

OIL ANALYSIS LABS FOR AFRICA

In a bid to support industrial operations around many of the remote, less-developed mining hotspots in Africa – WearCheck has supplied world-class laboratories to many of these areas.

Burkina Faso and Namibia are two of the destinations earmarked to receive their new WearCheck laboratories in the very near future, once set-up is complete. While the lab in Burkina Faso is commissioned by a particular customer, the Namibian lab, situated near Rosh Pinah mine in Southern Namibia, is a commercial lab and will service any industry needing condition monitoring solutions.

Each lab is equipped with the full range of high-tech instruments and the latest “smart” technology, and is completely self-sufficient, even with its own uninterrupted power supply.

Managing director Neil Robinson is determined to make world-class condition monitoring services as accessible as possible to operations on the African continent. ‘The extraordinary functionality of our labs allows us to eliminate the need for reliance on basic infrastructure such as electricity, internet signal, security and safety features. With these hurdles out of the way, the labs can operate in locations that are highly convenient for our customers.

‘As industry needs evolve, we are constantly redesigning and updating our labs to present reliability solutions in areas which previously seemed almost impossible to imagine having a world-class laboratory present.’



WearCheck's managing director, Neil Robinson, is committed to making oil analysis and condition monitoring services accessible to the more remote areas of Africa, to assist mines and other industries to benefit from maintenance cost savings

Our existing network of laboratories covers many countries in Africa and beyond – 15 laboratories in nine countries, with more in the pipeline.

In South Africa, the labs operate in Durban, Johannesburg, Middelburg and Cape Town. The company has grown into cross-border locations in Mozambique, Zimbabwe, Zambia, Ghana, DRC, Namibia, India and Dubai

Once the location for a new laboratory is identified, the lab is set up and instruments are supplied and calibrated. Generally, a local lab manager undergoes training in an existing lab and then takes over the reins of the remote lab, along with the necessary laboratory technicians. A laboratory technician from an existing laboratory spends several weeks in the new lab setting up the system to comply with WearCheck's strict quality standards.

Samples are delivered to the remote laboratories by customers, where they are analysed on-site. The test results are uploaded to a platform where the company's experienced Durban-based team of diagnosticians analyses the information and provides feedback to the customer, in the form of sample severity and recommendations on corrective action to be taken, if it is required.

WearCheck offers a wide range of condition monitoring services for the mining sector - including oil analysis, coolant testing, diesel testing and 24 hour sample turnaround time – the remote labs are also available for use by other industries, such as quarrying, industrial, transport, aviation, turbines/ power generation and shipping operations.



Instruments for the laboratory – destined for a customer in Burkina Faso – are carefully packed and secured before transportation. Diagnostic manager John Evans (left) and laboratory manager Meshach Govender conduct a final inspection before the instruments leave Durban

HEART-WARMING HELP FOR YOUNGSTERS

Every year, WearCheck Pinetown staff members open up their hearts – and their wallets – to bring some Christmas joy into the lives of the company's long-term charity partner, the kids at St Vincent's orphanage.

St Vincent's is based near Mariannhill, Durban, and houses over 100 homeless children.

Project co-ordinator Marvin Narainsamy, WearCheck's foreign operations accountant, decided to do things differently this year. He outlines the plan, 'Instead of giving the kids the usual gifts which can be short-lived, we decided to give the orphanage a gift that will entertain the children over a longer period of time.

'We purchased them a 49" LED TV, a DVD player and a range of DVDs that will appeal to all age groups at the orphanage.

'The house parents and children were so grateful and happy with this idea, as the orphanage did not have a TV up till now.'

In addition to this wonderful gift, the WearCheck team also provided the children with a delicious lunch, an ice cream treat and some groceries.

Says Marvin, 'This would have not been possible without the valuable contributions made by the staff and then WearCheck matching these contributions – what a positive difference we have made in the lives of these deserving youngsters – thank you everybody!'



Lunch time...children at St Vincent's orphanage line up for their meal



At St Vincent's Orphanage recently it was all hands on deck to set up for the donation, by the WearCheck team, of a wide-screen TV, a DVD player, a selection of DVDs, a hearty lunch and groceries to bring Christmas cheer to the children

WearCheck at Windaba

The Windaba Expo in Cape Town never goes by without WearCheck being present at this well-attended annual wind technology event. Globally, countries are actively engaging alternative power sources than the traditional oil and coal options in a move to harness abundant natural resources and to be more earth-friendly.

