

YOUR BERNDS-*Folding Tandem Lowstep*

made in Germany

since 1991



BERNDS 

Congratulations on your new **BERNDS-Folding Tandem Lowstep!**

Dear Customer,

we have summarised for you the most important points about your **BERNDS-Folding Tandem Lowstep**. Before your first ride, please take the time to read this data sheet.

If you are unable to find something or need further information, if you have any requests or suggestions, **contact us at info@bernds.de**!



Your BERNDS-Folding Tandem Lowstep – the ingenious all-rounder

The basic design for our folding tandem we have inherited from our folding bikes. We have mounted the **robust, easy-running 20-inch wheels** and the **sprung, folding swingarm** on a **solid frame** and adapted the whole geometry to the particular needs of tandem riding. As a tandem rider you can be out on the road considerably faster and with comparatively **little effort** compared to „normal“ cyclists. Our folding tandems are very **easy and safe to handle**, even at high speed.

Even if you have never ridden a tandem before, on our **BERNDS-Folding Tandem Lowstep**, you will soon find there are no problems but lots of fun riding a tandem. Please take note of the section „**Tips on tandem riding**“ in this booklet.

The team at BERNDS wishes you pleasant cycling!

Adjusting your BERNDS-Folding Tandem Lowstep

Saddle height and angle

Loosen the Allen screw (no. 5 Allen key) at the top of the seat tube and adjust the saddle so that when the pedal is at the bottom of its travel, your leg is straight when your heel is standing on the pedal.

Point the saddle straight forward. Even after folding and unfolding the seatpost, the saddle will still be in this position which is the right one for you!

Handlebar height and angle

There are various sitting positions which are all equally ergonomic and appropriate depending on your riding style. Adjust the height and angle of the handlebars so that you adopt a comfortable position when seated. If this seems not to be possible, ask us: you can obtain from us many different handlebar shapes and stems with a variety of heights and lengths.

Brake handle, bell

If need be, you can adapt the reach to suit your own hand size on all brake handles. To do this, read the enclosed operating instructions for the brakes. Adjust the bell so that you can reach it comfortably at any time. **If you have any questions, get in touch with your specialist dealer or with us. We will be happy to advise you.**

Before every trip

- The handlebar stem and the seatpost must be securely tightened.
- All quick-release catches must be locked hand tight.
- If you are using folding pedals, these must be folded out and latched.
- Check the functioning of the brakes by rolling the bike forward and pulling on the brakes. The brake handles must move easily and take effect immediately.
- At twilight, always ride with the lights on and check before setting off that the lighting system is working.
 - With a bottle dynamo, click it into place and crank the rear wheel with the bike on the stand.
 - With a hub dynamo, the front and rear lights should come on as soon as the bike moves.
- Lift the bike a few centimetres and let it drop onto the ground. If you hear any rattling or unusual noises, check for the cause and rectify it: if necessary, tighten any bolts.
- Always ride with enough tyre pressure. The minimum and maximum pressures are marked on the sidewall of the tyres. For our tandems, we recommend that you tend towards the maximum pressure.
- Do not ride with worn tyres.

How do you fold up your **BERNDS-Folding Tandem Lowstep**?

Hold your **BERNDS-Folding Tandem** with your left hand on the handlebars and your right hand on the saddle.

- **Folding in the front rider's handlebars:** Rotate the handlebars clockwise about $\frac{3}{4}$ of a turn so that the handlebars and the front wheel are pointing towards you. Loosen the quick-release lever on the handlebar stem, pull the handlebar unit upwards from the tube, and lay it flat on the frame or the rear wheel.
- **Removing the seatposts and the rear rider's handlebars:** Loosen the quick-release lever on the lower seatposts and pull the seat tubes upwards and completely out. Follow the same procedure with the rear rider's handlebars.

- **Swinging in the rear sub-frame:** Lift your **BERNDS-Folding Tandem Lowstep** slightly off the ground by the top tube and stand on the rear sub-frame or the rear axle so that the suspension unit comes loose from the catch. Swing the rear sub-frame inwards until the tyre is resting against the lower frame tube.

Note: with derailleurs gears (and Dual Drive), you should put it into one of the top three gears (the ones with the larger sprocket diameter) before swinging in the rear sub-frame; this will prevent the chain coming off.



