









MAINTENANCE

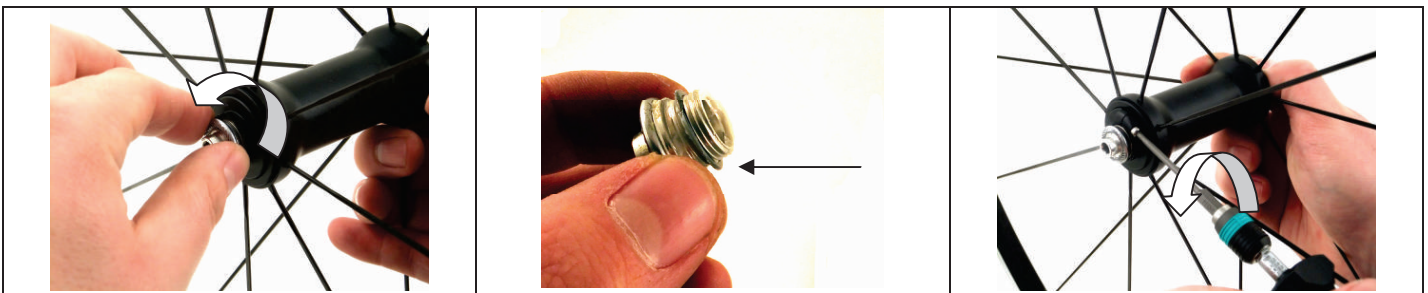
GROUPSET	TYPE	OPERATION	REVISION	DESCRIPTION					
ROAD GROUPSETS	CONE / CUP MOVEMENT	002	1/2011	SERVICING FRONT HUB ASSEMBLY					
PRODUCTS ON WHICH THE PROCEDURE SHOULD BE APPLIED									
									
Ghibli™	Bora™	Hyperon™	Neutron™	Shamal™	Eurus™	Zonda™	Bullet Ultra™		



<p>1</p> <p>With a flat-bladed screwdriver remove the first protective cover. Make sure you do not damage the cover's locking teeth which would affect reassembling at a later stage.</p>	<p>2</p> <p>Once removed the cover, rotate the hub in the opposite direction.</p>	<p>3</p> <p>With a flat-bladed screwdriver remove the second protective cover. Make sure you do not damage the cover's locking teeth which would affect reassembling at a later stage.</p>
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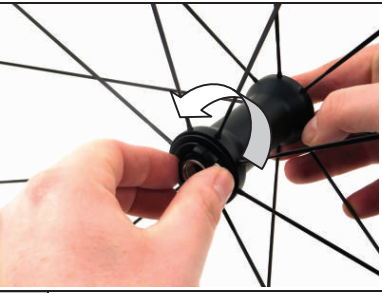

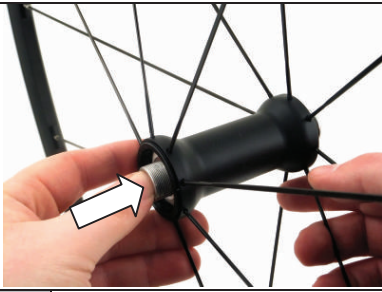


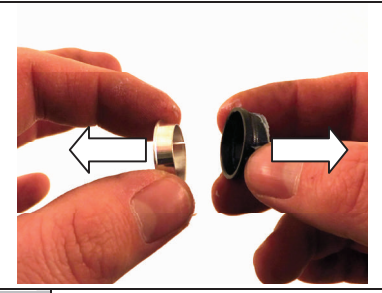


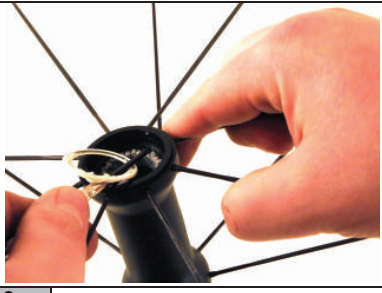




<p>4</p> <p>Remove the cover.</p>	<p>5</p> <p>Using 2, 5mm hex wrenches to loosen the axles end-cap/flange.</p>	<p>6</p> <p>Insert the two hex wrenches inside the hex-drive of the Of the axle and end cap then firmly unscrew. The right side (on the opposite side of the adjustment ring nut) remains fixed, the left side end cap rotates counter-clockwise to loosen the end cap.</p>
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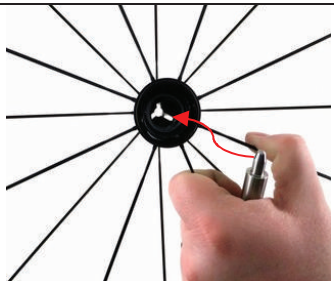


