

# Orion® VersaGo™ Altazimuth Mount

#5682



**Figure 1.** The VersaGo Altazimuth Mount.

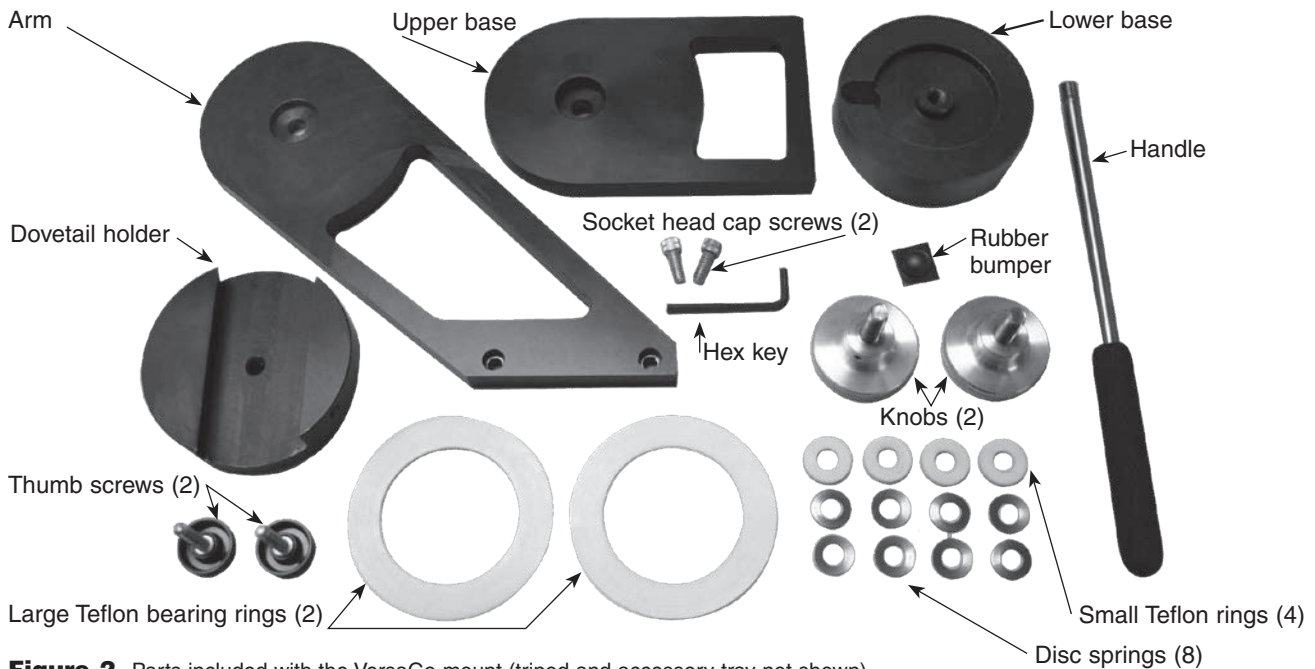
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*Congratulations on your purchase of a quality Orion product. Your VersaGo Altazimuth Mount is a sturdy, yet highly portable observing platform for small telescopes. The simple design makes setting up and using the mount very easy. Teflon bearing surfaces for both axes of motion insure smooth telescope pointing, even when making very small, precise positional adjustments. Great for daytime terrestrial or nighttime astronomical applications, you'll find yourself observing more and fussing with equipment less when using the VersaGo.*

These instructions will help you set-up, properly use, and care for your mount. Please read them over thoroughly before getting started.



**Figure 2.** Parts included with the VersaGo mount (tripod and accessory tray not shown).

## 1. Parts List

(refer to Figure 2)

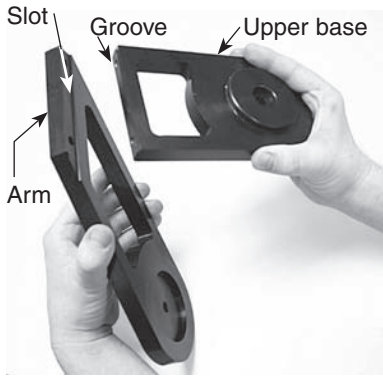
Qty.	Description
1	Tripod
1	Accessory tray (with 3x wing screws)
1	Arm
1	Upper base
1	Lower base
1	Dovetail holder
2	Knobs
1	Handle
2	Large Teflon bearing rings
4	Small Teflon rings
8	Disc springs
2	Thumb screws
2	Socket head cap screws
1	Hex key
1	Rubber bumper

## 2. Assembly

Carefully open all of the boxes in the shipping container. Make sure all the parts listed in the Parts List are present. Save the boxes and packaging material. In the unlikely event that you need to return the mount, you must use the original packaging.

