

CAT 950 GC:  
BEST IN CLASS  
FOR A 5 T CAPACITY



**EXCAVATORS:** Excavators developing African infrastructure

**MAINTENANCE:** Reef offers in-field fuel system diagnostics

**TRANSPORT:** Scania fleet management

# The front line of construction



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**Reliable solutions**

**COVER STORY:**

**CAT 950 GC: Best in class for a 5 T capacity**



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## THROUGH THE EYES of a long distance driver

Recently, courtesy of Volvo and Renault trucks, I had the privilege of travelling on a road trip on the N3 that runs between Johannesburg and KZN. As the trip got underway, I began to feel part of the lemming run of heavy vehicles that ply between Johannesburg and Durban on a 24 hour basis. I hadn't experienced this route for over a year now having always opted for the easy option of flying because that route was perceived to be something of a hell run. But I must say, that despite the high volume of traffic, a certain discipline appears to have crept in amongst the drivers on the road. The long procession of trucks kept up a steady speed within a safe following distance and when overtaking, which was necessary at times, showed due consideration for the vehicles approaching from behind. I don't advocate that it was perfect running at all times but the general impression was positive and from a pure truckers point of view it made for a pleasant trip.

Being on that trip got me thinking about the drivers and the fatigue issue on longer and more complicated routes around the country. Fatigue cannot be managed like speed or weight because it is not a definite thing. Every driver is different and may feel tired at different times so managing fatigue should be left up to the individual but within certain parameters of driving hours. Legislation could kick in and prescribe saying you can drive for so long and then you must take a mandatory break. The question is where?

We are short of hundreds of rest areas on our routes so if strict legislation were to be brought in there would need to be more rest breaks hence more rest areas, and ones that are safe.

The need for stricter reform in this area is vital but will require more than just legislation. It will require every link in the distribution chain, from the consignor, consignee, warehouse manager and even the person loading, to take an active role in ensuring that when a driver leaves the site he is fit to be on the road. This shared responsibility can go a long way in preventing fatalities that always seem to be linked to driver fatigue. There is no definite method of detecting fatigue, by interacting with a driver can sometimes provide some indicators of his/her demeanour at the time.

Drivers working for large organisations have more planned working hours and are therefore less inclined to be subjected to as much fatigue but the owner drivers are the ones that really require to be monitored more carefully. Owner drivers are understandably concerned that being forced to work shorter hours will put them out of business but then they have to find some balance to stay alive and in business.

The trip itself did not go as far as Durban but stopped in Harrismith where we were given the opportunity of experiencing a different dimension relating to the trucking industry.

The Highway Junction Truck Stop in Harrismith provides an absolute haven for a fatigued truck driver and gave me an insight into the type of facility that should be beacons on all the major trucking routes in the country. Highway Junction is the number one truck stop in South Africa and also the preferred truck stop for more than 70% of the drivers using the N3 between Johannesburg and Durban.

Opened in 1999, Highway Junction is the

brainchild of Ben Deysel, the current CEO and Chairman of the Highway Group. Initially the objective of Highway Junction was to provide a refuelling service facility for heavy vehicles where drivers could rest in a safe, secure and clean environment and with a restaurant offering hygienically prepared food, clean ablutions, a truck wash and workshop facilities. It was designed to accommodate up to 90 vehicles in those days but over the years with continual ongoing expansion, the facility had some 400 vehicles parked there, on the evening we were there, as observers.

Apart from the essential services for the drivers, the facility goes one better in providing accommodation as well as a wellness centre where drivers are able to consult with qualified personnel on matters of all health issues they are experiencing on the trip even to receiving counselling on matters relating to HIV/AIDS.

It is a pity that not many of these facilities are available around the country and we can only live with the expectation that the life of a long distance driver can be prolonged when the challenges facing him on the road can be reduced facilities such as this.

So vital to the trucking industry is Highway Junction, that many of the major truck manufacturers have established depots at the junction as an additional service to their respective brands. In the next issue we will highlight one of these facilities.

Pierre Sanson, Editor



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VIDEO  
<http://qrs.ly/364mkzg>

**Volvo Construction Equipment**





One of Hillary Construction's Cat 140K motor graders working on a new dual carriageway section outside Kroonstad. This is a green field project in the sense that construction of the southbound carriageway is to be built on virgin land adjacent to the N1.

## CONSTRUCTING SAFER TRANSIT ROUTES

**P**olokwane based contractor, Hillary Construction, is forging ahead on a range of multi-disciplinary contracts nationally, which include two major Free State projects with a combined value of around R720 m.

Work is now underway on a South African National Roads Agency (SANRAL) project on the N1 (Section 17) heading north from the Holfontein interchange (Km 24) to Kroonstad (Km 45). The contract commenced from February 2015, with a scheduled completion date of February 2018. The project value is approximately R560 m.

This multi-faceted construction programme was awarded to Polokwane based company, Hillary Construction, which will be responsible for all phases, from bridge and culvert development, to the final riding surface. There are three bridges involved along this route that will need to be rebuilt, including one over the Bloemspruit, as well as a road-over-rail bridge.

The project entails the creation of a dual carriageway between Ventersburg and Kroonstad. This is a green field project in the sense that construction of the southbound carriageway is to be constructed on virgin land adja-

cent to the N1. Once completed, traffic will be diverted onto the new roadway and thereafter full reconstruction will take place on the existing N1 pavement, which will become the northbound carriageway.

Running in parallel as part of the overall work package is an 18 month SANRAL contract, valued at around R160 m, which commenced in February 2015 and has also been awarded to Hillary Construction. The scope here covers the Kroonstad to Westleigh section and includes the rehabilitation of the Kroonstad bypass.

This project will involve some 60 000 m<sup>3</sup> of recycled sub-base. Meanwhile, pavement surfacing quantities include 170 000 m<sup>2</sup> of BTB (Bitumen Treated Base), followed by 23 000 tonnes of medium grade asphalt, and a final 295 000 m<sup>2</sup> layer of Ultra Thin Friction Coarse (UTFC). All asphalt phases will be carried out by Hillary Construction subsidiary, Polokwane Surfacing.

Key benefits of using UTFC include less traffic noise, and improved rideability since this is a porous asphalt proven to be safer in wet weather as it improves skid resistance.

In terms of quantities on the Holfontein to Kroonstad route, there will be approximately one million cubic metres of bulk earthworks; 590 000 m<sup>3</sup> of gravel layer work; 82 000 m<sup>3</sup> of G1 base course; 300 000 tonnes of G4 for the sub-base; and 530 000 m<sup>2</sup> of asphalt surfacing. UTFC will also be the final layer on this section.

All road materials (G4 sub-base, G1 base course, plus asphalt and concrete aggregates) for the various project phases will be sourced from a Ventersburg quarry pit designated by SANRAL and managed by a separate contractor.

"The SANRAL specification stipulates that a 40 % RA be incorporated in the new asphalt composition laid," explains Hillary Construction's managing director, Trevor Freestone. "In other words, 40% of the existing asphalt will be milled, crushed, screened and recycled to enable a sustainable pavement solution." RA screening and crushing will be carried out by Hillary.

Aggregate and asphalt materials will be hauled by a newly acquired fleet of ten 8 x 4 on-highway trucks linked to 3 axle pup trailers. These truck acquisitions form part of an approximately R75 m investment in capital equipment that includes the new asphalt plant on site.

Earthmoving plant deployed includes two latest generation CAT 950 GC medium wheel loaders supplied and supported by southern African CAT dealer, Barloworld Equipment. One of the CAT 950 GC units is assigned to Polokwane Surfacing's asphalt manufacturing



A Cat 950 GC deployed at Polokwane Surfacing's asphalt manufacturing plant facility bordering the N1.

plant facility bordering the N1 and the other at Hillary Construction's nearby crushing and screening operation.

"The CAT 950 GC wheel loader is a complete new design leveraging proven CAT components and technology, as well as using state of the art solutions to meet customer needs," explains Barloworld Equipment Polokwane CAT sales professional, Bradley Page.

