SERVICE NOTE
KLY5/MFK2: Cleaning of the 3D rotator

Before you start

The cleanliness of the rotator is the basic condition for the successful anisotropy measurement of the week samples. Small grains of the measured rocks may remain on the shell of the rotator and inside the groove of the white Teflon bearing. While the shell is turning the small grains can cause the scratches and increased friction.

Clean the rotator if:
- the values of holder corrections are too high
- it makes the suspicious noise during the spinning
- "belt strain value" (see bellow) is higher than 1500.

3D Rotator disassembling for cleaning

- Switch the kappabridge OFF and unplug the Rotator.

- Unscrew three plastic screws on the lid of the rotator, marked by red circles in Figure 1. Be careful not to lose the screws or plastic washers. Pull the lid gently up to remove it.
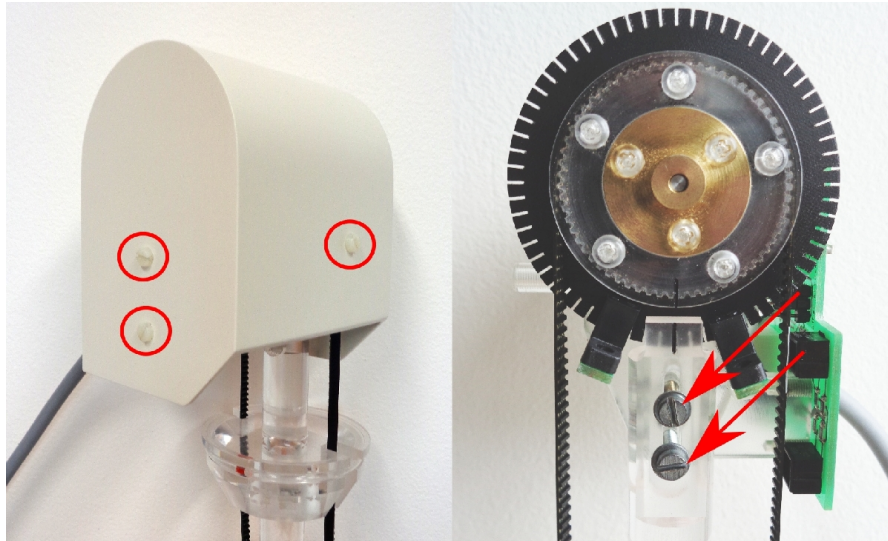

Figure 1: Left - white lid; Right - screws

- Check the belt strain to set it later in the same level and remember the belt mark position.

- Loosen a little bit two screws (Figure 1, right side, marked by red arrow), but do not remove them.

- Unscrew two screws marked by blue circles and also two screws marked by green circles in Figure 2. Set aside white rectangular plate.
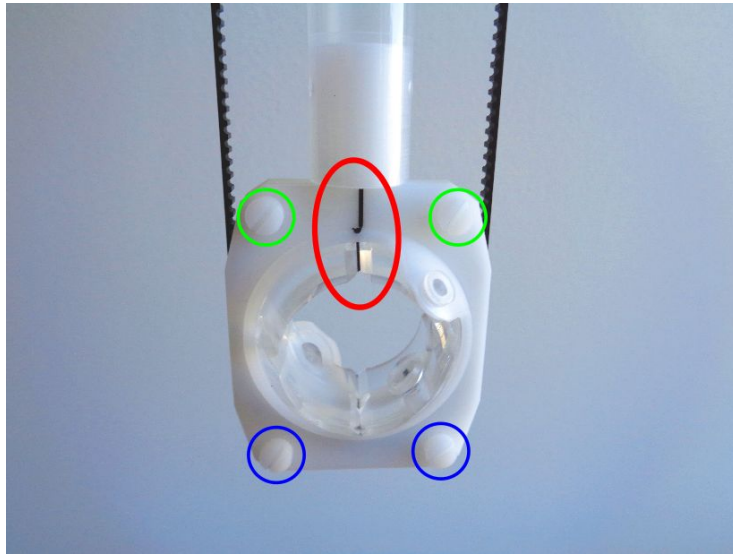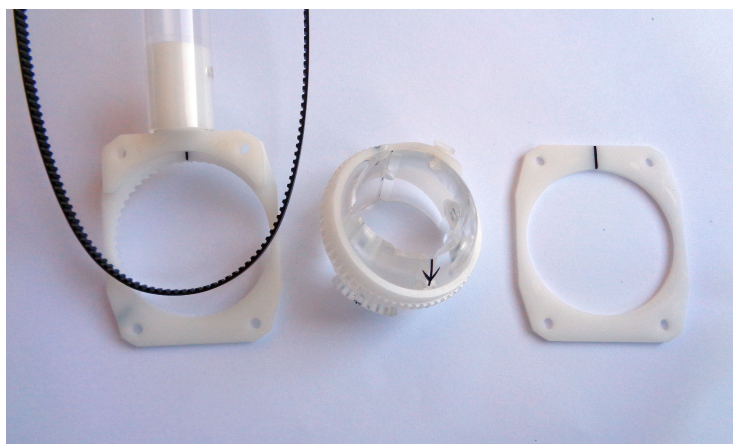

