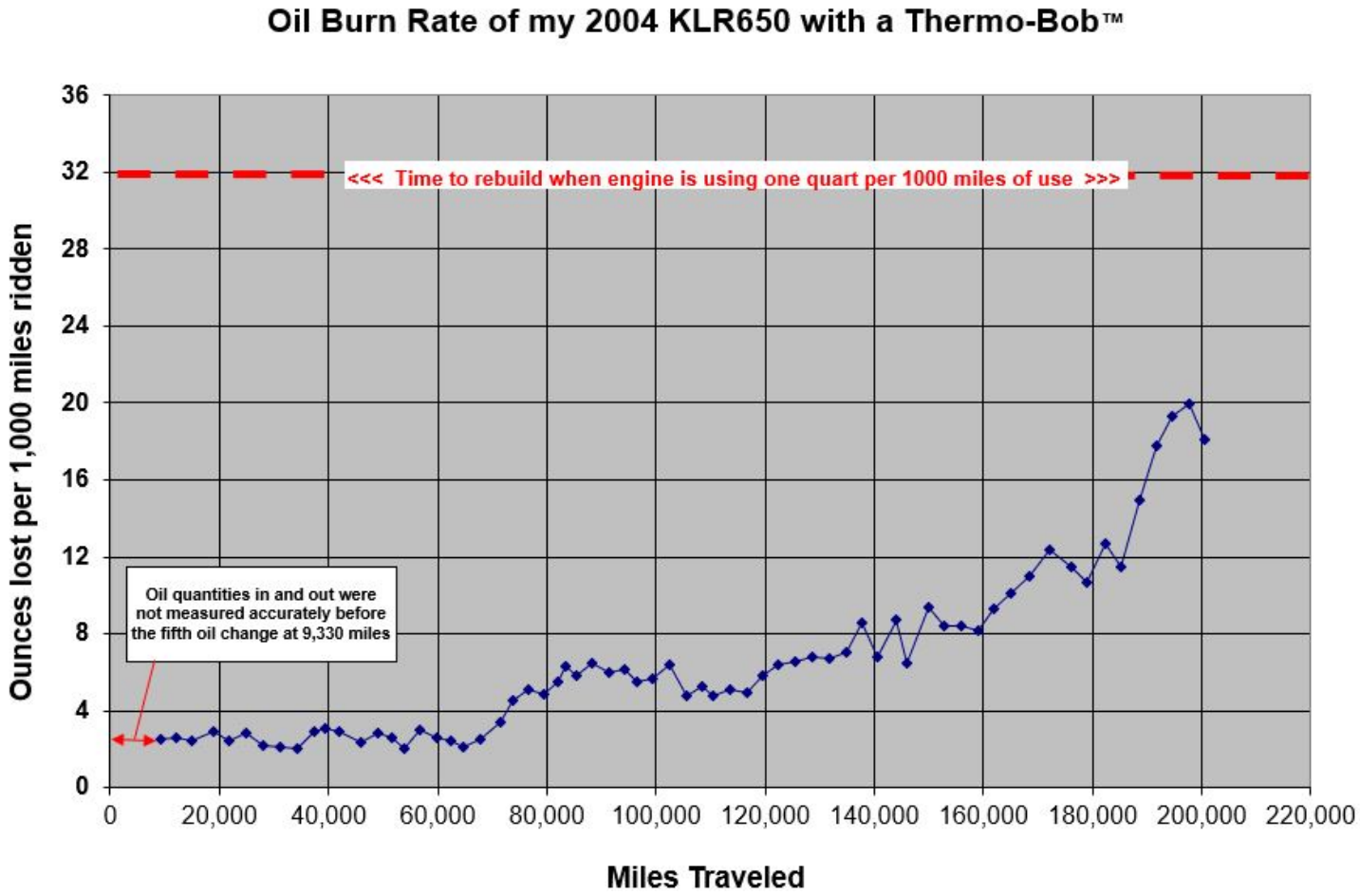
Monitoring the Oil Burn Rate in my 2004 KLR650 with a Thermo-Bob™

(This bike has only seen Mobil 1 car oil: usually 15W-50, but 0W-40 sometimes in the Winter)

A number of KLR650s are known to have an appetite for oil. I believe that the stable temps of the cylinder liner from top to bottom over the years will keep the cylinder round, and thus increase the number of miles before a bike starts burning oil – plus keep the oil cleaner with less contaminants sneaking by the rings… so why not keep track of oil consumption on my 2004, and see how far it goes before it starts drinking?

At the 7,000 mile point during an oil change, I bought a nice measuring cylinder and started measuring how many fluid ounces of oil I'd pour ***in*** at every change, and how many ounces came ***out***. Then I could calculate how many fluid ounces of oil were burned and/or leaked for every 1,000 miles ridden. The next question becomes, "how much is too much?" I've selected 32 ounces per 1,000 miles as the engine rebuild point. I've got a buddy with a '99 KLR that goes through 32 ounces per 1,000 miles, and we never see blue smoke, his bike runs fine, his spark plug doesn't cake up… and I have another buddy with an '87 KLR which averages 64 ounces per 1,000 miles. We ***do*** see discoloration from his exhaust on his rear fender and occasional blue smoke out his exhaust. Plus, his spark plug shows some permanent deposits. I'm sure some people will draw the line earlier for a rebuild (hey, any excuse to do a 658 / 685 / 688 / 692!) but I want to see the decay with time to see how my bike does. Here are the results to date:



Summary:

Even with all these miles, things are still going well, and the bike runs great. Time to rebuild somewhere around 250,000 miles? The burn rate was stable for the first 70,000 miles and has slowly increased over time, now burning around 18-20 ounces per 1,000 miles at the 200,000 mile point. To be fair, these bikes do seem to have much higher oil burn rates when they are ridden above 5,000 rpm, which is not how I ride. So we can't compare these directly to someone who rides at high rpm all the time.

Scatter is expected in this data at such a low burn rate, as it's hard to accurately state the oil consumed down to the ¼ -fluid-ounce at an oil change. So that's why the line hops around a bit. As with all of my testing, I definitely am trying to use the same measuring procedure each time.

Watt-man – July 2024