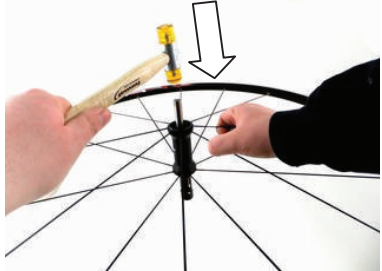







<p>7</p> <p>Loosen end cap (adjustment ring nut).</p>	<p>8</p> <p>While removing the end cap, make sure you do not lose the spacer.</p>	<p>9</p> <p>Use a screwdriver with a 2.5mm hexagon insert to loosen the screw of the adjustment ring nut.</p>
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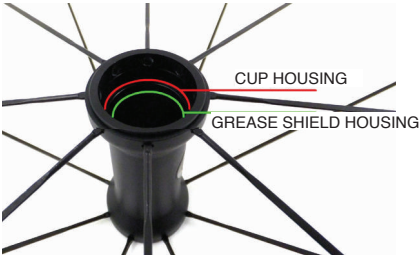



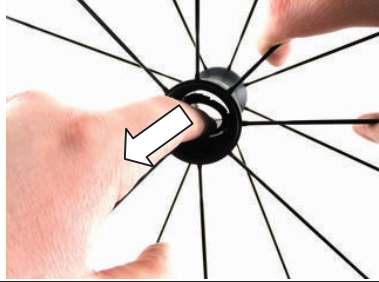







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<p>10</p> <p>The indication that the adjustment ring nut will be loosened will be when the slot in the nut has a visible gap. Do not remove the screw from the adjustment ring nut.</p>	<p>11</p> <p>Holding the axle stationary, rotate the adjustment ring nut counter-clockwise to remove the adjustment ring nut.</p>	<p>12</p> <p>After removing the adjustment ring nut, you will see the cone and adjustment cone that we will remove in the next stage.</p>
		
<p>13</p> <p>Push the axle into the hub body until it reaches the other side.</p>	<p>14</p> <p>The axle will easily come out from the opposite side.</p>	<p>15</p> <p>Remove the cone and the adjustment cone.</p>
		
<p>16</p> <p>Protect all the components so that they do not get dirty to prevent any issues during reassembly.</p>	<p>17</p> <p>Remove the cone from the axle.</p> <ul style="list-style-type: none"> ▶ To replace the spokes see OPERATION 003 ▶ To replace the cones/cups, carry on until the end of the procedure. 	<p>18</p> <p>Remove the grease shield by using a small standard screwdriver. Repeat on the opposite side.</p>
		
<p>19</p> <p>Make sure you do not damage the components.</p>	<p>20</p> <p>With a small screwdriver remove the bearing retaining ring making sure you do not damage it. Incorrect handling may cause the bearings to detach from the ring.</p>	<p>21</p> <p>Remove the cups using the special cup pulling tool.</p>

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<p>22</p> <p>The cup pulling tool consists of two items. A specific stripper for road cups and a punch.</p>	<p>23</p> <p>Insert the stripper inside the cup the cup that needs to be removed.</p>	<p>24</p> <p>Once inserted correctly the stripper remains still without operator assistance. Rotate the hub in the opposite direction.</p>
		
<p>25</p> <p>Insert the punch from the opposite side and fasten in the designated hole.</p>	<p>26</p> <p>Using a 12oz peen hammer, deliver solid precise blows to the striking end of the punch protruding from the hub shell.</p>	<p>27</p> <p>Use care not to glance off of the punch as damage can occur to the wheel.</p>
		
<p>28</p> <p>Continue to deliver blows to the punch until the cup is removed from the hub shell.</p>	<p>29</p> <p>Take care to ensure that the cup stripper and punch are not propelled out of the hub when finally free of the hub shell.</p>	<p>30</p> <p>Repeat from point 24 to remove the cup on the opposite side.</p>
		
