Cognition Disc Brake Hubs and Rim Brake Hubs (Generation 2)

SERVICE MANUAL

GEN.0000000006068 Rev D © 2021 SRAM, LLC

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.

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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!

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 www.sram.com/company/environment.

Part Preparation

Remove the component from the bicycle before service.

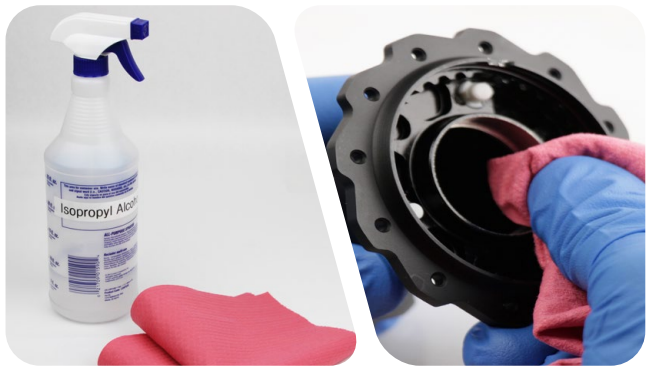
Clean the exterior of the product with mild soap and water to avoid contamination of internal sealing part surfaces.

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.

Clean the sealing surface on the part and inspect it for scratches.

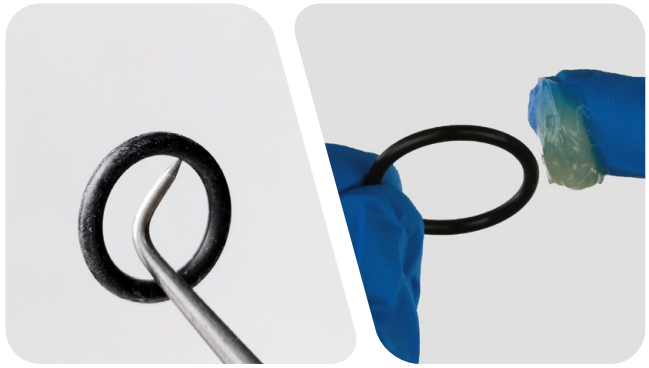


Replace the o-ring or seal with a new one from the service kit. Use your fingers or a pick to pierce and remove the old seal or o-ring.

Apply grease to the new seal or o-ring.

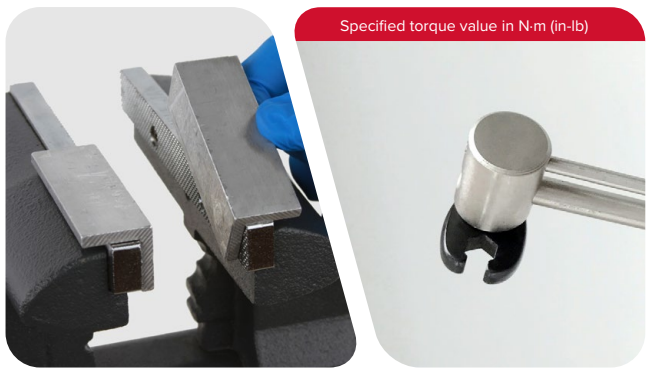
NOTICE

Do not scratch any sealing surfaces when servicing the product. Scratches can cause leaks. Consult the spare parts catalog to replace the damaged part.



Use aluminum soft jaws when placing a part in a bench vise.

Tighten the part with a torque wrench to the torque value listed in the red bar. When using a crowfoot socket and torque wrench, install the crowfoot socket at 90 degrees to the torque wrench.



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).

Generation 1 Cognition **rim brake rear** hub serial number: <21P81803697. Refer to the *Cognition Rim Brake Hubs Generation 1 Service Manual*.

Generation 2 Cognition **rim brake rear** hub serial number: ≥21P81803697.

