



Singlespeed Spacer Kit Instructions

Hi there. Thanks for spending your hard-earned cash on this Surly product. Surly stuff is designed to be useful and durable. We're confident it will serve you well for years to come.

Our single-speed conversion kit is designed to work on a Shimano® or Shimano-compatible 8-, 9-, 10-, or 11-speed freehub body. Like other kits of this nature, the Surly conversion kit replaces the stock multi-speed cassette with the cog of your choice (purchased separately) and some spacers. But rather than just sell you a big bag of generic spacers, we spent the time to crunch the numbers and found a way to produce a clean, adjustable, affordable method of performing this conversion that hits all conceivable chainlines without too much fluff. The icing is that we top our kit off with a custom stainless steel lockring that matches the spacer OD, looks great, and like all Surly products, is built to last.

⚠WARNING: Cycling can be dangerous. Bicycle products should be installed and serviced by a professional mechanic. Never modify your bicycle or accessories. Read and follow all product instructions and warnings including information on the manufacturer's website. Inspect your bicycle before every ride. Always wear a helmet.

⚠WARNING: A wheel attachment device that is not properly secured can allow the wheel to loosen or come off, suddenly stop the wheel, decrease your control, and cause you to fall.

Intended Use

Our single-speed spacer kit allows you to use single-speed cassette cogs on the freehub body of your multi-speed Shimano cassette-compatible hub.

Parts Included

- Six spacers of varying widths
- Surly lockring

Tools Required

- Tape
- Fine tip pen
- Ruler/Tape measure or caliper
- Waterproof grease
- Shimano-compatible cassette lockring tool
- Torque wrench

Installation

⚠WARNING: Failure to consider and achieve good chainline when setting up your drivetrain can result in excess drivetrain noise, premature wear of components, thrown chains, and a crash with serious injuries.

1. Gather parts included.
2. Remove existing parts as necessary
3. Know your chainline. Your chainring, rear cog, and chain should be in the same plane and in perfect alignment with each other to function properly; the relationship of the front chainring to the rear cog should be such that the chain moves from one to another in a straight path that is perfectly parallel to the bicycle's center line.

By stacking the provided spacers in one of many configurations, you can easily position the rear cog on the freehub body to achieve perfect chainline. While it is possible to line up the kit's spacers and your cog by estimation and "eyeball" your chainline, doing the job mathematically can be a quicker and more accurate method depending on the tools, reference materials, and skills you have. Either way, we still recommend that you look at the chart in Step 4.

As a number, chainline is the distance from the center of the bike to the center of the cluster of chainrings you are using (in this instance the "cluster" is just one chainring). If you have access to the technical specifications on your crankset, the manufacturer usually provides this information. But it is only useful here if you are a) using the crank manufacturer's specified bottom bracket, b) installing this kit using a crank that was originally built with just one chainring, or c) on a triple crank with one ring installed in the middle position. Because most of us pirate double or triple cranks for use with our single-speed bikes and put the rings in different places, the best way to find your chainline number is to measure it.

To measure it, first make sure the bottom bracket, crank, and chainring are installed and properly torqued on the bike. Find the center of your downtube or seat tube and mark it with tape or a fine-tip pen. Now, simply measure the linear distance from that point to the very center of the chainring teeth. Take care to keep your measuring tool parallel to the bottom bracket axis. This number is your chainline measurement. In the following photo, the chainline is approximately 49mm.

- At this point, you've looked up your chainline, measured it, or decided to "eyeball" it. This chart takes your chainline information and shows you which spacers to put where to achieve the chainline you need. Just look for the closest matching number and stack 'em up. A few notes on the chart:
 - Chainlines for road and mountain cranks and hub spacings have been considered/included. See the appropriate column
 - Surly cogs are 4.35mm wide. All chainlines in the chart are based off of this. Add the extra 2.5mm spacer provided next to your thinner (1.8mm- 2.0mm) cog as necessary, so these calculations will still apply
 - Surly cogs have the teeth offset to one side, as this gives you the ability to fine-tune the chainline even more. This feature has been included in the chart for your reference
 - Common road bike and MTB chainlines are in bold for easy finding if you happen to have those numbers from your crankarm manufacturer



CHAINLINE & SPACER CHART

This chart is as basic or involved as you want it to be. As you can see, there are lots of combinations. To simplify, know that a smaller chainline number puts you closer to the center of the bike, and a larger number moves you further out toward the edge of the bike. For example, if you've lined it up and know you need to move the cog outward a few mm to get everything straight, just find a number on the chart that is a few mm larger than what you have and assemble the spacers and cog onto the freehub body accordingly. This information is especially helpful if you are doing the "eyeball" trial-and-error method.

