Zero Friction Cycling

Lubricant On Test : Ceramic Speed UFO Drip v2

Cost: $54.95 Aud from Zero Friction Cycling & others

Size – 180ml

Photo : 

Manufacturers Description on package;

This new and improved UFO Drip Formula is non-toxic and biodegradable, making it safe for you and the planet.

UFO drip is a unique liquid chain coating that hardens to provide exceptional lubrication, friction-beating performance and superior protection from the elements.

Directions on package;

Shake thoroughly before use. Apply to a clean chain and dry chain and leave overnight. Keep out of sunlight and store between 5-30dg C (41-88F). Do not allow to freeze.

Extra information from Manufacturer

The Fastest Chain Coating Just Got Faster

At CeramicSpeed, we know that every watt lost through excessive friction is one less watt propelling you towards your goals. Our new and improved UFO Drip Chain Coating represents another leap in our quest to further streamline

drivetrain efficiency. It consists of a unique blend of waxes, trace oils, and friction modifiers that come in an easy-to-apply liquid that provides protection, low friction, and minimal power loss through the drivetrain.
Buy Now

The Next Evolution in Drivetrain Efficiency

Our new and improved UFO Drip Chain Coating provides longer-lasting protection, more coatings per bottle, increased temperature stability and improved power loss efficiency, all at a lower price point.

Go Further for Longer

With 35 coatings per bottle and a 40% reduction in price, our new UFO Drip Chain Coating provides that enhanced efficiency and performance for 300 km after each fresh coating.

Safe and Effective for You and the Environment

The new UFO Drip blend is designed not only to optimise drivetrain efficiency. The non-toxic, non-flammable, bio-degradable formula is both safe and environmentally friendly.

Increased Temperature Stability

Our new formula boasts increased temperature stability that extends the benefits to even more cyclists, terrains, and conditions. Apply it anywhere between 5-35°C (41-95°F) for ideal results.

Building on a Tried and Tested Formula

Compared to our old formula, the new blend provides numerous benefits including 50% more coatings per bottle and a 40% lower price tag. Each application now lasts twice as long, and our tests show that our new formulation is 15% faster than our original blend.

Designed for Multiple Disciplines

Specially tailored for all disciplines, our UFO Drip Chain Coating ensures smooth performance on-road or off in wet conditions or on dusty, gritty terrain. Don't let the sand, water or dirt slow you down. Simply apply a coating and enjoy the benefits of a wax formulation that'll protect your chain no matter the conditions.

Easy Application for Longterm Protection and Performance

Get the full application guide

Bottled Speed: How Efficient is the UFO Drip Chain Coating?

A quality chain coating is one of the most cost-effective ways to improve drivetrain efficiency. But just how much more efficient it can make it is often hard to visualise. We set about quantifying the performance benefits with a dry test. We tested our UFO Drip Chain Coating alongside several competing lubricants in an attempt to quantify the loss in wattage through the drivetrain.
Find all the graphs and nerdy stuff here

Need to Clean your Chain?

The ultimate chain and drivetrain cleaner (UFO CLEAN)

Extra application instructions on Website

FAQ

What temperature can I apply UFO Drip?

5-35 °C / 41 - 95 degrees Fahrenheit

What temperature is safe to store UFO Drip?

5-30 °C / 41 - 86 degrees Fahrenheit

Storage is stated 10-30°C on the bottle. Can it go lower or higher?

Stress tests below 5°C and above 35°C have been performed. At these temperatures, the viscosity can become quite thick and it becomes necessary to shake well to make the UFO Drip flow again. The first cm may still be thicker and this is OK to apply to the chain as the functionallity is still present. In extreme cases it may be necessary to clear the cap with a needle.

Why do you recommend to wait overnight after appling UFO Drip? How long do I need to wait?

The wax particles in the lube work best when they are dry and merged together as a solid wax . In the bottle the particles are dissolved in water and the water needs to evaporate before the wax particles can merge together as a solid wax coating. Additionally, allowing the wax to fully dry prevents dirt, grime, or road dust to contaminate the wax or create a dirty chain.

What is the clicking sound inside the bottle when shaking?

UFO Drip is unique as it is made initially with dry wax powder in order to achieve the least friction of all lubes. If not disturbed for many days, or after big temperature variations, the viscosity will be thicker. To efficiently reconstitute the formula, a bolt is included inside the bottle, ensuring even mixing and returning UFO Drip to a liquid/thinner viscosity.

The first cm UFO Drip out of the cap is thick?

If not disturbed for many days, or after big temperature variations, a small amount of wax can congeal in the nozzle. This is normal and OK to apply onto the chain where it will disperse across the links.

Can I fly with UFO Drip?

Yes!

Find more info on UFO Drip Chain Coating here.

https://youtu.be/_1mJMoWGaM0

How to apply UFO Drip

For new chains and first application, fully clean and dry the chain, ensuring to rinse all cleaner off before drying. We recommend CeramicSpeed Clean Drivetrain for this purpose. Always shake your UFO Drip bottle well before each use to ensure an even application of waxes. Apply UFO Drip directly to the chain rollers over the cassette, rotating the chain slowly backwards to coat the entire length of the chain twice. Next, apply UFO Drip to the inside of the chain, along the rollers on the bottom span over the chain and coat the entire length of the chain twice. . Allow UFO Drip to dry a minimum of 8 hours for best results and clean performance.

For follow up applications with an overall clean drive train, wipe the chain surface with a dry and clean cloth. Shake the UFO Drip bottle well. Apply UFO Drip directly to the chain rollers over the cassette, rotating the chain slowly backwards. Coat the entire length of the chain twice. Let dry for 8 hours. If your drive train has become thoroughly dirty and contaminated, begin with a full cleaning & coating as you would for a first application.

https://youtu.be/N1Ag554RkZg

Viscosity: *Note this is the first upgrade of v2 vs original UFO drip. Original UFO Drip was extremely temperature sensitive making application in cooler conditions extremely difficult. I did not push the limits of low temps for UFD drip v2 but can confirm that whilst it still thickens at lower temperatures, as long as shake thoroughly, at temps down to around 15dg Celsius appeared to provide no application / penetration issues. CS do claim it can be applied in temperatures as low as 5dg Celsius, and I am certain they have specifically tested to back this claim and do have a couple of extra points covered above regarding this – so this is a huge improvement on v1 where trying to apply even at 15dg C was near impossible. Sill – me being me and a bit over cautious, if it was my chain and my race I was applying – I would have chain / lube a little warmer – bring bike inside and leave at room temp for a few hours, warm lube in a cup of hot tap water etc if want to be super safe and bike is stored in cold area (garage / shed in winter etc).

Main Test stops when net chain wear reaches 0.5mm+ NET WEAR

UFO DRIP V2 Main Test Results

Block (each 1000km)	Wear measure (mm)	Inc. On previous measure	% Wear for block (0.5mm=100%)	% Wear rate per 100km	Comments / Observations
0 – Initial check measure	**0.067**	**n/a**	**n/a**	**n/a**	**Shimano chains usually measure 0.1 to 0.15mm from new.**
1 – No contamination	**0.079**	**0.011**	**2.3%**	**0.23%**	Well, on the heels of Super Secret Drip setting a new record for **lowest block 1 wear rate for a drip lube at 2.9%, UFO Drip v2 comes in at 2.3%**. Honestly I would call it a tie, the difference in measures here is so tiny, fractions of a fraction of

					a mm, that such results would be within margin of error / variance from one chain to another. What I can say is that applying as per CS manufacturer instructions does indeed ensure no initial penetration issues. This makes UFO drip v2 only the second wax emulsion lubricant tested not to present initial penetration issues with Squirt, Smoove, Tru-Tension Tungsten all Weather, all presenting significant initial penetration issues – as well as we can see AB graphene instructions take user through initial application MUST be immersive. I have tested AB graphene but cannot provide the figure here due to NDA, but their instructions are correct, it must be immersive. Negating initial penetration issues for such lubes is a big deal as if one is maintaining chain by cleaning maintenance, if a lubricant then has initial penetration issues post clean, that presents one heck of a PITA post clean re friction / wear or what one needs to do to try to mitigate – hence block 1 wear results are both extremely impressive and a critical first insight into the lubricants performance and day to day useability. **The average wear rate recorded across all lubes tested for block 1 is 16.5%. The average of the 5 worst lubricants tested is 29.2%, and the 5 best lubricants tested is 1.1% (3 of these being immersive wax tests)**
2 – Dry contamination	**0.96**	**0.017**	**3.4%**	**0.34%**	Only the tiniest change during the dry contamination block demonstrating that mostly dry contamination just bounces off, and UFO drip v2 does set to a true chain coating as claimed. This is again a new record low for a drip lube applied at

					standard intervals, the only drip lubricant recording a lower wear rate was Tru-Tension Tungsten Race however this was applied at doubled re-application intervals due to very short treatment lifespan. But for apples to apples comparison vs any other lubricant tested – this is another record low – we are now sitting at a cumulative wear measure of 5.7%. Versus the worst lubricant tested to date and direct competitor for top low friction lubricant claim – Muc-Off Nano – that was at a cumulative wear rate of 145.5%. Yep. Whilst UFO drip v2 has used just over 1/20th of its test wear allowance, Muc-Off nano had used nearly 1.5x its test wear allowance and test stopped at only 2000km. I wonder who's marketing claims and testing I am believing in more right now… **The average wear rate recorded across all lubes tested for block 2 – Dry Contamination block is 30.9%. The average of the 5 worst lubricants tested is 61%, and the 5 best lubricants tested is 2.4% (2 of these being immersive wax tests and one at double re-lube rate).**
3 – No added contamination	**0.099**	**-0.003**	**-0.03%**	**0.3%**	Basically zero wear recorded / within tolerance of measuring accuracy for zero change in wear mark. This backs up block 2 result, whatever tiny amount of dust penetrated in block 2 was dealt with via subsequent applications of lubricant. This only happens if the amount of contamination to be dealt with is extremely small, typically if block 2 wear rate is poor, the contamination that penetrated / becomes part of the lubricant continues to wreak some havoc in block 3. **This has the cumulative total wear after 3000km of test at a record low 6.3% at time of this test.**