The theme for the latest Windaba conference was asset management which focused on optimising wind turbine life cycle through the use of remote online monitoring and data analytics.

For this event, WearCheck showcased their specialist reliability solutions and newly-expanded transformer services divisions with vibration, thermography and transformer oil analysis just some of the services on offer as part of WearCheck's condition monitoring portfolio for South Africa's burgeoning wind industry.

Through a good condition monitoring programme, wind turbines are kept operating reliably at their peak output, enabling them to generate an uninterrupted power supply.



Standing by to shoot the breeze with Windaba delegates were WearCheck staffers, from left: Phillip Schutte, Steven Lumley, Des Rodel, Ian Gray and Sam Sublal

MINING INDABA

WearCheck and our sister company Set Point Laboratories – both part of the Torre Group – were situated alongside each other at this year's Mining Indaba.

On standby to greet visitors to Mining Indaba and showcase the stands were Keith Finlayson and Philip Schutte of WearCheck.



On standby to greet visitors were, (from left to right), Keith Finlayson and Philip Schutte (WearCheck), with Moses Lelaka and Gerrit Fouché (Set Point Labs)

Desert Drill

WearCheck's technical manager, Steven Lumley, recently visited Dubai, where she conducted training courses on oil analysis for various Middle East customers, including Valvoline and Denver



Lucky draw winner Willem Britz of Assmang King Mine is presented with his prize, a tablet worth R5 000, by WearCheck technical manager Steven Lumley. A prize is awarded annually to customer survey respondents

Each year, we conduct a survey in which we ask our customers how we can improve, what works, what doesn't work and so forth. Your feedback is invaluable to us. This shapes the way forward for us – determining the needs of our customers is critical to the direction our business takes in the future.

The 2017 customer survey produced a slew of compliments for WearCheck. Just some of the comments were:

'Excellent service'

'For the past 12 years, I have had no complaints . . . very happy [with] the way we do our reports and lube analysis reports'

'Excellent technical support and advice given by Leon Marshall'

'Happy and entirely satisfied'

'Very good and helpful'

'Excellent service from staff'

'All satisfied'

We have already instituted the suggestions for change and made adjustments to accommodate the constructive criticism. Thank you for your input.

As a token of our appreciation for the time taken to provide us with feedback, we award a prize to one lucky customer whose name is randomly drawn from survey respondents. This time round the lucky winner was Willem Britz of Assmang King Mine.

APP UPDATED

WearCheck's revolutionary condition monitoring app – WearCheck Mobile – continues to be an increasingly popular choice among our customers for communicating with us about sample results.

An updated version of the app was launched recently and offers several upgraded features, including better all-round usability and the ability to check the progress of a sample.

Once downloaded onto a mobile device, WearCheck Mobile gives you highly enhanced access to critical information regarding machinery condition, allowing maintenance decisions to be made instantaneously, based on live data.

The app allows you to access your reports, view current samples list, and keep track of unread web/app reports. Notifications about items on this list are sent out as reminders.

All data is highly secure, and is now even more nimbly accessible on the app with the "scroll to top" option.

One of the highlights and unique features of the app is the interactive key, where you can ask a diagnostician about a specific sample, and receive an emailed reply on your mobile device.

Sample reports can be viewed on the device as either one page ("concise"), or two page ("full") pdf documents. Single or multiple pdf reports can be emailed to different recipients simultaneously. Sample reports can now be emailed from the equipment search tab.

Sample data can be submitted, either via the equipment/component search option (recommended), or via the "submit samples" option, where equipment/component verification is needed for currently-listed machinery. Where applicable, new equipment/components information is

created in the WearCheck system. You can also view your five-day submission history.

Questions? Contact our support team on softwaresupport@wearcheck.co.za or call (031) 700-5460.



Zapper arrives at WearCheck

WearCheck customers can now pay with the Zapper mobile application when purchasing any WearCheck products and services from the following branches – KZN, Gauteng, Middleburg and Cape Town.

Zapper is a free app which enables you to charge items to your credit card without having the credit card physically present at the transaction. Zapper is very secure, and works on any smart phone or device. Simply download the app, load in your credit card details and start zapping!

When presented with an invoice, you simply open the Zapper app, and scan the QR (quick reader) code located at the branch. The QR Code can also be emailed upfront to you, to allow you to process the payment before you arrange collection of your WearCheck products. Once the user scans the QR code with their smart phone and approves the transaction and the amount, the money is debited directly off the user's credit card. Zapper does not charge the user to use the app.