Tools and Supplies Needed for Service

Parts

- Zipp Cognition 6903/61903 hub bearing (x2)
- Zipp Cognition driver body (optional)
- Cognition clutch assembly and seal (optional) - Generation 2

Safety and Protection Supplies

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

Lubricants and Fluids

- Isopropyl alcohol
- Zipp Cognition or SRAM Butter 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
- Blind Hole Bearing Puller Set
  - 17 mm slotted attachment
- Wheels Manufacturing Press-1 Sealed Bearing Press Kit or similar
  - 6803 26x17 bearing press adapters (x2) (optional)
  - 6002 32x15 bearing press adapter (optional)
  - T-handle threaded bearing press

Common Tools

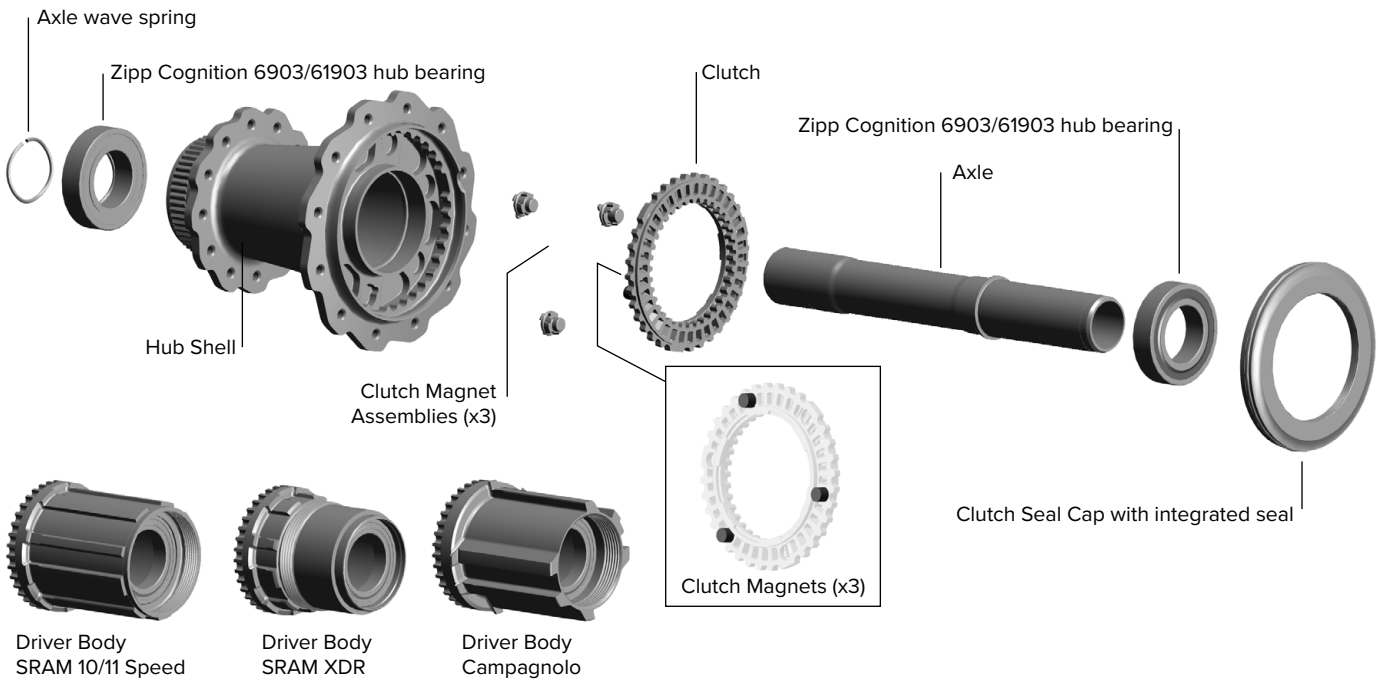
- Bench vise
- Flat blade screwdriver
- Grease brush
- Pick
- Rubber or plastic mallet
- Vise soft jaws (aluminum)

