These instructions contain important information on your DualDrive system.

Cycling with DualDrive is easy. It’s true. It may surprise you just how many features your DualDrive system has. To make the best possible use of your DualDrive please take the time to read these operating instructions carefully.

Your DualDrive system is almost maintenance-free. Should you have any queries that are not answered in these operating instructions, your qualified bicycle specialist will be pleased to help you.

Have a nice time and enjoy “dualdriving”.

Please take particular note of the following:

- Precautionary measures, which protect from possible accident, injury or danger to life, or which prevent possible damage to the bicycle.

- Special advice to assist in the better handling of the operation, control and adjustment procedures.

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**THE DUALDRIVE SYSTEM**

**WHAT IS DUALDRIVE**
The general perception is that shifting requires a Zen-like touch from years of trial and error . . . mostly error. Many riders wanted something easier. We really love this kind of challenge. And DualDrive exceeds all the expectations.

DualDrive is a drive train consisting of a self-energized internal hub and rear derailleur for smooth adjustment. It’s the market’s most revolutionary transmission.

**OPERATING PRINCIPLE**
Single-side shifting allows the rider to use one-hand to easily click through a 27-, 24- or 21 gear option. And DualDrive’s superior gear indication, featuring three intuitive riding modes, creates a smooth, comfortable ride for novice and masters alike. Easy shifting. Advanced performance. Mission accomplished.

**RIDING MODES**
DualDrive has 3 intuitive shifting modes. Hill mode, standard mode, and fast mode. Each mode is designed to allow the rider to be in the proper mode wherever you go.
THE DualDrive SYSTEM

DualDrive hub and cassette
Super light shifting forces, load shiftable. Stand-still shifting (mode selector): easy re-start at a traffic light

DualDrive single-sided shifter
Simple gear indication: one view for all information. Intuitive logical shifting.

DualDrive Clickbox
Easy wheel removal: pre-adjusted gears for simplicity.

DualDrive rear derailleur
Light, precise shifting. Larger pivots, links and cages: increased rigidity and durability.
THE DUALDRIVE SYSTEM

HOW LONG DID IT TAKE TO FINISH DUALDRIVE?
A big team of 25 engineers from all around the world worked for two years on this project.

HOW DID WE TEST DUALDRIVE?
Enthusiastic trekking riders did test the system under all weather circumstance for more than a year. Within these tests we finetuned the function of the system to perform to 100% of the comfort trekking riders expectations.

WHAT PARTS DO I NEED TO COMPLETE A DUAL-DRIVE TRAIN?
A DualDrive train contains the following products:

» DualDrive hub: in either without brake and disc brake version.

» Cassette: 11-34 teeth, 9 speed for DualDrive 27 or 11-32 teeth, 8 speed for DualDrive 24 or 12-32 teeth, 7 speed for DualDrive 21.

» Derailleur: DualDrive 9 speed for DualDrive 27, DualDrive 8 speed for DualDrive 24 or DualDrive 7 speed for DualDrive 21.

» Shifter with Clickbox: 27 speed with gear indication window or 24 and 21 speed without gear indication window.

» Spoke protector: There are two versions available: in versions for 36 or 32 spoke hole hubs.

» Crank: DualDrive cranks offer the best performance with the DualDrive system.

I BELIEVE A DUAL-DRIVE SYSTEM HAS TO BE HEAVIER THAN A NORMAL EXTERNAL DRIVE SYSTEM!
In fact the DualDrive system weighs around 250 gr less than a standard derailleur drive train system.

WHAT IS THE BENEFIT OF THE SINGLE SIDED SHIFTER?
It is more intuitive due to the riding modes which explain the driver directly what mode to use in which terrain.
OPERATION

RIDING MODES

1. Use the thumb shifter to choose the gear ratio. You can operate it in stand still or while riding. The smoothest and fastest gear change happens when changing gears while pedaling.

DERAILLEUR

2. Use the rotating grip (to the right) to change gear of the derailleur system. The smoothest and fastest gear change happens when changing gears while pedaling with low force.
**MAINTENANCE AND CARE**

**GEAR ADJUSTMENT**

**GEAR HUB**

3. Place thumb shift lever in standard mode.

4. Match up the yellow marks in the Clickbox viewing window by twisting the barrel adjuster.

**DERAILLEUR**

Limit screw adjustment:

5. View the rear derailleur and pulleys from behind the rear of the bicycle.

» Turn the limit screw marked ‘H’ on the outer link of the derailleur to align the upper guide pulley center with the outboard edge of the smallest cog – clockwise moves the guide pulley inboard towards the wheel.

