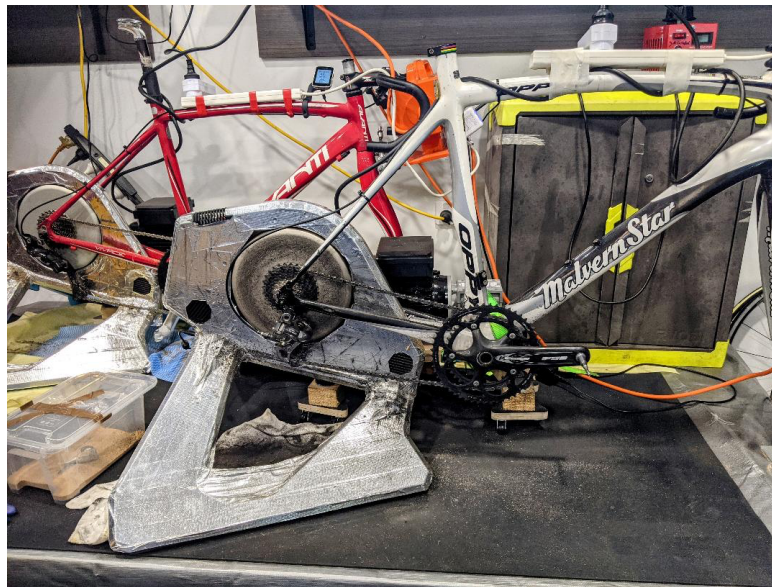


# Zero Friction Cycling

*Worlds most exhaustive independent bicycle chain lubricant and chain testing – over 300,000km of controlled testing to date.*



**Video demonstration ZFC test contamination**

<https://www.youtube.com/watch?v=2soU9J0Z7hk>

## Lubricant On Test :

Cost: \$29.90 aud.

Size – 100ml



Photo :

## Manufacturers Description on website

Wax-based lubricants are an efficient and clean way to lubricate bicycle chains. With its sunflower seed wax content, Flowerpower Wax uses natural ingredients for record-breaking performance and reliability, all this avoiding fluorinated compounds, graphene and sulphides.

- Creates a solid layer of wax between the moving parts of the chain, reducing friction, noise and increasing the life of the chain
- Unlike lubricating oils, it does not dirty clothes and resists contamination by dirt and dust very well
- Thanks to the sunflower seed wax, it is very resistant to water and is ideal in any season, on and off-road
- High wax to water ratio (over 50%!)
- Rapidly biodegradable: it does not contain PTFE, sulphides, graphene or other chemicals harmful to the environment
- Evaluated by Zero Friction Cycling as [the best drip lubricant ever tested](#)

### *The advantages of wax chain lubrication*

We are all familiar with the classic lubricating oils, traditionally used in cycling. However, these products are subject to rapid contamination during use, collecting dust and dirt (hence the classic trace of black they leave) and over time becoming real abrasive pastes that reduce the life of the chain and – progressively - its efficiency (we are talking about several Watts of precious leg power wasted).

The use of lubricating waxes has become more and more widespread: the chain treated with these products does not dirty, runs silently for a long time and absorbs less power, all this while increasing the number of kilometers traveled before a chain has to be replaced. Water-based wax emulsions, such as Flowerpower Wax, bring great benefits, following some simple usage tips.

### *How Flowerpower Wax works*

Flowerpower Wax creates a solid layer of wax that is interposed between the moving elements of the chain, reducing friction. It's a water emulsion of natural waxy compounds, with the right viscosity to penetrate inside the chain links, where lubrication is most important. Once the water has evaporated, a thick layer of wax remains firmly anchored to the metal, creating a real anti-friction pad.

The chain will not be dry to the touch - given the layer of wax that also protects the outside - but it will not be greasy or sticky and will not retain dirt.

### *First application*

Wax emulsions require a deep cleaning of the chain before they can be applied the first time. It is essential to remove any oily traces so that the emulsion comes in contact with the metal and can deposit a well-adhering layer of wax. The thing is very simple using our Alpine Extra - an excellent degreaser designed for this purpose - and the Mangiacatena chain cleaner, equipped with rotating brushes. Thanks to these products it is not necessary to disassemble the chain to clean it thoroughly. Rinse the chain with water and dry it perfectly to complete cleaning. Once this is done, after shaking the Flowerpower Wax bottle vigorously, apply a drop of product on each link of the chain. When each link has received its drop of wax, slowly turn the pedals (at least 10 complete revolutions) in order to allow the emulsion to penetrate inside. Leave to dry for at least 2-3 hours.

For the first application, repeat the lubrication process described above a second time (one drop of Flowerpower Wax per link, etc.). After waiting again for 2-3 hours to allow the water to evaporate, possibly clean the excess product on the outside of the chain with a cloth and you are ready to pedal.

### *Successive applications*

As the kilometers accumulate, when the chain starts to become noisy, simply clean it with a dry cloth and reapply a drop of Flowerpower Wax on each link. Since the wax retains no or very little dirt, it is possible to continue to lubricate in this way without the need to degrease the chain, which is instead recommended in case of rides in muddy conditions or in the presence of sand. In that case it's better restoring the initial conditions with Alpine Extra, rinse,

dry and then proceed with a deep lubrication with Flowerpower Wax.

In normal use, we recommend lubricating the chain if needed after the usual cleaning of the bicycle, in order to find it ready for the next ride.

#### *High percentage of wax*

There can be major differences between water-based wax emulsions. While many competing products are around 30%, Flowerpower Wax exceeds 50%\* of wax-to-water ratio. The result is the formation of a thicker anti-abrasion layer for the same quantity of emulsion applied, with great benefits in terms of durability and efficiency.

\* percentage by weight (dry residue after evaporation of water)

#### *The strength of sunflower seeds*

The wax obtained from sunflower seeds has really interesting characteristics for cycling use. It adheres strongly to metal and is water-resistant, prolonging the effectiveness of lubrication even in the event of rain or involuntary washing (creek crossing etc.). It also has excellent mechanical properties, necessary to withstand the continuous stresses of pedaling.

Thanks to its formulation, Flowerpower Wax is ideal in any season, both on and off-road.

#### *Without hazardous additives*

We have decided to avoid adding further additives (such as PTFE and fluorinated compounds in general, graphene, sulphides, etc.) to keep Flowerpower Wax totally harmless to the health and environment, also because the current formula - among other things, vegan - has satisfied the most demanding testers and racers in the long development phase. Together with sunflower seed wax, other waxes of natural origin complete the lubricating mix. The emulsion is water-based without the addition of alcohol.

*Format, tips for use and storage*

Flowerpower Wax is available in 100 ml and 500 ml bottles. Shake well before use to allow the ingredients to mix evenly.

A single application of Flowerpower Wax allows you to travel up to 600 km on an asphalted road, in the absence of heavy rain. Off-road use may require more frequent chain lubrication.

Keeping the chain well lubricated allows you to optimize the life of the drivetrain and its efficiency in terms of power absorption.

Considering that a complete lubrication of the chain requires about 4 ml of product, a 100 ml bottle allows 25 lubrications, for a total up to 15'000 km traveled on the road.

Store and apply the product at a temperature between 5 and 35 ° C (41 - 95 ° F). Once applied to the chain, the temperature limits of use are those at which you decide to ride.

*Evaluated by Zero Friction Cycling as the best drip lubricant ever tested*



# ZFC REVIEW

**Here we go!!!**

*Ok – here is attempt to roll out a new detail review format to enable a) hopefully easier to glean information on is this lubricant for you and b) enable me to complete each detail review more quickly as time involved to complete previously has me very behind completing many detail reviews for tests completed. If this format is not providing the information you are looking for in a good format please email feedback to [info@zerofrictioncycling.com.au](mailto:info@zerofrictioncycling.com.au).*

**First up I need to clarify the marketing “Evaluated by Zero Friction Cycling as the best drip lubricant ever tested”.**

At the time of testing and writing this detail review, Flower Power wax has recorded the LOWEST WEAR RATE across the main test of any drip lubricant tested to date.

