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User manual for the 3-D macro lens model 2002

General

The 24x18 mm. half frame 3-D (stereoscopic) macro lens can be attached to most of the common camera brands, using the international standardised T2 adapter ring. This T2 adapter ring is glued to the lens tube and therefore not easy to change to different type of camera attachment.

The 3-D macro lens is fixed focus. That means that the camera can only be used for one image format and object distance. Every object distance and image format requires it's own specific lens separation, giving the image a more natural impression.
There are 5 macro lens models designed;
Model A. Subject size: 10x14 mm. lens sepp.: 6.5 mm. aperture: 90
Model B. Subject size: 21x30 mm. lens sepp.: 9,5 mm. aperture: 64
Model D. Subject size: 37x50 mm. lens sepp.: 12 mm. aperture: 45
Model E. Subject size: 52x73 mm. lens sepp.: 14 mm. aperture: 45
Model F. Subject size: 72x96 mm. lens sepp.: 15 mm. aperture: 45

Exposure

The size of the pre-set diaphragm (F=±60) requires you to use the 64 (50) ASA film and a shutter time of 1/125 or 1/60; the background of the image will appear underexposed. This will eliminate a restless and unsharp background.

When using the 3-D macro-lens you always need a flashlight. When looking at the relative small diaphragm and low film sensitivity of 64 (50) ASA, you need a flashlight with a minimum guide-number of 36 (100 ASA). The flashlight power needs to be variably adjustable (variable power) because every type of macro lens requires it's own specific strength. When adjusting the flashlight power to Full, ½, ¼, 1/8 or 1/16 you normally need to set the flashlight to 'manual'; this disables the computer exposure measurement.





To prevent too much shadow on the subject at the underside, the wire frame provides a light reflection plate to reflect just enough light to give the image a more 'living' impression.

'DeWijs' company supplies a very suitable flashlight for manual exposure : the Sunpak auto 383 super.
For fast action in taking pictures of living insects, mount the camera and flashlight on a pistol grip with wire releaser.

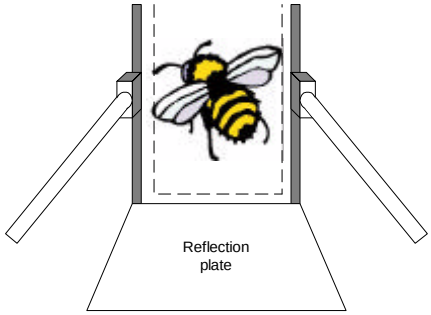
Make the camera ready for use:

- Insert a 50 (Velvia) or 64 ASA film into the camera (Kodachrome). This will guarantee very sharp pictures. (100 ASA is not sharp enough) Assemble the camera, the pistol grip and the flashlight together using the camera bolt.
- Connect the cable releaser to the camera.
- Connect the macro lens to the camera body.
- Mount the flashlight on the flashlight bracket.
- Aim the flashlight at the mid-section of the U shaped viewfinder.

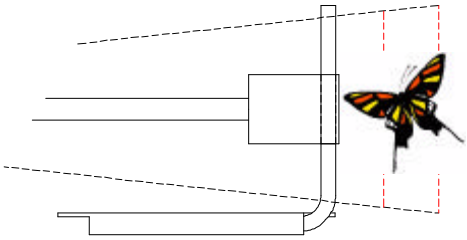
Aiming the macro lens at a subject:

The U shaped viewfinder indicates the usable subject area. Aim the viewfinder at the subject in such a way that the subject is visible inside and behind the U shape and not touching the viewfinder.

