

# GIBRALTAR™ HD5/4 MOUNT & HEAD INSTRUCTIONS

## Included Parts

- Head: Gibraltar HD5 or HD4 Head with stud (Encoder version has altitude and azimuth encoders.)
- Head Small-Parts: see image right.
- Mount: Wood Tripod
- Wood Tray

## Introduction

Gibraltar™ HD5 and HD4 are alt-azimuth mounts designed for Tele Vue's 5" refractors (e.g. NP127is) and 4" and smaller refractors (e.g. NP101is, & TV-85), respectively. The head can be outfitted with encoders (STN-4001) for Digital Setting Circles / Computers and Eyepiece Caddy Set for maximum viewing pleasure.

The Gibraltar HD Mount Heads cradle the telescope at its center of gravity to make operation smooth and easy. To achieve smoothest operation it is important to have the telescope properly balanced in its mount ring and the altitude and azimuth tension knobs providing minimal drag.

The tripod legs can position the cradle height from 3.5- to 5-feet. The triangular accessory tray adds extra stability to the tripod.

Gibraltar HD mounts are ideal, travel-friendly, mounts for quick, convenient terrestrial and astronomical viewing, even at 200+ power.

**WARNING:** Do not remove the mount head and half-pillar without first removing the telescope. Failure to remove the telescope will cause the telescope, half-pillar, and mount head to fall off the mount.

## Tripod Setup

Please refer to the diagrams for part nomenclature.

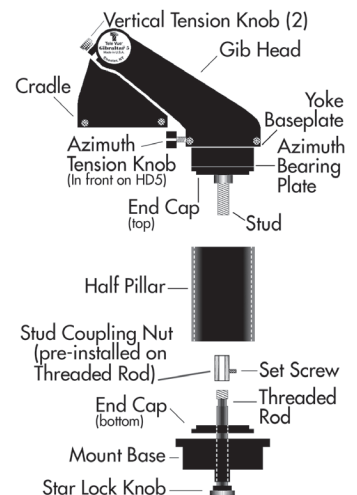
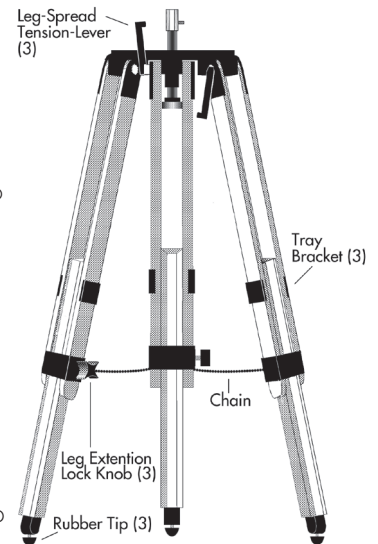
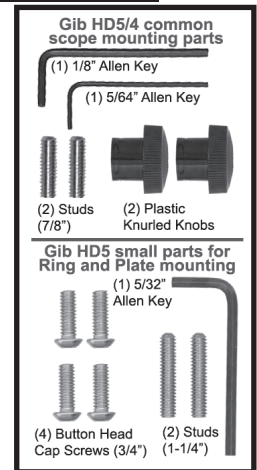
- Remove tripod from box. If setting up on soil, twist the rubber tips at the bottom of each leg up to fully expose the metal spikes. On finished or hard surfaces, twist the rubber tips down to fully cover the metal spikes.
- Use the leg-spread tension-levers, attached to the mount base, to adjust tension on the legs to allow them to spread out slightly. Levers can be repositioned by pulling away from legs and rotating. Place the tripod standing on a level surface. Leave the legs un-extended.
- Make sure the safety chain is attached to each tripod leg (see **Additional Notes**). Loosen the leg-extension lock knob on each leg and raise the tripod to the desired height. Then lock the knobs. You can use the index marks on the legs to ensure even extension. Next, spread the legs out to the limit of the chain.
- Remove the triangle tripod tray from its box. The corners of the tray have a half-clamp that snaps onto a roll pin installed on each leg's tray bracket. Place the tray between the legs of the tripod and put the half-clamp from one corner above one of the roll pins. Press down over the half-clamp to snap it into place. Snap the other two sides of the tray onto the roll pins, in the same manner, pulling the tripod legs in as necessary. Removal of the tray is accomplished by pushing up at each corner of the tray from below - where it attaches to each roll pin.
- At the tripod base, tighten each leg-spread tension-lever to keep the mount from wobbling.
- Check the bubble level on the tripod base to see if it is close to level - it doesn't have to be perfect - just sufficiently levelled so the telescope swings smoothly in any azimuth (left-right) orientation. If leveling is required, it is easiest to collapse a leg than to extend one. Holding the leg with one hand, loosen the leg-extension lock-knob just enough so you can draw the leg up with the other hand.

