Instructions for splined carrier on Rohloff® Speedhub™ internal gear hub

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Thank you for purchasing this quality product from cyclepower® components.
Please read these instructions carefully. In case of misunderstandings or ambiguities, ask your specialist workshop or contact us as the manufacturer (see contact details at the end) before using the product.

1. area of application/intention of usage & technical requirements

This splined carrier is designed to be used on Gates® Carbon Drive toothed belt sprockets and cyclepower® components chain sprockets on Rohloff® Speedhub™ gear hubs, which have 13 teeth (13 "splines") and the inner diameter of the sprocket is 38,2mm. Sprockets with an inner-Ø of 39mm should not be used as the risk of unround rotation on the splined carrier is extended. This may cause malfunction and extended wear to all components.
Regarding the use of a belt drive system (instead of a chain, for example) on your Rohloff® Speedhub™ gear hub, please note the instructions issued by Gates® Carbondrive (to be found here: http://www.g-boxx.com/pdf/Gates -Rohloff-manual-de.pdf), as well as the Rohloff® manual (http://www.rohloff.de/de/service/download/beschreibung/index.html).

Important notice for the use with Gates® belts: We would like to point out in particular that your bicycle frame must have sufficient stiffness in order to guarantee smooth and trouble-free operation of the entire drive system. If you operate the splined carrier as a consumer, you are responsible that your bicycle frame meets these requirements.
A continuously updated list of bicycle frames (manufacturers/models) that have tested rear triangle stiffness can be found on the Gates® Carbondrive website (http://www.carbondrivesystems.com/Manufacturers%20And%20Models). If your frame cannot be found there, there is also the option of having the frame checked individually by the European representative of Gates® Carbondrive (contact: Universal Transmission GmbH, www.g-boxx.com).
If the rear triangle is not sufficiently stiff, the Gates® belt may suddenly and unexpectedly drop off the toothed belt sprocket. Associated with this, this can cause severe accidents while riding with all the consequences that follow of of this.

2. Assembly

With this splined carrier, all sprockets can be mounted (and driven) that are based on the sprocket system from the gear hub manufacturer Rohloff®. On the one hand, these are sprockets for a belt drive, but also on the other hand plug sprockets for conventional chain drives.
Please follow the assembly steps shown below point by point. This approach has proven itself many times and leads safely to the goal.
The following tools are required for assembly:

- Socket for Shimano® Hollowtech 2 bottom bracket assembly of the 1st generation
- Torque wrench, suitable for your socket and a torque setting range of 20-30 Nm.

1.1. Assembly of a Gates® belt sprocket on the splined carrier and on the gear hub

1. Starting from the delivery condition, turn the lock ring with your fingers several times full turns clockwise and counter clockwise to spread the applied thread assembly paste optimally on the bolt and nut thread. You can recognize this by the fact that the assembly paste is evenly spreaded on both components: thread of the counter ring and the splined carrier.
   Then turn the counter ring counter clockwise from the splined carrier to start the assembly.
2. Push the Gates® sprocket on the splined carrier and remind the included washer. Depending on the desired chain line, place this washer between the splined carrier and the toothed belt sprocket or between the toothed belt sprocket and the counter ring. This allows the chain line to be adjusted by +1mm.
3. Screw the lock ring onto the thread of the splined carrier and make sure that the 13 splines of the splined carrier fall into the recesses of the belt sprocket so that there is a force fit.
4. Now hand-tighten the counter ring on the splined carrier.
5. Screw the splined carrier including its cog on the Rohloff® gear hub and tighten it hand-tight. Please note the assembly instructions from the gear hub manufacturer - our product is assembled in the same way.
6. With the torque wrench including the socket for Shimano® Hollowtech 2 bottom bracket assembly, tighten the counter ring on the splined carrier with the specified torque in a clockwise direction.
   Make sure that the gear hub is in 14th gear position before.
   Use your second hand to stabilize the socket on the counter ring during pre-tensioning - there is a risk of it shearing off!
7. The assembly of the splined carrier is now completed.
8. Proceed with installing the rear wheel into your bicycle frame. After installing it in the bicycle frame, make sure that the gear hub can rotate freely in the frame and that the sprocket and its carrier do not collide with any part of the bicycle frame in order to avoid any noises or damage.

1.2. Assembly of a cyclepower® components chain sprocket on the splined carrier and on the gear hub

1. Starting from the delivery condition, turn the lock ring with your fingers several times full turns clockwise and counter clockwise to spread the applied thread assembly paste optimally on the bolt and nut thread. You can recognize this by the fact that the assembly paste is evenly spreaded on both components: thread of the counter ring and the splined carrier.
   Then turn the counter ring counter clockwise from the splined carrier to start the assembly.

