



Rohloff®

No slogans - 14 facts!





SPEEDHUB 500/14

14 Gears - 14 Advantages

"Quicker than the surf"

France 1994. The atmosphere at the "Tour de France" was exhilarating and working with the teams and mechanics was exciting too. Our Rohloff SLT-99 chan has proven a success with its reliability! So at last, a couple of quiet days on the Atlantic coast. Why not take the Mountain bike on the beach?! Crazy idea, yes! Riding exactly where the surf runs out! After just 200m, total stand still! The rear wheel is stuck fast in the wet sand. Changing the gears impossible! Derailleur gears won't work when you are stuck! The next wave came and both rider and bike received the first salt-water shower. Chain and sprockets are grinding full of fine sand. The next wave came - now nothing works. The waves were rolling in faster than we could change gears.

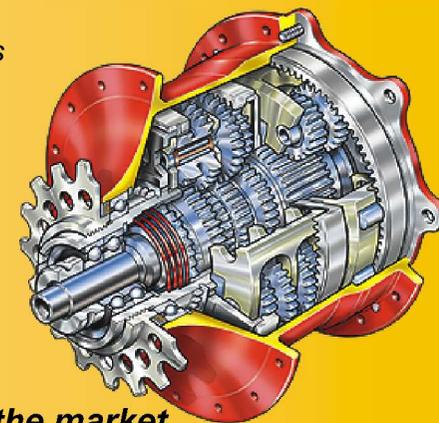
Still, it must feel great to have the waves roll out under the bottom-bracket. This idea didn't let go of me.

From now on the lights were burning bright and late into the night. The construction department in the Rohloff Company was working overtime. Successful gear changes and sprocket combinations were investigated. Mountainbike, downhill, touring and everyday riders were asked along with sports physicians: How many gears do you need and what has a gear hub got to be capable of in order to achieve maximum riding fun? 1997: findally we had our answer and put it to the test! Guess where...

The rear wheel is stuck fast in the wet sand. The first wave is coming. Change the gears down while stuck. 1st gear, gentle on the pedals, riding further - 2nd - 3rd - 4th... These gears are quicker than the surf!

30km of beautiful sandy beach lay ahead of us. It is a great feeling to have the waves roll out under the bottom bracket!

- 1. The 14-speed, high performance gear hub**
The modern efficient bicycle gear system - made in Germany
- 2. Is suitable for performance sports**
MTB, Downhill, Freeride, Dual and Marathon
- 3. Comfortable for everyday use**
City, Trekking, Fitness, Fun, Handbikes, Recumbants and Folding bikes
- 4. Proved successful for tandem use**
Tour, Off-road, High speed
- 5. Light running like a derailleur gear system**
Working efficiency of 95 - 99%
- 6. With the effective gear number of a derailleur gear system**
14 effective gears - no overlapping gears
- 7. Quicker and more positive shifting than all other systems on the market**
Shifting from gear to gear or over several gears in just one turn
- 8. With even increases between the gears**
Increases of 13.6% between all gears, 526% overall range of gears
- 9. Only one shifter for easy use**
Shifting gears whilst stationary and in all riding situations
- 10. Adjustment and maintenance free over thousands of kilometres**
Through modern gear technology and the encapsulated oil bath
- 11. Functional reliability and a long life like a Swiss watch**
Succesfully in use worldwide for the hardest of races and in the remotest regions
- 12. Is the lowest priced gear system for the active rider**
Maintenance costs over 10,000km: SPEEDHUB 500/14: 0.63 cent/km - Derailleur gears: 2.7 cent/km
- 13. An optimum weight / stability ratio of approx. 120g per gear**
27-speed derailleur system: approx. 100g per effective gear, 7-speed gearhub: approx. 250g per gear
- 14. An extremely stable wheel with just 32 spokes (clamp width of 135mm)**
Symmetrically built wheel with high hub flanges. Fits to nearly all bicycle frame types.



... NEW TIMES ... NEW DEMANDS ...

The right gear system plays a very important role in making bike riding fun. The difference between the largest and the smallest gears (range of gears) and the size of the increases between them play a large part in deciding which riding situation the gear system has been tailored to (e.g. High speed racing).

The size of the increases between gears will determine how smoothly the flow is from gear to gear. Tuning the range of gears, the number of gears and the increases between each of these gears will eventually define the riding fun. The shifting between gears in all riding situations (also whilst stationary) must then be made as light and intuitive as possible in order to maximise the riding fun.