This does not mean it is the “BEST” lubricant as that is highly subjective depending on what your needs are. It is not efficiency tested so maybe it is a watt or two slower than the likes of SS Drip or UFO drip (due to stiction, viscous friction etc) – is proven outright ultra-low efficiency loss what counts as “Best” for you? It runs blacker and more oily to touch vs the highly refined paraffin base waxes, so is outright cleanliness + very low wear what constitutes as “best” for you etc.

As you will see from the review ZFC rates this product as an absolutely outstanding product, and will very highly recommend as a top option for many cyclists, however I cannot rate ANY lubricant as “THE BEST” lubricant as what constitutes as best for one cyclist is not the same criteria for another cyclist.

That clarification out of the way – let us have a look how Flower Power Wax rocked it was to the lowest wear rate recorded in the main test for a DRIP lubricant (the top immersive waxes tested – currently MSpeedwax new formula and Silca Hot melt remain lowest wear recorded overall), and how for most riding this also equated to the lowest cost to run modelling for a drip lubricant thanks to such low component wear rates.

## Performance – Dry Road Conditions

Two key takeaways for Flower Power wax here, the first, and very crucial for a wax drip lubricant, is that FP presents zero initial penetration issues. Penetration issues for wax drip lubricants is something that has shown up many times in testing, and this can have a large impact for the user.

Aside from the initial circa 20% wear rate that accompanies wax lubricants with penetration issues (squirt, Smoove, grax etc) – if you a) don't need to fully reset clean chain very often because you ride in only dry road conditions and b) you follow the more advanced application method advised in the ZFC lubricant application guide (instructions tab) – then perhaps this issue doesn't bother you much, you are happy to just spend \$15 on a bottle of squirt.



However, if you do ride in conditions where absolutely removing abrasive contamination with regular maintenance is a great idea, (ie regular wet weather riding or very dusty riding) – then the initial high wear post proper clean and lack of proper lubricant penetration will definitely bite vs a wax lubricant option that presents zero penetration issues. You apply the lube, and it gets to where it is needed and lubricates magnificently. That is rather handy and saves A LOT of faff vs lubricants that do have clear penetration issues.

The second key takeaway is simply that the recorded wear rate of 2.0% is extremely low. ZFC rates any lubricant with 5% or less recorded wear in the initial 1000km test block as A+ for that block.

## Wear by block

WAX / DRIP / DRIP - WET / GREASE

Lube	Block 1 - No Contamination
Mspeedwax New Formula	0.0%
Molten Speed Wax Original Formula	0.0%
Silca Synergetic	0.0%
Silca Hot Melt	0.3%
Silca Synerg-E	2.0%
Effetto Mariposa Flower power wax	2.3%
Ceramic Speed UFO Drip New Formula	2.3%

Rex Black Diamond	2.3%
Silca Drip Batch 2	2.9%
Revolubes	4.0%
Rex Domestique	5.1%
Tru Tension Tungsten Race (D.A)	5.4%
Rock N Roll Gold	<b>8.9%</b>
Muc Off Ludicrous AF	8.9%
Shimano Factory Grease	10.9%
Shimano Factory Grease + NFS	10.9%
Shimano Factory Grease + RNR gold	10.9%
Boeshield T9- Aerosol	<b>11.1%</b>
Nix Frix Shun	12.6%
Tru Tension Tungsten All Weather	14.0%
Session S-wax	14.6%
Wolf tooth WT-1	16.9%
Wolf tooth WT-1 on Factory Grease	17.7%
Smooove	<b>19.1%</b>
Squirt	<b>19.1%</b>
Allied GRAX	22.0%
AB Graphene Wax	22.0%
Cycle Star Gold	<b>22.3%</b>
White Lightning Epic Ride	<b>22.9%</b>
Muc Off Hydro Dynamic	<b>27.6%</b>

Wend Wax 2	35.7%
Muc Off Nano	37.7%

## Performance – Dry Off Road Conditions

Ok here we really step into what is typically the key advantage area for wax lubricants over wet lubricants. If you have seen much of any ZFC material re lubricants – you will have seen I generally am hammering home that if you ride in the world of dirt and dust, its pretty nuts to use a wet lubricant.

In general a high performing wax lubricant will deliver much much lower wear as the wax lubricants – even if they do not set to a true solid like an immersive wax, they should set to a semi solid / paste etc – and simply most of the dust either bounces off, or what does stick has no easy transport path from outside the chain to inside the chain where it will cause wear to the main load surfaces.

In fact, with the top wax drip lubricants – the main cause of abrasive contamination impact often occurs on re-lube, where the fresh lubricant being applied brings surface dust in with it. Hopefully you will have seen the key tip especially for offroad cyclists to spray some alcohol spray onto an absorbent cloth (microfiber) and wipe outside of chain to lift surface dust from chain prior to re lube. If you hadn't before, well, now you have! Even true solid lubricants – some dust will stick to outside of chain from static electricity of chain whizzing through the air, same as dust sticks to your frame and you

didn't lubricate your frame (well, not many do...). So same tip pre next immersive wax etc is great to cut down on amount of dust imported into wax pot – it is just a very good tip overall for those riding in dust before re lube / re wax.

Anyhow, the block 2 data for dry offroad conditions performance is extremely clearly in favour of high performing wax lubricants over wet lubricants, and within that, Flower Power Wax has come in with the lowest wear rate for a drip lubricant in this block (not counting Tru Tension tungsten race that was applied at double the rate due to very short lifespan).

With its combined very low result for Block 1, and almost the same extremely low wear rate in block 2 despite the 7 application of abrasive sandy loam – Flower Power wax moved into the position of lowest wear rate recorded for a drip lubricant as at end of block 2 – 2000km into test.

## Wear by block

**WAX / Wax DRIP / DRIP - WET / GREASE**

Lube	Block 2 - Dry Cont.
Mspeedwax New Formula	1.1%
Silca Hot Melt	1.7%
Tru Tension Tungsten Race (D.A)	2.0%
Effetto Mariposa Flower power wax	2.3%

Ceramic Spd UFO Drip New Formula	3.4%
Silca Drip Batch 2	4.6%
Session S-wax	5.7%
Silca Synerg-E	7.7%
Tru Tension Tungsten All Weather	10.0%
Rex Black Diamond	11.1%
Molten Speed Wax Original Formula	<b>12.0%</b>
Smooove	<b>17.4%</b>
Revolubes	18.3%
Allied GRAX	18.3%
Silca Synergetic	18.6%
Shimano Factory Grease	20.8%
Squirt	<b>22.0%</b>
Shimano Factory Grease + NFS	27.4%
Nix Frix Shun	27.4%
Rex Domestique	28.6%
Rock N Roll Gold	<b>29.0%</b>
Shimano Factory Grease + RNR gold	29.0%
Cycle Star Gold	<b>30.9%</b>
Boeshield T9- Aerosol	<b>32.3%</b>
Wend Wax 2	33.6%
White Lightning Epic Ride	<b>33.7%</b>
Wolf tooth WT-1 on Factory Grease	37.1%

AB Graphene Wax	38.3%
Wolf tooth WT-1	52.9%
Muc Off Ludicrous AF	78%
Muc Off Hydro Dynamic	98.9%
Muc Off Nano	107.7%

## Performance – Wet & Extreme Conditions

Quick cover off, block 3 the test moves to no contamination being added over that 1000km block to give the lubricants a chance to show if they can clear some contamination that did penetrate in block 2. This is mostly something that is shown with wet lubricants – wax lubricants that don't let much in, don't have much to clear – and that was the case with Flower power, recording a 0.0% result in block 3, which is still rather remarkable – basically no dust got in, and from multiple re lubes, a very good wax layer is now built and protection on load surfaces inside chain.