<p>31</p> <p>When removing the cups the grease shields may move away from their housings.</p>	<p>32</p> <p>Remove the grease shields on both sides.</p>	<p>33</p> <p>Check the integrity of the grease shield.</p>

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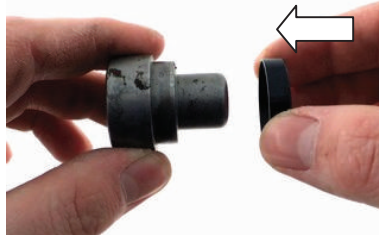
 <p>CUP HOUSING GREASE SHIELD HOUSING</p>		
<p>34 inspect the housing of the grease shield and of the cup</p>	<p>35 If damaged, replace the grease shield.</p>	<p>36 Insert the grease shield inside the body of the hub turning the concave part outwards.</p>
		
<p>37 Insert inside the body of the hub and underneath the designated housing of the grease shield.</p>	<p>38 Manually drag the grease shield outwards.</p>	<p>39 Lock the designated teeth on the housing of the grease shield.</p>
		
<p>40 Clean the cup thoroughly.</p>	<p>41 Use the bearing insertion tool to fully insert the cups.</p>	<p>42 Unscrew the insertion tool threaded handle.</p>
		
<p>43 Remove the adaptors.</p>	<p>44 Insert the first cup on the adaptor.</p>	<p>45 Place the cup/adaptor bearing press tool.</p>

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46

Insert the tool inside the body of the hub. Make sure you do not damage the grease shields.



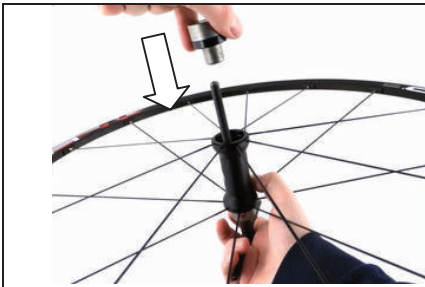
47

Place the second cup on the second adaptor.



48

Tighten the cup.



49

Insert the second cup/adaptor onto the bearing press tool.



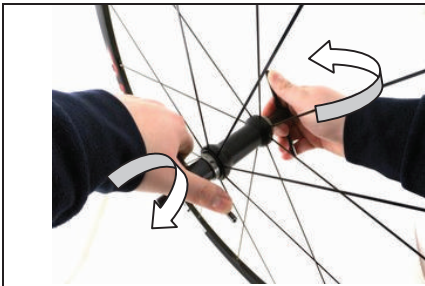
50

Place the two cups on the body of the hub.



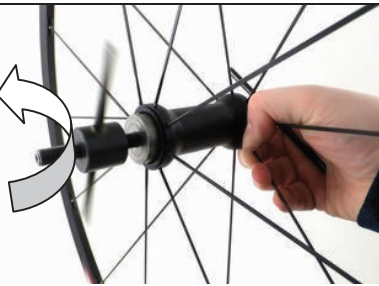
51

Screw on the threaded handle to the bearing press tool.



52

Firmly close the two handles of the tool until the cups are fully inserted.



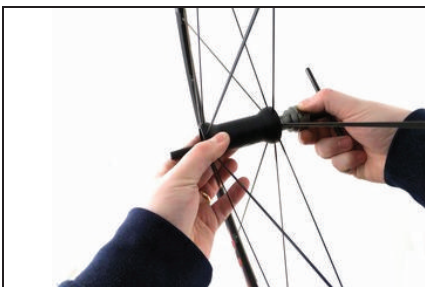
53

Loosen the threaded handle.



54

Remove the adaptor.



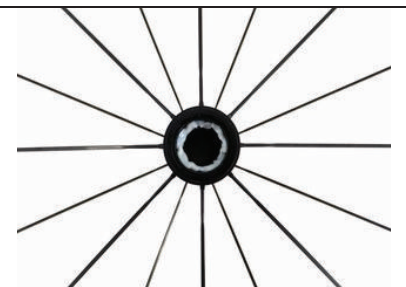
55

Remove the tool from the hub shell.



