

CONTI® DRIVE SYSTEM

User Manual and Assembly Instructions



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Your New CONTI® DRIVE SYSTEM

Congratulations on purchasing your new CONTI® DRIVE SYSTEM (CDS). With the CDS belt drive system from Continental, you have chosen a strong and established brand with a long tradition of innovative technologies. The CONTI® DRIVE SYSTEM builds on this success and has already been presented with the Eurobike Award and the Dutch Bike Award, the most prestigious prizes in the bicycle industry.

This user manual assists you with proper handling of the drive components and provides suitable maintenance and care instructions that guarantee the durability of your CONTI® DRIVE SYSTEM.

The new drive system with a toothed belt offers you an exceptional riding experience: Whether for long tours or short city trips, the drive belt for bicycles, pedelecs, and eBikes is a real alternative to a chain.

Enjoy your CDS belt drive system!

1 For Your Safety

Please read the manual thoroughly before installing and using the CDS belt drive system and before replacing components. Improper installation, setting, modification, or maintenance may result in material damage or personal injury.

For more information, visit our website www.conti-drive-system.com or contact a bicycle dealer.

1.1 Intended use

- › Bicycles, pedelecs, or eBikes equipped with the CONTI® DRIVE SYSTEM are suitable exclusively for normal use on properly laid roads/paths but not on off-road terrain (i.e. away from roads or paths).
- › Before each ride, check the full functionality of your belt drive system. Any defects or damage discovered must be reviewed and, if necessary, repaired immediately.
- › Use only CDS belt drive systems as a whole consisting of the original Continental sprockets and belts that are suitable for your bicycle, pedelec, or eBike.
- › For your own safety and to conserve the value of the CONTI® DRIVE SYSTEM, use only the original spare parts available from bicycle dealers if a replacement of drive system components is necessary.

- › Your bicycle dealer is able to recognize potential signs of wear and can, if necessary, replace components before a system failure occurs.

1.2 Misuse and exclusion of liability

Failure to use your CDS belt drive system as intended or to follow safety-relevant instructions can lead to an exclusion of liability for any material defects. Any misuse must therefore be avoided! The term "misuse" includes the following situations and uses in particular:

- › Improper repairs and maintenance that have not been carried out by a bicycle dealer.
- › Use of a CDS bicycle, pedelec, or eBike for competitions, jumps, stunts, or tricks and on off-road terrain (i.e. away from roads or paths).
- › Defects caused by external interference and improper structural modifications compared with the bicycle's condition upon delivery. This applies in particular to the manipulation (tuning) of the drive or other system-relevant bicycle components.

To avoid any misuse and to guarantee the durability of your belt drive system, please refer to the installation and handling instructions in this manual.

1.3 Safety instructions

The following safety indications distinguish between the different danger levels and must be observed:



Danger

This indicates dangers that could result in serious injury.



Warning

This indicates dangers that present a high probability of accident.



Caution

This indicates dangers that could result in minor injury.



Attention

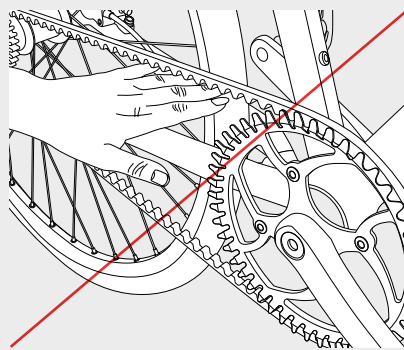
This indicates dangers that could result in material damage.



Danger

This is a drive system with moving parts. Please make sure that you never touch any part of the drive system while it is moving. This could cause serious injury. Trousers, skirts, or other loose items of clothing can get caught in the drive system. To prevent this, it is recommended to install a belt guard plate.

Do not touch any part of the system while it is running.



2 CDS Scope of Delivery

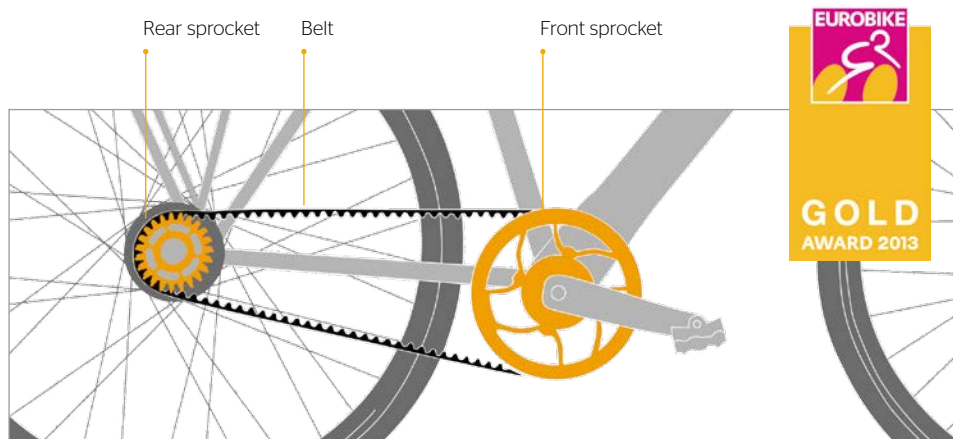
The CONTI® DRIVE SYSTEM is an innovative, award-winning belt drive system from Continental, which constitutes a quiet and maintenance-free alternative to a chain and is suitable for regular bicycles as well as pedelecs and eBikes.

2.1 CDS system overview

With the CONTI® DRIVE SYSTEM, Continental presents sophisticated technology for two-wheelers. The belt drive has been specially developed to meet the demands of and be integrated into bicycles or e-bikes to create the best possible harmony between drive and wheels. Its special material composition and the perfect interaction of all system components achieve levels of durability and drive quality that offer significant advantages over a chain.