					The average wear rate for block 3 is 20.6%. The average for the top 5 lubricants recorded is 0.6%, 3 being immersive waxes, and the average for the 5 worst lubricants recorded is 43.2%
4 – Wet contamination	**0.260**	**0.161**	**32.3%**	**3.23%**	A little bit similar to Silca SS drip here with quite a large jump in wear in wet contamination block after demonstrating extremely low wear through the first 3000km of testing including dry contamination block. Again this has shown to be very common with drip lubes – really on immersive waxing keeps wear rates low as each re-wax is able to re-set contamination and re coat chain in a fresh coating of wax. With chain coating type lubricants, water brings contamination deep inside chain where it is pressed into set coating. From there it is effectively land locked, adding next coating will improve ratio of lubricant to contamination, but does little if anything to shift contamination that has penetrated. For a short harsh conditions event the UFO chain coating lubricant is likely to perform as well as any wax / other chain coating type lubricant as it is still solid super slippery chain coating, however as we will see from the single application longevity testing – lifespan in wet harsh conditions is limited, and I would not push past a cx / xc length event. Like all drip lubricants in the real world the chain should be fully cleaned post any proper wet ride. **Average wear rate for wet contamination block 4 is 37.1% so it is ahead of average, and remember really only the best lubricants make it this far into the test so the averages are**

					taken from a smaller and more elite grouping. The top 5 lubricants averaged 16.3%, 3 of which are immersive waxes. The average of the 5 worst lubricants tested in this block is 46.8% - again this is from a smaller number of higher performing lubricants at this point in test. So whilst it is a jump – it is actually still a very high performance result, all drip lubes have struggled in wet contamination block – we just have to remember how extreme the challenge is for chain lubricants in such conditions.
5 – No added contamination	**0.347**	**0.087**	**17.4%**	**1.74%**	This is actually quite a significant drop in wear rate post wet contamination block – and provides a bit of insight into what one should probably do post wet rides if not properly solvent flush cleaning chain. Silca SS drip which a main competitor in this space recorded a wear rate 29.4%, a much smaller wear rate drop vs block 4, and much higher than UFO drip v2. Silca SS has quite a small amount of lubricant applied each application, likely circa 3 to 5ml, and some of that slides off chain. The UFO drip v2 instructions for re-lube are to re-coat chain for two complete chain revolutions – this is easily adding 8 to 10ml of lubricant, all of which is staying on chain. I believe it is the much higher amount of lubricant added per re-lube that has delivered a notably lower wear rate post wet contamination block 4. It would be interesting to re-test silca ss drip to test this and ensure add 10ml of lube on a re-lube post wet ride, but even sans testing it – I would say with some confidence if you are not going to clean chain post proper wet ride, a THOROUGH relube with chosen lube, thorough work in, and thoroughly wiping excess post work in is likely a very good

					idea. For little bit cost in lubricant use, it is likely to much more quickly drop the friction and wear rate in your chain post wet rides. **Average wear rate for block 5 is 28.7% so it is well ahead of average, and remember really only the best lubricants make it this far into the test so the averages are taken from a smaller and more elite grouping. The top 5 lubricants averaged 7.8%, 3 of which are immersive waxes. The average of the 5 worst lubricants tested in this block is 41.6% - again this is from a smaller number of higher performing lubricants at this point in test – and showing just how hard it is to clear contamination post wet conditions riding.**

Extreme Contamination Block

Start wear measure	Wear Measure for block	Inc. On previous measure	% Wear for block (0.5mm=100%)	% Wear rate per 100km	Comments / Observations
6 – Extreme Contamination	**0.530**	**0.183**	**36.6%**	**3.66%**	This is an extremely good result for a drip lube, and despite being hit with double the amount of water and abrasive contamination vs block 4, the result is only slightly higher. This has shown up a bit lately with the latest gen chain coating type lubricants, and so it seems within a reasonable range of harsh wet conditions the performance impact is relatively stable and predictable. The single application longevity test did show however that treatment lifespan is limited in such conditions – but if event is short – UFO Drip v2 is of course going to be a top shelf choice. **Average wear rate for lubricants tested in Extreme Contamination block 6 is 48.9%, so again it is clearly under this average, and by this block we really are down to a select group of the best lubricants tested thus far making up the average. The average for the worst 5 lubricants tested is 119% - so some of the top lubricants when subjected to this block have simply not coped.**

Single Application Longevity test

Due to the high number of enquiries ZFC receives re what lube for what event, the previous single application longevity test has proven woefully short of providing the level of information required.

As such the previous test protocol has been replaced with a much more in depth test using a new chain and covering road, dry contamination and extreme contamination with chain being ultrasonically cleaned and re-set before each assessment.

This provides much greater insight for lubricant choice for particular events as well as comparison vs other lubricant choices – the bad news is at the time of writing this review I have very little comparison data as I need to re-test the top lubricants via the new much more involved and time consuming protocol.

I do not have enough data to make any meaningful comparisons at the moment, and I would encourage to keep checking the lubricant test data page on Zero Friction website as test data will be updated on data tables as more single application tests are completed and updated.

What I would say is that for most immersive waxes and chain coating type lubricants that have been tested in precise lab conditions, and that show friction remains stable for X hundred km's (say 600km etc), that in real world riding the chain will typically feel and sound dry at around half this distance and time. My belief is that machine control testing in clean conditions – as the power is smoothly delivered by a motor, the treatment lifespans a greater vs if one averaged the same power by actually pedalling – the action on which causes much greater peak loading forces through the chain and lubricant which leads to shorter real world lifespan.

Ie for UFO race chains using UFO wax they have a claimed treatment lifespan of 600km, something that is matched by Mspeedwax treatment lifespan claims – and precise efficiency test machines have backed up that the lubricants do last this long on the machine before friction trends up. However on the road, things do feel pretty darn dry and done by circa 300km most times and ZFC has always advocated and stated in product descriptions to err on 300km treatment lifespan vs 600.

For the UFO Drip v2 Ceramic Speed have gone to market with a stated 300km lifespan and I feel this is an accurate claim. In real ride testing the a treatment is definitely feeling like it is time for a re-lube by 300km, however its not feeling done at 150, things are still holding up and feeling good well into the 200's. If I was me I would probably err on the 200km mark – but I am very conservative re pushing treatment lifespans in my own training and racing – something that has always rewarded me with exceptional parts longevity when using the top known lubricants tested to date.

On my machines control testing which is more of a blunt tool on this front vs a 0.01w accurate efficiency test machine – I need to look for a jump point in wear rate UFO Drip v2;

Clean road conditions test – jump in wear rate did not occur until 900km – again in real world I would halve this as a maximum guide

Dry dust conditions - Jump in wear rate occurred at 450km – again – halve that for real world

Extreme conditions – Jump in wear rate occurred at 150km – and again I would halve that for real world – but even 75km is plenty to get through a harsh conditions xc / cx event, and a wet road event will be nowhere near as harsh as the extreme contamination block test unless you are riding through wet sand sections – so it should be fine for club road races and most gran fondo's. If it was going to be 10hours of riding in solid rain at 3 peaks etc I would personally worry a bit and probably run another choice – but for 99% of rides and races UFO drip v2 should last the event no problems.

Test observations and review.

Alrighty - Here's the real fun part (for me) where I also take some liberty to get to address some bigger picture topical issues that have come up in the lubricant world since last detail review, that are pertinent to the context of this review and UFO drip v2's performance.

Firstly – apologies again its all a bit of a read – I REALLY need to start doing these on you tube – im inching my way there – just super busy on all fronts tis hard to get that step taken to get on vid as well as document. I will get there. In the meantime make another cuppa.

Ok - if you have been keeping up with my FB novel length posts / latest news updates – you will have seen that I have been quite peeved that a couple of major media outlets have run chain lubricant focussed content advocating that the best thing you can do is to leave factory grease on chain / that the biggest common mistake is people make is removing factory grease immediately etc.

If you want my full rant re why known proven 6 ways from Sunday, terrible information to cyclists by major media with reach to hundreds of thousands that will just lead to high friction and premature drivetrain death really gets my goat, refer to article in latest news on ZFC website. Suffice to say I work very hard to improve information to cyclists to save watts and drivetrains, and major media working to help cyclists abrade through their drivetrain components very quickly is really annoying.

But the short version is – for the love of logic – please remove factory grease from new chain and whether its UFO drip v2 or another proven top lubricant tested that is your choice – run with that. I have just completed testing factory grease, and (shimano chain), and whilst initially not too terrible, it is MILES away from the wear rate performance of the top tested products, and obviously things go downhill extremely quickly when dry contamination is introduced, whereas we can see that the top tested lubricants like UFO Drip v2 it has near zero impact. The friction and cost to run difference heading out on a gravel ride on factory grease vs something like UFO Drip v2 is circa 9 TIMES GREATER. For clean block one it was circa 3 times greater.

I was annoyed I felt the need to even conduct the test – it's packing grease vs lubricants that have had simply massive development resources behind them to be the fastest and lowest friction & most contamination resistant chain lubricants currently possibly known. Why some major media would feel it is responsible to promote that riders would be making a big mistake to remove factory grease and run a top drip lube is for me a bit exasperating to say the least. I will put a brief detail review of the factory grease test soon. I know I spend my time in a little bubble working away furiously conducting the worlds most in depth independent testing, data and information to help you decide what is the best lubricant for YOU to race / commute / ride and look after YOUR drivetrain, and at the same time for me to know what to stock – but even taking into account that I work in a fairly focussed bubble I really thought that by now the proof of Factory grease vs top drip lubes had just I thought been done and dusted proven a decade ago – lets not go back to the earth is flat / sun revolves around us / it's a mistake to remove factory grease.

As mentioned in my latest news update if you see major media promoting leaving factory grease on (usually obviously because they are being paid / sponsored to promote for a chain brand) correct them – respectfully – in the comments. If they see that their audience doesn't appreciate being fed rubbish – perhaps in time they will change – I can't change them by myself. Team effort!

Correction number 2 is to help correct some of the information recently on one of my absolute favourite podcasts - Cycling tips and Cycling tips Nerd alert. Lubricants have been discussed a fair bit still (YAY!) and a couple of my favourite presenters have been putting forward a pretty good case for why you should or should not use X lube, however the mark has been missed a bit especially when it comes to choices for wet conditions riding where the advice – even from the waxing advocates in the team, that immersive waxing / wax based lubricants are not really fit for purpose if one is riding constantly in harsh wet conditions.

Before I start with my counter to this information – I would like to state that unlike the other major media mentioned in info correction 1 – whom they appear to have just taken a big cheque to run the content the manufacturer wished them to run, the opinions expressed by the cycling tips team are at least their genuine opinions based on their own testing, knowledge and experience. This is pretty key difference to me

– information that is what someone genuinely believes to be honest vs information someone is paid to present where it is nigh impossible to believe that the person sharing the content actually believe themselves what they are advising their audience…….. To me this is a pretty important distinction re one media outlet vs another. Integrity matters, it is too often in very short supply, and CT don't sell themselves out. (If this paragraph doesn't make sense, head to latest news article that covers what happened re the information on factory grease ……)

So – for correction number 2 – I need to have a crack here at doing better at explaining why in ZFC (mine) personal advice differs to that recently presented on the CT podcasts – and it is very relevant to this review as this review is about a wax drip lube. I will be sending them a copy of this review and lets see if I have any success and I get to help clarify the messaging around wax drip lubes and wet riding so you have some improved information to ponder re whether a top wax drip lube will or will not suit you and your riding.

Ok here we go, wishing myself luck – I have to try this from the beginning without going full Novella. Fingers crossed. (oh no wait, that really buggers up my typing. Toes crossed).

Firtlly remember – when it comes to frequently riding in wet conditions – this flat out is an extreme lubrication challenge. Your bicycle chain has many moving parts per link, there are tens of thousands of link articulations a minute occurring as you pedal along, and both the parts and the lubricant are being hit with water which brings abrasive contamination right into all the working surfaces of the chain, and being pressed into and becoming part of the lubricant.

To maintain a low friction, low wear chain when frequently riding in such conditions - One way or another, you have to pay the piper.

There is no magic drip lube on, set and forget solution here. Instead you are presented with some choices of which way you want to pay the piper – with increased friction and wear, or with some maintenance time, and if you wish to keep things low friction with some maintenance – what level of time and effort is involved in one option vs another. I will cover the main choices and the pro's and con's.

Cycling Tips Suggestion 1 – Simply buy cheap components and run them till they die. I disagree with this approach, because as you will see with other suggestions to follow, you can - with just a little knowledge and a surprisingly small amount of time and effort – keep a drivetrain running lovely, low friction, low wear, low cost to run. And many of you will already have a nice bike with a nice drivetrain – why are you going to go and get a cheap chain, cassette and chain rings to stuff on it – you are more likely to be very interested in how to protect the nice drivetrain you have.