56

Grease the surface of the ball track of the cup using the Campagnolo grease code LB-100.



57

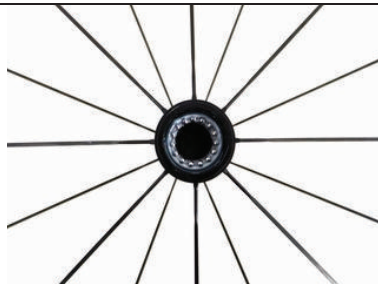
The amount of grease applied should cover about 75% of the space between the balls and the cups.

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58

Insert the bearing retaining ring inside the cups body of the hub.



59

Ensure that the bearing retaining ring is inserted into the cup with the ball bearings facing out.



60

The hub shield must be undamaged. Replace if damaged.



61

The black part of the grease seal should face the inside of the hub's body.



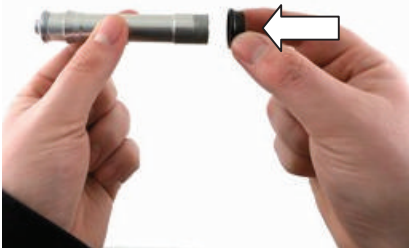
62

Insert the grease seal inside the corresponding notch in the cup of the hub.



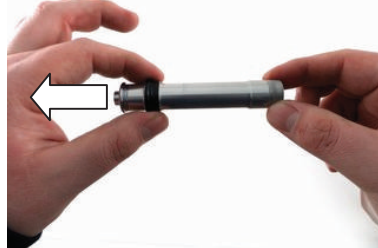
63

Repeat on the opposite side (from 62 to 68).



64

Insert the adjustment cone on the axle.



65

Ensure that the cone seats properly onto the corresponding cone shape on the axle.



66

Insert the axle inside the right side of the hub body.



67

Check the cone is mates correctly into the bearing retaining ring.



68

Rotate the hub by 180°.



69

Insert the second cone onto the axle following the direction it should be inserted in. The larger diameter should face the outside of the hub's body.

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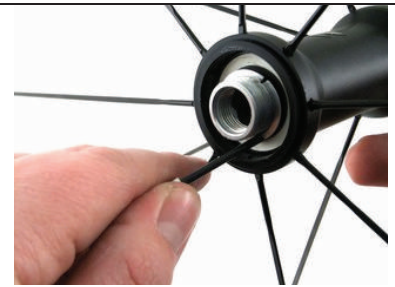
70

Check the cone is mates correctly into the bearing retaining ring.



71

Insert the adjustment cone onto the axle mating into the cone from 69-70. The direction it should be inserted in. The larger diameter should face the outside of the hub's body.



72

Manipulate it into position by using a small screwdriver. Push the adjustment cone in by pressing on various points of the circumference.



73

Inspect the adjustment ring nut. If it is damaged, replace it.



74

Install and tighten the adjustment ring nut clockwise and hold the axle while holding the axle stationary with your right hand.



75

Inspect the axle end cap. If it is damaged, replace it. Insure that the small spacer is in place and install the end cap into the axle end.



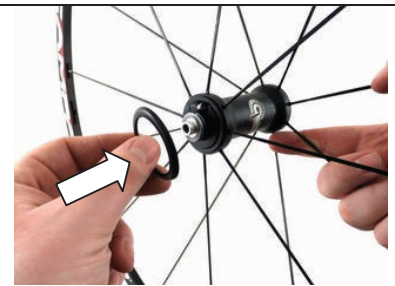
76

Screw the axle end cap clockwise.



77

Insert the two 5mm hex wrenches inside the hexagons of the hub's body and tighten firmly. The right wrench (on the opposite side of the adjustment ring nut) remains fixed, the left wrench rotates clockwise.



78

Inspect the dust covers. If they are damaged, replace them. Insert the cover with the larger internal diameter on the body of the hub on the adjustment ring nut side.



79

Make sure the cover engages correctly into place.



80

Insert the cover with the smaller internal diameter on the body of the hub on the side opposite to the adjustment ring nut.



81

Make sure the cover engages correctly into place.

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82

Using a plastic hammer gently tap on both sides of the hub pin.



83

► To adjust the hub see OPERATION 001