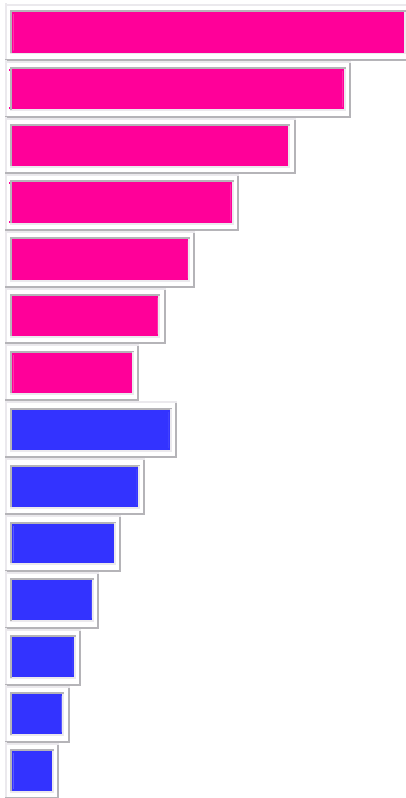


# Function and effect

## 1. Function



With **speed-drive** eliminate those hard-shifting large chainwheels and get more speed or slower cranking speeds at the touch of a button - with your heel or ankle! No cables, no derailleurs.

**speed-drive** doubles the existing gears (blue bars). You get higher gears (red bar)

## 2. How to shift?



It's so easy: push with the heel of your shoe either on the right or on the left side of the axle on the push button to change from high to low gear or vice versa! That's all!



The new easy-shift levers make shifting a real pleasure - even with clic-in-pedals or small shoes.

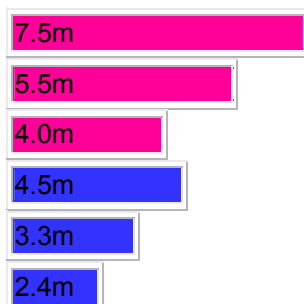
### 3. Effect

Introduction: What are "meters per revolution", what are "gear inches"?"

Gear inch is an archaic measurement that dates back to the days of the high wheel bicycle. It was designed to measure the high wheel diameter needed in order to travel a given distance with one revolution of the cranks.

In Europe, it is common to give the development (=distance in meters) which is traveled by one revolution of the crank.

In the diagrams below, you find meters per revolution of the axle.



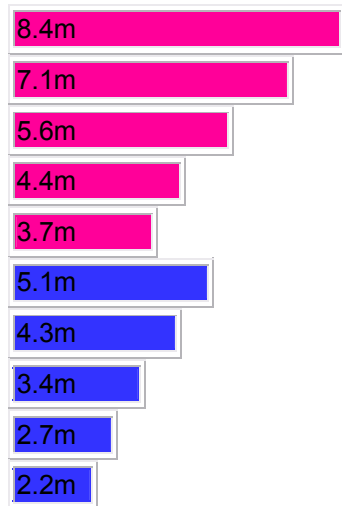
Gear range: 307%

#### 3-speed hub + *speed-drive*

The blue bars show the development (in meters) resp. the inch gears of a 3-speed bike.

The red bars show the additional 3 speeds, if *speed-drive* is engaged. A gear range of **307%**.

(Example: 27 tooth chainring, 18 tooth rear cog, 700C rear wheel)



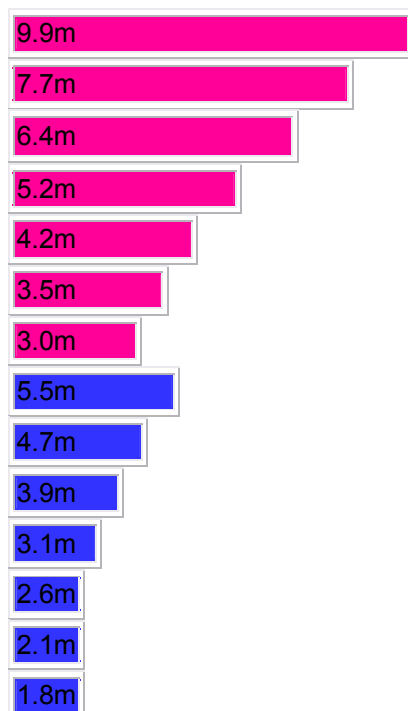
Gear range: 370%

### 5-speed hub + *speed-drive*

The blue bars show the development (in meters) resp. the inch gears of a 5-speed bike.

