

## tune W-MAG tool set

This tool set is primarily meant for dealers.

It's used to exchange the bearings on the hub model MIG 66/70/75, MAG 190/200/215, King and Kong/Kong Superscharf.

- W1: The W1 is used to remove the freehub from the hub body of the MAG and Kong hubs.
- W3: Serves as washer component to tap the axle or bearings in or out.
- W4: The tool to tap the axle and the distance and to relieve tension from the bearings.
- W5: is thinner than W4 and is used to penetrate the axle thru the hub body and distance.
- W6: force fit tool for bearing 61902 and clutch bearings on MAG/Kong models.
- W7: force fit tool for bearing 3801 on MIG models.

## Dissassembling and reassembling of rear hubs

- Use the **W1** to extract the freehub from the hub body. At first remove the knurled nut by hand. To extract the freehub body combine the W1 together with the matching cassette lockring (not included) and screw it on the freehub body. Then screw the steel bolt with an open-ended wrench clockwise to remove the freehub body.
- The axle is being tapped out with the tools **W4** and **W5**. In general work with caution while tapping in and out to prevent damage from the axle and bearings. Our tools are designed to be as material-saving as possible, for example ball bearings are only loaded on the outer race.
- To remove the bearings put the hub body on the **W3**. The defective bearing is being removed by applying more or less hard angular taps on the inner race. The same goes for the freehub body.
- A new 61902 clutch bearing is being applied and tapped in carefully without canting by using the **W6**. The same goes for the freehub body.
- Cleaned and greased the axle and insert it back into the cleaned hub body, whose ratchets also need to be greased.
- Lubricate the freehub body and grease him only where the sprockets meets the freehub body. Put it on the hub body and push the pawls down, so that he can slide in the last millimetres as well. Don't forget to re-insert the steel spacers (MAG 215: 2 x 0,2 mm/ MAG 190/200 Shimano: 0,5 mm/ MAG 190/200 Campa: rounded side towards freehubf) between hub and freehub body.
- Put the 0,15 mm steel spacers on the outside and grease them together with the threads, afterwards screw on the knurled nut and the o-ring.
- Tighten firmly by hand, afterwards turn it back by 45°-90°. This is the bearing play, which is required to ensure that the compression of the quick release skewer doesn't destroy the bearing.
- Grooves on the freehub body can be deburred with gentle filing. This makes (un-)installing the cassette sprockets smoother.

## Bearing exchange on a front hub

- Put the bearing on a wooden board and stand on the wheel (don't worry!). This way the axle should push itself out „bearing-gentle“ from one side. Alternatively you can put the wheel on the **W3** alloy block and tap the axle out with a hammer.
- Tap the bearings out of the flange.
- Press in the new bearing without grease by using **W7**.
- Carefully tap the axle back into the wheel.
- Pendular test: put the wheel into a wheel truing stand and find out the balance point. Push it about ¼ rotation and let it librate until it stops. Then close the skewer and repeat this. The wheel should librate equally or better when the skewers is closed. Defective bearings attract attention by creating sensible vibrations.

