ESO

Manual RAR ESO V2* Disc

OPERATING & DESIGN INFORMATION

The RAR ESO disc brake V2 hubs operate on the principle of a shouldered axle. A cap screwed onto each side of the axle allows adjustment of the preload and play. Access to the bearings is made possible by manually unscrewing the caps. The mechanism must be lubricated strictly and exclusively with synthetic oil or RAR grease. The ESO hubs are designed exclusively for road cycling and cyclo-cross.

Fixing diameter and wheelbases: front - Ø12/100mm / rear - Ø12/142mm.

1 - END CAP

2 -PRELOAD O-RING:

- Front hubs: black
- Rear hubs: green Shimano HG / brown Shimano MS & Sram XDR / black Campagnolo

3 - FREEHUB BODY

- SRAM XDR / SHIMANO HG: bearing 61902 x2
- SHIMANO MS / CAMPAGNOLO: bearing 61802 x2

4 - O-RING

5 - SPACER RING:

-Shimano HG and Campagnolo (12.20mm) / Shimano MS** and SRAM XDR (9.00mm)

6 - MOVABLE RATCHET RING

7 - SPRING

8a - SHIM (0.5mm)

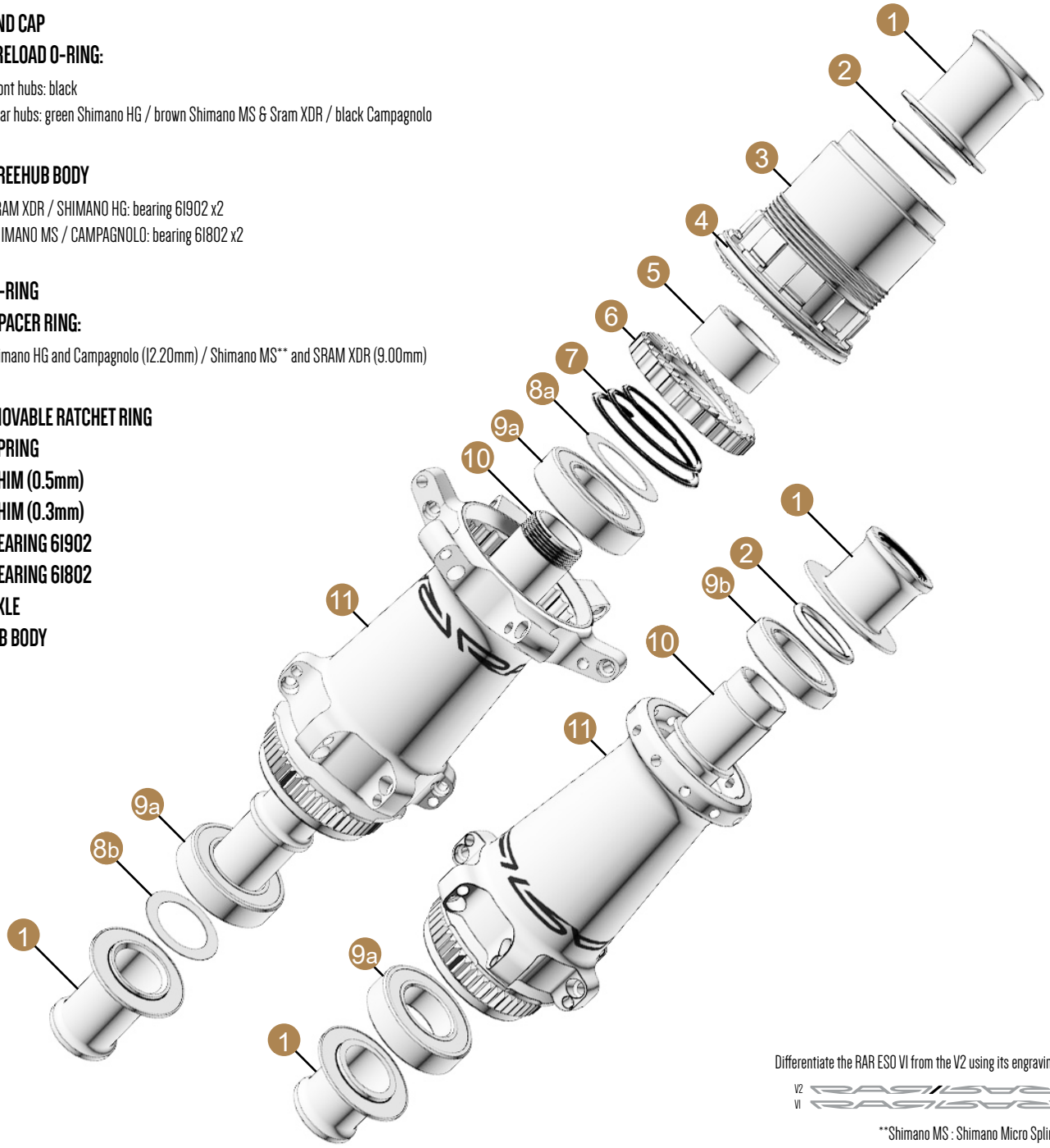
8b - SHIM (0.3mm)