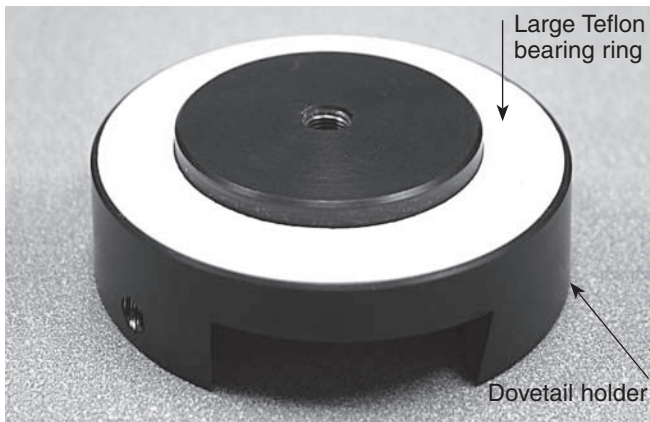
Initially assembly of the mount should only take about 20-30 minutes. No tools, other than the provided hex key, are needed. Refer to Figure 1 during assembly.

1. Assemble the arm to the upper base. This is done with the two socket head cap screws. Orient the parts as shown in Figure 3. The groove in the upper base should register with the slot in the arm. Insert the screws through the holes in the arm and into the upper base. Tighten the screws firmly with the hex key.



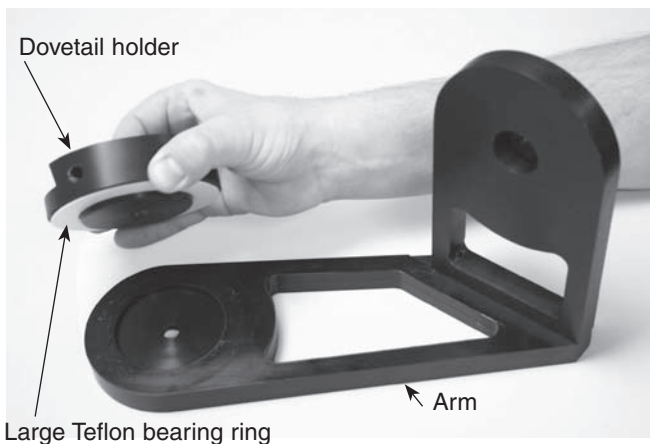
**Figure 3.** Connect the arm to the upper base with the two socket head cap screws. The groove in the upper base should align with the slot in the arm.

- Place a large Teflon bearing ring on the dovetail holder as shown in Figure 4.



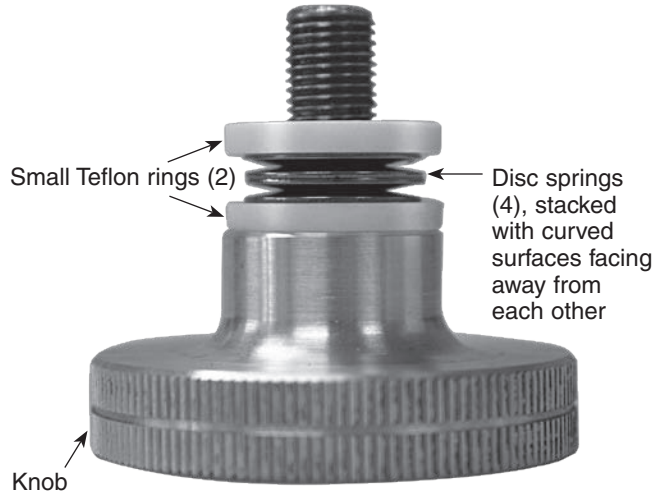
**Figure 4.** Place one of the large Teflon bearing rings on the dovetail holder.

- Position the dovetail holder on the arm as shown in Figure 5. The Teflon bearing surface seats between the dovetail holder and the arm.