You will receive an email from Zapper confirming the transaction.



An example of a QR code – scan this one (via the Zapper App) with your smart phone just for fun, it will take you to the WearCheck website

zapper™

MAKING HEADWAY

WearCheck's family is growing to keep up with our constantly-expanding customer base

Kathu Connections

One of the new members of the family is Suzette von Wielligh, who is handling the sales in Kathu, which is recognised as the iron ore capital of the Northern Province. And WearCheck Kathu also welcomes Werner Buys, who is in charge of business development and technical support for the region.

Werner was previously with WearCheck for nine years, his last position was running the Cape Town branch. In 2015 Werner embarked on a three year stint in the off-shore oil and gas industry in Saudi Arabia and other Middle East countries. Welcome home, Werner!



Suzette von Wielligh is handling WearCheck sales in Kathu, Northern Province



Werner Buys has rejoined WearCheck after a three year contract elsewhere, and is in charge of business development and technical support in the Kathu region

RICHARDS BAY WHIZZ-KID

Stephanie du Plessis recently joined WearCheck's Richards Bay team as a vibration analysis technician.



Top Mobius scholarship winner Stephanie du Plessis has joined WearCheck Richards Bay as a vibration analysis technician

In 2016, Stephanie was the recipient of the Top Scholarship award, winning an international scholarship from Mobius. Through this, Stephanie completed her CAT-1 course, and is now undergoing training for her CAT-11.

This is the first time in history that international training institute Mobius has offered scholarships, and it came along just in time for Stephanie. She had borrowed the vibration analysis text book from a friend and was trying to teach herself while saving up to pay for the course. Stephanie applied for the Mobius bursary, which was offered to students around the world. Out of 330 global applications, Stephanie was selected. Not only that, she won the top award, which enabled her to attend an IMVAC (International Machine Vibration and Condition Monitoring Conference) in Dubai.

Says Stephanie, 'I'm honoured to be making the most of this scholarship by working at WearCheck, which enables me to gain the practical experience required for certification.'

LUBE TIP: aftermarket oil additives can backfire

From "The Practical Handbook of Machinery Lubrication – 4th Edition":

Increasing the percentage of a certain additive may improve one property of an oil, while at the same time degrade another. When the specified concentrations of additives become unbalanced, overall oil quality can be affected. Some additives compete with each other for the same space on a metal surface. If a high concentration of an anti-wear agent is added to the oil, the corrosion inhibitor may become less effective. The result may be an increase in corrosion-related problems.

WearCheck India excels

Hearty congratulations to WearCheck India on achieving their ISO 17025 accreditation for the oil lab.

National manager for WearCheck India, Nissar Ahamed, is proud of his team for ensuring that all the stringent requirements were met in order to be awarded the certificate. In India, the NABL (National Accreditation Board for Laboratories) is the body that awards the accreditation. Their certificate confirms that WearCheck Laboratories India has been assessed and accredited in accordance with the standard ISO/IEC 17025, and has met the "general requirements for the competence of testing and calibration laboratories".

WearCheck India is located in Chennai on the East coast of the Indian sub-continent. They provide the full spectrum of oil analysis and condition monitoring services for all industries, particularly specialising in monitoring wind turbines. They are based at 16-B Kamakoti Nagar, Palli Karanai. They can be contacted via telephone on +91 444 557 5039 or via email on nissar@wearcheck.co.in or www.wearcheck.co.in



Team effort! Proudly holding aloft WearCheck India's newly-awarded ISO 17025 accreditation certificate are staff members (from left): Mohamed, Muji Zaki, Dastigeer, (centre) Nissar Ahamed – national manager; WearCheck India, Mohammad Hussain, Sajida, Balaji. Seated: Jameel Basha and Sai Ganesh

TECHNICAL TIP

Advanced vibration technology (AVT) saves money



By Louis Peacock of WearCheck's reliability solutions division

Reducing maintenance costs by detecting defects before they become a catastrophe is one of WearCheck's fundamental goals. There are many condition monitoring techniques that enable the company to achieve these goals, including used oil analysis and a range of reliability solutions services.

Advanced Vibration Technology (AVT) is one of the techniques for assessing potential defects that is used by WearCheck's reliability solutions division.

While AVT is not only an early detection tool, what it also does is tell us the severity of the defect with pin-point accuracy in a measurable environment.