9a - BEARING 61902

9b - BEARING 61802

10 - AXLE

11 - UB BODY



Differentiate the RAR ESO VI from the V2 using its engraving:

V2

VI

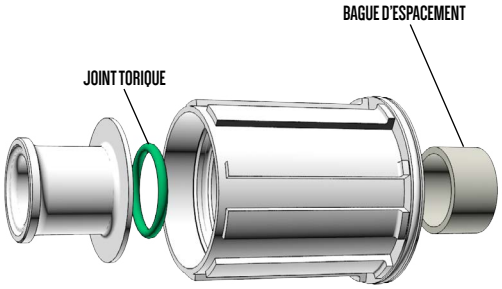
**Shimano MS : Shimano Micro Spline

TABLE OF JOINT ASSEMBLIES / SEALS / RINGS / GASKETS / CAPS

REAR HUB

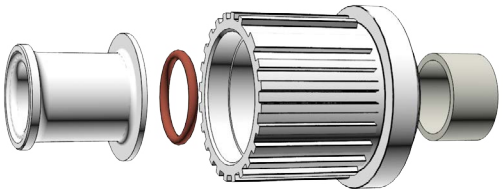
SHIMANO HG IIs

Spacer ring L 12.20mm
O-ring I.80mm vert
Cap L 17.50mm



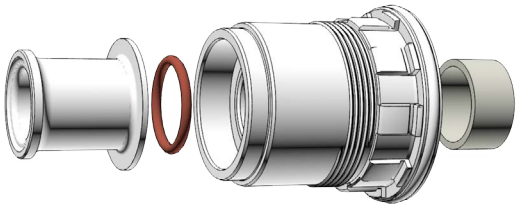
SHIMANO MICROSPLINE 12s

Spacer ring L 9.0mm
O-ring I.0mm marron
Cap L 20.0mm



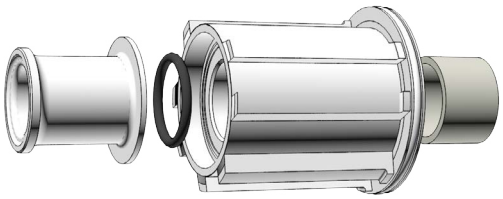
SRAM XDR 12s

Spacer ring L 9.0mm
O-ring I.0mm marron
Cap L 20.0mm



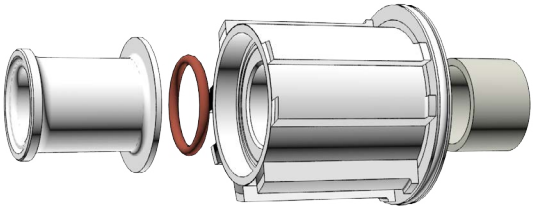
CAMPAGNOLO 12s

Spacer ring L 12.20mm
O-ring I.20mm noir
Cap L 20.0mm



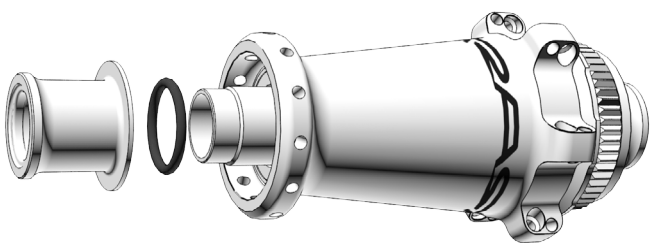
CAMPAGNOLO N3W 13s

Spacer ring L 12.20mm
O-ring I.20mm noir
Cap L 20.0mm



FRONT HUB

O-ring I.2mm noir

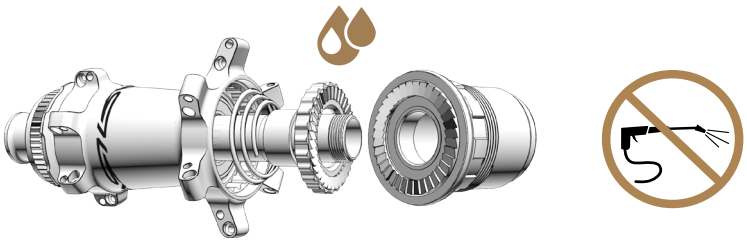


