# SERVICE NOTE

## JR6 Adjustment of automatic manipulator

### Prerequisites

- Adjustment of the automatic manipulator is made with the help of two adjustment tools shown in Figure 1 – azimuthal setting tool and hexagonal key tool (disc).
- In the software JR6TEST are used following commands :

  - **i** to set initial azimuthal position of the holder
  - **y** to set initial position of the hexagonal key
  - **r** to move manipulator to the bottom (rest) position
  - **w** to move manipulator to the upper (work) position
  - **t** to turn the hexagonal key to the next position

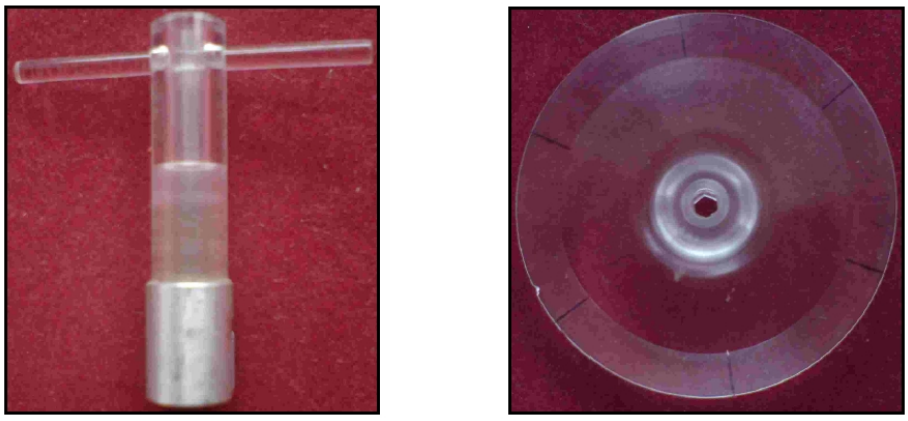

Figure 1: Left - azimuthal tool; right - hexagonal key tool

### Important notes

- With the holder mounted **always send** the command "**i**" before the command "**w**"!
- Execution of the commands "**w**" and "**r**" may be **interrupted** by pushing ESC key!

## Setting of azimuthal position

1. This adjustment is needed in case when the holder stops in the incorrect angular position with respect to the axis of the hexagonal key.
2. To check the azimuthal position remove any respective holder and mount the azimuthal tool in the same way as the normal holder
3. Send command "**i**" - the tool must stop in the axis of hexagonal key, as seen in Figure 2.
4. If not, please locate three nuts M3 fixing the rotational system which are under the square plate, marked by yellow arrow in Figure 3.
5. Loosen three nuts M3 and turn the rotational system around clockwise or anticlockwise to set the proper azimuthal position.
6. Turn the tool by hand to random angular positions and always send the command "**i**". Check the position of the tool and if necessary repeat the setting.
7. When the adjustment is done, gently tighten three nuts. Make one more test and then remove the adjustment tool.

