTRONOMY

When the tripod is shipped, the equatorial wedge is folded down for terrestrial use. To set up the wedge for astronomy, just flip up the tilt plate and mount the latitude-adjustor bars included in your accessory package.

There is one adjustor bar for each side of the wedge. The slotted end of the bar attaches to the tilt plate and the other end attaches to the base plate. To attach the bars, use any four of the hand knobs in your accessory package. Make sure the tilt plate is well secured.

MOUNTING YOUR TELESCOPE

To mount your telescope onto the tripod, first thread one of the hand knobs remaining in your accessory package into the bottom of the base of your telescope. Thread the knob partially into one of the holes nearest the edge of the base.

Now, slide the base of the telescope onto the tilt plate of the wedge so the bolt of the hand knob slips into the feeder slot of the tilt plate, and tighten the knob. Then insert and tighten the other two hand knobs through the appropriate holes in the tilt plate, and your telescope is mounted.

POLAR ALIGNMENT

With your telescope mounted, all that is necessary to use it astronomically is to align its polar axis with the rotational axis of the Earth. (See chapter six of the Dynamax instruction manual.)

Polar alignment is achieved by leveling the tripod head, clamping the telescope tube as described in the manual, and adjusting the position of the fork mount in latitude and azimuth until Polaris is centered in the field of view.

Hint: We recommend orienting the tripod so one leg is pointing north. This will ensure ample leg room for the observer at the eyepiece.

To level the tripod head, simply adjust the height of the tripod legs until the bubble level of the tripod is centered. The level is centered when its air bubble is concentric with the black ring on the level.

To adjust the position of the fork mount in latitude (vertically), loosen the tilt-plate hand knobs and swing the plate up and down as required. For better control during this adjustment, keep a slight tension on the knobs. When the adjustment is completed, secure the knobs.

For fine adjustments in latitude, loosen the leg-lock knobs of the north tripod leg all the way, and rotate the lower section of the leg. An extremely slight motion can be achieved upward or downward in this manner. When the adjustment is completed, secure the knobs.

To adjust the position of the fork mount in azimuth (horizontally),

loosen the azimuth-adjustment knob on top of the base plate, and rotate the wedge as required. When the adjustment is completed, secure the knob.

Once alignment has been achieved, the tilt plate may be left in its position for future observing sessions. Then polar alignment can be achieved simply by leveling your tripod and centering Polaris in azimuth-- if the latitude of your observing site has changed by no more than one or two degrees.

Hint: Some observers find the tension-strut ring of their tripod a convenient platform for the Dynatracker drive corrector or other accessories.

MOUNTING YOUR TELESCOPE FOR TERRESTRIAL USE

To mount your telescope for terrestrial use, first remove it from the wedge. Then remove the hand knobs from the tilt plate of the wedge so the latitude-adjustor bars hang freely from the base plate, and fold the tilt plate down onto the base plate.

Now your telescope can be mounted and secured to the tilt plate with a hand knob threaded through the feeder slot of the tilt plate.

Hint: In this configuration, the Dynamax can also be used as a true alt-azimuth astronomical telescope, since its R.A. setting circle can be read in degrees of arc as well as hours of right ascension.

TAKING DOWN THE TRIPOD

To take down your tripod, first loosen the leg-spreader and re-secure it under the tripod head. Then close the tripod by grasping the tripod head and lifting straight up on the tension-strut ring.

Caution: Do not attempt to close the tripod one leg at a time. This might damage the tension struts.