"The machine features Caterpillar's proven Z-bar loader linkage, providing aggressive digging abilities and high breakout forces; whilst the bucket pin height and dump clearance are best in class for a 5 t capacity wheel loader. Units are supplied standard with Performance Series buckets.

Powered by a CAT C7.1 engine generating a net power of 151 kW (ISO 9249) at 2 200 rpm, the CAT 950 GC is well-suited for stockpiling, truck loading, material handling, hopper charging and load-and-carry work in quarries, sand and gravel pits, as well as concrete and asphalt plants. On construction projects, the CAT 950 GC is a versatile multi-purpose machine for tasks ranging from job site preparation to back-filling, pipe handling, plus general cleanup.

The machine has an approximate operating weight of 18 676 kg, with a breakout force of 147 kN and a static tipping load (full 40° turn) of 10 503 kg.

On the N1, paving, compaction and recycling operations will be carried out by a mixed OEM (original equipment manufacturer) fleet. CAT 140K motor graders will be deployed for all

applicable stages up to final level works.

A Construction Industry Development Board (CIDB) 9CE contractor, Hillary Construction celebrated 52 years in 2015, tracing its routes back to 1963 and the company's founders, Bill and Irene Hillary.

Milestone projects that have set the groundwork for Hillary Construction's outstanding track record to date include the rebuilding of the Georges Valley Mountain Pass (R528) on the Polokwane to Tzaneen route, constructed between 1979 and 1980; and the N1 from Matoks to Louis Trichardt in joint venture with another contractor, between 1997 and 1998. What makes this latter project especially remarkable is that it has a sand bound Macadam base and entailed 15 km of labour intensive construction.

Other noteworthy projects include the diversion of the R555 between Steelpoort and St-offberg, during 2007 and 2008: a new road, completed in joint venture, to make way for the construction and ensuing flooded catchment area formed by the establishment of the De Hoop dam.

Then, more recently, the reconstruction of the R71 from Boyne to Tzaneen (through Magoe-baskloof), a contract extending from 2011 to 2014. This R360 m project was particularly challenging in terms of the terrain and provision for traffic accommodation, with construction taking place in half widths.

Ongoing works include a 30 month BRT (Bus Rapid Transport) project in Polokwane, valued at around R180 m, which commenced in

September 2014; plus an 18 month contract, valued at around R80 m, on the N1 north between Polokwane to Dieprivier, which entails the addition of six sections of overtaking lanes, three each on the north and south bound directions, plus patching and resealing of the existing carriageway.

"Across all our projects, speed and quality of construction go hand-in-hand," says Freestone. "A prime example is an approximately R130 m contract now nearing completion that has entailed safety improvements to the R71 at Moria between Polokwane and Tzaneen. This included the formation of an underpass bridge into the ZCC Church campus. We committed to opening a section of the underpass to traffic for the church's Easter celebrations, and achieved this in spite of delays caused by design changes, steel industry strikes and others."

Meanwhile, a new approximately R110 m project awarded in April 2015 by Palabora Mining Company will extend over 12 months and entails civil infrastructure works at the mine.

"Our successful track-record for project completion has paved the way for our steady growth in the road construction segment, where we will continue to expand our footprint, both at home as well as internationally," adds Freestone.

"For example, we have a registered company in Zambia that meets the country's R1 grading level (the equivalent of South Africa's CIDB 9). This is a 51% Zambian owned company, and we are actively tendering for opportunities there, with excellent prospects for new work." 🌐

## HPE AFRICA

keeps downtime to a minimum



**H**PE Africa - a division of the Capital Equipment Group of Invicta Holdings Limited – offers a critical support service that encompasses an OEM parts, repair and maintenance facility.

“The company has recognised a need from industry for greater assistance with on-site repairs and support. For this reason, HPE Africa has increased its field services fleet and extended its support service throughout South Africa and into neighbouring countries,” says Alex Ackron, managing director, HPE Africa. “The company now has well equipped workshops in Gauteng, Durban, Cape Town and East London, which are supported by dealers in Limpopo, Upington, Kimberly and Douglas.”

Repairs and services include minor and major component replacement, as well as

re-building and refurbishment of units. The company has established specialist divisions for engine repairs, hydraulics and boiler making, encompassing a bucket rebuild facility.

HPE Africa also offers maintenance programmes which are carried out in line with planned downtime schedules. Operator familiarisation courses ensure optimum performance and extended life from every machine.

The company's portfolio includes Hyundai earthmoving equipment – wheel loaders, excavators, skid steer loaders and backhoe loaders - McCloskey crushing and screening plants as well as Soosan hydraulic hammers and drills.

The Hyundai range of robust H930s back-

hoe loaders is designed for efficient performance, low operating costs and minimal maintenance requirements. This series is supported by a two year/3 000 hour warranty.

HPE Africa offers an OEM parts, repair and maintenance facility throughout Southern Africa.

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**The robust H930s backhoe loader series is particularly well liked by businesses that need smaller machines, without having to make a substantial capital investment in large excavators and loaders.**

a tilt-up hood which provides convenient access to the engine compartment and a single piece hood tilts away for ground access to all critical services and grease points.

The hydraulic oil sight gauge is installed on the side of the hydraulic tank for convenient inspection from ground level. A safety bar and locking pin are an integral part of the loader arm to ensure safety during servicing.

Hyundai has designed these machines with advanced features for maximum operator comfort, improved safety and low noise levels. The operator can easily reach all controls, whether the machine is in the loader or backhoe position. The cab has rounded front glass and larger door glass for a better field of view and an optional climate control system improves heating and cooling in the cab. Hinged type side windows provide ventilation inside the cab and a fully adjustable suspension seat improves operator comfort.

The steering column and backhoe control tower can be tilted and adjusted for convenient operation. The cab structure is supported by six pillars, meeting ROPS/FOPS safety requirements.

Optional safety features include a switch on the rear console that disables the control lever of the loader, backhoe and stabiliser and a clam safety system which prevents the uncontrolled opening of the clam bucket by its weight of load during loading and dozing processes. Adjustable front and rear 55 watt halogen work lights can be fitted to provide illumination for increased safety at the work area.

HPE Africa supports the full Hyundai range – which encompasses wheel loaders, excavators, skid steer loaders and backhoe loaders – with an operator training programme to ensure optimum performance from every machine. 🔄

## HYUNDAI'S ROBUST H930

well received in local market

“The robust H930s backhoe loader series is particularly well liked by businesses that need smaller machines, without having to make a substantial capital investment in large excavators and loaders,” says Alex Ackron, HPE Africa’s managing director. “Hyundai backhoe loaders, with a reputation for efficient performance, low operating costs and minimal maintenance requirements, are also popular with plant hire companies.”

Hyundai H930s backhoe loaders are fitted with fuel efficient, low noise, environmentally friendly Perkins 2 tier diesel engines. Standard power shift transmission and a convenient gear/shift selector, enable fast, easy and efficient operation and precise control, even in arduous operating conditions.

These machines have been designed for smooth, easy control and powerful loader performance. The loader boom is integrally welded, with dual lift and tilt cylinders for maximum strength. A strong, rigid loader frame ensures a greater lift capacity and improved overall visibility.

The backhoe boom allows for a clear line of site into a trench when the operator is digging around buried constructions, like water mains, sewer pipes and utility lines. An optional extendable dipper increases versatility.

Front and rear axles have been designed for efficient and safe operation in uneven ground conditions. Oil immersed wet brakes, which eliminate possible external contamination, are individually actuated by two separate brake pedals.

Self adjusting brakes that automatically regulate disc clearance, ensure improved brake performance and reduced service time. The parking brake can be activated by an electric switch from inside the cab.

Optional features for enhanced performance include the four wheel drive system that improves mobility and an ‘automatic return to dig’ function on the loader attachment that reduces loading cycle times. The ‘ride control system’ – also optional – has a shock absorbing accumulator that cushions the boom, reduces material loss and improves operator comfort. The operator is able to turn this system on or off with an overhead switch.