Moving into wet contamination block 4 – this is always a tough tough block. Water WILL bring the contamination deep into the chain, and it WILL cause wear, and it is very difficult for flush cleaning to take place with any lubricant – wet lubricants really so little lube is applied per link to effect any great level of flush cleaning, wax lubricants what does

penetrate is basically pressed into a set coating, that is not un set on next application – so the contamination is effectively land locked in there.

There is some minor variance in the top tested wax drip lubricants, but largely the results are close enough to almost be within test and chain variance.

However, it definitely held its own and is as up there in wet contamination conditions as any other wax drip lubricant, and it is still well in the lead now for lowest overall wear rate cumulatively for a drip lubricant as at end of block 4.

In short – Flower Power is a top recommended option for wet conditions riding, it has sufficient treatment longevity for most cyclists, and keeps wear about as low as can be expected cycling in such conditions. And linking to block one, when you do flush clean reset chain (which you should do post wet riding if you can) – you don't have penetration issues to worry about afterwards making that job oh so much easier vs a number of other wax drip lubricants.

## Wear by block

WAX / Wax DRIP / DRIP - WET / GREASE

Lube	Block 4 - Wet cont.
Silca Hot Melt	8.0%
Molten Speed Wax Original Formula	8.0%

Mspeedwax New Formula	9.1%
Silca Synergetic	27.4%
Shimano Factory Grease + NFS	28.6%
Nix Frix Shun	28.6%
Tru Tension Tungsten All Weather	31.0%
Effetto Mariposa Flower power wax	32.0%
Ceramic Spd UFO Drip New Formula	32.3%
Session S-wax	32.6%
Silca Drip Batch 2	36.9%
Tru Tension Tungsten Race (D.A)	38.3%
Allied GRAX	42.0%
Rex Black Diamond	42.6%
Rex Domestique	43.7%
Smoove	45.1%
Boeshield T9- Aerosol	47.4%
Squirt	48.9%
Revolubes	61.7%
Cycle Star Gold	61.8%
Rock N Roll Gold	65.0%
Shimano Factory Grease + RNR gold	65.0%
Wend Wax 2	67.2%
White Lightning Epic Ride	67.4%
Silca Synerg-E	73.4%



AB Graphene Wax	103.6%
Wolf tooth WT-1	105.8%
Muc Off Ludicrous AF	156.0%
Muc Off Hydro Dynamic	197.8%
Muc Off Nano	215.4%
Shimano Factory Grease	

## Block 5 – Contamination clearance

Not that many lubricants actually make it to be tested in block 5, having exceeded their wear limit by end of block 4 (or earlier).

The lubricants that have wear allowance left to be tested in Block 5, give us a chance to see if they have some ability to clear contamination that most definitely penetrated in block 4.

What we are looking for is a notable drop in the wear rate for Block 5 vs Block 4 since no contamination is added in Block 5, just the set re lube intervals.

Flower Power demonstrated a much higher than average ability to clear contamination, dropping from a 32% wear rate in Block 4 all the way back down to 11.4% in Block 5 for over a 20% reduction, with no cleaning, just re lubing. That is impressive.

ZFC belief that Flower Power is much less set as a wax lubricant than most others – it definitely has a much more oily texture to touch, you get black fingers handling a Flower Power chain like you do handling a wet lubricant chain. But this type of wax – sunflower seed based, we appear to be getting the contamination resistance in dry dust like wax lubricants that set much drier vs Flower Power, but with the measurable level of flush cleaning that some wet lubricants have demonstrated.

So, it is almost like a best of both worlds – the main downside being that it simply is not as visually clean as the wax lubricants like Silca SS drip or UFO drip, and definitely not as clean to handle – if you get a rear puncture you are going to have messy black fingers. Still, messy black fingers beats the crap out of high wear rates of your components, so if that is your key focus for lubricant choice, yet again Flower Power is extremely impressive.

This very low result in Block 5, recovering so well from Block 4, has Flower Power now taking a big lead in lowest cumulative wear for a drip lubricant.

## Wear by block -

**\*\* Observe drop in  
wear rates  
between block  
4&5**

**WAX / Wax DRIP / DRIP - WET / GREASE**

Lube	Block 4 - Wet cont.	Block 5 - No Cont.
Molten Speed Wax Original Formula	8.0%	0.0%
Mspeedwax New Formula	9.1%	1.1%
Silca Hot Melt	8.0%	4.0%
Effetto Mariposa Flower power wax	32.0%	11.4%
Ceramic Spd UFO Drip New Formula	32.3%	17.0%
Tru Tension Tungsten All Weather	31.0%	18.0%
Silca Synergetic	27.4%	21.7%
Rex Black Diamond	42.6%	24.3%
Session S-wax	32.6%	26.6%
Silca Drip Batch 2	36.9%	29.4%
Tru Tension Tungsten Race (D.A)	38.3%	30.0%
Smoove	45.1%	34.3%

Rock N Roll Gold	65.0%	58.0%
Shimano Factory Grease + NFS	28.6%	72.5%
Nix Frix Shun	28.6%	72.5%
Allied GRAX	42.0%	
Rex Domestique	43.7%	
Boeshield T9- Aerosol	47.4%	
Squirt	48.9%	
Revolubes	61.7%	
Cycle Star Gold	61.8%	
Shimano Factory Grease + RNR gold	65.0%	
Wend Wax 2	67.2%	
White Lightning Epic Ride	67.4%	
Silca Synerg-E	73.4%	
AB Graphene Wax	103.6%	
Wolf tooth WT-1	105.8%	
Muc Off Ludicrous AF	156.0%	
Muc Off Hydro Dynamic	197.8%	
Muc Off Nano	215.4%	
Shimano Factory Grease		

## Block 6 – Extreme Contamination

Alrighty, VERY few drip lubricants have been tested in this block as most have used up their test wear allowance. All fields highlight red are extrapolated data – they were not actually tested in that block.

The extreme contamination block test results for a number of lubricants are pretty interesting versus wet contamination block 4, Extreme contamination block 6 has double the amount of water and contamination applied at each interval, and it is applied twice as often (so doubled application intervals). All up it is 4x the amount of water and abrasive contamination applied in block 6 vs block 4. This has a huge increase in wear rate for some lubricants, yet very surprisingly – others record a wear rate very similar to block 4.

Flower Power was one of the latter – so it was able to handle the level of water in contamination in block 6 basically the same level as it handled things in block 4.

The final table below will now be **cumulative** wear recorded across the full test – and here you can see Flower Power having reached the end of main test – something not many lubricants achieve, with a very impressively low overall wear rate considering just how hard that main protocol is – and as noted, it is the lowest recorded wear to date for a drip lubricant, only being surpassed by the top two immersive waxes.