Cheap chains don't last long to begin with as they do not have the wear protection treatments of top level chains. In harsh conditions just adding X lube, you will very quickly rip past recommended 0.5% replacement mark for chain. You will have a very high friction chain which is now merrily eating into your cassette and chain rings. It takes more friction to abrade through the metal of you cassette and chain ring teeth. It will feel like shite because you will be running a circa 20w loss+ drivetrain (at 250w load, double that loss figure for 500w load). It will start to shift like shite, and the odds of a chain failure mechanical will increase. Being stranded in cold rain is not fun. Riding a bike that with shite running drive train is not fun. Life is too short to ride bikes with tortured drivetrain components vs riding bikes with silky smooth low friction drivetrains.

This option - sure you save on maintenance time, but you pay the piper with a drive train that's pretty horrible to ride. I just….. considering how easy you will shortly see re vastly better options – this option really is not what I personally could ever stoop to myself, and so it's not one I would ever recommend to anyone else.

Its not a surprise this option came up as this is a traditional MTB rider way of doing things, a few on the podcast are from a pretty strong MTB background. Stereotypical way to go re drivetrains for mtb riders from way back – ride drivetrain until it is unrideable, then replace everything.

That may have been ok when chains cost 20 bucks and a cassette 60 bucks, and your double / triple mtb rings were pretty cheap too, but due to the hugely increased cost of quality components (ie X01, xx1 – chains can be $180 from an LBS and cassettes circa $800!! – even a GX cassette is circa $300+, and XT / XTR etc is similar) – this trend is thankfully changing. It is changing more quickly with those newer to mtb who do not have the old unfortunate habit ingrained and it makes a bit more captain obvious sense re I would like to look after my lovely components – I'm just not sure whats the best way to do so (you soon will…).

Cycling Tips Suggestion 2 – Avoid immersive waxing / wax lubes and run a top wet lube like Nix Frix Shun or Silca Synergetic. No doubt there are some other top wet lube options out there as well I just haven't been able to test yet as my testing is very time consuming running for many thousands of km's.

Okay - this option has some merit – they are simply still incorrect re the immersive waxing / wax lube option not working in the wet advice which will be explained next.

However – the top wet drip lubes like Nix Frix Shun / Synergetic are a decent option here BUT – you are still going to pay the piper one of two ways.

One – do no maintenance and rely on performance of the top lubricant itself. It will do okay for a spell, but alas – the lubricant will obviously just become more and more contaminated and more and more abrasive. We can see that Nix Frix Shun which is an outstanding lubricant recorded nearly a 30% wear rate in wet block 4, and it didn't really reset from that in block 5, in fact it was worse – these thicker viscosity lubricants provide some initial protection but what gets in is not cleared by adding a bit more lube. Over a number of rides quite simply things will trend from having slippery lubricant on your chain to a grinding paste. How quickly depends on how good the wet lubricant is – but yep – you simply cannot ride around in the wet and perform no maintenance other than adding more lube and wiping chain, and not end up with a high friction high wear lubricant / chain. Take the seals off your bearings and put the worlds best grease in them and check them after a few wet rides and see if they are still feeling silky smooth. Trust me, they won't be. Same with your chain, just worse as it is more exposed, has way

more moving parts, and does way more mechanical work. Again – Better than first suggestion, but still not the best suggestion – the best known lubes simply cannot remain low friction in such conditions. Imagine Tadej Pogacar rode a very wet stage 19, is he going to use same chain for his stage 20 TT just with some more lube dripped on it. Erm…. No – it will be obviously multiple watts loss higher vs a clean prepped chain – and guess where those extra watts loss go – you guessed it – directly into wearing through your drivetrain components faster. And it would be watts slower after one decent wet ride, we are talking about constant wet riding here and just adding more lube on and wiping chain – there are pretty clear limitations re just how awesome this approach is.

Two – Perform regular maintenance. – So, if you don't want to pay the piper with a high friction & high wear drivetrain, you are going to have to pay the piper by doing some maintenance instead. You can keep a low friction chain and low wear drivetrain, you just have to step in to remove the contamination from the harsh conditions riding because it isn't going to do magically do it by itself, no matter what the bottle / website claims re cleaning as lubes etc.

So the battlefront now moves to what option provides the easiest & most cost effective maintenance – the best known wet lubes, immersive waxing, or best known wax drip lubes.

Why do Cycling Tips advise against using Wax / Wax drip lubes for wet conditions riding? - It appears to be a perception that this is going to be much more work to maintain. It is true that if you go for a ride with an immersive waxed chain / most wax drip lubes and then just park bike, you will come back the next day to a rusting chain.

So yes, you do need to do something with your chain post wet ride to prevent this, which wont happen with a wet lube – and hence the perception that since you MUST do something post ride or your chain will rust, that they are simply too high on the maintenance front for those who are riding in the wet all the time.

Thoughts of needing to pop chain off after every ride and sticking into a pot and melting wax quickly forms a picture in one's mind of a fairly nuts level of maintenance time required, any talk of running multiple chains – crazy – who has time for all this, and the end result is really not much better for all that faffing vs just use a good wet lube, add more on, wipe chain etc etc.

Okey dokey.

So – the data is pretty clear (as in conclusively, irrefutably clear) – doing nothing other than adding lube and wiping chain = very quickly high friction & high wear. And if you don't want a shite running drive train with nice components wearing quickly, this is a crap option. It's a crap way to pay the piper.

This leaves us with stepping in with some maintenance. What is involved in maintaining a wet lube drive train?

Quite simply, a fair bit of solvent or degreaser. And I mean a lot. You can use a little, and you will get a commensurate impact on how much impact you have on reducing how abrasive your chain lube is. You can use a lot, and frequently, and do a very good job of resetting your chains contamination – but you are spending a lot of time and money to fully solvent flush clean your chain all the time. Its starting to look a lot like a heck of a lot of maintenance time and cleaning product cost.

And what are you doing with all your dirty solvent?

To do the job properly, you still should be removing chain – you can do a pretty good job on bike with the right stuff and some practice, but it takes longer, easily makes more mess, more likely to get stuff onto disc or brake tracks that you don't want to get that stuff on – it really is easier and faster by far to pop chain off, stick in container, smash through some agitated solvent / degreaser rounds, dry, re-apply wet lube.

Honestly – take it from a guy who knows a bit about what it takes to keep a wet lube chain low friction – no if's or buts - it's a fair whack of maintenance time and solvent cost. Many think their quick method (ie spray on a degreaser, wipe, add lube – looks cleaner, for all of 5 minutes of pedalling next ride) is doing a pretty good job keeping chain low friction – it isn't. I see the wear rates of countless customers who have done every version you can think of re quick maintenance, and its crap every time. Every single time.

So, still not a great way to pay the piper.

Maintaining an immersive waxed chain / wax drip lube chain.

Ok so here we get to it.

Yes they are correct, if you ride in the rain on a waxed / wax drip lube chain and then park your bike and leave it – it is likely the rollers will rust as they have no wax left on the outside of them.

Yes if you are only immersive waxing, this would mean you need to re wax post any wet ride = popping chain off and popping in pot and melting your wax (honestly…. Not hard – but I concede certainly not an enticing option for many).

Yes most immersive waxes / wax drip lubes will have a shorter treatment lifespan in harsh conditions vs the top wet lubes leading to more frequent attention on re-lubing / re-waxing.

It is the above that on the surface seemingly has the team thinking that simply they probably aren't the best way to go.

However……

From ZFC perspective – we just need a modicum of understanding of this different lubricant type and how the TYPE of maintenance you need to perform to keep clean and low friction is simply vastly easier and faster vs wet lubes.

Wet lubes will not clean with hot water. Wax / highly refined wax based lubes you can get a brilliant clean with just boiling water, melting off the majority of contaminated wax / chain coating – dry, re lube. Also the majority of the top lubricants & waxes now contain no pfas or environmentally toxic chemicals including Ceramic Speed UFO drip featured in this review, so you do not have to worry re the water you are pouring down the drain or into your garden, and you have no solvents to worry re how to dispose properly.

So yes – you are going to need to maintain the chain post wet ride (and preferably this is going to need to be done removing chain) for a proper boiling water rinse, dry and re-apply and allow overnight set) - so you may be thinking this is still too much effort vs drip wet lube on and ride.

But there are some other very groovy options to ponder

Now this first one is again often ridiculed on the podcast as soon as it is mentioned, again put in the crazy talk category – but from ZFC perspective, a pro mechanic with access to w/sale parts and riders who also spend a lot of their year test riding bikes and so not having as big a job / focus re maintaining their own personal ride – this option wouldn't make much sense to them, but it makes a huge amount of sense to a normal cyclist clocking up some decent riding time in harsh conditions.

Run two training chains. Possibly even 3 depending on your mileage.

This system has a number of clear advantages.

Firstly when riding in harsh conditions, on X lube, trying or maybe not trying to maintain chain – it is very easy to rip past the recommended 0.5% wear rate mark, and you wont get a new chain on existing cassette as well as doing some decent inroads into wearing your chain rings. Again many of your may be riding some decent quality parts so this is not great.

Even if going with wet lube, wipe chain and more wet lube, rotating between two chains (ie weekly) means that you are GUARANTEED to get two chains lifespan through your cassette, immediately halving the cost to run from cassette perspective, as well as halving the wear rate to your chain rings.

And remember all you are doing is pre buying your next chain. Sooner or later you were going to need to buy another chain – probably sooner if riding frequently in harsh conditions. So simply pre buying your next chain to run two in rotation and halve the wear rate of your other much more expensive drivetrain components is not something that should be immediately laughed at and consigned to the loony bin, its is a darn smart, logical way to run your drivetrain when its your own personal drivetrain and you have to buy the parts for it, at retail, from your own wallet.

As well as doubling the lifespan of your other components, multiple chains also makes it even easier to maintain your chains – pop chain off when home and if on top wax drip lube - boiling water flush rinse, dry, relube and leave to set, pop second chain on. Seriously that is a 10 min job total once you have done it a couple of times and you are keeping chains & drivetrain in a great place friction and wear wise.

You are paying the piper with a bit of time, but no more vs trying to maintain a low friction wet lube chain, and you are not paying with a large solvent cost / solvent disposal issue.

Want to go even better re keeping drivetrain super low friction and wear?

Obviously those on immersive waxing and two chains on rotation are going to come out leagues ahead. A quick look at the numbers – even if you add a massive 10ml of lube to chain post harsh conditions ride – across average chain length of 106+ links – that is less than 0.1ml of lube per link going over the top of old contaminated lube. When you immersively re-wax, you are putting chain into a pot of 400ml + of lubricant. The old coating will melt off, chain will be re-coated in a fresh coating of wax. Yes over time the wax in the pot will become more and more contaminated as some contamination is brought in by chain every rewax, but you can run the numbers on how long it would take for wax in the pot to resemble the state of the lubricant on your chain for those adding 0.1ml per link each time. The ratio of lubricant to contamination is obviously going to remain GINORMOUSLY in favour of immersive waxing for a long time.

Lubricants such as UFO drip are compatible with immersive waxing – so whilst CS don't have an immersive wax out – you can start with either UFO chain or waxed chain, add UFO re lube for whatever number of relubes suits your personal maintenance time / effort, and then do a re-wax once a week / fortnight to do a magnificent reset of contamination in chain - again without using any chemicals. Bonus points for boiling water flush rinse and dry chain first to minimise contamination brought into the pot.

So, either fully immersive waxing swapping chains post any wet ride – one into pot and other onto bike, or combination of re-lube with top wax drip lube circa 5 times then do an immersive wax to do a full contamination re-set – you will ABSOLUTELY SMASH THE PANTS off friction and wear rates achieved by those using a wet lube and just wiping and adding more wet lube, and very likely still come out well ahead of wear rates achieved by those spending a lot of time and money frequently using solvents / degreasers to maintain drivetrain.

