

# Handling notes for PCD face milling cutters – Power system

Applicable to milling cutters with Power and PowerBlue milling cartridges. The milling cartridges for the milling cutters Power are additionally secured using a locking screw. Pay attention to the optional steps here.

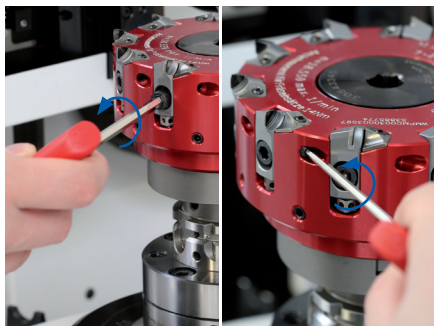
## Changing and setting PCD milling cartridges

### Requirements:

The hollow shank taper (HSK) face connection is checked for good condition and the milling cutter clamping screw / fastening screw with coolant delivery is tightened. The milling cutter is clamped on the setting fixture.

### Comment:

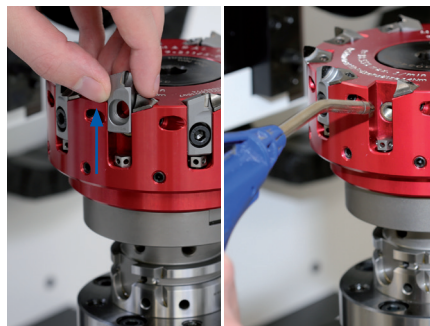
- Only for trained personnel
- Clean the cutting edges on the milling cartridges using a cleaning compound to prevent measurement inaccuracies
- Clamping screws are only to be used once
- The fastening screw with coolant delivery is to be used with screw locking



1. Undo and remove the milling cartridge clamping screw.

### Optional:

Turn the locking screw a few turns in the anticlockwise direction.

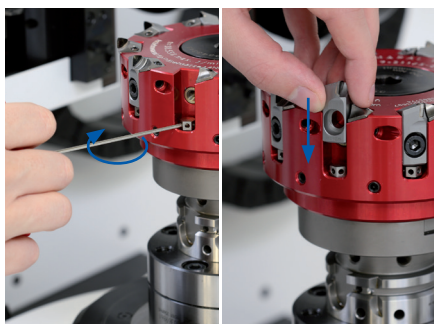


2. Remove the milling cartridge upward out of the seat for the milling cartridge. Then clean the seat for the milling cartridge using compressed air so the seat is free of residue.



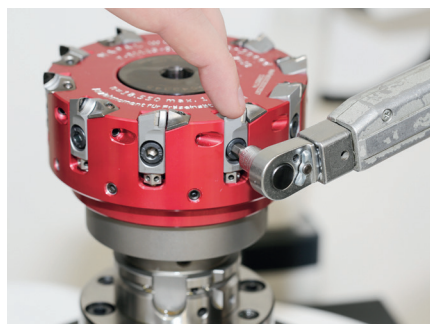
### 3. Optional:

If the locking screw is not yet screwed in, check whether the flat side of the locking screw (2) is pointing in the direction of the milling cartridge seat. If a spherical shape can be seen (1), use your finger or a magnet to turn this to the flat position.



4.1 If the adjusting screw is not yet fitted, fit it and screw in to the stop using a hex-wrench. Then turn back the adjusting screw two turns in the anticlockwise direction. Then fit the new milling cartridge in the seat from above.

4.2 If the adjusting screw is already fitted, screw in the adjusting screw one half of a turn in the clockwise direction. Then fit the new milling cartridge in the seat from above.