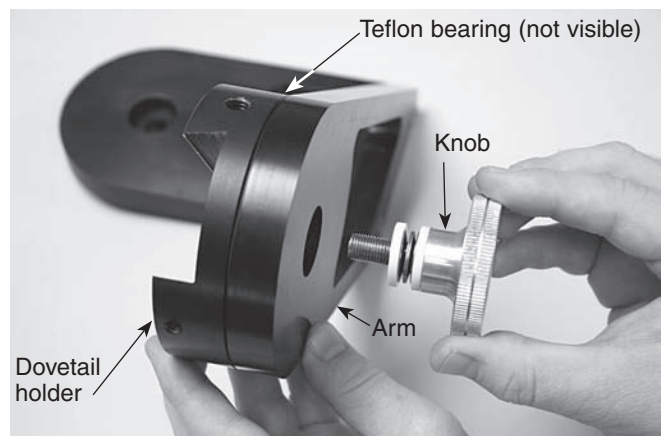
**Figure 5.** The dovetail holder seats into the arm with the Teflon bearing in between.

- Place a small Teflon ring onto one of the knob shafts. Then, place four of the disc springs onto the knob shaft. The disc springs should be stacked with their curved surfaces facing away from each other. Place another small Teflon ring on top of the disc springs. The knob should now appear as shown in Figure 6.



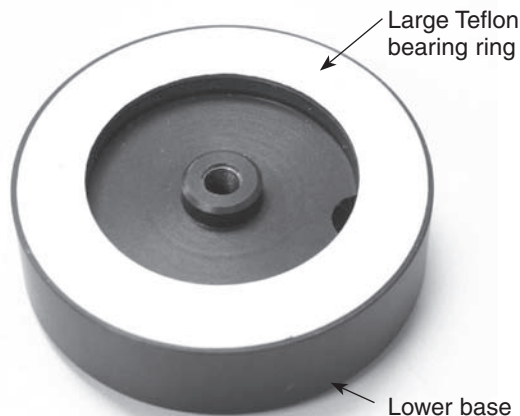
**Figure 6.** Two small Teflon rings and four disc springs go on each knob shaft. The disc springs should be oriented so their curved surfaces face away from each other.

- Push the knob shaft through the hole in the arm and thread it into the hole in the dovetail holder (Figure 7). Thread the knob unit just tight.



**Figure 7.** The knob goes through the arm and into the dovetail holder. The Teflon bearing seats between the arm and dovetail holder.

- Place the other large Teflon bearing ring onto the lower base as shown in Figure 8.



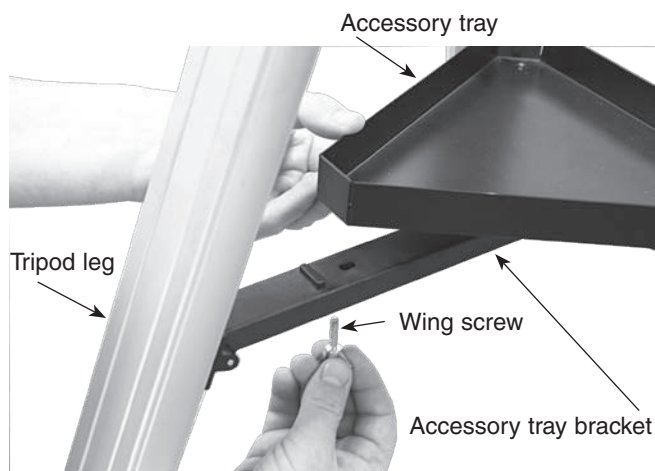
**Figure 8.** Place a large Teflon bearing ring onto the lower base.

- Place the remaining two small Teflon rings and four disc springs onto the other knob shaft, the same as in step 4.
- Place the upper base over the lower base, then pass the knob shaft through the hole in the upper base and thread it into the hole in the lower base (Figure 9). Thread the knob until just tight.

