

## ROTA NCS Boring of jaws in general

Top jaws or monoblok jaws have to be ground or turned on the lathe chuck on which they will be used for the clamping work piece to reach a high run-out and repeat accuracy. The manufacturing tolerances in all single parts of the actuation mechanism lead in summary to different radial position of the jaws.

By identification of the jaws you have to ensure that the same jaw is mounted on the same guide or on the same base jaw.

To grind / turn for the o. D. clamping, there must be a turning ring clamped close to the grinding / turning surface. (picture 1). The grinding / turning process is occures under clamping pressure.

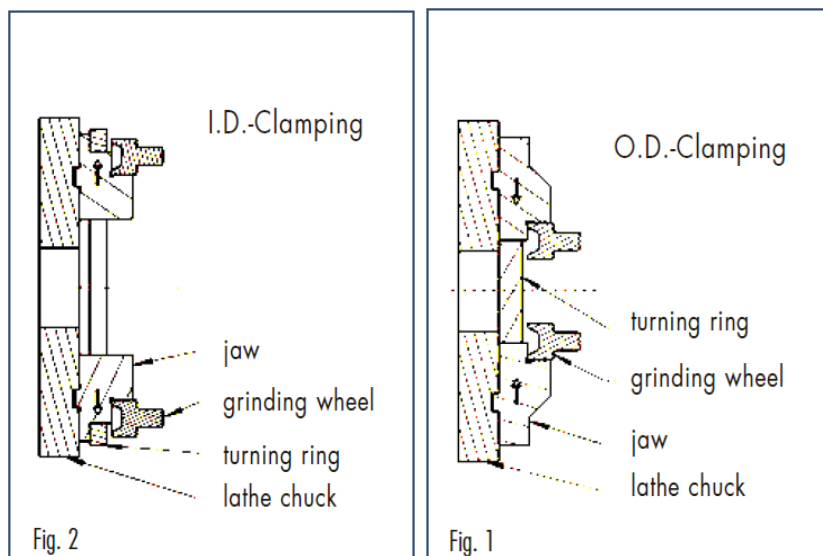
For grinding / turning for I. D. clamping, you need to slide a ring over the step of the jaws to be clamped internally with the same clamping force as you machine the part later on.

### **Note:**

When turning or grinding the turning ring or the bolt it needs to be clamped on the top jaws and not on the base jaws.

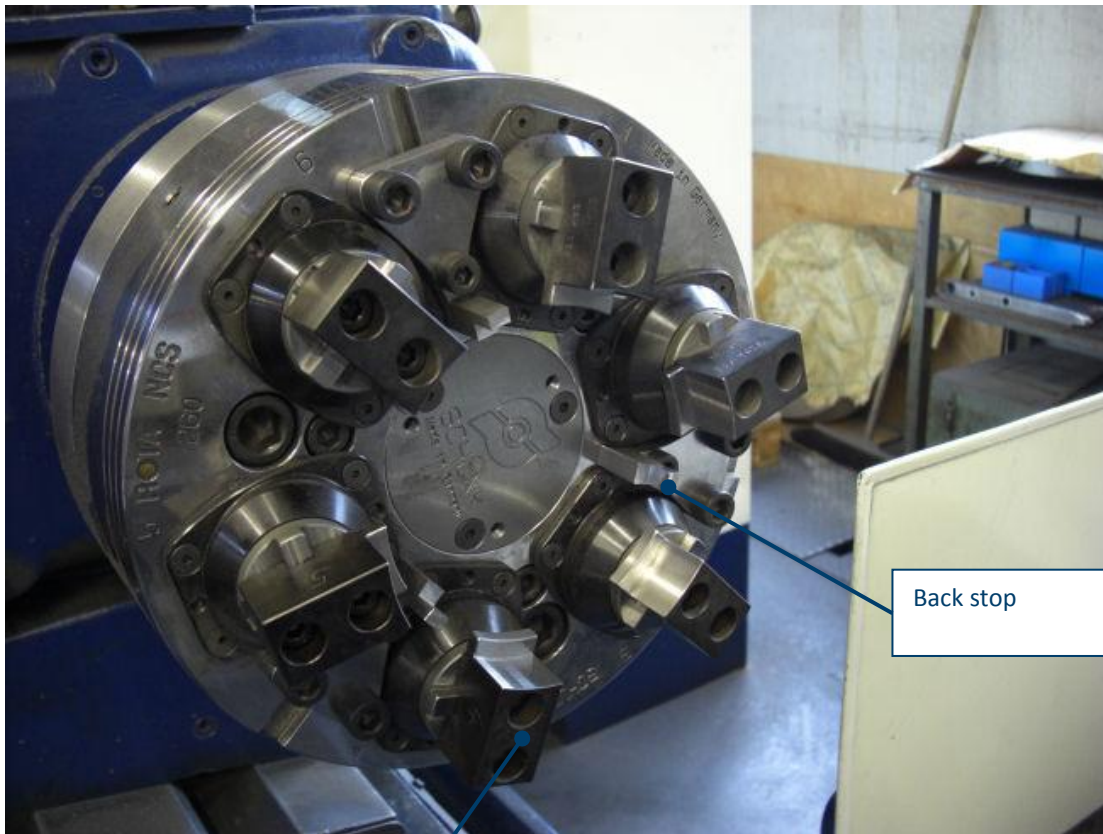
The best run-out and clamping repeatability is reached if grinding/turning of the top jaws takes place under same conditions as the machining process of the part later on.