The red bars show the additional 5 speeds, if *speed-drive* is engaged. A gear range of **370%**.

(Example: 27 tooth chainring, 18 tooth rear cog, 700C rear wheel).



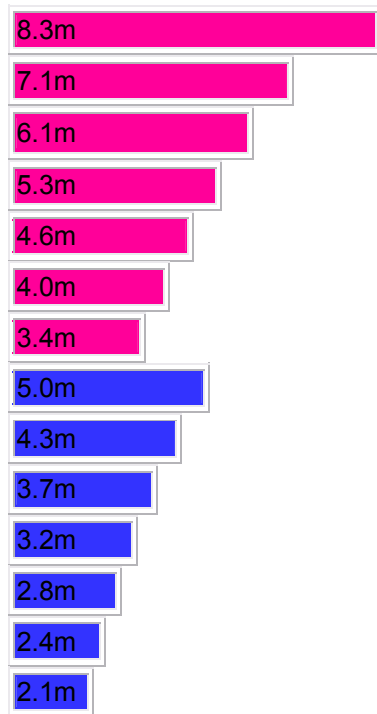
Gear range: 504%

### 7-speed hub SRAM Spectro 7 + *speed-drive*

The blue bars show the development (in meters) resp. the inch gears of a 7-speed bike, equipped with SRAM Spectro 7-speed rear hub.

The red bars show the additional 7speeds, if *speed-drive* is engaged. A gear range of **504%**.

(Example: 36 tooth chainring, 18 tooth rear cog, 700C rear wheel)



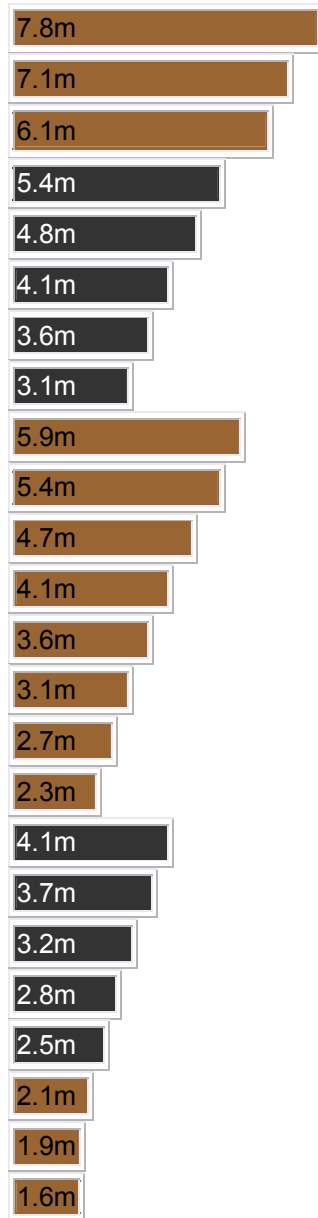
Gear range: 403%

### 7-speed hub Shimano Nexus 7 + *speed-drive*

The blue bars show the development (in meters) resp. the inch gears of a 7-speed bike, equipped with Shimano Nexus 7-speed rear hub.

The red bars show the additional 7speeds, if *speed-drive* is engaged. A gear range of **403%**.

(Example: 38 tooth chainring, 18 tooth rear cog, 20" rear wheel)



**Comparison: 24 speed derailleurs system.**

(Example: triple chainrings 42/32/22, cassette 28/24/21/18/16/14/12/11, rear wheel 26")

Several gears (see black columns) are provided in two- or threefold.

Gear range: 486%

#### **4. calculate "development" and "inch gears"**

For the calculation, you need the following details:

- Tooth number of the chainring
- Tooth number of the rear cog
- Circumference of the rear wheel (= diameter \* 3.14)

You get the "development" by the following formula:

**Tooth number of the chainring / tooth number of the cog x circumference of the rear wheel (in meters)**

You get the "inch gears" by the following formula:

**Tooth number of the chainring / tooth number of the cog x circumference of the rear wheel (in inches) / 3.14**

For a derailleur system, calculate all gears according to the formula above. For a rear hub, multiply all results with the internal factors of the hub.

**You find an easy to handle chart on → Product → Schlumpf Drive.**