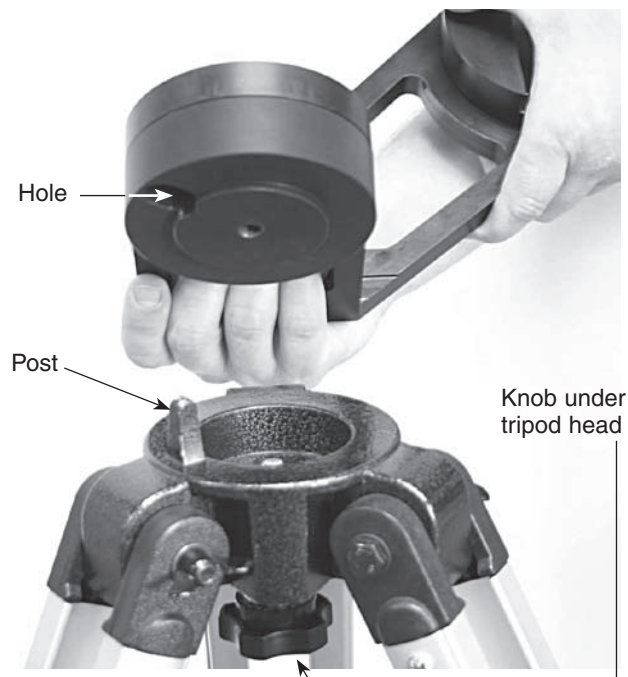


**Figure 9.** Position the upper base over the lower base, and connect the parts by passing the knob through the upper base and threading it into the lower base. The Teflon bearing ring should seat between these parts.

- Stand the tripod upright and spread the legs apart. Tighten the leg lock knobs at the base of the tripod legs. For now, keep the legs at their shortest (fully retracted) length; you can extend them to a more desirable length later, after the mount is completely assembled.
- Spread the tripod legs apart as far as they will go, until the accessory tray bracket is taut. Attach the accessory tray to the accessory tray bracket with the three wing screws already installed in the tray. This is done by pushing the bolts up through the holes in the bracket, and then threading them into the holes in the accessory tray (Figure 10). The tray gives the tripod extra stability and is a convenient area to place telescope accessories during use.

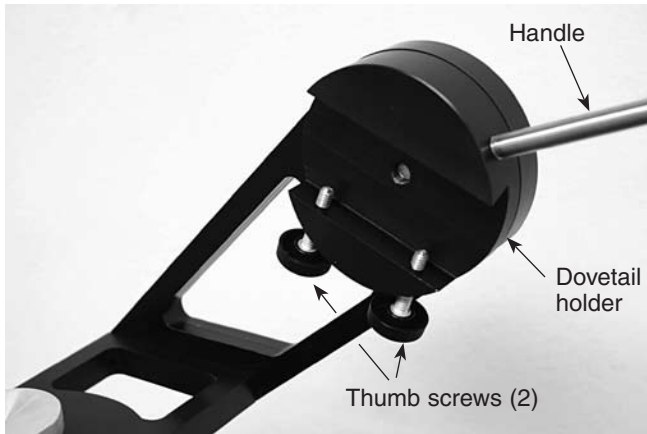


**Figure 10.** Attach the accessory tray to the tripod's tray bracket with the three wing screws that come installed in the tray.



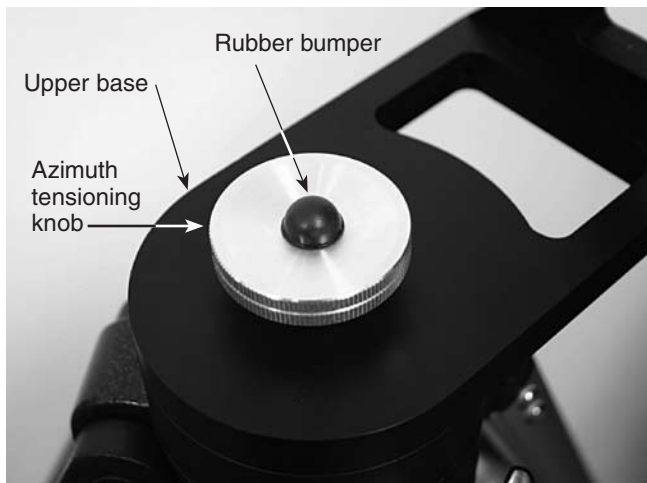
**Figure 11.** The post on the tripod head goes into the hole on the underside of the lower base. The VersaGo mount connects to the tripod with the knob under the tripod head; be sure to tighten this knob firmly.





**Figure 12.** The thumb screws and handle thread into the dovetail holder.

11. Place the VersaGo mount onto the tripod. The post on the tripod head should go into the slot on the underside of the lower base (Figure 11). Thread the knob under the tripod head up into the threaded hole in the lower base. Tighten this knob firmly.
12. Thread the two thumb screws into the dovetail holder as shown in Figure 12.



**Figure 13.** The rubber bumper on the azimuth tensioning knob will prevent larger telescope tubes from hitting the knob when pointing near the horizon.

