



**SRAM**<sup>®</sup>

Cognition<sup>™</sup> Hubs



Service Manual



**SRAM**<sup>®</sup>

GEN.000000005069 Rev A  
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# SRAM LLC WARRANTY

## EXTENT OF LIMITED WARRANTY

Except as otherwise set forth herein, SRAM warrants its products to be free from defects in materials or workmanship for a period of two years after original purchase. 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 component was purchased. Original proof of purchase is required. **Except as described herein, 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.**

## LOCAL LAW

This warranty statement gives the customer specific legal rights. The customer may also have other rights which vary from state to state (USA), from province to province (Canada), and from country to country elsewhere in the world.

To the extent that this warranty statement is inconsistent with the local law, this warranty shall be deemed modified to be consistent with such law, under such local law, certain disclaimers and limitations of this warranty statement may apply to the customer. For example, some states in the United States of America, as well as some governments outside of the United States (including provinces in Canada) may:

- a. Preclude the disclaimers and limitations of this warranty statement from limiting the statutory rights of the consumer (e.g. United Kingdom).
- b. Otherwise restrict the ability of a manufacturer to enforce such disclaimers or limitations.

## For Australian customers:

This SRAM limited warranty is provided in Australia by SRAM LLC, 1000 W. Fulton Market, 4th Floor, Chicago, IL, 60607, USA. To make a warranty claim please contact the retailer from whom you purchased this SRAM product. Alternatively, you may make a claim by contacting SRAM Australia, 6 Marco Court, Rowville 3178, Australia. For valid claims SRAM will, at its option, either repair or replace your SRAM product. Any expenses incurred in making the warranty claim are your responsibility. The benefits given by this warranty are additional to other rights and remedies that you may have under laws relating to our products. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

## LIMITATIONS OF LIABILITY

To the extent allowed by local law, except for the obligations specifically set forth in this warranty statement, in no event shall SRAM or its third party suppliers be liable for direct, indirect, special, incidental, or consequential damages.

## LIMITATIONS OF WARRANTY

This warranty does not apply to products that have been incorrectly installed and/or adjusted according to the respective SRAM user manual. The SRAM user manuals can be found online at [sram.com](http://sram.com), [rockshox.com](http://rockshox.com), [avidbike.com](http://avidbike.com), [truvatv.com](http://truvatv.com), or [zipp.com](http://zipp.com).

This warranty does not apply to damage to the product caused by a crash, impact, abuse of the product, non-compliance with manufacturers specifications of 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.

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 are identified as:

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

**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.

This warranty shall not cover damages caused by the use of parts that are not compatible, suitable and/or authorised by SRAM for use with SRAM components.

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

# TABLE OF CONTENTS

<b>REAR HUB SERVICE .....</b>	<b>5</b>
TOOLS AND SUPPLIES NEEDED FOR SERVICE .....	5
REPLACEMENT PARTS .....	5
REAR HUB EXPLODED VIEW .....	6
REAR HUB END CAPS.....	6
REAR HUB END CAP AND DRIVER BODY REMOVAL .....	7
REAR HUB AXLE AND BEARING REMOVAL .....	8
REAR HUB BEARING INSTALLATION.....	10
REAR HUB CLUTCH REMOVAL.....	13
REAR HUB CLUTCH INSTALLATION.....	14
DRIVER BODY SERVICE .....	15
DRIVER BODY INSTALLATION.....	15
REAR HUB END CAP INSTALLATION .....	16
<b>FRONT HUB SERVICE .....</b>	<b>17</b>
TOOLS AND SUPPLIES NEEDED FOR SERVICE .....	17
REPLACEMENT PARTS .....	17
FRONT HUB EXPLODED VIEW .....	18
FRONT HUB END CAPS.....	18
FRONT HUB END CAP AND AXLE REMOVAL.....	19
FRONT HUB BEARING REMOVAL .....	20
FRONT HUB BEARING INSTALLATION.....	21
FRONT HUB AXLE AND END CAP INSTALLATION .....	22



