Focuser decoupling adapter with tilt plate for 8” RC telescopes

Mounting instructions

Contents

Required tools

· Allen key 3, 4 and 5 mm

· Phillips screwdriver size 1

· Drill/ cordless screwdriver

· Drill 3 mm and 8 mm

· Wooden blocks or pieces of board as a base

· Collimation device (e.g. Phoenix Colliscope or Phoenix Pocket Collimator)

Preparation

All parts required to attach the adapter to the telescope are included in the scope of delivery.

The adapter is supplied assembled and must be disassembled for installation. First unscrew the three M8 screws.

Then remove the three M5 screws holding the tilt plate. Proceed in several steps to release the compression springs located between the tilt plate and the adapter ring. The six (smaller) locking screws can remain in the plate.

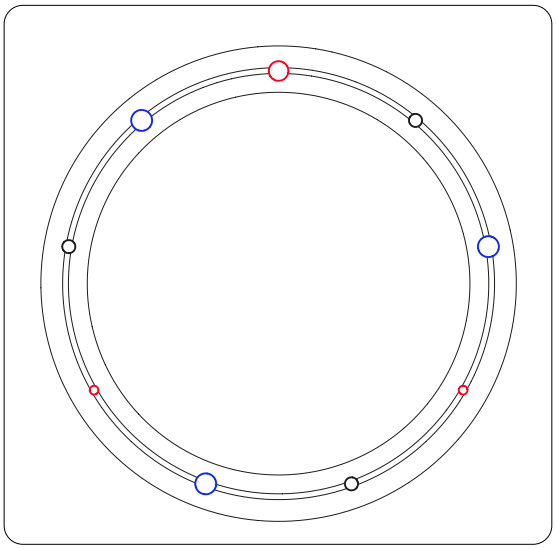
The design of the adapter ring

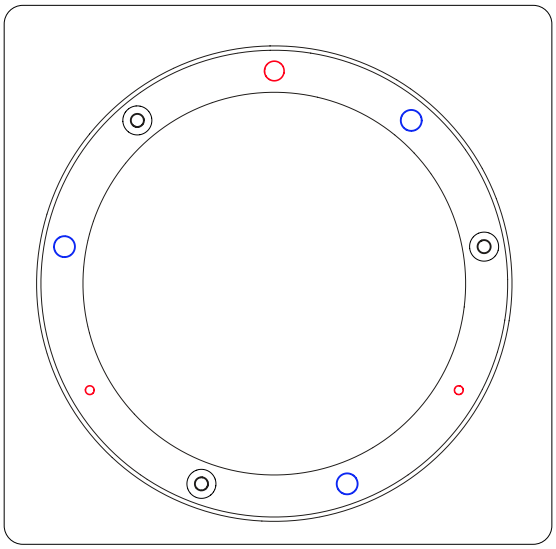
The adapter ring, which later carries the tilt plate, also serves as a drilling template. The relevant (threaded) holes are marked in red in the drawings below.

The three M8 threads marked in blue are used to attach the adapter to the telescope, the black circles represent the threads of the tension screws of the tilt plate.

On the outside, the ring has additional indentations at the location of the latter threads, in which the compression springs are located, which stabilize the tilt plate during adjustment.

The circumferential bar on the edge of the ring prevents stray light from entering the gap that inevitably occurs when adjusting the tilt plate.





Removing the telescope back plate including primary mirror

Unscrew the focuser and remove the six marked screws.

You can then remove the back plate with the primary mirror and then unscrew the baffle tube.

Removing the primary mirror

The primary mirror is held in place by the ring to which the baffle tube is also attached (arrow in picture top right). This ring can only be loosened with a certain amount of force. Take care not to touch the mirror surface when unscrewing.

Remove the primary mirror and store it in a safe and clean place.

Removing the mirror carrier

Loosen the three (larger) pull screws and remove the mirror carrier and the three pressure springs underneath.

Using the adapter ring as a drilling template for the first hole

First insert the positioning aid so that the three anti-twist elements sit securely on the bars marked red in the picture. Insert the adapter ring. The three holes marked in green (2 x 3 mm and 1 x M8) must be positioned next to the markings on the plastic ring as shown. Hold the ring firmly and drill through the back plate at the position of **one** of the two 3 mm holes using the 3 mm drill bit.

Remove the ring and widen the 3 mm hole to 8 mm.

Using the adapter ring as a drilling template for the second and third hole

Now attach the ring to the back plate using one of the M8 screws. Make sure you use the correct M8 thread,

so that the two 3 mm holes in the ring

are in the marked positions. The positioning aid must therefore not yet be removed.

As the ring is secured against rotation with the screw, you can drill the two remaining 3 mm holes, then remove the ring and the positioning aid and enlarge the holes to 8 mm.

Remove all chips.

Installing the adapter ring and the tilt plate

Connect the back plate and the adapter ring with the three M8 screws. Tighten the screws evenly in several steps.

Installing the mirror carrier

Insert the three compression springs and fasten the mirror carrier with the pull screws. One of the pairs of push/pull screws has a larger spacing; for this reason the carrier only fits in one position.

Because light could penetrate through the gaps created by the recesses in the back plate, the positioning aid is used to prevent light from entering. Insert it as shown.

Mounting the tilt plate

Insert the compression springs for the tilt plate into the recesses provided.

The tilt plate has holes through which the collimation screws of the primary mirror are accessible. To determine the correct mounting position for the tilt plate, you must rotate the tilt plate and the cover ring into the position where the pairs of holes match the pairs of screws underneath (different spacing!). The cover ring serves as protection against interfering light and should be turned after collimating the telescope so that all holes are closed.

Installing the primary mirror

Make sure that the plastic insert that centers the primary mirror on the carrier is correctly seated in the center hole of the mirror and then place the primary mirror on the carrier.

Connect the retaining ring and the baffle tube and screw the assembly onto the carrier. As soon as you feel a greater resistance, check whether the mirror can still be moved. It must still be easy to turn, but under no circumstances should it be possible to tilt it.

For this reason, carefully screw the baffle tube and retaining ring tight in small steps and check the remaining play after each step.

Final assembly

Reconnect the back plate to the telescope tube. To do this, proceed in the reverse order of disassembly. Mount the focuser.

Collimation

To collimate your telescope, you will need an alignment laser and a suitable collimation device such as the Phoenix Colliscope or the Phoenix Pocket Collimator. The collimation procedure is described in detail in the respective instructions.

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