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July 2006

Manual 10-slide disk outdoor viewer



model 05-02-A-D

The specification subject to change without prior notices. Last update July 2006

Placement

To find a proper location for the outdoor viewer take some points into account:

- Mount the viewer on a post that also blocks the viewer of revolving on its post.
- The viewer requires good day light but that does not mean it should always be aiming with its rear to the sun. A wide view to the sky or a bright building wall is also good enough.
- Be very sure that during the day and all seasons of the year, no sun rays are coming straight into the front lens barrels. They act like burning glasses. As result you will see a sun track projected (burned) in the slides and you can throw them away.
- Check that during the day, there are no close objects giving strong (sharp) shadows on the window at the rear. You will sure see the effect on the slides.
- Don’t place the viewer in front of a dark tree, you lose a lot of brightness in the image. Trees also give a lot of (green) dirt on the rear window and lenses
- Provide a good pedestal for children and check the height of the viewer on its post for adults.



The hole on the bottom of the viewer has a diameter of 51 mm. That is 2 inches. With two M8 bolts you can lock the post inside the hole from inside the viewer.

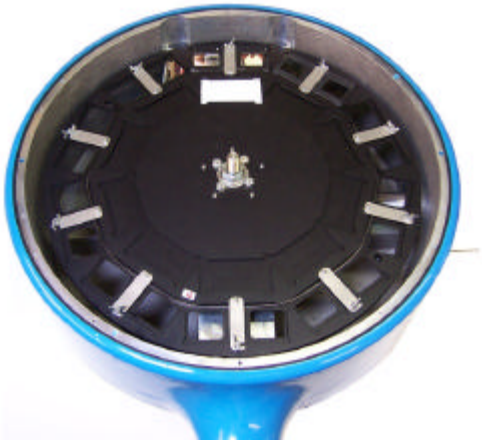
Inserting slides

The viewer is able to handle the international standardized 3D slide frame format 41x101 mm. With a thickness of 2.5 mm. Currently most used frames are of RBT and made of plastic but you can also mount the slides on a mask and then put them between two 1 mm. Thick glasses.
Be careful with slides without glass. Touching the slide material with your fingers causes damage on the long term, it acts like acid.

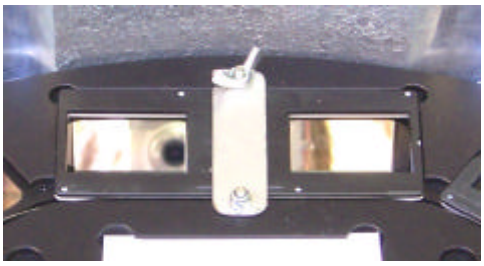


Exchanging slides requires a hexagon screwdriver.

- Remove the 10 bolts at the edge of the front panel with the hexagon tool. The front comes lose, be careful that it does not drop!



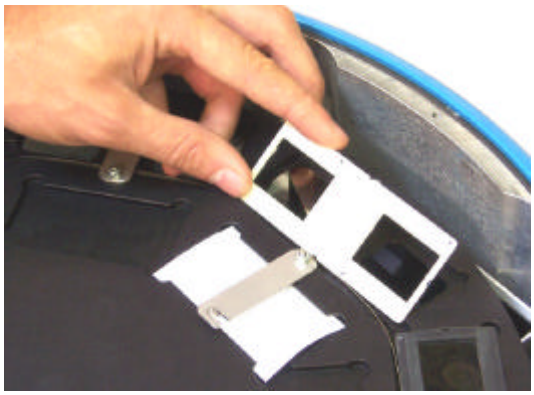
- Now you see the big round slide disk. Every slide is locked with a small metal strip.





- Loosen the butterfly nut and turn the strip to the right. Now you can take the slide out of its slot.
- Before inserting the slide, check that it is clean. When you accidentally touch the slide with your fingers, immediately clean the fingerprint with a soft cloth.

- Replace the slide for a new one. Check that the slide is not viewed in reverse. Start to insert the bottom part of the slide on the steel spring followed by clicking the top in its place.

