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Universal assembly with azimuthal head with a powerful lifting capacity of 12 kg, typical for EQ5 class assemblies. The ALT-AZ type head with micromodes in two axes is equipped with a dovetail in the Vixen standard. Adjustable steel field tripod with accessories stand. The mounting allows for the attachment of SCT and Maksutov telescopes up to  $f = 180$  mm - 200 mm, refractors up to 152 mm, as well as spotting scopes and large binoculars of 25x100 or 28x110 type, typically mounted on photographic tripods (we recommend L-type rail with thread 1 for their assembly) / 4 inch or multi-plate), while ensuring low vibration, good rigidity, smooth adjustment of the tube position and equipment safety. Azimuthal assemblies make it easier and faster to position the telescope on an object of interest in the sky than the parallormal assembly. The assembly of ALT-AZ is recommended for visual observations of the sky, especially refractors (ideal for APO), Maki and SCT. The assembly is relatively light and easy to transport, so it can be part of the travel set. Regarding the mounting of Newton's telescopes, tests were carried out (information below) with a tube 8" f/5 (Messier NT 203/1000) and the assembly deals with such a tube, however, due to the specificity of Newtonian tubes, we suggest using a tube assembly Newton 130 - 150 mm. The montage is perfect for landscape observations (distant observations, natural observations) as well as for observation and photographing of aircraft at cruising altitudes. The head arm can be placed at different angles to the horizontal - the highest stiffness and lifting capacity is of course in the vertical position of the arm, however, this feature allows optimal mounting of the observer and observation even close to the zenith with many optical tubes. The arm can be moved from the vertical by 60° or 120° (the fixing holes are spaced at 60 degrees). Technical parameters: lifting capacity: 12 kg (see: below) height of tripod spaced (min): 74 cm height of tripod (max): 125 cm distance between the ends of the legs of the fully unfolded tripod: 123 cm Steel legs diameter (thicker / thinner): 1.5" / 1" (37.7 mm / 25 mm) total height of the head: 32.5 cm total height (tripod + head vertically, min): 96 cm total height (tripod + head, max): 140 cm total height (tripod + head inclined 60° from vertical, min): 85 cm total height (tripod + head inclined by 60° from the vertical, max): 127 cm head weight: 2225 g weight of the field tripod: 3825 g total weight: 6050 g Examples of optical tubes (telescopes) cooperating with this assembly Assembly cooperation with the following optical tubes has been verified: Sky-Watcher MAK-180 OTAW (weight about 8 kg, one of the heaviest catadioptric tubes) Bresser Messier NT-203/1000 OTA (weight 10.75 kg, added to tests Explore Scientific 20 mm 2" (100°) eyepiece with an extreme weight of 910 g, stable whole, but before the observation is worth to spend 2-3 minutes for the tube to be properly balanced in the clamps, so that the force with which the microtapes should be turned is the same in both directions; Newton's telescopes are quite demanding due to the weight and length of the tube - 200 mm Newton, however, in our opinion, the limit of the possibility of this assembly) Bresser Messier R-152S 152/760 OTA (the smallest problems, it's worth devoting 2-3 minutes for a good balance) Celestron EdgeHD 8 OTA (6 kg) Sky-Watcher Equinox 100/900 OTA (tested: tube with clamps 5.5 kg + angular connector GSO 2" 90° + eyepiece Vixen LVW 22 mm 2") After carrying out the above field tests, it can be concluded that this assembly will work very well with the following tubes: all Newton tubes weighing up to 11 kg, diameter of the mirror 20 cm and focal lengths up to 1000 mm (especially recommended for Newton 130 and 150 mm) Maksutowo-Cassegrain tubes type SW Mak 102, Poppy 127, Mak 150 SCT tubes up to  $f = 8$ " (higher diameters not verified) refractors for diameter 150 = 150 mm and focal lengths up to 1000 mm (tub 150/1200 not verified) after purchasing a suitable multi-plate mounting adapter, you can mount practically any spotting scope with a 1/4 inch tripod socket on the tripod. after purchasing the appropriate adapter, the multi-plate mounting plate with the dovetail (multi-plate) and possibly the L-adapter (binocular / 1/4 inch connector) allows you to attach any binoculars to the lens diameter of 110 in-line (tested for TS 28x110 Marine MX) Warranty 2 years (complete ALT-AZ assembly with high lifting capacity and stiffness) (adjustable height steel stand, accessory shelf) which is also a stabilizing element of the tripod legs' distance) (head with micromodes on chirators both in azimuth axis and height) (the thought-out design allows virtually any mutual positioning of the arm, dovetail mounting bracket and microscopic knobs) (the head of the head can be extended by 60° or even 120° from the vertical in both directions after unscrewing 2 screws) (the arm can be set in different angles) (universal mounting plate in Vixen / Sky-Watcher standard with 2 locking screws - pressure and contra-angle, central 1/4 inch female thread, slightly on the side - 3/8 inch thread) (head elements: microcaps, lock knobs, allen key) (assembly dimensions with the shortest leg length) (assembly dimensions at the greatest leg length) Examples of observation sets Sky-Watcher MAK 150 OTA on ALT-AZ Sky-Watcher MAK 127 OTA on ALT-AZ TS Semi APO 70 mm 45° binoculars for ALT-AZ TS Semi APO 100 mm 45° binoculars on ALT-AZ >> FREQUENTLY ASKED QUESTIONS << Question: How about observing objects high above the horizon? Can the telescope be directed to zenith? Answer: As with other azimuthal assemblies, not every tube can be directed towards the zenith. The range of unreachable zenithal distances depends on the diameter and focal length of the tube, the weight of the tube and the angle of inclination of the mounting arm (by tilting the arm, you can increase the range of observation high above the horizon). For example, the assembly cooperation with GSO N-203/800 M-CRF OTA (? 23 cm tube, 71.5 cm length, weight 8650 g) was verified, which after swinging the mounting arm "by 1 hole", ie by 60 degrees, it goes back to the very zenith while maintaining full stability. Thus, observations around the zenith are no more a problem for this assembly with the above-mentioned tubes. Potentially heavy and long Newtons (N-250), if you want - to be recommended - to fix them, they will have the problem of observations high above the horizon, because their weight and length may not allow you to deflect the mounting arm with high stability, and in the vertical position of the mounting arm the height range will be in the order of 0° - 50°. However, it should be remembered that the assembly of ALT-AZ is not intended to replace the EQ6 class assembly :-)