It is simply a different way of maintaining drive train, but once your logic chip has considered it for more than about 60 seconds, you should arrive at a place where it just undeniably makes sense that running wax lubes as above is in fact a better choice for both your drivetrain, your wallet, and the environment vs wet lube.

I'm not here to convince the world that everyone should switch to immersive waxing or wax drip lubes – they simply are not for some – for some it is simply ingrained that wax lubes are crap, wet lube for me – wipe chain add more lube, replace everything when its too rubbish to continue – yeehaa that's how I roll and I'm very happy with that etc. So im not here to change the minds of those who have fused that neural path in their brains, Im here to present that there are other options to consider and why you should consider them – then you can decide for yourself what suits you.

I've just felt there has been a bit too much of a write off of wax lubes / waxing when it comes to frequent wet conditions riding, and yet as I know for a simply undisputed fact that you WILL have a VASTLY lower friction and wear rate if either;

a) Immersive wax post wet ride (2 chains on rotation makes this easier, one off and into pot, other onto bike)
b) Use wax drip lube – ensure wipe chain and re-lube post any wet ride to ensure no rusting, then immersive wax to reset contamination. Again – bonus points for 2 chains on rotation to again halve wear rate of rest of drivetrain, and you always need another chain in your future so just pre buy next one.
c) Use wax drip lube and every circa 5th wet ride tops re-set contamination with a few rounds of boiling water flush rinse to do a surprisingly good contamination reset – which beats solvent use / cost / disposal.

So simply, lets not write off the above just because if ride in the wet and done re-lube / re-wax your chain will rust. Just understand the differences between a wax / wax lube and wet lube and maintain accordingly – and doing a / b / c will deliver you much happiness re friction and wear rates vs wet lube options.

I test to find the genuine best lubricants from immersive waxes to wax lubes to wet lubes, so honestly I don't care if one buys a bottle of wet lube or wax lube or bag of wax – it's your drivetrain – I just have non biased, fact led, no entrenched historical this is how it has always been

done so this is how we should still do it approach. Chain lubricants have taken leaps forwards in the last 18 months – with just a little knowledge, a little understanding and logic, and really just a modicum of effort – you can have a wonderfully running drivetrain year round no matter where you live.

K – couple of last points to address here before I get back to what I'm supposed to be doing re actually reviewing UFO drip – but again I hope you have allowed me this leeway to cover as it is important to understand as I do not think it is fair that a genuinely brilliant lubricant like UFO Drip should be dismissed out of hand by a large demographic of cyclists as it is a "wax" type lube and they often ride in wet conditions.

First – what about master links re popping chains on and off? – For 8, 9, 10 & 11spd this is pretty easy – either run YBN links which are officially 5x re useable and very cheap (in aus from awesome places like zfc they are 24.90 for a pack of 6 – yeeha) or wippermann connex links really suit some which are able to be popped on and off for the life of the chain. They have some quirks I wont get into here – but in short in the main they can be a great option for those needing to take chains on and off regularly.

For 12speed (eagle / campy / axs road) – to make popping chain on and off viable for proper flush cleaning (be it solvent or hot water or re waxing) you have to make the call yourself to either go against manufacturer instructions re single use and re-use link circa 5x – to date I have not had a customer doing this yet report a 12spd link failure , and I sure have shipload of 12spd customers doing the above – but – I cant guarantee it either - you have to make the call on the taking the failure risk here (there is no wippermann 12spd yet and the ybn 12spd links have not yet passed zfc testing especially for offroad use – hope to have an updated link soon though).

So for 12 spd if re-using single use links for re-waxing / swapping chains / boiling water rinses is something you are not keen to do, the other option for those looking too maintain wax / wax lube drivetrain is UFO clean. Not the cheapest cleaner but you do not need much of it, and you can do a great on bike clean with ufo clean followed by a water rinse - AND this product is again 100% environmentally friendly along with the lubricant. The wear savings will way outweigh the cost of using the product, and you wont be riding a shite running drivetrain.

So, there we have it – the counter to writing off waxing / wax lubes if you ride in the wet for your consideration.

I may be up against it a bit (a lot) to swing some thought trains around on this, But…… if one doesn't try to achieve something, your failure rate is guaranteed to come in at 100%. If you keep trying your best / keep trying from a new angle – it certainly wont guarantee success, but it increases one's odds from a flat out zero – so I have to try. Saving friction, drivetrain components and solvent use means a lot to this nerdy little low friction guy.

I certainly won't convince some of the CT team the above is the way to go because for them it simply isn't necessary considering the amount of time they spend on test bikes / not paying retail for their own drive train bits - But it would be great to see if I can get the CT team to review the above and hopefully not consign wax lubes & some very smart and logical methods of running drivetrain as impractical for those who frequently ride in the wet. I know what is the much lower friction and wear way to go, I know how easy it is with just a tiny bit of maintenance effort to run options a, b or c – lets see if I can get some on the team to help me get the groovy info out there and lets save a shipload of drivetrains and solvent use.

Lastly on this – don't hang any angst on Cycling Tips team re the above, I absolutely do not – we need to keep this in perspective - my knowledge is focussed in one tiny very specific bubble – those legends are reporting and trying to keep up across an enormous range of content and technical knowledge from bearings to suspension to brakes to geometry – in the interim I've conducted 300,000km of controlled testing with lots of dry and wet contamination blocks plus focussed all my attention on customers bikes on what lube, what maintenance, how many km's for the last 4 years – I've simply looked into this area a tad more and building on the foundation started by jason smith of Friction Facts.

And they have also been helping for a long time to get the message across re removing factory grease!!! So kudo's on that front, it helps a lot.

Overall I am a huge fan of Cycling Tips, their content is a level above the huge majority of cycling media because they don't just spout marketing content from paid advertisers, they have a different (and better) model so they have full editorial rights over what they publish / discuss, and have conducted a number of the best investigative cycling content ever written. They are huge supporters and drivers of womens cycling and womens cycling content and a number of other very groovy things. So - my nit picking on how they answer a question on wax lubes and wet conditions – take that from a viewpoint that they simply are not exposed to the same challenges as general public, and they haven't spent 4 years playing in a lubricant testing bubble.

However as the content was pretty strong on anti wax / wax lubes for such conditions, when in fact those choices with some very, very easy and environmentally friendly maintenance is in fact going to be a great way to go for many cyclists – I have felt it quite important to cover and correct this information in depth in this review, and that if you have made it this far with my ramblings – you don't dismiss a top lubricant choice from your considerations because you frequently ride in the wet.

So if you aren't already – get onto listening to Cycling tips podcast, Nerd alert podcast, Freewheeling podcast, and support a very valuable cycling resource – funding proper journalism is a tough gig these days where free content is everywhere, but a lot of free content is influenced by companies trying to sell you their product, or its simply rubbish. Support independent & genuine content platforms like Cycling Tips, there are not many of them, and we really need them to keep doing the great work they are doing. (And then you will see if this correction helped improve this area for the better on a podcast or article on day 😉).

(*Also listen to Marginal Gains by Josh Poertner – they have been helping greatly re top low friction information on chains & lubes – get on it if not already)

Okay – back to actually reviewing UFO DRIP v2 – hopefully even more pertinent now if the above has changed your mind to using it vs a wet lube! 😉

Righto – so we have covered the block by block performance, I have covered why you should absolutely consider UFO drip v2 and similar lubes even if you ride in the wet a lot – lets run through some of the general observations during the test and field testing.

To start, the initial application is a pretty heavy lube application. Applying lube to top of chain for two full chain lengths and then doing same down the bottom – no doubt about it you have put a heavy application of lubricant on your chain.

You need to work in – after liaising with Josh Poertner re silca ss drip work in instructions – I now do a mix of both back pedalling around 20 times in small ring small cog for maximum link articulation, as well as big ring / big cog (you may need to pedal forwards for this, some drive trains don't back pedal with that chain line angle) to open up the separate parts of the link to help ensure penetration to pin – again I do about 20 crank pedals.

It is then important to THOROUGHLY wipe excess – for all lubes not just wax lubes / UFO – you need lubrication on the inside of the chain, you don't want an excess on the outside of the chain – that just attracts more contamination for wet lubes, makes a gunky mess for wax lubes.

The heavy initial application does take a bit more time and effort to wipe excess vs say Silca SS drip where you really only needed to apply circa 5ml on first application and its super clean and easy to wipe clean. UFO v2 – applying 15 to 20ml on that first application and working in – your chain rings, chain and cassette are all REALLY REALLY COATED in excess lube which you definitely want to wipe clean. It was a bit of a chase my tail thing as I would try to wipe chain clean but it would be continually re-coated by excess lube on ring / cog / jockey wheels, and so then I would start wiping those clean but they would keep being re-coated by the chain – but meh – about 3 mins of working between chain and cogs

/ rings / jockey wheels with a microfibre cloth and I had sorted out the excess pretty well. Just make sure you do have a nice absorbent microfibre cloth – if you set to wiping the excess with some kitchen wipes you will be in that game for a while.

Re-lubes are a lot easier – the amount you are applying is halved which makes a pretty big difference, and I applied just in the big / big position for maximum bits opening, and whilst still definitely more work to wipe excess vs say Silca / Tru tension / Smoove etc – it's a 2 min job with a good cloth.

You will want to have a good stock of microfibre cloths – but really you want that for any lube choice – you will just notice it more with this lube if you are sans them re removing excess each re lube.

After that, overall observations, measures, and real world riding – things were pretty much all positive. The initial wear rates through the first 3000km of the control testing were staggeringly low, and the drive train stayed very clean. In field testing it was a little dirtier, but not much, Ie if you ran fingers along chain you would get a bit of black lube on fingers, but obviously well short of what happens when you do that with a wet lube. It is not as super clean like Silca SS drip or Tru Tension tungsten all weather or race which are the cleanest drip lubes tested thus far, but still impressively clean overall. If you don't remove excess properly however, you may be in for a gunky experience.

I found claimed lifespan to be pretty accurate although I personally would still re lube on the earlier side (circa 200km vs 300km) but I am more conservative than most re pushing treatment lifespans (I see often the wear rate difference it can make in real world to err on side of more frequent vs pushing treatment lifespans), and is very smooth to ride for that couple of hundred km's – starting to feel and sound a bit dry a little after that – although this does extend over time and multiple applications.

Re claimed ultra low friction performance from Ceramic Speed with record low 2.8w loss at 250w load – do we take with a grain of salt or can we put good faith in this claimed figure?

Ok full disclosure I have liaised and worked a lot with Jason Smith and the CS Denmark R&D team over the last years re testing, chain friction data, competitor lubricant efficiency data and I have a very good relationship with CS.

So you may also take it with a pinch of salt when I say you can 100% believe CS performance claims results – but I shall advise you as to why you can.

For one, their test equipment and protocols are completely open. This is not the case for a number of other manufacturers – who either have nothing to back up claims other that stating feedback from pro athletes has been exceptional (note, it always is, no matter what – that's for another day).

For two – when you are one of the only manufacturers in the world with extremely expensive, extremely high precision test equipment, and just as importantly mature test protocols pioneered by the person who started all of this – Jason Smith of Friction Facts – they advised that quite simply they simply wouldn't go to market until they were number 1. They have the machine to play with and PHD chemists and engineers, they are just going to keep at it until they get the lowest number on the market. When other manufacturers do not have such a machine and the experience of how to conduct the test protocols, it is extremely difficult to know if your formula is as fast as it can possibly be, or just really good but not at its ultimate. There is currently (in my opinion) no reliable independent outright efficiency test facility for other manufacturers to go to.

