ZIPP

Cognition V2 Hubs

service manual

SRAM® LLC WARRANTY

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AGAINST SRAM, LLC. YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE, COUNTRY, OR PROVINCE. THIS WARRANTY DOES NOT AFFECT YOUR STATUTORY RIGHTS. TO THE EXTENT THIS WARRANTY IS INCONSISTENT WITH THE LOCAL LAW, THIS WARRANTY SHALL BE DEEMED MODIFIED TO BE CONSISTENT WITH SUCH LAW. FOR A FULL UNDERSTANDING OF YOUR RIGHTS, CONSULT THE LAWS OF YOUR COUNTRY, PROVINCE, OR STATE.

EXTENT OF LIMITED WARRANTY

Except as otherwise set forth herein, SRAM warrants its bicycle components to be free from defects in materials or workmanship for a period of two (2) years after original purchase of the product.

SRAM warrants all Zipp MOTO Wheels and Rims to be free from defects in materials or workmanship for the lifetime of the product.

SRAM warrants all non-electronic Zipp branded bicycle components, Model Year 2021 or newer, to be free from defects in materials or workmanship for the lifetime of the product.

GENERAL PROVISIONS

This warranty only applies to the original owner and is not transferable. Claims under this warranty must be made through the retailer where the bicycle or the SRAM product was purchased or a SRAM authorized service location. Original proof of purchase is required. All SRAM warranty claims will be evaluated by a SRAM authorized service location whereupon acceptance of the claim the product will be repaired, replaced, or refunded at SRAM's discretion. To the extent allowed by local law claims under this warranty must be made during the warranty period and within one (1) year following the date on which any such claim arises.

NO OTHER WARRANTIES

EXCEPT AS DESCRIBED HEREIN, AND TO THE EXTENT ALLOWED BY LOCAL LAW, SRAM MAKES NO OTHER WARRANTIES, GUARANTIES, OR REPRESENTATIONS OF ANY TYPE (EXPRESS OR IMPLIED), AND ALL WARRANTIES (INCLUDING ANY IMPLIED WARRANTIES OF REASONABLE CARE, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE) ARE HEREBY DISCLAIMED.

LIMITATIONS OF LIABILITY

EXCEPT AS DESCRIBED HEREIN, AND TO THE EXTENT PERMITTED BY LAW, IN NO EVENT SHALL SRAM OR ITS THIRD PARTY SUPPLIERS BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES. SOME STATES (COUNTRIES AND PROVINCES) DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL DAMAGES, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

LIMITATIONS OF WARRANTY

This warranty does not apply to products that have been incorrectly installed, adjusted, and/or maintained according to the respective SRAM user manual. The SRAM user manuals can be found online at sram.com/service.

This warranty does not apply to damage to the product caused by a crash, impact, abuse of the product, non-compliance with manufacturer's specifications of intended usage, or any other circumstances in which the product has been subjected to forces or loads beyond its design.

This warranty does not apply when the product has been modified, including but not limited to, any attempt to open or repair any electronic and electronic related components, including the motor, controller, battery packs, wiring harnesses, switches, and chargers.

This warranty does not apply when the serial number or production code has been deliberately altered, defaced, or removed.

SRAM components are designed for use only on bicycles that are pedal powered or pedal assisted (e-Bike/Pedelec).

Notwithstanding anything else set forth herein, the battery pack and charger warranty does not include damage from power surges, use of improper charger, improper maintenance, or such other misuse.

This warranty shall not cover damages caused by the use of parts of different manufacturers or parts that are not compatible or suitable for use with SRAM components.

This warranty shall not cover damages resulting from commercial (rental) use.

WEAR AND TEAR

This warranty does not apply to normal wear and tear. Wear and tear parts are subject to damage as a result of normal use, failure to service according to SRAM recommendations, and/or riding or installation in conditions or applications other than recommended.

WEAR AND TEAR PARTS INCLUDE:

- Aero bar pads
- Air sealing o-rings
- Batteries
- Bearings
- Bottomout pads
- Brake pads
- Bushings
- Cassettes
- Chains
- Corrosion
- Disc brake rotors
- Dust seals
- Free hubs, Driver bodies, Pawls
- Foam rings, Glide rings
- Handlebar grips
- Jockey wheels
- Rear shock mounting hardware and main seals
- Rubber moving parts
- Shifter and Brake cables (inner and outer)
- Shifter grips
- Spokes
- Sprockets
- Stripped threads/bolts (aluminum, titanium, magnesium or steel)
- Tires
- Tools
- Transmission gears
- Upper tubes (stanchions)
- Wheel braking surfaces

ZIPP IMPACT REPLACEMENT POLICY

Zipp branded products, Model Year 2021 or newer, are covered under a lifetime impact-damage replacement policy. This policy can be used to obtain a replacement of a product in the event of non-warranty impact damage occurring while riding your bicycle. See www.zipp.com/support for more information.

SAFETY FIRST!

We care about YOU. Please, always wear your safety glasses and protective gloves when servicing Zipp® products.
Protect yourself! Wear your safety gear!

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Zipp Service

We recommend that you have your Zipp compononets serviced by a qualified bicycle mechanic. Servicing Zipp compononets requires the use of specialized tools. Failure to follow the procedures outlined in this service manual may cause damage to your component and void the warranty.

