

DIRTY BIKE

Primary Chain Drive Buyer's Guide

Why upgrade to a chain drive? First off, in off-road conditions a drive belt can fail much sooner than a chain, especially if you ride in sandy, muddy, or rocky terrain. No one wants to be that guy, stuck in the woods with a broken belt.

At **DIRTYBIKE** we have several kits available. We have 420 X-ring chain kits, 219H chain kit and several 219H kits with super high quality RK sealed O-ring and non O-ring chains. It can get a little confusing, so we are here to help you choose which primary chain drive system is right for you and your ride.

There are two available chain sizes, 420 and 219. The main difference between the two is the amount of roller links. The 420 chain has fewer, larger links so they are super strong, and with an included master link they are easy to replace. The 420 chain is available as a sealed x-ring style. This chain uses sealing rings to keep out dirt and makes the chain last significantly longer. The 219H chain has more, smaller links making it run cooler and much quieter. The 219 chain must be installed on the bike at the same time as the sprockets making installation slightly more difficult.

A connecting link (master link) can make it more convenient to replace the chain since you will not have to remove the swing arm to do the job, but the tradeoff is that a connecting link can fail. Especially if it is reused or installed in the wrong direction.

PRIMARY CHAIN DRIVE KITS

420 Standard - Least expensive kit. It does a great job, but it is the loudest of the three and requires frequent lube and adjustment. Includes a connecting link.

420 Sealed X-ring - Great choice for sandy/muddy conditions, it is quieter than the standard chain, requires less lubing and lasts longer but robs a little power due to the friction of the x-rings. Includes a connecting link.

219H with Standard KMC chain - Much quieter and lighter than the 420 kits (20% lighter than stock belt system) but does require lubing more often. Our 219H endless chain (no master link) runs cooler, giving great durability reliability and resistance to stretching.

219H with RK chain – This is the best 219 racing chain in the world! RK has won over 50 world karting titles using this chain. This high quality, pre-stretched, non o-ring chain offers the lowest rolling resistance and is 20% lighter than the stock belt system but does require more frequent lubrication.

219H with Sealed RK o-ring chain – This is the best 219 chain in the world! RK has won over 50 world karting titles using this chain. This high quality, pre-stretched sealed o-ring chain is the longest lasting, quietest kit we offer requiring the least amount of maintenance.

	Sealed Chain	Master Link	Noise	Durability	Maintenance
420 Standard	No	Yes	Most	Great	More
420 X-ring	Yes	Yes	Less	Best	Less
219H Standard	No	No	Low	Good	More
219 RK non o-ring	No	No	Low	Great	More
219H RK o-ring	Yes	No	Lowest	Best	Less
219H Gear Reduction	No	No	Low	Good	More

Recommendations

<i>Recommend</i>	<i>For</i>
219H standard	On road and light off road with stock power
219H RK O-ring and non O-ring kits	On road and off road up to 15Kw
420 x-ring	Off road over 15Kw
420 Standard	Too loud, we don't recommend it. You will just bitch about the noise and say our kits suck on social media.

DIRTY BIKE

Primary Chain Drive Installation

The Installation and adjustment procedure is very similar to the stock belt system with a few exceptions:

All db primary sprockets should be mounted with the writing facing away from the motor. Follow the included instructions. If they are mounted incorrectly, they will be severely misaligned. This will cause a lot of noise, premature wear and even failure.

Alignment

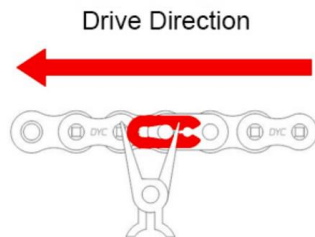
To check the alignment, install the new sprockets on the motor and the intermediate shaft. Install the intermediate shaft without the chain and tighten the swing arm bolt and motor mount bolts. Lay a straight edge on the rear sprocket and see where it contacts the front sprocket.



If the alignment gap at the front sprocket is off by more than 1mm, add or remove the shim to bring it back into alignment. Some bikes using the 420 kit will require the alignment shim and some will not. The 219 kit seem to not need it for two reasons: 1) We designed it in house to fit without the use of a shim and 2) Due to many more links the 219 will accept more misalignment without the excessive noise and wear. Always check the alignment when installing your kit.

Master Link

When installing the connecting link make sure the round end of the clip is facing the direction of rotation. If it is mounted with the opening towards the direction of rotation the clip can contact something while in use and pop the clip off.



Adjustment

Spin the rear wheel slowly by hand to **find the tightest point and use this as the adjustment spot**. 420 chains should be adjusted with a very small amount of free play, about 5mm. Adjust 219 kit to 6-8mm of free play.

If your kit makes a lot of noise after adjustment it is probably too tight! Readjust with more chain slack. A tight primary chain can cause excessive noise, power loss and bearing damage.

It is much better for the chain to be a little loose than too tight.

Maintenance

LUBE! And adjustment. Lube before first use and before each ride. If your chain drive system starts making more noise than usual, it is trying to tell you something. ***Lube the chain and check the adjustment before every ride.***

Lube the chain from the inside while spinning the rear wheel. ***Even sealed O-ring chains need lube.***