Outright efficiency testing is actually pretty darn complicated. For there to be comparable independent test labs around the world putting forwards comparable data - first certain key aspects would need to be agreed upon, including but not limited to – the brand of motors and

torque sensors, the ambient temp and humidity when conducting tests, the instrument warm up and calibration protocol, the stable instrument temperature, what size chain rings and cogs (larger rings for a given power = less tension in chain which will have a positive or negative influence on a lubricant depending on its properties), test cadence/rpm (again lower cadence for a given power = more torque which will benefit / detriment certain lubricants results) and also the test protocol itself – Full tension testing or Full load testing or combining the two – that is too in depth to cover here -but in short – this is why we don't have a bunch of manufacturers with the test equipment CS have, nor why there are not a bunch of independent test labs merrily making money testing other manufacturers lubricants for outright efficiency.

At the moment if we had 10 companies build 10 efficiency test machines, we would have 10 test labs all putting out data that doesn't line up with anyone else. This wouldn't help clear the waters around manufacturers claims, but make them muddier and more confusing. Already things are pretty muddy with whole CS vs Muc-Off vs AB using Wheel energy. In fact if you go through the marketing claims of just those 3 vs each other things are as muddy as a small lake full of hippo's.

Since the test machines & protocols used by CS evolved from Friction Facts testing pioneered by Jason Smith, who was then brought on board by CS who have continued to test via the principles covered in Friction Facts white paper and peer reviewed by the top brains in the relevant fields – all up they are a manufacturer with whom I have full confidence with regards to their testing and claims.

All of the above is also why I went down a wear rate correlation test – aside from they ZFC protocol over thousands of km's with alternating clean and contamination blocks enabling assessment of a wider range of real world performance results – the wear rate protocol helps back up or not a particular manufacturers efficiency claims. Quite simply if there is a high wear rate of steel parts, this just flat out takes friction. If wear rates remain exceptionally low – then low friction claims are looking extremely likely. Without an agreed upon efficiency test protocol & equipment, it is extremely difficult at the moment for another test facility to open and produce comparative results, and very easy to produce conflicting / confusing results which is what we have seen so far from the couple of other outright efficiency test labs that do exist.

In short – the only outright efficiency lab I have confidence in re the loss numbers what we get from CS testing, and I use this testing where I can to get efficiency results for chains as well as what data is released re competitor lubricants.

So whilst my test cannot tell whether UFO is in fact 2.8w or 4.8w or faster or slower than silca or ab graphene etc, it does at least back up by the extremely low wear rate that its going to be at the very pointy end of the field, whereas some other lubricants claiming some very low numbers but delivering high wear rates – it is difficult to see how low loss numbers could exist alongside metal wear quickly when lubricated by their product. In short – ZFC has proven to be a good wicket keeper of likelihood of claims vs reality re outright efficiency, contamination resistance, ability to clean as lube etc.

I put the question to Ceramic Speed re issue of their own testing having them as number one, and their answer was simply that they have the world's most mature and peer reviewed efficiency test protocol, and they are simply going to keep working at the lubricant formula until they achieve their goals, testing ad infinitum until simply they are number 1, and then they go to market. It would be a pretty poor strategy to go to market proving you are number 3, or 5.

So you can take all of the above into account re how much stock you place in the manufacturer claims. Good relationship or not is irrelevant re ZFC lubricant reviews – if I had a concern with claims I would raise it in the review based on my testing and results. ZFC has also worked its little buttski off to establish itself as the number 1 trusted **independent** lubricant test facility in the world, and years and thousands of hours of work + tens of thousands of $$ of costs isn't being jeopardised to sugar coat anything for anyone. You can see from review of UFO drip v1 that a number of issues were highlighted – but they didn't leave too much to pick on with v2.

For this lube and this review and CS test claims, I have zero concerns nor reason to question their claims, and it was fun to really discuss in

Anyhoo – sorry again for segue's / long disclaimer – I am frequently asked questions with regards to manufacturer claims and testing such that this will be separate topic to cover soon – but yep – sorry to add much length to this review covering testing and claims – i just felt it pretty relevant to cover off a bit since they are the one claiming worlds fastest – I have already been asked many times and will be continued to be asked do I believe the testing – so I needed to cover it off a bit for readers to see if it helps them with their own view re claims & testing.

Ok – so as a general wrap – we have outright efficiency claims from CS showing their UFO drip v2 is the worlds fastest lubricant. We have ZFC test data to show that it has record breaking low wear rate performance for any drip lube tested to date, it is a wax emulsion lubricant that has no initial penetration issues so you don't have to get a plastic bag or container out, it remains impressively clean for good stretch, and it is easy too clean with either UFO clean and / or boiling water – and whilst they don't officially endorse – you can use in conjunction with top immersive waxes such as Mspeedwax and Silca Hot melt without needing to clean before putting into wax pot. They have resolved the application temperature issue which made v1 very tricky if you lived somewhere cold. It is environmentally friendly vs being dangerous goods. And I have covered why wax drip lubes such as this – with just a little bit of understanding around maintenance processes are still a lower wear, lower maintenance choice vs wet lubes even if one rides a lot in the wet.

All up its heck of a lot in the Pro column, and not a lot in the con column. The con's are pretty much limited to high application amount – especially first application – leading to a bit of a chasing game wiping excess. Still relatively short treatment lifespan – but in line with most competitors in this space such as Silca SS and tru Tension Tungsten all weather, and relatively high cost per bottle – however I am at much pains same as with silca ss that due to the extremely low component wear rates – the actual total cost to run drivetrain with this lubricant is extremely low. However whilst I say don't worry about the price of a bottle, there is no way around that many will still look at the price of a bottle and then look at another lube for $15 making all sorts of wonderous claims and think no way am I paying that for a bottle of chain lube – so whilst i can tell you its not really a con, the public will see the price for a bottle as being in the con column.

But make no mistake, if this is to be your chosen lubricant, you apply as per instructions and don't push it past its treatment lifespan – I can only forsee extremely good times ahead for you and your drivetrain.

New section in detail review 1 – Cross compatibility with other lubricants

Ok what Im going to cover here is not endorsed by Ceramic Speed. Ceramic Speed will want you to use UFO drip and only UFO drip, and not mix and match with immersive waxing with mspeedwax, silca hot melt of absolute black graphene wax.

The hybrid approach is proving to be very popular, and for good reason. Keeping up with popping chain off to re-wax every time need to re-lube is a barrier for some cyclists who would otherwise love to enjoy the day in day out super low friction and wear of immersive waxing. Remember immersive waxing with the top known waxes (Silca Hot Melt and Mspeedwax) has some extremely hard to beat advantages – rather than adding 0.1ml of lube per link over top of old coating that is contaminated to X degree, chain is submerged in 400ml + of 100% super slippery lubricant, old coating melts off, all parts of chain are re-coated.

So whilst UFO drip v2 may well be fastest drip lube on the market, over time if you just keep adding more lube and riding – in 2000 or 3000km down the road – you will not be at 2.8w loss anymore.

The hybrid approach of using a top known chain coating type lubricant such as silca ss drip, tru-tension tungsten all weather or race, etc for say 5 ish re lubes, then doing an immersive wax with a top wax to reset contamination – is a brilliant way to run drivetrain and keep it exceptionally clean and day in day out low friction and wear for those whom immersive waxing every time is not for them.

absoluteBlack were quick to confirm that their graphene lube is cross compatible with mspeedwax and Silca Hot melt (as well of course with their own freshly released wax), and silca SS drip was designed to be used in conjunction with silca hot melt (and naturally no issues to use with mspeedwax).

Ceramic Speeds official position is that if you mix their worlds fastest lubricant with a wax that is not as fast, you are going to be making their lubricant slower. That makes sense from a perfect world scenario – if you take a 2.8w lube and mix it with a 3.5 or 4 watt loss wax, you are going to move away from the 2.8w performance.

But on the same token – you are not going to stay at 2.8w day in day out anyway unless you only train in a clean room perfectly clean and re-lube your chain every re-lube.

Officially obviously CS would like you to maintain your UFO chain with UFO clean – and if immersive waxing at any point is not your thing, then this is exactly what you should do. UFO clean is also a brilliant product – very few solvents are capable of doing anything with wax, and those that do are typically not environmentally friendly – UFO clean is designed to deal with both factory grease and wax chains, and is environmentally friendly – I had the pleasure of chatting to the PHD chemist behind the product and she took me through the testing and the fact that CS themselves do use UFO clean in the ultrasonics to clean factory grease off as start of prepping UFO race chains, and a little goes a surprisingly long way.

So the official recommendation from CS would be to use UFO clean and UFO to maintain a super low friction chain, but from ZFC – I have been field testing using UFO drip, and re-waxing with either mspeedwax or hot melt, and everything is getting along great. I personally would prefer to do this for my training chains as immersive waxing really is something that once you are used to it – when you pop chain off you get to quickly check you bb bearings, jockey wheels ,rear wheel bearings etc that all are silky smooth as they should be, and every time chain comes out of pot it looks brand new and you haven’t had to do any cleaning to re-set any contamination. Its quite cathartic as opposed to being a hassle – and you would be surprised how many emails I get from new waxers who were initially worried about re-waxing who find exactly the

same – doing an immersive re-wax is just flat out good times & good feelings and you get to know that the rest of your drivetrain is running sweet whilst chain is off the bike.

If you race, as covered before having a dedicated race chain is always the smart way to roll, honestly it is just plain silly to race on the same chain you hammer with thousands of kms of training – a dedicated race chain is easy to keep mint, and so in this case using UFO clean (you don't need an ultrasonic – agitated container bath), rinse, dry, re apply and work in, allow overnight set, wrap in microfibre cloth till next race.

Summary – I've jumped around a bit there but to sum up, CS will likely not officially endorse mixing and matching UFO drip v2 with immersive waxing, but ZFC says go for it especially for training chains vs using a cleaning agent – I know I will be.

In Fact – this just in from CS as their official statement re cross compatibility with other products / immersive waxes – interpret their official statement how they will (ZFC personally still interprets that a periodic immersive wax in combination with UFO is a great way to run your drivetrain and not need to use cleaning products – but still, below is the official position of Ceramic Speed).

At this time, we have no public plans to release or promote a home immersion wax product and wish to avoid confusion with existing products. The successful penetration of UFO Drip, and compliment to the factory prepared UFO Chains, delivers performance and simplicity for riders without complication.

There you have it. Book of Ceramic Speed – King john edition, Chapter : UFO New Formula, Verse : Uncomplication.

Can I or should I immersively apply UFO before a really important event?

NO.

This is highly beneficial for a lot of wax emulsion lubricants that can have notable initial penetration issues (ie if you use Squirt, Smoove, Tru Tension tungsten all weather etc – then absolutely I would, and ab graphene is a must).

Silca have Super Secret drip tub which is brilliant – it is kind of a middle man between melting wax in a pot which is too much for some, vs just adding more lube for others which has limitations over time for clearing contamination – one can pop chain off and put in tub of silca ss drip (bonus points for UFO clean / Boiling water rinse clean first to melt off some of the old contaminated coating first and drying, then soak in tub).

And ab graphene – honestly the bag they provide for the initial application is a bit of a nightmare – its hard to get a good agitation, its scary to pour it back into bottle, and you can leave about $20 worth of product behind in the bag. First thing I did was I bought the same screw top tub silca use and pour bottle of ab graphene into that, I can then put chain in, shake the bejeezus out of it (and I ultrasonic as well as I have them). Post application you will need to decant from container using a funnel back into bottle as air exposure in container will cause product loss and its darn expensive product – but still the container is a lot better than the bag. Just be careful not to knock anything over….