Visit www.zipp.com/support for the latest Zipp Spare Parts catalog and technical information. For order information, please contact your local Zipp distributor or dealer.

Information contained in this publication is subject to change at any time without prior notice.

Your product's appearance may differ from the pictures contained in this publication.

For recycling and environmental compliance information, please visit:
https://www.sram.com/en/company/about/environmental-policy-and-recycling.

Part Preparation

Remove the component from the bicycle before service.

Disconnect and remove the remote cable or hydraulic hose from the fork or rear shock, if applicable. For additional information about RockShox remotes, user manuals are available at www.sram.com/service.

Clean the exterior of the product with mild soap and water to avoid contamination of internal sealing part surfaces.

Service Procedures

The following procedures should be performed throughout service, unless otherwise specified.

Clean the part with isopropyl alcohol and a clean, lint-free shop towel.

NOTICE

To prevent damage to the hub surfaces, do not use Acetone or similar products to clean parts.

Rear Hub Service

The hub can be serviced while in the wheel. However, if your spokes or rim are damaged, you can remove the hub from the wheel which will make servicing your hub easier. To remove the hub, use a spoke wrench to de-tension the spokes, then use a pair of metal snips to cut the spokes, remove the hub from the wheel, and remove the spoke ends from the hub (not pictured).

Parts, Tools, and Supplies

Parts

- Zipp Cognition 6903/61903 hub bearing (x2)
- Zipp Cognition driver (optional)
- Zipp Cognition 6803/61803 driver bearing (x2) (optional)

Safety and Protection Supplies

- Apron
- Clean, lint-free shop towels
- Nitrile gloves
- Safety glasses

Lubricants and Fluids

- Isopropyl alcohol
- Zipp Cognition or Klüber Staburags NBU30 grease
- Zipp Cognition Oil or Phil Bio-Lube and small oil syringe

Zipp/SRAM Tools

- Zipp 61903 Bearing Press Tool (x2)
  or
  Zipp 61903 Bearing Press Tool (x1) *and*
  SRAM 6903 Bearing Press Tool (x1)

Bicycle Tools

- Axle and spindle vise inserts - Park Tool AV-4 or AV-5
- Slide hammer bearing puller set
  - 17 mm slotted attachment
- Wheels Manufacturing Press-1 Sealed Bearing Press Kit or similar
  - 6903 30x17 bearing press adapters (x2)
  - 6803 26x17 bearing press adapters (x2) (optional)
  - 6002 32x15 bearing press adapter (optional)
  - T-handle threaded bearing press

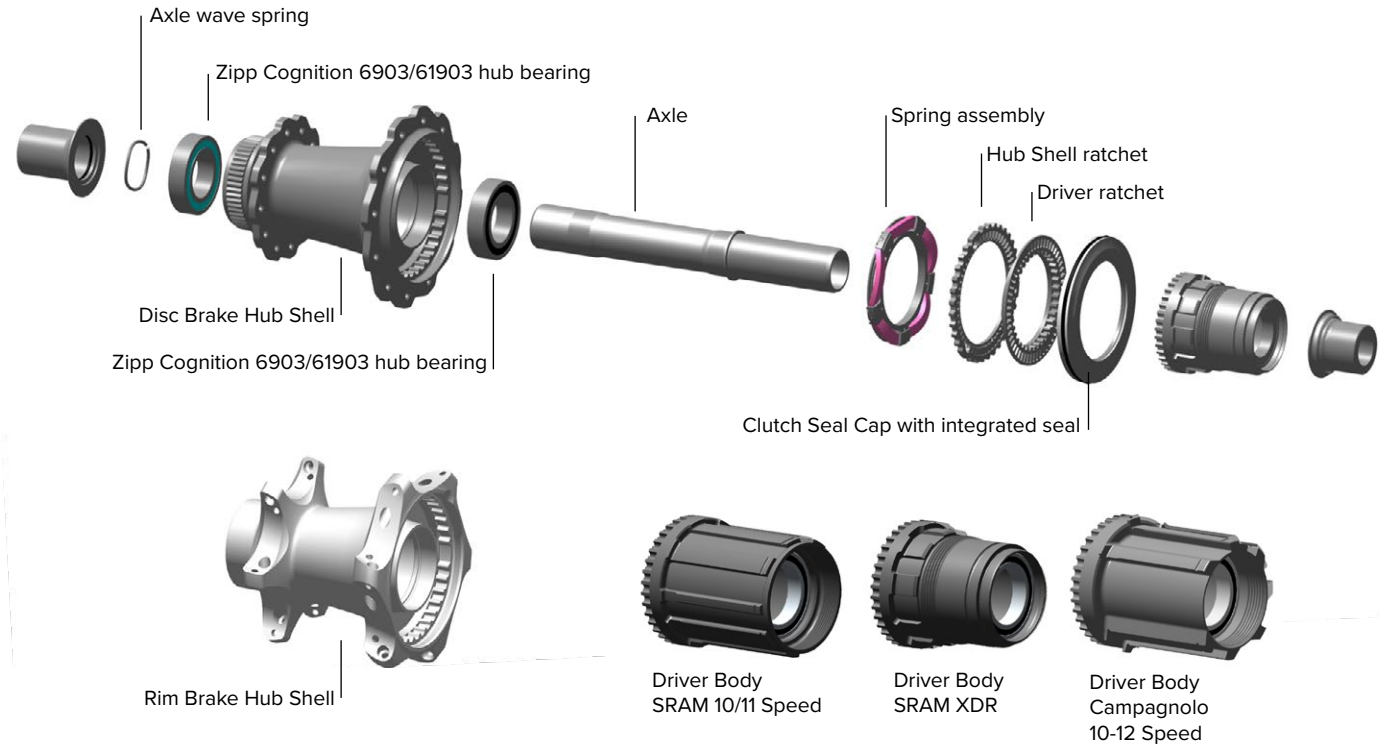
Common Tools

- Bench vise
- 3 mm hex wrench
- Grease brush
- Pick
- Rubber or plastic mallet
- Vise soft jaws (aluminum)

SAFETY INSTRUCTIONS

Always wear nitrile gloves when working with bicycle lubricants.