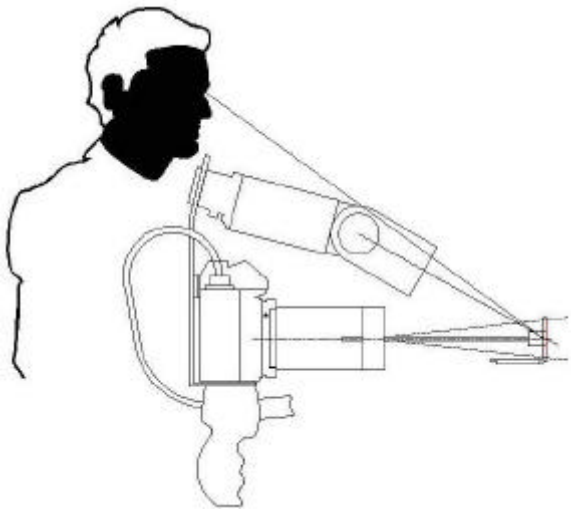
In the picture at the right, the dashed lines are indicating the borders of the photographing area. So do not use the frame rods as image border!



Do not place any object ON the reflection plate! That location is out of focus and the exposure is not guaranteed.



The height of the subject is indicated by the height of the U shape. The viewfinder is also indicating the beginning of the depth of field. For more detailed information, look for the technical specifications of your specific macro lens.



WARNING!
When you are aiming the wire frame at the subject and viewing the subject from the side or from above the camera, a parallax aiming error might be introduced. This will result in missing the lower part of the image because of this viewing error.
Especially with the small macro lens models, this error could result in large missing parts. You have to compensate for this error yourself by viewing the subject as low as possible across the flashlight or at the side of the camera body.

Using the macro lens for the first time: test shots.

- Make test shots with every type of macro lens with different settings for the flashlight power to determine the best exposure for a specific macro lens, film sensitivity and flashlight.
- Run through every possible power setting of the flashlight. The shutter time of the SLR camera will be set to 1/125 or 1/60 but will not influence the result. For these test shots chose dark as well as light subjects with different colour combinations, for instance red, green, blue, yellow and white. The amount of exposure is depending on the colour of the subject and must be chosen in such a way that the subject is well illuminated from front to end. The light intensity of the flashlight beyond the sharp zone must decrease in such a way that the background will turn black and not disturb the image.
- During these test shots you have to maintain accurate notes of the adjusted flashlight power setting and the corresponding film numbering. Let the film be developed and determine, using the above mentioned arguments, the best settings of the flashlight.
- Write down the chosen setting of the flashlight and used film type on a sticker and stick it as memo on the backside of the reflection plate of the macro lens. After this test, the exposure will always be correct, using the tested settings.

Normal use of the macro lens:

- Attach the macro lens to the camera body.
- Aim the flashlight at the mid-section of the U shaped viewfinder.
- Adjust the flashlight to the previously chosen settings for this type of macro lens and film type. You can increase or decrease the intensity of the flashlight to the default settings).
- Darker objects require one extra “setting” more light. for lighter of darker subjects. One extra “setting” of the flashlight is normally enough. (don’t forget to switch back to the default setting).
- Take the picture…..





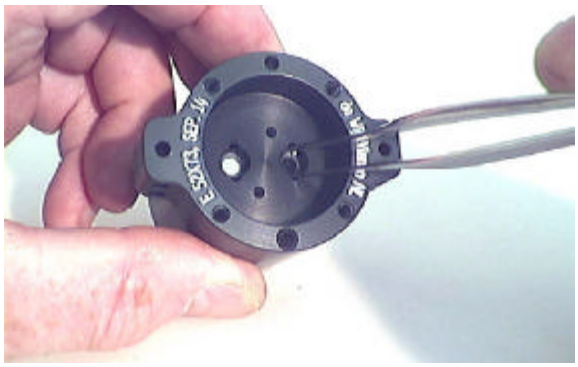
Maintenance

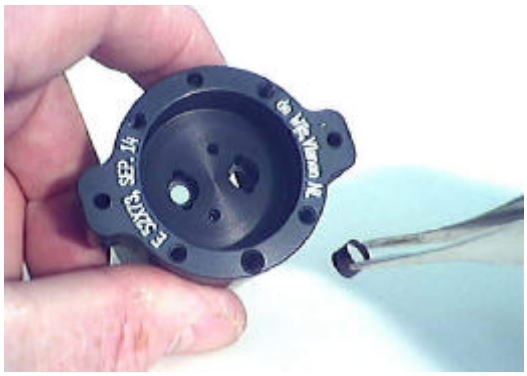
Cleaning the macro lens:

The metal parts of the macro lens are made of anodised aluminium. Cleaning with clear spirits is allowed to remove grease, as this will not damage the surface. To clean the lenses requires some caution:

- You may remove the wire frame finder but this is not recommended because of the focus setting! To make the actions more clear in this manual, all illustrating images are made without a visible wire frame finder.
- Take both small bolts out of the diaphragm plate.
- Remove the diaphragm plate carefully. Do not hold the lens upside down to remove this plate from the lens tube!!! : The glass elements will fall out of their barrels and become damaged.