## Friction / wear test - cumulative wear - Main test protocol

WAX /Wax DRIP / DRIP - WET / GREASE

	Block 1 - No Contamination	Block 2 - Dry Cont.	Block 3 - No Cont.	Block 4 - Wet cont.	Block 5 - No Cont.	Block 6 - Extreme Cont.
Mspeedwax New Formula	0.0%	1.1%	1.7%	10.8%	11.9%	31.6%
Silca Hot Melt	0.3%	2.0%	6.6%	14.6%	19.0%	27.4%
Molten Speed Wax Original Formula	0.0%	12.0%	12.0%	20.0%	20.0%	98.0%
Effetto Mariposa Flower power wax	2.3%	4.6%	4.6%	36.6%	48.0%	80.0%
Ceramic Spd UFO Drip New Formula	2.3%	5.7%	6.3%	38.6%	55.6%	92.2%
Silca Drip Batch 2	2.9%	7.5%	7.5%	44.4%	73.4%	133.0%
Tru Tension Tungsten Race - (*D.A)	5.4%	7.4%	9.7%	48.0%	78.0%	
Session S-Wax	14.6%	20.3%	25.4%	58.0%	84.6%	121.1%
Tru Tension Tungsten All Weather	14.0%	24.0%	36.0%	67.0%	85.0%	117.0%
Silca Synergetic	0.0%	18.3%	42.6%	70.0%	91.7%	147.0%
Rex Black Diamond	2.3%	13.4%	30.0%	73%	97.1%	
Shimano Factory grease + NFS	10.9%	31.8%	46.1%	74.7%	147.2%	
Nix Frix Shun	12.6%	40.0%	54.3%	82.9%	155.0%	
Smoove	19.1%	36.6%	38.6%	87.3%	118.0%	
Rex Domestique	5.1%	33.7%	48.8%	93%		
Allied GRAX	22.0%	40.3%	59.1%	101.0%		
Revolubes	4.0%	22.3%	39.7%	101.4%	120.0%	
Silca Synerg-E	2.0%	9.7%	29.4%	102.9%		
Squirt	19.1%	39.0%	61.0%	109.4%		
Boeshield T9 - Aerosol	11.1%	43.4%	65.7%	113.1%		
Rock N Roll Gold	8.9%	37.9%	57.9%	122.0%		
Shimano Factory grease + RNR Gold	10.9%	39.0%	59.0%	124%		
AB Graphene Wax	22.0%	60.3%	85.1%	188.7%		
Muc Off Ludicrous AF	8.9%	89.6%				
Shimano Factory Grease	10.9%	31.7%				
Wolf tooth wt-1 on Factory grease	17.7%	54.8%	48.3%			
Wolf tooth wt-1	16.9%	69.7%	123.7%			
Cycle Star Gold	22.3%	53.1%	98.3%			
White Lightning Epic Ride	22.9%	56.5%	160.7%			
Muc Off Hydro Dynamic	27.6%	126.6%				
Wend wax 2	35.7%	69.4%	98.0%			
Muc Off Nano Lube	37.7%	145.4%				

## Maintenance Recommendations

I have just launched the ZFC chain maintenance guide – so for full maintenance information overall re chains & lubricants and what you should do and how often for your lubricant type and riding type – head to that guide in the instructions tab on Zero Friction Cycling website.

A quick note for Flower Power Wax specifically

- Dry road riding your maintenance is extremely easy. Extremely little contamination will penetrate over time, maintenance really would just be for cosmetic purposes to keep drivetrain visually clean – wear rates would expect to remain very very low.
- Dry offroad conditions - Flower Power demonstrated outstanding dust contamination resistance, however operating in the world of dirt and dust, all chains will need some maintenance to reset what abrasive dust does penetrate over time – but it is worth noting that with such great contamination resistance maintenance intervals for Flower Power can be few and far between.
- Wet conditions – ZFC stance is as always to reset chain contamination post any decent wet ride, for ALL lubricants – and if not practical, just as often as is practical. Water transports contamination deep into chain, it is pressed into lubricant, and from there it is in almost all cases effectively locked in there unless you remove it. There are generally very low rates of flush cleaning from re lubing, as per link there is just such a

small amount of lubricant added. (ie if you added even a heavy application of 5ml, onto over 100 links of chain, that is 0.05ml per link – there is only so much flush cleaning that can do vs performing actual cleaning maintenance. Note Flower Power was actually pretty impressive re re-setting contamination post wet conditions riding– but it still cannot match some quick actual maintenance first). If you ride a lot in wet conditions just balance maintenance time & how happy you are re friction and wear increase from wet rides. The more expensive your groupset components, the more you should try to flush clean chain post wet riding. If you do not, the abrasive contamination brought in will continue to cause much higher wear rates even if your next rides are in the sunshine vs if you have performed some quick maintenance to reset or at least considerably lower the contamination level in chain / lubricant.

Consider – would a professional racer, after a wet stage, just add lube and call that good to go next race day? Or would the mechanic fully clean chain before re lubing for next day. They don't care about wear, they care about speed and not having 5w of extra friction losses in chain. You may not care about speed – but if you keep those 5w of extra friction losses from the wet ride, that is 5w of energy **every pedal stroke** going directly into wearing through your chain and drivetrain components faster. On shimano tiagra – maybe you don't care. On Dura Ace or Sram AXS road or Eagle X01 or Campagnolo Record etc etc – maybe you should care a lot.

Being a wax lubricant note that most traditional solvents / degreasers will likely have limited effect, many waxes are resistant to being dissolved by such, and so ZFC recommends either UFO drivetrain clean which works extremely well on waxes, or Effetto's own Alpine extra which will also make quick work for a flush clean. Both are then rinsed with boiling water, dry, and yeehaa. Consult chain maintenance guide – instructions tab – for full maintenance instructions.



\*Unlike highly refined paraffin base lubricants (mspeedwax, silca hot melt, silca ss drip) just doing a boiling water flush rinse may not do a great reset, however I have not had time to properly test this at time of report – I have only had time to conduct main test, single application longevity tests, field testing and the recommended maintenance. Which, I may state is still a lot of time resources....

## Single Application Longevity results;

Remembering that overall since new S.A.L test mostly only the better performing lubricants have been tested and so are on the league table, Domestique performs very well especially considering its price.

Double remember for the S.A.L test the lubricants are applied via immersive application and may not represent longevity of the lubricant from normal drip on application.

For full detail on the S.A.L test, what does jump point mean etc – head to the lubricant test page on the website and download the full file;

### Dry Road conditions

Lubricant	Km's to Wear Rate Jump Point	Km's to reach total Wear allowance	Real world KM's Adjusted - Wear rate Jump Point	Real World Km's to reach total Wear allowance
Rex Black Diamond	5,602	5602	1,867	1867
	4,300	5000	1,433	1667
Revolubes	3,416	3416	1,139	1139
Rex Black Diamond + Race Day Spray	3,415	3415	1,138	1138
	3,300	3750	1,100	1250
Rex Domestique	3,210	3210	1,067	1067
AB Graphene Lube	3,254	3254	1,000	1085
Silca Synergetic	2,333	2333	778	778
Allied Grax	2,089	2089	696	696
Effetto Mariposa Flower Power Wax	1,950	3088	650	1029
Mspeedwax New Formula	1,800	3063	600	1021
Silca Hot Melt	1,300	1595	433	531
	1,300	1375	433	458
UFO Drip V2	900	1182	300	394
Boeshield T9 -Aerosol	513	513	171	171
AB Graphene Wax	300	420	100	140

An overall solid result, again remember the S.A.L league table is mostly made up of the top performers at this time. Flower power showed to be very smooth for very acceptable length of treatment time (ie most cyclists will do 400 to 500km + per treatment with happy smooth cycling that is very low wear).

## Dry Off Road conditions

Again overall a pretty solid result.