The CDS system variants comprise front and rear sprockets and a heavy-duty drive belt. Based on the variety of different sprocket sizes and belt lengths, the belt drive system can be adjusted to the desired power transmission and chain stay length of various bicycle, pedelec, or eBike concepts.

To meet different two-wheeler requirements, the CDS portfolio is broken down into premium, eco, and carrier lines. These three product lines differ in terms of the material composition of the sprockets and the respective possible uses.

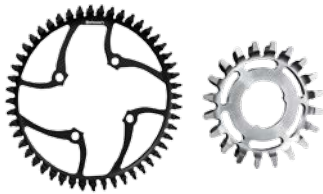


Version	Belts	Pulleys	Applications
CDS premium	8 mm carbon	Front: Aluminum Rear: stainless steel	Alfine/Nexus, SRAM, NuVinci, freewheel, Pedelec motors
CDS eco	8 mm carbon	Front: Plastic Rear: Plastic with Stainless steel inlay	Entry models Freewheel Alfine/Nexus Sturmey-Archer
CDS cargo	12 mm carbon	Front: Aluminum Rear: stainless steel	High torque and low ratios

2.2 CDS premium

The CDS premium line is the award-winning version, comprising the high-quality aluminum front sprocket and stainless steel rear sprocket. These are particularly long-lasting and feature high durability and flexibility for various bicycle and eBike specifications. They are suitable for high-quality belt wheels or pedelecs and compatible with most common internal gear hubs, eBike motors, and coaster brakes.

nation. Suitable for basic belt models and compatible with various internal gear hubs and coaster brakes.

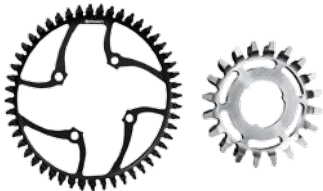


2.3 CDS eco

The CDS eco version has been specially developed for use in the more affordable bicycle segment. It differs from the CDS premium in that it features sprockets made from plastic or a patented plastic/stainless steel combi-

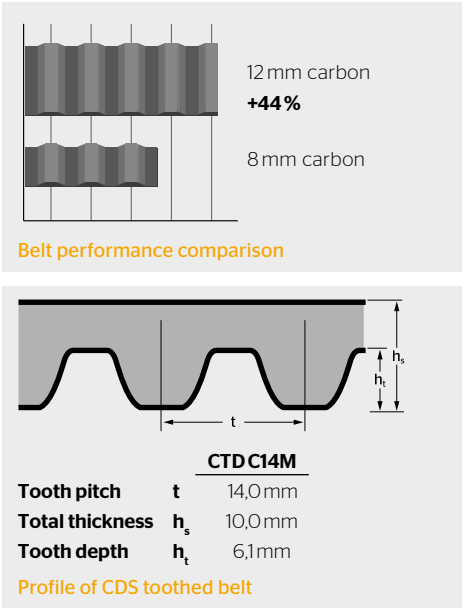
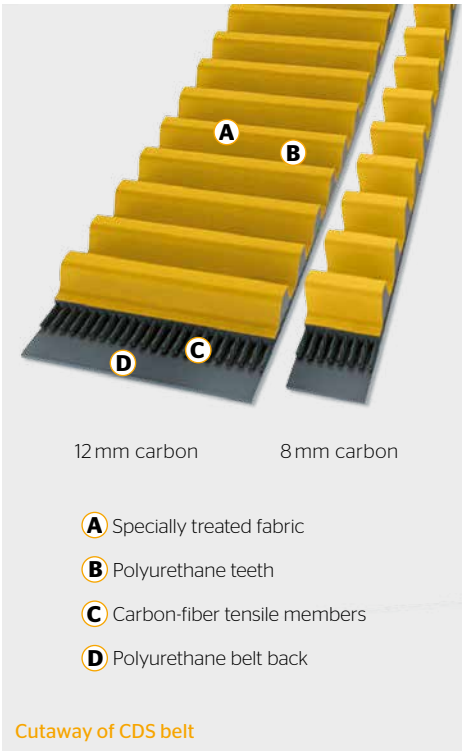
2.4 CDS cargo

The CDS cargo variant is especially suitable for extreme applications, consisting of a 12 mm-wide carbon belt and sprockets of corresponding widths. With this belt width and sprocket tread, cargo is particularly suited to use under maximum loads, such as on carrier bikes.



2.5 Heavy-duty toothed belt

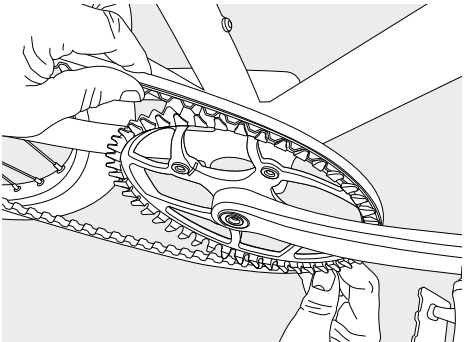
In addition to the sprocket, a heavy-duty toothed belt made from polyurethane constitutes the core element of the CONTI DRIVE SYSTEM. This has been optimally designed to suit the loads and special requirements involved in use on bicycles. Carbon tensile members are integrated as standard, offering an ideal mixture of durability, flexibility, and traction. A wider belt measuring 12 mm is also available for special applications involving higher traction.