MAINTENANCE

The ESO range is built on high-performance annular bearings.
They offer a long service life and can be replaced in the event of abnormal noise or non-smooth rotation.
It is advisable to periodically remove the axles to remove any impurities that may have worked their way under the end caps and onto the bearings, then re-lubricate.
The cleanliness and lubrication of the crowned gear mechanisms should be checked at the same time.Bearing maintenance is minimal.

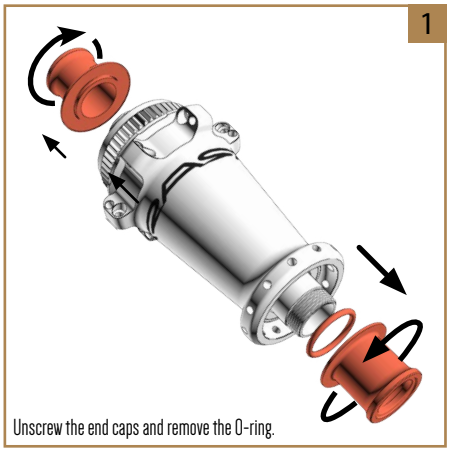
Cleaning interval: 5,000 km or more frequently if regularly used in rain and mud, or at least once a year if not.

High-pressure cleaning is prohibited.
Properly performed maintenance increases the performance and service life of the hubs.

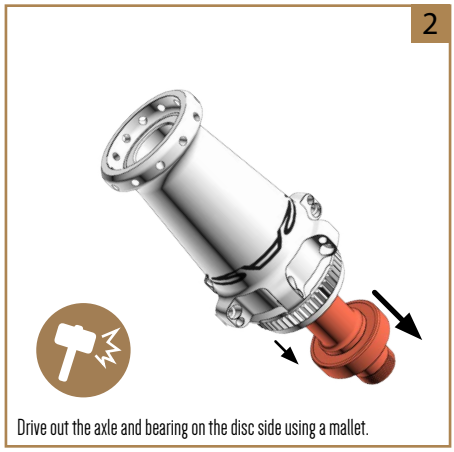


DISASSEMBLY

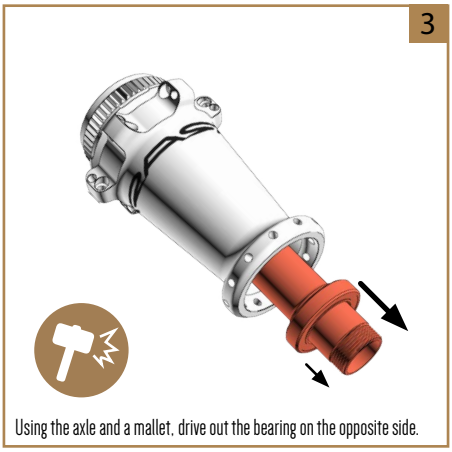
FRONT HUB



Unscrew the end caps and remove the O-ring.



