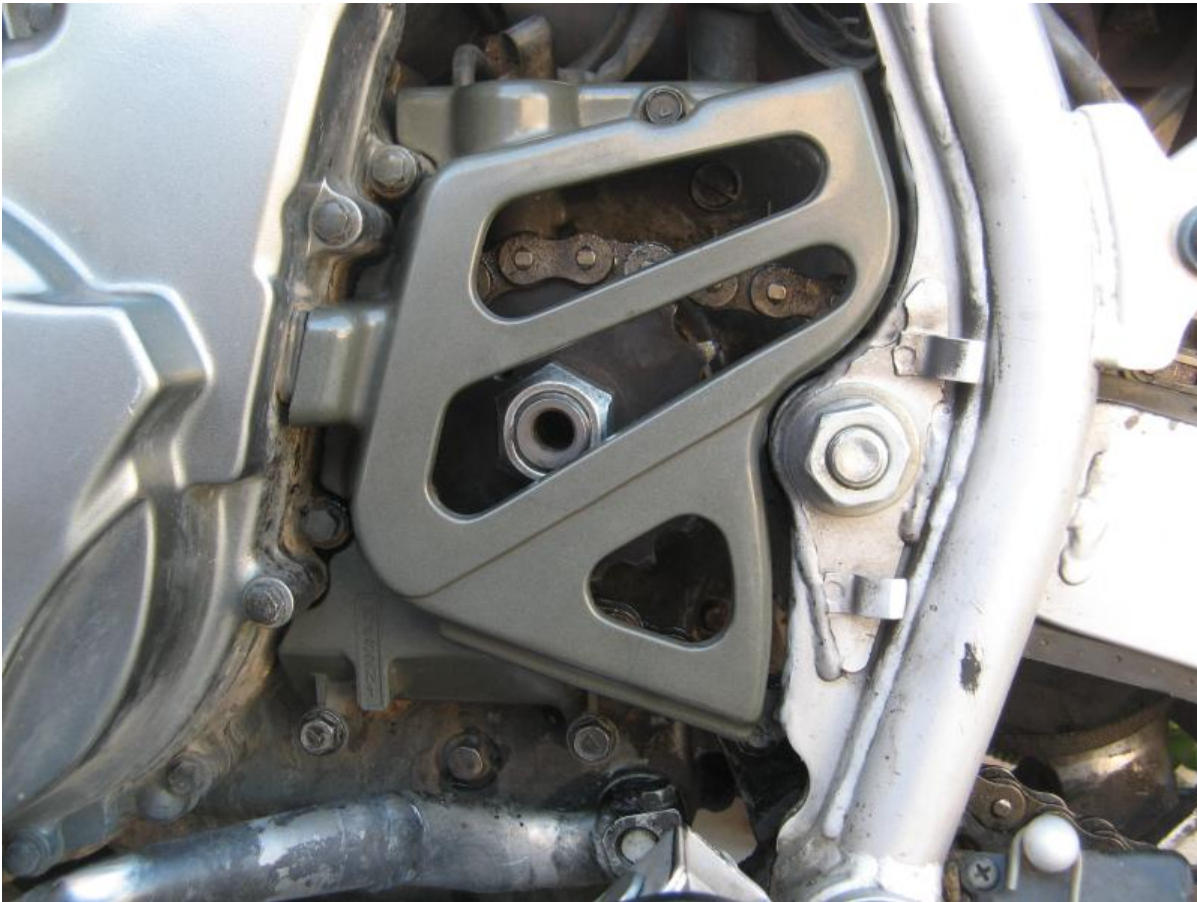


Installing a 17 Tooth Front Sprocket on a late '96 or newer KLR650



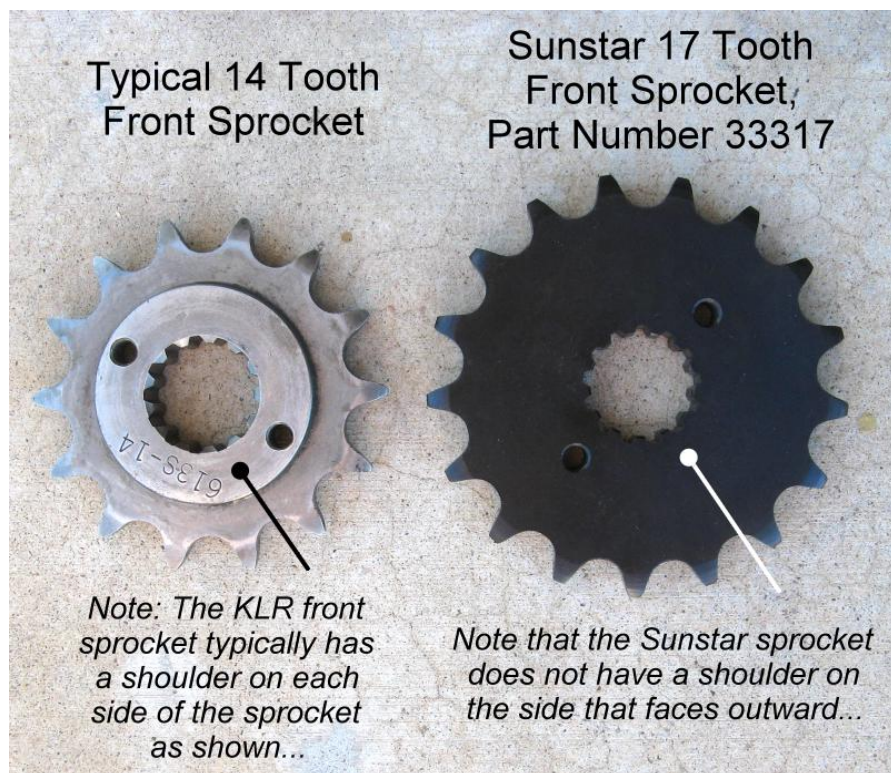
This isn't an article trying to convince you that a 17 is right for you. It all comes down to the way you've set up your bike and the speed that you typically ride it at. Kawasaki sells the bike with a 15 tooth sprocket on the front for good reason; it's the best compromise between street and dirt riding. I've run a 14 or 15 for only 2,000 miles total: multiple 16s for 60,000 miles and multiple 17's for currently more than 120,000 miles - so you can see that I've toggled mainly between the 16 and 17 depending on use. My conclusion: if you spend a good part of your time above an actual 60 mph (not indicated as the speed is usually off a bit), you'll probably love a 17. A 17 is not for everyone, but this article shows you how to do it if you feel its right for your bike.

A 17 on a KLR? It can't be done! Before 2009, none of the vendors would sell a 17 for the KLR. This must be impossible!

But you'd keep hearing occasional comments that it *could* be done. Or that it can fit, but you can't reinstall the countershaft cover. Well, enough talk: here's how you do it and still use the factory countershaft cover...

First, you'll need a 17 tooth sprocket from Sunstar, part number 33317. There might be a number of vendors that carry them, but I know that Eagle Mike does at www.eaglemike.com. This fits the factory 520 chain size, as well as the KLR's countershaft spline. However, there are two issues you must deal with, and these are the two that keep many people from finishing this project:

1) The sprocket is not quite thick enough at the countershaft. Factory KLR sprockets have a shoulder on each side of the sprocket but the 17T will only have a shoulder on one side as shown below. Eagle Mike includes a shim that takes up this extra stack.