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

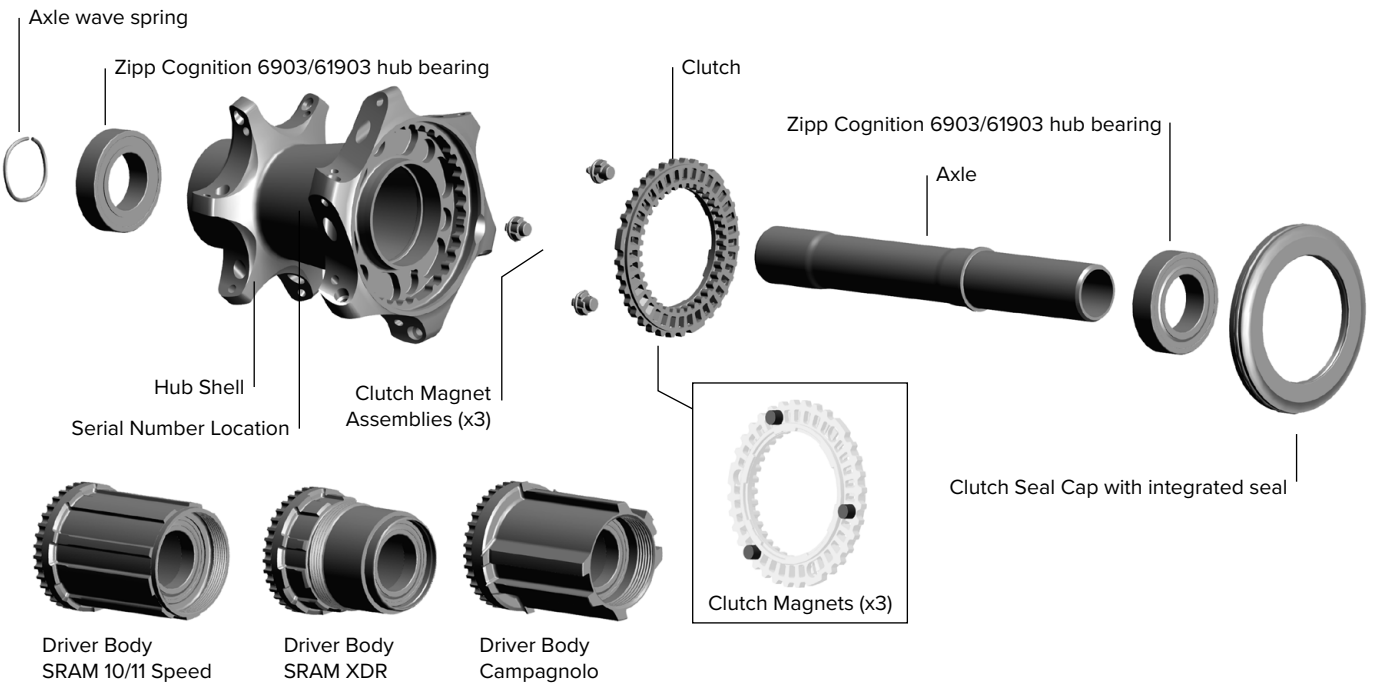
SAFETY INSTRUCTIONS

Always wear nitrile gloves when working with bicycle lubricants.

Disc Brake Rear Hub Exploded View



Rim Brake Rear Hub Exploded View - Generation.2



Rear Hub End Caps

End caps are available for quick release, 12x135, and 12x142 thru axle frames, and SRAM standard 10/11 speed, SRAM XDR, and Campagnolo driver bodies. For part numbers, refer to the Zipp Spare Parts Catalog in the Support section of www.zipp.com.

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 small diameter of the drive side end cap into the smallest slot in the vise insert tool and pull up on the wheel/hub to remove the end cap. Repeat on the non-drive side to remove the other end cap.