The mentioned tolerances are only valid for hardened top jaws that had been ground on a certain diameter under 2/3 of the full clamping force.



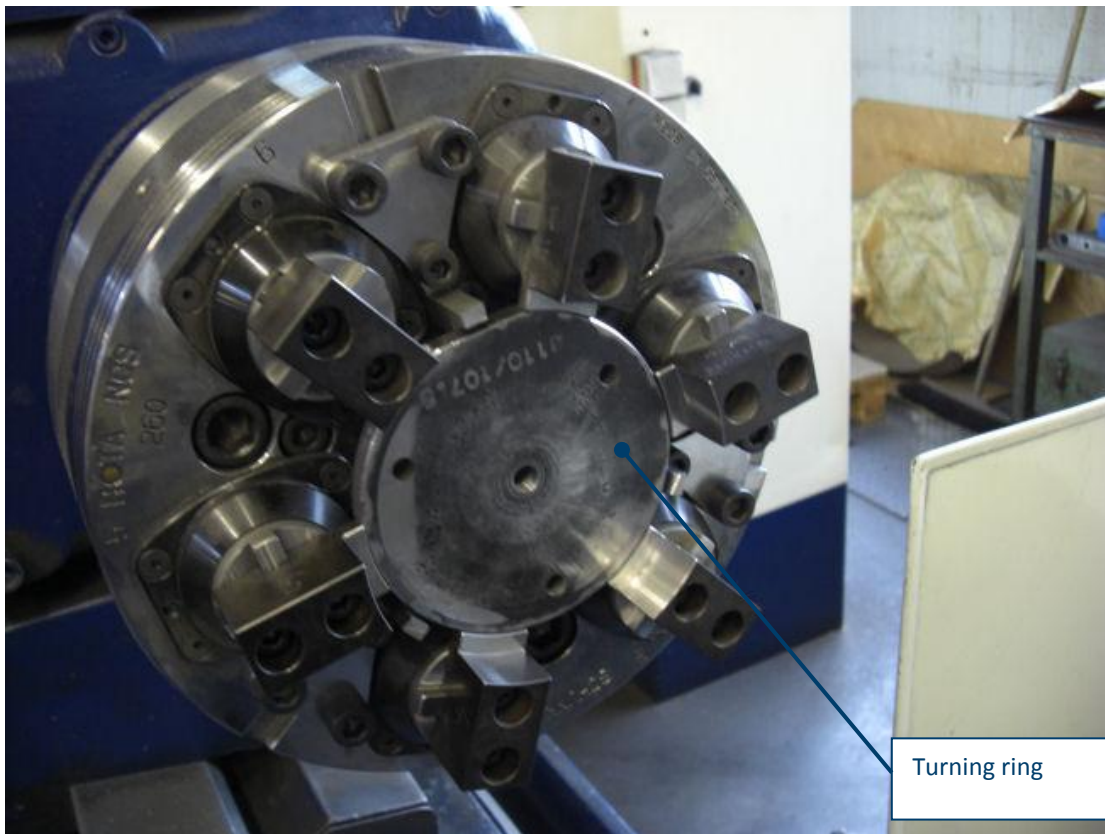
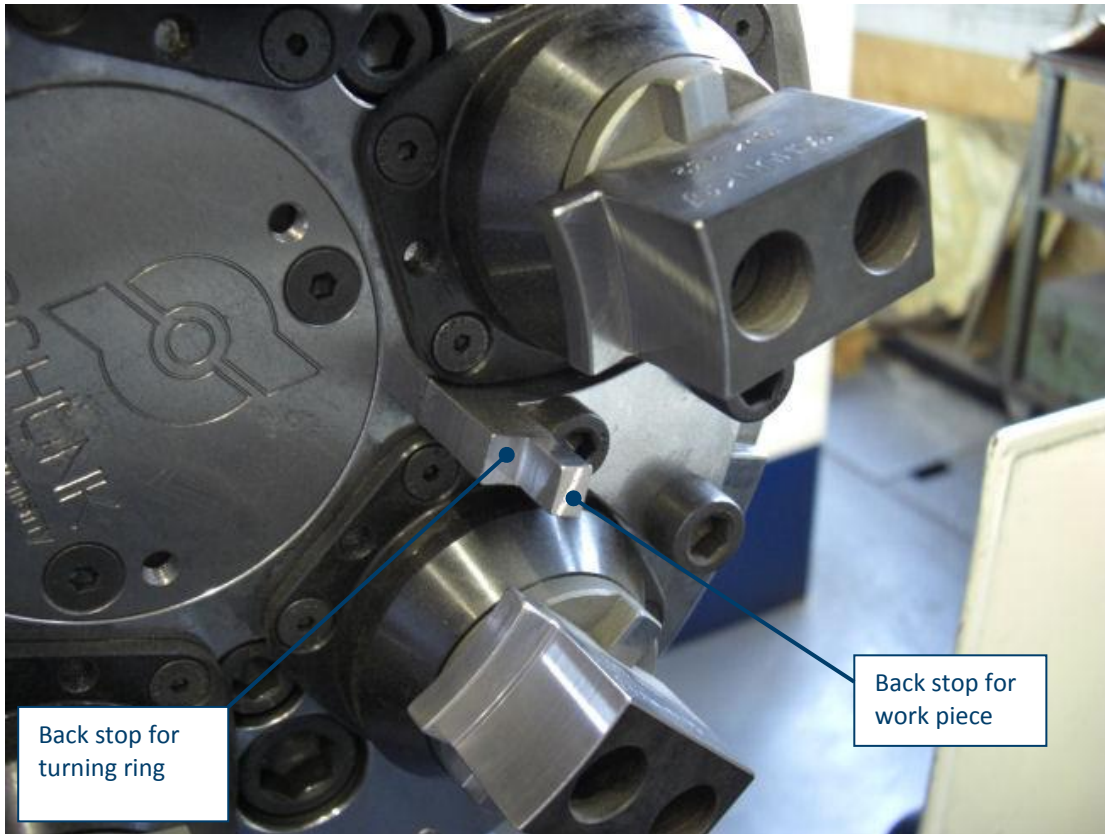
## Boring of top tooling on ROTA NCS

