

# Flac Filtration Services

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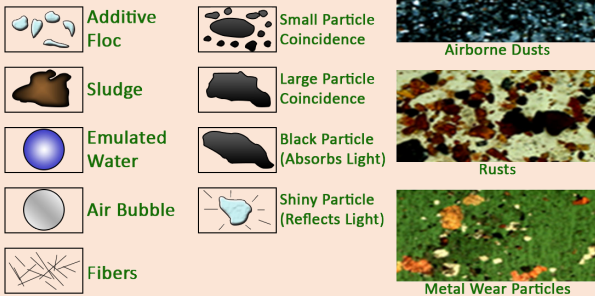
## In Pursuit of Lubrication Excellence

When it comes to Diesel Fuel and Lubricating oils, the quote "What the eyes don't see, the Heart won't feel", is true for those who are ignorant when it comes to not knowing and understanding just how much harmful dirt or contaminants there are in new diesel fuel and lubrication oils. In reality, these harmful contaminants are a prime cause for hearts to feel the pain of high costs and losses (which leads to empty pockets or wallets), due to high maintenance costs or premature failure of lubricated machines and components.

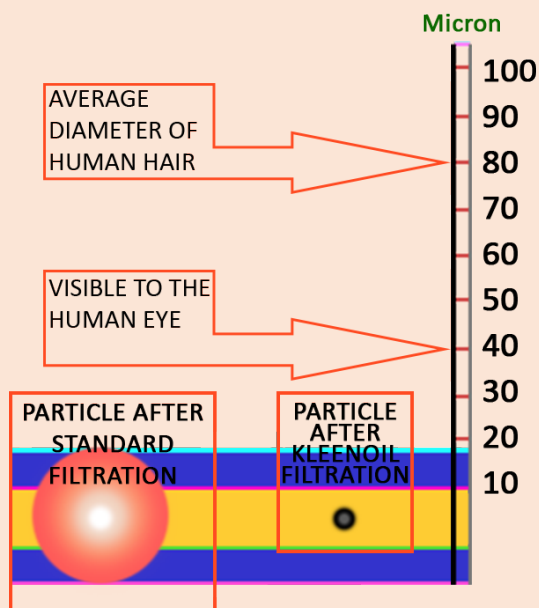
## The Silent Thief Particles that cause damage not visible to the naked eye



### Particles in lubricants and fuels



The biggest particle the eye can see is 40 microns. Harmful particles that cause the damage in diesel fuel and lubricating oil, fall in the 5 to 10 micron range.



## Maize farmer walks the walk when it comes to practicing fuel and lubrication best practices

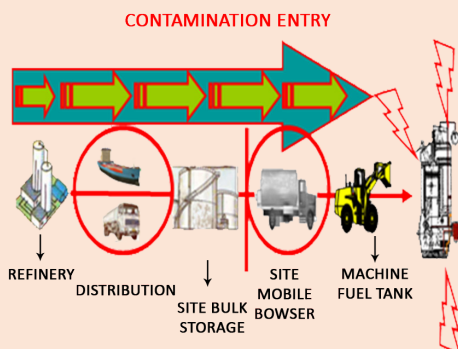


Ian and Belinda Uys

**Testimonial: Arresting the Silent Thief**  
My name is Ian Uys. I am a commercial farmer situated in Heidelberg, Gauteng. I work with my father and younger brother - mostly harvesting and farming with grain products such as yellow maize and soya beans. We first introduced KLEENOIL Filtration systems to our fleet in 2003 - installing the units onto the engine, diesel tank and hydraulic systems of our 2144 Case Harvester. Because of the astounding and notable improvement in the performance of the machine, during the trial period, we installed KLEENOIL Filtration systems to our complete fleet of John Deere tractors, of which we operate the 6610, 7410, 7710 and 7810 models - and since the saving on oil, diesel and maintenance was so substantial we, obviously, had a KLEENOIL unit installed on the gear box, diesel tank and engine of each tractor by 2004. The 7410 John Deere Tractor was on 2000 working hours at the time - and to date is on 10750 hours without any problems on any of the main drive components. I remember being so completely astounded by the results after initially installing KLEENOIL Filtration units to the 2144 Case Harvester, that I also had units installed on my Land Rover! The 7810, which is now operating at 10000 hours, only went in for a repair in 2010 - for maintenance on the gear box. The mechanic on the job, upon replacing the gear-

**Contamination even in new fuels and lubricants is a prime cause of high maintenance costs and premature failure of lubricated machines and equipment**

As another saying goes, "What you don't know you don't know". When it comes to fuel and lubrication practices, most people don't know that diesel fuel and lubrication oils have a direct effect on equipment reliability or failure - and that globally new fuel and oil contamination is a prime cause of component wear and premature equipment failures.



