USER MANUAL

FREEHUB BODY REMOVAL TOOL

A socket with two lugs that engage the notches of the freehub body, an M6 rod and a wing nut that hold it in place: the body unscrews and screws back on axis, with no hammer or pliers. For hubs with a threaded, notched freehub body.

FREEHUB BODIES WITH 4 MM NOTCHES · STAINLESS AND NICKEL-PLATED STEEL, ≈ 150 G · M6 ROD ≈ 15.5 CM



01 · BEFORE YOU START

CONTENTS, COMPATIBILITY, SAFETY

ITEM	QTY	DETAILS
Removal socket	1	Nickel-plated steel, two 4 mm lugs at the end, wrench flats at the base. 2.85 / 3.85 cm
M6 threaded rod	1	Stainless steel, hex socket head, ≈ 15.5 cm
M6 wing nut	1	Stainless steel: hand-tightened
Washers	2	Stainless steel



M6 rod, lugged socket, wing nut and washers: all stainless or nickel-plated steel.

What this tool does

The socket's lugs enter the **two notches** of the freehub body. The rod passes through the socket and the hub; the washer and wing nut on the other side **press the socket into the notches** so it cannot jump out under load. A wrench on the socket's flats then turns the body: it unscrews from the hub on axis, and screws back the same way. No blows, no pliers on the body or the hub.

Compatibility

- Road and MTB hubs whose freehub body is **threaded onto the hub** and has **two 4 mm notches** at its end, on the cassette side. Check for these notches before anything else.
- Not suitable for bodies held by a central hex bolt, nor for press-on bodies that pull off by hand once the axle is out: refer to your hub's documentation.

SAFETY

- Gloves and safety glasses: a pawl and its spring can fly out when the body opens.
- Work with the wheel flat, cassette removed, on a clean rag: small parts get lost fast.
- Never use a hammer on the tool or the body; never extend the wrench. A body that will not come is treated with penetrating oil and patience.
- Never brace against the spokes to force it.

You will also need

- Chain whip and cassette lockring tool
- Spanners for the end caps and the axle
- Open-ended or socket wrench matching the socket's flats
- Grease, degreaser, rags
- Your hub's documentation (thread direction, parts)

02 · PROCEDURE A

REMOVING THE FREEHUB BODY

1. **Remove the cassette** with the chain whip and lockring tool, then clean the body: the notches must be visible and clean.
2. **Remove the end caps and the axle** as described in your hub's documentation, noting the order of the spacers. The rod must be able to pass right through the hub.
3. **Engage the socket,** lugs in the two notches of the body, until it sits flat. If it does not engage without forcing, the body is not the right type: stop.
4. **Pass the rod** through the socket, then through the hub. On the other side, slide on a washer and screw on the wing nut.
5. **Tighten the wing nut by hand,** firmly: the socket is pressed into the notches and can no longer jump out.
6. **Unscrew the body.** Wrench on the socket's flats, other hand on the rim. Like a classic freewheel, the body tightens as you pedal: it generally unscrews anticlockwise, seen from the cassette side, unless the hub manufacturer says otherwise. The first quarter turn is the hardest; then it comes by hand.
7. **Loosen the wing nut** as soon as the body turns freely, remove the rod and socket, then finish unscrewing the body by hand, holding it straight: pawls or balls may come with it.
8. **Clean** the hub's thread and the body's thread with degreaser, and inspect both: a damaged thread cannot be refitted.



Top: the tool assembled on the hub. Bottom: the socket's lugs and the freehub body notch they engage.

WATCH OUT

- If the socket jumps out under load, the wing nut is not tight enough or the lugs are not at the bottom of the notches: start again before damaging the notches.
- A body seized by corrosion or by years of pedalling: penetrating oil on the thread, a few hours' wait, then a sharp pull, never steady pressure.

BEFORE DISMANTLING

Photograph the hub at every step: spacer positions, orientation of pawls and springs. When reassembling, those photos are as good as a manual.

03 · PROCEDURE B

REFITTING, TROUBLESHOOTING, CARE

Refitting the body

1. **Grease the hub's thread** lightly, and put the pawls, springs or balls back as in your photos.
2. **Screw the body on by hand,** straight, until it seats. If it binds before seating, unscrew and start again: a cross-threaded thread is lost.
3. **Tighten with the tool,** socket engaged and wing nut tightened as for removal: a firm pull on the wrench, without forcing. Pedalling will finish locking it.
4. **Refit the axle, spacers and end caps** in removal order, then the cassette, to the torque marked on the lockring.
5. **Check:** the body spins freely when coasting, engages without delay when pedalling, and the wheel has no lateral play.

If something goes wrong

SYMPTOM	LIKELY CAUSE, FIX
The socket will not enter the body	Body without 4 mm notches, or dirty notches. Clean; otherwise this tool does not fit your hub.
The rod will not pass through the hub	The axle is still in place: remove it as per the hub's documentation.
The body will not move	Reversed direction? Check with the hub manufacturer. Corrosion: penetrating oil and patience.
The body slips after refitting	Pawl or spring out of place, grease too thick on the pawls. Open up and start again.
Lateral play after refitting	Spacer forgotten or end caps not tight: go back over the removal order.

Caring for the tool

- Wipe the parts after use; a drop of oil on the rod's thread.
- Inspect the socket's lugs: a rounded or bent lug no longer holds in the notch.
- Stainless and nickel plating do not mind a damp toolbox, but store the tool assembled so the washers do not get lost.

Going further, on video

Independent tutorials on the freehub body: cassette and axle removal are shown, your hub's body may differ.

The Definitive Guide to Servicing (almost) ANY Freehub
BCR · English

Remove A Bike Wheel's Freehub Body
MadeGood Bikes · English

Need help?

velkyne.com/contact
Our team answers your questions about use and compatibility with your hub.

On axis, without a blow.
Lugs at the bottom of the notches, a nut that keeps them there, a wrench that turns. The body comes off, and the hub stays intact.

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