# **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!

## 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).

## Tools and Supplies Needed for Service

- Safety glasses
  - Nitrile gloves
  - Clean, lint-free rags
  - Grease brush
  - Pick
  - Bench vise
  - Park Tool® AV-4 or AV-5 Axle and Spindle Vise Inserts
  - Vise soft jaws (aluminum)
  - Plastic mallet
  - Zipp® Cognition™ Grease
  - Zipp Cognition Oil and small oil syringe
  - Isopropyl alcohol
- Blind Hole Bearing Puller Set
    - 17 mm slotted attachment
    - 20 mm slotted attachment
  - Bearing Press Tools
    - Zipp 6804 Bearing Press Tool
    - SRAM® 6903 Bearing Press Tool

## Replacement Parts

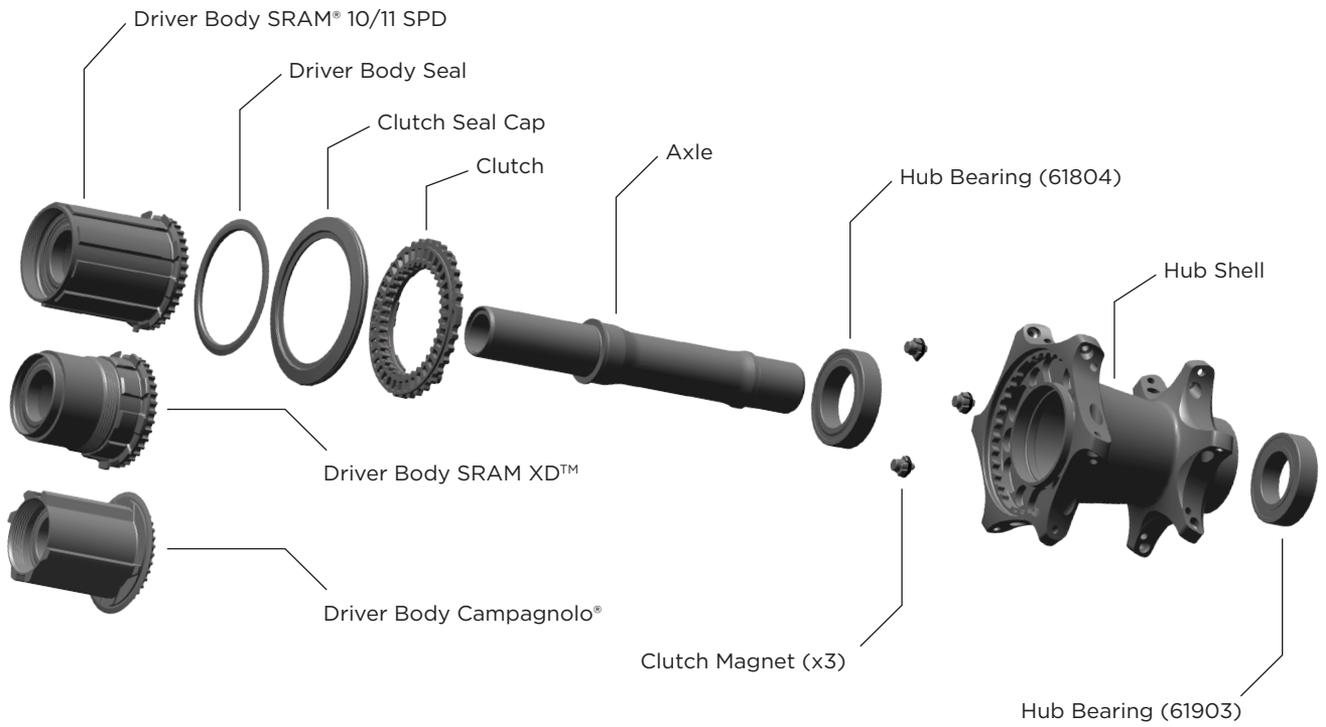
- Zipp Cognition 61804 hub bearing (drive side)
- Zipp Cognition 61903 hub bearing (non-drive side)
- Zipp Cognition driver body (optional)
- Cognition clutch assembly (optional)
- Cognition driver body seal

For part numbers, please refer to the Zipp Spare Parts Catalog in the Support section of [www.zipp.com](http://www.zipp.com).