Standard features are complemented by a choice of hydraulic systems that incorporate the latest technologies for improved efficiency. These options include a load sensing hydraulic system that matches the engine power to the appropriate hydraulic flow, based on the load demand required. Sufficient flow is provided, whether the machine is operating in a trenching application, for fine control digging, or when suitable speed is needed for high productivity applications.

An adjustable flow control system (AFCS) can be installed to divert unused hydraulic fluid from the second pump to the hydraulic reservoir. In a loader application, AFCS optimises the travel power of the machine and improves productivity – this is particularly useful when travelling on the road.

For easy serviceability, these machines have



**Tomas Kuta**

## VOLVO DAYS 2015

Volvo Days was first held in 1958 and has grown since then to become the most significant annual event in Volvo Construction Equipment's calendar.

The event, held in June this year allowed invited guests to explore Volvo products and services by machine range and segment – from Volvo Construction Equipment, Volvo Trucks, Volvo Penta and Volvo Financial Services – in the town where Volvo Construction Equipment first began life in 1832. Guests were able to walk around the machines, watch them in action in a demo show, discuss features and benefits with product experts, and test drive them for themselves. This year approximately 7 000 guests are expected to attend.

With a forward-thinking theme Volvo Days

2015 reinforced the Volvo Group's commitment to innovation, as well as providing long-term and environmentally-sustainable solutions for customers. The environment a major area of activity within the Volvo organization will play a particularly significant role in the company's ever popular machine show.

During its 57 year history Volvo Days has had several homes in Sweden but has been a regular fixture at the demo field in Eskilstuna since 1976. The accompanying Customer Center was first established in 1985 and this year celebrates its 30th anniversary.

Since its opening the Customer Center has welcomed some 700 000 visitors, including customers, dealers, journalists and dignitaries from all over the world. Last year (2014),

more than 30,000 visitors stepped through its doors.

The Customer Center together with the demo field is one of the largest facilities of its type in the industry, spanning 75 hectares and housing over 90 machines with the space to demonstrate them all on different terrains and at varying gradients, highlighting the full extent of their potential.

"Volvo Days is our chance to give our guests a real insight into the Volvo brand, its heritage and the expertise behind our machines," says Tomas Kuta, President of Volvo Construction Equipment Sales Region EMEA. "We are constantly developing our facilities and test-driving capabilities in order to remain as the industry leader in this field". 🌐



## COLOUR IT BLUE

Since its launch in February this year the Volvo EC220E excavator has stood out in the marketplace for its class-leading fuel efficiency. Now the latest EC220Es to roll off the production line are turning heads for a different reason. To mark the end of the 2014-2015 Volvo Ocean Race, Volvo Construction Equipment (Volvo CE) has created a special edition EC220E model in official race livery, packed with stylish and comfort-enhancing additional features. Two of these exclusive machines, designed for the application – and aesthetic – expectations of the Scandinavian market, was on show in Sweden at the Volvo Ocean Race Village in Gothenburg (21<sup>st</sup>-28<sup>th</sup> June) and at Volvo Days (11<sup>th</sup>-26<sup>th</sup> June).

The special edition Volvo Ocean Race EC220E comes complete with a productivity-enhancing Steelwrist® tilt rotator and bucket control system, Leica/Scanlaser GPS machine control system and CareTrack Anti-theft protection, as well as tinted heat reduction glass, a textile floor mat and a high-performance sound system for a comfortable and enjoyable work shift.

“For many operators the cab is a home away from home so in the special edition

### EC220E KEY SPECIFICATIONS

Model	EC220E
Engine	Volvo D6J
Max. power, net	EU – 128 kW (174 hp) @ 1 800 r/min NA – 128 kW (172 hp) @ 1 800 r/min
Max. lifting capacity along undercarriage (1.5 m / 6.0 m)	EU – 7 570 kgf NA – 7 560 kgf (16 400 lb) (5.7 m, 18'8" boom / 2.9 m, 9'6" arm)
Max. digging reach	9 930 mm (32'7") (5.7 m, 18'8" boom / 2.9 m, 9'6" arm)
Max. digging depth	6 730 mm (22'1") (5.7 m, 18'8" boom / 2.9 m, 9'6" arm)
Max. breakout force – bucket (Normal / Power boost) ISO6015	141 / 149 kN (31 700 / 33 500 lbf) (5.7 m, 18'8" boom / 2.9 m, 9'6" arm)
Max. tearout force – arm (Normal / Power boost) ISO6015	104 / 110 kN (23 380 / 24 730 lbf) (5.7 m, 18'8" boom / 2.9 m, 9'6" arm)
Operating weight	EU – 20.5 ~ 25.8 t NA – 20.6 ~ 25.1 t (45 350 – 55 360 lb)

EC220E we wanted to create as welcoming an environment as possible,” says Per-Erik Lindström, Vice President of Volvo CE Sales Region EMEA – Hub North.

Style was another major consideration in the design of the special edition EC220E. The aluminium frame provides a practical and attractive way to secure additional LED lights, while the glamorous Volvo Ocean Race livery instantly makes it the star of any fleet.

Each of the special edition EC220E excavators is painted yellow in the factory as usual and wrapped with a durable film, originally developed by 3M. The warranty of the wrapping is five years but it can be removed by

the customer sooner if required.

Volvo CE is now able to supply machines in special wrappings according to customers' individual designs. More information is available on request from dealers in Norway, Denmark, Sweden and Finland.

“Customers are becoming increasingly conscious about their own brand and want their equipment to be easily recognisable on the jobsite. Our new wrapping service allows them to make a real impact and we expect to see more demand for personalisation in the future,” Lindström says. 🌟



## KOMATSU HYBRID HB215LC-2

### hydraulic excavator

The new HB215LC-2 hybrid hydraulic excavator is the third generation model which is based on well earned Komatsu hybrid experience. The HB215LC-2 is the result of years of Komatsu research and development exemplifying the company's firm commitment to quality, reliability and environmental stewardship.

Komatsu was the first in the industry to introduce a hybrid excavator. Since that introduction in 2008, the company has sold over 2 500 hybrid excavators worldwide.

Komatsu continues to strengthen its innovation leadership in the construction equipment market by delivering an excavator that features enhanced hybrid components, a new efficient Komatsu EPA Tier 4 Interim engine and powerful lift capacity and stability. Further refinement of Komatsu hybrid technology has further improved the fuel efficiency of the HB215LC-2 while still delivering fast and powerful swing performance for the operator. The HB215LC-2 has an increased operating weight of 49 383 lbs. and a bucket capacity of 1.57 yd<sup>3</sup>.

The hybrid excavator is equipped with the full featured KOMTRAX<sup>®</sup> remote monitoring technology. Data such as fuel levels, operating hours, location, cautions and maintenance alerts are relayed to the web application for analysis. A new Auto Idle Shutdown function helps reduce idle time as well as operating costs.

The HB215LC-2 does not have a scheduled replacement interval for its Komatsu Diesel Oxidation Catalyst (KDOC). The KDOC in-

tegrated design allows this simple system to remove soot using 100 % "true passive regeneration" without the need for a Diesel Particulate Filter (DPF). The KDOC is designed for long life without a scheduled replacement interval. Less complexity and truly seamless operation for the operator means lower owning and operating costs. Also incorporated is a variable-flow turbo-charger that provides optimal airflow under all speeds and load conditions.

The HB215LC-2 is powered by the Komatsu Hybrid System, which includes Komatsu's electric swing motor, power generator motor, ultra-capacitor and a powerful 139 HP (104 kW) SAA4D107E-2-A diesel engine. Komatsu developed its revolutionary hybrid system to work on the principle of swing energy regeneration and energy storage using the Komatsu Ultra Capacitor system. Komatsu's Ultra-Capacitor provides fast energy storage and instantaneous power transmission.