NOTE: If using an 11-speed freehub body, use an additional 2mm spacer (usually included with your hub) in the first position to account for additional freehub body length. Freehub body dimensions can vary slightly, additional spacers may be necessary.

Zero Spacers Inboard

COG POSITION	SPACER POSITION					TOTAL	CHAINLINE	CHAINLINE	CHAINLINE	CHAINLINE
1	2	3	4	5	6		w/ 135mm hub, cog offset inboard	135mm hub, cog offset outboard	130mm hub, cog offset inboard	130mm hub, cog offset outboard
4.35mm	2.1mm	2.5mm	5.0mm	9.5mm	12mm	35.45mm	28mm	30.35mm	25.5mm	27.85mm

One Spacer Inboard

SPACER	COG POSITION					TOTAL	CHAINLINE	CHAINLINE	CHAINLINE	CHAINLINE
2.1	2	3	4	5	6		w/ 135mm hub, cog offset inboard	135mm hub, cog offset outboard	130mm hub, cog offset inboard	130mm hub, cog offset outboard
2.1mm	4.35mm	2.5mm	5.0mm	9.5mm	12.0mm	35.45mm	30.1mm	32.45mm	27.60mm	29.95mm
2.5	4.35	5.0	9.5	12.0	2.1	35.45	30.5	32.85	28.0	30.35
5.0	4.35	9.5	12.0	2.1	2.5	35.45	33.0	35.35	30.50	32.85
9.5	4.35	12.0	2.1	2.5	5.0	35.45	37.5	3.85	35.0	37.35
12.0	4.35	2.1	2.5	5.0	9.5	35.45	40.0	42.35	37.50	39.45

Two Spacers Inboard

SPACER	COG POSITION					TOTAL	CHAINLINE	CHAINLINE	CHAINLINE	CHAINLINE
2.1	2	3	4	5	6		w/ 135mm hub, cog offset inboard	135mm hub, cog offset outboard	130mm hub, cog offset inboard	130mm hub, cog offset outboard
2.1	2.5mm	4.35mm	5.0mm	9.5mm	12.0mm	35.45mm	32.6mm	34.95mm	30.10mm	32.45mm
2.1	5.0	4.35	9.5	12.0	2.5	35.45	35.1	37.45	32.60	34.95
2.1	9.5	4.35	12.0	2.5	5.0	35.45	39.6	41.95	37.10	39.45
2.1	12.0	4.35	2.5	5.0	9.5	35.45	42.10	44.45	39.60	41.95
2.5	5.0	4.35	9.5	12.0	2.1	35.45	35.5	37.85	33.0	35.35
2.5	9.5	4.35	12.0	2.1	5.0	35.45	40.0	42.35	37.50	39.85
2.5	12.0	4.35	2.1	5.0	9.5	35.45	42.50	44.85	40.0	42.35
5.0	9.5	4.35	12.0	2.1	2.5	35.45	42.50	44.85	40.0	42.35
5.0	12.0	4.35	2.1	2.5	9.5	35.45	45.0	47.35	42.50	44.85
9.5	12.0	4.35	2.1	2.5	5.0	35.45	49.50	51.85	47.0	49.35

