How many miles do you have on that KLR?

Last update: September 3, 2018

A red-letter day for my KLR back in 2013.
The addition of the "1" and the comma seemed like a requirement.

As the miles pile on my bike, this question comes up a lot. And people want to know details of what oil I use, or life-increasing modifications, or how long various components lasted. This article captures all three issues with respect to my 2004 KLR650.

There's a bit of overlap with a separate article at this site titled "Modifications to my KLR" which addresses the changes made to my bike to make it last longer, safer to ride, or easier to live with. That might be of interest to you as well. The link is http://watt-man.com/uploads/KLR Mods.pdf.

But in this article, let's address the longevity-related questions.

Today's Date: September 3, 2018
Current Mileage: Just over 162,000 miles

I believe that there are four main reasons that the bike is still doing so well with all these miles:

- Proper maintenance
- Ride it like you own it
- Eagle Doohickey and Torsion Spring
- Thermo-Bob cooling system modification

The first two items on that list are pretty self-explanatory. The last two items are expounded on in the other article whose URL is listed above in blue.

Just to be clear up front for the people who will skim this write-up: the only things replaced so far is one gear in the transmission, and the typical consumables: drive chains and sprockets, spark plugs, tires and brakes. Yes, it still has the original engine internals: piston, rings, valves, guides, cam
chain, balancer chain, all bearings and so on. The engine has been apart only to install the doohickey and torsion spring when the bike was new, and at 140,000 miles to replace only the 3rd gear in the transmission. I'm on a quest to determine engine longevity with a Thermo-Bob, so I reassembled the engine with all the original components, just used new gaskets. The bike is still not burning any appreciable oil at all. That is documented at [http://watt-man.com/uploads/KLR_Oil_Burn_Rate_100.pdf](http://watt-man.com/uploads/KLR_Oil_Burn_Rate_100.pdf).

**Common Questions Answered:**

This bike gets Mobil 1 car oil in its crankcase, usually the 15W-50 but in the dead of winter I have been known to pour in Mobil 1 0W-40. It gets changed every 3,000 miles because I live in a warm climate, have a Thermo-Bob and have a 40-mile-per-day ride. All of those items extend the service life of oil. I pour in 80 fluid ounces (2.5 quarts) every time, and yes, this fills it slightly above the top of the oil inspection window. As documented above, the burn rate is still small enough that I don't add any oil for 3,000 miles, when the next change is due.

The oil filter is changed every 9,000 miles... I can hear the gasps already. The filter that is removed is always visually inspected and it always looks good (no appreciable debris in the filtering media). Yes, the bike is still using the original oil filter cover o-ring!

Valve checks / adjustments (rounded to the nearest thousand miles) were done at 1K miles, 16K, 44K, 74K, 92K and 140K miles. That's it. The KLR valves settle in quickly so as you can see, my interval between checks has grown. DISCLAIMER: I do believe that keeping the revs down really helps here. I've kept a log of the gaps and shims as well, which is why I was comfortable to have ridden 48,000 miles between those last two checks. They'll get checked again at 200,000 miles. Backing up that "keeping the revs down is easy on valves" statement, the intake valve gaps at the last check (140,000 miles) are the same as when the bike was new! The exhaust valve gaps are constantly closing though, by about 0.001 inch every 20,000 miles. At this rate I'll have to do something by 500,000 miles as I'll be down to the thinnest shims on the exhaust and at minimum allowable clearance.

I'm still using the stock clutch. I'll hear occasional bellyaching from forum members that my 17-tooth front sprocket is hard on the clutch... well, it's still doing fine.

I'm also still using the stock rear shock. There is a longevity comment in the 'modifications' article about this, found at [http://watt-man.com/uploads/KLR_Mods.pdf](http://watt-man.com/uploads/KLR_Mods.pdf).

The stock CDI unit, ignition coil and regulator/rectifier are still doing their thing just fine but I do carry a spare of each on longer trips.