## SAFETY INSTRUCTIONS

Always wear nitrile gloves when working with bicycle lubricants.

## Rear Hub Exploded View



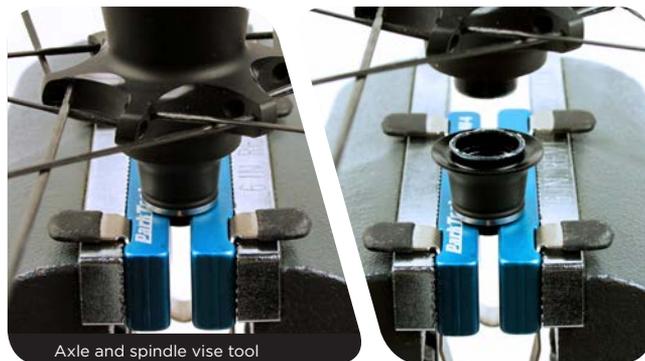
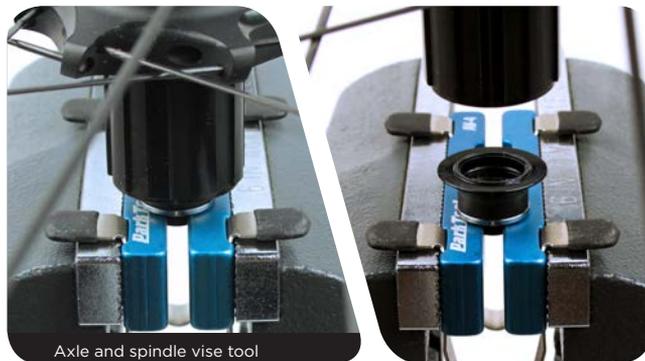
## Rear Hub End Caps

	Quick Release SRAM XD / Campagnolo	Quick Release SRAM
Drive Side		
Non-Drive Side		

### NOTICE

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

- 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.



- 2 Use your fingers to remove the driver body assembly from the hub and axle. Use your fingers to remove the driver body seal. Use your fingers to remove the driver body seal from the clutch seal cap if necessary.

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



## NOTICE

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

- 1 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 3.**



Plastic mallet

- 2 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. Using a plastic mallet, 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 rag.

## 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

- 3 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 20 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.



20 mm slotted bearing puller

- 4** 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 drive side of the hub shell.

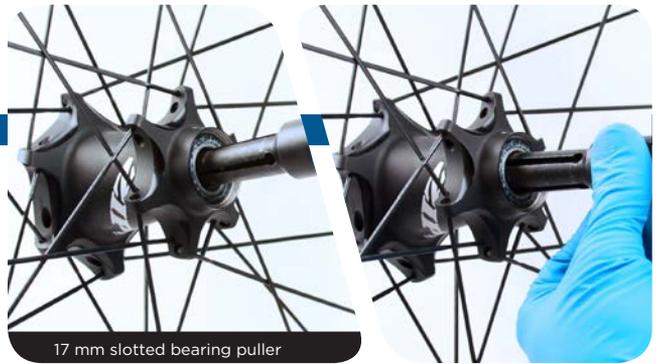
Remove the bearing from the slotted attachment. Discard the bearing.



- 5** 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.



- 6** 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.



- 7** Spray isopropyl alcohol in the rear hub bearing bores and clean the hub with a rag.

## Rear Hub Bearing Installation

Use only Zipp® Cognition™ replacement bearings in Zipp Cognition hubs.

- 1 Place the drive side end of the axle on a flat surface. Install a new 61804 Zipp Cognition drive side 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.



- 2 Slide the Zipp 6804 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.



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



- 4 Place the SRAM® 6903 (30 mm x 17 mm) 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.



- 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 the SRAM 6903 (30 mm x 17 mm) bearing press tool on a flat table. Position the non-drive side of the hub on the bearing press tool.