The next step reduces the size when folded even further:

- **Optionally:** removing the lower frame tube: if need be, you can fold the tandem especially small by dismantling the lower frame tube before swinging in the rear sub-frame: Using a no. 16 fixed spanner and a no. 8 Allen key, remove both nuts and bolts with which the lower frame tube is fixed. **After unfolding the bike, it is essential that the frame tube is securely assembled once again; for the bolts it is important to use the correct tools mentioned above.**
- **Optionally:** removing the front wheel: loosen the clip immediately above the front forks with a 6 mm Allen key and pull the front wheel complete with forks downwards and out of the tube. **Caution:** the forks are still connected to the handlebars via the Bowden cable belonging to the front brake and possibly via the electric wire from the hub dynamo. **Take care when unfolding that the forks are pushed completely into the head tube as far as the end stop and that subsequently the clip is closed hand tight!**

Unfolding your **BERNDS-Folding Tandem Lowstep** is done by reversing the sequence.

Important notes on safety!

- The handlebar stem and the upper seatpost should never be pulled out further than the safety mark which shows the maximum extension.
- The lower seatpost and the handlebar stem for the rear rider must be pushed right down while riding!
- Mounting sprung saddles or seatposts is not permitted!
- The maximum payload including two riders is 260kg.
- Your **BERNDS-Folding Tandem Lowstep** is suitable for riders between 1.40 and 2.10m tall. If your height or weight exceed the stated maximum, please get in touch with us.
- Carry luggage only in the bags and baskets intended for the purpose which are correctly fastened and only up to their stated maximum weight. Our accessory range includes a wide selection of individual solutions.
- Children may only be transported on an approved and correctly mounted child seat.
- Follow the applicable national regulations! In Germany **BERNDS-Folding Tandem Lowstep** only complies with the traffic regulations when provided with an approved lighting system which is available as an accessory.
- Manipulating the forks and frame, such as engraving registration numbers, may lead to fracturing the frame and is not permitted.

Maintenance and inspection

After roughly the **first 200 km**, your **BERNDS-Folding Tandem Low-step** should have its first inspection made by a bicycle mechanic, during which the following points in particular should be observed:

- The spokes on the road wheels settle into place; for this reason they should be checked and the wheels centred again if necessary.
- We build in high-quality bolts and fixings. Nevertheless, all bolts should be checked to see they are sitting firm.
- Bowden cables tend to stretch so gears and brake settings should be checked.
- The synchronising chain which joins the two bottom brackets has to be tightened from time to time. To do this, the eccentric in the front bottom bracket should be loosened with an 8 mm Allen key, and the bottom bracket in the eccentric rotated forwards. The chain should be just tight enough so that in the middle, between the bottom brackets, it can be pushed down about one finger width. This low tension is all that is necessary in order to compensate for normal torsion in the frame. The synchronising chain must be assembled in such a way that both pairs of pedals are synchronised!

We should point out that many components on a bicycle are subject to wear and tear and so must be regularly serviced or replaced. These include tyres, brake pads, brake cables, chainwheels and sprockets, wheel rims, handgrips, the saddle, the bearings on wheels and the bottom bracket. Depending on use, these parts must be serviced at regular intervals and replaced when they reach their individual limit of wear. **Consequently, BERNDS recommends making a regular inspection every 2 000 km, and at least once a year.**

Instructions for care

- Make sure that the folding seatpost is lubricated and free of dirt. It must be easy to pull out and push in again.
- Frame and attachments: Remove dirt with a soft, damp cloth. Do not use detergents containing solvents or abrasive cleaning products such as scouring powder or steel wool.
- Take care of the chain by cleaning it regularly with a commercial cleaning product and then apply chain lubricant.
- Do not use a high-pressure cleaner under any circumstances!

Warranty

BERNDS gives a **lifetime warranty** on the **frame**. This applies to the **registered first owner** and on the condition that regular inspections are carried out by a dealer as per the attached maintenance booklet.

On all other parts BERNDS gives a warranty as stipulated by legislation for a period of **two years** from the date of purchase. Damage due to natural wear and tear is excluded.

Mounting non-OEM parts, not specified by **BERNDS**, as well as repairs which are faulty, incomplete or not professionally carried out shall extinguish all claims under warranty.

BERNDS is not liable for incorrect use, e.g.: overloading, jumps, use in competitions, intentional behaviour and the consequences thereof which is in contravention of the law or of traffic regulations.

We recommend having **repairs and regular inspections** done by a **specialist dealer approved by BERNDS**.