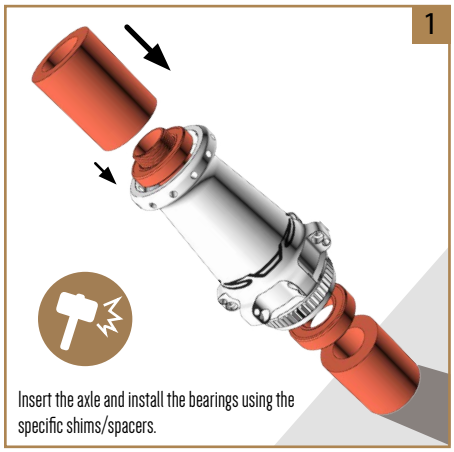
Drive out the axle and bearing on the disc side using a mallet.



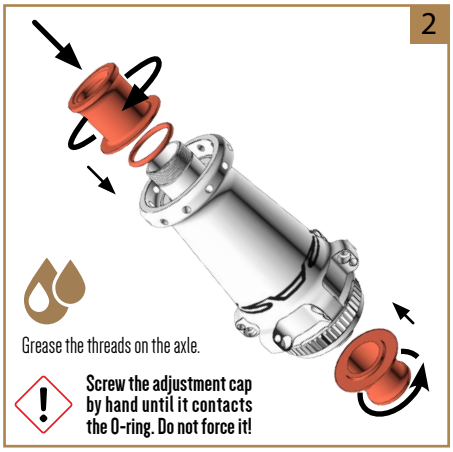
Using the axle and a mallet, drive out the bearing on the opposite side.

ASSEMBLY

REAR HUB



Insert the axle and install the bearings using the specific shims/spacers.



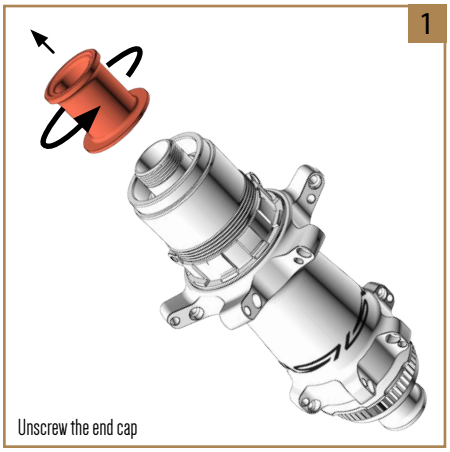
Grease the threads on the axle.

Screw the adjustment cap by hand until it contacts the O-ring. Do not force it!