Axle and spindle vise insert


Axle and spindle vise insert

2 Pull the driver body assembly from the hub and axle.

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

NOTICE

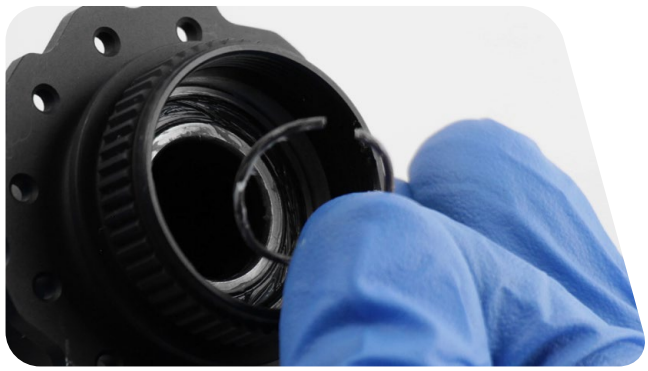
Bearing removal causes permanent damage to the bearings. Do not reinstall the bearings.

3 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 Blind Hole Bearing Puller tool. Skip to step 6.


Plastic mallet

4 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.



5 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

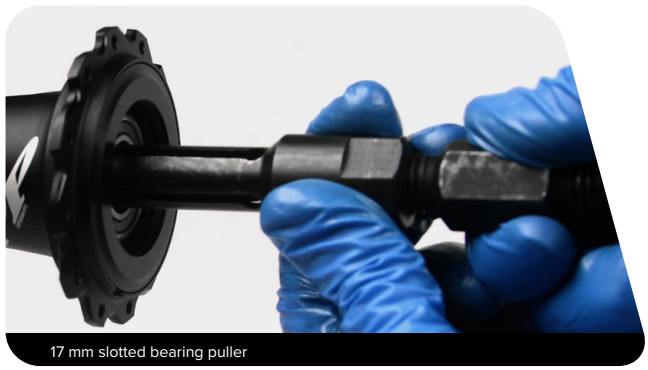
To avoid damage to the axle, do not allow the axle to contact the vise soft jaws. If the axle bearing step is damaged, the axle must be replaced.

6 If the drive side bearing was not removed with the axle, remove the drive side bearing from hub shell with a Blind Hole Bearing Puller tool.

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

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.

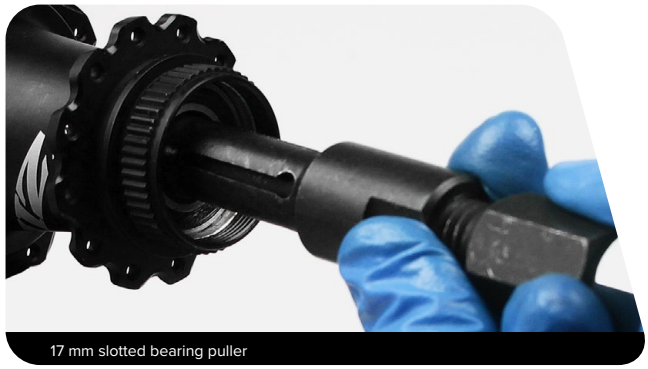
Discard the bearing.


Bearing puller with slide hammer

8 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.



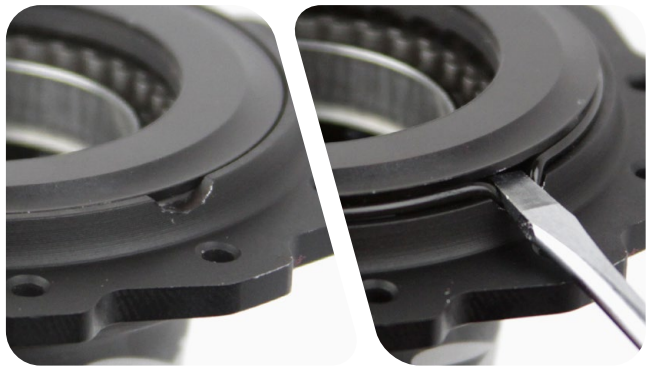
17 mm slotted bearing puller

9 Thread the shaft of the bearing puller into the slotted attachment. While holding the wheel 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.

