



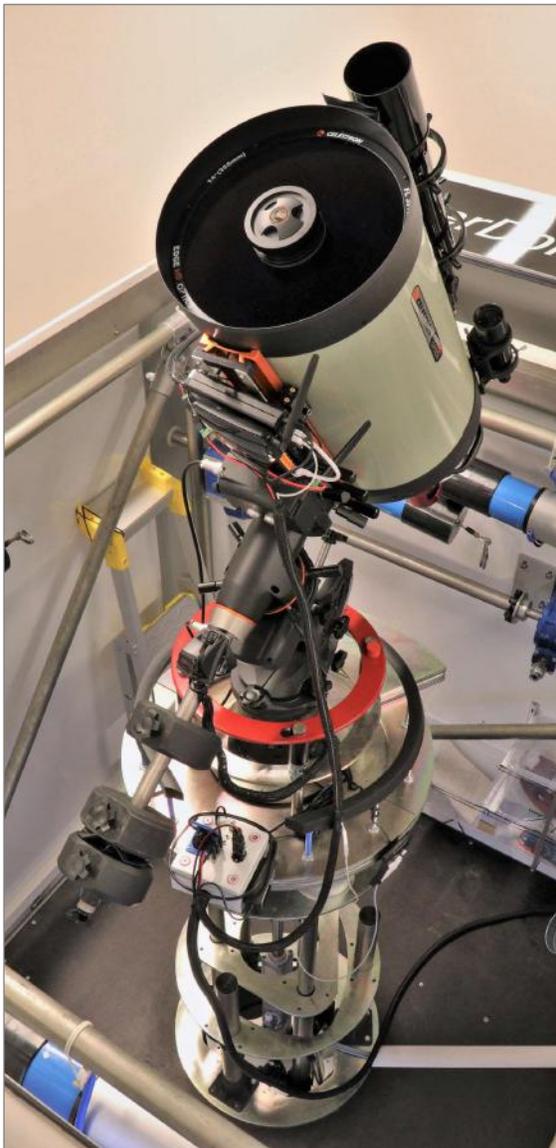
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The astro gear

The astro gear doesn't take any part of the trailer dome solution, not as such. It could be any brand or model as long as it complies with the physical metric limitations. The gear is thus the astronomer's own free choice.

The same applies for the capturing setup. As an example, the prototype is set up for remote control from the adjoining room next to the open observatory cabin. It could practically speaking be done from anywhere, although there is hardly any point in managing the astro sessions from other places. Besides perhaps the living room when parked in the backyard.



Prototype's basic astro gear

C1400 Edge HD on CGE Pro mount

The whole setup is based on standard hardware without using any dedicated or brand specific astro appliances.

This might be a somewhat old-school approach, but so be it..

Standard computers, Wi-Fi routers, power- and USB splitters are widely available bread-and-butter products.

More important, the whole trailer dome solution is engineered based on well established industrial standards.

For the prototype, it would therefore be rather unwise to risk possible deviations from this and perhaps be pushed into a corner.

The latter is however merely driven by uncertainty and not by hard facts. More a precautionary measure.

The astronomers' own setup could deviate in every aspect from the prototype's setup.