2.6 CDS benefits

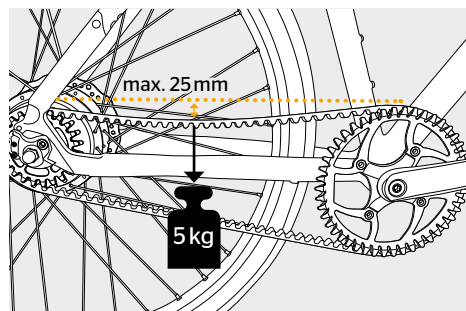
Clean, quiet, and maintenance-free

The belt is completely dry (no oil) and is therefore extremely clean and runs particularly quietly. This makes the CDS belt drive ideal for everyday use by all cyclists - from city bikes and touring bikes to eBikes and pedelecs.



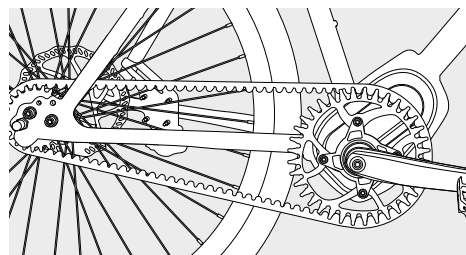
Low belt tension

Low pretension makes handling particularly easy. For any maintenance work, the belt can be pulled off and subsequently repositioned on the sprockets without the use of any tools or the need for complex tensioning methods.



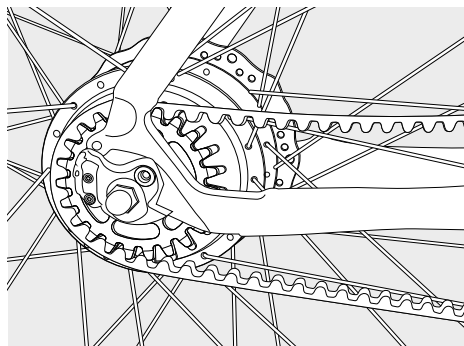
Long service life

Made of polyurethane with integrated carbon tensile members, the high-performance belt is resistant to any media and offers a higher mileage than a chain.



Tolerances and compatibility

Thanks to the material and low pretension, the CONTI® DRIVE SYSTEM offers high tolerance values in terms of angular errors and belt line. The system is also compatible with all common internal gear hubs, pedal sensors, motors, transmissions, and coaster brakes.



2.7 Service life, resistance

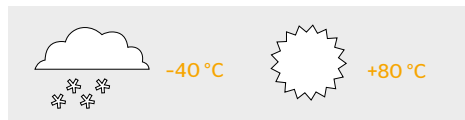
The CDS belt drive has been tested extensively via testing stations and test rides. These included traction measurements and test benches with water and sand injection to test the capabilities of the belt drive system in extreme situations. In these tests, the belt demonstrated high resistance to all substances tested and much better service life and traction than chain systems.

3 Operating Instructions

The CONTI® DRIVE SYSTEM is tailored to suit all types of bike-suitable weather conditions, which means it can be used throughout all seasons of the year.

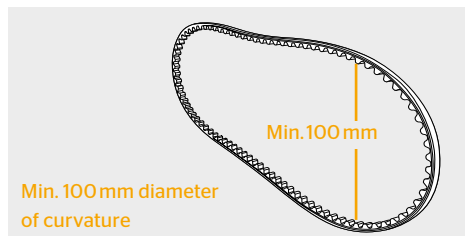
Its operation is designed to meet the following conditions:

- › Operating temperature between -40°C and +80°C
- › Usable in all bike-suitable weather conditions (not deep snow, black ice, storms, etc.)
- › Resistant to various substances such as oil or cleaning agents
- › Resistant to UV radiation and ozone



3.1 Handling

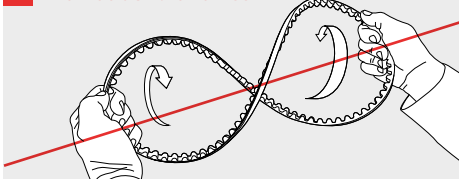
Keep the belt in its natural shape and avoid any tension or other influences on the belt. The belt works optimally and offers maximum durability with a minimum diameter of curvature of 100 mm.



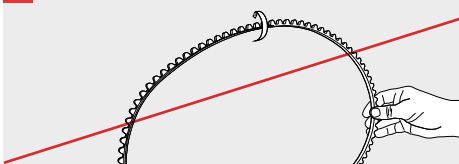
Attention

Please observe the following handling instructions to ensure a long service life for the belt. Improper handling may damage the belt and make replacement necessary!

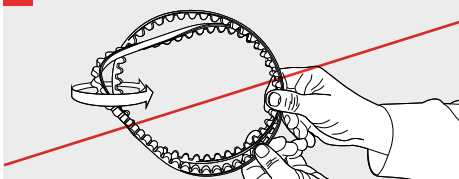
A Do not bend or twist

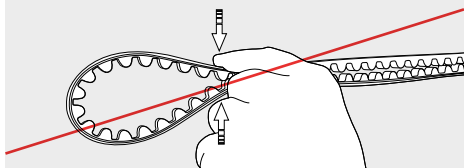
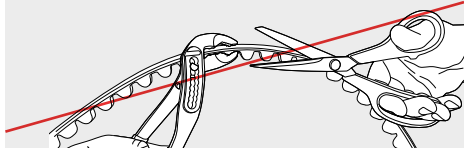
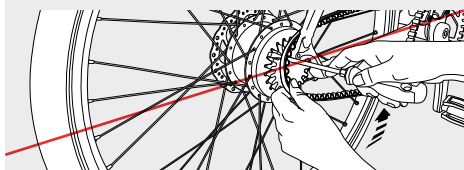
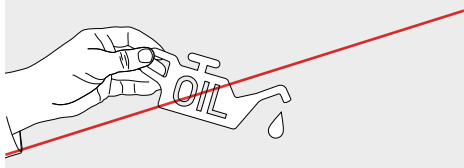