Insert the Zipp® 6804 bearing press tool, grooved end first, onto the drive side axle.

### NOTICE

The grooved end of the Zipp 6804 bearing press tool has an internally tapered interface that fits over the driver axle bearing step to prevent damage to the axle.



- 7** Gently tap the 6804 Zipp® bearing press tool with a plastic mallet until the drive side bearing is seated into the hub shell. Stop when the drive side bearing stops inside the hub bearing bore.



## Rear Hub Clutch Removal

- 1 Use a pick to gently pry the clutch seal cap from the hub shell. Use your fingers to remove the clutch seal cap.



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

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

### NOTICE

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.

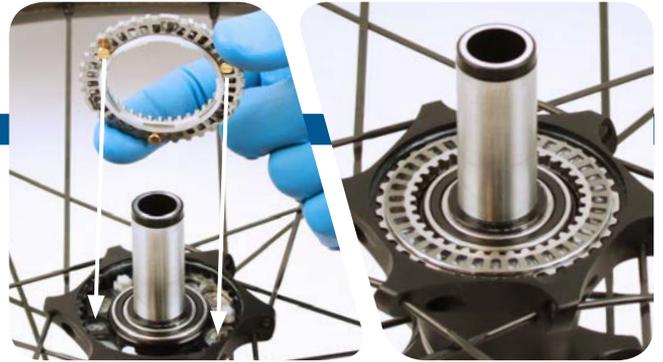


## Rear Hub Clutch Installation

- 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™ clutch oil onto the clutch assembly.

**Do not apply grease to the new clutch assembly.**



- 3 Install the clutch seal cap and press it into the hub shell with your thumbs.



## Driver Body Service

Zipp® recommends replacing the entire driver body if the bearings are worn or any part is damaged. For part numbers, please refer to the Zipp Spare Parts Catalog in the Support section of [www.zipp.com](http://www.zipp.com).

## Driver Body Installation

- 1 Use your fingers to install a new driver body seal onto the driver body.



- 2 Apply Zipp Cognition™ grease to the drive side of the rear axle. Wipe away any excess grease with a rag.

### NOTICE

Do not apply grease to the clutch or bearing.



- 3 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 SPD, SRAM XD™, and Campagnolo®). The SRAM 10/11 Speed driver body is pictured.



## Rear Hub End Cap Installation

- 1 Apply Zipp® Cognition™ grease to the non-drive side axle and bearing. Wipe away any excess grease with a rag.



- 2 Spray isopropyl alcohol on a rag and clean the end caps. Apply Zipp Cognition 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.



- 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.



**This concludes service for the rear Zipp Cognition hub.**

## 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

- Safety glasses
- Nitrile gloves
- Clean, lint-free rags
- Grease brush
- Bench vise
- Park Tool® AV-4 or AV-5 Axle and Spindle Vise tool
- Plastic mallet
- Zipp® Cognition™ grease
- Isopropyl alcohol
- Blind Hole Bearing Puller Set
  - 17 mm slotted attachment
- Wheels Manufacturing® Press-1 Sealed Bearing Press Kit or similar
  - T-handle threaded bearing press
  - 6803 bearing press adapters