Rear Hub Exploded View



Rear Hub End Caps

					DRIVE SIDE			NON DRIVE SIDE		
Hub	Variants				Current Identification Text On End Cap	Previous Identification Text On End Cap	Spare Part Kit Number	Current Identification Text On End Cap	Previous Identification Text On End Cap	Spare Part Kit Number
Cognition V2	REAR	QR	RIM	11SPD	127-000	10x(130/135) DS XD(R)	11.2018.065.008	178-000	10x130 NDS	11.2018.065.008
				XDR						
				CAMPA	161-000	10x135 DS C	11.2018.033.003			11.2018.033.001
		12 x 142	CL	11SPD	151-030	12x(142/148) DS XD(R)	11.2018.065.007	154-010	12x142 NDS CL	11.2018.065.007
				XDR						
				CAMPA	151-050	12x142 DS C	11.2018.049.040			11.2018.049.040

Rear Hub Disassembly

Procedures are the same for rim brake and disc brake rear hubs. Disc brake hub pictured.

1 Insert the Park Tool AV-4 or AV-5 Axle and Spindle Vise Insert tool into a vise. Clamp the non-drive side end cap into the vise insert tool and pull up on the wheel/hub to remove the end cap.

AV-4 / AV-5

AV-4 / AV-5

2 Clamp the drive side end cap into the vise insert tool and pull up on the wheel/hub to remove the end cap.

AV-4 / AV-5

AV-4 / AV-5

3 Pull the driver assembly from the hub and axle.

The procedure for driver removal and installation is the same for each type of driver (SRAM 10/11 Speed, SRAM XDR, and Campagnolo). The SRAM XDR driver is pictured.

NOTICE

Bearing removal causes permanent damage to the bearings. Do not reinstall the bearings.

4 Use a plastic mallet to gently tap the axle on the non-drive side of the hub to remove the axle from the hub shell. Pull the axle and drive side bearing out of the drive side of the hub.

If the drive side bearing was not removed with the axle, it must be removed with the slide hammer bearing puller, shown in step 7.

Plastic Mallet

5 The wave spring on the non-drive side end of the axle will be dislodged when the axle is removed. Remove the wave spring from the non-drive side hub shell.

6 Place the axle in between flat aluminum vise soft jaws, drive side down, with the bearing resting on top of the soft jaws. Make sure the axle bearing step does not contact the soft jaws. Use a plastic mallet to gently tap on the top of the non-drive end of the axle until it is dislodged from the bearing. Discard the bearing.

Spray isopropyl alcohol onto the axle and clean the axle with a shop towel.

NOTICE

To avoid damage to the axle, do not allow the axle to contact the vise soft jaws. If the axle bearing step is damaged, the axle must be replaced.

Plastic Mallet

7 If the drive side bearing was not removed with the axle, remove the drive side bearing from hub shell with a slide hammer bearing puller.

Insert the 17 mm slotted bearing puller attachment through the drive side bearing. Align the slotted attachment with the bottom of the bearing, then tighten the slotted attachment to expand the puller inside the bearing.

NOTICE

Do not overtighten the slotted attachment. For more detailed assembly and usage information, consult your bearing puller manufacturer's instructions.

17 mm Slotted Bearing Puller

8 Thread the shaft of the bearing puller into the slotted attachment. While holding the hub securely, forcefully pull back on the slide hammer to remove the bearing from the drive side of the hub shell.

Remove the bearing from the slotted attachment.

Discard the bearing.

Slide Hammer Bearing Puller

9 Insert the 17 mm slotted bearing puller attachment through the non-drive side bearing. Align the slotted attachment with the bottom of the bearing, then tighten the slotted attachment to expand the puller inside the bearing.

NOTICE

Do not overtighten the slotted attachment. For more detailed assembly and usage information, consult your bearing puller manufacturer's instructions.

17 mm Slotted Bearing Puller

10 Thread the shaft of the bearing puller into the slotted attachment. While holding the hub securely, forcefully pull back on the slide hammer to remove the bearing from the non-drive side of the hub shell.

Remove the bearing from the slotted attachment and discard the bearing.

Slide Hammer Bearing Puller

Rear Hub Clutch Removal

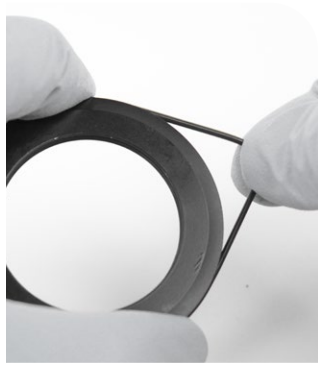
1 Use a 3 mm hex wrench to gently pry the clutch seal cap free from the hub shell. Use your fingers to remove the clutch seal cap.