B Do not turn inside out



C Do not bundle or wind



D Do not use as belt whip**E Do not use any tools or sharp devices on the belt****F Do not lever the belt onto sprocket****H Do not lubricate**

3.2 Maintenance and care

To ensure durability of the system, we recommend cleaning the CONTI DRIVE SYSTEM regularly to remove mud and dirt. The interstices of the sprocket elements are milled to ensure that particles of dirt are generally pushed out by belt teeth gliding over them. However, compact stones or twigs can still become wedged in the system. Any residue on the belt or on the sprockets can cause increased wear and running noise (e.g. squeaking and creaking).

Cleaning - dry

Remove dirt from the belt teeth and tooth profiles of both drive sprockets using a hand brush. You can carefully loosen trapped particles or lodged stones using a small screwdriver, for example.

Cleaning - wet

In the event of heavy soiling, commercially available bicycle cleaners (biodegradable) can also be used, as the belt is resistant to soap suds. Spray it into the drive system, leave it to act for a short while and then use a sponge to create a lather and clean. An old toothbrush is particularly suited to stubborn dirt in the interstices or the belt and sprocket profiles. Finally, rinse the drive system with plenty of water.

Noise build-up

If the running noise cannot be solved by cleaning the drive system components, it is possible to spray a thin layer of dry silicone on the belt's inner side. This will protect the belt from further residue and improves the sliding properties to reduce the running noise.



Caution

Defective components can cause injuries and damage. Defective parts should be replaced immediately by a specialist dealer.

4 Installation Instructions

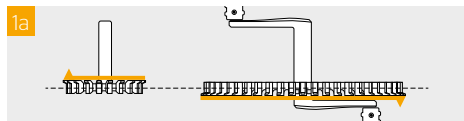
The CONTI® DRIVE SYSTEM *premium* offers high tolerance values. Nevertheless, correct sprocket arrangement and alignment should be ensured during installation and maintenance.

4.1 Initial installation of the CDS system

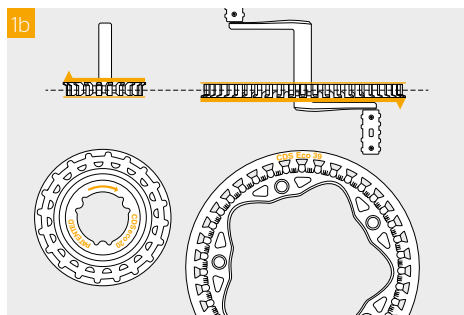
1. Installing sprockets

The front and rear CDS sprockets can be fitted in the same way as conventional chain rings or pinions. Correct alignment of the belt line and flanged wheels must be ensured here. For this, follow the instructions in section 4.2.

a) CDS premium & cargo

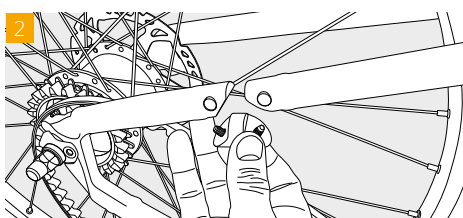


b) CDS eco



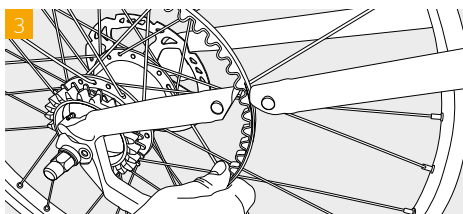
2. Opening the frame lock

Please consult the user manual of the bicycle or frame manufacturer for precise instructions on opening your specific frame lock variant.



3. Inserting the belt in the bicycle frame

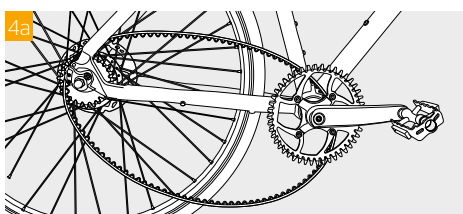
Now insert the belt through the frame lock without squashing, twisting, or bending the belt. Afterward, close the frame lock again.



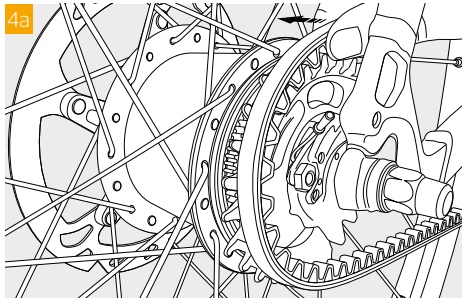
4. Installing the belt and rear wheel

a) CDS premium & cargo

Mount the rear wheel according to the manufacturer's instructions for the hub without

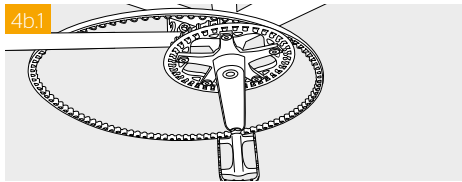


squashing, bending, or twisting the belt. First, place the belt on the front sprocket. Then position the top of the belt on the rear sprocket by hand. By turning the rear wheel backward slightly, the belt runs completely onto the sprocket without the use of force.