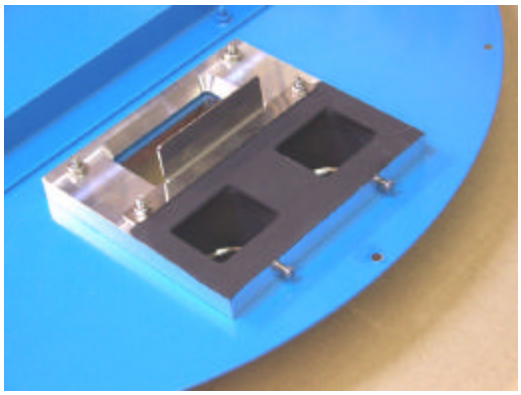


- Lock the slide with the metal strip and the butterfly nut.
- Wipe remaining dust on the slide away and close the front cover.

Maintenance

Cleaning the lenses

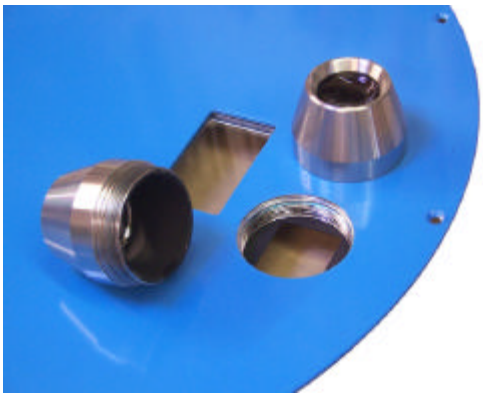
- At the outside of the viewer, you can clean the lenses with a soft cloth
- Remove the 10 bolts at the edge of the front panel with the hexagon tool. The front comes lose, be careful that it does not drop!
- Behind the front panel, behind the lens barrels, you see a square aluminum panel. When there is a lot of dust or dirt at the rear of the lenses, with a soft cloth you can clean them trough the square holes.



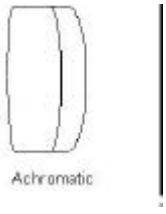
Replacing the lenses or barrels

The achromatic: lenses d= 30 mm. f= 60 mm. Are common lenses and used in other products of ‘de Wijs’. The same counts for the lens barrels, they are used in panel viewers as well. Both can be ordered as replacement parts at ‘de Wijs’.

- Remove the 10 bolts at the edge of the front panel with the hexagon tool. The front comes lose, be careful that it does not drop!
- Behind the front panel, behind the lens barrels, you see a square aluminum panel. On top of this panel you will find 2 bolts that lock the lens barrels of being screwed out. Remove these bolts and screw the lens barrels out of the aluminum panel.
- For replacing the lens, you need a metal plate of 30 mm. Wide. It will fit in the slot of the black ring behind the lens. Then you can unscrew this ring and the lens comes out of the barrel.



- Take the new lens, clean the front and rear side. The rear is the most curved side of the lens, aiming to the slide. The most flat side is close to the eye. Insert it in the barrel and lock it up with the ring, screw it in the panel and lock the barrel with the bolt.



Cleaning the moving reflection panel and the fixed mirror

- Remove the 10 bolts at the edge of the front panel with the hexagon tool. The front comes lose, be careful that it does not drop!
- The big round slide disk is locked with an M14 nut. Remove it.

- Now, very gently, pull on two opposite edges of the disk, to get the disk loose of its axle.



- You should now be able to clean the mirror and the moving reflection plate. **DON'T** remove the reflection plate or mirror by taking out some bolts for better cleaning. These parts are aligned very carefully for good functioning. Unless there is a good reason for it (replacing the rear lexan plastic panel).
- When you are finished, you can replace the slide disk. When dropping it gently on the axle, turning it a little, it should find the right slot.
- Check that the advance mechanism works (not to fast).
- Lock the slide disk with the big M14 nut.
- Close the viewer with its front plate.

Lubricating moving parts

- Remove the 10 bolts at the edge of the front panel with the hexagon tool. The front comes lose, be careful that it does not drop!
- The big round slide disk is locked with an M14 nut. Remove it.
- Now, very gently, pull on two opposite edges of the disk, to get the disk loose of its axle.