- After mounting the lathe chuck on the machine, the chuck has to be adjusted on the machine within 0,02 mm or better
- Now the back stop has to be mounted and the surface has to be indicated. If the axial run-out doesn't correspond to the requirements, the back stop needs to be ground on the chuck.
- The top jaws have to be bolted in the right position. The bolts must be tightened with the required torque.
- Now the turning ring can be clamped in the auxiliary diameter. The turning ring needs to be pushed on to the back stop.
- The diameter of the turning ring must be designed to have the top jaw position at 0° when clamping it (90° to the chuck top surface.)
- The jaws can be ground to the desired clamping diameter under clamping pressure. After grinding please check the radial run-out once again.



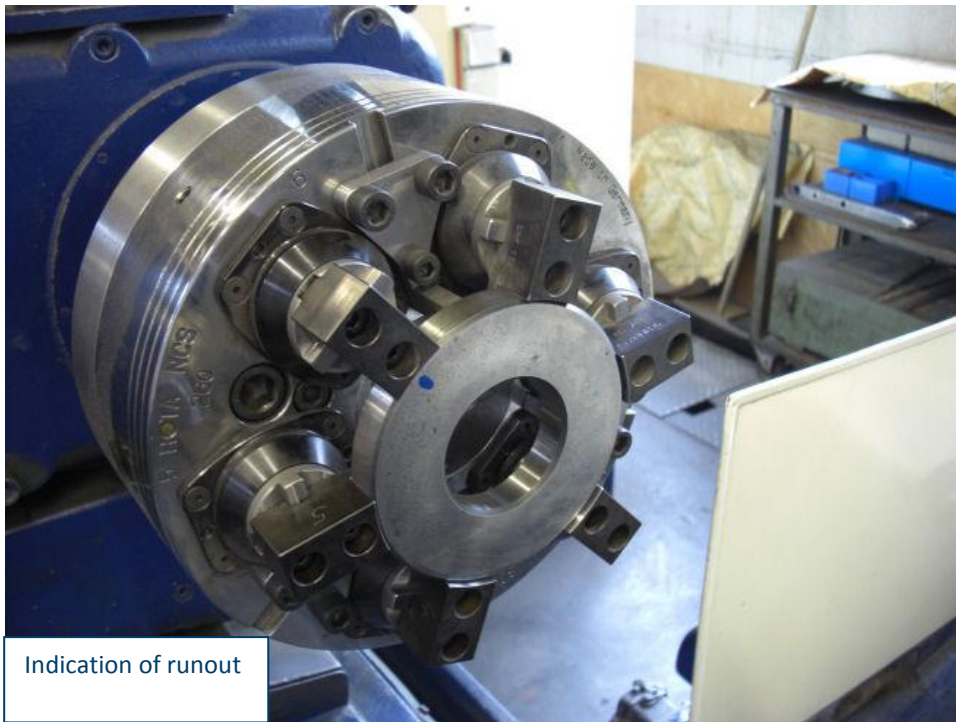
Top Jaws

Back stop





Clamping of workpiece



Indication of runout

The following run-out radial and axial can be reached with ROTA NCS:

Chuck size [mm]	175-3	210-3	250-3/6	315-3/6	400-3/6	500-3/6
max. radial runout-value [mm]	0.01	0.02	0.02	0.03	0.03	0.05
max. axial runout-value [mm]	0.01	0.01	0.01	0.02	0.02	0.04

The stated tolerances are only valid for hardened top jaws, which were grinded with an actuation force of 2/3.