Bearing puller with slide hammer

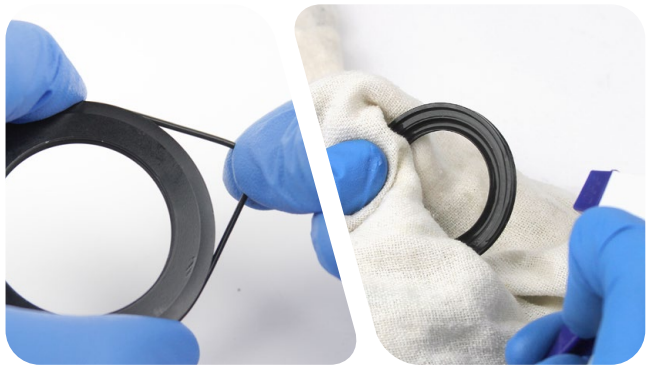
1 Carefully insert a small screwdriver into the notch in the hub flange between the clutch seal cap o-ring and the clutch seal cap. Gently pry the clutch seal cap free from the hub shell. Use your fingers to remove the clutch seal cap.



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.



2 Use a pick to lift one side of the clutch assembly from the hub shell. Use your fingers to remove the clutch assembly from the hub shell.

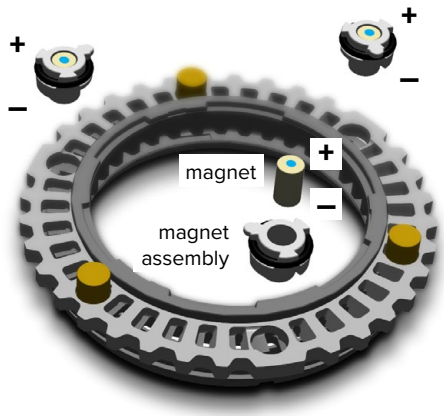
NOTICE

Do not disassemble the clutch assembly. If the clutch assembly is damaged, it will need to be replaced. For part numbers, refer to the Zipp Spare Parts Catalog in the Support section of www.zipp.com.

Do not allow the magnets on the bottom of the clutch assembly to contact any of the opposing magnets seated inside the hub shell.

Do not remove the magnets seated in the hub shell. In the event a magnet assembly is removed from the hub, re-install the magnet into the hub shell.

If any of the magnets come out of the magnet assemblies, reinstall the magnet as shown, with the blue dot on the magnet on the "open" side of the magnet assembly. If the blue dot is not visible on the magnet, make sure that all of the magnets are installed in the same orientation, with all poles facing the same direction.

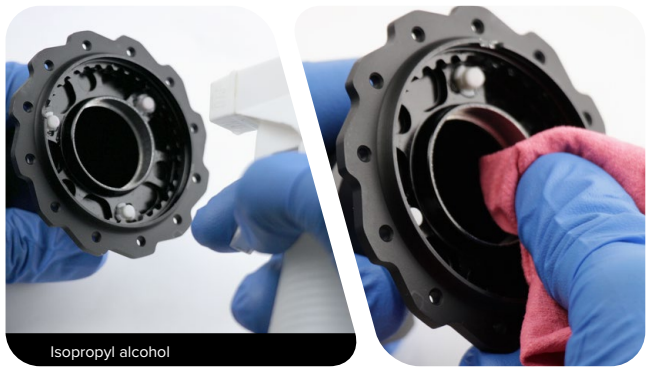


3 Spray the clutch assembly with isopropyl alcohol to remove the oil, and place the clutch assembly on a shop towel to dry.

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

NOTICE

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



Rear Hub Bearing Installation

Use only Zipp Cognition replacement bearings in Zipp Cognition hubs.