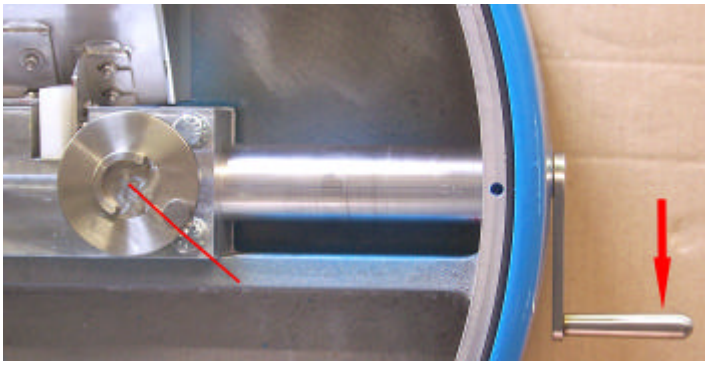
The advance mechanism is based on a maltezer cross system. It is driven by the handle outside the viewer. To connect two intersecting axles, there are 2 beveled gears inside. To get access to these gears, the secondary gear, with the actual maltezer cross parts, has to be removed. Because there is a certain position of the two gears, with respect to each other, there is a mark on the big aluminum block.



- With an adjustable pipe wrench you should be able to unscrew the short aluminum tube containing two ball bearings and secondary gear.

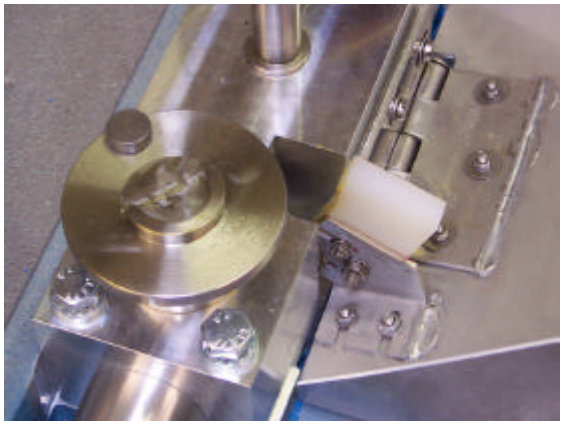


- When having removed this part, you see the beveled gear and in the left hole the second gear. First clean both gears and check if there is a lot of wear an tear.
- Cover both gears with a thick layer of grease.
- Replace the maltezer cross parts by screwing it in the other aluminum block. Take care of the position of the outside lever and the maltezer cross when fixing the short aluminum tube as the two gears interlock with each other.



- The lever outside the viewer should be hanging down freely. Screw the tube inside the housing but pay attention to the angle of the maltezer driver. In the image you see the red line indicating its position with regards to the corner of the ‘gear box’.

- The Maltezer disk with its pin should be greased as well.
- The cross, mounted at the rear of the slide disk, should also be greased.
- The mechanism that pushes the reflection plate needs grease as well, meaning the nylon white plastic piece and the asymmetric wheel.



The bearings do not need any lubrication. They are sealed. Only check the function of the hinge for the moving reflection plate. A little oil might help.

Wear and tear

Most parts are no subject to wear and tear. There are a few parts that might need some attention:

- The Maltezer pin. It is made of hardened stainless steel (Rockwell grade ±55) to withstand the very strong forces that might arise during viewer abuse.
- The Maltezer disk with its half sized circular edge.
- The Nylon block that lifts the reflection plate.
- The achromatic lenses.

Technical data:

Amount of slides	10
Slide frame format	41x101 mm. (RBT) or between glass mounted
Maximum image size	24x33 mm.
Lenses	Ø 30 mm. f= 60 mm. Achromatic
Enlargement	4.2 x
Interocular lens base	62 mm.
Text card size	73x42 mm. 200 grams paper.
Weight of the viewer	31 kg.
Material	Housing: casted Aluminum AlSi7Mg inner parts: Aluminum 51ST or equivalent. Axels, panels and bolts: Stainless steel.
Bearings	SKF standard bearings 15x32x9 mm. 6002-ZZ 10x26x8 mm. 6000-2RS
Windows	Front: 67x43x4 mm. Plain glass Rear: 182x149x6 mm. Lexan plastic
Finishing:	Powder coated: Bleu RAL 5012

Outher dimentions.