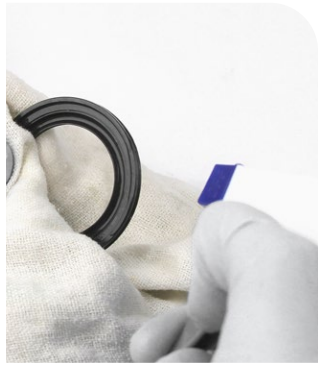
NOTICE

Do not damage the clutch seal cap during removal. If the clutch seal cap is damaged it must be replaced.

Use your fingers to remove the o-ring. Spray isopropyl alcohol onto the clutch seal cap and o-ring and wipe them with a shop towel. Install the o-ring back onto the clutch seal cap.

3 mm Hex





2 Push down on one side of the clutch assembly from the hub shell to raise the opposite side. Use your fingers to remove the driver ratchet from the hub shell.

3 Use a pick to lift one side of the hub shell clutch from the hub shell and remove it.

Pick

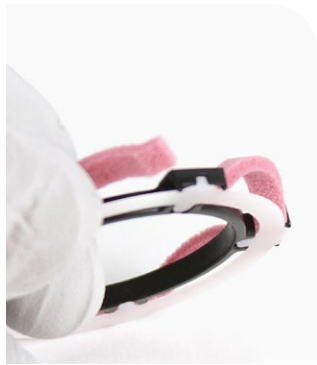
4 Use a pick to remove the spring assembly from the hub shell.

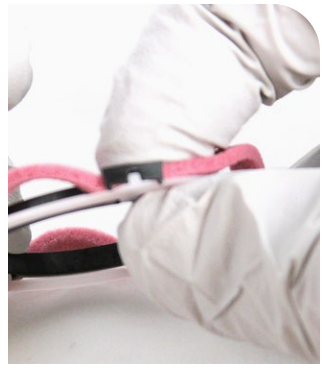
Pick

NOTICE

Do not disassemble the plastic retainer.

If the spring becomes disloged from the plastic retainer, gently push the spring back into place and make sure the plastic snaps are connected.





NOTICE

To prevent damage to the hub surfaces, decals, and foam spring, do not use Acetone or similar products to clean parts.

5 Press the spring assembly between two shop towels to remove old Cognition oil from the foam ring.

NOTICE

Do not apply any type of cleaning product to the foam ring.

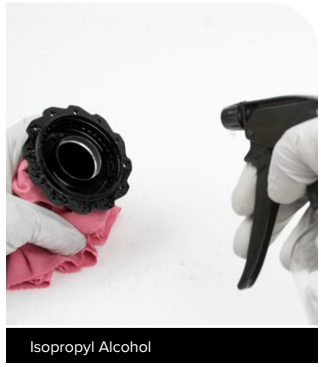
Shop Towel

6 Clean the hub shell ratchet and the driver ratchet with isopropyl alcohol and a clean shop towel.

Isopropyl Alcohol

Shop Towel

7 Spray isopropyl alcohol in the rear hub bearing bores and clean the hub with a shop towel.



Isopropyl Alcohol

Rear Hub Bearing Installation

Use only Zipp Cognition replacement bearings in Zipp Cognition hubs.

1 Place the hub on flat surface, non-drive side up. Insert a new Zipp Cognition 6903/61903 hub bearing into the non-drive side of the hub shell, with the **black** seal facing outward.

Note: Ceramic bearings have **blue** seals on both sides of the bearing; installation orientation is not important.

Insert a 6903 30x17 tool onto the bearing.

6903/61903 Hub Bearing

6903 30x17

2 Insert the threaded rod through the bearing on the non-drive side of the hub shell. Slide a second 6903 30x17 tool onto the threaded rod.

Thread the Press Tool handle onto the threaded rod.

6903 30x17

3 Turn the handle clockwise to press the bearing into the hub until it is hand-tight.

Do not overtighten the bearing.

Remove the tools.

NOTICE

To prevent damage when pressing the bearing into the hub, make sure that the bearing press tools contact both the inner and outer bearing races or bearing bores and not the hub shell.

6903 30x17 6903 30x17

4 Place the drive side end of the axle on a flat surface. Install a new Zipp Cognition 6903/61903 hub bearing onto the non-drive side of the axle, **black** seal side first. Slide the bearing to the drive side of the axle, to the bearing step until it stops.

Note: Ceramic bearings have **blue** seals on both sides of the bearing; installation orientation is not important.

Zipp Cognition 6903/61903 Hub Bearing

5 Slide the Zipp 61903 bearing press tool over the non-drive side of the axle and rest it flat on the bearing. Use a plastic mallet to gently tap the Zipp bearing press tool until the bearing is seated onto the axle. Stop when the bearing is flush against the axle bearing step.

Zipp 61903 Bearing Press Tool

6 Insert the non-drive side of the axle into the drive side of the hub, through the non-drive side bearing. Position the drive side bearing into the drive side hub bearing bore.

7 Place a SRAM 6903 or Zipp 61903 bearing press tool on a flat table with the **non-grooved end** of the tool facing up. Position the non-drive side of the hub on the bearing press tool.

Insert another Zipp 61903 bearing press tool, **grooved end first**, onto the drive side axle.