1 Place the wheel 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.

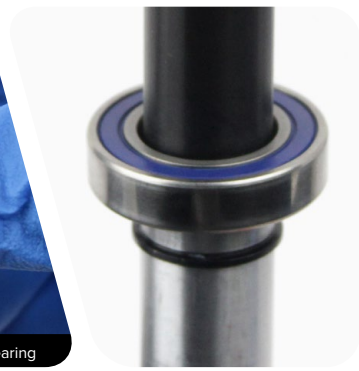
Zipp Cognition 6903/61903 hub bearing

2 Place the SRAM 6903 or Zipp 61903 bearing press tool on top of the bearing. Use a plastic mallet and gently tap the bearing press tool until the bearing is pressed into the hub shell. Stop when the bearing stops inside the hub bearing bore.

SRAM 6903 or Zipp 61903 bearing press tool

3 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.

Zipp Cognition 6903/61903 hub bearing



4 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

5 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.

6 Place a SRAM 6903 or Zipp 61903 bearing press tool on a flat table. 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

7 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 Align the three magnets on the bottom of the clutch assembly with the empty circular magnet bores in the hub shell. Align the clutch teeth with the hub teeth, and install the clutch assembly into the drive side of the hub shell.

NOTICE

Do not allow any of the magnets on the bottom of the clutch assembly to contact any of the opposing magnets seated inside the hub shell. Do not remove the magnets seated in the hub shell.

2 Use a small syringe to apply approximately 0.5 mL of Zipp Cognition oil or Phil Bio-Lube onto the clutch assembly.

Do not apply grease to the new clutch assembly.

3 Starting at the notch in the hub flange, 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 Body Installation

1 Apply Zipp Cognition or SRAM Butter 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.

Zipp Cognition or SRAM Butter grease

2 Slide the driver body assembly, onto the drive side axle. Align the driver body teeth with the clutch teeth, and press the driver body into the hub shell until it is seated.

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

Rear Hub End Cap Installation

1 Apply Zipp Cognition or SRAM Butter grease to the non-drive side axle and bearing. Wipe away any excess grease with a shop towel.

Zipp Cognition or SRAM Butter grease

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

3 Spray isopropyl alcohol on a shop towel and clean the end caps. Apply Zipp Cognition or SRAM Butter grease to the inside of each end cap.

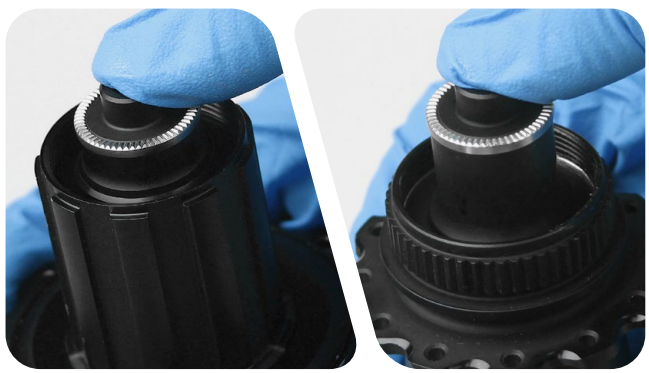
Remove any grease from the outside surface of the end caps before installation. Grease is applied to prevent moisture from entering the hub assembly.

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.

Zipp Cognition or SRAM Butter grease

4 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.



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

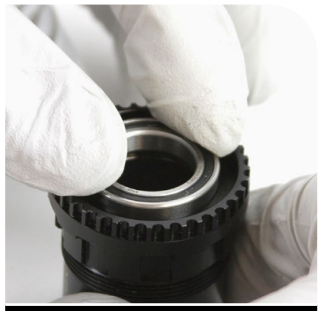
To prevent damage when pressing the bearing into the driver body, make sure that the bearing press tools contact both the inner and outer bearing races or bearing bores and not the driver body.

