

## Jupiter 8 Service

### OR A TALE OF 4 JUPITER 8's BY KIM COXON

OK, 4 J8's in need of attention for \$12, how could I refuse. When they arrived, they were of 4 different sorts and boy did they need attention!



The 4 J8's. The first one (from the left) is similar to the black ones. When you focus the whole front rotates. Note the printed depth of field scale that has just about worn away. The second one is similar in construction to the J3. Note the cap shown by the arrow. This relies on a second helix to keep the front of the lens from rotating. The third and fourth ones are similar in construction to the Industar lenses and rely on a pin to stop the front rotating. The only difference between these two is the focus tab.

Servicing the focus unit of each is different but the lens units are very similar. I will cover the re-lube of each of the focus units first and then cover the lens unit before some words on collimation.

### LENS 1

Firmly grip the lens unit and unscrew it from the focus unit. Notice the alloy shims. Put the lens unit to one side and don't lose the shims!



Undo the 3 small grub screws around the focus ring shown in white. I take the screws out and place in a safe place in case of loss. If the ring is clean and you don't intend to anything with it, you could just loosen them. If you leave them in they are easy to loose but if you take them out, they can be fiddly to replace. Next, undo the 3 screws around the main body cover (shown in yellow) and remove this as well.



With the lens set at the close focus point, note how the 2 stops screws almost touch either face. Remember this, as you will when you reassemble to get the helix in the right place. Unscrew the helix slightly so you can get at the lower screw (arrowed in yellow) and remove it. You can now remove the helix unit.



The disassembly is complete and the 2 parts of the focus unit can go in your favourite de-greaser and the 2 rings can be cleaned either with some household cream cleaner or metal polish, Flitz is very good for this. Reassembly is the reverse of this procedure. Grease the helix (I use a silicon based synthetic grease) and thread it back together. There are 4 start positions, only one is right or you will not be able to focus it properly. The photo above should help. Remember, the 2 screws should almost touch the opposite face. Place this unit on a camera and move it to infinity and check that the RF is also on infinity. If not, the helix is in the wrong place.



## Lens 2

This is perhaps the most difficult of the FSU lenses. Begin by removing the lens unit as before.



Remove the 3 screws around the focus ring (yellow arrows) and then remove the ring.



Remove the 3 screws shown by the red arrow and remove the front part.

Remove the yellow screw. This is the focus limit screw.



Now you can remove the 3 blue screws and the focus ring can come off.



This shows where the limit screw goes in. You should take a very good look what it looks like. The way these ring work together is very difficult to describe in words. You should also now be able to unscrew the lens mount itself.



You should now have a set of parts like this.



Have another good long look and take notes! If you turn the silver ring in the middle of this photo, you will see how the parts interact. If you keep turning the ring, the 3 parts will eventually come apart. Once everything is cleaned and re-greased, it has to go back together. You have to line up the three pieces and jiggle them about until they go back together. I tried to work out a way to describe the position of them but can't. I had to fiddle with it for about  $\frac{3}{4}$  of an hour and suddenly it all seemed to work. Having checked it, everything was in the right place so I wasn't going to tempt fate a take it apart for this. Sorry! The rest of the reassembly is the reverse. Place this unit on a camera and move it to infinity and check that the RF is also on infinity. If not, the helix is in the wrong place.



## Lens 3&4

You will be glad to know that I have saved the easiest to last!

Remove the lens unit as before and then remove the 3 screws around the focus ring and then remove the ring.



Remove the 3 screws around the front part of the body and remove.



Remove the 3 screws around the keeper ring on the bottom and lift of the ring.



Lift off the lens mount ring.



Remove the guide pin. If you decide to remove the stop pin as well remember that the guide pin is the shorter of the two.



Note how this looks. With the helix unit inserted correctly, the top of the body ring is nearly touching the rim of the helix unit. Only one start position of the 4 possible will look like this so when you re-assemble refer to this picture. Separate the 2 parts, clean re-grease and reassemble in the reverse order. Place this unit on a camera and move it to infinity and check that the RF is also on infinity. If not, the helix is in the wrong place.



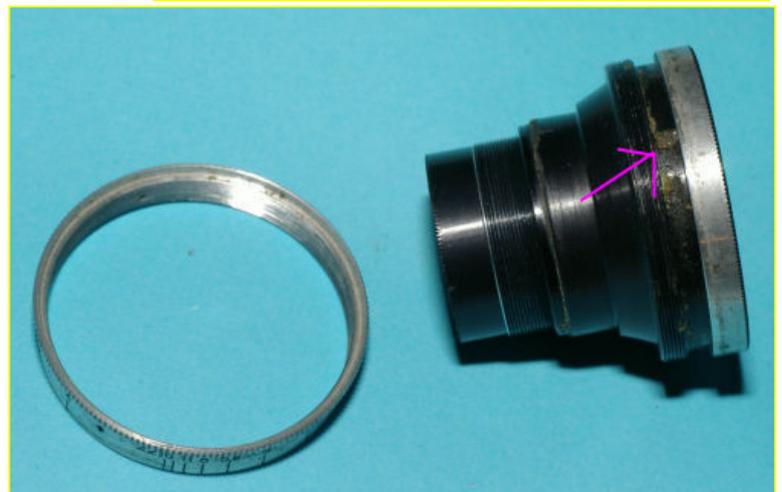
## Lens Units

If there is nothing wrong with the lens unit, you can now replace it not forgetting the shims! If the lens unit does require attention, either to clean the glass or lube the aperture ring, read on.

Remove the shims and the rear lens group and place in a safe place. Notice where the rear of the diaphragm ring is in relation to the main body. Remove the 3 screws around the aperture ring. These are best removed, as they are very easy to lose otherwise. The aperture ring should now screw off backwards



Now undo the 2 screws around the top of the lens just below the front surround. In this case, they were buried in the grease so you may need to hunt for them. The front nameplate ring can now be unscrewed.



The trim ring and front element should now drop out and you should have a set of parts like this.



The second lens group should now also come out although in some cases it may be a bit stiff and need a gentle prod from the back. Note the 2 cut-outs for a lens spanner in the picture. There is no need to do anything here unless you want to slit the second group to clean the glass. This is best done with the group removed.



If the diaphragm is dirty, you can now clean it with a cotton bud and some Ronsonol lighter fluid. To re-lube the ring, first remove the index pin marked here in yellow. Next remove the lock ring screw shown in green. The ring will now unscrew and the two halves can be separated.



Both parts can now be carefully cleaned. To re-lube this part, I use a lithium-based grease that is a bit thicker than the silicon based grease used on the helix. The arrow shows the important part. It is this rubbing on the main body that gives the diaphragm it's "feel". By using a thicker grease, I find the ring is smooth to turn but less likely to get knocked out of place whilst focussing. Use a little to start with and add more till you get the right feel for you.



Reassembly is the reverse procedure. When you replace the outer diaphragm ring, leave the 3 screws slightly slack. You will need to adjust this once the lens unit is replaced on the focus unit to get the index mark in the right place.

## Collimation

The general procedure for collimating lenses is another document. The Jupiter 8's are generally fairly easy to do. Begin by collimating at infinity. Once this is right check the close focus. Of the dozen or so that I have done, there wasn't any need to go any further. If yours focuses at infinity but not at close range, it is likely that you have a hybrid and someone has been changing components. Without major surgery, there is little you can do about it. You could try a thin spacer behind the rear lens group. If this makes things worse, the only solution is to start removing material to make the rear group sit further forward thus slightly shortening the focal length. In this case you may wish to collimate the lens for about 10 feet and accept any slight discrepancy at infinity.

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!