The kinetic energy generated during the swing-braking phase is converted to electricity, which is sent through an inverter and then captured by the Komatsu Ultra Capacitor. When accelerating under workload conditions that captured energy is discharged very quickly for upper structure rotation and to assist the engine as commanded by the hybrid controller. The reserve power stored by the hybrid technology equates to approximately 60 additional horsepower. This reserve power is available to maximize machine performance by supporting the engine or is used for swing power.

The HB215LC-2 saves an average of 20 %

fuel with an equivalent reduction in CO<sub>2</sub> emissions as compared to the standard excavator model. The new Hybrid HB215LC-2 offers power and efficiency, yet reduces environmental impact.

The new cab provides a more comfortable and quieter work environment to help operators maximize productivity. The ROPS-certified cab, specifically designed for hydraulic excavators, gains strength from a reinforced box structure framework. The cab is mounted on viscous isolation dampers that help provide low vibration levels. A higher capacity air suspension high back seat and heat are standard for improved comfort. In addition to the standard radio, a remote-located auxiliary input for connecting external devices is provided to play music through the stereo cab speakers. Additionally there are two 12 volt power ports incorporated into the cab.

A high resolution 7" LCD color monitor features enhanced capabilities and the operator can easily select up to six working modes to match machine performance to the application. The monitor panel provides information on ECO guidance, operational records, fuel consumption history, and utilization information. A standard rearview camera with a wide landscape display allows the operator to view directly behind the machine.

Komatsu's third-generation hybrid excavator has been designed for easier serviceability and adaptability. The HB215LC-2 has an additional service valve for use with hydraulic attachments and a pattern change valve as standard equipment. 🌞



## WE'LL TAKE CARE OF IT

### HOW CLEAN IS YOUR FUEL?

The importance of effective bulk storage practices and filtration cannot be overstated. Fuel represents the largest operating expense on any mine site, so its correct storage and cleanliness needs to be carefully managed to ensure that it remains free of contaminants caused, typically, by dirt or water ingress.

Dirty fuel, for example, causes accelerated wear and failure of fuel injectors, leading to unscheduled and costly downtime for their replacement. In contrast, injectors in engines using clean fuel typically last through the full engine life cycle to overhaul.

Distilled fuel leaves the refinery very clean. However, fuel picks up contaminants during shipment and storage between the refinery and the time it is consumed.

"Fuel quality can also be severely degraded after it is delivered to the user's storage tank if there is evidence of poor tank design or maintenance practices," explains Barloworld Equipment group product specialist, Reuben Phasha. (Barloworld Equipment is the CAT dealer for southern Africa.)

In order to keep most of the contaminants out, fuel should be filtered as it goes into the storage tank.

Coalescer filtration systems are the ideal solution, and have been the standard method to clean large volumes of fuel in the airline and petroleum industry for more than 40 years.

Caterpillar offers a specially designed line of coalescers in four different capacities, namely 190, 379, 757 and 1 135 litres per minute. Each unit is skid mounted, self-contained, and requires no electrical power.

They are designed to remove solid particles and water with single pass filtration, matching the flow requirements of the fuel delivery system.

The second line of defence is the ma-

chine's onboard filtration system. The standard fuel filtration arrangement on machines is designed to act as a final cleaning step for moderately clean supply fuel of ISO 18/16/13 or cleaner, with water content of 0.05 % (500 ppm) or less. The standard fuel filtration arrangement is not designed to clean very dirty or water-laden fuel.

If diesel is to be cleaned by the machine fuel system (in the absence of a coalescer) additional filtration capacity must be added. This includes a water separator and additional filters. The amount of additional filtration required depends on the level of fuel contamination and the risk of filter plugging between scheduled service intervals.

Standard filtration arrangements on machines vary. A typical standard arrangement on a CAT 3 500 series diesel engine would contain the following:

- Two 10 micron absolute primary filters in parallel; and
- Two 4 micron absolute secondary filters in parallel

Additional filtration may include changing the primary filters to combination primary filter / water separators. However, these are barrier type separators that capture only large water droplets, which accumulate in the bottom of the filter housing. The filter must be periodically drained in order to prevent the water level from reaching the filter media.

"If this occurs, fuel flow will push the water through the media and cause fuel injector damage or failure," says Phasha. "The amount of water in the fuel determines how often the separators need to be drained or how many separators need to be added."

Either way, draining the machine's fuel tank of particulates and water routinely according to the CAT Operation and Maintenance Manual is an important preventative maintenance practice.

"How often this needs to be done will depend on the cleanliness and handling of bulk fuel," he adds. ☺



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## NEW HOLLAND E215C LC

a sustainable performer

By Pierre Sanson

**N**ew Holland is a key player in the global construction market. The brand is forged from the heritage of many iconic brands that have been prominent in the market and have shaped the history of the industry with the best technologies from Japan, North America and Europe. It is from this inheritance that New Holland is further building leadership today.

MB Plant as the official and exclusive distributor for South Africa, Lesotho and Swaziland has now picked up the baton and in partnership with the worldwide New Holland dealer network, provides a comprehensive line of products and services built around customer's requirements.

The excavator range is one product that has evolved from the amalgamation of brands over the years and which today provides an almost foolproof example of an optimum excavator. New Holland has a long history of designing products with emission levels well below regulatory norms. Their extensive offering of low emission products, their continued focus on reducing their environmental footprint throughout their products entire life cycle and their involvement in the community have contributed to their parent company, Fiat being recognised as Industry Leader by the Dow Jones Sustainability Index (DSI) World and DJSI Europe.

The full line-up of New Holland excavators starts with their most popular E215C LC, a

23,160 kg unit in the 0.52 – 1.31 m<sup>3</sup> bucket capacity. Further there is the E245C LC, a 25418 kg unit with 0.52 -1.31 m<sup>3</sup> bucket capacity.

Larger units like the E305C LC, 31870 kg with 0.60 – 1.65 m<sup>3</sup> bucket and the E385C LC, 38292 kg with 0.74 – 1.85 m<sup>3</sup> bucket make up the balance of the range.

When looking at the New Holland excavators, the E215C LC stands out in three areas of efficiency, that is, fuel efficiency; engine and hydraulic power; and highly efficient hydraulics. The new improved hydraulic system minimises friction losses and pressure drops, while the Hydrotronic advanced electronic technology ensures 100 % pump utilization in all applications. The result; maximum controllability, speed and power combined with minimum fuel consumption. The high-efficiency hydraulics supply high flow at low rpm, maximising fuel efficiency. In addition, the Hydrotronic optimizes the performance and efficiency of the machine: it maintains engine speed at the required level, preventing it from dropping. It reduces pump displacement in cases of overload and continuously adjusts oil flow to avoid overloading the engine or the pumps.

The business end of the New Holland E215C LC which consists of the boom and arms was designed using advanced CAD and FEM (Finites Elements Methodology) Systems to maximise strength in those areas where

stresses are concentrated. The result is a strong Heavy Duty front attachment that can deal with the toughest applications. Additional bushings made of anti-wear steel provide extra protection for the arm and bucket's longevity. When the radial surface becomes worn, these bushings are easy to change, increasing pin and bushing durability while reducing operating costs.

The EVO cab on the E215C LC has been designed with the driver in mind and features exceptional soundproofing as well as being mounted on six silicon liquid filled viscous dampers that reduces vibration levels considerably. The ergonomics of the cab ensures the driver has all the controls at his fingertips.

The E215C LC is fitted with a FPT F4GE9684E, six cylinder Tier 3 diesel engine which has a power output of 118 kW @2000 rpm and torque of 665 Nm @1 200 rpm. The transmission is a hydrostatic, two speed, Automatic Downshift type which allows a travel speed of low 0 – 3.7 km/h and high 0 – 5.7 km/h. The two main hydraulic pumps each have an output of 220 l/min, whilst the pilot circuit gear pump has a maximum output of 20 l/min.