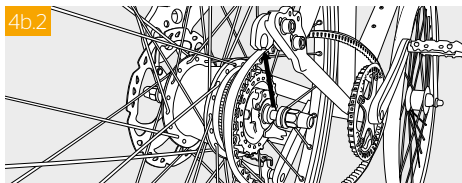


b) CDS eco

Position the belt on the front sprocket by hand and let the belt hang without tension. Then take hold of the rear wheel.

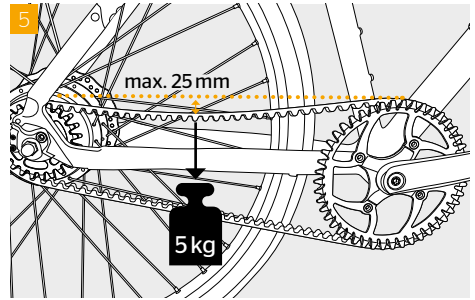


Position the belt on the rear sprocket of the loose rear wheel and then fit the rear wheel. Take care to not squash, bend, or twist the belt during this process.



5. Adjusting the belt drive system

Ensure that the belt line, sprocket angles, and belt tension are in line with the specifications in sections 4.2 and 4.3. Take care to not squash, bend, or twist the belt during both steps.



4.2 Arranging the flanged wheels

To ensure optimum functionality of the CONTI® DRIVE SYSTEM, the sprockets must be arranged correctly. Essential factors are the parallelism and the angle between the two sprockets as well as the correct arrangement of the flanged wheels. The flanged wheels are the outer limit of the sprockets, which prevent the belt from running off.



Warning

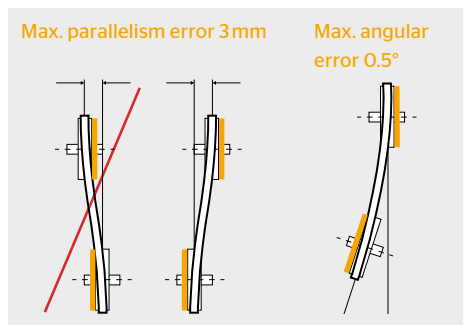
The arrangement of the sprockets is extremely important and can differ from bicycle to bicycle.

Parallelism:

A maximum parallelism error of 3mm away from the flanged wheels and measured at the middle of the sprocket treads is permitted.

Angle:

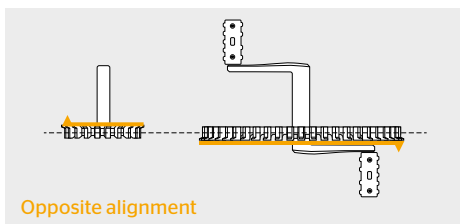
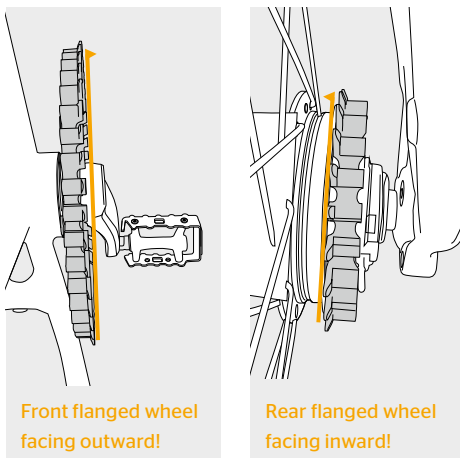
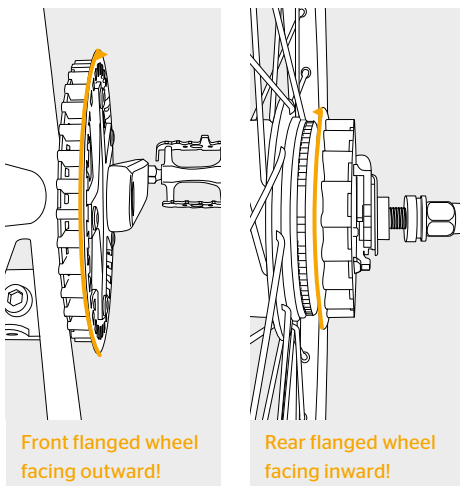
A maximum angular error of 0.5° is permitted between the sprockets.

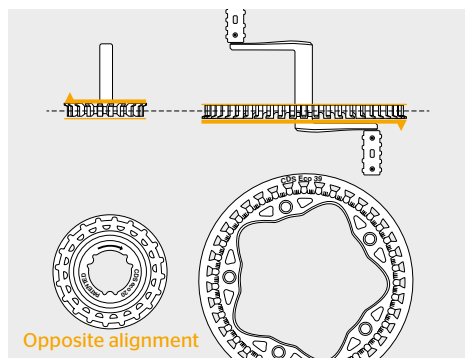


Exceeding the prescribed maximum tolerance values may cause the belt to run off. In addition, major angular errors shorten its service life.

**Attention**

So that the belt does not run off, flanged wheels are incorporated on both the front and rear sprockets. These prevent the belt from running off. The flanged wheels are on the outside of the front sprocket and the inside of the rear sprocket (i.e. on the hub side).

a) CDS premium & cargo**b) CDS eco**



Both installation dimensions can be inspected with the original CDS tools. Please refer to section 4.3 for the exact procedure.

4.3 Adjusting the belt

Belt tension

Insufficient belt tension can cause the belt to “jump.” In this case, the teeth of the belt slip over the sprocket, which the rider will feel as slippage. Jumping entails a risk of injury.