When the range of gears lies over 500% and the increase between these gears lies under 15% but remains evenly spaced out, then the sports rider as well as the hobby rider has

the ability to change gears at the precise moment when needed, regardless of the current riding conditions and without changing the comfortable crank rotation speed. This is only possible with the **Rohloff SPEEDHUB 500/14**.

The diagram below shows a comparison between a 27-speed derailleur gear system and the **Rohloff SPEEDHUB 500/14**. There is no difference between the range of gears and the number of effective gears. Next to this is the optimum, evenly increased speeds of the **Rohloff SPEEDHUB 500/14**.

Impossible for the derailleur gear system is the shifting speed and the possibility of shifting through all gears with just one shifter whilst stationary or whilst pedaling.

Just like the derailleur system, the range of gears can be tailored to the riders individual wishes whether it be for a faster or a slower riding style.

... For Winners ...



Andreas Kofler and Petra Dibiasi achieved 2nd place in their class riding the Transalp Race.

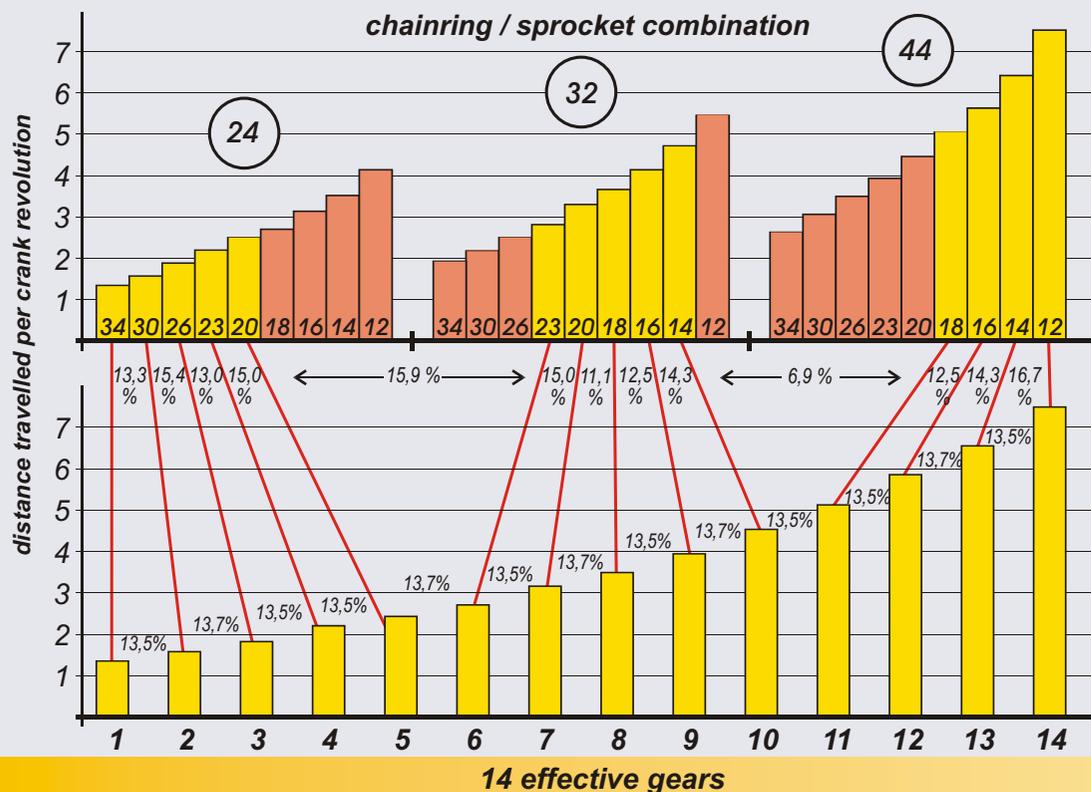


Christiane Rumpf, German downhill champion and winner of the extreme downhill race "Megavalanche".



Dirk Hentschel, winner of the European championship with his high-speed bicycle.

27 possibilities equals 14 different speeds (red gears are doublets)



MTB-drivetrain 27-speed

Range of gears 519%

chainrings 24/32/44
12-34 tooth cassette

gear range
from 1.45m - 7.55m
per crank revolution 26"



SPEEDHUB 500/14

Range of gears 526%

40 tooth chainring
16 tooth sprocket

gear range
from 1.44m - 7.56m
per crank revolution 26"

Success through ...