Figure 2: 3D shell

Figure 3: Belt, plastic shell and rectangular plate

- Using the magnifying glass check if all 64 notches in black wheel are free. Clean the black wheel, optocouples and photosensor from dust using soft dry brush.

- Then gently release the ring, as you can see in Figure 4. Pay attention to the position and trapezoid shape of rubber washer and be careful not to lose it. Remove the belt from rotator.
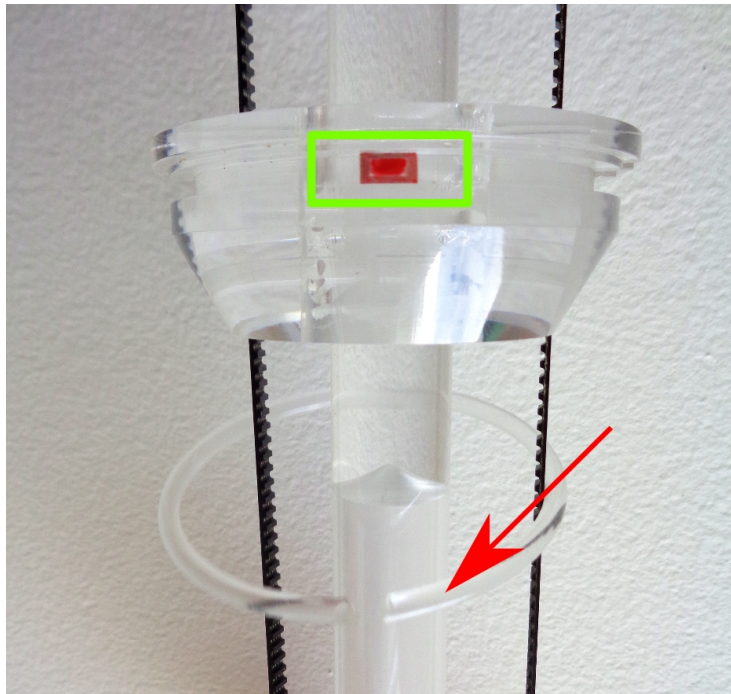

Figure 4: Ring with rubber washer

- Clean the shell, the belt and the bearing. Use only pure water with a small liquid detergent and soft brush. Check if the belt mark is clear white.

- **Do not use any kind of alcohol for cleaning. Evaporating alcohol can completely damage plastic parts.** Dry all the parts after the cleaning.