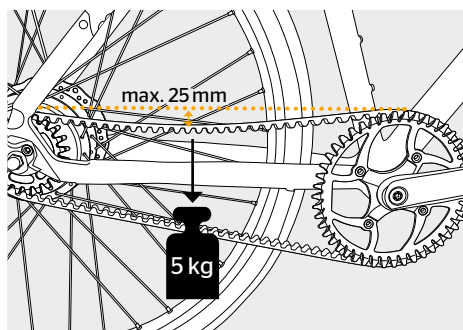


Note

The correct belt tension is crucial for the CONTI® DRIVE SYSTEM to operate at its best. The special tooth profile means that the CONTI® DRIVE SYSTEM can be operated with less pretension than other belt systems. To optimize the smooth ride and component preservation, ideal pretension should be set in accordance with the standard values.

However, excessive pretension can lead to greater wear due to overstress. It can damage the bottom bracket and the inner bearings of the rear hub. There are different tensioning mechanisms. Please contact your bicycle or frame manufacturer for information regarding use of your tensioning mechanism.

The optimal belt tension is approximately 75 N. This corresponds to a belt slack of a maximum of 25 mm with a central vertical load of 5 kg on the upper belt strand.



Sprocket tool

The original CDS sprocket tool is used for holding steady rear wheel hubs with freewheel or releasing the lock nut. Use and function of the sprocket tool is similar to that of a chain whip.

Please refer to the package insert for step-by-step instructions.



Belt measurement and adjustment tool

With the original CDS measurement and adjustment tool, it is possible to inspect the belt line as well as the belt tension. Inspecting the belt line is important for checking the correct parallelism and angular alignment of the sprockets. For more information, please refer to sections 4.2 and 4.3.



In addition to the belt line, the belt tension can be inspected very easily when the adjustment tool is applied. A centrally integrated tension spring with a weight of 5 kg displays the current belt tension on its scale. If the pretension is not in line with the guide values, the tension should be readjusted according to the available setting options of the bicycle, pedelec, or eBike. For more information, please refer to section 4.2.



www.parktool.com

CONTI® DRIVE SYSTEM tools are available through respected tool manufacturer Park Tool®

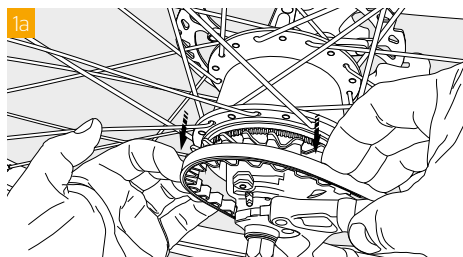
Please refer to the package insert for step-by-step instructions for the tools.

4.4 Removing the rear wheels

1. Remove the belt

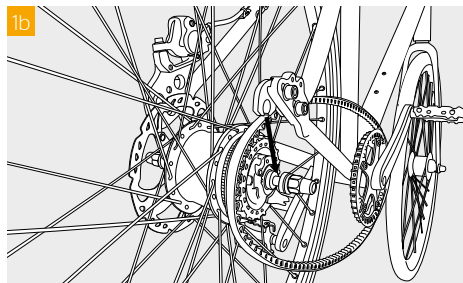
a) CDS premium & cargo

Pull the belt off the rear sprocket by hand. The rear wheel can then be removed in accordance with the manufacturer's instructions.



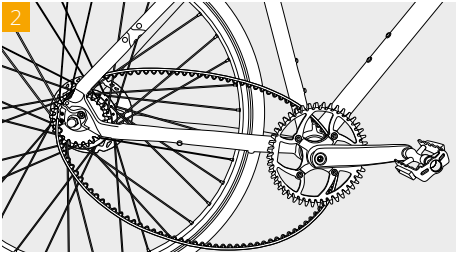
b) CDS eco

Reduce the belt tension by loosening the rear wheel in accordance with the manufacturer's instructions or loosening the eccentric bearing. The belt then lies loose on the sprockets and can be removed from the rear sprocket by hand.



2. Position the belt loosely

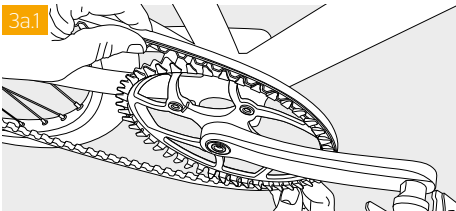
During rear wheel maintenance, let the belt hang loose in the frame or on the front sprocket so that it retains its natural form during rear wheel maintenance.



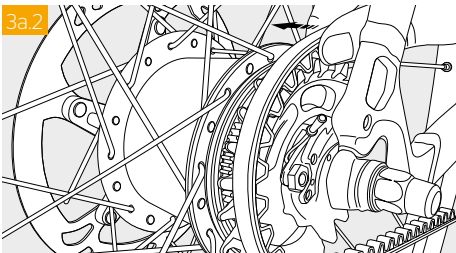
3. Install the rear wheel and mount the belt

a) CDS premium & cargo

First, position the belt on the front sprocket and then take hold of the loose rear wheel.

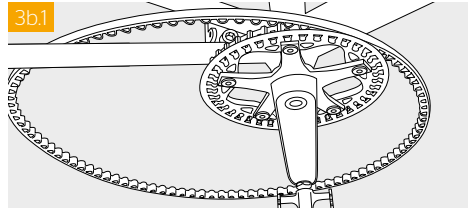


Position the belt on the rear sprocket and carefully secure the rear wheel without squashing, bending, or twisting the belt.

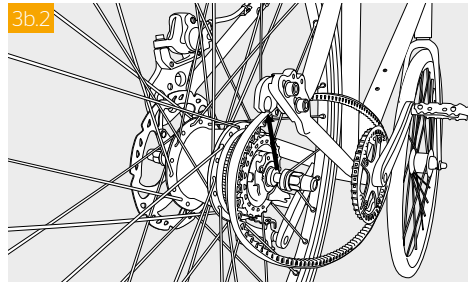


b) CDS eco

Position the belt on the front sprocket by hand and let the belt hang without tension. Then pick up the rear wheel.