However UFO drip will still dry out a lot exposing it to the amount of air needed to do an immersive application and it will be much thicker in the bottle after having done so, so much so that future applications may be very tricky or impossible, so it is best to follow their instructions re application and DO NOT do an immersive application unless you are happy to risk that it may be the ball game for that bottle and the event is so important that doing an ultrasonic or immersive application of UFO Drip new formula is worth the cost of a bottle. If you do leave in the container or a bag it will dry out quickly and become far to thick to apply.

ZFC Overall Performance Ratings

Race Day Lubricant Road – 10/10

As above as best as we can tell UFO drip v2 is the outright fastest chain lubricant alongside their pre treated UFO wax chains. Using both UFO clean and UFO drip and running a dedicated race chain and training chain you can keep your dedicated race chain mint and ultra low friction for many races if maintain between each race.

Race Day Lubricant MTB / CX / Gravel – 10/10

Dry conditions XC to XCM length (circa up to 6hrs ish I would comfortable re endurance of treatment) we can see that wear rate barely changed in dry contamination block – as a true solid chain coating – you are getting nearly same performance as dry road race for a good stretch. As treatment wears thin, more dust will penetrate however so its friction curve may be steep towards the end if push past treatment limit.

Everyday Lubricant – 9/10 dry riding – 8/10 for wet conditions.

Im taking one point off perfect only due to higher application amount has UFO drip over time not quite as super clean as some other lubricants such as Silca SS drip, tru tension tungsten all weather, and immersive waxing is still in ZFC opinion the number one re lowest possible maintenance and running costs if simply re-wax within treatment lifespan as no cleaning is ever required and chain comes out of pot brand new every time. Over time with the higher application amount some build up will occur and some periodic cleaning maintenance will be desirable, and not everyone is going to keep a bottle of UFO clean handy.

For wet conditions it performed very well overall however like all drip lubes unless you remove the contamination the dirty water brings in, most of it is going to stay locked in the previous set coating, however the higher application amount does drop friction over time more than any other drip lube tested to date, simply not as much as immersive waxing which will reset back to basically zero again each time.

Harsh Conditions Lubricant – 9/10 within treatment lifespan

Again it is like to be as faster / faster than anything within treatment lifespan, however like basically all lubricants, treatment lifespan is going to be quite short. It will last you through a cx / xc event – but I wouldn’t push beyond that.

Single Application for Long event – 9/10 within treatment lifespan

This is always hard to give an actual number too for many lubricants as there is a big variance in what one terms a long event, and the conditions of the event over a long time will either really add up or if conditions are good, the lubricant will hold up. Ultra low friction treatment lifespan is good for circa 300km in dry road conditions, circa 150km in dusty conditions and 50km in extremely harsh conditions based on new ZFC single application longevity test protocol – so use this as guide depending on how long and what type of event your event is and whether this treatment is going to last the distance. If it does, you will have an extremely low friction chain for that event distance.

New section in detail review 2 – Cost to run data – brief.

Alright here we get to an exciting new part of detail reviews. Based on the last 4 years or work and graphs and block by block wear rates, it has become clear that this is a very difficult format for most readers to try to work out what this really means for them and their riding – some lubricants may record quite similar total wear rate from blocks 1 through 5, but lubricant A may start poor due to high initial penetration issues, then perform very well in dry contamination block 2, whereas lubricant B may record very low initial wear in block 1, but absorb a lot of contamination in block 2 and record a high wear rate – yet both may be at a similar wear rate point at that distance in test, however one lubricant will be much better for a gravel / mtb rider if negate initial penetration issues etc.

Also previous cost to run data only calculated cost to run based on wear rates for Ultegra groupset.

So the charts on lubricant test page are now replaced with greatly expanded cost to run modelling based on;

Block 1 to 5 wear rate on ultegra groupset

Block 1 to 5 wear rate based on Dura Ace groupset.

As the price of groupset increases, the cost of the lubricant IF IT DELIVERS A GENUINE VERY LOW WEAR RATE, becomes a very small part of the cost equation. Often on many lubricant reviews on cycling media publications of expensive lubricant reviews, the focus is often on "who would pay that much money on a bottle of lubricant to maybe save a watt or two of friction?!" – The link between a lubricant staying very low friction, and the vastly lower wear rates this delivers which equals vastly lower running costs on top tier groupsets – is almost always missed. This expanded cost to run section addresses this issue.

Cost to run calculated on GRX 810 gravel groupset based on Dry contamination block wear rate

Cost to run calculated on GRX 810 gravel groupset based on Extreme contamination block wear rate (ie if this was your CX bikes groupset and chosen lubricant).

The cost to run figures are based on wear rates achieve in the ZFC test protocol, throughout which NO CLEANING MAINTENANCE is performed so as to assess lubricants ability to resist / clear contamination. You can attain much better results than the calculated figures below for (for drip lubes) by ensuring maintain chain as one should especially post wet rides – however you will need to factor in yourself cost of maintenance (what is cost of product, how often and how much you use etc).

Cost to run Per 10,000km – Ultegra 11spd Groupset – Based on Wear rate recorded Blocks 1 to 5 of Main test protocol

UFO Drip v2 - $237.73.

This is the lowest cost to run for any drip lube tested to date, slightly lower than Silca Super Secret Drip at $290.92

UFO Drip v2 is ranked 4th overall, the top 3 are all immersive waxes (Mspeedwax at double re-wax rate, Mspeedwax at normal rewax intervals, and Silca Hot Melt. Again immersive waxes reset contamination every re-wax and so are difficult to beat).

The average cost to run per 10,000km of all 16 lubricants tested to date is $482.29, so despite high cost per bottle – again UFO Drip V2 ranks extremely favourably in total cost to run due to exceptionally low component wear rates.

Full data table is available on Lubricant Test page on website

Cost to run Per 10,000km – Dura Ace 11spd Groupset – Based on Wear rate recorded Blocks 1 to 5 of Main test protocol

UFO Drip v2 - $626.43.

Again this is the lowest cost to run for any drip lube tested to date, again just beating out Silca Super Secret Drip.

UFO Drip v2 is ranked 4th overall, the top 3 are all immersive waxes (Mspeedwax at double re-wax rate, Mspeedwax at normal rewax intervals, and Silca Hot Melt. Again immersive waxes reset contamination every re-wax and so are difficult to beat).

The average cost to run per 10,000km of all 16 lubricants tested to date for Dura Ace is $1385.27, so here we can really see that the cost of the lubricant is a tiny part of the total cost to run – component wear rates when the components are high cost is by far the most important factor to consider, and UFO Drip v2 delivered exceptionally low wear rates.

Full data table is available on Lubricant Test page on website

Cost to run Per 10,000km – GRX 810 Gravel Groupset – Based on Wear rate recorded during dry contamination block 2 of main test protocol.

UFO Drip v2 - $226.25.

This is the second lowest cost to run for any drip lube tested to date, this time Silca SS drip just edged out UFO. UFO did record a slightly lower wear rate, but they were so close it is within margin of error of measuring equipment, and the approx. double usage rate of lubricant meant that Silca SS drip edged ahead overall.

UFO Drip v2 is ranked 3rd overall, even beating out a couple of immersive waxes in this block as being a solid chain coating, so little contamination penetrates there is not much to need to reset which is immersive waxing's main advantage (blocks 1 to 5 contain a wet contamination block which is where immersive waxes really pull ahead).

The average cost to run per 10,000km of all 16 lubricants tested to date for Dura Ace is $701.64. With UFO Drip v2 having such high dust contamination resistance, for gravel riders / mtb / cx etc there is a huge benefit overall with UFO v2 being approx. 1/3rd the average cost to run due to keeping component wear rate so exceptionally low.

Full data table is available on Lubricant Test page on website

Cost to run Per 10,000km – GRX 810 Gravel Groupset – Based on Wear rate recorded during the EXTREME contamination block 6 of main test protocol

UFO Drip v2 - $769.40.

This is the third lowest cost to run for any drip lube tested to date, this time Tru Tension Tungsten All weather came out ahead, and also Nix Frix Shun **however NFS was an extrapolated result based on its block 4 – wet contamination results – NFS was not actually tested in the extreme contamination result as its cumulative wear rate by that point of test had exceeded test allowance due to higher wear rates recorded during blocks 1 to 3 (dry contamination sticks to wet lubes so block 2 & 3 especially were much higher for NFS using up much of its wear rate allowance. It should be noted that extrapolated results a calculated result and not a measured result and so I would not put 100% accuracy in NFS definitely out performing in such conditions**.

The top 3 positions were again back to immersive waxes due to contamination reset automatically every re-lube = re-wax.

The average cost to run for Extreme contamination block 6 is $1449.60 so again we can see a top lubricant delivers around half the running cost vs average of lubricants tested to date.

Full data table is available on Lubricant Test page on website

Best online magazine review of lube found:

https://road.cc/content/review/270381-ceramicspeed-ufo-drip-chain-coating

As is often the case such reviews elude to the claimed performance benefits not be able to be discerned whilst riding. To me personally, such statements are a bit nonsensical – no you are not going to notice the difference between a 3w lube and 5w lube or a 7w lube whilst riding.

One year pre nationals I ran the numbers on savings for a full optimised race chain vs someone rocking up and racing on an average wet lube that has seen a bit of training. At professionals power up the main 3km climb in the Aussie nationals course of circa 400w, there would have been around a 5 to 7watt friction saving.

For an average bike + gear + rider weight over this 3km this equated to handily around 5 to 7 seconds time difference.

If you climbed a 3km climb, sans garmin, at basically max effort with one lube vs another and one lube was 5 to 7 seconds faster – would you feel that 5 to 7 seconds difference over 3km of climbing? You would be a game person to believe you are that sensitive an instrument.

However – taking the calculations one step further, at their average climb speed for that climb (circa 25kmh) that 5 to 7 second difference equates to around 30 meters of ground on the road. That is literally the difference between being dropped or staying on, or making a break or staying in the pack. Multiply that by 18times which is how many times the elite men go up the climb.

So no, you will not notice that the watts savings are making you X seconds faster on X segment of your ride.

You will notice over time the drastically reduced wear rates vs average lubricants and a significantly lower cost to run per 10,000km, the difference in many cases vs many lubes are sufficient to buy some nice new things like new helmet, glasses, shoes, race suit – or all of them depending on what you are currently running – vs just burning that cash on component wear.

The review makes much about lack of lifespan, and what the reviewer experienced is similar to what was seen in ZFC extreme contamination block, however – hopefully my in depth correction re wax lubes and wet weather covered earlier in this review has you properly understanding how to manage your chain when you frequently ride in such conditions with these lubricant types and enjoy the great cleanliness and cost to run benefits they bring.

Whats up next?

As always, A LOT!

I have just finished the complete revamp of lubricant test page moving from block by block wear rate graphs which were becoming too crowded and too faffy for most riders to faff their way through and replaced with much more tangible cost to run data based on expanded groupsets and riding types.

At time of writing I have completed Silca Hot melt test and need to start on that detail review (however the data is in updated tables – sneak preview hot melt was amazing setting record low wear rates for the third lubricant test in a row now – Silca SS drip set new records, then UFO drip v2, and now Silca hot melt – the golden age of lubricants keeps getting more 24k gold.

