

How long will a Bosch motor last?

A question often asked on forums, and to us at Performance Line bearings! How long should a Bosch active or Performance Line motor last? How many miles or kilometres should it do?

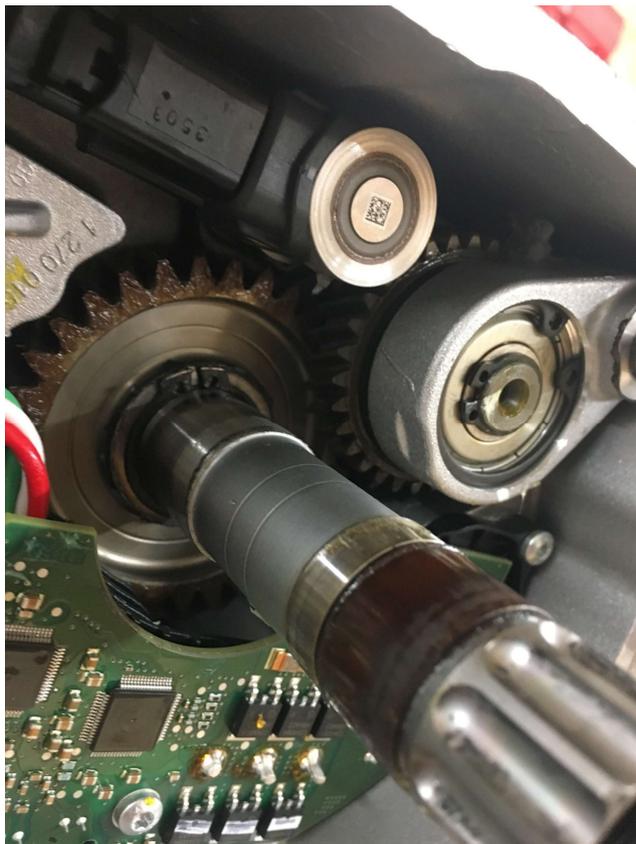
We may now have the answer! 20,000km (12,427 miles) That was the distance a recent motor that we overhauled had travelled. The nice thing about this motor was, it was totally original, had never been opened or worked on and was only used for road commuting in Germany (so not a dry climate).

So, what did we find? As you will see, there was not many miles left in this motor! In fact, it had gone about as far as it possibly could before major damage or self-destruction occurred!

I was particularly interested in this motor, because it shows what is possible if the bearings are not destroyed by water first.

This first pictures below show

the insides of the motor. You will note that it is as clean as the day it came from the factory. There is a very slight discolouration of the grease on the steel gears and this is caused by the small amount of water that has crept under the crankshaft bearings. You can also see the rust on the end of the crankshaft where the right-hand crankshaft bearing sits. (this could probably be cured by using a smear of silicone grease when the motor is assembled as we do at Performance Line Bearings).



One of the first things I noticed was the main motor drive gear needle roller bearing had worn the needle rollers to the point that the roller cage that supports the needle rollers was starting to wear

away on the crank shaft. Discolouration could also be seen on the crankshaft because of this bearing getting hot through friction.