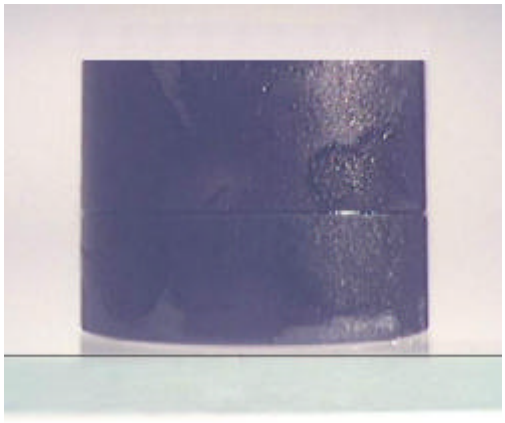






- With the two grips of a pincer you can get grip on the lenses by placing the grips in the small gap at the edge of the lens barrel (see left picture). Be very careful with this action; do not apply too much force on the grips as you could break off tiny glass parts from the lens. Take notice of the position of the lens while taking it out of the barrel (see right picture): there is a front and a backside!! In case you forget its position, you will find assistance with this in the assembly instruction in this manual.
- With a soft cloth remove all dust and dust from the lens, grease can be removed with clear spirits. The coating of the lens is strong enough to withstand soft rubbing.
- You can check your work by holding the lens against the light.
- Inside the lens barrel, behind the lens, there is a small rubber ring. With a pincer you can take it out of its barrel.
- With a brush or compressed air, you can clean the barrel.

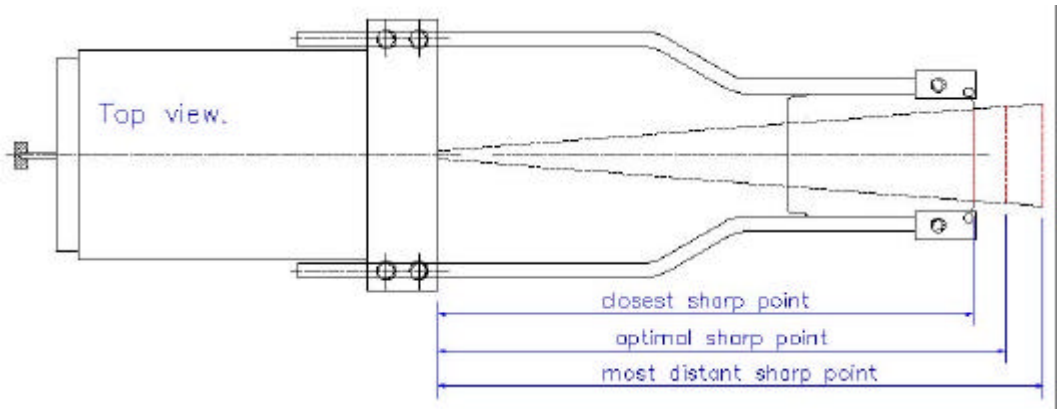
- Now you can assemble the lens again. First you have to determine what the front and the back of the lens element is. This is rather difficult because the lenses may look symmetrical. In case you did not take notice of their position when you de-assembled the lenses, determine this as follows:



- Find a piece of flat glass. Place the lens gently on it and look from the side at it (see picture at the right).
- One side is curved, the other side flat. Looking at the side of the lens, you should see a very narrow gap between lens and glass plate. When the lens wobbles slightly with a small movement, you have found the curved side.
- The curved side should be placed at the camera body side; the flat side should be aiming at the photo subject.
- First replace the rubber rings in the barrels.
- Then replace both lenses in their barrels.
- Cover the lenses with the diaphragm plate; prevent the plate to be turned when it is covering the lenses as they can become damaged. Mount the plate with the two bolts and the lens is ready.