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 SRAM Butter 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

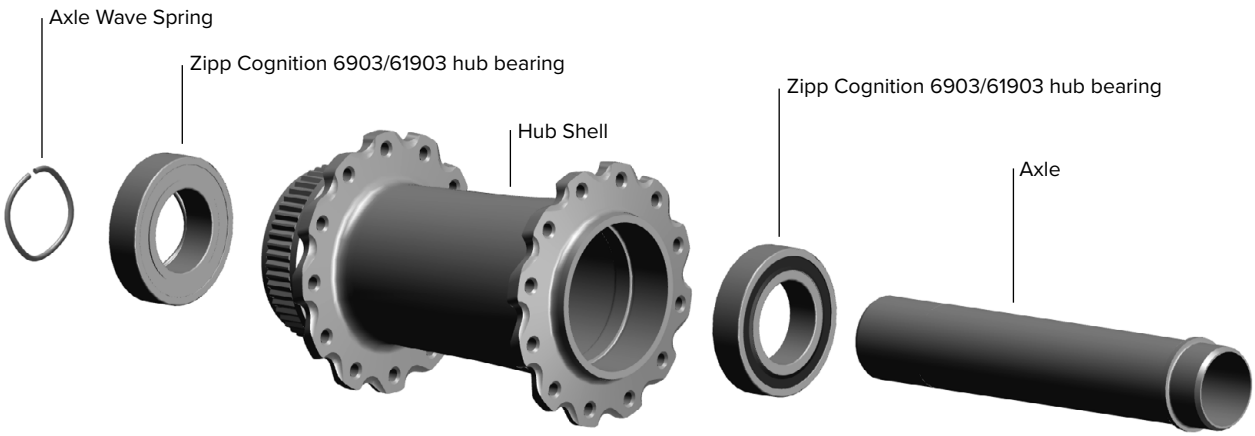
- Bench vise
- Flat blade screwdriver
- Grease brush
- Pick
- Rubber or plastic mallet