I have also completed factory grease test as a couple of major media sites have advocated that one should not remove factory grease and run that instead of top known drip lubes. Detail review also pending (it will be much shorter – just highlighting the much higher wear rate and cost to run difference – in case you had been suckered in that removing factory grease would be a mistake – I can show you quite clearly why running a top known lubricant choice instead will save you a ton of friction and wear.

I have completed building 2 more test machines as testing list is pretty nuts.

On test at the moment is Silca Synergetic and Absolute Black Graphene Wax.

As I have implemented a vastly improved single application longevity test protocol I am now working through re-testing previously tested high performance lubricants such as Smoove, Tru Tension tungsten all weather, absoluteBlack Graphene, Nix Frix Shun. Apologies the Single Application longevity chart looks a bit sparse at the moment but im working hard on filling that out with top lubricants re tested under the new protocol.

Also lined up is a Nix Frix Shun's new Blue Devil lubricant, and a re-test of absoluteBlack Graphene that is not locked up under Non Disclosure agreement but test of commercially released product, as well as Silca SS Drip Tub which will be quite exciting as that's the middle man between drip lubes and hot melt waxes.

I also have approximately 10 private tests booked for major manufacturers under NDA – however depending on performance hopefully the NDA will be torn up and detail reviews and data releases can be done.

I am also working on top friction hints and tips covering not only drivetrain but expanding into a couple of other quick win area's as well, a top maintenance hints and tips document to cover both waxing, wax lubes and wet lubes, and need to re-vamp waxing FAQ guide to cover more than msw but hot melt and ab graphene. Much to do….Im certainly not bored!

Apologies again re delays in updating test pages and slow rate of detail review releases, retail side of ZFC is now very busy as is testing workload and the time resources invested in building new workshop and new test machines – it has been a hectic last 6 months. I have now recognised that to stay on top of testing and project side of ZFC I need to close the inbox for 1 week per month to concentrate fully on updating data and completing detail reviews – this has commenced as of February 2021 – and so the rate of testing and project updates should now improve.

Pics from test

After first 1000km block 1;

After first thousand kms and 3 applications – you can see UFO Drip is exceptionally clean, this did not change too much over next 2000km – however it was not quite as exceptionally clean as Silca SS drip nor Tru-Tension Tungsten all weather, some build up starts. From now on pics will be taken at the 3000km mark and end of test vs 1000km mark.

End of Main test – 6000km

Some build up, but considering there are 30 re-lube applications if a lubricant makes it all the way to end of main 6000km test protocol.

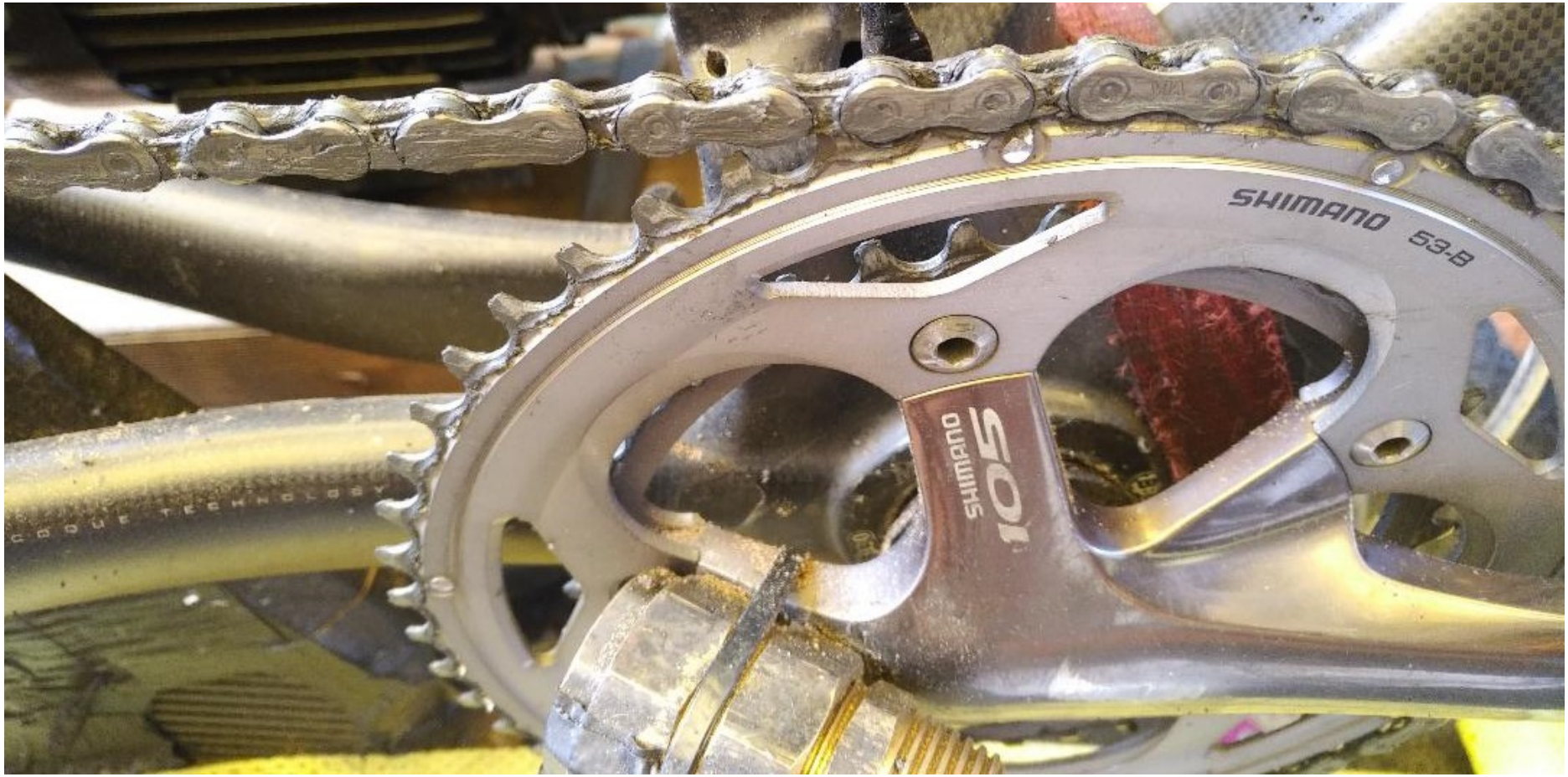
Cassette at end of test –6000 km.

Again an impressively low build up considering 30 re lube applications and a lot of contamination thrown at chain and zero cleaning maintenance.

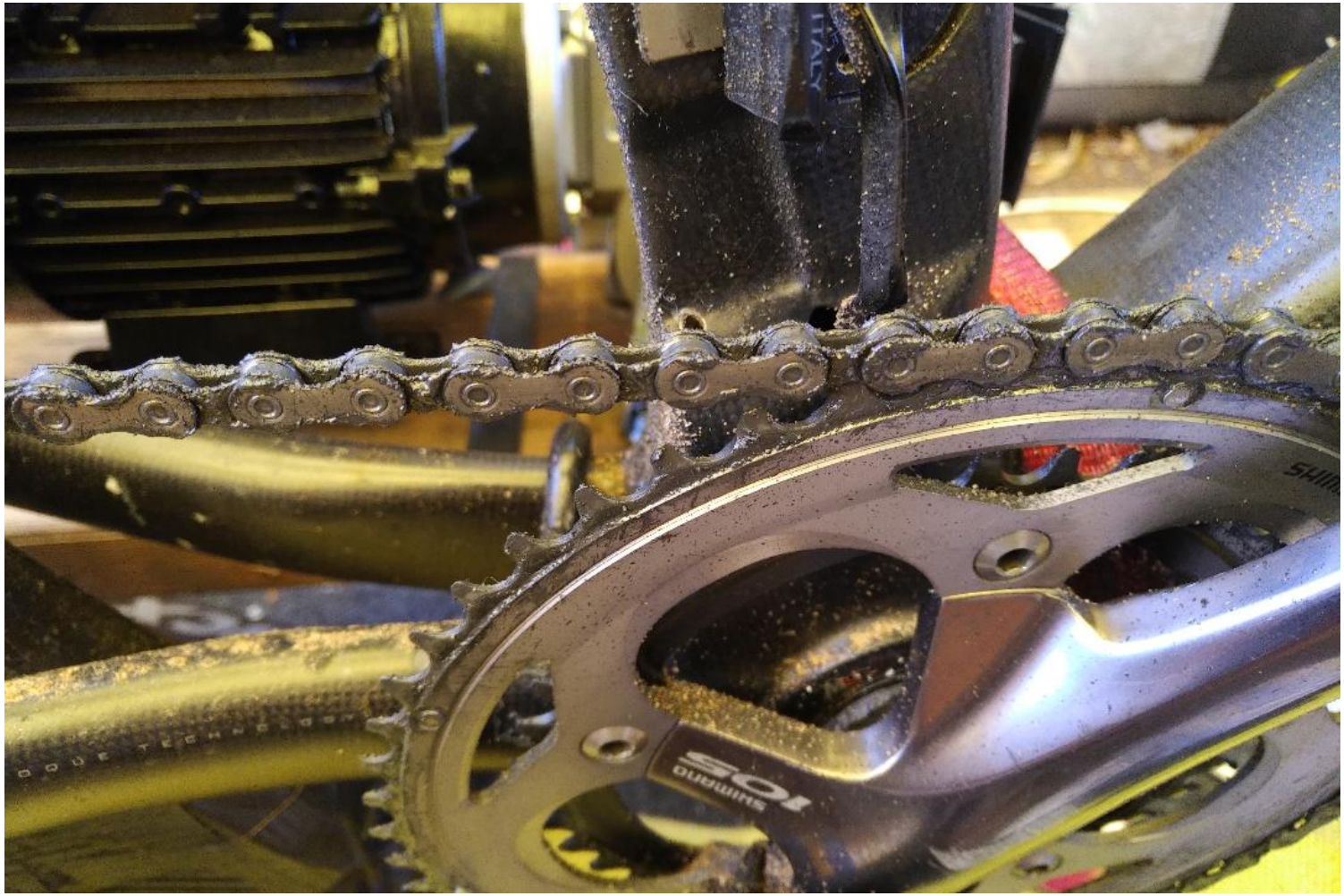
Jockey wheels at end of test –6000km

Again to show an exceptional lube vs some other lubes to bench mark against

Wend Wax after 3000km – 98% of wear allowance used at this point – Silca SS – 7.5%