The New Holland E215C LC is the optimum blend of flexibility and versatility in an excavator and the design parameters ensure maximum productivity on any site. ☼



## TEREX TC37 EXCAVATOR

has zero tailswing

The Terex zero tail swing TC37 Crawler Excavator meets the demand for a compact machine in applications where space is a premium. Designed to turn 360 degrees within the width of its tracks, the TC37 zero tail swing excavator is at home in confined and restricted areas. Ideal for utility contractors, this mini allows operators to get up close and personal in places where conventional excavators can't fit.

If you're working in an alley, next to a building, or on a street, where traffic is an issue, you can be certain that the rear of the TC37 isn't going to swing out into traffic or into a wall, plus, the off-set boom allows operators an unobstructed view of the task at hand, increasing visibility at every turn.

Weighing in at 7,870 lbs., the TC37 offers a maximum digging depth of 10'6" and a reach of 18' 1". The 30 hp Mitsubishi 4-cylinder diesel engine and hydrostatic drive delivers the speed and power needed to dig, load, lift and place material like the big boys.

Terex is known for its extreme reliability. The TC37 zero tail swing excavator is no exception. For instance, the cylinders are on the

back side of the boom – not on the front of the machine like you find on competitive models. According to Wright, this reduces damage and increases uptime: "All of our cylinders are mounted with spherical, self-lining bearings so that less stress is transmitted to the pins or bushings." Add load-sensing hydraulics with variable displacement piston pumps and closed center, flow compensating valves and you have a high efficiency, low fuel consumption operation. Plus, the TC37 features an optional quick change hitch that allows a wide range of optional attachments and accessories to be used for even greater versatility.

Spacious cabs with exceptional visibility in all directions keep operators focused and productive. The cab features a fabric-covered hydraulically cushioned driver's seat that adjusts to the operator's height, weight and length, plus height-adjustable armrests. Two power touch, pilot operated four-way control levers make for nearly effortless operation. And the control pattern changer (standard) is out in the open and doesn't require a wrench to make adjustments. ⚙️



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## Introducing the **LIEBHERR R 960 SME**


**The R960 machines have a redesigned cab with ample space for the operator, an ergonomically correct layout for the switches and controls and an air-sprung, heated seat as standard equipment.**

Liebherr's crawler excavators in the 60-tonne category have been designed for demanding work in the mining and quarrying industries and for bulk earthmoving tasks.

The R960 machines have a redesigned cab with ample space for the operator, an ergonomically correct layout for the switches and controls and an air-sprung, heated seat as standard equipment. Liebherr's unique touch display makes it easy to operate the controls intuitively, select the preferred working mode, function or attachment and also access a series of functions for maximum operating convenience. The cabs of both models have impact-resistant glass in the windscreen and skylight, for even more thorough operator protection during quarrying and similar work.

With a service weight of approximately 60 tonnes, the R 960 SME occupies a position between the R 956 and the R 966. For heavy-duty extraction work or bulk excavation, the R 960 SME has a number of special

features, for example kinematics chosen for arduous working conditions, with uprated dipper arm and bucket rams compared with the standard version. With this specification the R 960 SME reaches tearout forces of up to 287 kN and breakout forces up to 346 kN. To protect the steel structure, there are guards under the dipper arm and gooseneck boom.

The use of undercarriage elements from the larger R 966 and the increased ballast weight increase the stability of the R 960 SME. As a result, this excavator can be used with buckets of up to 3.5 m<sup>3</sup> capacity. The Liebherr inline 6-cylinder engine that powers the R 960 SME has a rated output of 250 kW (340 hp) and complies with the Stage IIIB / Tier 4i exhaust emission limits. 





## HYUNDAI R1200-9 EXCAVATOR

for mining and quarrying

**U**nderlining its intention of competing on a broad front in all sectors of the construction and mining equipment business, Hyundai's top-end excavator in the 100 t-plus sector endorses the company's commitment to large-scale investment in developing new products and new market opportunities.

Building on Hyundai's experience with the successful 50 t and 80 t high capacity models, the all-new 120 t R1200-9 has been conceived with an eye on the expanding worldwide mining and quarrying sector, where the demand for efficient, large-scale mass excavation in minerals extraction and overburden removal has fuelled an increase in sales of large mining trucks and the equipment to load them.

The R1200-9 is powered by the high-performance 23 litre, 6-cylinder Cummins QSK23-C rated at 760hp (567 kW). Particular attention has been paid to the insulation to achieve low internal and external noise levels.

This version of the new 120 t machine is equipped with a heavy-duty 7.55 m

back-actor boom, 3.4 m dipper-arm, and 6.7 m<sup>3</sup> bucket – a combination which gives a maximum digging depth of nearly 8m, an outreach of 13.76 m, and a load-over height of 7.8 m. Maximum breakout force at the bucket is a massive 64.9 tons – and with three selectable power modes (Power, Speed & Economy), this is clearly a machine designed for extra-heavy digging duties and loading of large capacity dump-trucks.

In order to achieve optimum precision, Hyundai engineers have designed the R1200-9's hydraulic system to provide the operator with super fine touch and controllability. Improved pump flow thereby minimises fuel consumption and improved spool valves are engineered to provide more precise flow to each function with less effort.

In addition to power and precision, the R1200-9 is robust and durable when taking into account the strengthened undercarriage, a design that makes for an excellent production rate in quarries and mines. Durable full track rail guards keep track links in place and track adjustments are made easy with standard grease cylinder track adjusters and shock absorbing springs.

Special attention has been given to the cab design which allows a clear, open and convenient interior with excellent visibility, placing the operator in a perfect position to work safely and securely.

An advanced 140 mm wide LCD display allows the operator to select personal machine preferences and monitor crucial machine data. Power and work mode selection, machine diagnosis, optional rear-view camera, maintenance check lists, start-up machine security and video functions have been integrated into the menu to make the machine more versatile and the operator more productive. ♻️



## VOLVO EC140E

offers industry-leading efficiency and comfort

Equipped with a powerful Tier 4 Final/ Stage IV- compliant Volvo D4 engine, the new Volvo EC140E excavator helps customers to minimize their fuel consumption and emissions, while still receiving the consistently high quality and reliability they expect from Volvo Construction Equipment (Volvo CE). The increased engine power, together with the increased pump input power ensures highly responsive operation and travel for reduced consumption, faster cycle times and improved productivity. Meanwhile, the hydraulics system, combined with the fully electric control system and advanced ECO mode, has been optimised to match engine power, reduce power losses and improve controllability and response time. The main control valve and software builds on the already superior controllability, improving fuel efficiency through smooth and easy operation.

A boom float function, allows pump power for boom lowering to be saved or used for other functions, while the auto engine shutdown feature further helps to reduce consumption by automatically switching off the engine after a pre-set amount of time (five minutes is the default setting).

The EC140E excavator offers an industry-leading cab that is spacious, comfortable and places everything at the operator's fingertips. This not only increases the operator's well-being but also their productiv-

ity, without them even trying. All machine interfaces – including the joysticks, keypad, panel and LCD monitor – have been ergonomically designed for optimum control and efficiency. The number of switches have been simplified and climate control integrated into the keypad for easy adjustments. For added convenience, functions such as the windscreen wipers, cameras, auto-mute or power max can all be assigned a short-cut button on the joystick. This allows the operator to select a function during operation without disruption.

As well as the rear view camera, the Volvo EC140E also offers an optional side view camera to cover the visual blind spot. Both views can be displayed on the color monitor, promoting a safer working environment for both the operator and personnel on the ground. Another important safety feature is the seatbelt warning alarm and continuous visual alerts that trigger if the ignition key is turned while the seatbelt is unbuckled.

In the unlikely event of the excavator rolling over, the reinforced steel structure of the ROPS and ISO standards-compliant cab ensures the operator is protected at all times. The idlers, track links, and upper and bottom rollers on the undercarriage are built to withstand tough elements and terrain, while the intelligently-designed X-shape lower frame enables even weight distribution, increasing stability and durability, and preventing dam-

age from rock and debris. The robust boom and arm design of the Volvo EC140E includes internal plates positioned to support pressure points ensuring the range of applications. This helps disperse the stress from high-pressure areas of the boom and arm, to ensure maximum productivity time after time. All these features help to ensure maximum uptime and service life from the machine.