**Component Life:**

I'm not going to get into the life of tires, brake pads, spark plugs or chains and sprockets. That's covered everywhere on the internet. Let's get to the items that you know won't last forever, but there isn't any standard replacement interval out there.

The stock clutch cable lasted 64,000 miles, and I use the clutch a lot. The Kawasaki replacement cable only went 17,000 miles... odd. The next Kawasaki replacement lasted 74,000 miles. Impressive in my book. The fourth cable is on the bike and I do carry a spare Kawasaki clutch cable in the bottom of my tank bag all the time... it's one of those things that you know will eventually go out.
The stock fork seals made it to 92,000 miles. I then replaced them with new Kawasaki seals. I didn't have the best fork seal life in past motorcycles using ATF (automatic transmission fluid), so I am now a "only Use Fork Oil in the forks" kind of guy now. My KLR gets fresh Bel-Ray Fork Oil every 15,000 miles since new. Since the steel bushings wear on the aluminum inner fork sliders, these will get sloppier as the miles pile on. The replacement seals made it to 158,000 miles.

The four seals on the four valve cover hold-down bolts were getting leaky, and thus were replaced, at 94,000 miles. They were replaced again at 140,000 miles as I was putting on a fresh valve cover gasket.

The original speedometer cable made it to 96,000 miles. Since the A-models clamp their factory speedo cable to the right fork tube (causing a kink that reduces life in my opinion), I modified the bike (thank you, Jeff Saline!) with an E-model speedo cable guide back at the 46,000 mile point.

I don't ride through deep water, so I continued to use the factory wheel bearings for years. At 96,000 miles, I felt they didn't owe my anything, and since this bike gets big annual rides, I swapped them out to have a clear conscience for the upcoming summer ride. I'll do them again at 200,000 miles.

Also in the 'not broken yet' category were all three key locks, which I did replace at 100,000 miles. The gas cap lock and the helmet lock were fine, but the ignition switch would occasionally act up (switch on, no lights, jiggle it slightly and viola... lights) seemed to be enough of a sign that it was time for a new set. It would only act up once a month or so, but my annual multi-state rides are important to me and the chance that this was a sign that I was going to have a problem in the middle of the annual ride was enough for me to buy all three new locks and install them.

All I can say about water pump seals is that they "last more than 103,000 miles". I replaced the first set (not leaking) at 37,000 because I was doing the famous 'right side cleanout' (oil pickup screen cleaning). I replaced the second set at 140,000 miles (also not leaking) because I had to tear into the transmission to replace 3rd gear. Anyway, looks like these seals last a long time.

As soon as you feel any looseness in the front end over bumps (sort of a clunking), keep those steering head bearings snug. They're not the easiest to replace. I was able to make it to 104,000 miles on the stockers before it was time to replace them and their races.

The seal under the countershaft sprocket did fine until 118,000 miles, then started leaking. One new Kawasaki seal went in its place.

Brake rotor life is dependent on how aggressive you are with the brakes of course, but also the pad compound. My rear rotor (disc) thickness was 0.197 inches when new. The minimum thickness spec stamped in the disc is 0.177 inch... which my rear disc was down to at 65,000 miles. But that's a lawyer-ese kind of number... I felt comfortable running mine down to 0.150" before replacing it at 131,000 miles with a used rear rotor. I've seen used discs on eBay that were 0.103 inch...

Since we're talking brake discs, I'll talk about the front one here. I'm easy on the front as it tends to cup tires so it doesn't get heavy use unless I NEED it. That said, I have an aftermarket 320mm EBC rotor and the wear rate with EBC FA130X pads is so slow that it won't hit the minimum thickness spec until 400,000 miles. I have 115,000 miles on this current set of pads and they still have quite a bit of life left in them!
At 140,000 miles, it was evident that the clutch actuator arm in the right case had a lot of slop so I pulled it out to inspect - and look what I found! This is a dry joint that gets loaded every time you pull in the clutch, and not only was the hole in the arm worn notably 'oblong', the pin that goes inside that hole was quite worn as well - about 1/3 of it was gone! Thus I threw in a used clutch arm.