The possibilities of an alternative gear system had been thought over by Rohloff for a long time. All aspects of the derailleur system (low weight, high working efficiency, large range of gears, etc.) were held against with the known disadvantages like high maintenance, low level of dirt resistance, short wear time, etc.

As a result of plenty of years investigation and designing, the high performance gearhub with 14 gears was ready for testing at the end of 1996. After intensive research and development, the production could start in 1999. Since then, thousands of gear hubs have left the production line every year and at the end of 2002 there were approx. 20,000 **SPEEDHUB 500/14** in use worldwide.

Professional and hobby riders know and like the substantial properties: High reliability, easy use, optimal gear increases, wide range of gears, carefree and easy use, quick gear shifting, low weight and high working efficiency. This leaves no rider's wish unsatisfied.

Close to the technology of the car industry, the fully encapsulated gear mechanism runs within an oil bath to guarantee a long life for the hub even under extreme riding conditions.

The engagement of the gears is controlled within the hub itself, and so it runs adjustment and maintenance free. The even gear increases of 13.6% ensure that the rider can always ride to his/her optimum performance. The large overall range of gears (526%) ensures that there is always the correct gear available for every type of riding situation. Pure cycling fun is guaranteed!

The rider will enjoy the extraordinary technology for over thousands of kilometres. Only the typical humming of some gears in D major reminds of this special drive.

... variety with



SPEEDHUB 500/14

SPEEDHUB 500/14 CC (Cross Country)

With a quick release axle; pictured with external gear mech **EX** and **OEM** axle plate to support the torque on frames with OEM dropouts. It works in conjunction with a rim brake and is also available with the internal gear mech and/or the long torque arm to support the torque. The Q/R method of securing the hub to the bike frame allows a quick and tool free wheel removal even under race conditions.

Technology



SPEEDHUB 500/14 gearbox

The different types of the **SPEEDHUB 500/14** are based on a modular parts system. The main part is the 14-speed gearbox, which is constructed around a threaded **TS** or a Q/R **CC** axle. Every version of the **SPEEDHUB 500/14** is sold with either a long torque arm or an **OEM** axle plate to support the torque. It is also available with a hub cap for disk brake use. Each **SPEEDHUB 500/14** is available in silver (polished aluminium), red (RAL 3020, powder coated), or black (anodized). It comes with an internal gear mech with bayonet connectors or external (**EX**) cable box as shown above. Look up the best version for your bike under:

www.rohloff.de/speedhubsuche.

Tandem:

All hub versions are also for tandem use marked with a "T". They come equipped with 2.5m shifter cables and holes for 2.34mm diameter spokes.

SPEEDHUB 500/14 CC



SPEEDHUB 500/14 CC EX OEM silver

DB



SPEEDHUB 500/14 CC DB OEM2 black

SPEEDHUB 500/14 DB (Disk Brake)

Pictured with a quick release axle and a disk brake mount along with the **OEM2** axle plate. **DB** versions are also available as **TS** versions but all are delivered with the external gear mech. Due to the unique 4 hole disk mount, a special Rohloff brake disk will be needed.

OEM2 hubs are only delivered to bicycle manufacturers! For other customers, a replacement kit is available.

TS



SPEEDHUB 500/14 TS/red

SPEEDHUB 500/14 TS, (Threaded Spindle axle)

Pictured with the long torque arm and an internal gear mech. This version is for use in conjunction with a rim brake and is primarily for use on frames with open ended horizontal dropouts. **TS** hubs are also available as **DB** versions and/or with the **OEM** axle plate.

... and accessories that go with it ...



Twist shifter

The twist shifter is included in every original **SPEEDHUB 500/14** package. Because the engagement of the gears is controlled within the hub itself, the shifter needs no other form of indexing. For this reason, the twist shifter can be mounted on either side of the handlebars. The twist shifter allows a quick shifting between all gears in just one turn.

We recommend that an oil change is carried out every 5000km or at least once every year. For this reason we have produced an oil change kit (Art. No. 8410). This kit includes: 1x Oil-change assistant fluid, 1x all season oil complete with a 50ml syringe and an oil filling tube. Oil-change assistant fluid: Separate 25ml bottle (Art. No. 8402), 1l can (Art. No. 8405). All season oil: Separate 25ml bottle (Art. No. 8403), 1l can (Art. No. 8404).

