Cognition Disc Brake Hubs and Rim Brake Hubs (Generation 2)
SRAM LLC WARRANTY

EXTENT OF LIMITED WARRANTY
Except as otherwise set forth herein, SRAM warrants (i) Zipp MOTO Rims to be free from defects in materials or workmanship for the lifetime of the product, and (ii) its other 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. As described herein, SRAM makes no other warranties, guarantees, or representations of any type (express or implied), and all warranties (including any implied warranties of reasonable care, merchantibility, 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:

- Preclude the disclaimers and limitations of this warranty statement from limiting the statutory rights of the consumer (e.g. United Kingdom).
- 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, adjusted, and/or maintained according to the respective SRAM user manual. The SRAM user manuals can be found online at sram.com, quarq.com, or 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 damage to Zipp MOTO Rims outside of intended use (Trail/Enduro) situations or incurred in connection with Downhill/ Dual Crown bicycles.

All Zipp MOTO Rim warranty claims will be evaluated by a SRAM/Zipp Authorized Service Location.

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

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.
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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 components serviced by a qualified bicycle mechanic. Servicing Zipp components 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.

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.

Specified torque value in N·m (in-lb)
## 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 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)

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.

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.

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.

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

   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.

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.
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.

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.

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.
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.

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.
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.

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.

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

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.

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.

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.
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.

7 Gently tap the Zipp 61903 bearing press tool with a plastic mallet until the drive side bearing is seated 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 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](http://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.

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.

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.

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.**
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

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<tr>
<th>Parts</th>
<th>Bicycle Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Zipp Cognition 6903/61903 hub bearing (x2)</td>
<td>• Axle and Spindle Vise Inserts - Park Tool AV-4 or AV-5</td>
</tr>
<tr>
<td>• Zipp Cognition front axle wave spring (optional)</td>
<td>• Blind Hole Bearing Puller Set</td>
</tr>
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<td></td>
<td>• 17 mm slotted attachment</td>
</tr>
<tr>
<td>Safety and Protection Supplies</td>
<td>Wheels Manufacturing Press-1 Sealed Bearing Press Kit or similar</td>
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<tr>
<td>• Apron</td>
<td>• 6903/61903 bearing press adapters (x2)</td>
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<tr>
<td>• Clean, lint-free shop towels</td>
<td>• T-handle threaded bearing press</td>
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<tr>
<td>• Nitrile gloves</td>
<td>Common Tools</td>
</tr>
<tr>
<td>• Safety glasses</td>
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<tr>
<td>Lubricants and Fluids</td>
<td>• Flat blade screwdriver</td>
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<tr>
<td>• Isopropyl alcohol</td>
<td>• Grease brush</td>
</tr>
<tr>
<td>• Zipp Cognition or SRAM Butter Grease</td>
<td>• Pick</td>
</tr>
<tr>
<td></td>
<td>• Rubber or plastic mallet</td>
</tr>
</tbody>
</table>

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.

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.
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.

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.

6 Spray isopropyl alcohol in the front hub bearing bores and clean them with a shop towel.
Front Hub Bearing Installation

Use only Zipp Cognition replacement bearings in Zipp Cognition hubs.

1. Insert one 6903/61903 Zipp Cognition bearing into the bearing bore of each side of the hub shell with the black seal facing outward.

2. Slide a 6903 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 6903 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 and adapters.

**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. 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.
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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