Again, as someone also once said, "What you don't measure you can't control". Most people assume that the fuel and oil in their vehicle or machine tanks and systems are clean - while in most instances it is not. Contamination of new fuel and lubricants occur in several instances from the refinery to the filling spout of the machine as depicted in the picture above. Other contributory factors would include, water ingress, inefficient combustion, return of common rail fuel to the tank, to name just a few. Many people and organisations just assume that the product they are filling their systems with are clean and contaminant free, while, in reality, it has passed through several transfer-, handling-, and storage points where, at every point, entry of harmful contamination occurs. In addition, storage of most diesel fuels over 26 days initiates chemical reactions that cause further impurities, while large on-site storage silos have a greater vulnerability for microbe ingress and growth. The fuel and oil, while in use, are also very quickly contaminated with harmful contaminants such as Soot, Acidic Oxides and chemical reaction deposits, most of which will not be removed by normal OEM filtration systems, thus the reason for specified oil change-out services. The average fuel and oil filtering micron rating is 25 micron. The particles that cause the damage fall in the range of 5 to 10 micron!! Stop to think about this for a moment: when taking into consideration that the average gap between moving parts in most lubricated systems is 3 micron, it stands to reason why sudden failures set in not long after OEM warranty periods expire. Think about this again. The harmful contaminants of 24 micron and less are not arrested by the OEM filter, and they are in fact the Silent Thief that causes the damage in most lubricated systems.

When it comes to oil, especially engine oil, which is not only contaminated from outside sources, but also by the combustion process, the particle matter not arrested by the OEM fil-

**7810 JD Tractor now stand on 10000 operating hours without problems after installing KLEENOIL Filtration to the Diesel, Engine and Gearbox systems.**



box housing, commented that it was "the first time in his entire career since 1991" that he saw no wear and tear on the clutch plate of the power shift gear-box after 8000 operating hours! He further added that it was more often than not that they had to, by 8000 hours of the machine's working life, replace the clutch plates. The problem with our situation was a crack in the housing of the gear-box which, as it turns out, was due to incorrect operation of the machine by the operator. The mechanic stated that it was evident that the KLEENOIL Filtration system was responsible for the lack of wear on the working parts of the clutch plates. Prior to making use of the KLEENOIL Filtration Systems, we were using twelve 210 litre oil drums per year to feed and maintain our fleet. But these numbers dropped immediately upon introducing the KLEENOIL Filtration system to our equipment. To date we are using a mere four 210 litre drums per year! In 2013 we purchased a brand new 7130 Case Harvester and, predictably, I installed KLEENOIL units on the engine, diesel tank and hydraulic systems. The sales agent had no issue with this and reassured me that it had no effect on the guarantee. An observation I find interesting is that I've never had any problems with my injectors and I have never lost an engine again since using the KLEENOIL Filtration system to all my machines. I thoroughly believe in the KLEENOIL Filtration Systems and I will never work without it again!

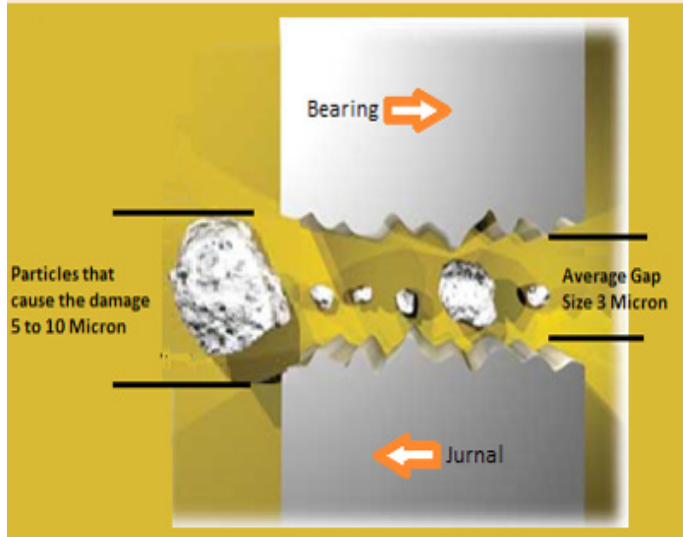


New 7130 Case Harvester where I installed KLEENOIL units on the engine, diesel tank and hydraulic systems. The sales agent had no issue with this and reassured me that it had no effect on the guarantee.