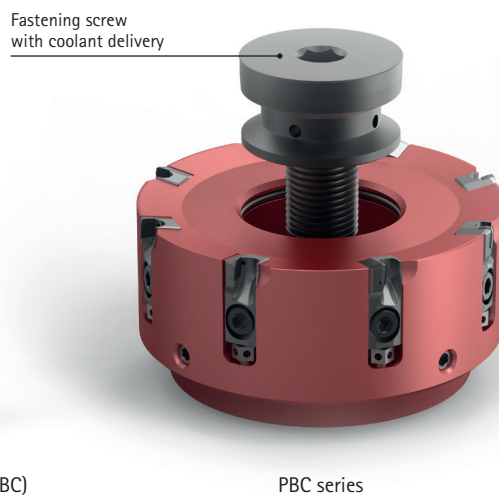
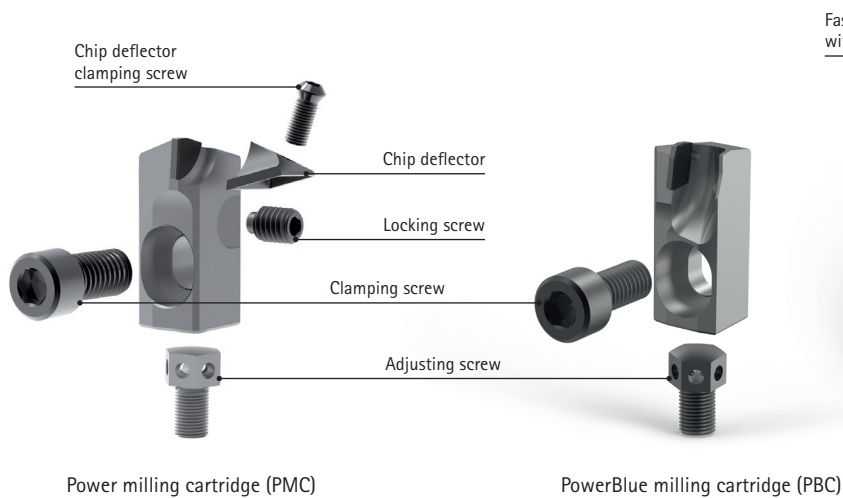


5. Fit the milling cartridge clamping screw and screw in lightly using a hex-wrench. Then carefully press down the milling cartridge with one finger and at the same time tighten the clamping screw to 4 Nm using a torque wrench.



### 6. Optional:

Screw in the locking screw clockwise to the stop using a hex-wrench and then screw back half a turn.



Power milling cartridge (PMC)

PowerBlue milling cartridge (PBC)

PBC series



**7. Setting using setting fixture (optical)**

Acquire the cutting edge using the optical measuring device and using a hex-wrench turn the adjusting screw anticlockwise until the setting dimension (EM) = -0.015 mm is reached. For purely optical setting, repeat this process for the remaining milling cartridges (then continue with step 9).

**Note:**

To ensure the correct preload, after reaching the setting dimension undo the adjusting screw again and then adjust to the target value (setting dimension -0.015 mm).

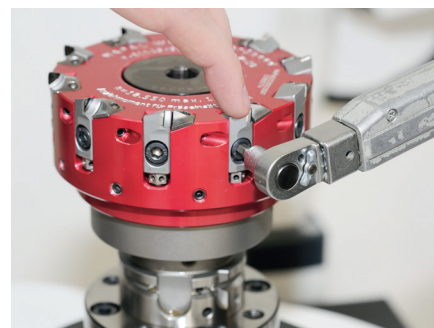


**8. Setting using a dial gauge (measuring plate)**

**Note:**

The measuring sensor should have a low measuring force, max. 0.3 N, with a flat probe made of aluminium, magnesium or carbide.

Position the measuring sensor against the milling cartridge at the highest point and set the dial gauge to zero. Turn the milling cartridge upward with the aid of the adjusting screw until the setting dimension = -0.015 mm is reached. Repeat this action for all milling cartridges.



**9. Note:**

The measuring sensor must not sit on the milling cartridge during this step. Tighten the clamping screw for the milling cartridges to 14 Nm using a torque wrench.

**Optional:**

Tighten the locking screws to approx. 2 Nm using a torque wrench.



**10.** Using either optical or tactile measurement, identify the milling cartridge with the highest protruding cutting edge and set the dial gauge to zero. Set all milling cartridges in relation to the highest protruding cutting edge using dial gauge: For this purpose, the turn the adjusting screw clockwise using a hex-wrench until the zero dimension is reached (tolerance  $\pm 2 \mu\text{m}$ ).

**General information:**

- Each time after changing the milling cartridges, the axial run-out and the permissible residual imbalance according to DIN ISO 1940-G2.5 should be checked.
- Ideally the cutting edge measurement should be checked again after balancing.
- The adjusting screw must touch the milling cartridge slightly with generally even clamping to avoid axial movement of the inserts in use.

**Setting dimension EM:**

Refer to the related product pages for the setting dimensions. The setting dimension EM relates only to the milling cutter's tool body incl. milling cartridges. If a milling cutter with connection is set, the height of the connection  $I_A$  must always be taken into account. In this situation the setting dimension is  $I_A + EM$ .