AVT spectrums captured by vibration analysts show the defect frequency, but not the severity of the defect. To assess the severity of the defect, the AVT timewave must also be examined.

AVT can be divided into two simple sets of rules for determining the severity of a defect, whether it is a gear or a bearing:

1. For machines operating in the 0 – 750 rpm range
2. For machines operating in the 750 – 5550 rpm range

Using AVT timewaves and spectra, it is evident exactly what the defect is as well as the severity of the problem. The correct use of technology eliminates the need to guess what the defect is.

As soon as the defective component has been identified and repaired or replaced, it is good practice to conduct vibration tests to

establish a new baseline once the machine is in production again.

For further explanation, a machine was assessed on 28th March 2017 using AVT, and a Peak-Peak reading of 8.051 Gs was measured, indicating a problem with the Inner Race bearing.

On 9th May 2017 this machine was retested and the defect had deteriorated to 12.01 Gs Peak-Peak. The machine was declared to be in a third stage BPF1 defect (inner race bearing defect). The client was advised to replace the bearing to avoid unexpected breakdown.

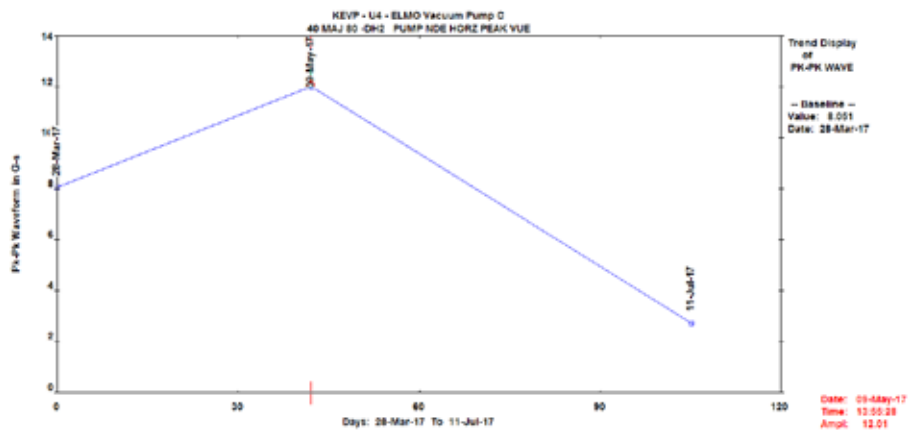


The damaged bearing is pictured, after it was removed from the machine

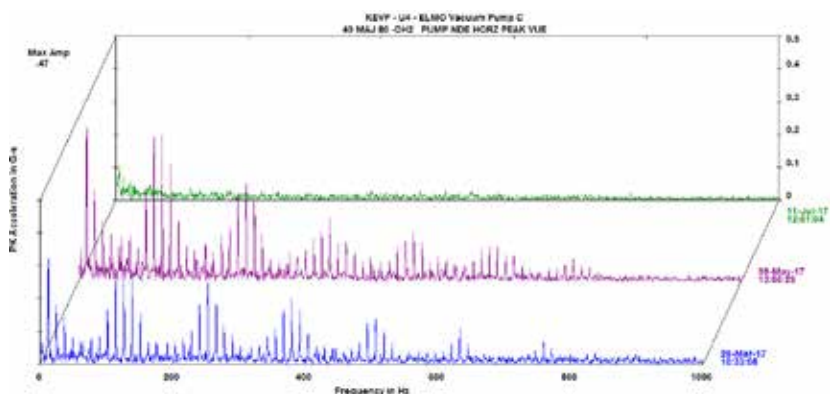
GRAPH 1

After the bearing was replaced, the machine was retested on 11 July 2017 to establish a new baseline. As per Graph 1, the vibration on the new bearing is without defect, as suspected. No defect frequencies were visible in the spectrum on 11 July.

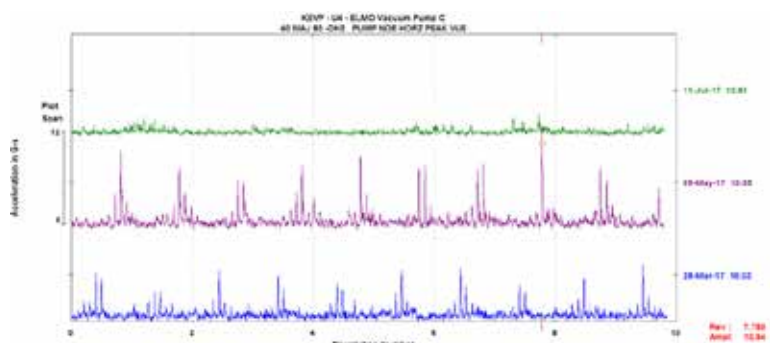
No impacting or noise is visible in the timewave (Graph 2) or the spectrum (Graph 3).