Supplementary operating instructions

The following parts have their own operating instructions which you will receive separately at the time of purchase:

Gears:

- ☐ 8-gear derailleur
- ☐ 8-gear hub
- ☐ 3x8-gear DualDrive
- ☐ 14-gear hub

Manufacturer/Type

Brakes:

- ☐ V-Brake
- ☐ HS33
- ☐ disc brakes

Manufacturer/Type

Lighting system:

- ☐ bottle dynamo
- ☐ Shimano hub dynamo
- ☐ SON

Manufacturer/Type

Your BERNDS-Folding Tandem Lowstep at a glance

Steel frame made in our own factory*

Dimensions when folded 106x80x20cm with hinged joint

Rider height from 140cm up to 210cm

Step through height 29cm front / 39cm back

Rear sub-frame length 40cm

Top tube length 56cm front / 68cm back

Overall length 219cm **Payload** 260kg

Wheelbase 169cm **Weight** 20,5kg and upwards

Basic model

Powder coating 3 coats (primer, powder colour coating, clear lacquer), standard colour Diamond Black, other RAL colours at extra charge

Suspension rear wheel elastomer suspension (3 degrees of hard-ness available)

Bearings rear swingarm with self-lubricating, sintered brass bushing

Pedals high-quality ball-bearing type with non-slip rubber surface (optional fold or push-fit pedals)

Brakes V Brake (optional hydraulic wheel rim or disc brakes)

Tyres 20" Schwalbe Big Apple 50mm, 2-5 bar (others optional)

Wheel rims Aluminium U-profile 24mm 36-hole

Spokes 36 Nirosta, 2mm

Steerer race 1 1/8 inch sealed (BERNDS special)

Stem adjustable angle, 1 1/8 inch, different lengths optional

Handlebars Moon (other handlebars optional)

Seatpost patented, aluminium 29.8mm

Saddle Terry Citta (other saddles optional)

Please contact us for optional Foot stands and Mudguards.

Models of drive train

8-gear derailleur development 2.45m – 7.13m (48 tooth to 11-32), chain drive with freewheel

8-gear hub development 2.41m – 7.39m (42 tooth to 15), with back-pedal or freewheel (Premium hub)

3x8-gear DualDrive development 1.57m – 8.48m (42 tooth to 11-32), Sram DualDrive, 8-gear combined 3-gear hub

14-gear hub development 1.68m – 8.85m (48 tooth to 13), Rohloff SpeedHub

*Standard dimensions with 50mm width tyres, made-to-measure bikes deviate from these

Tips on tandem riding

Who does what: This is not a „must“, but makes good sense: if there is a considerable difference in weight, the heavier rider sits at the front for better weight distribution. Helpful tip: changing positions as a trial is the best way to see the ride from the other's point of view.

As the „**stoker**“ (or rear rider) you „only“ turn the pedals and have to take your cue as regards cadence and effort from the steersman. Please do NOT help to steer, do NOT lean outwards on bends and do NOT shift your weight abruptly or in an uncontrolled manner.

As the **steersman**, you are responsible for steering, braking, and changing gear, and also for obeying the traffic regulations. New-comers to tandem riding should get acquainted first of all with the behaviour of their **BERNDS-Folding Tandem Lowstep** on safe terrain with little traffic. Practice first of all without and then with the rear rider, especially riding on bends and correct braking.

Communication: Talk to each other! After a while you will intuitively act together, but bear in mind that from the rear, you see less than from in front. As steersman then, you should warn of sudden braking or evasive manoeuvres or of obstacles.

Getting on and setting off: The steersman gets on first, pulls up the right pedal to 11 o'clock and selects the appropriate gear. The rear rider follows and gives the steersman the signal to start.

Stopping: the better to be able to set off again, the steersman pulls a pedal up to 11 o'clock. The rear rider puts down his leg on the same side as the steersman.

Change gear where possible at the top of the pedal revolution; to start with, let your companion know when you intend to change gear so that both riders briefly take the weight off the pedals. Hub gears can be changed with the bike at a standstill or with the pedals stopped, which in urban traffic offers great advantages.

Braking: Practice emergency braking! In contrast to a single-rider bicycle, you can pull on the front brake until it locks without any danger of the bike flipping over.

On hills: Change down to a lower gear in time; ride with the highest possible pedalling rate to save your joints.

Downhill: Brake in time, brake on and off so that the brake system does not overheat. Avoiding keeping the brakes on lightly but constantly without releasing them. In principle, on tandems we recommend using disc brakes.

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