Position the belt on the rear sprocket of the loose rear wheel and then fit the rear wheel. Take care to not squash, bend, or twist the belt during this process.

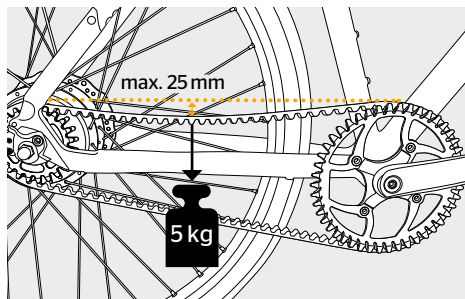
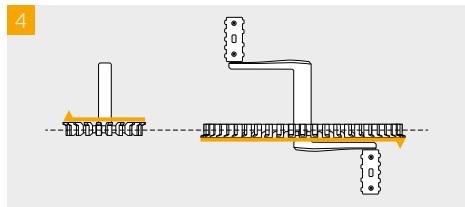


⚠ Caution

Please make sure that you do not trap any fingers between the belt and sprocket when rotating the wheel. Rotate the wheel slowly and carefully.

4. Adjusting the belt

Please ensure that the belt line, sprocket angles, and belt tension are in line with the specifications in sections 4.2 and 4.3.

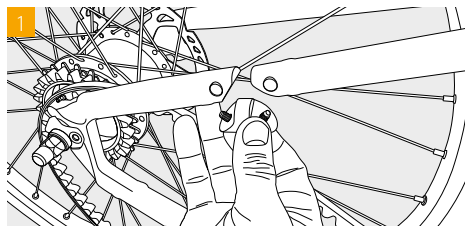


4.5 Replacing the belt without changing the sprockets

1. Open the frame lock

Please consult the user manual of the bicycle or frame manufacturer for precise instructions on opening your specific frame lock variant.

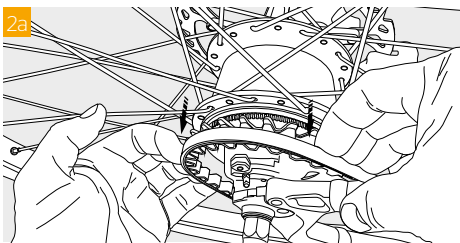
2. Remove the old belt



a) CDS premium & cargo

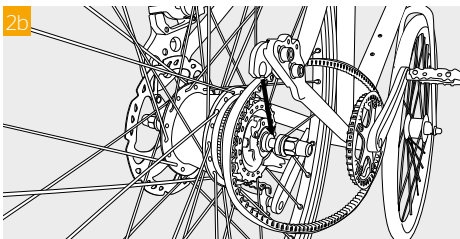
Pull the belt off the sprockets by hand only and then remove it through the open frame lock.

b) CDS eco



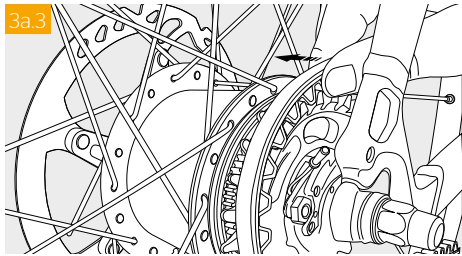
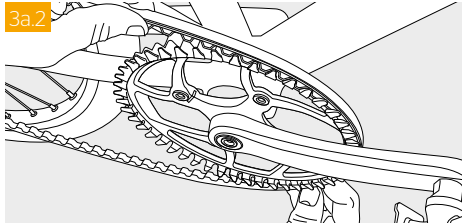
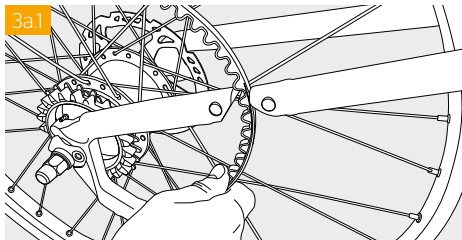
Reduce the belt tension by loosening the rear wheel in accordance with the manufacturer's instructions or loosening the eccentric bearing. The belt then lies loose on the sprockets and can be removed from the rear sprocket and through the open frame lock by hand.

3. Mount the new belt

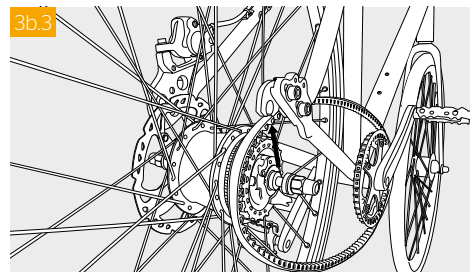
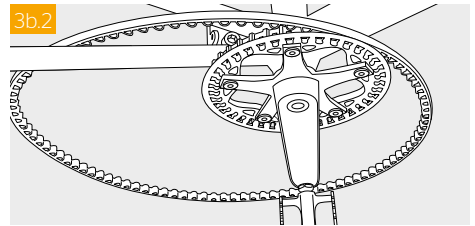
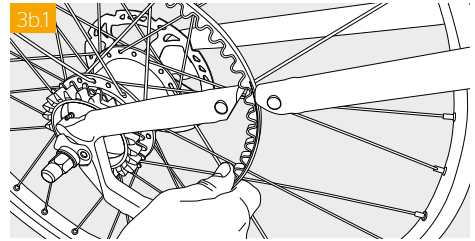


a) CDS premium & cargo

First, place the belt on the front sprocket. Then position the top of the belt on the rear sprocket by hand. By turning the rear wheel backward slightly, the belt runs completely onto the sprocket without the use of force.



to not squash, bend, or twist the belt during this process.