Lubricant	Km's to Wear Rate Jump Point	Km's to reach total Wear allowance	Real world KM's Adjusted - Wear rate Jump Point	Real World Km's to reach total Wear allowance
Rex Black Diamond + RDS	2,642	3071	880	1023
	1,800	1800	600	600
Mspeedwax New Formula	1,650	1848	550	616
Rex Black Diamond	1,476	1476	489	489
AB Graphene Lube	1,449	1449	483	483
Effetto Mariposa Flower Power Wax	1,350	1571	450	524
Allied Grax	1,265	1551	421	517
Rex Domestique	1,154	1154	385	385
Revolubes	1,100	1588	367	529
	900	1200	300	400
Silca Hot Melt	900	1030	300	343
	750	836	250	278
Silca Synergetic	500	690	167	230
Ufo Drip v2	450	1078	150	360
AB Graphene Wax	300	420	100	140
Boeshield T9 -Aerosol	150	279	50	93

## Extreme Conditions

A lot of lubricants are fairly closely grouped here as the test is very harsh, most are struggling by end of second test interval – but a perfectly competitive result vs most lubricants on market from Flower Power

Lubricant	Km's to Wear Rate Jump Point	Km's to reach total Wear allowance	Real world KM's Adjusted - Wear rate Jump Point	Real World Km's to reach total Wear allowance
AB Graphene Lube	600	807	200	270
Silca Synergetic	500	690	167	230
Silca Hot Melt	300	637	100	212
	300	604	100	201
Mspeedwax New Formula	300	588	100	196
Rex Black Diamond	300	538	100	179
Rex Black Diamond + RDS	300	525	100	175
Effetto Mariposa Flower Power Wax	300	480	100	160
Allied Grax	300	450	100	150
	300	450	100	150
Rex Domestique	300	427	100	143
AB Graphene Wax	200	344	66	115
Revolubes	150	300	50	133
Ufo Drip v2	150	357	50	119
	150	346	50	115
Boeshield T9 -Aerosol	150	193	50	64

## Cost to run modelling

Similar to the above, as the cost to run modelling is mostly influenced by wear rates (lubricant cost over 10,000km works out to be a very minor factor overall re what your drivetrain is costing you to run. Wear rate of the components is by far the dominant factor).

Flower Power is an outstanding option for dry road cyclists, as well as offroad cyclists (especially dry gravel & mtb) and a great choice if you happen to ride in all conditions.

*In fact, wear rates are so low in the dry test blocks that Flower power has cost to run modelled out as lowest cost to run DRIP lubricant tested to date across main test for road components, and the lowest cost to run lubricant tested OVERALL in dry dust conditions on GRX 810.*

This is exceptional. In over 6 years and over 300,000km of testing, when a lubricant sets a new record – that is something worth taking note indeed.

\*\* The cost to run modelling starts with data from the main test, so a real mix of conditions as it covers the wear rates from block 1 – no contamination, block 2 – dry contamination, block 3 – no contamination – remember there is no cleaning it is all up to the lubricant – block 4 – wet contamination, and block 5 – no contamination.

Tables below;

### Mixed Conditions Cost to run – Ultegra 11spd

Ultegra 11spd Components	Total Cost to run Per 10,000km	Lubricant Cost	Number of chains worn	Chains Cost	Number of Cassettes Worn	Cassettes Cost	Chainrings Worn	Chain rings cost
Mspeedwax New Formula	\$ 101.60	\$ 44.90	0.40	\$ 20.00	0.20	\$ 22.00	0.07	\$ 14.70
Silca Hot Melt	\$ 142.90	\$ 79.90	0.40	\$ 20.00	0.20	\$ 22.00	0.07	\$ 14.70
Effetto Mariposa Flower Power wax	\$ 159.35	\$ 29.90	0.98	\$ 49.00	0.49	\$ 53.90	0.16	\$ 34.02
Ceramic Speed UFO Drip New Formula	\$ 237.73	\$ 84.43	1.10	\$ 55.00	0.60	\$ 60.50	0.20	\$ 37.80
Silca Synergetic	\$ 284.97	\$ 32.97	1.80	\$ 90.00	0.90	\$ 99.00	0.30	\$ 63.00
Rex Black Diamond	\$ 288.89	\$ 17.99	1.94	\$ 97.00	0.97	\$ 106.70	0.32	\$ 67.20
Silca SS Drip	\$ 290.92	\$ 80.92	1.50	\$ 75.00	0.75	\$ 82.50	0.25	\$ 52.50
Tru Tension Tungsten All Weather (I.P)	\$ 305.30	\$ 68.00	1.70	\$ 85.00	0.90	\$ 93.50	0.30	\$ 58.80
Smooove (I.P)	\$ 342.10	\$ 25.00	2.26	\$ 113.00	1.13	\$ 124.30	0.40	\$ 79.80
Rex Domestique	\$ 358.40	\$ 35.00	2.32	\$ 116.00	1.20	\$ 127.60	0.38	\$ 79.80
Squirt - (I.P)	\$ 369.45	\$ 18.75	2.50	\$ 125.00	1.25	\$ 137.50	0.42	\$ 88.20
Nix Frix Shun	\$ 378.15	\$ 14.85	2.60	\$ 130.00	1.30	\$ 143.00	0.43	\$ 90.30
Allied Grax	\$ 379.70	\$ 29.00	2.50	\$ 125.00	1.30	\$ 137.50	0.40	\$ 88.20
Revolubes	\$ 381.00	\$ 45.00	2.40	\$ 120.00	1.20	\$ 132.00	0.40	\$ 84.00
Silca Synerg-E	\$ 386.16	\$ 24.98	2.60	\$ 130.00	1.30	\$ 143.00	0.42	\$ 88.20
Boeshield T-9 Aerosol	\$ 432.29	\$ 37.49	2.80	\$ 140.00	1.40	\$ 154.00	0.48	\$ 100.80
Rock N Roll Gold	\$ 471.90	\$ 67.10	2.90	\$ 145.00	1.45	\$ 159.00	0.48	\$ 100.80
AB Graphene Wax	\$ 552.90	\$ 111.90	3.20	\$ 160.00	1.60	\$ 176.00	0.50	\$ 105.00
Wend wax 2	\$ 574.00	\$ 112.00	3.30	\$ 165.00	1.65	\$ 181.50	0.60	\$ 115.50
Wolf Tooth WT-1	\$ 586.30	\$ 18.50	4.10	\$ 205.00	2.00	\$ 220.00	0.68	\$ 142.80
Cycle Star Gold	\$ 602.00	\$ 140.00	3.30	\$ 165.00	1.65	\$ 181.50	0.60	\$ 115.50
Tru Tension Tungsten Race (D.A)	\$ 630.84	\$ 399.84	1.60	\$ 80.00	0.80	\$ 88.00	0.30	\$ 63.00
White Lightning Epic Ride	\$ 735.40	\$ 118.00	4.40	\$ 220.00	2.20	\$ 242.00	0.74	\$ 155.40
Muc Off Hydro Dynamic	\$ 799.05	\$ 99.75	5.00	\$ 250.00	2.50	\$ 275.00	0.80	\$ 174.30
Muc Off Ludicrous AF	\$ 898.60	\$ 297.00	4.30	\$ 215.00	2.10	\$ 235.00	0.70	\$ 151.00
Muc Off Nano Lube	\$ 1,222.70	\$ 200.00	7.30	\$ 365.00	3.70	\$ 401.50	1.20	\$ 256.20
Ab Graphene lube - TEST RESULTS LOCKED BY NDA								