## Mount-Head Install

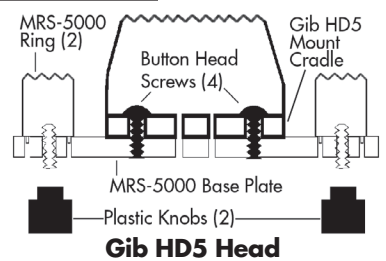
- Inside the mount head box, locate the mount head with attached threaded stud, half-pillar (cylinder), and half-pillar end-cap (disk with hole). Note that the pillar end-cap has a flat side and a side with a grooved edge.
- The tripod comes with an end-cap, flat side down, on top of the mount base. The stud coupling nut rests on top of this. Place the half-pillar on top of the end-cap resting on the mount base. The other top end-cap, is already locked onto the bottom of the baseplate. Lower the mount head so the stud makes contact with the coupling nut. With one hand, hold the mount's yoke baseplate while twisting the star lock knob, below the base, at the end of the threaded rod with the other hand. This will pull the mount head down onto the half-pillar and form a solid connection, when locked.
- Adjust the azimuth tension knob until there is a slight amount of tension. Place the cradle in approximately level position as indicated by the altitude alignment marks (drilled hole on one of the side altitude bearings, forming two semi-circles). Tighten the vertical tension knobs.

## Telescope Install on Gib HD5

- Tele Vue's 5" scopes with 5" Mount Ring Set MRS-5000. Unscrew the bat handles supplied with the Ring Set to remove the top rings and plate. Fasten base plate with bottom rings to the underside of the mount cradle using the four 1/4-20 button head screws supplied. Level the cradle and tighten the vertical tension knobs. Place the scope into the bottom rings. Replace the top-half of the Ring Set and reinstall the bat handles to secure the scope.



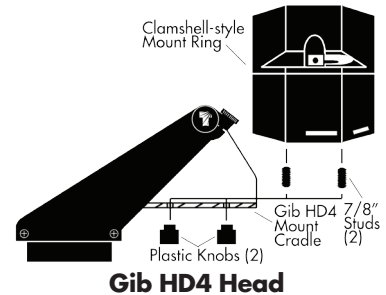
- **Tele Vue's 4" scopes.** Because the cradle on the Gibraltar HD5 is deeper than on the HD4, a 4" scope must be raised in the cradle for proper altitude balance. The scope is properly balanced in altitude when the center of the tube lines up with the Gibraltar HD sticker on the vertical axis. If your scope uses our 4" Mount Ring Set MRS-4011, attach its bottom-plate on the top of the mount cradle using the four 1/4-20 button head screws supplied. If using our 4" clamshell-style ring, employ our Mounting Adapters BPL-1098 or AVT-1011 between the clamshell and mount cradle to raise the scope. This last configuration requires 1 1/2" studs or similar 1/4"-20 hardware (not supplied) to pass through the mount cradle, mounting adapter plates, and thread into the clamshell.



- **Mounting other Tele Vue Telescopes.** If you have MRS-5000 rings, leave the base plate, without rings, attached to the cradle. Thread the supplied longer 1 1/4" studs into the telescope's ring mount. (If you do not own MRS-5000 rings, use the shorter 7/8" long studs.) Place the telescope down in the cradle so the studs go through the cradle holes. Fasten in place with plastic knobs.

