

MAPAL TFB 200/210 – handling instructions

Radial adjustment of the Module connection



1. Carefully clean the Module connection on fine boring head and holder. Check face location for dents or elevations and whet with oil stone if necessary.

2. Insert the fine boring head into the connection and manually tighten the holding screws (~ 2 Nm).

3. Check concentricity on the fine boring head with the dial indicator and adjust roughly (approximately 0.01 mm). Make sure the radial adjusting screws are relieved. Then tighten the holding screws to 50 % of the indicated torque (see table).



4. Turn the tool to the lowest point. Set radial run out with adjusting screws. Relieve screws afterwards.

5. Set holding screws to indicated torque (see table).

Repeat procedure until radial run out is $< 3 \mu\text{m}$.

There should be no more corrections to concentricity afterwards! Slightly tighten all adjusting screws.

Module size	Holding screw	Torque*
M060	4 x M6	20 Nm
M080	4 x M6	20 Nm
M100	4 x M8	36 Nm
M140	4 x M10	72 Nm

* The modular TFB tools are labelled with the required torque.

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The application of a MAPAL Masterset setting device is recommended for an easy, comfortable, fast and precise setting!

The Masterset is composed of modular assemblies and therefore offers a high degree of flexibility for a high precision setting with respect to the adjustment to tool length and diameter.

There is also the possibility to set TFB tools directly on the machine spindle, e.g. with dial indicators and magnetic holders. However, as the access to the tool is often complicated with this measuring method, the adjustment process could be more complex.

Exchanging and adjusting the inserts



1. To release adjusting wedge, unscrew the adjusting screw one turn anti-clockwise.



2. Release the Torx clamping screw. Remove the insert from the insert pocket.



3. Carefully clean insert and insert pocket (e.g. with compressed air). Turn insert or use a new one. Insert the Torx clamping screw and tighten it with a torque wrench to 1.5 Nm.



4. Turn the adjusting screw half a turn in clockwise direction. The necessary pre-clamping in the adjusting system is generated.



5. Position dial indicator at the reference pad, locate the highest point and zero the dial indicator.



6. Turn the tool until the cutting edge is in position of the dial indicator. Position to the highest point of the cutting edge. Turning in direction of the rotation slightly lift the stylus to avoid damage to the cutting edges.



7. Set the insert by turning the adjusting screw in clockwise direction to about 10 μm below the required machining diameter. Subsequently, tighten the Torx clamping screws with the torque wrench to 3 – 3.5 Nm. Now set the precise machining diameter with the adjusting screw.

The TFB tools are labelled with the diameter of the reference pads. Minimum overhang of the inserts to the reference pads of 30 μm must be adhered to.