» While turning the crank, push the rear derailleur towards the larger cogs by hand.

» Align the upper guide pulley under the largest cog, by turning the limit screw marked ‘L’ on the outer link – clockwise moves the guide pulley outboard away from the spokes.
MAINTENANCE AND CARE
GEAR ADJUSTMENT

Chain gap adjustment:
Chain gap is the distance between the upper guide pulley and the cog the chain is riding on. Optimal chain gap allows quick, efficient shifts.

» While turning the crank, push the rear derailleur inboard by hand to the largest cog.

» Hold the derailleur in this position while making the following adjustment.

Use a 3 mm hex wrench, turn the b-adjust screw until the chain gap equals approximately 6 mm (1/4”).
– Turn the b-adjust screw clockwise to increase the chain gap.
– Turn the b-adjust screw counterclockwise to decrease the chain gap.

Do not use the b-adjust screw to adjust the rear derailleur to act as a chain-tensioning device or to prevent chain suck. This increases the chain gap causing poor shifting performance.

Index shifting adjustment:
» Make sure the chain is located on the smallest sprocket.

» Shift the chain to the second cog.
– If the chain hesitates or does not shift, increase the cable tension by turning the shifter barrel adjuster counterclockwise.
– If the chain shifts beyond the second cog, decrease the cable tension by turning the shifter barrel adjuster clockwise.

» Repeat the two former steps until shifting and cable tension is accurate.

» While turning the crank, shift the chain up and down the cassette several times to ensure that your derailleur is indexing smoothly.
MAINTENANCE AND CARE
REMOVE AND FIT REAR WHEEL

REMOVE REAR WHEEL
» Rotate the twist shifter to the highest gear position (speed „7/8/9“).

» Place thumb shift lever in hill riding mode.

» Push Clickbox button down.

» Pull Clickbox off the axle.
» Dismantle wheel.

FIT REAR WHEEL
» Fit wheel in frame dropouts.

» Place retaining washers (2) on both sides of the axle – the serrations must bear against the dropout (washers with lugs: these must engage in the dropout slots).
» Tighten up axle nuts. Tightening torque 30 – 40 Nm (266 – 350 in. lbs.).
» Screw shifting rod (1) into the hub axle and thigthen it with 0.2 Nm (1.8 in. lbs.).
» Push on Clickbox to the stop on the hub axle. The thumb shift lever must be positioned in the hill riding mode and Clickbox button must be pushed down.
» Bring Clickbox button back to initial setting by pushing it up from underneath.
» Check the gear settings.
MAINTENANCE AND CARE
CLEANING AND LUBRICATION

CLEANING
Your DualDrive components are well protected against adverse environmental influences. In order to avoid malfunction due to water penetration, pressurized jets (high pressure cleaners etc.) should not be used when cleaning the bicycle.

» When using the bike during the winter more frequent cleaning is necessary to prevent damage caused by de-icing salt.

» Do not use solvants or corrosive materials to clean the components.

» Clean dirty chains before oiling. Do not use any grease-dissolving or acidic agents. Cleaning agent must be rinsed off after a few minutes with water. Apply oil after chain is completely dried.

LUBRICATION
» DualDrive hubs are provided with permanent lubrication and maintenance-free under normal conditions.

» Lubricate the shifting joints regularly. Grease any cable guides (e.g. beneath the bottom bracket).

» Regular lubrication will extend the chain’s service life.
MAINTENANCE AND CARE
CABLE CHANGE

CABLE CHANGE

Leave the shifter on the handlebar.

» No need to move other components. The shifter does not need to be opened.
» Use only new high quality cable (stainless) and compressionless cable housing with end caps.

Twist shifter (rear derailleur):

» Detach the cable from the derailleur.

» Cut cable off 15 cm (6”) from shifter barrel adjuster. Discard old cable and cable housing.

Remove screw (1) and pull open the cable change sleeve (2).

Rotate the shifter fully in the cable release direction (gear position “7/8/9”). Look for cable head entry (3).

» Push cable up/out of the shifter and discard.

» Feed the new cable through the cable entry. Pull cable snug.

Install cable change sleeve (2) and fit screw (1).
**MAINTENANCE AND CARE**

**CABLE CHANGE**

» Feed the cable through the new cable housing and frame stops.
» Attach cable to the derailleur and adjust indexing.