## Replacement Parts

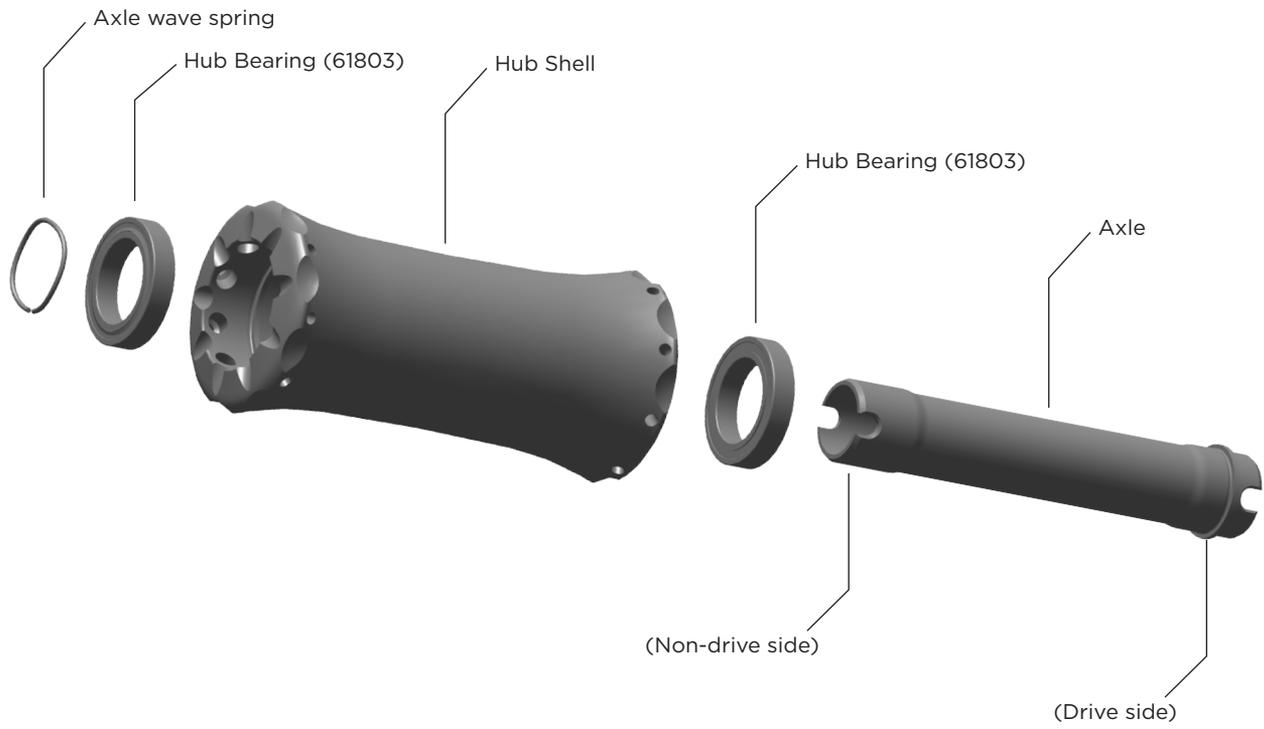
- Zipp Cognition 61803 hub bearing (x2)
- Zipp Cognition front axle wave spring (optional)

For part numbers, please refer to the Zipp Spare Parts Catalog in the Support section of [www.zipp.com](http://www.zipp.com).

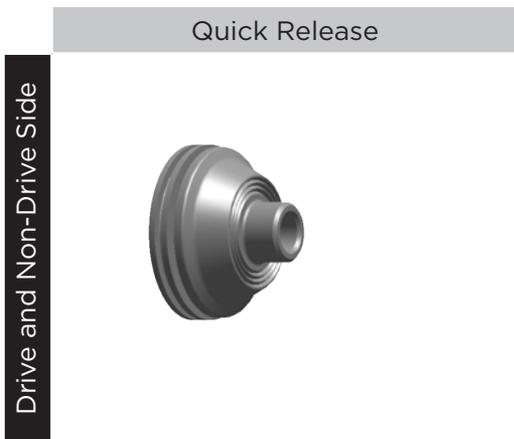
## SAFETY INSTRUCTIONS

Always wear nitrile gloves when working with bicycle lubricants.

## Front Hub Exploded View



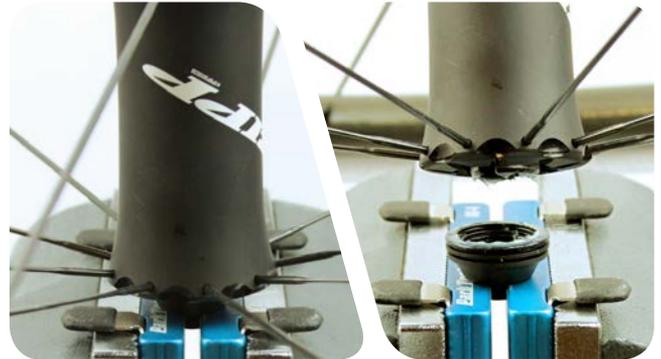
## Front Hub End Caps



## NOTICE

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

- 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.