NOTICE

The grooved end of the Zipp 61903 bearing press tool has an internally tapered interface that fits over the driver axle bearing step to prevent damage to the axle.

SRAM 6903 or Zipp 61903 Bearing Press Tool

Zipp 61903 Bearing Press Tool

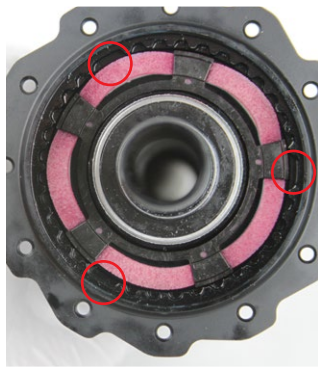
8 Gently tap the Zipp 61903 bearing press tool with a plastic mallet until the drive side bearing is seated into the hub shell.

Zipp 61903 Bearing Press Tool

Rear Hub Clutch Installation

1 Install the spring assembly in to the drive side of the rear hub with the white surface facing down.

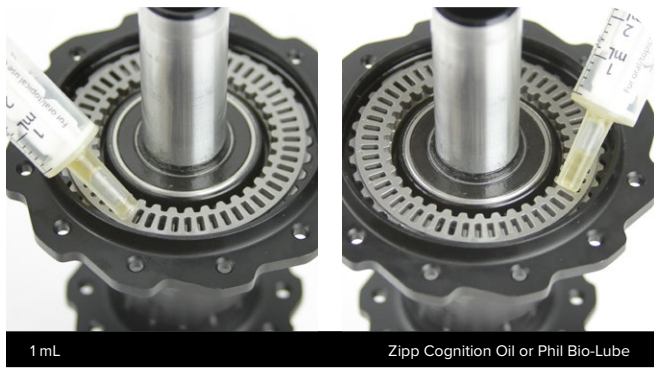
2 Align the three large tabs on the Hub Shell Ratchet with the notches in the rear hub, and install the Hub Shell Ratchet with the angled ratchet notches facing up.



3 Install the Driver Ratchet on top of the Hub Shell Ratchet with the circular inner metal ring facing down. Gently press down on the Driver Ratchet to align the clutch teeth with the hub teeth.

4 Use a small syringe to apply approximately 1 mL of Zipp Cognition oil or Phil Bio-Lube onto the clutch assembly, distributed evenly around the clutch.

Do not apply grease to the new clutch assembly.



5 Install the clutch seal cap and press it into the hub shell.

NOTICE

Zipp recommends replacing the entire driver body if the bearings are worn or any part is damaged. For part numbers, refer to the Zipp Spare Parts Catalog in the Support section of www.zipp.com.

Driver Installation

1 Apply Zipp Cognition or Klüber Staburags NBU30 grease to the drive side of the rear axle. Wipe away any excess grease with a shop towel.

NOTICE

Do not apply grease to the clutch or bearing.

If a brush is used to apply grease, confirm there are no loose bristles in the grease or on the part.

Cognition / Klüber Staburags NBU30 Grease

2 Clean the driver body with isopropyl alcohol and a clean shop towel.

NOTICE

Do not apply isopropyl alcohol to the bearing.

3 Slide the driver assembly onto the drive side axle. Align the driver teeth with the clutch teeth, and press the driver into the hub shell until it is seated. Press down and rotate the driver to check engagement.

The procedure for driver installation is the same for each type of driver (SRAM 10/11 speed, SRAM XDR, and Campagnolo). The SRAM XDR driver body is pictured.

Rear Hub End Cap Installation

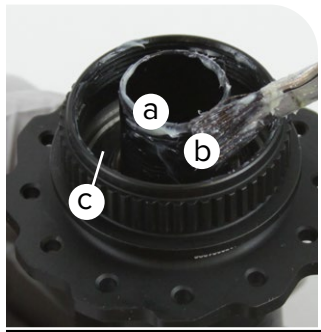
1 Install the wave spring onto the non-drive side end of the axle. Press the wave spring against the bearing.

2 Apply grease to the following locations on the drive side and non-drive side axle end:

- Axle front surface (a)
- Axle radial surface (b)
- Bearing front face across bearing seal, inner- and outer ring (c)

NOTICE

If a brush is used to apply grease, confirm there are no loose bristles in the grease or on the part.



Cognition / Klüber Staburags NBU30 Grease

3 Install the end caps by pressing them onto the axle by hand until they snap securely into place. Wipe away any excess grease from the hub and end cap.

NOTICE

Ensure the o-ring is in the groove on the internal surface of the end cap before installing the end caps. Improperly installed seals may result in hub drag.

This concludes service for the rear Zipp Cognition hub.

Driver Bearing Replacement (optional)

NOTICE

Service of an 11 speed driver is identical to the XDR driver service shown below.

1 Insert the 17 mm Bearing Puller slotted attachment through the outboard bearing. Align the slotted attachment with the bottom of the bearing, and expand it inside the bearing.

Do not over tighten the slotted attachment. For more detailed assembly and usage, see the bearing puller manufacturer's instructions.

Thread the rod of the bearing puller into the attachment. Grip the slide hammer and forcefully pull away from the slotted attachment to remove the bearing from the driver body.

17 mm Slotted Attachment

2 Insert the 17 mm Bearing Puller slotted attachment through the inboard bearing. Align the slotted attachment with the bottom of the bearing and expand it inside the bearing.

