

GEMINI MOUNTEGRA

USER's MANUAL v1.0

1) ADAPTATION OF YOUR TUBE

Measure the distance from the tube's longitudinal center of gravity to the maximum extension side instrument. To make your tube pass in the fork slide the vertical arm until the measured position is achieved. To slide the vertical arm you have to:

- a) Release the 2pc lock screws,
- b) Push the lever in and rotate until the desired position is achieved. The maximum extension is indicated by a black dot emerging in the keyway.



Before mounting the tube lock the 2pc screws firmly (cca. 20Nm) !

2) BALANCING

2.1) BALANCING IN DECLINATION

Rotate the tube to achieve zero declination position. Rotate the RA axis until the tube is in an East-West position.

Using the supplied Torque Key check the RA worm for a balanced position! Slide the tube in the tube rings or dovetail until the Torque key reads the same value right and left!

2.2) BALANCING IN RIGHT ASCENSION

A preliminary balancing is possible by making the calculation described below.

The telescope tube to be mounted has a mass of **mt** (measured in kg) and its center of gravity is at distance **S** from the mount's plate (measured in mm). To find the necessary displacement of the horizontal axis we compute **R** (the distance between the RA axis and the center of the vertical arm in mm):

$$R = (mt (S+105)+590) / (22+mt)$$

To adjust the horizontal arm you have to:

- a) If the telescope is already mounted, turn the RA axis until the horizontal arm is in North-South position. (this makes the arm slide better)
- b) Release the 2pc lock screws and turn the 2pc release screws in until free motion of the horizontal arm is possible.
- c) Pull the lever out and rotate to slide the horizontal arm into the desired position. Two dots show the extreme positions: when any of the dots come out of the cut on the RA head you have reached one of the extreme positions.
- d) Release the release screws and lock the lock screws (40Nm).



To check the balance use the Torque Key again!

The drive system of the mount was designed to work with unbalanced loads which means that after adding or removing normal accessories (oculars and cameras) you do not need to rebalance.

3) POLAR ALIGNMENT

The first step of the polar alignment is to align the mount with the Polar finder. This is done during the initial setup phase. If you feel the need to tune the polar alignment we recommend to use King's method instead of the popular drift methods. The reason is that the drift methods always tell you to track stars near the horizon where refraction is strong and not precisely known. The result will show less DEC drift but less precise pointing and even drift will change with atmospheric conditions.

After releasing the Elevation and Azimuth lock screws you can make calibrated adjustments of both directions. A 13mm wrench will be necessary (supplied upon request).



4) SAFETY INSTRUCTIONS

Do not leave any of the arm lock screws loose when the mount is in operation!

Be sure that there is nothing in the way of the telescope tube when it swings in RA or DEC!

ATTENTION!! Risk of personal injury! The DEC drive is very powerful and may cause injury if interfered with.

Do not try to turn the lever when the arms are locked in position!

Do not turn the Azimut/Elevation control when the relevant screws are locked!

The surface of the mount should be cleaned with a non abrasive washup detergent (not a cooking oven cleaner).