- 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.

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.

Spray isopropyl alcohol onto the axle and clean the axle with a rag.



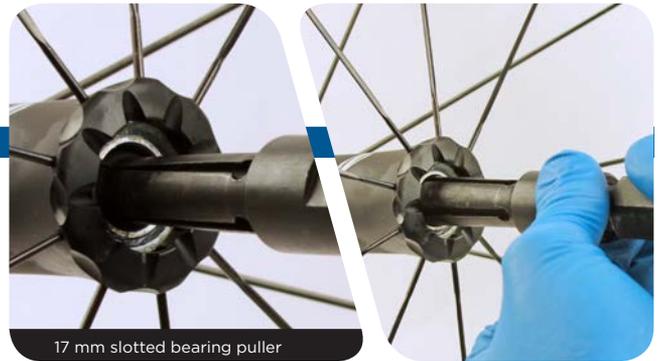
### NOTICE

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

- 1 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.



- 2 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.  
Repeat on the other side.



- 3 Spray isopropyl alcohol in the front hub bearing bores and clean them with a rag.

## Front Hub Bearing Installation

Use only Zipp® Cognition™ replacement bearings in Zipp Cognition hubs.

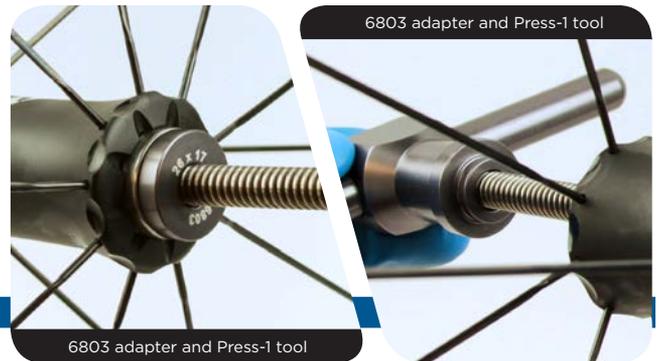
- 1 Insert one 61803 Zipp Cognition bearing into the bearing bore of each side of the hub shell with the **black** seal facing outward.



- 2 Slide a 6803 bearing press adapter onto the threaded rod of the Press-1 bearing press tool. Insert the bearing press threaded rod through the non-drive side of the hub shell. Slide the second 6803 bearing press adapter onto the threaded rod.

Thread the bearing press handle onto the threaded rod. Turn the handle clockwise to press the bearings into the hub bearing bores. Stop when both bearings are flush inside the hub.

Remove the bearing press tool.



### NOTICE

To prevent damage to the hub shell, do not overtighten the bearings.



## 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. Use a small flat blade screwdriver to push the wave spring down onto the bearing.



- 3 Apply Zipp® Cognition™ grease to each end of the axle and onto each bearing. Wipe away any excess grease from the outside of the hub with a rag.



- 4** Spray isopropyl alcohol on a rag and clean the end caps. Apply Zipp® Cognition™ 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™ hub.**

# **SRAM**<sup>®</sup>

[www.sram.com](http://www.sram.com)

“We will revolutionize the relationship that our users have with SRAM products, cultivating a bond between the rider and bicycle. Our technical communication will be delivered in innovative and exciting ways, with deliberation and accuracy that inspires loyalty and trust across the globe.”

-SRAM TechCom Vision Statement



ASIAN HEADQUARTERS  
SRAM Taiwan  
No. 1598-8 Chung Shan Road  
Shen Kang Hsiang, Taichung City  
Taiwan R.O.C.

WORLD HEADQUARTERS  
SRAM LLC  
1000 W. Fulton Market, 4th Floor  
Chicago, Illinois 60607  
USA

EUROPEAN HEADQUARTERS  
SRAM Europe  
Paasbosweg 14-16  
3862ZS Nijkerk  
The Netherlands