13. Connect the handle to the dovetail holder as shown in Figure 12. There are two threaded holes where the handle can be attached; use the one that positions the handle in the most convenient location for your usage.
14. Attach the adhesive-backed rubber bumper to the center of the knob that connects the upper and lower base (Figure 13).

Your VersaGo mount is now fully assembled, and should resemble Figure 1. All that is left is to connect your telescope to the mount.

### 3. Connecting a Telescope

The VersaGo mount was designed to be used with telescopes of apertures 6" or less; telescopes larger than this will not be able to point at the horizon (horizontal) or zenith (vertical). Also, for best results, the telescope optical tube assembly should not weight more than approximately 15 lbs; otherwise, it may not provide adequate stability.

To connect a telescope, a dovetail mounting bar or dovetail adapter is required. Some telescopes have a dovetail bar directly attached to the telescope tube. For other telescopes, tube rings will be required to couple the dovetail bar to the tube. Dovetail mounting bars and tube rings are both available from Orion (Figure 14). Additionally, if your telescope has a 1/4"-20 threaded mounting hole, Orion offers two different dovetail adapters that will thread into this hole; one orients the bar parallel to the tube (the 1/4"-20 dovetail adapter), the other orients the bar perpendicular to the tube (the 1/4"-20 dovetail L-adapter, see Figure 14).



**Figure 14.** Orion sells a variety of optional mounting bars, 1/4"-20 adapters, and tube rings that will couple your telescope to the VersaGo mount.

Once you have a dovetail mounting bar on your telescope tube, connecting the telescope to the mount is exceptionally easy. First, unthread the thumb screws on the VersaGo's dovetail holder until the screw tips are flush with the interior wall of the dovetail holder. Then, insert the telescope's dovetail bar into the mount's dovetail holder, and tighten the two thumb screws firmly.

If you have a telescope with a dovetail mounting bar attached directly to the tube, the finderscope may be oriented in an awkward position when connected to the VersaGo. In most cases, this should not cause any problems in actual usage. If you wish to orient the telescope differently, you will need to purchase optional tube rings and a dovetail mounting bar so the tube can be rotated within the rings. Likely, you will also need to remove the mounting bar already connected directly to the telescope's tube.



a.



b.



c.

**Figures 15a-c:** The telescope is not balanced because it is front-heavy. (b.) The telescope is too back-heavy. (c.) The telescope is properly balanced on the altitude axis.

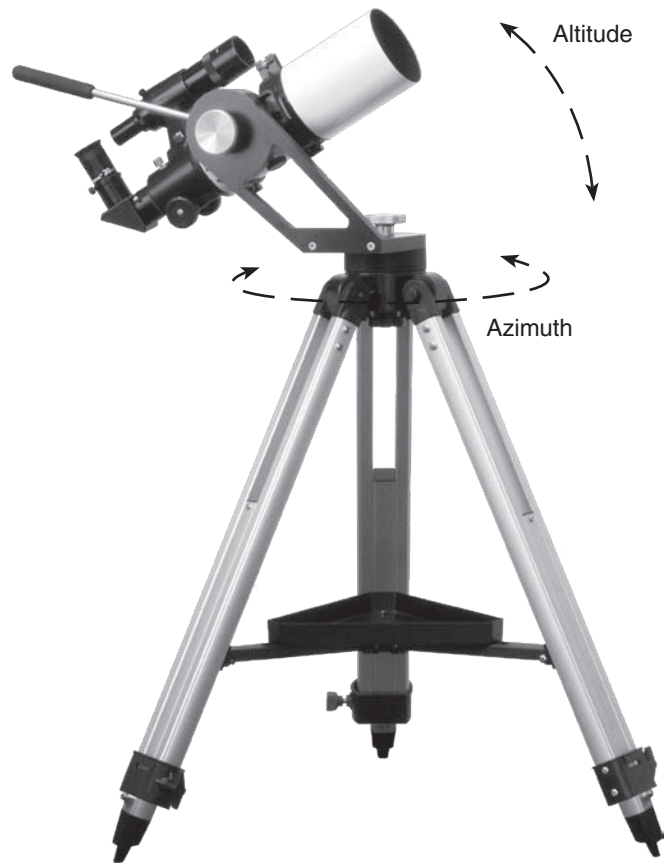
If you are using the 1/4"-20 dovetail adapter and the finder scope and/or eyepiece is positioned awkwardly, you may want to consider purchasing the 1/4"-20 dovetail L-adapter.