Do not over tighten the slotted attachment. For more detailed assembly and usage, see the bearing puller manufacturer's instructions.

Thread the rod of the bearing puller into the attachment. Grip the slide hammer and forcefully pull away from the slotted attachment to remove the bearing from the driver body.

17 mm Slotted Attachment

3 Clean the driver bearing bores with shop towel and cotton swabs.

4 Place the driver on flat surface, outboard side up. Insert a new Zipp 6803/61803 driver bearing into the outboard side of the driver body, with the **black** seal facing outward.

Note: Ceramic bearings have **blue** seals on both sides of the bearing; installation orientation is not important.

Insert a 6803 26x17 tool onto the bearing.

6803/61803 Driver Bearing

6803 26x17

5 Insert the threaded rod through the inboard side of the driver body.

Slide a 6002 32x15 tool onto the threaded rod.

Thread the bearing press handle onto the threaded rod.

Turn the handle clockwise to press the bearing into the outboard bearing bore until it is hand-tight.

Do not overtighten the bearing.

Remove the bearing press tool.

NOTICE

To prevent damage when pressing the bearing into the driver body, make sure that the bearing press tools contact both the inner and outer bearing races or bearing bores and not the driver body.

6002 32x15

6 Place the driver on a flat surface, inboard side up. Insert a new Zipp 6803/61803 driver bearing into the inboard side of the driver body, with the **black** seal facing outward.

Note: Ceramic bearings have **blue** seals on both sides of the bearing; installation orientation is not important.

Insert a 6803 26x17 tool onto the bearing.

6803/61803 Driver Bearing

6803 26x17

7 Insert the threaded rod through the inboard side of the driver body.

Slide another 6803 26x17 tool onto the threaded rod.

Thread the bearing press handle onto the threaded rod.

Turn the handle clockwise to press the bearing into the outboard bearing bore until it is hand-tight.

Do not overtighten the bearing.

Remove the bearing press tool.

NOTICE

To prevent damage when pressing the bearing into the driver body, make sure that the bearing press tools contact both the inner and outer bearing races or bearing bores and not the driver body.

6803 26x17

Front Hub Service

The hub can be serviced while in the wheel. However, if your spokes or rim are damaged, you can remove the hub from the wheel which will make servicing your hub easier. To remove the hub, use a spoke wrench to de-tension the spokes, then use a pair of metal snips to cut the spokes, remove the hub from the wheel, and remove the spoke ends from the hub (not pictured).

Tools and Supplies Needed for Service

Parts

- Zipp Cognition 6903/61903 hub bearing (x2)
- Zipp Cognition front axle wave spring (optional)

Safety and Protection Supplies

- Apron
- Clean, lint-free shop towels
- Nitrile gloves
- Safety glasses

Lubricants and Fluids

- Isopropyl alcohol
- Zipp Cognition or Klüber Staburags NBU30 grease

Bicycle Tools

- Axle and Spindle Vise Inserts - Park Tool AV-4 or AV-5
- Blind Hole Bearing Puller Set
  - 17 mm slotted attachment
- Wheels Manufacturing Press-1 Sealed Bearing Press Kit or similar
  - 6903/61903 bearing press adapters (x2)
  - T-handle threaded bearing press

Common Tools

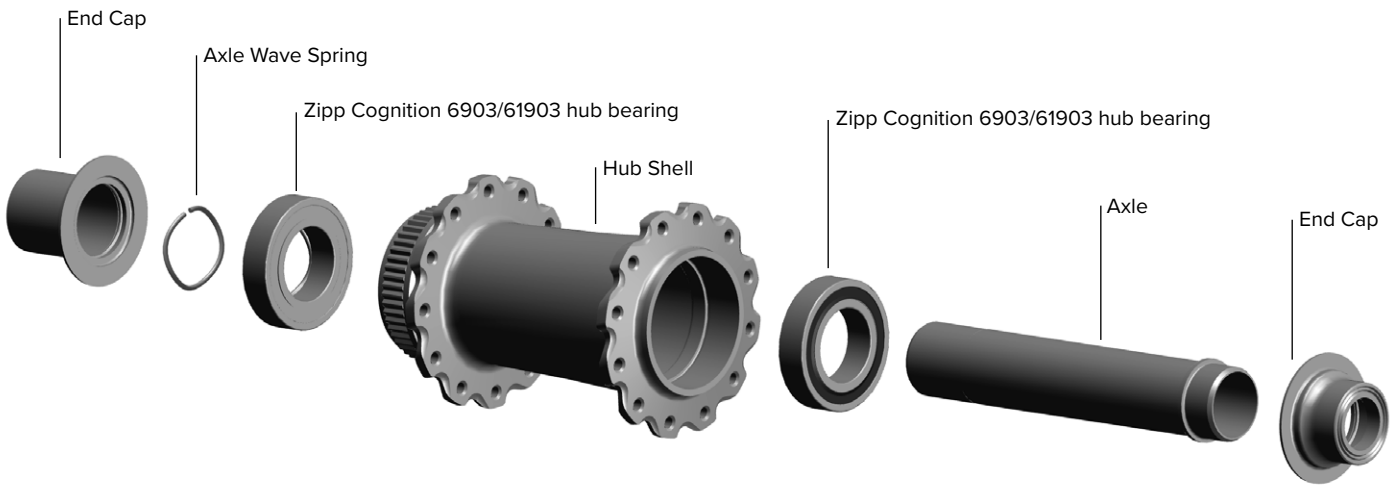
- Bench vise
- Flat blade screwdriver
- Grease brush
- Pick
- Rubber or plastic mallet

For part numbers, refer to the Zipp Spare Parts Catalog in the Support section of www.zipp.com.