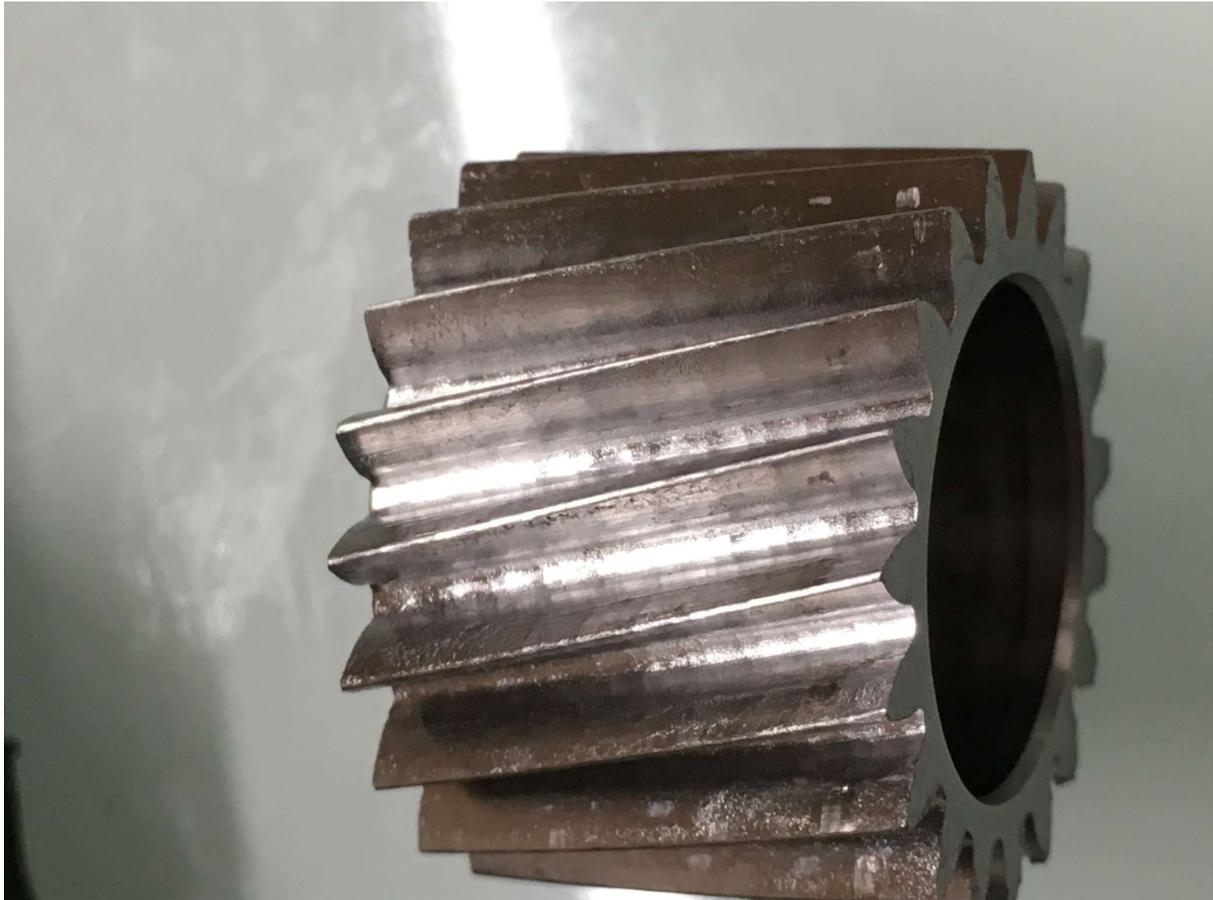




There were very little signs of wear to most of the metal and plastic gears, although back-lash (play) could be felt by rocking the crank back and forth. Some of this may have been caused by worn clutch bearings. Although, is more likely the wear of the gears overall.

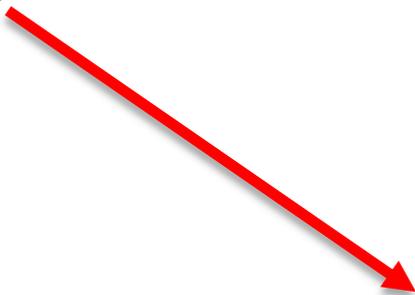


However, the small idler gear didn't fair so well and showed the most wear.