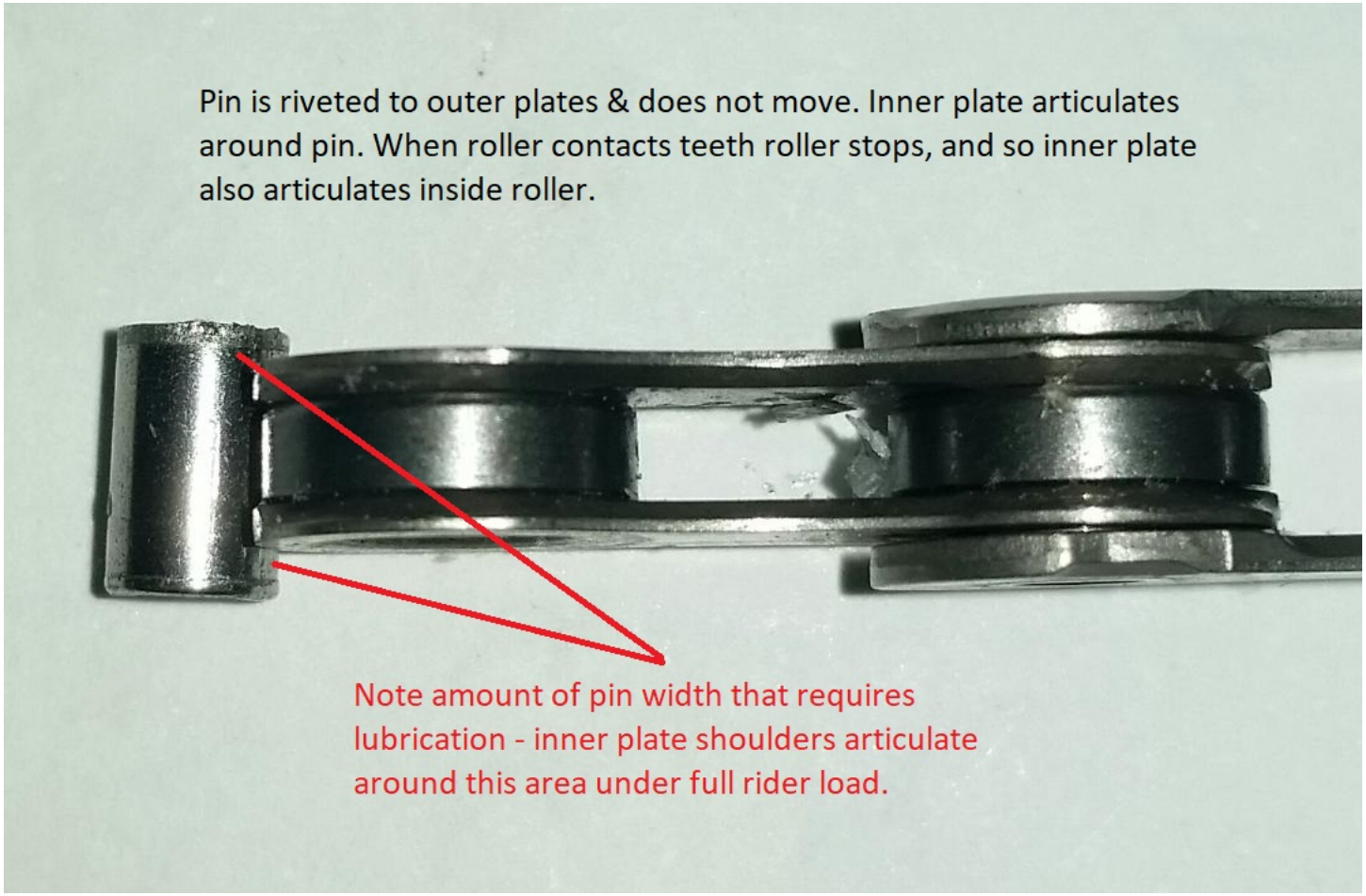
Muc Off Hydro / Nano after 2000km – 145% wear allowance at this point, Silca SS at same point – 7.5% wear.



Still the benchmark due to immersive re-waxing in lab grade wax – Mspeedwax after 6000km

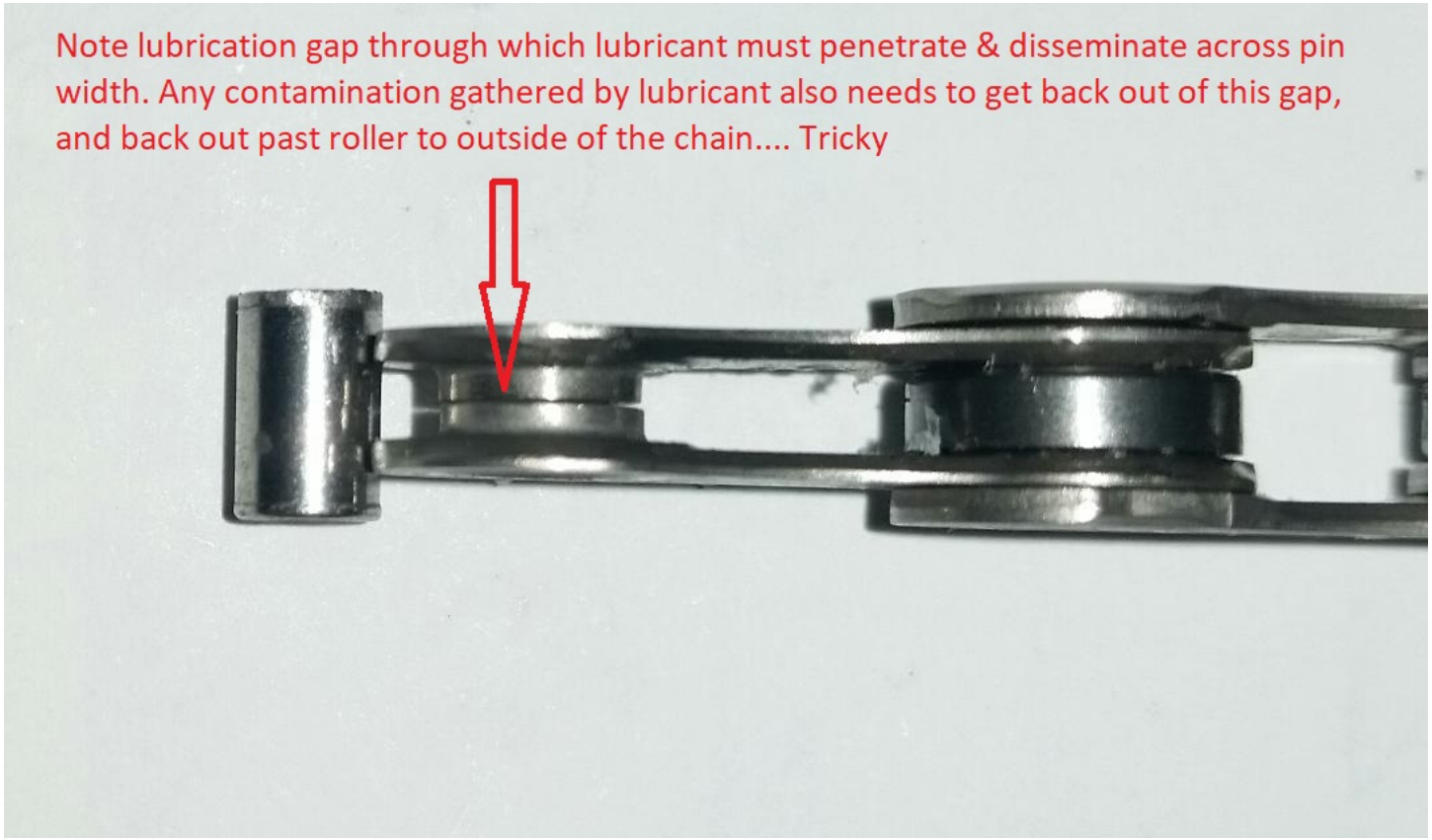
Finally, a quick re-cap on why many wax emulsion lubricants have an initial penetration issue (but not UFO V2 or Silca SS drip), especially on narrower chains. *Note, you cannot try to negate this by applying over packing / factory grease – packing grease is anti corrosion protection in case they sit on a

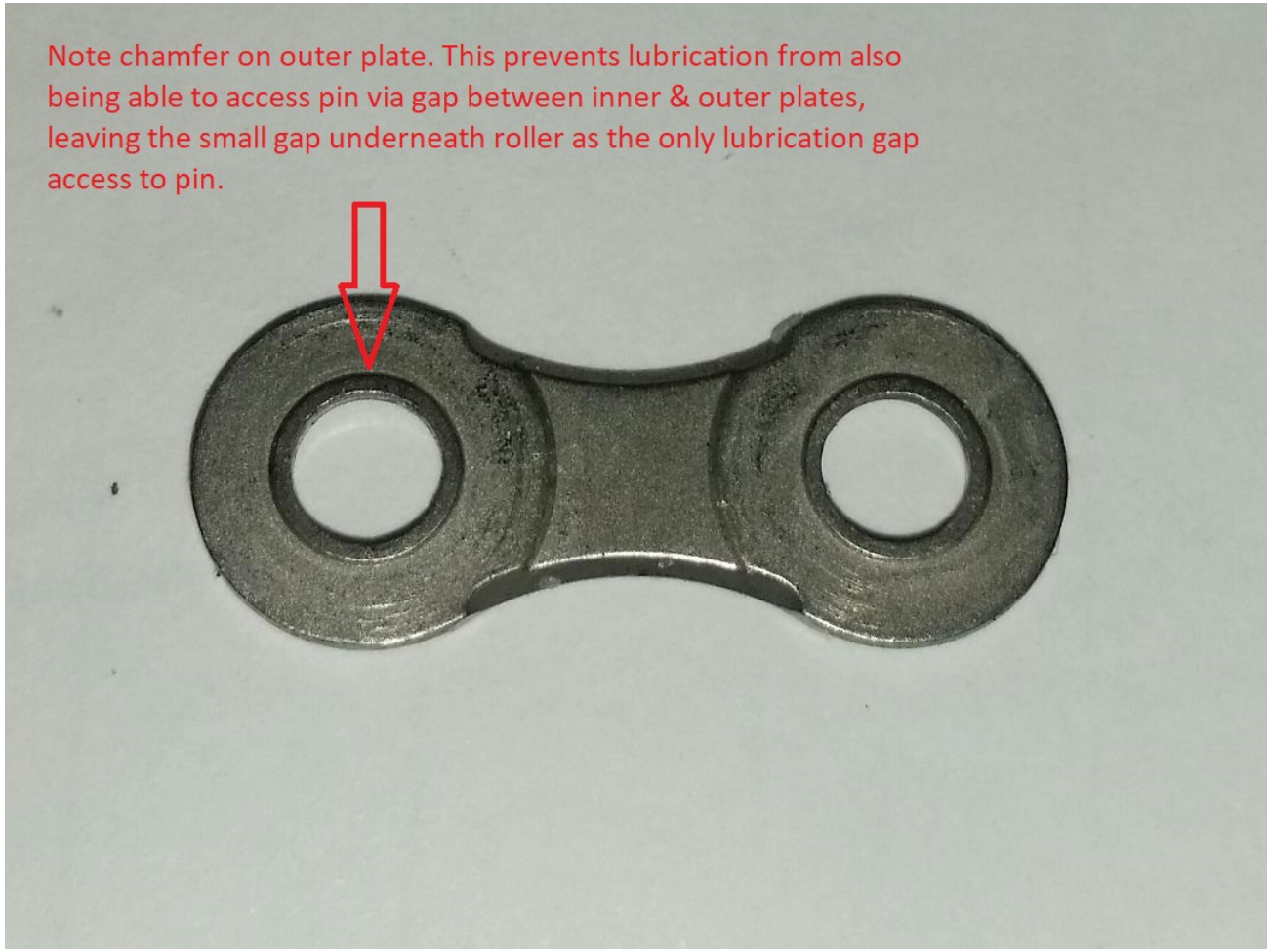
shelf for two decades, you should never ride factory grease as a lubricant or add any decent lubricant over the top of it – step 1 it must be properly cleaned off, and depending on lubricant – take some care to negate initial penetration issues, or – start with an ultrasonically cleaned and mspeedwax / silca hot melt prepped chain as you can add any lube straight on top of Mspeedwax / silca hot melt (exception being ab graphene that should be stand alone prepped with ab graphene)**



Now with Roller removed

(Note width of inner plate shoulders – inside bore articulates around pin, outside of plate shoulders articulates inside roller.




Note chamfer on outer plate. This prevents lubrication from also being able to access pin via gap between inner & outer plates, leaving the small gap underneath roller as the only lubrication gap access to pin.