GRAPH 2:



GRAPH 3:



LONG SERVICE: TEN YEAR TENURE

WearCheck has many valuable assets, but the most valued of all are its members of staff, who dedicate their careers to providing fabulous customer service and world-class laboratory results.

One of the factors that helps develop great team work and excellent performance at work is when people know their jobs and the business well, which in turn comes from long-term commitment to the company.

This year, we celebrate these WearCheck workers who have reached the 10 year milestone of being part of the WearCheck family. Well done and thank you for your dedication.



Admin clerk Anneline Chinsamy has worked at WearCheck Pinetown for 10 years



Reliability solutions technician Hein Coetzer of Richards Bay has worked at WearCheck for 10 years



Stores assistant Victoria Gama has worked at WearCheck Johannesburg for 10 years



Junior bookkeeper Preshnie Govender has worked at WearCheck Pinetown for 10 years



Junior laboratory assistant Cowboy Manana has worked at WearCheck Johannesburg for 10 years



Stores assistant / driver Joe Ngcobo has worked at WearCheck Pinetown for 10 years



Pinetown laboratory cleaner Lindiwe Nobuntu has worked at WearCheck for 10 years



Pinetown laboratory manager Meshach Govender has worked at WearCheck for 10 years. Meshach, a qualified chemist, began his career with WearCheck as laboratory technician, and was promoted to laboratory manager four years ago

KEEPING YOU POSTED

Did you know – you can opt in to receive WearCheck's *Monitor* and *Technical Bulletin* publications either on our website (<http://www.wearcheck.co.za/useful-info/publications/technical-bulletin>) where there is a "subscribe" button, or by emailing your details to support@wearcheck.co.za.

You have the choice whether to receive the publications electronically or a hard copy in the post.

You can also find WearCheck posts on FaceBook, LinkedIn and on the WearCheck blog site: <http://www.wearcheck.co.za/blog>

UPCOMING EXPOS

Please pop in and visit the WearCheck stand at these future exhibitions:

AFRICAN UTILITY WEEK

15 – 17 May 2018, Cape Town

ELECTRAMINING: HALL 6

10 – 14 September 2018, Johannesburg

WINDABA

7 – 8 November 2018, Cape Town

WEARCHECK 2018 TRAINING COURSES

Venue	Oil Analysis 1: Understanding oil and its analysis	Oil Analysis 2: Report interpretation
	Two full days	One full day
Cape Town	15-16 May	17 May
Rustenburg	19-20 June	21 June
Bloemfontein	10-11 July	12 July
Pinetown	14-15 August	16 August
Namibia	11-12 September	13 September
Gauteng	16-17 October	18 October
Northern Cape	6-7 November	8 November

Oil Analysis One covers two full days and costs R5 950. Oil Analysis Two and the NetCheck course cover one full day each and each costs R3 000. [Please note that the Oil Analysis Three course will not be run this year]. All courses include course material, refreshments, giveaways and certificates. Prices exclude VAT and are subject to change.

For more details on course content, view Training at www.wearcheck.co.za. For bookings phone Michelle van Dyk on +27 (0)61 223 1708 or email training@wearcheck.co.za.

ON-SITE TRAINING

All courses can also be presented at the customer's premises for a minimum of seven delegates.

WearCheck also offers two more on-site courses:

- WearCheck Practical (in English or Zulu), a half day course costing R735 plus VAT per delegate

RELIABILITY SOLUTIONS TRAINING COURSES

Mobius training is offered in 153 countries, and is recognised the world over as the standard for reliability solutions technicians. Mobius courses are run by WearCheck on demand. Costs include the examination fee for CAT I and II, and are as follows:

- One day on-site condition monitoring overview: R15 000.00 (RSA only)
- Four day non-certified basic: R10 000.00 preparation for CAT I (including RSA)
- Five day CAT I: R15 000.00
- Five day CAT II: R16 450.00

To book a Mobius training course, please contact Christene on christenef@wearcheck.co.za or call WearCheck Johannesburg on (011) 392-6322.

- WearCheck Customised – oil analysis for workshop technicians, a full day course costing R2 620 plus VAT per delegate.