Wire frame viewfinder and focusing

Due to the darkness of the normal SLR viewfinder, the macro lens requires a wire frame finder. It is imaginable i n some situations that – for your application -the position of the frame should be adjusted or it may need to be removed.
De ‘de Wijs’ company supplies the lens with the focus settings as indicated on the technical detail page.



The wire frame viewfinder has been adjusted in such a way that the depth of field just starts behind the frame rods. When it appears that the frame rods are obstructing your camera of getting closer to the subject you want to focus on, you can shift the frame backwards.

- First find out how much the frame should be shifted. On the technical information sheet of your lens you can find the sharpest point distance. You can measure this distance from the front lens ring to your subject.
- Unscrew the four bolts in the front lens ring to release the rods at the side of the lens tube.
- Shift the frame back- or forwards to the desired distance.
- Be sure to shift the rods with equal distance on each side, otherwise the frame could become too close or in the photographing area. Just for adjusting the rods, look through the SLR viewfinder to a bright light or the sky, check if the frame is positioned correctly.
- After taking the picture, be sure you shift the frame back to its default location.



Height correction or T2 ring adjustment.

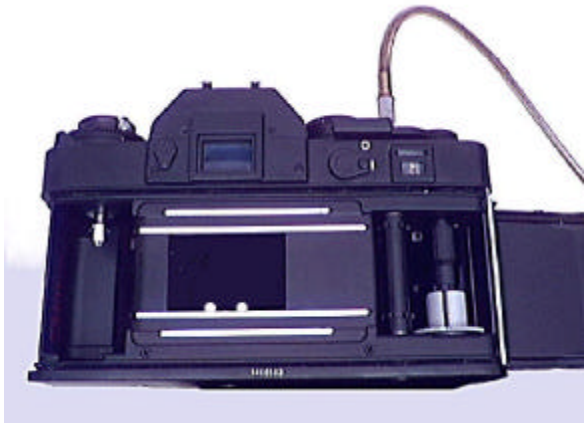
It is always recommended to attach the macro lens to the camera body by turning the outer T2 coupling ring instead of holding and turning the macro lens tube. Using too much force may cause you to miss-align the macro lens. In that case the stereo pair will not be projected in equal height on the film.



The macro lens tube is attached through a T2 adapter ring against the camera body. The T2 ring consists of 2 parts; The outer-ring is attached to the camera body, the second ring is glued to the macro lens tube. Through 3 small bolts you can detach the outer ring and turn the macro-lens a little.

When the images on your film are showing height differences, you have to turn the lens tube with regard to the camera body.
To align the macro lens for your camera do the following:

- Open the film cover at the back of the camera and open the shutter by setting it on T (or on B).
- Attach the macro lens to the camera and look at the rear of the camera through the shutter opening to the small lenses.
- You can use the square shutter hole as horizontal reference cadre. When you aim the lens at a light source, you should see that one lens is located higher then the other. (Especially when you point the camera down slightly and let the small lens opening optically touches the cadre of the shutter).
- In the picture at the right you see both small lenses just above the cadre of the shutter in equal height.
- When they are not at an equal height, loosen the three bolts on the T2 ring and turn the lens tube with regard to the camera body and T2 ring.
- Check the height at the rear of the camera and fasten the bolts as soon as the lens is aligned.



Note! The ‘de Wijs’ company mounted the lens and adjusted the T2 ring to get both stereo images at equal height using the same camera type/ model or similar to your camera. Due to inaccurate production techniques, it could happen that the bayonet connecting mechanism of you camera differs slightly from our camera body. In your situation, the images could show height differences because of this inaccuracy. Please execute the steps as described above to correct this height problem.

WARNING!
NEVER remove or adjust the metal beam splitter inside the lens tube! It is very hard to get this into the right position again.