For extra peace of mind, real-time service alerts are displayed on the color monitor to enable diagnostic checks. Separate service intervals include the engine oil/filter, fuel filter/water separator, hydraulic oil and hydraulic oil filter.

The uptime of the Volvo EC140E is also enhanced by its sheer versatility. Volvo has listened to customer needs and built a machine in the EC140E that is not only capable of doing a variety of applications but doing them all with consistently unrivalled quality, easily switching between attachments. The excavator can be adjusted to take a wide range of hydraulic lines, which are factory fitted with breaker and shear piping (X1), as well as rotator piping (X3). An attachment management system helps operators keep on top of all the different settings required. It allows the operator to pre-set and adjust the hydraulic flow and pressure for up to 20 different attachments, enabling the excavator to get back to work as quickly as possible after an attachment change. 🌟



## REEF FUEL INJECTION SERVICES

reduces downtime

Reef Fuel Injection Services is helping to reduce the downtime of its Caterpillar customers by offering an in-field fuel system diagnosis. "We can pinpoint what the exact problem is, right down to a specific faulty fuel injector which we can then remove and rebuild, as well as recalibrate the rest. This provides a massive cost-saving for our customers in that we are able to test injectors individually, rather than having to replace or repair a full set," Warren Hauser, operations manager, says.

"This is another example of how Reef Fuel Injection Services' significant investment in the latest repair and diagnostic technology and equipment helps customers reduce their maintenance and repair costs substantially," Hauser comments. Incorrectly calibrated or out of specification fuel injectors can result in major problems in terms of fuel efficiency and consumption, and therefore it is important to ensure that these critical components function optimally at all times.

"This is a unique service offering that places us at the forefront of the automotive repair industry in South Africa," Hauser says. He adds that the service is available for Caterpillar common rail and electronic fuel injection systems, as well Caterpillar HEUI (Hydraulically Actuated Electronically Controlled Unit Injector) systems.

"An added benefit for customers ensuring their fleet remains operational is that we offer a service exchange on injectors from C6.6 to C32. Instead of having to wait two days for the injectors to be pulled and checked, we can put the next set in and the vehicle can be up and running almost straightaway. We welcome any enquiries as to the full range of

Caterpillar equipment that we cover," Hauser notes.

Reef Fuel Injection Services offers the benefit of a full diagnosis and reporting capability, with any rebuild and recalibration service conducted to stringent standards. "That is key to our service offering, so customers have total peace of mind that repairs are carried out according to strict specifications using the latest equipment and technology, and with the highest quality workmanship," Hauser notes.

Reef Fuel Injection Services is a subsidiary of Metric Automotive Engineering, South Africa's most comprehensively equipped heavy diesel engine and component remanufacturer. Established in 1975, Reef Fuel Injection Services tests, repairs, remanufactures and calibrates all makes of diesel injectors and injector pumps and is a specialist in CRI systems. The company is an authorised service agent to all five leading fuel injection systems – Bosch, Denso, Delphi, Stanadyne and Zexel – and is acknowledged as a leader in CAT fuel injection systems.

The company has a strong ethos of investing in both quality equipment and expert personnel. This attitude towards customer service and constant product innovation has sustained the company since its inception.

Parent company, Metric Automotive Engineering can refurbish large diesel engine components and offers services such as cylinder head remanufacture, cylinder block line boring, milling, honing and boring, camshaft grinding, crankshaft grinding, engine assembly and dynamometer testing. 🌐

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## HITACHI EX1200-6

By Pierre Sanson

**H**itachi focuses on building excavators, not every other kind of machine. The results are, more reliability and higher productivity.

Hitachi has a rock-solid reputation as they can lay claim to the conception that over one third of all the hydraulic excavators operating throughout the world are Hitachi. All their excavators such as the EX1200-6 are engineered to give the flexibility to handle many different jobs. As a total package the customer gets stronger horsepower, efficient engines, comfortable cabs, advanced hydraulics, tough frame and powerful arm and bucket digging forces.

With the EX1200-6 the advanced hydraulic system provides, combined bucket tilt, boom raise and fast pass speeds which delivers quicker loading times. In addition, the EX1200-6 has a stronger boom and bigger bucket for increased lift capacity and the smoothest precise operation.

For even higher productivity, operations get

switchable power modes, adjustable for every job. The power modes include a deep-end mode that gives you the muscle to get the heaviest jobs done and a fuel saving mode for less heavy jobs, which significantly reduces fuel costs.

The EX1200-6 also raises productivity with an exclusive auto-level crowd mechanism that allows for easy one-lever crowding of the bucket into the material at a constant level.

The well insulated pressurized cab ensures operator comfort under all conditions thanks to the highly efficient heating/air conditioner system. Being a particularly large and roomy cab, operators of various sizes can be accommodated without any discomfort.

The EX1200-6 is built with uptime in mind. Features such as heavy duty rigging structures and reliable hydraulic, electrical undercarriage components.

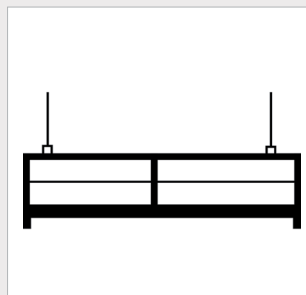
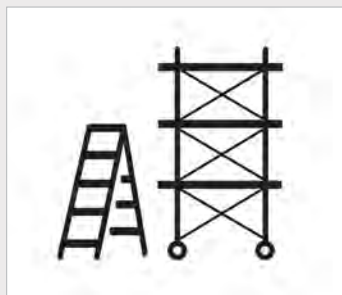
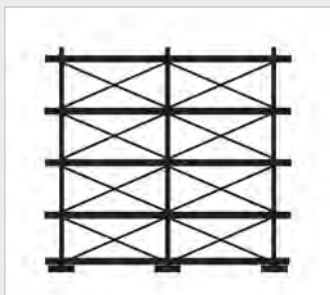
The rigid box frame is designed to resist

bending and twisting forces and provides strength and balance to handle heavy digging jobs and mated to the heavy duty undercarriage with large diameter swing bearing, provides increased reliability and durability, combined with a high stability factor.

The Cummins, 6-cylinder, EPA Tier 2, eco friendly diesel engine adds to the productivity and efficiency of the EX1200-6. With 567 kW (750 hp) on tap, combined with a 3468 Nm of torque, the Cummins engine provides this mammoth excavator with the power source to drive the three main variable displacement hydraulic pumps and the gear driven pilot pump.

The design characteristics of the EX1200-6 has reduced the service inspection and maintenance times to a minimum. The unit is loaded with time-money saving maintenance features like easy-to-check sight gauges and fluid reservoirs, quick-change remote-mounted filters, advanced self-diagnostic and extended filter replacement intervals. 🌱

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## INSTITUTE FOR WORK AT HEIGHT



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# WORK @ HEIGHT: FROM THE BOARD

## WORLD NEWS

### PILOSIO TACKLES EXPANSION PROJECT OF MEDINA

Pilosio, among the big European players in the production of scaffolding systems for the construction industry, has announced the acquisition of a multi-million dollar contract in Saudi Arabia: Pilosio shoring and formwork, produced in the province of Udine (Italy), will in fact be supporting the mammoth expansion project of the Prophet's Mosque in Medina. It is the most important project ever made in the history of the company, in terms of both size and economic value.

Medina will be one of the most significant projects worldwide in the construction industry in the coming years. With work not only on the expansion of the Prophet's Mosque and its Square (a total surface area of 2 million m<sup>2</sup>), allowing for the accommodation of 1.2 million faithful, but also for the development of the infrastructure, transport networks and buildings, of the area surrounding it, known as Al-Ruwaq.

The portion of the construction project "Madinah Haram Expansion" for which Pilosio will be responsible, covers a total surface area of 400,000 m<sup>2</sup>; the current area of interest being circa 20,000 m<sup>2</sup> with foundation level -15.80m.