DISASSEMBLY

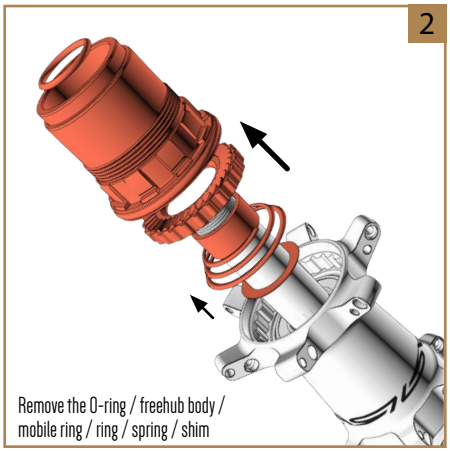
REAR HUB

1



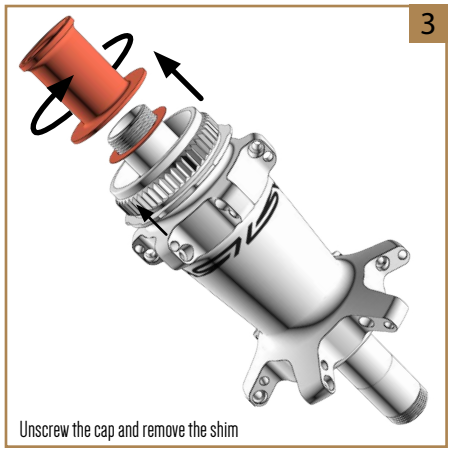
Unscrew the end cap

2



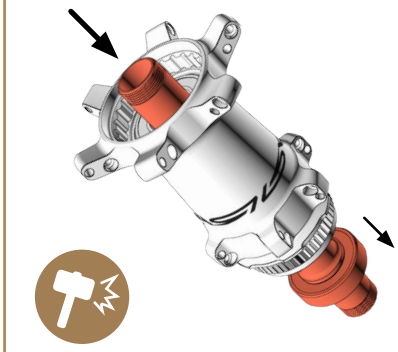
Remove the O-ring / freehub body / mobile ring / ring / spring / shim

3



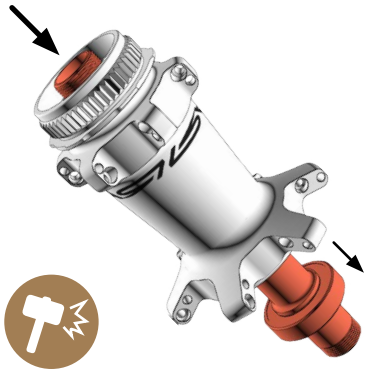
Unscrew the cap and remove the shim

4



Drive out the axle and bearing on the disc side using a mallet

5

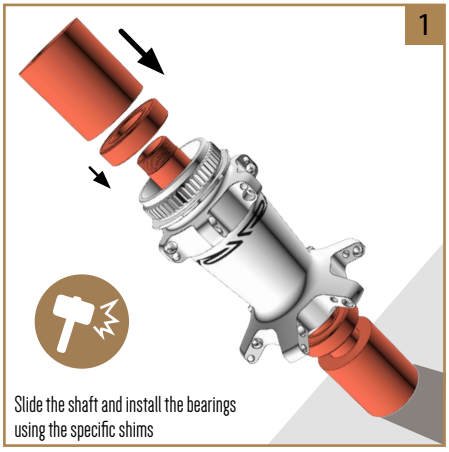


Using the axle and a mallet, drive out the bearing on the cassette side

ASSEMBLY

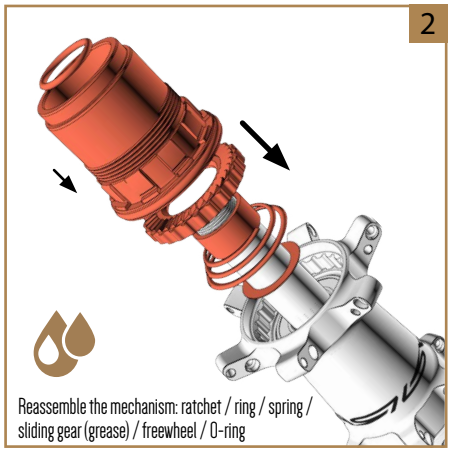
REAR HUB

1



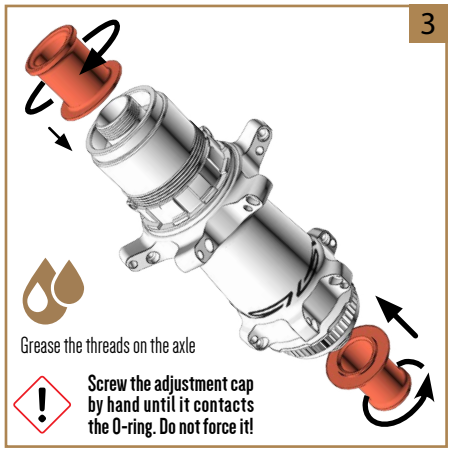
Slide the shaft and install the bearings using the specific shims