**Thumb shifter (gear hub):**

Place thumb shift lever in hill riding mode.

» Remove Clickbox from the axle (see Page 10).

Snap open Clickbox-cover (6) as shown.

» Unscrew clamping bolt (7), hex wrench 4 mm.

Remove the shifter escape hatch (4).

» Remove and discard the old cable.

» Feed the new cable through the cable entry (5), the new cable housing and pull the cable snug.

» Attach the escape hatch.

Pull the cable tight and position it under the cable anchor washer (8).

» Tighten the 4 mm hex cable anchor bolt to 2.5 – 4 Nm (22 – 35 in.lbs.).

» Cut off cable end to 1 – 2 mm.

» Snap in Clickbox-cover.

» Install Clickbox (see Page 10).

» Adjust gearshift.

---

**REPAIR WORK**

Arrange for any work, which may become necessary on the DualDrive gear hub and shifter to be carried out by your qualified specialist dealer.

» Non-authorized work on your DualDrive system could put you in danger and also lead to the loss of your guaranteed rights.

» If you have questions or problems please contact your qualified specialist dealer.
ASSEMBLY OF COMPONENTS

ASSEMBLY HUB

» Spoke the hub as normal.

16 Place spoke protector disc (1) on shoulder of hub, fit cassette (2) onto driver profile. Screw lock nut (3) with cassette tool (Park Tool FR-5 or SRAM Part No. 4624411010), tightening torque: 40 Nm (350 in.lbs.).

17 Screw shifting rod (1) into the hub axle and tighten it with 0.2 Nm (1.8 in.lbs.).

» Fit wheel in frame dropouts.

17 Place retaining washers (2) on both sides of the axle – the serrations must bear against the dropout.

– Version for horizontal dropouts (2): the lug must engage in the dropout slot.


» Tighten up axle nuts. Tightening torque 30 – 40 Nm (266 – 350 in. lbs.).
ASSEMBLY OF COMPONENTS

ASSEMBLY DERAILLEUR

Check the rear derailleur hanger alignment. A bent rear derailleur hanger will result in inaccurate index shifting.

Attach the rear derailleur to the frame’s rear derailleur hanger.

Check that the b-adjust washer tab (b-adjust screw at DualDrive 24 and 21) is clear of the rear derailleur dropout tab.

» Tighten the 5 mm hex hanger bolt to 8 – 10 Nm (70–85 in.lbs.).

CHAIN LENGTH

Bypassing the rear derailleur, run the chain around the largest cog chainring combination. Add 4 LINKS or 3 links + connecting link to this length for proper chain length.

» For rear suspension frames, position the rear suspension for the greatest chain length required.
ASSEMBLY SHIFTER

Slide the shifter (5) onto the handlebar.

» Rotate the shifter until the barrel adjuster (6) is beneath (but out of the way of) the brake lever.

» Tighten the 3 mm hex clamp bolt (7) to 1.9 – 2.5 Nm (17 – 22 in.lbs.).

» Slide the handlebar grip (8) onto the handlebar.

Never use lubricants or solvents to install handlebar grips. Handlebar grips provide an axial safety function. For this reason, they should be mounted in such a way as to make sure they do not slip off handlebar.

» Check that the shifter and brake lever function properly and are unobstructed.

» Never ride without the handlebar grips, this can result in severe injury or death.
ASSEMBLY OF COMPONENTS

INSTALLING CLICKBOX

» Fit the cable and avoid small radius.

» Cable housing must be movable inside attachment.

Place thumb shift lever in hill riding mode.

Push Clickbox button down.

» Push on Clickbox to the stop on the hub axle.

» Bring Clickbox button back to initial setting by pushing it up from underneath.