The equipment required is for the casting of: the floor, nominated "ground zero", at project level 0.00 m, and then that of the floor below at level -5.15 m.

The Pilosio team, dealing exclusively with the Saudi project, has worked closely with the client's engineering department, and only by combining the synergies of the Pilosio technical department and the on-site operational personnel has it been possible to determine the ideal technical solution that will maximize the construction site itself.

### FAREWELL TO BRIAN TANNER, SECRETARIAT OF THE IWH

On the 22<sup>nd</sup> of May 2015, the IWH said farewell to Brian Tanner, secretariat of the IWH, at an intimate little gathering at the IWH offices. Brian has been instrumental in assisting the industry in establishing and 'moving' the Institute for Work at Height to where it is today.

Mr Brian Randall, President of the IWH, expressed his sincere gratitude to Mr Brian Tanner for the way he 'carried' the Institute and wished him well on his retirement. He then handed over a certificate to Mr Tanner, confirming his Lifelong Membership with the IWH for his dedication offered to the Institute.

Brian Tanner delivered a moving speech where he shared some of his background highlights and thanked those for taking the time to attend.

"After nearly 63 years of business life of which 30 years was spent in the construction industry and the latter 33 years being directly involved with the administration of Trade Associations, I realise somewhat reluctantly that it is time for me to call it a day!"

"I would like to share little background for your interest. My association with the work at height Industry goes back to 2001 when I was asked to administer the South African Industrial Rope Access Association (SAIRAA) which subsequently changed its name to the Rope Access and Fall Arrest Association (RAFAA). The Specialist Access Engineering and Manufacturers Association (SAEMA) was formed in 2004, and then in 2009 merged with RAFAA to become as we know it today the Institute for Work at Height (IWH)."

"The IWH has come a long way since the merger between SAEMA and RAFAA and in this regard I am pleased to have been able to play a small part in what has now become a very vibrant body representing the work at height industry."

"I wish to thank you all for your support, guidance and encouragement over the past years, and I look forward to seeing the IWH growing from strength to strength in the immediate future."

Although everybody was sad to see Brian retiring, there was however some good news, in that he would still be involved with the IWH who are planning to implement a new project called, 'The IWH Compliance and Capacitation Programme'.

To explain a bit more about the programme: – The IWH will start in July, with a programme where its members will receive a visit from an IWH representative in order to establish a rapport with members and establish positive lines of communication. Appointments will be made before each visit.

This initiative has been on the cards for some



**Brian Tanner and Brian Randall**

time and will be invaluable in promoting the objectives of the Institute and give members the opportunity to put forward any suggestions and discuss regulatory issues and standards so vital for the success of the industry. The success of any trade association is dependent on the support and endeavours of its members.

Essentially the principle objectives of any trade association are:

- Promote and protect member's interests and develop/improve the business environment for its industry.
- Ensure the prosperity of the industry.
- Provide interaction between the industry and its members.

A key to the above objectives is to ensure that members are regularly informed and can adapt to changing regulations, technologies and standards. In this regard therefore an association must provide effective leadership at all times.

### What benefits can the iwh expect will derive from this programme?

A better understanding by the member of the benefits in being an IWH member.

Via a structured questionnaire which will be conducted by the IWH representative, a measurement can be taken of the various questions asked, which in turn will be invaluable for the IWH to serve our members better.

The IWH is looking forward to meeting with all its members – please expect a call from us soon in this regard!

Regards

Dr Alti Kriel, Manager: Institute for Work at Height.

# WORK @ HEIGHT: REGIONAL NEWS - GAUTENG



From left to right, Chris Smith, Lizahni Wolff of IWH, Peter Bennett.

## PASMA SPONSORS WORKING AT HEIGHT THEATRE AT A-OSH EXPO

More than 3,000 visitors attended this year's 2015 A-OSH Expo South Africa at the Gallagher Convention Centre, Johannesburg, where PASMA, the international trade body representing the mobile access tower industry, sponsored the Working at Height Theatre.

Recognised and respected as the leading authority on mobile access towers internationally - often referred to as scaffold towers - PASMA contributes to the setting of standards, the development of guidance and the delivery of knowledge and skills through its formal training programme. Dedicated to height safety, it advances best practice and competency.

In South Africa the association works in collaboration with the Institute for Work at Height (IWH), other trade and professional bodies, regulators and key decision makers with the aim of improving skills and safety awareness.

Over the three days of the show the association organised a series of presentations emphasising the link between competency and training, the key aspects of working at height, the role of standards and guidance, and the critical contribution of organisations such as PASMA and IWH to best practice.

Central to these presentations were demonstrations by Boss Scaffolding and Access Solutions showcasing the latest designs, developments and innovations - not only in towers, but in other forms of access equipment such as ladders, stepladders and podiums.

The main highlight, however, was the awarding of certificates and photo cards by PASMA managing director, Peter Bennett to the eleven candidates who had successfully completed the first ever PASMA Towers for Users training course delivered in South Africa. He was joined by PASMA lead instructor, Chris Smith, who delivered the course.



## ACCESS TOWERS (Aluminium Scaffolding) in South Africa

By Clyde Bailie (Access Skills Development Academy)

Internationally accredited training and training standards are naturally held in high regard in South Africa by everyone, but unfortunately, employers who have spent a small fortune sending their employees on training which is accredited by recognised international institutions and associations, may be in for a rude awakening. Existing acts and regulations are being more readily enforced - the reality at site is that your employee requires a South African (NQF) qualification without which they will be denied access.

Any NQF (SAQA registered) qualification can only be issued once training, accredited by the relevant Sector Educational Training Authority (SETA), is completed and a learner is found competent in the required SAQA registered Qualification/Unit Standard. To check which training providers are accredited to offer training on SAQA registered Qualifications/Unit Standards, one can go to [www.saqa.org.za](http://www.saqa.org.za). In other words, whether training is internationally aligned or locally developed, it must be SETA accredited to have national recognition and value. It is also very important that the learners trained on these qualifications/unit standards are in fact uploaded to the relevant SETA as competent learners for the training to mean anything. This accreditation with the SETA is not easily come by.

A case in point is 'Access Skills Development Academy'. ASDA worked closely with their relevant SETA (Services SETA) for several years to, assist in developing the specific outcomes for the Unit Standards for Aluminium Scaffolding (Unit Standards 243275 and 243274) and thereafter, was one of the first training providers to develop the training that would achieve these outcomes and result in the desired level of competency.

In order to retain accreditation, ASDA must ensure that all criteria are constantly met, including having a staff compliment of trained and registered assessors, moderators and facilitators and an updated QMS.

ASDA is also proud to say that we have gone the extra mile by getting official recognition with the Institute for Work at Height Professional Body, who in turn issue 'Permits to Operate' to all our trained and qualified 'Aluminium Scaffold Erectors' thus currently making ASDA the only provider in South Africa who does so for Aluminium Scaffold Erectors. The IWH PB also conducts regular audits of its registered training providers, and we are proud to say that we are in good standing with the IWH after several successful audits.

Call 011 663 9200 or email [admin@asdacademy.co.za](mailto:admin@asdacademy.co.za) for further information.

# WORK @ HEIGHT: GOOD PRACTICE

## Life saving tips for operating telehandlers

When operating lifting and elevating equipment, whether it is a telehandler (Telescopic Material Handler) or a cherry picker (Mobile Elevating Work Platform or Aerial Work Platform), safety is of paramount importance. We have all heard of tragic stories where a lack of safety on sites, whether it is mines, construction, petrochemical or general sites, has led to devastating consequences. If strict safety rules are not adhered to at all times, both personnel and property can be irreparably harmed. The mindset of an operator and the employer needs to be one of continuous pro-activity as far as safety is concerned in order to minimise the risk site accidents. Accidents can cause delays which impact unfavourably on productivity and costs.