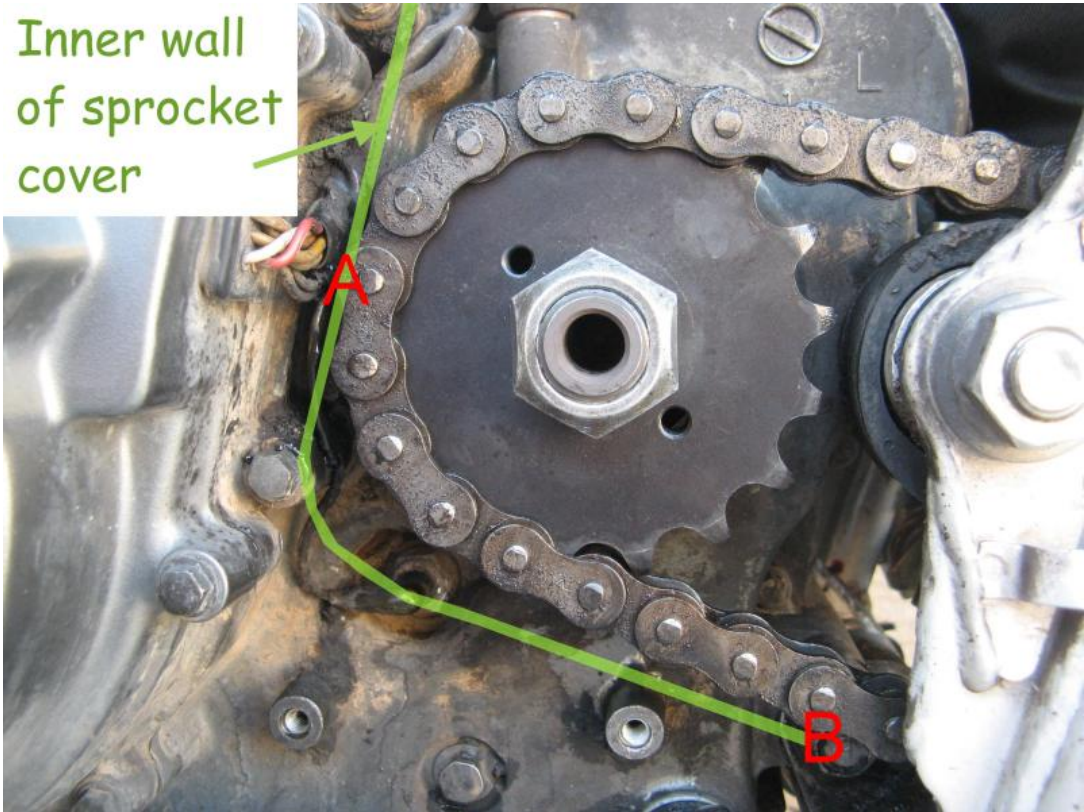


First, remove the countershaft cover by removing the three 10mm-head bolts that clamp it to the left side of the engine. Next, loosen the countershaft nut that clamps the nut to the countershaft. On a stock bike, you'll find a thin washer under the nut that has been bent up to anti-rotate the nut. This one can be a booger to get off if you haven't removed it ever before. Once the nut is off, loosen the rear axle and slide the rear wheel all the way forward. Removing the axle and allowing the wheel to go even further forward will help. This way you can get the chain off the rear sprocket to provide the most chain motion for the

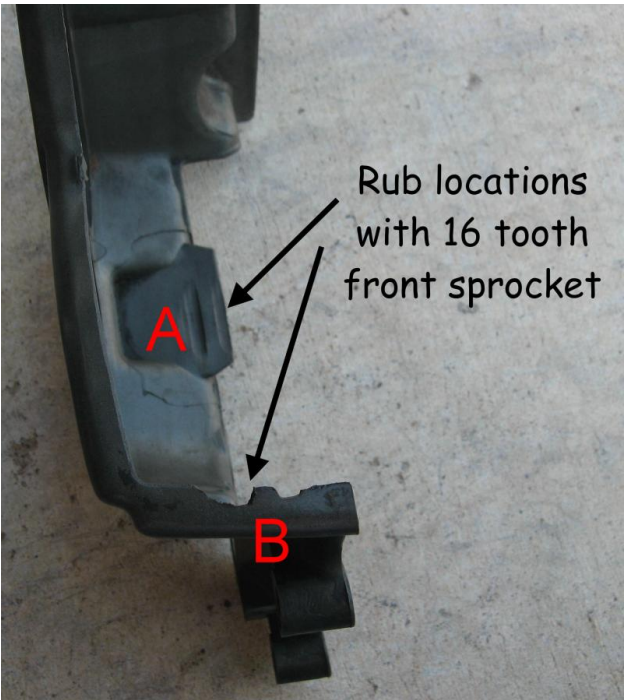
remaining steps. Remove the front sprocket (with chain in tow, unless you have a masterlink chain and have already removed the chain, then install the chain around the 17 and install the front sprocket with the 'shoulder side' towards the engine cases. This will provide proper sprocket alignment, but without the second shoulder, you'll note that your countershaft nut (either a stocker or an Eagle Prevailing Torque nut) will bottom against the step in the countershaft before clamping the sprocket to the shaft. By placing the Eagle "17T shim" on the outside of the sprocket in place of the shoulder, your countershaft nut will clamp the sprocket properly to the shaft. Don't forget to tighten the nut to Kawasaki specification of 72 lb-ft: in my case I'm using an Eagle prevailing torque countershaft nut, so I don't need the bent-tab lock washer.

2) The sprocket diameter is quite large and generates chain interference with the factory countershaft cover. For this reason, you'll find people who don't reinstall the cover, and they're ready to ride. However, I wanted to run the countershaft cover – and realizing that the inside wall of the cover is relatively large and rectangular in shape, there is interference at only two locations inside the cover as

shown in the figure below. The green line is an approximation of the inner wall of the countershaft cover; note that interference exists at about 9 o'clock on the sprocket (point A), and at the bottom of the cover where after the chain is exiting the cover area (point B).



In fact, a 16 tooth sprocket occasionally contacts the countershaft cover at these same two locations. The figure below shows how there were already telltale marks in my cover at A and B, as I had been running the 16 for years.



Your task is to clearance your countershaft cover at these two locations. The figures on the next page show what my cover looked like after the work.



You'll note I took as little material as I could from "A" as this plastic does provide some protection for the generator wiring.

Once you have completed these steps, you can install the cover (torque the three bolts to Kawasaki specifications. I use 30 INCH-pounds as they are compressing plastic which can't be pushed too hard without permanent yielding). Adjust your chain tension and you are ready to go.

You will never hunt for 6th gear again. In fact, don't be afraid to finally get some use out of 4th gear, as fifth will clearly be too tall for some conditions, such as an uphill or moderate headwind.