GEAR ADJUSTMENT
See MAINTENANCE AND CARE
## TECHNICAL DATA

### GEAR HUB

<table>
<thead>
<tr>
<th>DualDrive 27</th>
<th>DualDrive 24</th>
<th>DualDrive 21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over Locknut Dim.</td>
<td>135 mm</td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>182.6 mm</td>
<td></td>
</tr>
<tr>
<td>Ends Diameter</td>
<td>FG 10.5</td>
<td></td>
</tr>
<tr>
<td>Holes</td>
<td>36 or 32</td>
<td></td>
</tr>
<tr>
<td>Hole Diameter</td>
<td>2.6 mm</td>
<td></td>
</tr>
<tr>
<td>Hole Ref. Ø</td>
<td>67 mm</td>
<td></td>
</tr>
<tr>
<td>Flange Dist. to 1/2 OLD</td>
<td>33 mm / 18 mm</td>
<td></td>
</tr>
<tr>
<td>Totally</td>
<td>576 %</td>
<td>542 %</td>
</tr>
<tr>
<td>Totally hub</td>
<td>186 %</td>
<td></td>
</tr>
<tr>
<td>Speed 1</td>
<td>73 %</td>
<td></td>
</tr>
<tr>
<td>Speed 2</td>
<td>100 %</td>
<td></td>
</tr>
<tr>
<td>Speed 3</td>
<td>136 %</td>
<td></td>
</tr>
<tr>
<td>Chainline</td>
<td>45 mm</td>
<td>45 mm</td>
</tr>
<tr>
<td>Crankset</td>
<td>33 / 38 Teeth</td>
<td></td>
</tr>
<tr>
<td>Cogset</td>
<td>9 / 8 / 7 speed, 11-34 / 11-32 / 12-32 Teeth</td>
<td></td>
</tr>
<tr>
<td>Cogset Compatib.</td>
<td>DualDrive 27</td>
<td>DualDrive 24</td>
</tr>
<tr>
<td>Shifter Compatib.</td>
<td>DualDrive 27</td>
<td>DualDrive 24</td>
</tr>
<tr>
<td>Tandem compatib.</td>
<td>Not suitable for tandems and delivery bicycles</td>
<td></td>
</tr>
</tbody>
</table>
## Technical Data

### Cassette

<table>
<thead>
<tr>
<th></th>
<th>DualDrive 27</th>
<th>DualDrive 24</th>
<th>DualDrive 21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Largest Cog</td>
<td>34 Teeth</td>
<td>32 Teeth</td>
<td>32 Teeth</td>
</tr>
<tr>
<td>Speeds</td>
<td>9</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Cogs</td>
<td>11/34</td>
<td>11/32</td>
<td>12/32</td>
</tr>
<tr>
<td>Spacers</td>
<td>Blue</td>
<td>Black</td>
<td>Grey</td>
</tr>
<tr>
<td>Chain compatib.</td>
<td>9spd, SRAM/Shim</td>
<td>8spd, SRAM/Shim</td>
<td>7spd, SRAM/Shim</td>
</tr>
</tbody>
</table>

### Derailleur

<table>
<thead>
<tr>
<th></th>
<th>DualDrive 27</th>
<th>DualDrive 24</th>
<th>DualDrive 21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speeds</td>
<td>9</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Shifter Compatibility</td>
<td>DualDrive 27</td>
<td>DualDrive 24</td>
<td>DualDrive 21</td>
</tr>
<tr>
<td>Cage Length</td>
<td>Short, 75 mm</td>
<td>Short, 75 mm</td>
<td>Short, 75 mm</td>
</tr>
<tr>
<td>Sprocket, max.</td>
<td>34 Teeth</td>
<td>32 Teeth</td>
<td>32 Teeth</td>
</tr>
<tr>
<td>Sprocket, min.</td>
<td>11 Teeth</td>
<td>11 Teeth</td>
<td>11 Teeth</td>
</tr>
<tr>
<td>Pulleys</td>
<td>Exchangea. / Bushing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct Mount</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

### Shifter

<table>
<thead>
<tr>
<th></th>
<th>DualDrive 27</th>
<th>DualDrive 24</th>
<th>DualDrive 21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shifter Type</td>
<td>SRS Twistring-Thumbshifter-Combo (2in1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gear Hub</td>
<td>DualDrive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Derailleur</td>
<td>DualDrive 27</td>
<td>DualDrive 24</td>
<td>DualDrive 21</td>
</tr>
<tr>
<td>Gear Indication Der.</td>
<td>Window</td>
<td>Printed</td>
<td>Printed</td>
</tr>
<tr>
<td>Riding Mode Indic.</td>
<td>Printed</td>
<td>Printed</td>
<td>Printed</td>
</tr>
<tr>
<td>Barrel Adj. Derailleur</td>
<td>Index</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clamping Diameter</td>
<td>22,3 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handlebar, Straight Area</td>
<td>Minimum length = 150mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cable Routing, Gear Hub</td>
<td>Continuous housing (preassembled)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cable Routing, Der.</td>
<td>Open or continuous</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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