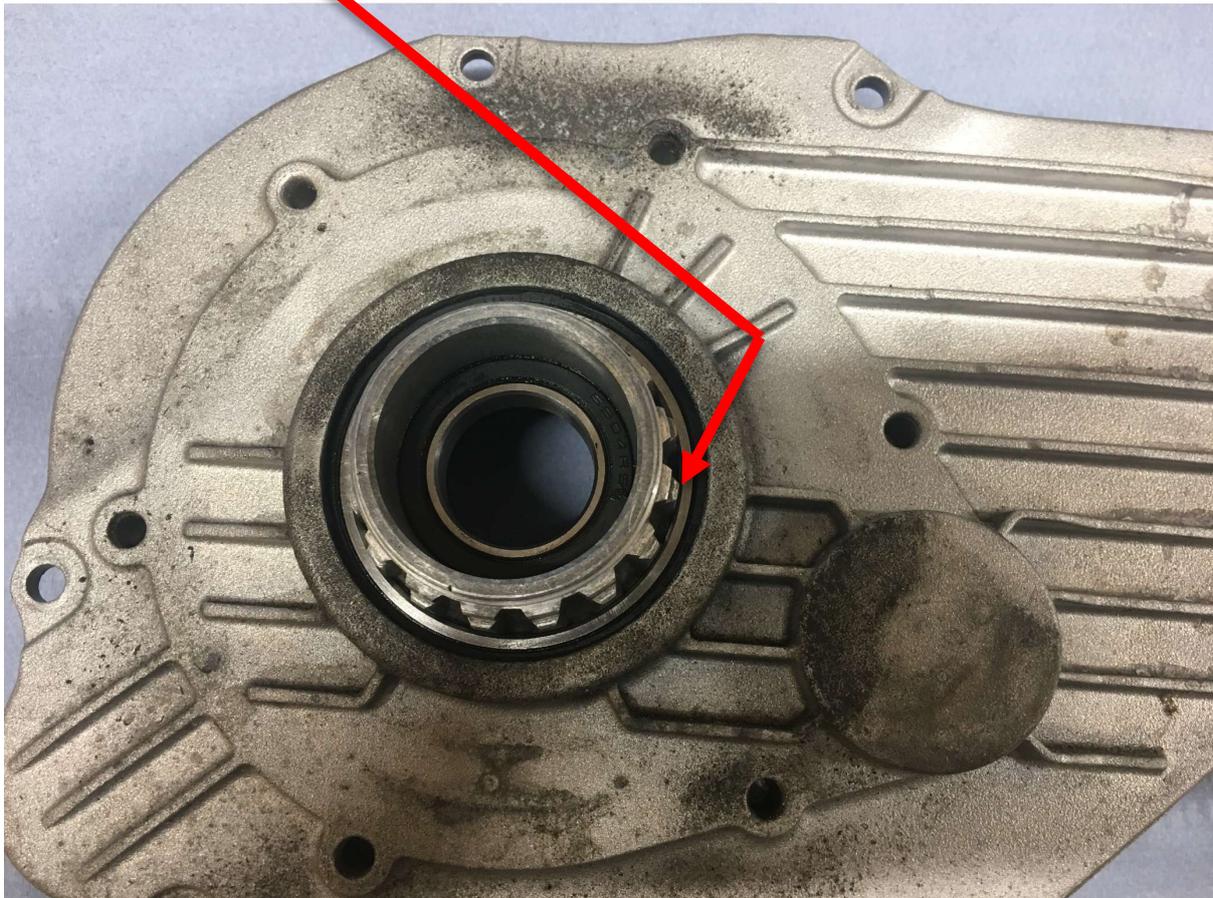
Most of the bearings were worn and felt rough! The most worrying thing and probably the detrimental thing to affect the life of these motors was the play around the right-hand crankshaft bearing and main motor bearing. (This of course can now be fixed by the cover kit that Bosch have released. If they will sell it to the general public or for bikes outside of warranty period?)

The force of pedalling for 20,000km has worn or stretched the soft aluminium of the main motor drive gear





Bad wear was also here:



This wear was particularly bad and would be felt through the pedals whilst riding.

We replaced all the bearings in this motor and fitted a second-hand motor cover to cure the worn components. The motor is now back in the customers bike and running smooth and tight 😊

Ok, this isn't a motor from a mountain bike, and wouldn't have suffered pedal strikes or harsh terrain and conditions. But, if you can keep the bearings dry by using your silicone grease regularly and don't repeatedly strike rocks with your pedal arms, you should expect 10,000 + miles.