Oil change kit



Chain tensioner

A chain tensioner is necessary if it is not possible to tension the chain by pulling back the wheel within the dropouts or by using an eccentric bottom bracket. The **SPEEDHUB 500/14 CC** and **CC DB** models include the **Rohloff** chain tensioner as part of the original package. The **Rohloff** chain tensioner is also available separately when needed (Art.No. 8250).

Chainguide CC

The **Rohloff** Chainguide CC (Art. No. 8260) completely prevents the chain from springing off the chainring. When just riding normally with a chain tensioner in use, it is possible that the chain might momentarily lose its tension and springs off the chainring. The Chainguide CC is definitely necessary on all full-suspension bikes and for off-road use.



Brake-discs

Due to the unique 4 hole mounting pattern, a **DB** version will require the use of special **Rohloff** brake discs. These are available for nearly any type of disc brake currently on the market. Please state the type of brake, the diameter and the thickness of the disc at the time of placing the order.

OEM2 axle plate / SPEEDBONE

Frames with disc brake mounts of international standard (IS2000) can replace the use of the long torque arm with an **OEM2** axle plate (CC Art. No. 8227 or TS Art. No. 8550) and a support bolt. For use in conjunction with a disc brake, a **Rohloff** **SPEEDBONE** (Art. No. 8228) or a **SPEEDBONE** Gustav M (Art. No. 8551) must also be mounted. The use of these components without the approval of the frame manufacturer is at the users own risk.



DH Chain tensioner and DH Chainguide

The **Rohloff** **DH Chain tensioner** (Art. No. 8245) is specially designed for use in extreme downhill conditions. Through the design of the **Rohloff** **DH chain tensioner**, it is guaranteed that the chain runs safe onto the sprocket under extreme riding conditions.

The **Rohloff** **DH Chainguide** (Art. No. 8291) eliminates the chance of the chain falling off the sprocket and onto the hub shell.

The **Downhill Kit** (Art. No. 8293) includes both parts.

... for adventure ...



Tilmann Waldthaler: Over 25,000 kilometers use with the Rohloff **SPEEDHUB 500/14** riding from Alaska to Patagonia. Info: www.tilmann.com



Peter Smolka has ridden over 40,000 kilometers to date with his Rohloff **SPEEDHUB 500/14** around the world. Info: www.lemlem.de



Andreas von Heßberg and Waltraud Schulze: From Greenland's ice to Sahara's sand, riding in the extremest regions of the world. Info: www.mountainbike-expedition-team.de



Around the chain ...

Rohloff stands for technological developments. As an innovative family business it regularly enriches the bicycle gear technic with new inventions. All Rohloff products are especially suitable for extreme riding conditions due to their better functionality, high reliability and extreme durability.

The Rohloff GmbH was established in 1986 by Bernhard and Barbara Rohloff to produce and market the High Reliability Chain S-L-T 99.



The chain building machine "The green monster" is still at the center of the High Reliability Chains' finishing process for all 8- and 9-speed S-L-T 99 chains.



The use of our chains at the Tour De France helped the Rohloff S-L-T 99 to become internationally known. Since then, great sporting achievements have been accomplished every year thanks to the reliability of this chain. Plenty of extreme travellers riding extreme tours and expeditions through the ice of Greenland and the Sahara sand have put their faith behind the quality and long life of all the Rohloff products.

Rohloff would like to express their thanks to all their riders for the great and successful teamwork, without them it would be impossible for further development of Rohloff high reliability products.

All employees of Rohloff are active bike riders themselves and represent the future customers directly.



S-L-T 99 High Reliability Chain

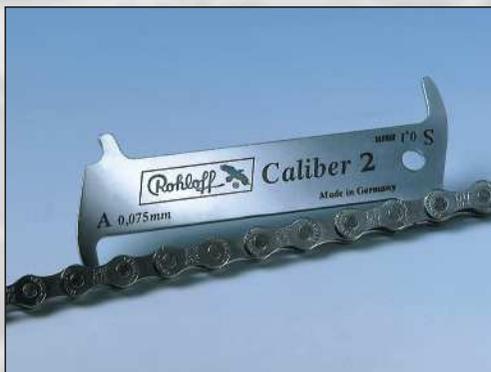
The Rohloff S-L-T 99 chain with its patented hyper link construction is still the standard to reach for derailleur gear chains. Thanks to further developments, it is now available for use with all gear systems currently on the market. The following variations are available:

