

ASSEMBLY INSTRUCTIONS

for P A R A T Standard Turret (Clamping Screw with Collar and Fitting Key)

General: The PARAT Turret has been extremely precisely manufactured. Only careful and expert assembly will ensure that the full benefits of the PARAT tool system are obtained.

Assembly Instructions

1. Remove the existing tool holder and clamping screw from the upper support / bracket. Following this remove the upper support / bracket.
2. Increase the bore hole of the original screw to the diameter of the PARAT clamping screw. (drill and then grind or turn on a lathe)
At the same time cut the thread for the attachment of the index disc.
The threaded holes have to be produced so that they are parallel or vertical to the front edge of the upper support.
–see data sheet: standard clamping screw drilling pattern–
The bore holes for pinning the index disc are NOT yet to be produced.
3. Countersink the clamping screw in the upper support until the lower groove on the clamping screw is flush with the surface of the slide.
4. Create the groove for the clamping screw fitting key (butting or broaching) (the groove can be at any position in the bore hole)
5. Mount the turret with the index disc but without the disc springs.
Do not tighten the screws for the index disc too much.
Do not tighten the hexagon nuts too much.
6. Align the turret parallel to the rotary axis.

Procedure: Lay the turret unit with top slide / bracket laterally tilted onto an alignment plate.
Make sure that the unit firmly rests on the plate!
Move this unit below a dial gauge.
The difference in height should NOT exceed 0.005 mm throughout the complete length of the head.
Where necessary use a rubber mallet to align the turret to the slide unit.

For machines with a mounting bracket, the turret can be aligned on the machine in the same way.

7. Now firmly tighten the index disc to the top slide / bracket, mount the turret without the disc springs and re-check the alignment of the turret / top slide unit on the machine.
Following this, remove the turret except for the index disc and clamping screw and drill the holes for the fitting pins.
After this pin the index disc to the upper support.

The turning accuracy of the turret depends on the firm and play-free connection of the index disc with the top slide / upper support.
Attach the upper slide or upper support to the machine again.

8. Finally assemble the turret (please use the enclosed exploded view drawing).
9. Set the turning movement for opening and clamping the PARAT turret
–see enclosed sheet– (setting turning movement).
10. Use the clamping wrench to tighten the turret.

!!!CAUTION!!! If the turning movement of the clamping wrench is significantly larger or smaller than 90 degrees, the turret cannot be tightened.
In this case, both of the hexagon nuts are not correctly set.
This can be rectified through corresponding adjustments as described in step 9.

11. Check the operation of the turret again.

The PARAT turret enables any desired angle to be set from 9° in front to 9° behind the scale. In addition, a pre-centering capability from 90° to 90° is provided to enable faster centering.

MAINTENANCE INSTRUCTIONS

1. When assembling the **PARAT Turret** all bearings have to be lubricated with the supplied grease (**Mobilux EP 1 water resistant!**)

2. The maintenance intervals depend on the type of machining:

With normal usage, a check **every three months** is sufficient.

When used with a lot of coolant and when machining cast materials, the bearings should be checked **monthly** and cleaned and lubricated as required.

ASSEMBLY INSTRUCTIONS

for P A R A T Turret (Clamping Screw with Thread or Internal Cooling)

General: The PARAT Turret has been extremely precisely manufactured. Only careful and expert assembly will ensure that the full benefits of the PARAT tool system are obtained.

Assembly Instructions

1. Remove the existing tool holder and clamping screw from the upper support / bracket. Following this remove the upper support / bracket..
2. Increase the bore hole of the original screw to the corresponding diameter of the PARAT clamping screw with thread.

At the same time cut the thread for the attachment of the index disc.

The threaded holes have to be produced so that they are parallel or vertical to the front edge of the upper support (for the subsequent 90 degree cassette position)

– see data sheet: clamping screw drilling pattern –

The bore holes for pinning the index disc are NOT yet to be produced.

3. Screw in the clamping screw and secure with Loctite.
5. Mount the turret with the index disc but without the disc springs.
Do not tighten the screws for the index disc too much.
Do not tighten the hexagon nuts too much.
6. Align the turret parallel to the rotary axis.

Procedure: Lay the turret unit with top slide / bracket turned 90° to the side onto an alignment plate.
Make sure that the unit firmly rests on the plate!

Move this unit below a dial gauge.
The difference in height should NOT exceed 0.005 mm throughout the complete length of the head.

Where necessary use a rubber mallet to align the turret to the slide unit.

For machines with a mounting bracket, the turret can be aligned on the machine in the same way.

7. Firmly tighten the index disc to the top slide / bracket, mount the turret without the disc springs and re-check the alignment of the turret / top slide unit on the machine.

Following this, remove the turret except for the index disc and clamping screw and drill the holes for the fitting pins.

After this pin the index disc to the upper support.

The turning accuracy of the turret depends on the firm and play-free connection of the index disc with the top slide / upper support.
Attach the upper slide or upper support to the machine again.

8. Finally assemble the turret (please use the enclosed exploded view drawing).
9. Set the turning movement for opening and clamping the PARAT turret –see enclosed sheet– (setting turning movement).
10. Use the clamping wrench to tighten the turret.

!!!CAUTION!!! If the turning movement of the clamping wrench is significantly larger or smaller than 90 degrees, the turret cannot be tightened.
In this case, both of the hexagon nuts are not correctly set.
This can be rectified through corresponding adjustments as described in step 9.

11. Check the operation of the turret again.

The PARAT turret enables any desired angle to be set from 9° in front to 9° behind the scale. In addition, a pre-centering capability from 90° to 90° is provided to enable faster centering.