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

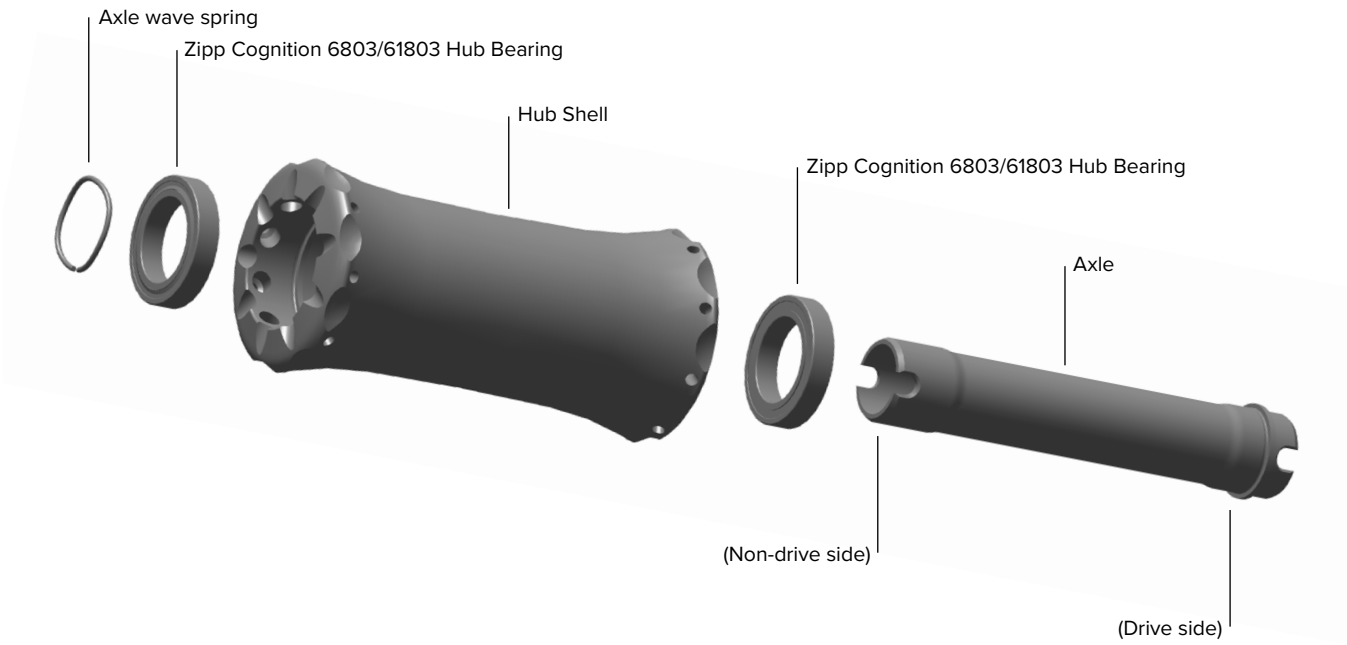
SAFETY INSTRUCTIONS

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

End caps are available for quick release, 12x100, and 15x100 thru axle frames. For part numbers, refer to the Zipp Spare Parts Catalog in the Support section of www.zipp.com.

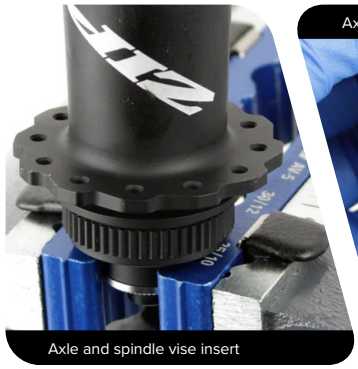
Front Hub Disassembly

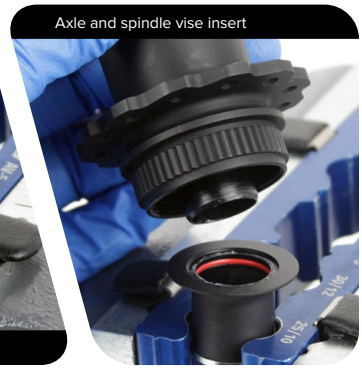
Procedures are the same for rim brake and disc brake front hubs. Disc brake hub pictured.

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 small diameter of the non-drive side end cap into the smallest slot in the vise insert tool and pull up on the wheel/hub to remove the end cap.


Axle and spindle vise insert


Axle and spindle vise insert

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

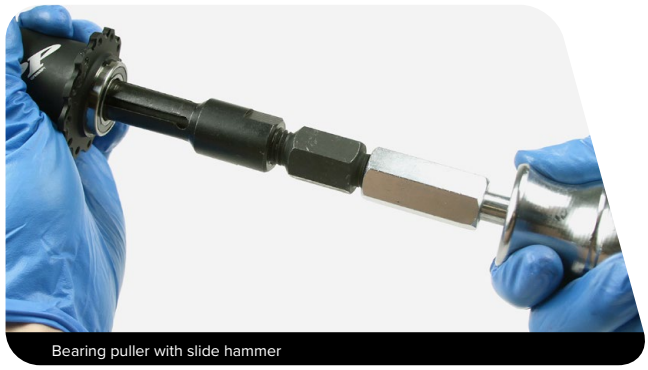
Do not over tighten the slotted attachment. For more detailed assembly and usage information, consult your bearing puller's manufacturer's instructions.

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 non-drive side of the hub shell.

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

Repeat on the other side.



Bearing puller with slide hammer

6 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 Install a new Zipp 6903/61903 hub bearing into the drive side of the hub with the black seal facing outward.

Drive side 6903/61903 bearing

2 Slide a 6903 30x17 tool onto the Press Tool threaded rod.

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.

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

3 Install a new Zipp 6903/61903 hub bearing into the non-drive side of the hub with the black seal facing outward.

Drive side 6903/61903 bearing

4 Slide a 6903 30x17 tool onto the Press Tool threaded rod.

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.

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.

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.

3 Apply Zipp Cognition or SRAM Butter grease to each end of the axle and onto each bearing. Wipe away any excess grease from the outside of the hub with a shop towel.

NOTICE

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

4 Spray isopropyl alcohol on a shop towel and clean the end caps. Apply Zipp Cognition or SRAM Butter grease to the inside of each end cap.

Remove any grease from the outside surface of the end caps before installation. Grease is applied to prevent moisture from entering the hub assembly.

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.

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.

This concludes service for the front Zipp Cognition disc hub.

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