- S-L-T 99 Road, 8-speed, 114 links, 7.1mm in width (Part No. 1000)
 - S-L-T 99 ATB, 8-speed, stronger pin riveted, 116 links., 7.1mm in width (Part No. 1400)
 - S-L-T 99 Trial, for Trial sport, extremely strong pin riveted, 110 links. 7.1mm in width (Part No. 1500)
 - S-L-T 99 Road, 9-speed, 114 links, 6.8mm in width (Part No. 1600)
 - S-L-T 99 ATB, 9-speed, stronger pin riveted 116 links, 6.8mm in width (Part No. 1700)
- For the admireres and winners**
- S-L-T 99 24-carat, 114 links, for 9-speed, 24 carat gold plated (Part No. 7000)
 - S-L-T 99 24-carat, 114 links, for 8-speed, 24 carat gold plated (Part No. 7001)



Revolver 2 Chain riveting tool

Experience in professional sports shows that the simple joining together of a chain considerably weakens the chain in this specific position. The universal chain riveting tool Rohloff Revolver 2 (Part No. 2100) is to date the only tool which can press the pins back into their original position with the correct pressure of 1.5 tonnes to secure the joint properly. The Revolver 2 is suitable to re-rivet any 8-, 9-, and 10-speed gear chains securely. According to the manufacturers information either any chain pin can be used or a special pin must be ordered from the manufactures themselves in order to re-rivet the chain.



Caliber 2 Chain wear indicator

An easy to use precision measuring tool that shows exactly when a chain has reached the wear line and must be replaced. The Rohloff Caliber 2 is able to show the point of replacement for all 8-, 9-, and 10-speed gear chains (Part No. 3000).

... Service and care against the teeth of time ...



HG-IG-Check Sprocket wear indicator

Due to the especially high level of load in MTB sport (extremely high chain force, gear-shifting under pressure, etc.) the chain causes the sprockets to wear quicker. To ensure a safe operation of the chain the wear of the sprockets must also be registered. This is made easily possible with the use of the **Rohloff HG-IG-Check** sprocket wear indicator. This tool is only suitable to measure the wear of HG and IG sprockets (Part No. 3100).



Oil of Rohloff Chain lubricant

According to the **Rohloff** - philosophy to constantly offer products of the best quality an oil was developed to withstand the high level of pressure, dirt and moisture within the chain links and also to remain environmentally friendly "biologically quick to decompose". Used economically on the chain or with the help of the **Rohloff Lubmatic**, the **Oil of Rohloff** is to date the optimum chain care.

The 50ml bottle is refillable in all good local bike stores.
(50ml: Part No. 4200/ 1litre: Part No. 4202/ 5litre: Part No. 4201/ Pump: Part No. 4300).



Lubmatic Mobile lubrication

Especially suitable for all weather riders.

In order to lengthen the life of the chain, it should always be lubricated when necessary. The **Rohloff Lubmatic** (Part No. 4030) is mountable on nearly all bicycles which use derailleur gears or a **SPEEDHUB 500/14** and enables the chain to be relubricated even during the ride. The special sealed bearing jockey wheels are also available separately (Part No. 4100).

Every new development undergoes a critical examination. Only once our downhill, our dirt, our mountain, and our everyday riders are happy with the product, we will put it into production.

The high quality of all **Rohloff** products is ensured by the special commitment and enthusiasm of our staff. Experience gained over time allows us to improve bicycle technology, solve known problems. Also the joy of development and the courage to explore a new territory will ensure that in the future **Rohloff** will broaden the market with interesting new developments.



**No slogans
just facts!**



The **Rohloff** company logo is a flying raven. The logo came to life, when in March 1995 a baby raven fell out of its nest and was nurtured back to health by the company staff. Due to the tricks it played upon people, it became famous among the neighbourhood. Since then, other ravens in the area find sanctuary in and around the company premises.

If you would like more information, you are invited to visit us at the annual **SPEEDHUB-Festival**. This is held at the beginning of June every year in Kassel, Germany.



Further information on the web under:
www.rohloff.de



SPEEDHUB 500/14

Any time ... the right drive

winning time



rapid times



having time



taking time



sharing time



time to overcome



moving times



brake time limits



comfortable times



modern times



Rohloff AG

**Mönchswiese 11
D-34233 Fulda**

**Fon +49 (0)561 51 08 00
Fax +49 (0)561 87 53 38**

**e-mail: service@rohloff.de
online: www.rohloff.de**