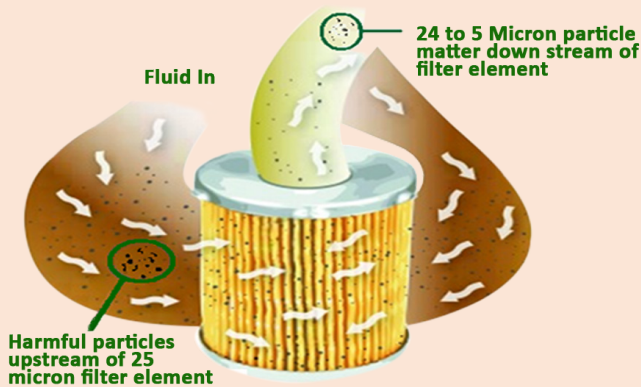


The biggest particle the eye can see is 40 micron. The particles that cause the damage is 5 to 10 micron. Generally OEM filters will only capture particle greater than 25 micron.

ter remains suspended in the oil, and if one can call it such, is circulated through the engine almost like a liquid sand paper. In addition, when thinking of the small tolerance gaps between the lubricated moving parts within the engine, gearbox and hydraulic system, these systems can be construed to be small, self destructive crushing and grinding systems which generate exponential wear with every successive complete circulation.



### 25 MICRON FILTER ELEMENT



Not knowing better ("What you don't know, you don't know"), it will be argued that OEM filters should suffice, BUT they don't. The reason that 25 micron filters are used is to handle the flow rates and pressures in full flow. Using lower micron rated filters would necessitate doubling up or even quadrupling filtering requirements to handle the flow, which will not only need extra space for installation, but will also be a significant added cost.

After working with KLEENOIL Filtration systems on all my machines as far back as 2003, I thoroughly believe in the KLEENOIL Filtration Systems and I will never work without it again!



KLEENOIL Filtration unit installed to the new 7130 Case Harvester fuel system, which not only protects the fuel injection system, but also renders a saving on fuel consumption.



KLEENOIL UNIT installation on the new 7130 Case Harvester Hydraulic system.



KLEENOIL Filtration unit Engine application on the new 7130 Case Harvester. One of the added benefits in using KLEENOIL Filtration systems, is that the same cartridge type is used to filter and maintain the diesel fuel, engine oil, gearbox oil, and Hydraulic oil, which make it easy and simple for replacement cartridge ordering and stock holding. More importantly, The KLEENOIL Filter cartridge will arrest all free water as well as suspended water, while at the same time filtering out and capturing all harmful contaminants to less than 3 micron. Dirt and water are the two most harmful contaminants found in any fuel or lubricating fluid.



*It doesn't take rocket science, but rather a change in attitude to realize and understand the overwhelming influence fuel and lubrication has on equipment reliability.*

*"I remember being so completely astounded by the results of the Kleenoil filtration unit that I also had units installed on my Land Rover!"*

Here again, as someone else also said, "The Proof of the Pudding is in the eating", which this successful maize farmer did, by following his heart and not allowing himself to be intimidated by hearsay or fear of OEM warranty claim loss. In addition, this article is not about trying to penetrate a new sales market, but rather to share a real success story with interested parties who have open minds and an eager willingness to do things better - to walk the walk, rather than talk the talk. The success achieved by the farmer was much more than just installing an additional fluid filtration system, which only helped him arrest the harmful contaminants (The Silent Thief) in his fuel and lubes. Albert Einstein once said: "Not everything that can be counted counts, and not everything that counts can be counted". When pondering on these words of wisdom, it brings to mind the idiom, that there is much more to things than meets the eye when it comes to implementing and practicing Fuel and Lubrication Best Practice Principles, as this successful farmer has. The good news is that it is not rocket science, all it requires is to focus on the things that count and to avoid the things that don't. It is equally important to break away from old die-hard attitudes, which only benefit OEMs (original equipment manufactures) and Lube Oil and Filter suppliers. This statement is not made in a derogatory manner in any way. Remember, what you don't measure you can't control. In a nutshell, a good fuel and lubrication strategy is a sure guarantee toward improved plant and equipment availability, service life extension (far beyond normal OEM warranty periods) and bottom line savings. Key components to address concerning fuel and lubrication contamination, and yes, even new fluid, is to:

- Randomly sample and analyse supply of new fluid to ensure that you are receiving a clean product that meets agreed specifications.
- Take measures to exclude contaminants by moving away from old die-hard practices.
- Remove contaminants by up-grading filtration, the cost to up-grade will be more than covered by the savings gained in maintenance cost and extended component life.
- If not already done, implement a fluid monitoring program using an accredited Oil Analysis Laboratory.
- Take corrective action to bring change need into effect.

For more details on FLAC (Fuel-Lubes-Air-Coolants) Solutions, please feel free to contact us to find out how your company can save money and overcome the burden of high fuel and lube costs or costly premature failure of plant and equipment. Or if you would rather wish to hear more about it by word of mouth, you can personally contact the maize farmer covered in this article on Mobile Phone Number 083 9623956



John Deere Tractor Arsenal



John Deere 6610 and 7810



John Deere 7410 and 7710



John Deere 8430 New addition to the fleet with KLEENOIL Filtration units installed to the Fuel, Engine and Gearbox before the machine was taken into service.