### Telescope Install on Gib HD4

- **Tele Vue's 4" scopes with clamshell-style ring.** Start with the clamshell attached to the telescope. Make sure the bat handle and socket head screws on the clamshell are secured to prevent the telescope from sliding. Using the 1/8" Allen key, screw the 7/8" studs provided into the 2 outer holes of the bottom half of the clamshell until they stop. (Be careful not to overtighten: clamshell is aluminum and threads may strip from excessive force multiplied by the leverage of the Allen wrench.) Place the telescope down into the mount's cradle, so that the studs pass through the holes in the cradle base. Orient the scope so the vertical tension knobs are closer to the telescope's eyepiece end. Fasten in place with plastic knobs.



### Balance and Use

- When mounting scope, orient tube so Vertical Tension Knobs are closer to the telescope's eyepiece end.
- Put a diagonal and eyepiece on the drawtube before balancing. Adjust vertical tension knobs so they have slight and equal tension.
- Swing the scope up approximately 45°. If the scope wants to swing up or down, level the scope and loosen the bat handles on one side of the ring. If the scope wants to swing back down, slide the scope backwards in the mount ring toward the vertical tension knobs. If the scope wants to swing up, push it forward so there is less tube between the mount ring and diagonal. Recheck balance and re-tighten the bat handles when balance is achieved.
- Check the tension on the azimuth tension knob so the mount rotates smoothly. **WARNING: Rotating the mount head while the azimuth tension knob is tightened could cause the azimuth bearing to unscrew and separate.**
- Extra tension can be used to overcome a minor out-of-balance condition. However, excessive tension will cause the movement to be "jerky." Severe overtightening could strip the threads in the mount head.
- The most stable way of slewing your scope is by grasping a fixed part of the telescope, (i.e., focuser body), mount head or (optional Gib HD4) mount handle. Slewing the scope by holding the diagonal could cause slight image shift.

### Additional Notes

- The safety chain is a safety device to prevent the legs from overspreading or collapsing when setting up the tripod for observing. It should remain on at all times. If the chain needs to be re-attached, slip each snap hook on the chain onto an eyelet on the inside of the leg-extension lock-knob brackets.
- Gibraltar HD heads can be moved to a heavy-duty camera tripod by removing the mount stud. Use 5/64" Allen to loosen lower set screw on Azimuth bearing plate, and then unscrew the stud. Normally this set screw is tight to prevent stud from unscrewing from the head as mount is turned in azimuth.
- Gibraltar HD4 can be upgraded to HD5 by purchasing the Gib HD5 Head Upgrade. This only includes a head with stud. You'll need to transfer the half-pillar end-cap and it's retaining bolt from the HD4 or contact Tele Vue for spare parts.

### Storage

- Before storing, if dew is present on the tripod, wipe it with an absorbent cloth and allow to dry for about 24 hours at room temperature. Do not place the tripod close to any direct source of heat as this will cause the wood to dry out unevenly.
- If the tripod is set up and left standing in a low humidity room over a lengthy period of time, check the leg-extension lock knobs, and tighten them if necessary to prevent the tripod legs from collapsing.
- Each time you remove the tripod head, with attached top end-cap, the half pillar is unsupported and must be removed. Upon removal, make sure the stud coupling nut is threaded all the way down on the threaded rod and the setscrew on the side of the nut is secured to prevent the nut from turning. If the coupling nut is loose, or removed, attach it as follows: use a 5/64" Allen key to back out the setscrew so the coupling nut can thread freely on the rod. With one hand below the tripod base, push the star lock knob up so the threaded rod passes through the half-pillar end cap. With the other hand, place the stud coupling nut, with the set-screw end facing down, onto the top of the threaded rod. Spin the star lock knob so it threads onto the stud coupling nut. The coupling nut will move down the top threaded part of the rod, pass through reduced shank and stop at the full shank on the other side. This should leave about 1/2" of available thread on the top of the coupling nut. Now tighten the setscrew on the side of the coupling nut with the 5/64" Allen key to prevent it from coming loose.
- When storing the scope in a case with the mount rings and studs attached, screw the plastic knobs onto the studs to prevent ripping the foam liner.