VELKYNE

USER GUIDE

BEARING PRESS & EXTRACTION KIT

Fitting and removal of hub and press-fit bottom bracket bearings: 20 pairs of tapered drifts, 8 guide tubes, receiving cup, two threaded rods.

REF. KITINSTAEXTRA · ALUMINIUM ALLOY · CASE 33 × 28 × 8 CM



01 · BEFORE YOU START

WHAT'S IN THE KIT

ITEM	QTY	DETAILS
Tapered bearing drifts	**20 pairs**	One pair per bearing size (table p. 3)
Guide tubes	**8**	Ø 8 · 9 · 10 · 12 · 15 · 17 · 20 · 25 mm
Threaded rods	**2**	168 mm (hubs) and 245 mm (bottom brackets, wide hubs)
Press handles	**2**	Threaded discs with bar, 155 × 40 mm
Receiving cup	**1**	70 × 31 mm
Storage case	**1**	33 × 28 × 8 cm, pre-cut foam



Case 33 × 28 cm. Rods, guide tubes and cup in the lid; drifts in the base, sorted by size.

What this kit does

It **presses** a bearing into its seat or **pulls it out** with **straight, slow, controlled** pressure, where a hammer works at an angle and damages aluminium or carbon seats. The drifts are tapered: they bear only on the bearing's **outer race**, never on the inner race or the balls.

Compatibility

- Sealed cartridge bearings in hubs (front, rear, freehub body) and press-fit bottom brackets.
- Sizes covered: 608, 609, 689, 699, R6, R8, 6000, 6001, 6800 to 6805, 6900 to 6903, 15267.
- Not suitable for cup-and-cone hubs with loose balls, nor for bearings outside these sizes.

SAFETY

- Wear gloves and safety glasses.
- Never use a hammer on any part of the kit.
- Always tighten by hand, slowly. Unusual resistance means misalignment: stop and start again.
- Never press on a bearing's inner race.
- Check the bearing size before choosing the drifts.

Recommended extra tools

- Spanners to remove the axle and hub end caps
- Expanding blind-bearing puller, for the first bearing of a closed hub
- Assembly grease (thin film on the seats)
- Degreaser and lint-free cloth
- Callipers (to check dimensions)
- New bearings of the same size as the old ones

02 · GETTING READY

IDENTIFY THE BEARING, CHOOSE YOUR PARTS

The size code is engraved on the bearing's **seal**, for example **6902-2RS**. The first four characters give the size; the suffix (2RS, LLU, ZZ...) describes the sealing and does not affect the choice of drifts.

CODE	D × D × B (MM)	DRIFTS	TUBE
608	8 × 22 × 7	608	Ø 8
609	9 × 24 × 7	609	Ø 9
689	9 × 17 × 5	689	Ø 9
699	9 × 20 × 6	699	Ø 9
R6	9.5 × 22.2 × 7.1	R6	Ø 9
6800	10 × 19 × 5	6800	Ø 10
6900	10 × 22 × 6	6900	Ø 10
6000	10 × 26 × 8	6000	Ø 10
6801	12 × 21 × 5	6801	Ø 12
6901	12 × 24 × 6	6901	Ø 12
6001	12 × 28 × 8	6001	Ø 12
R8	12.7 × 28.6 × 7.9	R8	Ø 12
6802	15 × 24 × 5	6802	Ø 15
6902	15 × 28 × 7	6902	Ø 15
15267	15 × 26 × 7	15267	Ø 15
6803	17 × 26 × 5	6803	Ø 17
6903	17 × 30 × 7	6903	Ø 17
6804	20 × 32 × 7	6804	Ø 20
6805	25 × 37 × 7	6805	Ø 25

d = bore (inner race) · D = outer diameter · B = width. Choose the guide tube from d and the drifts from the code. Standard dimensions for the bearing series.



Press handles 155 × 40 mm: as they are tightened on the rod, the tapered drifts push on the outer races. The guide tube fills the bore and keeps the force on axis.

Threaded rod — The backbone of the assembly. 168 mm for hubs, 245 mm for bottom brackets and wide hubs.

Handles — Threaded discs: they act as nuts and transmit the force. Hand-tighten only.

Receiving cup — Sits against the hub on the exit side: the extracted bearing drops into it.

GOLDEN RULE

A drift touches **only** the outer race. If the drift goes into the bearing or presses on the seal, it is not the right size.