For on-site training, there may be an additional charge for the lecturer's travel and accommodation, if needed.

ARRANGE A TRAINING COURSE NEAR YOU

Training courses can also be arranged in any of the following areas:

Bloemfontein	Rustenburg
Cape Town	Steelpoort
Kimberley	Botswana
Makopane	Namibia
Middelburg	Tanzania (Mwanza)
Nelspruit	Zambia (Kitwe)
Port Elizabeth	

**Prices exclude VAT, and are valid until the end of 2018.*

Note: the condition monitoring overview courses do not include any training material, and a minimum of six candidates is required for all training courses. There may be an additional charge for the lecturer's accommodation and travel.

WearCheck passes Shell audit with flying colours

Some of our larger customers are required to conduct regular audits of all their suppliers, to ensure that the service they are receiving is of the quality that they expect.

This means that WearCheck, as a supplier, is regularly audited by customers and customer-appointed auditors to ensure that service quality remains excellent.

Recently, WearCheck was endorsed once again by Shell after they conducted an audit in which approximately 100 different aspects of the laboratory processes were assessed.

Aspects that were examined included general organisation, buildings, quality assurance procedures and management, sample management, document control, training, diagnostic capability, calibration, maintenance and statistical quality control.

Shell has been a loyal customer of WearCheck's since 1986.



OILING THE WAY FOR SMOOTH COMMUNICATION

As WearCheck's footprint extends across many African borders, we encounter countries where English is not the predominant business language, and as part of our good business practice ethic, we do what we can to facilitate effective communication with our customers.

To this end, we have recreated our oil sample test kits – originally only available in English – to be available in both Portuguese and French as well. This means that automotive/industrial oil, coolant, fuel, gas engine and

aircraft sampling kits are now available in three languages.

The sampling kits look exactly the same as before, with the exception of the automotive/industrial sub-form, which now incorporates a tick-box section for component selection.

Language preference is set at the customer contact level, thereby allowing different contacts, within the same organisation, the option of receiving reports in each person's

preferred language of the three available.

Reports are viewed on the WearCheck Online system which appears in English, French or Portuguese, depending on customer's requirements. In fact, all WearCheck Online functions, such as emailing, label printing, severity reporting, problem type grouping and so forth, are available in English, French and Portuguese. Cummins Angola, as well as being WearCheck agents, were also our first foreign language customer.

WEARCHECK TEAMS UP WITH CUMMINS ANGOLA

Angola is the next frontier across which WearCheck is set to expand, when Cummins Angola becomes the first local WearCheck agent, based in Luanda. Global power leader, Cummins, recently sent staff from their Angolan branch to WearCheck Pinetown in South Africa to attend a three day oil analysis training course. The Cummins delegation also met with the WearCheck Pinetown team and toured the laboratory, in preparation for their rôle as agents for the company.

Cummins and WearCheck intersect on many levels as they operate in the same industries, albeit supplying different services. While WearCheck specialises in condition monitoring, Cummins Inc. designs, manufactures, sells and services diesel and alternative-fuelled electrical generator sets and related components.

Cummins Angola will serve as a depot where WearCheck kits can be purchased, and samples can be dropped off. Samples will be sent to a WearCheck laboratory, and diagnosis and results communicated directly with the customers.

Kits are available in both Portuguese and English.



Cummins Angola, set to become WearCheck agents shortly, recently visited WearCheck Pinetown. Seen in the laboratory are (from left to right) Meshach Govender (lab manager), Ines Miguel, Steven Lumley (WearCheck technical manager) and Madeira Domingos

HIGHLIGHT YOUR SUCCESS

If oil analysis has helped prevent a major failure or saved your company money, we would like to feature this in Monitor. Our writer will contact you for the details and will write the article for your approval. Simply email prinda@wearcheck.co.za and we will contact you.

TECHNICAL BULLETIN TOPICS?

Is there a particular subject you would like to see featured in a Technical Bulletin? Simply email your suggestion to prinda@wearcheck.co.za. Before you do this, why not check out the more than 60 titles already available on the web site: [www.wearcheck.co.za/info/Technical Bulletins](http://www.wearcheck.co.za/info/Technical%20Bulletins)

JOINING TOGETHER TO SUPPORT THE PLANET



If you would prefer to receive future issues of WearCheck Monitor and Technical Bulletin via email in pdf format instead of in printed form, please email a request to: support@wearcheck.co.za. This option also applies to printed reports.

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