## Mixed Conditions Cost to run – Dura Ace 11

Dura Ace 11spd Components	Total Cost Per 10,000km	Lubricant Cost	Number of chains worn	Chains Cost	Number of Cassettes Worn	Cassettes Cost	Chainrings Worn	Chain rings cost
Molten Speed Wax New Formula	\$ 240.90	\$ 44.90	0.40	\$ 36.00	0.40	\$ 132.00	0.07	\$ 28.00
Silca Hot Melt	\$ 275.90	\$ 79.90	0.40	\$ 36.00	0.40	\$ 132.00	0.07	\$ 28.00
Effetto Mariposa Flower Power wax	\$ 498.83	\$ 22.43	0.98	\$ 88.20	0.98	\$ 323.40	0.16	\$ 64.80
Ceramic Speed UFO Drip New Formula	\$ 626.43	\$ 84.43	1.10	\$ 99.00	1.10	\$ 363.00	0.20	\$ 80.00
Silca SS Drip	\$ 810.92	\$ 80.92	1.50	\$ 135.00	1.50	\$ 495.00	0.25	\$ 100.00
Tru Tension Tungsten All Weather (I.P)	\$ 902.00	\$ 68.00	1.70	\$ 153.00	1.70	\$ 561.00	0.30	\$ 120.00
Silca Synergetic	\$ 925.46	\$ 49.46	1.80	\$ 162.00	1.80	\$ 594.00	0.30	\$ 120.00
Rex Black Diamond	\$ 960.79	\$ 17.99	1.94	\$ 174.60	1.94	\$ 640.20	0.32	\$ 128.00
Smooove (I.P)	\$ 1,134.20	\$ 25.00	2.26	\$ 203.40	2.26	\$ 745.80	0.40	\$ 160.00
Rex Domestique	\$ 1,161.00	\$ 35.00	2.32	\$ 208.80	2.32	\$ 765.60	0.38	\$ 152.00
Tru Tension Tungsten Race (D.A)	\$ 1,191.84	\$ 399.84	1.60	\$ 144.00	1.60	\$ 528.00	0.30	\$ 120.00
Revolubes	\$ 1,213.00	\$ 45.00	2.40	\$ 216.00	2.40	\$ 792.00	0.40	\$ 84.00
Squirt - (I.P)	\$ 1,236.75	\$ 18.75	2.50	\$ 225.00	2.50	\$ 825.00	0.42	\$ 168.00
Allied Grax (I.P)	\$ 1,247.00	\$ 29.00	2.50	\$ 225.00	2.50	\$ 825.00	0.40	\$ 168.00
Nix Frix Shun	\$ 1,278.85	\$ 14.85	2.60	\$ 234.00	2.60	\$ 858.00	0.43	\$ 172.00
Silca Synerg-E	\$ 1,284.98	\$ 24.98	2.60	\$ 234.00	2.60	\$ 858.00	0.42	\$ 168.00
Boeshield T-9 Aerosol	\$ 1,405.29	\$ 37.49	2.80	\$ 252.00	2.80	\$ 924.00	0.48	\$ 192.00
Rock N Roll Gold	\$ 1,477.10	\$ 67.10	2.90	\$ 261.00	2.90	\$ 957.00	0.48	\$ 192.00
AB Graphene Wax	\$ 1,655.90	\$ 111.90	3.20	\$ 288.00	3.20	\$ 1,056.00	0.50	\$ 200.00
Wend wax 2	\$ 1,738.00	\$ 112.00	3.30	\$ 297.00	3.30	\$ 1,089.00	0.60	\$ 240.00
Cycle Star Gold	\$ 1,766.00	\$ 140.00	3.30	\$ 297.00	3.30	\$ 1,089.00	0.60	\$ 240.00
Wolf Tooth WT-1	\$ 2,012.50	\$ 18.50	4.10	\$ 369.00	4.10	\$ 1,353.00	0.68	\$ 272.00
White Lightning Epic Ride	\$ 2,162.00	\$ 118.00	4.40	\$ 396.00	4.40	\$ 1,452.00	0.74	\$ 196.00
Muc Off Ludicrous AF	\$ 2,391.00	\$ 297.00	4.30	\$ 387.00	4.30	\$ 1,419.00	0.70	\$ 288.00
Muc Off Hydro Dynamic	\$ 2,519.75	\$ 99.75	5.00	\$ 450.00	5.00	\$ 1,650.00	0.80	\$ 320.00
Muc Off Nano Lube	\$ 3,754.00	\$ 200.00	7.30	\$ 657.00	7.30	\$ 2,409.00	1.20	\$ 488.00
Ab Graphene lube - TEST RESULTS LOCKED BY NDA								

## Dry Offroad Conditions

GRX 810 Components - <b>Dry gravel</b> / Mtb / Cx	Total Cost Per 10,000km	Lubricant Cos	Number of chains worn	Chains Cost	Number of Cassettes Worn	Cassettes Co	Chainrings Worn	Chain rings cost
Effetto Mariposa Flower Power wax	\$ 119.77	\$ 33.64	0.6	\$ 28.75	0.3	\$ 37.38	0.1	\$ 20.00
Mspeedwax New Formula	\$ 149.85	\$ 67.35	0.5	\$ 25.00	0.3	\$ 32.50	0.1	\$ 25.00
Silca SS Drip	\$ 180.47	\$ 91.72	0.6	\$ 31.25	0.3	\$ 32.50	0.1	\$ 25.00
Silca Synerg-E	\$ 187.46	\$ 37.46	1.0	\$ 50.00	0.5	\$ 65.00	0.2	\$ 35.00
Silca Hot Melt	\$ 202.35	\$ 119.85	0.5	\$ 25.00	0.3	\$ 32.50	0.1	\$ 25.00
Ceramic Speed UFO Drip New Formula	\$ 226.65	\$ 115.40	0.8	\$ 37.50	0.4	\$ 48.75	0.1	\$ 25.00
Rex Black Diamond	\$ 228.48	\$ 26.98	1.4	\$ 68.75	0.7	\$ 87.75	0.2	\$ 45.00
Tru Tension Tungsten All Weather	\$ 289.75	\$ 96.00	1.3	\$ 62.50	0.6	\$ 81.25	0.3	\$ 50.00
Smooove	\$ 362.50	\$ 35.00	2.1	\$ 106.25	1.1	\$ 146.25	0.4	\$ 75.00
Silca Synergetic	\$ 366.72	\$ 32.97	2.3	\$ 112.50	1.1	\$ 146.25	0.4	\$ 75.00
Allied Grax	\$ 377.25	\$ 43.50	2.3	\$ 112.50	1.1	\$ 146.50	0.4	\$ 75.00
Molten Speed Wax	\$ 390.08	\$ 167.58	1.5	\$ 75.00	0.8	\$ 97.50	0.3	\$ 50.00
Squirt	\$ 443.25	\$ 27.00	2.2	\$ 137.50	1.4	\$ 178.75	0.5	\$ 100.00
Nix Frix Shun	\$ 541.05	\$ 19.80	3.4	\$ 168.75	1.8	\$ 227.50	0.6	\$ 125.00
Rock N Roll Gold	\$ 627.69	\$ 93.94	3.6	\$ 181.25	1.8	\$ 227.50	0.6	\$ 125.00
Tru Tension Tungsten Race (D.A)	\$ 642.28	\$ 559.78	0.5	\$ 25.00	0.3	\$ 32.50	0.1	\$ 25.00
Boeshield T-9 Aerosol	\$ 651.23	\$ 56.23	4.0	\$ 200.00	2.0	\$ 260.00	0.7	\$ 135.00
Cycle Star Gold	\$ 758.50	\$ 196.00	4.0	\$ 193.75	1.9	\$ 243.75	0.6	\$ 125.00
Wend wax 2	\$ 792.75	\$ 154.00	4.3	\$ 212.50	2.1	\$ 276.25	0.8	\$ 150.00
Rex Domestique	\$ 797.50	\$ 52.50	5.0	\$ 250.00	2.5	\$ 325.00	0.9	\$ 170.00
Revolubes	\$ 812.50	\$ 67.50	5.0	\$ 250.00	2.5	\$ 325.00	0.9	\$ 170.00
Wolf Tooth WT-1	\$ 995.24	\$ 27.74	6.5	\$ 325.00	3.3	\$ 422.50	1.1	\$ 220.00
White Lightning Epic Ride	\$ 1,202.25	\$ 166.00	7.1	\$ 356.25	3.5	\$ 455.00	1.1	\$ 225.00
AB Graphene Wax	\$ 1,269.16	\$ 156.66	7.5	\$ 375.00	3.8	\$ 487.50	1.3	\$ 250.00
Muc Off Ludicrous AF	\$ 1,898.00	\$ 445.50	9.9	\$ 493.75	4.9	\$ 633.75	1.6	\$ 325.00
Muc Off Hydro Dynamic	\$ 1,955.00	\$ 140.00	12.4	\$ 618.75	6.1	\$ 796.25	2.0	\$ 400.00
Muc Off Nano Lube	\$ 2,282.50	\$ 280.00	13.5	\$ 675.00	6.8	\$ 877.50	2.3	\$ 450.00
Ab Graphene lube - TEST RESULTS LOCKED BY NDA								