03 · PROCEDURE A

REMOVING THE OLD BEARINGS

1. **Remove the wheel and strip the hub.** Take off the axle, the end caps and, on a rear wheel, the freehub body as described by the hub manufacturer. Clean the outside.
2. **Find the extraction direction.** A bearing is driven **outwards** from the hub, pushing from the inside on its outer race. The kit pushes a bearing whose inner face can be reached. In a closed hub, when the opposite bearing has the same bore, the first bearing is driven out beforehand with the hub axle, as its maker describes, or with an expanding blind-bearing puller; the kit takes over as soon as one side is open.
3. **Choose the pusher.** Select the drift whose tapered face bears on the bearing's outer race from inside the hub, through the side already open. The drift must touch neither the inner race nor a hub shoulder.
4. **Place the receiving cup.** On the exit side, set the cup (70 × 31 mm) flat against the hub flange, the bearing centred in its opening. It catches the bearing and protects the hub face.
5. **Assemble the rod.** Thread the rod through the hub: handle → pusher drift → hub → receiving cup → handle. Tighten the handles until they touch, without forcing.
6. **Check the alignment.** The rod must be perfectly on the hub's axis and every part in full contact. A crooked assembly breaks drifts and scores seats.
7. **Tighten slowly.** Hold one handle, turn the other a quarter turn at a time. The bearing breaks free with a sharp click, then slides into the cup. Keep going until it is fully out.
8. **Repeat on the other side,** then clean the seats with degreaser: no old grease, corrosion or burrs.



Every drift has its foam slot: check the marking before choosing the pair.

WATCH OUT

- If the bearing does not move despite firm tightening: **stop**. Check that the pusher bears on the outer race and not on a hub shoulder.
- A bearing seized by corrosion may need penetrating oil and a few minutes' wait. Never apply strong heat to a carbon hub.
- Removed bearings must be replaced: extraction deforms the races.

WORKSHOP TIP

Photograph the hub before stripping it (spacer positions, end cap orientation). Lay the parts out in removal order.

04 · PROCEDURE B

FITTING THE NEW BEARINGS

1. **Prepare the seats.** Clean, dry housings, then a **thin film of grease** on the seat wall: it eases fitting and protects against corrosion.
2. **Select the pair of drifts** matching the bearing code (table p. 3) and the **guide tube** equal to the bore. Slide the tube onto the rod.
3. **Present the bearing** flat on its seat, engraved seal facing outwards as originally fitted. It must be perfectly square to the hub axis before any pressure is applied.
4. **Assemble:** handle → drift (tapered face towards the bearing) → bearing → hub → drift or cup on the opposite side → handle. If both bearings are new, fit them **together** with two identical drifts: each one backs up the other.
5. **Tighten a quarter turn at a time,** alternating the two handles. Watch the bearing: it must go in straight, without tilting. At the slightest misalignment, loosen, realign, start again.
6. **Stop at contact.** As soon as the bearing bottoms out (flush or at the bottom of its seat), tightening becomes noticeably harder: **do not push on**. Over-tightening preloads the bearing and can crack an alloy or carbon hub.
7. **Remove the tool** and check by eye and by touch that the bearing sits fully around its whole circumference.
8. **Refit** axle, spacers, freehub and end caps in removal order. Follow the torque values given by the hub manufacturer.

Final check

CHECK POINT	EXPECTED
Axle rotation by hand	Smooth, silent, no tight spot
Lateral wheel play	No perceptible play
Bearing position	Bottomed out, flat, seal intact
Spacers and end caps	Refitted in original order
First ride	Re-check play after 50 km

TIGHT SPOT AFTER FITTING

The bearing was pressed in crooked or over-tightened, or debris was left in the seat. Remove it (procedure A), clean, and fit a new bearing.

Press-fit bottom brackets

Same principle for press-fit bottom bracket bearings compatible with the supplied drifts: use the long rod (245 mm), identical drifts on both sides and the receiving cup for extraction. Clean the frame shell thoroughly: a clean housing is what prevents creaking.

GOOD HABIT

Always replace bearings **in pairs**: a new bearing facing a worn one creates play and speeds up wear.

05 · BUILT TO LAST

CARING FOR THE KIT & MISTAKES TO AVOID

Caring for the kit

- Wipe drifts and tubes after each use; a drop of light oil on the rod threads.
- Put every part back in its foam slot: a lost drift is one size fewer.
- Inspect the tapered faces: a scored edge or a deformed drift must be set aside.
- Keep the case closed, in a dry place.

The 6 mistakes that damage a hub

MISTAKE	CONSEQUENCE
Using a hammer	Ovalised seat, bearing out of true
Pressing on the inner race	Scored balls and raceways: bearing destroyed
Wrong drift size	Pressure off the outer race, crushed seal
Tightening fast or crooked	Misalignment, tight spot, premature wear
Seat not cleaned	Bearing not seated, creaking
Pushing on after bottoming	Preload, cracked hub

Going further, on video

Independent tutorials, scan to watch.

Replace Sealed Cartridge Hub Bearings
The Bike Sauce · English

Wheel hub bearings replacement tips
Zavyalov Cycling · English

Changer ses roulements de roues VTT
L'atelier VTT & rando · French

Need help?

velkyne.com/contact
Our team answers your technical questions and helps you choose the right sizes.

A precision tool, not a force tool.
Every part of this kit has a single job. Use it for what it is: straight, slow pressure on the right race. The rest follows.