

Binocular Sky Review: Neewer Camera Crane (used as a Parallelogram Mount for Binoculars)

Manufacturer's Specifications

Weight (lbs)	10.8
Payload (lbs)	17.8
Counterweight arm	20mm od tube
Tripod Mount	3/8" BSW
Instrument mount	1/4" and 3/8" BSW
Degrees of motion	1
Centre of mass adjustment	No
Body Material	Aluminium and plastic
Counterweights	2 x 1kg
Origin	China



Price: £105.49; \$116.09

Available from: [Amazon.co.uk](https://www.amazon.co.uk) and [Amazon.com](https://www.amazon.com)

There is also a carbon fibre version available for [£124.99](#) / [\\$130.19](#) – it's about 1lb (450g) lighter.

Initial Impressions

The device comes in a nylon bag with the counterweight arm in an internal sleeve, and the QR plate, counterweights and instruction leaflet in zipped pockets. The main part of the device is secured with a hook-and-loop strap. All shaft extensions are locked with rotating compression locks. Each pivot also has its own pair of tension knobs. The base is fixed to the tripod with no means of rotation. The QR plate also has a 75mm/100mm hemispherical head. The weight end of the counterweight shaft has a foam grip. It also has a "hanging hook" on the counterweight shaft.

The device has only one degree of motion (up and down) so, to be used as a parallelogram mount, you will need to add at least another two (pan and tilt). The simplest way is with a ball-and-socket camera mount. I used a [Kingjoy QB-10](#) and an Amazon basics trigger grip head, both of which I already had.

Selecting a Tripod

Your tripod should have a rotating centre post or you will not be able to swing the device around the tripod. The old version of the Manfrotto 055 is one such, and can be found very cheaply on internet auction sites – sometimes, if you're lucky, with a trigger-grip head attached.

An alternative, and what I used most of the time while testing this setup, is the Amazon Basics Tripod and Pistol-grip head. This is a sturdy set-up (I've had mine for nearly 7 years, and it's seen a lot of use) and is very good value at [£54.98](#) (although prices do fluctuate and sometimes the identical "Ravelli"-branded version is cheaper).

Assembly

The base of the device has no facility for rotation, so you need to use a tripod with a rotatable centre post.



1. Put the base of the device onto the tripod (standard 3/8" BSW photographic thread). Screw it on as tightly as you can and, if the tripod has locking grub-screws (set-screws), use them.
2. Keeping the parallelogram arms as short as possible, make sure that the distance between the pivots is the same on upper and lower arms (i.e. that you do have a parallelogram). Lock them in this position with the compression locks.
3. Screw the counterweight shaft compression lock onto the upper shaft and screw the threaded counterweights onto the end of the shaft. Leave the shaft fully extended.
4. Remove the hemispherical bowl mount from the QR plate (2.5 mm Allen wrench). It'll just get in the way, and removing it saves you 83g of payload.
5. Firmly attach the ball-head you are going to use to the QR plate, and insert the plate into its mounting shoe. The locking knob on the shoe may be poorly adjusted. You can change the adjustment by pulling it away from the body of the mounting shoe (it is spring-loaded) and rotating it until it can clamp the QR plate properly.
6. If your binocular needs a tripod adaptor, attach that to the binocular now.
7. Remove the QR plate from the ball head attach it to your binocular's tripod adaptor or mounting post.
8. Mount the binocular onto the ball-head, and ensure that it is secure.
9. With a light binoculars, you can leave the pivots barely tightened and balance it by adjusting the length of the counterweight arm. With heavier binoculars, you will need to tighten the pivots enough to prevent the binocular from sagging.

You're ready to go.



Payload Capacity

The specified payload capacity is 8kg. This may be possible for its intended use as a camera crane (I didn't try), with extra weight hanging from the hook on the counterweight shaft, but this is unrealistic for use as a parallelogram mount for binoculars. Weight hanging from the hook swings when the counterweight shaft moves, and it takes ages for the binoculars to become still. I can't tell you exactly how long, because I got fed up waiting – the answer is “too long”.

I tested the following combinations:

Combination	Weight (g)	Pivot Nuts	Comments
<p>Lunt 10x50 IF + Kingjoy OB10</p> 	<p>1910</p>	<p>Slack</p>	<p>Easily balanced, pleasure to use. Vibrations took less than 2 seconds to damp down.</p>
<p>Revelation 15x70 + Kingjoy OB10</p> 	<p>1968</p>	<p>Slack</p>	<p>Easily balanced, pleasure to use. Vibrations took less than 2 seconds to damp down.</p>

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Combination	Weight (g)	Pivot Nuts	Comments
<p>Revelation 15x70 + Trigger-grip</p> 	<p>2433</p>	<p>Moderately tight</p>	<p>Operated very smoothly with no sag. A pleasant combination. Vibrations took about 2.5 seconds to damp down.</p>
<p>Helios 20x80 + Trigger grip</p> 	<p>3437</p>	<p>As finger-tight as possible</p>	<p>Still operated quite smoothly but had the “near its limit” feel. No sag. Vibrations took about 4 seconds to damp down.</p>

The maximum payload with slack pivot nuts is 2083g, above which the binocular end will begin to sag.

Conclusions

The least expensive easily available parallelogram mount is the Orion Paragon Plus. This has a nominal payload of 5 lbs (2.27 kg) and costs £132 (without a tripod) and £266.99 (with a tripod). Because of its design, which has only three degrees of motion (it lacks the ability to pan without swinging the device around the tripod) you have to look back over the tripod, which limits it for seated observing and precludes reclined observing. It is very robust, but its L-bracket is too broad for some binoculars (including almost all roof-prisms) and it can't take these or centre-post mounted binoculars without buying a £31.99 adaptor.

By comparison, the Neewer Camera Crane does not feel as robust, but is much lighter (and hence more transportable) and both the crane and the tripod pack away into bags for storage and transport.



More importantly, the fact that you have to use some form of ball-head on the QR plate means that it has the extra degrees of motion that the Paragon lacks. At minimum extension (which is where it will be used for binoculars) it has a vertical range of 80 cm, which is sufficient to observe both standing and reclined without having to adjust the tripod height.

For binocular/ballhead combinations under 2 kg, where the pivots can be left slack, and for combinations up to 2.5 kg, where the pivot tightness is only moderate, this is a pleasure to use. Whilst it will take combinations weighing 3.5 kg (and possibly a bit more), it does feel as though it's near the limit of its capability, and the time for vibrations to damp would take a bit of getting used to.

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I have not tried the carbon fibre version but, given the reduced weight of its shafts, I would expect it to take about 0.2 kg more (i.e. around 2.3 kg) before the pivots need to be tightened. (If anyone gets one after reading this, I'd be interested to know if I'm correct!)

Oh, and in case you have need of one, it can also double as a camera crane!

So who is it likely to appeal to? I suggest that with or without the Amazon Basics Tripod and Pistol-grip head, it is an attractive option for anyone on a budget, particularly for combinations up to 2.5kg.

Acknowledgement

Thanks to fellow amateur astronomer, Les Brand, who came up with the idea, and posted about it in the Facebook group [Binocular Astronomy: Observing with Binoculars](#) . The idea looked promising, so I had to try it.

Stephen Tonkin
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