Three Spacers Inboard

SPACER	COG POSITION					TOTAL	CHAINLINE	CHAINLINE	CHAINLINE	CHAINLINE
2.1	2	3	4	5	6		w/ 135mm hub, cog offset inboard	135mm hub, cog offset outboard	130mm hub, cog offset inboard	130mm hub, cog offset outboard
2.1	2.5	5.0	4.35	9.5	12.0	35.45	37.60	39.95	35.10	37.45
2.1	2.5	9.5	4.35	12.0	5.0	35.45	42.10	44.45	39.60	41.95
2.1	2.5	12.0	4.35	5.0	9.5	35.45	44.60	46.95	42.10	44.45
2.1	5.0	9.5	4.35	12.0	2.5	35.45	44.60	46.95	42.10	44.45
2.1	5.0	12.0	4.35	2.5	9.5	35.45	47.10	49.45	44.60	46.95
2.1	9.5	12.0	4.35	2.5	5.0	35.45	51.60	53.95	49.10	51.45
2.5	5.0	9.5	4.35	12	2.1	35.45	45.0	47.35	42.50	44.85
2.5	5.0	12.0	4.35	2.1	9.5	35.45	47.50	49.85 (50)	45.0	47.35
2.5	9.5	12.0	4.35	2.1	5.0	35.45	52.0	54.35	49.50	51.85
5.0	9.5	12.0	4.35	2.1	2.5	35.45	54.50	56.85	52.0	54.35

CHAINLINE & SPACER CHART CONTINUED

Four Spacers Inboard

SPACER	COG POSITION					TOTAL	CHAINLINE	CHAINLINE	CHAINLINE	CHAINLINE
2.1	2	3	4	5	6		w/ 135mm hub, cog offset inboard	135mm hub, cog offset outboard	130mm hub, cog offset inboard	130mm hub, cog offset outboard
2.1	2.5	5.0	9.5	4.35	12.0	35.45	47.10	49.45	44.60	46.95
2.1	2.5	5.0	12.0	4.35	9.5	35.45	49.60	51.95	47.10	49.45
2.1	2.5	9.5	12.0	4.35	5.0	35.45	54.10	56.45	51.60	53.95
2.1	5.0	9.5	12.0	4.35	2.5	35.45	56.60	58.95	54.10	56.45
2.5	5.0	9.5	12.0	4.35	2.1	35.45	57.0	59.35	54.50	56.85

Five Spacers Inboard

SPACER	COG POSITION					TOTAL	CHAINLINE	CHAINLINE	CHAINLINE	CHAINLINE
2.1	2	3	4	5	6		w/ 135mm hub, cog offset inboard	135mm hub, cog offset outboard	130mm hub, cog offset inboard	130mm hub, cog offset outboard
2.1	2.5	5.0	9.5	4.35	12.0	35.45	47.10	49.45	44.60	46.95

- Install spacers and lockring. Slide the spacers and cog onto the freehub body in the order determined in steps 3 & 4. Put a little dab of waterproof grease on the lockring threads and knurling, and install the lockring hand-tight. Using a Shimano-compatible cassette lockring tool and torque wrench, tighten the lockring to 30–50 Nm (260–430 in-lb). Remember that there is no substitute for a good pair of eyes. The numbers can seemingly lie sometimes. Always double-check your chainline by eye. Check that the lockring is properly torqued and that the cog and spacers don't rattle or move around; everything should be tight. Re-organize and re-install the spacers and lockring as necessary.
- Assemble your bike, lube the drivetrain, pump up the skins, and hit it.

Limited Warranty

This Surly product is warranted against defects in materials and workmanship for one year from the date of retail purchase of the product, subject to the limitations detailed below. Save your dated receipt for proof of purchase.

This warranty does NOT cover the following:

- Damage due to improper assembly or follow-up maintenance or lack of skill, competence or experience of the user or assembler
- Products that have been modified, neglected, used in competition or for commercial purposes, misused or abused, involved in accidents or anything other than normal use
- Installation of components, parts or accessories not originally intended for or compatible with Surly product as sold
- Damage or deterioration to the paint, surface finish, aesthetics or appearance of the product
- Normal wear and tear
- Labor required to remove and/or refit and re-adjust the product within the bicycle assembly

This limited warranty is expressly limited to the repair or replacement of a defective product, at the option of Surly, and is the sole remedy of the warranty. This limited warranty applies only to the original purchaser of the Surly product and is not transferable. This warranty applies only to products purchased through an authorized dealer or distributor. In no event shall Surly be liable for any loss, inconvenience or damage, whether direct, incidental, consequential, or otherwise resulting from breach of any express or implied warranty or condition, of merchantability, fitness for a particular purpose, or otherwise with respect to our products except as set forth herein.

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