

## Technical data

<b>Principle</b>	The <b>mountain-drive</b> unit comes ready for installation, including chainring of your choice (extra charge for chainrings larger than 48 teeth), a pair of crankarms, and detailed installation instructions.
<b>Shifting</b>	Direct shifting via push buttons or "easy-shift" - levers on both ends of the spindle. No cables, no rods.
<b>Easy-shift levers</b>	As an option, there are "easy-shift" - levers available, which make shifting very simple, even with click-in pedals or small shoes.
<b>Gear housing</b>	Corrosion resistant, completely encased and protected against dust and spray water.  Two different models are available: <b>speed-drive model 08:</b> exchangeable chainrings (made of hardened steel) with 27, 28, 30, 32, 34, 36, 38, 40, 42t., hold by a circlip <b>speed-drive BCD110:</b> 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 53t. (34 - 42t. made of hardened steel, 44 - 53 aluminum). Chainrings with 5 holes and bolt circle diameter (BCD) 110mm  Please notice: if you want to use standard BCD110-chainrings, the inner diameter has to be turned out to 96mm (instead of 94mm of standard chainrings).
<b>Axle</b>	Rides on (replaceable) cartridge bearings. You can expect a lifetime of more than 20'000 miles for the bearings and much more for the <b>speed-drive</b> .
<b>Axle length</b>	Standard is 138mm for bottom bracket widths of 68- 73mm.
<b>Bottom brackets</b>	The <b>speed-drive</b> unit is designed for an inner diameter of the bottom bracket shell of 33.6 - 34.5mm. The <b>speed-drive</b> part, which is slid into the b.b., has no thread. It is perfectly centered by conical rings. The bottom bracket has to be chamfered on both sides at 45°.
<b>Chainline</b>	Distance between centerline of frame and midline of chain: 42, 44 or 49mm. For 42mm, please ask for 2mm spacers, which can be set between spider and chainring. The chainring can be fitted at the outer side of the spider (-> chainline 49mm) without a special spider (the <b>speed-drive</b> spider is part of the steel gearing house).
<b>Compatibility</b>	Generally, you can combine any bicycle gearing system with <b>speed-drive</b> . For heavy use such as for Long Johns, rikschas, tandems, please use hubs, which are designed for tandems. These are 3- and 5-speed - SRAM - hubs. With 7-speed-hubs from SRAM, Shimano hubs and all types of chain derailleur systems no problems have been reported in the past couple of years, when thousands of <b>speed-drive</b> - systems have been combined with many different gearing systems. You can combine <b>speed-drive</b> with the Rohloff 14-speed hub. All <b>speed-drive</b> - systems may be combined with coaster brakes.

<b>Cranks</b>	<p>Crankarms sit conventionally on square spindle sections. Standard length is 170mm Material: aluminum Available as an accessory are the following cranks: 155mm (straight shape), 160, 165, 170, 172.5 and 175 (all off-set shape. Other sizes on request. For the standard straight 170mm crank, "easy-shift" - levers are available, which are simply clamped between pedal and crankarm and can be retrofitted to any <b>speed-drive</b>.</p>
<b>Chainrings</b>	<p><b>speed-drive model 08</b>: 27, 28, 30, 32, 34, 36, 38, 40, 42t. <b>speed-drive BCD110</b>: 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 53t.</p>
<b>Trouser guards</b>	<p>We offer high quality aluminum trouser guards for all chainring sizes.</p>
<b>Weight</b>	<p>Including spindle, bearings and spider, excluding chainring and cranks: 790g (46 tooth chainring with chainring bolts: 90g, cranks 220g each). Please compare the total weight of <b>speed-drive</b> with the total weight of a triple chainring set including shifter, cable, derailleur. Example: Shimano Altus (48/38/28 teeth): weight incl. right crankarm: 1255g</p>
<b>Efficiency</b>	<p>High quality planetary gearing systems have efficiencies of about 95 - 97%. By using only the best technology for gears, bearings and lubrication, we try to get to the highest possible level. The possibility to easily lubricate the <b>speed-drive</b> gearing system guarantees to keep this high level for lifetime.</p>
<b>Load</b>	<p><b>speed-drive</b> can be used for tandems.</p>
<b>Delivery</b>	<p>The <b>speed-drive</b> unit comes ready for installation, including chainring of your choice (extra charge for chainrings larger than 48 teeth), both crankarms, detailed installation instructions.</p>