## Wet Conditions (harsh road / moderate offroad)

GRX 810 Components - Wet gravel / Mtb / C	Total Cost Per 10,000km	Lubricant Cost	Number of chains worn	Chains Cost	Number of Cassettes Worn	Cassettes Cost	Chainrings Worn	Chain rings cost
	\$ -							
Mspeedwax New Formula	\$ 235.35	\$ 67.35	1.2	\$ 48.00	0.6	\$ 78.00	0.21	\$ 42.00
Silca Hot Melt	\$ 275.85	\$ 119.85	1.2	\$ 48.00	0.6	\$ 78.00	0.15	\$ 30.00
Silca Synergetic	\$ 634.46	\$ 49.46	4.1	\$ 162.00	2.1	\$ 273.00	0.8	\$ 150.00
Nix Frix Shun	\$ 642.30	\$ 19.80	4.5	\$ 180.00	2.3	\$ 292.50	0.8	\$ 150.00
Effetto Mariposa Flower Power wax	\$ 693.64	\$ 33.64	4.8	\$ 192.00	2.4	\$ 312.00	0.8	\$ 156.00
Tru Tension Tungsten All Weather	\$ 724.50	\$ 96.00	4.7	\$ 186.00	2.3	\$ 292.50	0.8	\$ 150.00
Ceramic Speed UFO Drip New Formula	\$ 769.40	\$ 115.40	4.8	\$ 192.00	2.4	\$ 312.00	0.8	\$ 150.00
Rex Black Diamond	\$ 804.43	\$ 26.98	6.4	\$ 255.60	3.2	\$ 415.35	0.53	\$ 106.50
Silca SS Drip	\$ 844.72	\$ 91.72	5.6	\$ 222.00	2.7	\$ 351.00	0.9	\$ 180.00
Allied Grax	\$ 915.00	\$ 43.50	6.3	\$ 252.00	3.2	\$ 409.50	1.1	\$ 210.00
Smoove	\$ 993.50	\$ 35.00	6.8	\$ 270.00	3.5	\$ 448.50	1.2	\$ 240.00
Squirt	\$ 1,029.00	\$ 27.00	7.4	\$ 294.00	3.6	\$ 468.00	1.2	\$ 240.00
Boeshield T-9 Aerosol	\$ 1,052.23	\$ 56.23	7.2	\$ 288.00	3.6	\$ 468.00	1.2	\$ 240.00
Tru Tension Tungsten Race (D.A)	\$ 1,338.28	\$ 559.78	5.7	\$ 228.00	2.9	\$ 370.50	0.9	\$ 180.00
Rock N Roll Gold	\$ 1,456.94	\$ 93.94	9.8	\$ 390.00	5.0	\$ 643.00	1.7	\$ 330.00
Cycle Star Gold (Extrapolated Data)	\$ 1,478.50	\$ 196.00	9.5	\$ 378.00	3.0	\$ 604.50	1.5	\$ 300.00
Wend wax 2	\$ 1,529.50	\$ 154.00	10.1	\$ 402.00	5.0	\$ 643.50	1.7	\$ 330.00
Silca Synerg-E	\$ 1,568.96	\$ 37.46	11.1	\$ 444.00	5.6	\$ 721.50	1.8	\$ 366.00
Rex Domestique	\$ 1,843.50	\$ 52.50	15.0	\$ 600.00	7.5	\$ 975.00	1.1	\$ 276.00
Revolubes	\$ 1,858.50	\$ 67.50	15.0	\$ 600.00	7.5	\$ 975.00	2.4	\$ 480.00
Wolf Tooth WT-1 (Extrapolated data)	\$ 2,181.74	\$ 27.74	15.6	\$ 624.00	7.8	\$ 1,014.00	2.58	\$ 516.00
AB Graphene Wax (Extrapolated data)	\$ 2,304.66	\$ 156.66	15.6	\$ 624.00	7.8	\$ 1,014.00	2.6	\$ 510.00
White Lightning Epic Ride (Extrapolated data)	\$ 2,771.50	\$ 166.00	18.8	\$ 750.00	9.8	\$ 1,225.50	3.2	\$ 630.00
Muc Off Ludicrous AF (Extrapolated data)	\$ 3,714.00	\$ 445.50	23.7	\$ 948.00	11.9	\$ 1,540.50	3.9	\$ 780.00
Muc Off Hydro Dynamic (extrapolated data)	\$ 4,248.50	\$ 140.00	29.7	\$ 1,188.00	14.9	\$ 1,930.50	5.0	\$ 990.00
Muc Off Nano Lube (Extrapolated Data)	\$ 4,420.00	\$ 280.00	30.0	\$ 1,200.00	15.0	\$ 1,950.00	5.0	\$ 990.00
Ab Graphene lube - TEST RESULTS LOCKED BY NDA								