A few weeks later, I broke a 3rd gear dog inside the transmission. When a dog breaks, odds are in your favor that the little cast piece will simply fall to the bottom of the sump and you won't even know it has happened. In my case, as luck would have it, I had the fortune of a heads-or-tails coin flip actually ending where the coin lands on its side: I heard a noise on the 3-4 shift, and at the next traffic light, the dog actually wedged itself onto one of the two shift fork shafts in-between shift forks, and would not allow a 1-2 shift. Anyway, long story short, I had to conduct a teardown to see why I couldn't get the trans out of low gear.

As stated at the beginning of this article, this is a quest to determine engine longevity with a Thermo-Bob, so once I had it apart to see what the problem was, I obtained a used 3rd gear from Eagle Mike and a new set of gaskets - and THAT'S IT. I reassembled everything as-is: same piston and rings went right back in, I didn't touch the head, and just bolted it all back together. As evidenced by the oil burn chart (link on page 2), the oil burn rate stayed the same after the reassembly.

Since this article is also about part longevity, I'll point out that the stock valve cover gasket was finally starting to get weepy so it was on my list to be replaced at the next valve clearance check. Since I had it off at 140K, a new valve cover gasket went on at 140,000 miles.

Even though all the original parts were going back into the engine, it did give me a chance to measure a few important items such as cam and balancer chain wear, as well as piston ring end gaps and compare them to the shop manual, which lists dimensions for "New Assembly", "Usable" and "Service Limit". The goal of course, was for me to be BETTER than the Service Limit dimensions, and check out the chart on the next page!

The red band represents 'below the service limit', and should be replaced.
The green band represents parts that are doing fine, and are re-usable.
The blue band represents parts that are still within the tolerances of brand-new parts.

The dots represent my hardware at 140,000 miles - almost everything was in the blue zone! A few of the parts, such as the cam chain and balancer chains show two dots, as those represent the minimum
and maximum dimensions I could find anywhere on the parts. I'm still on the original clutch, look at that thing! Check out those piston ring end gaps!

I think you can see why I'm not afraid each year to take off on a multi-state ride on the KLR 'with such high mileage' on the bike. These numbers are great!

The factory 'cush drive' under the rear sprocket was getting sloppy by 142,000 miles and was replaced with a new one.

The rear turn signal stalks actually started to fatigue crack at 159,000 miles so I treated the bike to a new set of rear turn signals.

Finally, there are two chains inside the KLR650 engine that at some point, will need to be replaced. Fortunately, each system is inspectable for wear without an engine teardown. As you can see above, the chains themselves WERE inspected at 140K, but of course most of you reading this aren't going to do that just to get the numbers. Fortunately, it is pretty easy to inspect each chain system for wear:

The balancer chain system wear is indicated by how far the doohickey has to rotate to keep the system tensioned. According to Eagle Mike, after 25° of doo rotation, it's time to at least measure the internal components... and if you're at that stage, you know that you'll just replace the parts. So with 25° as the 'upper limit', I marked my doohickey with dyechem when it was
installed and have pulled the left cover a few times over the years to monitor its rotation.

As you can see above, it looks like the balancer system will need some fresh parts just before 300,000 miles. The point - and I hope this is clear as there are some people out there who don't appreciate how great the torsion spring is - a properly tensioned balancer system will last a LONG, LONG time.

The **cam chain system** wear is indicated by how far the cam chain automatic ratchet system has to move to keep the cam chain tensioned. The system is topped out at the 16th detent. The chart below is a log of my findings over the years. Time will tell but if the system continues on at the wear rate that it has held for the last 150,000 plus miles, I'll be topped out when the engine has 475,000 miles. It looks like the cam chain will not be the part that limits the life of my engine!

I hope you find this information useful. In the meantime, I'll keep riding and monitor how this all goes.

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