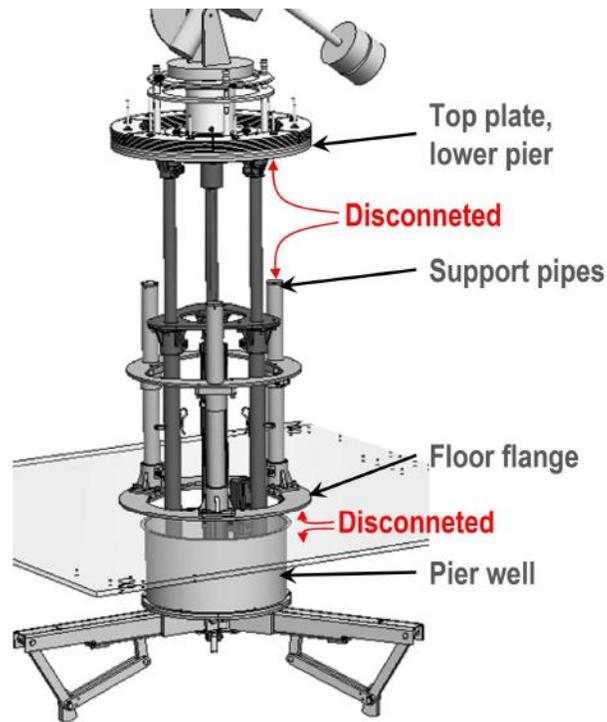


Releasing

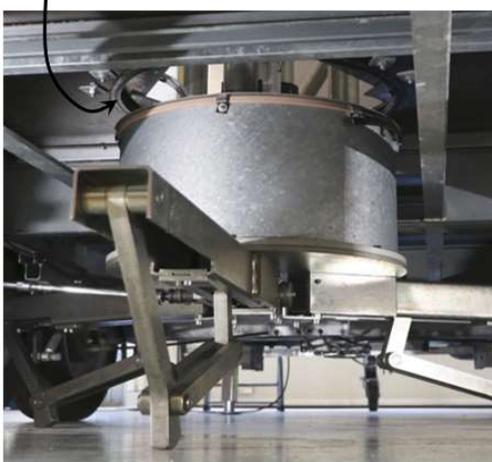
The floor opening in the observatory cabin is enforced with a steel flange in addition to horizontal steel bars under the flooring bed.

During transportation, the lower rig is firmly attached to the floor flange. The actuator pulls the pier well upwards and the lower pier's top plate downwards. The actuator squeezes these two parts towards each other with the three supporting pipes holding against in-between. Thereafter, they are locked in their positions by the actuator's brake.

In observation mode, the pier well has been lowered down towards the ground and the lower pier's top plate pushed upwards to dock onto the suspension platform. The rig's contact points mentioned above have thereby been released, see **Disconnected** in drawing.



Elastic sealing ring



In observation mode, the tripod, the pier well and the lower pier are all designed to never be closer than 50 mm to any part that is fixated to the trailer chassis.

The picture shows the tripod in observation mode. Both the floor opening and the pier well's clearance could be seen, together with a strong but still elastic foam rubber sealing ring.

The latter to secure a steady and proper closure during transportation.



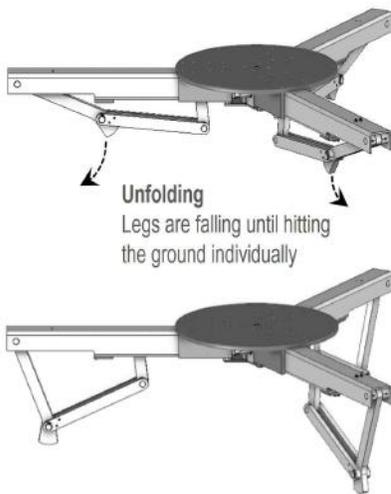
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Leveling

Leveling is done in a two-step process during conversion from transport to observation mode. There is in fact a third step in-between, but that step occurs automatically and does not involve any separate action, see grey below:

1. *Rough leveling of trailer by adjusting the supporting jacks on each corner
Self-leveling of rig's lower pier upon anchoring of tripod to the ground*
2. *Precision leveling of wedge by adjusting three tilting bolts on the adapter plate*



Step 1 is probably obvious to do regardless of what the trailer will be used for. However, this step is more crucial for trailer domes than merely to achieve “comfort and convenience”.

The tripod’s self-leveling mechanism works by passing the trailer’s own degree of leveling on to the tripod itself and thereby also to the lower pier. If the trailer is in level upfront the tripod and lower pier will also be.

The term self-leveling is therefore a bit misleading. What happens is that the tripod’s three legs fall down and hit the ground individually regardless of how far down it is.

Step 2 is not strictly required to do, although it most probably will ease the process of polar alignment.

The wedge is resting on three tilting bolts on the adapter plate. These bolts have a double-lock adjustable function up-down, which implies that the plate could be tilted exactly in level at the same time as being firmly fixated to the suspension platform.

The function for precision leveling is located as far up and close to the wedge as possible and works independently of how well the trailer or even the pier itself are in level or not. It should further not be carried out until the top pier has been lifted and rests on the locking pins inserted into the outer telescopic tubes.