## EXTREME Conditions (harsh offroad)

GRX 810 Components - Extreme Conditions (full mud cx etc)	Total Cost Per 10,000km	Lubricant Cost	Number of chains	Chains Cost	Number of Cassettes	Cassettes Cost	Chainrings Worn	Chain rings cost
Silca Hot Melt	\$ 338.60	\$ 119.85	1.6	\$ 78.75	0.7	\$ 91.00	0.25	\$ 49.00
Mspeedwax New Formula	\$ 573.80	\$ 67.35	3.4	\$ 171.50	1.7	\$ 222.95	0.56	\$ 112.00
Effetto Mariposa Flower Power wax	\$ 859.64	\$ 33.64	5.6	\$ 280.00	2.8	\$ 364.00	0.91	\$ 182.00
Tru Tension Tungsten All Weather	\$ 915.00	\$ 96.00	5.6	\$ 280.00	2.8	\$ 364.00	0.90	\$ 175.00
Ceramic Speed UFO Drip New Formula	\$ 1,058.65	\$ 115.40	6.5	\$ 323.75	3.2	\$ 409.50	1.10	\$ 210.00
Silca Synergetic	\$ 1,482.75	\$ 49.50	9.6	\$ 481.25	4.9	\$ 637.00	1.60	\$ 315.00
Nix Frix Shun (Extrapolated Data)	\$ 1,528.30	\$ 19.80	10.0	\$ 498.75	5.1	\$ 659.75	1.80	\$ 350.00
Silca Drip Batch 2	\$ 1,804.97	\$ 91.72	11.6	\$ 577.50	5.8	\$ 750.75	1.90	\$ 385.00
Allied Grax (Extrapolated Data)	\$ 2,224.00	\$ 43.50	14.7	\$ 735.00	7.4	\$ 955.50	2.45	\$ 490.00
Rex Black Diamond	\$ 2,238.63	\$ 26.98	14.9	\$ 745.50	7.5	\$ 969.15	2.49	\$ 497.00
Rex Domestique (Extrapolated Data)	\$ 2,332.43	\$ 53.50	15.3	\$ 764.00	7.6	\$ 994.00	2.56	\$ 511.00
Revolubes	\$ 2,337.43	\$ 67.50	15.3	\$ 764.75	7.6	\$ 994.18	2.56	\$ 511.00
Smooove (Extrapolated Data)	\$ 2,371.25	\$ 35.00	15.8	\$ 787.50	7.9	\$ 1,023.75	2.60	\$ 525.00
Boeshield T-9 Aerosol (Extrapolated data)	\$ 2,508.08	\$ 56.23	16.5	\$ 822.60	8.2	\$ 1,069.25	2.80	\$ 560.00
Tru Tension Tungsten Race (D.A)	\$ 2,553.03	\$ 559.78	13.5	\$ 673.75	6.7	\$ 864.50	2.30	\$ 455.00
Squirt (Extrapolated Data)	\$ 2,559.25	\$ 27.00	17.2	\$ 857.50	8.6	\$ 1,114.75	2.80	\$ 560.00
Rock N Roll Gold (Extrapolated Data)	\$ 3,479.44	\$ 93.94	22.8	\$ 1,137.50	11.4	\$ 1,478.00	3.90	\$ 770.00
Wend wax 2 (Extrapolated Data)	\$ 3,612.00	\$ 154.00	23.3	\$ 1,163.75	11.7	\$ 1,524.25	3.90	\$ 770.00
Cycle Star Gold (Extrapolated Data) (Bankrupt?)	\$ 3,626.00	\$ 364.00	21.9	\$ 1,093.75	11.0	\$ 1,433.25	3.70	\$ 735.00
Silca Synerg-E	\$ 3,869.46	\$ 37.46	25.9	\$ 1,295.00	13.0	\$ 1,683.00	4.27	\$ 854.00
Muc Off Ludicrous AF (Extrapolated Data)	\$ 4,535.25	\$ 445.50	27.7	\$ 1,382.50	13.8	\$ 1,797.25	4.55	\$ 910.00
Wolf Tooth WT-1 (Extrapolated data)	\$ 5,449.24	\$ 27.74	36.4	\$ 1,820.00	18.6	\$ 2,411.50	5.95	\$ 1,190.00
AB Graphene Wax (Extrapolated data)	\$ 5,558.91	\$ 156.66	36.2	\$ 1,811.25	18.2	\$ 2,366.00	6.10	\$ 1,225.00
White Lightning Epic Ride (Extrapolated Data)	\$ 6,667.25	\$ 166.00	43.8	\$ 2,187.50	21.9	\$ 2,843.75	7.40	\$ 1,470.00
Muc Off Hydro Dynamic (Extrapolated Data)	\$ 10,419.00	\$ 140.00	69.3	\$ 3,465.00	34.7	\$ 4,504.00	11.60	\$ 2,310.00
Muc Off Nano Lube (Extrapolated Data)	\$ 10,675.00	\$ 280.00	70.0	\$ 3,500.00	35.0	\$ 4,550.00	11.70	\$ 2,345.00
Ab Graphene lube - TEST RESULTS LOCKED BY NDA								

## Final observations, summary & recommendations.

So there is a huge amount to like here.

As noted in the cost to run modelling, any time a lubricant tested sets a new record (in a good way) – it is well worth taking note re is this lubricant the one for you.

And, obviously it says a lot about the manufacturer. They have not gone to market with some marketing hyperbole or looking to take advantage of some stupid marketing angle like a rub on wax in colours – they have very obviously invested and worked hard and smart to bring a product to market that excels in a clear product performance brief.

The product performance goals for Flower Power were;

- To have an extremely high performance lubricant in all conditions.
- To be extremely environmentally friendly
- To be able to be maintained with extremely low environment impact if using their alpine extra cleaner (and this will largely be the case with UFO clean as well)
- No pesky initial penetration issues which can plague some wax drip lubricants
- Good price point

ZFC rates Effetto with really the highest rating and recommendation overall especially for dry conditions riding, and an overall very high rating for wet conditions cycling.

Again I cannot endorse the claim of “best drip lubricant ever tested” – as “best” is subjective to the user, and I do not have efficiency loss numbers – it could be 3w, or it could be 5w – we don’t know - but with record low wear rates for drip lubricant, and record low cost to run, good longevity per treatment, and outstanding environmental credentials – it is hard

not to be EXTREMELY IMPRESSED with the product that Effetto has brought to market. And remember with extremely low wear rates, there is only so high the efficiency loss number can be – it is likely to be at the pointy end of town.

Also, Flower Power is priced well in ZFC experience. It is more expensive than say Squirt – but in ZFC opinion it is clearly better in every single way – from not penetration issues to much lower wear in every test block and so much cheaper to run. There is little point saving \$10 or \$15 on a bottle of lubricant to then pay 10 fold that or more in more rapid component wear. But it is also much cheaper than say Silca SS drip or UFO drip – and a lot of people just will not pay \$50 for a bottle of lubricant. So \$29.90 AUD for a lubricant that has set new lowest wear records – that is perfectly priced in ZFC opinion.

In fact, it is the PERFECT lubricant that should be on LBS shelves vs the typical Muc-Off and Finish line lubes that tend to dominate the space. Why do they dominate so much? Well, aside from big name branding and the flashy marketing – simply they give awesome margins to the bike store. But ask yourself how are such high margins for the bike store achieved? Why is the product able to be sold at such a low w/sale price to the LBS for them to have such great margins when they sell them to you? Is it that the product cost is actually REALLY cheap? And if they are much higher wear, and the LBS is then selling you chains, cassettes etc faster – they are hardly disincentivised re stocking these products.

If a genuinely brilliant product simply costs more to produce, and so margins are simply more normal for w/sale to retail – well, unfortunately it seems to many LBS are not willing to put a great product on the shelves if it means 40% margin and much lower component wear rates, vs a product with 70% margin and much higher wear rates. This is a conversation you should engage with at your LBS, and see if you can direct them towards giving up just a bit of shelf space for a genuinely brilliant product. You can assure them, look after customers to best of their ability with genuinely great products and

service, and the customer will always look after them. Sell products that just eat your drivetrain for better margin on a bottle of lubricant..... and hope they buy more chains and cassettes.....that is just not a great way to operate.

ZFC is increasing its efforts to try to get more products that deserve to be stocked in LBS around the world on shelves, and push out a lot of legacy rubbish. But there are a number of factors that push against this effort, and I am like one guy – ZFC, and manufacturers working hard to bring you genuinely great products – need your help. The LBS will listen to their customers well before they will listen to a strange dude down in Australia.

The only negatives I can list really are that the lubricant does not run as clean as the highly refined paraffin base lubricants, it will definitely run, feel and look more like many wet lubricants vs a wax lubricant – so if you like a very clean looking drivetrain, you will be constantly cleaning things if you choose flower power – just for aesthetics mainly as it really needs very very little actual maintenance to remain low very low wear.

The fact that it does not seem to be cross compatible with immersive waxing will rule it out for some – this is best for those who are not immersive waxers and looking for a stand-alone outstanding product.

And whilst it CAN be maintained in an extremely environmentally friendly manner – Alpine extra may be costly to obtain depending on where you live. At this time ZFC will not be stocking Alpine extra – I would love to, as then I could sell Flower Power and Alpine extra as a bundle pack, however the cost to obtain is too high, retail price too high in Australia. This may change in the future if the importer for Effetto is able to bring in and sell at a viable w/sale price – but at the moment in Australia if I was to bring in direct we are looking at a retail of around \$40 AUD for a \$500ml bottle – so UFO clean will be

the recommended maintenance product in Australia. If you live near where effetto is based however, getting Alpine extra with your flower power may be economically all groovy – again whilst these solvent types are expensive, VERY little is needed to do clean reset so actual usage costs may be competitive with other cleaning solvent options depending on how much it will cost you to get to your door – expect to get at least 10 full flush cleans from a 500ml bottle as best as I can estimate from testing thus far.

All up, ZFC is very pleased and excited to see this product come to market.

## Pictures From test

Flower Power post extreme contamination block – 6000km into test





Flower Power post extreme contamination block – 6000km into test