For best up-and-down motion, the telescope should be balanced front-to-back when positioned horizontally. You can balance the telescope by loosening the thumb screws slight-

ly, and moving the dovetail bar slightly forward or back in the dovetail holder. If you are using tube rings, you can move the telescope tube forward or back in the tube rings. When the telescope doesn't move up-and-down by itself when the arm's tensioning knob is not very tight, you have achieved good balance (Figure 15a-c).

## 4. Using the VersaGo Mount

The VersaGo mounts allows motion of the telescope in two axes: altitude (up-and-down) and azimuth (left-to-right). Hence, the VersaGo is an "altazimuth" mount (Figure 16). Simply move the telescope up-or-down and left-to-right. The handle provides a convenient way to position the mount's axes.



**Figures 16.** The VersaGo is an "altazimuth" mount because it can move in altitude (up-and-down) and azimuth (left-to-right).

If the motion of one or both of the axes is too loose or too tight, you can adjust the bearing tensioning by tightening or loosening the knobs. You should be able to adjust these knobs so even the smallest motions of the mount are very smooth. If the motion on the altitude axis is not smooth no matter how the altitude tensioning knob is adjusted, then you will need to better balance the telescope front-to-back.

Unlike many altazimuth mounts, the VersaGo can be used to point a telescope at zenith (straight up). This makes it especially well suited for astronomical observing.

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When pointing a longer telescope tube, like a long focal length refractor, at zenith, extending the tripod legs will help better position the eyepiece. For heavier telescopes, we recommend extending the tripod legs in order to give the mount a wider stance; this will prevent the mount from becoming “tippy”.

For 5" or larger aperture telescopes, the telescope tube may bump the azimuth tensioning knob when pointing near the horizon. The rubber bumper will prevent any tube scratches or dings if this happens. For smaller telescope tubes the rubber bumper should not be needed, and can be removed.

Telescope connection:	Requires Orion dovetail mounting bar (not included)
Tripod:	Adjustable height, includes accessory tray
Assembled weight:	12 lbs. 3 oz.

### **Tracking Celestial Objects**

Celestial objects appear to move slowly across the sky because of the rotation of the Earth on its polar axis. When you observe an object through your telescope, you'll see it drift gradually across the field of view. To keep the object centered in the field, use the handle to move the VersaGo as needed. For these small, precise movements, you may need to readjust the axis tensioning knobs. Keep in mind that objects will appear to move faster at higher magnifications, because the field of view is narrower.

## **5. Care and Maintenance**

If you give your VersaGo mount reasonable care, it will last a lifetime. Store it in a clean, dry, dust-free place. Do not store the mount outdoors, although storage in a garage or shed is OK.

Your mount requires very little mechanical maintenance. It is constructed of aluminum and has a black anodized finish that is fairly scratch-resistant. If a scratch does appear, it will not harm the mount. Dust, dirt, or moisture on the mount should be wiped off with a soft cloth. If the mount needs more extensive cleaning, use a household surface cleaning fluid.

When transporting the mount to an observing location, we recommend removing the handle in order to prevent it from being damaged. You can also fold the tripod legs together once the accessory tray is removed. For extra portability, you can also remove the VersaGo mount entirely from the tripod; simply unthread the knob under the tripod head. To protect your mount during transport, Orion offers optional soft padded carry cases.

## **6. Specifications**

Mount:	Altazimuth
Material:	Aluminum black anodized throughout
Maximum load capacity:	Approximately 15 lbs.
Maximum tube outer diameter:	Approximately 7.5" (6" aperture telescope)
Bearing surfaces:	Teflon
Axis tensioning:	Via knurled knobs
Pointing handle:	Included, foam grip

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## **One-Year Limited Warranty**

This Orion VersGo™ Altazimuth Mount is warranted against defects in materials or workmanship for a period of one year from the date of purchase. This warranty is for the benefit of the original retail purchaser only. During this warranty period Orion Telescopes & Binoculars will repair or replace, at Orion's option, any warranted instrument that proves to be defective, provided it is returned postage paid to: Orion Warranty Repair, 89 Hangar Way, Watsonville, CA 95076. If the product is not registered, proof of purchase (such as a copy of the original invoice) is required.

This warranty does not apply if, in Orion's judgment, the instrument has been abused, mishandled, or modified, nor does it apply to normal wear and tear. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. For further warranty service information, contact: Customer Service Department, Orion Telescopes & Binoculars, 89 Hangar Way, Watsonville, CA 95076; (800)-676-1343.

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