2. Now put the chain sprocket on the splined carrier and remind the washer in your packing. **Remove it from the splined carrier before assembly** in case it's already installed. At the same time, make sure that the 13 splines of the splined carrier engage in the recesses of the chain sprocket.
3. Screw the counter ring onto the thread of the splined carrier and now screw the counter ring hand-tight.
4. Take this assembly, screw it onto the Rohloff® gear hub and tighten it hand-tight.
5. With the torque wrench including the socket for Shimano® Hollowtech 2 bottom bracket assembly of the 1st generation, tighten the counter ring on the pinion carrier with the specified torque in a clockwise direction.
   Make sure that the gear hub is in 14th gear.
   Use your second hand to stabilize the socket on the counter ring during pre-tensioning - there is a risk of it shearing off!
6. The assembly of the splined carrier is now completed.
7. Proceed with installing the rear wheel into your bicycle frame. After installing it in the bicycle frame, make sure that the gear hub can rotate freely in the frame and that the sprocket and its carrier do not collide with any part of the bicycle frame in order to avoid any (grinding) noises or damage.

1.3. Assembly of a used splined carrier

The assembly of a used splined carrier is analogous to the assembly of a splined carrier, depending on the sprocket used (see above). Make sure, however, that the polished surface on the splined carrier is free of any kind of contamination and that the running surface does not show any surface damage (running marks, etc.). This leads to a reduced sealing function of the hub and promotes loss of oil.

3. Disassembly

The disassembly is to be considered into two aspects, namely the disassembly of the sprocket (in case of wear) or the disassembly of the entire splined carrier (including the sprocket).
For disassembling the splined carrier from the gear hub, we refer to the instructions for use of the hub manufacturer, where this step is explained in detail.

1.4. Disassembly a worn sprocket

You will need the following tools to remove the sprocket from the splined carrier:

- Chain whip or toothed belt and sprocket removal tool from Gates® Carbondrive depending on your drive (chain, toothed belt)
- Nut for Shimano® Hollowtech 2 bottom brackets (e.g. from Cyclus Tools® or ParkTool®)
- Ratchet or wrench to drive the nut used

In detail, the dismantling proceeds as follows:

1. Use the chain whip or toothed belt and sprocket removal tool to counter the freewheeling of the hub so that the sprocket can't rotate backwards.
2. Open the lock counter ring by unscrewing it counter clockwise.
3. Remove the worn sprocket from the splined carrier and replace it with a new one according to the assembly instructions above.

Note: the cyclepower® chain sprockets are designed as reversible sprockets. This means that after it has worn out on one side, you can continue to use it on the other side until it has to be finally replaced.

1.5. Disassembly of the splined carrier from the hub

You will need the following tools to remove the sprocket from the splined carrier:

- Sprocket puller by Rohloff® for the Speedhub gear hub in the appropriate version for your model (or equivalent products on the market)
- Chain whip or toothed belt and sprocket removal tool from Gates® Carbondrive depending on your drive (chain, toothed belt)
- Nut for Shimano® Hollowtech 2 bottom brackets (e.g. from Cyclus Tools® or ParkTool®)
- Key to drive the sprocket puller

Detailed information, how to remove a splined carrier from your Rohloff® Speedhub™ gear hub can be found in the manual of your internal gear hub. Our product can be removed in accordance with these descriptions.
Since the splined carrier, the axis of the gear hub and the sprocket each have a right-handed thread, all components are removed from each other another by turning them counter clockwise.
After this step, the splined carrier including its sprocket and lock nut are disassembled from the hub.

If you would like to disassembly both, the sprocket from the splined carrier and the splined carrier from the gear hub in one operation, experience suggests that you start with the point "Disassembly a worn pinion", but leave the lock ring hand-tight on the splined carrier (first two points), so that in the next step you can continue with point "disassembly of the splined carrier from the hub".

4. Maintenance instructions

The splined carrier itself is completely maintenance-free. However, if you discover any damage, do not continue to use it, as this can pose a risk to smooth operation. In this case, please contact us for a review.
If the metal ring of the splined carrier, on which the TC-seal (so called "Simmerring") of the Rohloff® Speedhub™ gear hub runs, shows signs of wear or other damage, the splined carrier must be replaced, otherwise the oil from the hub can leak out as the TC-seal can't full fill its function.

5. Technical data

Below you will find an overview of achievable chain lines of the splined carrier depending on the OLD's of Rohloff's® gear hub. All values are given in millimeters.

effective chainline on your Speedhub internal gear hub for 135mm OLD with QR-axle		
sprocket variation/variation oft your splined carrier	*Standard*	*Wide*
cyclepower® components chain sprocket	57	59
washer between splinde carrier and Gates® belt drive sprocket	56,7	57,7
washer between Gates® belt drive sprocket and splinde carrier	55,7	58,7

effective chainline on your Speedhub XL internal gear hub for 170mm OLD with QR-axle		
sprocket variation/variation oft your splined carrier	*Standard*	*Wide*
cyclepower® components chain sprocket	75	77
washer between splinde carrier and Gates® belt drive sprocket	74,7	76,7
washer between Gates® belt drive sprocket and splinde carrier	73,7	75,7

6. Manufacturer & distributor:

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