Caution

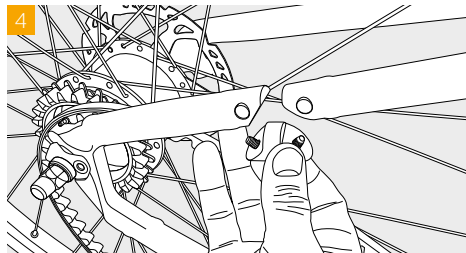
Please make sure that you do not trap any fingers between the belt and sprocket when rotating the wheel. Rotate the wheel slowly and carefully.

b) CDS eco

Position the belt on the front sprocket by hand and let the belt hang without tension. Then pick up the rear wheel. Position the belt on the rear sprocket of the loose rear wheel and then fit the rear wheel. Take care

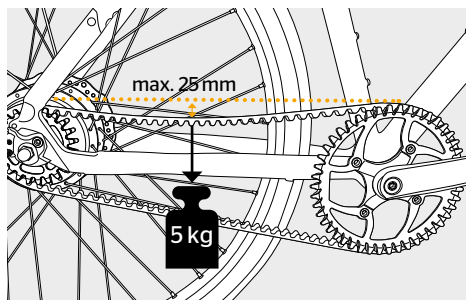
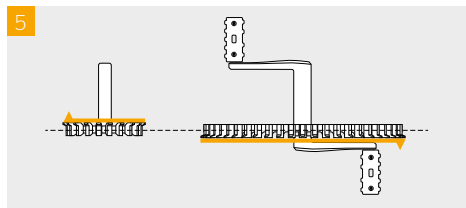
4. Close the frame lock

Please consult the user manual of the bicycle or frame manufacturer for precise instructions on closing your specific frame lock variant.



5. Adjusting the belt

Please ensure that the belt line, sprocket angles, and belt tension are in line with the specifications in sections 4.2 and 4.3.



4.6 Changing the belt and sprockets

If replacement of the sprockets is required due to wear or for any other reason, the entire CONTI® DRIVE SYSTEM including both sprockets and the belt should be replaced. This is necessary to ensure optimum functionality of the CDS belt system.

1. Follow the steps for removing the rear wheel as described in section 4.4.
2. Follow the steps for changing the belt as described in section 4.5.
3. The front and rear CDS sprockets can be disassembled like conventional chain rings or pinions.
4. Follow the instructions for installing new sprockets and belts as described in section 4.1.

5 Transportation

The CDS belt drive has no influence on the existing transport regulations for your bicycle, pedelec, or eBike.

Therefore, please pay attention to the manufacturer's individual transport regulations and ensure that no other objects impact on the belt during transport. Squashing or twisting the belt may cause damage and can make a replacement necessary.



6 Wear

Compared with a classic chain, an advantage of the CDS drive is its durability. However, with increased mileage, the CONTI® DRIVE SYSTEM can also show signs of wear.

If you discover signs of wear on the belt and/or sprockets, you should contact a bicycle dealer who is able to check the condition of the belt system and replace the worn components if necessary.

Please refer to the overview on the next page for specific signs of wear and the action to be taken as a result.



Danger

Please check the belt and the sprockets for defects before every journey. Using worn or damaged components may result in material damage or personal injury.



Signs of wear on a CDS premium or cargo sprocket



Signs of wear on a CDS eco sprocket



Signs of wear on the drive belt

Potential signs of wear	Replace front sprocket	Replace rear sprocket	Replace belt
Front sprocket: Inward-bent flanged wheel(s)	•	•	•
Front sprocket: Outward-bent flanged wheel(s)	•		
Front sprocket has lateral runout (bent)	•		•
Tooth profile of front sprocket is visibly damaged (asymmetrical)	•		•
Tooth profile of rear sprocket is visibly damaged (asymmetrical)		•	•
Rear sprocket wobbles on the hub, worn fitting, spinning		•	
Sheared sprocket		•	•
Sharp-edged flanged wheel	•	•	
Kinked belt			•
Tooth profile of belt is visibly damaged			•
Belt shows cracks or porous patches			•
Frayed belt			•
Crack in belt			•

7 Accessories

You can upgrade your belt drive system with the original CDS accessory products.

For information about our latest CDS products and available accessories, please contact your bicycle dealer or visit our website www.conti-drive-system.com. Your dealer will be happy to inform you and can order any accessory parts that can be obtained only through the retail market.

7.1 CDS tool



Sprocket tool



Belt measurement and adjustment tool



www.parktool.com

CONTI® DRIVE SYSTEM tools are available through respected tool manufacturer Park Tool®

Please refer to the package insert for step-by-step instructions for the tools.

7.2 Continental cranks

To continue the design of the CDS belt drive, you can add the high-quality Continental crank so that everything features a consistent look.

- › Aluminum crank
- › 170 or 175 mm
- › JIS or ISIS
- › With or without spider
- › Four-hole or five-hole spider



Cranks with spider

Cranks without spider

7.3 Sprocket protection

The optional belt guard plate helps to protect the belt against external influences. It prevents excessive effects caused by large elements and guards against the danger of trouser legs, skirts, or other loose items of clothing being caught between the belt and the front sprocket.



Power Transmission Group

Market segment

Two Wheeler

Contact

Benchmark Drives GmbH & Co. KG

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www.conti-drive-system.de



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the contents of this
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