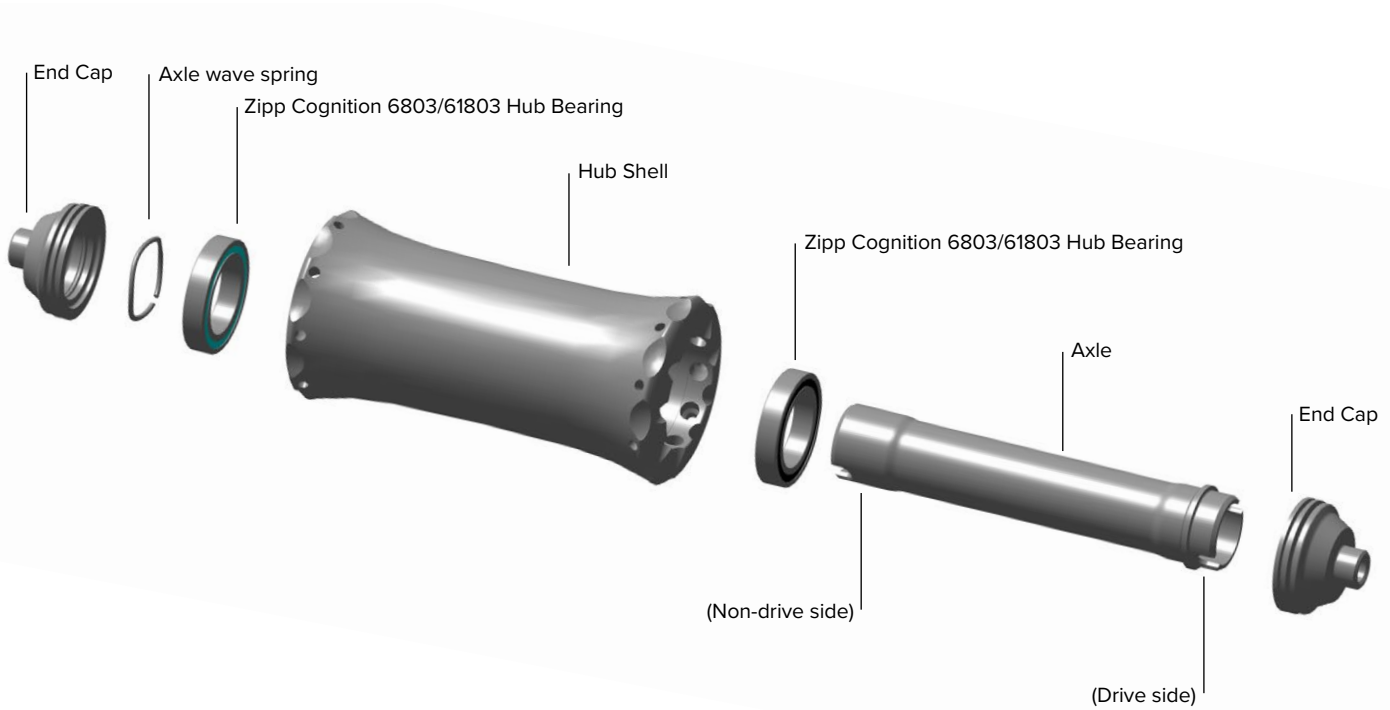
SAFETY INSTRUCTIONS

Always wear nitrile gloves when working with bicycle lubricants.

Front Disc Brake Hub Exploded View



Front Rim Brake Hub Exploded View



Front Hub End Caps

Cognition V2	FRONT	QR	RIM	—	122-000	—	11.2018.033.000	122-000	—	11.2018.033.000
			CL	—	149-000	9x100 DS DISC	11.2018.048.000	150-010	9x100 NDS CL	11.2018.048.000
		12 x 100		—	165-000	12x100 DS DISC	11.2018.049.000	154-000	12x(100/135)NDS CL	11.2018.049.000
		15 x 100		—	165-010	15x(100&110) DS DISC	11.2018.050.000	154-020	15x100 NDS CL	11.2018.050.000

Front Hub Disassembly

Procedures are the same for rim brake and disc brake front hubs. Disc brake hub pictured.

NOTICE

Bearing removal causes permanent damage to the bearings. Do not reinstall the bearings.

1 Insert the Park Tool AV-4 or AV-5 Axle and Spindle Vise Insert tool into a vise. Clamp the non-drive side end cap into the vise insert tool and pull up on the wheel/hub to remove the end cap.

AV-4 / AV-5

AV-4 / AV-5

2 Use a plastic mallet to gently tap the exposed axle end on the non-drive side of the hub to dislodge the axle from the hub bearings.

Use your thumb to push the axle through the hub shell and remove the wave spring from the non drive side hub shell.

Remove the front axle from the drive side of the hub. Use your fingers to remove the end cap from the drive side of the axle.

3 Spray isopropyl alcohol onto the axle and clean the axle with a shop towel.

NOTICE

To prevent damage to the hub surfaces, do not use Acetone or similar products to clean parts.