3D Rotator assembling after cleaning

- Insert the rotator shell into the its bottom part of holder. Make sure that the marks shown on Fig. 5 are simultaneously aligned as on the picture. Then cover it with rectangular plate and carefully screw two plastic screws marked on Fig. 2 by green circles.
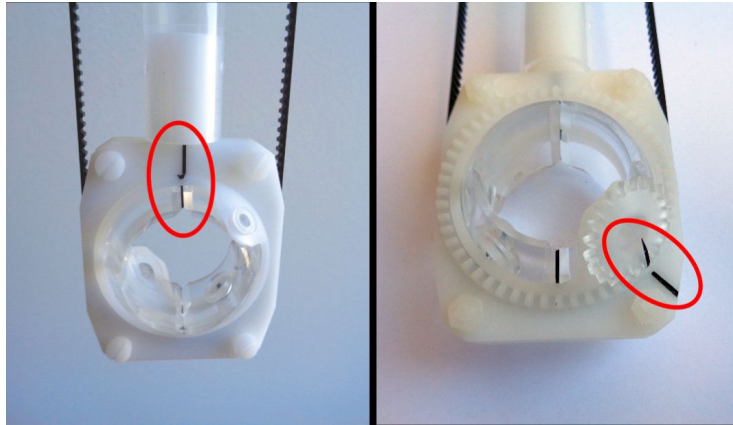

Figure 5: Aligned position of 3D shell

- Turn the **wheel** with the screen so that two black marks are aligned.

- Put on the driving **belt** and make sure that all the marks shown on Fig. 5 and 6 are simultaneously aligned as on picture.
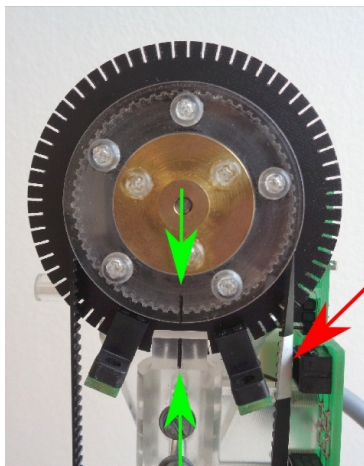

Figure 6: Aligned position of black wheel and belt mark

· Position the belt on the wheel so that the white belt mark is approximately in the centre of the top photosensor.

· Gently screw two plastic screws marked on Fig. 2 by blue circles. Do not forget to use pads to keep entire system in correct position.

· Adjust the proper belt strain by picking-up slightly the part with motor and fixing the two screws.

· Connect the rotator to the KLY5/MFK2 unit and switch it on. Then run the SAFYR7 software and start the initialization routine.

· From upper menu select *Execute > Auxiliary commands* and check the ROTATOR SUPPLY using button *Set supply* in Figure 7.
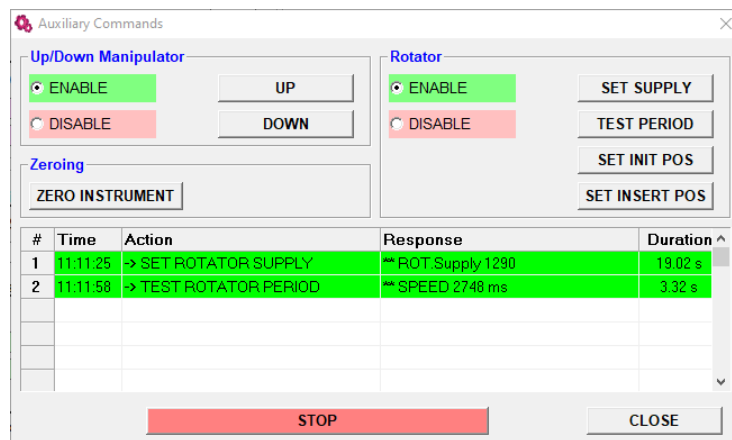
Figure 7: Auxiliary commands

· Value of Rotator supply should be between 1200 and 1400, optimal value is around 1300. If necessary, increase this value by increasing strain on the belt or decrease by decreasing the strain on belt. Check also the rotation speed by TEST PERIOD button (duration of one revolution which should be close to the 2750 ms).

· If the Rotator supply value is in the desired range, then mount the cover of the rotator with three plastic screws and use rotator as usually.

· It is necessary to perform **calibration** and **holder correction** routines after rotator adjustment.