2



Reassemble the mechanism: ratchet / ring / spring / sliding gear (grease) / freewheel / O-ring

3

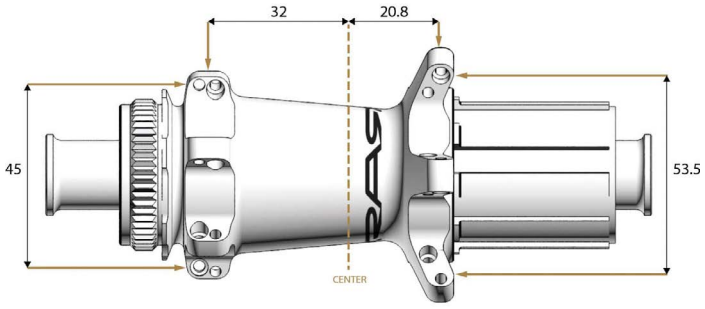


Grease the threads on the axle

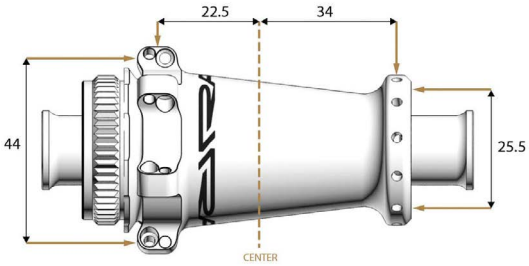
Screw the adjustment cap by hand until it contacts the O-ring. Do not force it!

GEOMETRY

REAR HUB



FRONT HUB



WHEEL ASSEMBLY

Maximum Admissible Tension

REAR WHEEL	FRONT WHEEL
ASYMMETRIC RIM	ASYMMETRIC RIM
1200N on the disc side	1150N on the disc side
900N on the cassette side	900N on the cassette side

Pay particular attention to the maximum admissible tensions for each spoke group («nappe de rayon»): an unusual centering or asymmetric rims can alter the left/right tension ratio and exceed the intended limit on one side.

Refer to a specialist or contact us for any questions.

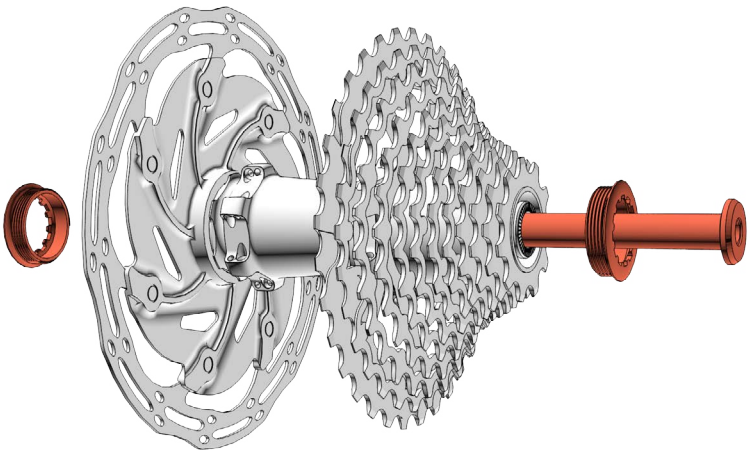
SAFETY

ESO hubs are designed to operate safely for riders up to a maximum weight of 105kg.
Inspect the condition of your hubs and wheels before each use.
In the event of any anomaly, the hub and wheel must not be used.
Have a professional check the condition of the parts after a fall or impact.

The use of damaged components can lead to part failure, resulting in an accident and possible death.

TORQUE SETTINGS

MAXIMUM :
Cassette lockring 35N.m
Disc lockring 35N.m
Wheel quick release 10N.m.



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