Isopropyl Alcohol

4 Insert the 17 mm slotted bearing puller attachment through either hub bearing. Align the slotted attachment with the bottom of the bearing, then tighten the slotted attachment to expand the puller inside the bearing.

NOTICE

Do not over tighten the slotted attachment. For more detailed assembly and usage information, consult your bearing puller's manufacturer's instructions.

17 mm Slotted Bearing Puller

5 Thread the shaft of the bearing puller into the slotted attachment. While holding the hub securely, forcefully pull back on the slide hammer to remove the bearing from the drive side of the hub shell.

Remove the bearing from the slotted attachment.

Discard the bearing.

Slide Hammer Bearing Puller

6 Insert the 17 mm slotted bearing puller attachment through either hub bearing. Align the slotted attachment with the bottom of the bearing, then tighten the slotted attachment to expand the puller inside the bearing.

NOTICE

Do not over tighten the slotted attachment. For more detailed assembly and usage information, consult your bearing puller's manufacturer's instructions.

17 mm Slotted Bearing Puller

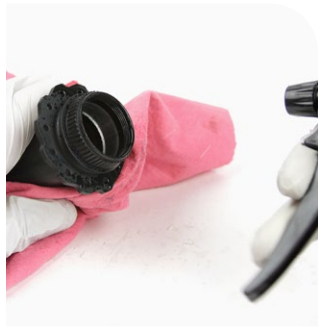
7 Thread the shaft of the bearing puller into the slotted attachment. While holding the hub securely, forcefully pull back on the slide hammer to remove the bearing from the drive side of the hub shell.

Remove the bearing from the slotted attachment.

Discard the bearing.

Slide Hammer Bearing Puller

8 Spray isopropyl alcohol in the front hub bearing bores and clean them with a shop towel.



Isopropyl Alcohol

Front Hub Bearing Installation

Use only Zipp Cognition replacement bearings in Zipp Cognition hubs.

1 Place the hub on flat surface, non-drive side up. Insert a new Zipp Cognition 6903/61903 hub bearing into the non-drive side of the hub shell, with the **black** seal facing outward.

Note: Ceramic bearings have **blue** seals on both sides of the bearing; installation orientation is not important.

Insert a 6903 30x17 tool onto the bearing.

6903/61903 Hub Bearing

6903 30x17

2 Insert the threaded rod through the bearing on the non-drive side of the hub shell. Slide a second 6903 30x17 tool onto the threaded rod.

Thread the Press Tool handle onto the threaded rod.

6903 30x17

3 Turn the handle clockwise to press the bearing into the hub until it is hand-tight.

Do not overtighten the bearing.

Remove the tools.

NOTICE

To prevent damage when pressing the bearing into the hub, make sure that the bearing press tools contact both the inner and outer bearing races or bearing bores and not the hub shell.

6903 30x17 6903 30x17

4 Place the hub on flat surface, drive side up. Insert a new Zipp Cognition 6903/61903 hub bearing into the drive side of the hub shell, with the **black** seal facing outward.

Note: Ceramic bearings have **blue** seals on both sides of the bearing; installation orientation is not important.

Insert a 6903 30x17 tool onto the bearing.

6903/61903 Hub Bearing

6903 30x17

5 Insert the threaded rod through the bearing on the drive side of the hub shell. Slide a second 6903 30x17 tool onto the threaded rod.

Thread the Press Tool handle onto the threaded rod.

6903 30x17

6 Turn the handle clockwise to press the bearing into the hub until it is hand-tight.

Do not overtighten the bearing.

Remove the tools.

NOTICE

To prevent damage when pressing the bearing into the hub, make sure that the bearing press tools contact both the inner and outer bearing races or bearing bores and not the hub shell.

6903 30x17 6903 30x17

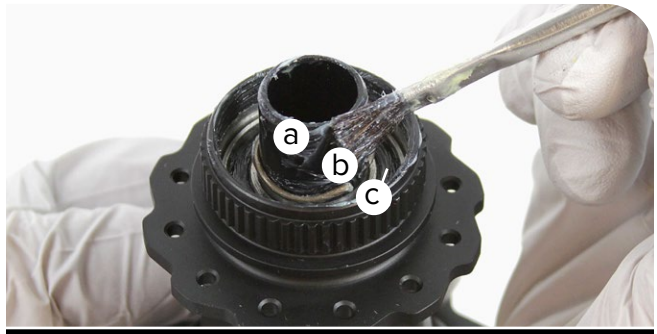
Front Hub Axle and End Cap Installation

1 Insert the non-drive side end of the axle into drive side of the hub, through the drive side bearing, through the hub, and through the non-drive side bearing. Press the axle into the hub bearing with your thumb until the axle bearing step fits flush into the bearing.

2 Install the wave spring onto the non-drive side end of the axle. Press the wave spring against the bearing.

4 Apply grease to the following locations on the drive side and non-drive side axle end:

- Axle front surface (a)
- Axle radial surface (b)
- Bearing front face across bearing seal, inner- and outer ring (c)



Cognition / Klüber Staburags NBU30 Grease

5 Install the end caps by pressing them onto the axle by hand until they snap securely into place. Wipe away any excess grease from the hub and end cap.

NOTICE

Ensure the o-ring is in the groove on the internal surface of the end cap before installing the end caps. Improperly installed seals may result in hub drag.

This concludes service for the front Zipp Cognition hub.

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