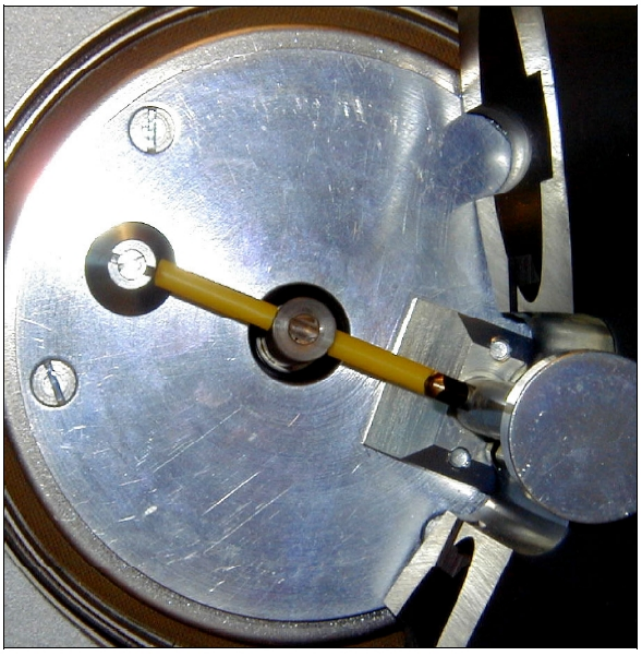

Figure 2: Correct angular position

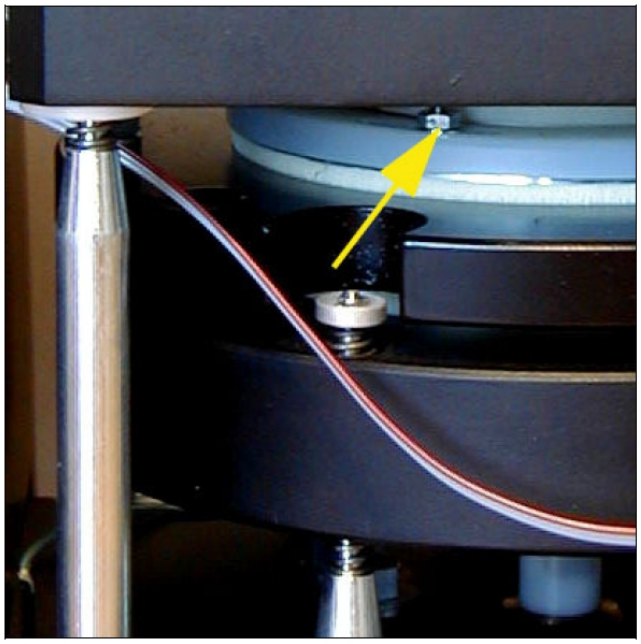

Figure 3: Fixing nut

## Setting of hexagonal key

1. This adjustment is needed when the angular position of the hexagonal key does not match angular position of the hexagonal socket of the holder.
2. To insure the proper function the walls of the hexagonal key must be parallel to the hexagonal socket of the holder.
3. To check correct position of hexagonal key, first send commands "**y**" and "**w**"
4. install the key adjustment tool (disc) on the hexagonal key and send the command „**t**" three times.
5. If the hexagonal key is properly adjusted, the mark on the tool is always aligned with the axis of column supporting the coils, as seen in Figure adj04
6. If not, locate the black screen with three slots and loosen a little bit a screw marked by red arrow in Figure 5.
7. **Important note:** Please use the **proper size** of **screwdriver** not to damage the screw.

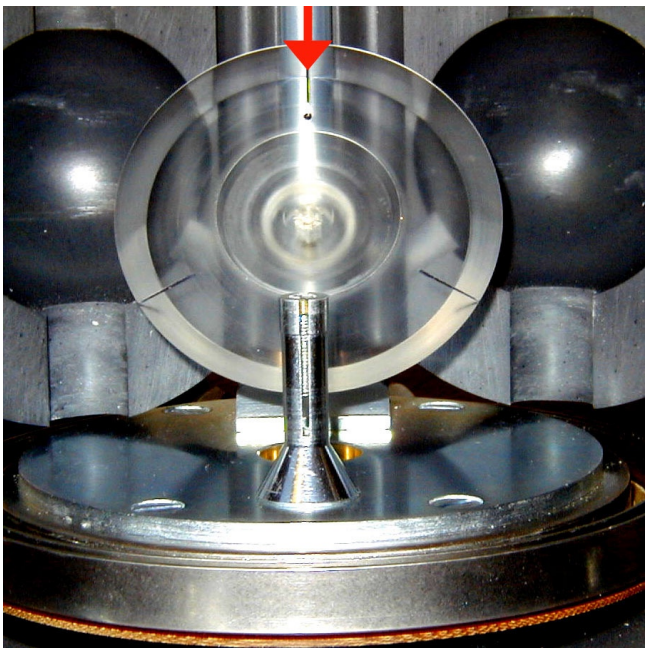

Figure 4: Disc with marks

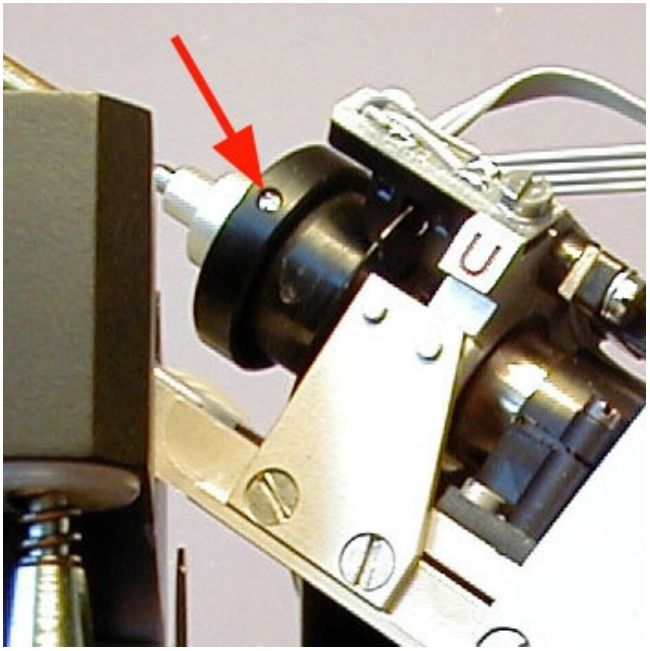

Figure 5: Fixing screw in the black screen

8. Turn the screen around, a little bit clockwise or anticlockwise and then gently tighten the screw, just to avoid the movement of the screen.
9. Send the commands "**t**" and "**y**" and always check the alignment of the black mark on the disk with the column.
10. if the alignment is not correct, loose the screw again and repeat the previous step.
11. After succesful adjustment do not forget to tighten the fixing screw on black screen. Then make the one more test.
12. Remove the adjustment tool and then send the commands "**y**" and "**r**".
13. For the final testing, mount the automatic holder and test the function by sending the series of commands "**i**", "**w**", "**t**", "**r**". If necessary repeat the particular adjustment.

**End of setting.**