

## Orion 15 Service

When I first saw this lens, I thought it might be complicated but it turned out to be quite an easy job. As usual the original grease has degraded to the extent that the lens was difficult to focus and the aperture was almost impossible to set without getting fingerprints on the lens.



Remove or loosen the lock screw on the rear-retaining ring and unscrew the ring. As you start to unscrew it, the lens unit will become loose so you will need to support it from the front.

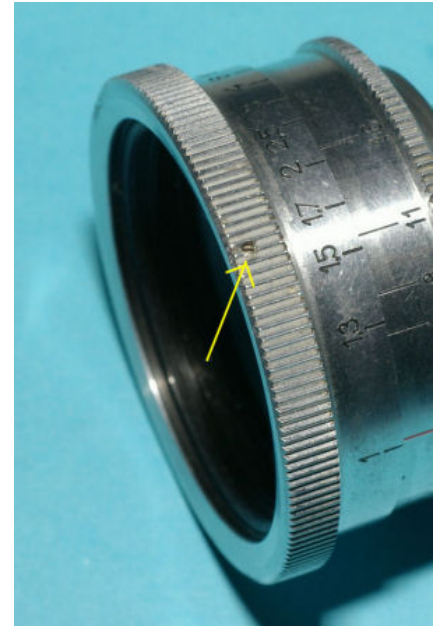


If the diaphragm is difficult or sticky to turn, remove the guide pin. If not put the lens unit to one side.

The outer housing can now be unscrewed and the threads on both parts can be carefully cleaned and degreased. Lightly re-lube it and then screw the outer section back on. Put it on as far as it will go and then back it off until you can see the socket for the guide pin through the slot. Replace the pin and put the lens unit safe to one side.



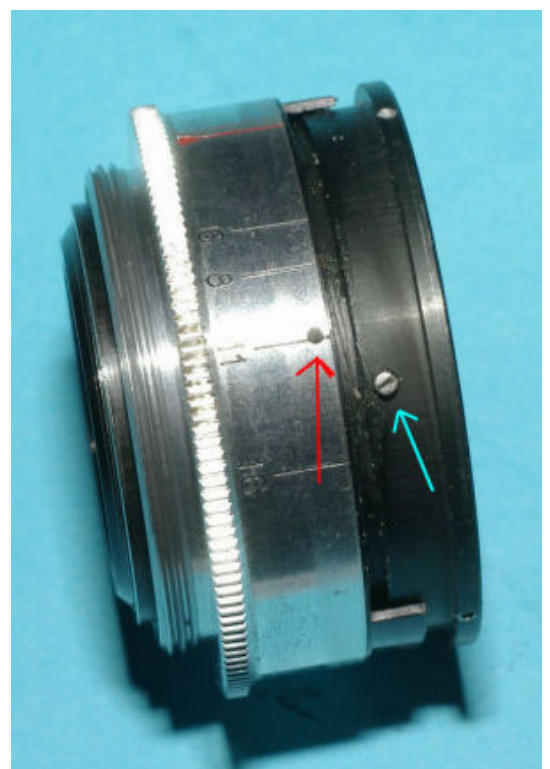
Remove or loosen the 3 screws around the front rim of the focus ring on the main body unit. The ring can now be unscrewed and cleaned if needed.



Have a good look at this picture. Note the position of the stop pin and how close to the rim of the middle section, the outer part comes. Remove the screw and if you try the focus again, you will see that the 2 rings “lock” together just past this point. When you re-assemble this part, there are many start positions for this fine helix and this is the one you are looking for.



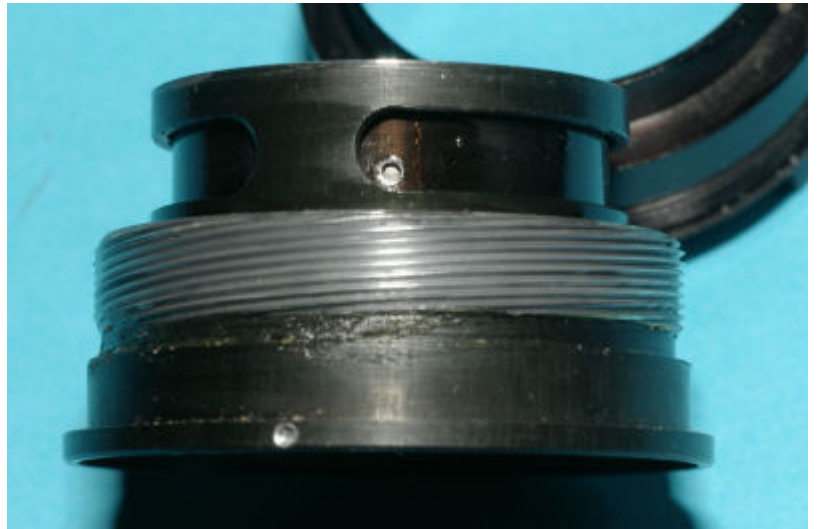
Remove the limit pin (light blue) if you haven't already done so. Remove, the lock screw shown by the red arrow. The outer casing/lens mount can no be unscrewed, cleaned and put to one side.



Remove the 2 guide pins, the one shown here and the other one on the opposite side. The outer part of the focus unit can now be removed.



Note the position of the hole for the guide pin. It should look the same on the other side. You may want to screw the inner section fully home and mark the 2 parts the make sure you start the helix in the right place. Remove, the inner helix and then all three parts of the focus unit can go off to be degreased.



You can re-assembly in the reverse order but I found it easier to do it slightly differently. Re-grease and assemble the 2 outer sections. There are many start positions for this and only one is correct. Fortunately, it is fairly obvious when you have the right one. If in doubt look back up the page for what it should look like. Now grease on thread in the inner helix. This has 4 start positions but 2 of them will work. Again if you have studied the lens as you took it apart it is again fairly obvious. Now replace the two guide pins and put the outer casing/ lens mount on. Put the lens on a camera and focus to infinity and check the RF also says infinity. If it doesn't, then providing you have followed the instructions above, the inner helix is 90° out. Take the outer casing off, remove the guide pins and rethread the inner helix. Hopefully it will work this time. Re-assemble the focus unit and then replace the lens unit and you are done. Hopefully, collimation should not be a problem. I have only seen/done one lens and this was OK so I am not sure how to re-shim it. Moving the lens unit forward would not be too difficult with a very thin shim. (Think how little the lens moves when focussing and it is only F6 at the widest aperture!) Moving it back would be much more difficult and would require metal removal.

If you have any specific problems or questions, you can reach me through my website at [www.pentax-manuals.com](http://www.pentax-manuals.com). I will do my best to help but please remember that I am not a pro and this is my hobby!