The 8 lifesaving tips to remember are:

- Ensure that only fully trained and competent operators according to the National Qualification Framework are used to operate equipment on site.
- The correct clothing to provide protection and to signify the identity of the operator is required. This consists of, hard hat, brightly coloured jacket with high visibility, safety steel-capped shoes and safety glasses.
- All telehandlers to undergo a daily inspection procedure prior to commencing operations in order to prevent any mechanical failures that may cause site accidents. Included in the pre-operational checks should be all attachments that accompany the telehandler, such as forks, buckets, lift hooks, platforms, and miscellaneous lifting equipment. Any equipment failures could lead to unnecessary loss of life and damage to property. Any concerns should be reported immediately to the service agent to ensure that the machine is safe for use.

Ensure that load test and services are up to date.....

- Adhere to all speed limits on site as specified by the safety officer.
- Site awareness is paramount to efficient operations. Operators who have to perform a variety of tasks must be aware of the location of key points on the site and manage the performance of his vehicle, especially if there are numerous attachments that have to be changed over for any given task.
- Operators must ensure that all loads carried by the machine are evenly distributed and secure before setting out.
- Each model of telehandler is limited by its design criteria as to the maximum load it can carry. Operators must acquaint themselves with the load capacity of their respective unit to ensure no overloading takes place which can lead to metal fatigue and eventually mechanical failure.

Ensure your telehandler is well equipped for the site and the task it is required to perform. Some sites with uneven terrain will require additional equipment such as wheel chocks, stabilizers, reflective tape, strobe lights, fire extinguishers, reverse alarms, to name a few. Follow the safety instructions at all times.

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## Anchors & fall protection systems – test certificate

It is considered essential to provide the client or owner of the structure with a test certificate for any installed single point anchor or fall protection system. Such a test certificate should include the following information:

- The unique serial or identification number for each anchor. For fall protection systems (such as lifelines), the fall protection system needs a serial/identification number, and it is considered preferable to have a separate individual identification number for each component (or intermediate anchor) in that system.
- A location layout or site plan that clearly indicates the position of each anchor and/or fall protection system.
- A clear statement on the purpose of the anchor or fall protection system (e.g. for use with rope access equipment and methods).
- A testing standard reference or test method specifications (e.g. SANS 50795/ISO 14567/ EN 795/etc.).
- The testing device details (such as serial numbers, date of last calibration, etc.).
- The date that the anchor or fall protection system were tested.
- The installation company's information and contact details.
- The rating of the anchor or fall protection system (e.g. the maximum number of people / load rating /maximum permissible load on that anchor/system).
- The technical properties of the anchor and/or fall protection system and the fixing means that were used (e.g. express or chemical anchors, type of steel, etc.).
- All test results or manufacturer certificates for manufactured parts.
- Where anchors or fall protection systems are not certified by physical testing, but by calculation from a registered professional engineer (e.g. where steel anchors are placed into steel beams), the statement/certificate, as signed by the relevant engineer.
- The expiry date of the certificate. (Anchors and fall protection systems must be re-certified annually).



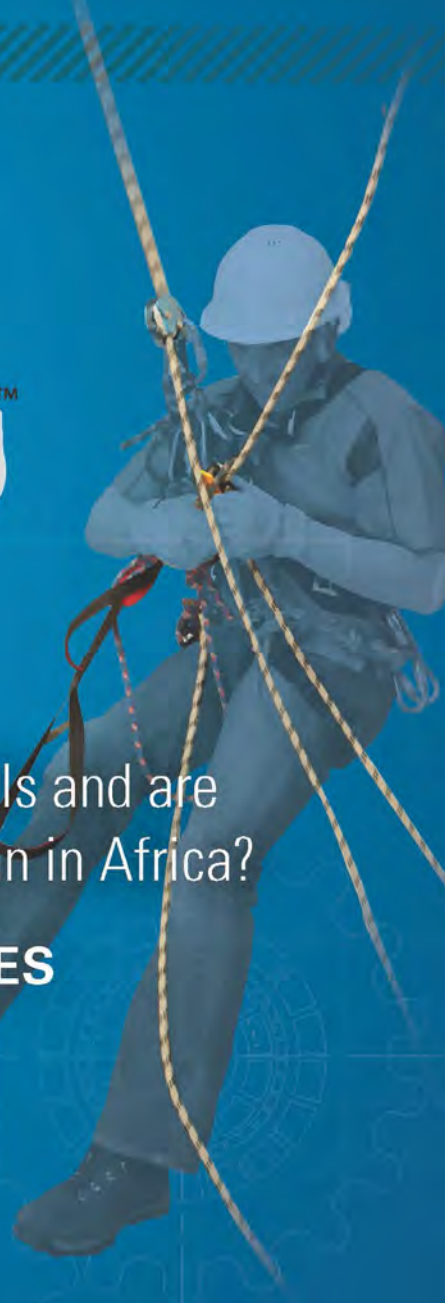
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<b>3</b>	<b>VINCENT MOTSHAISA</b>	HEIGHTSAFETY PROJECTS <b>21.39</b>





Scania Fleet Management

Page 1(1)  
Scania Vehicles  
01/03/2011–31/03/2011

### Monthly overview

**Change in fuel consumption\***

Percentage change: -4.6%

Total change:\*\* -7806 litres

**Change in carbon dioxide emissions\***

Average change: -36 g/km

Total change:\*\* -21.0 tonne

\* compared to previous period  
\*\* for distance driven during period (578159 km)

Vehicle	Start	Stop	Odometer	Distance	Scania Driver Support	Coasting	Idling	Speeding	Heavy braking	Fuel consumption	Carbon dioxide
BJP663	01/03/2011 00:04	01/04/2011 00:04	552325	36396	-	11.2%	4.4%	7.1%	0.1	26.7	26.2
BJP774	01/03/2011 00:04	01/04/2011 00:04	544674	36863	-	11.6%	3.6%	6.0%	0.1	28.4	28.3
BOT173	01/03/2011 00:13	01/04/2011 00:30	527141	33844	-	13.6%	3.4%	4.5%	0.1	27.6	25.2
DY1102	01/03/2011 00:04	01/04/2011 00:04	511097	38963	-	12.7%	3.4%	11.8%	0.1	28.0	29.5
HSB985	01/03/2011 00:01	01/04/2011 00:01	501245	37781	-	12.1%	4.2%	4.9%	0.1	29.5	30.1
BWS013	01/03/2011 00:13	01/04/2011 00:29	401999	38807	73%	14.2%	3.1%	13.1%	0.1	27.3	28.6
BWS117	01/03/2011 00:04	01/04/2011 00:04	409210	39896	71%	14.2%	3.4%	11.3%	0.1	28.2	30.4
BWS204	01/03/2011 07:33	01/04/2011 00:29	394795	36415	76%	14.0%	4.0%	7.2%	0.1	27.8	27.3
COD899	01/03/2011 00:04	01/04/2011 00:04	515471	11663	-	11.2%	4.7%	11.8%	0.1	28.7	9.0
<b>Average:</b>						<b>13.0%</b>	<b>3.9%</b>	<b>8.3%</b>	<b>0.1</b>	<b>27.9</b>	

Units: Odometer: odometer in km, Distance: total km, Scania Driver Support: average points in % for all categories, Coasting: % of distance, Idling: % of run time, Speeding: % of run time, Heavy braking: average number/100 km, Fuel consumption: average consumption l/100 km, Carbon dioxide: total number tonnes

SCANIA | Fleet Management

Home Operations Analysis Settings

OPERATIONS > FLEET POSITION

Equipment group: -- All --

Vehicle: Södertälje, Sweden Driver: Driver72666

205441 Borås, Sweden Driver: Driver72666 04/02/2013 18:28

205333 Södertälje, Sweden Driver: Driver72982 27/03/2013 16:20

206008 Arvidsjaur, Sweden Driver: Driver73341

Drivers: Driver74455 Mobile phone number: +48000074455 Driver note: -

Operations: Driving (1 min) Login: 24/02/2013 07:14 Driving period: 4h 3min Driving time: 4h 3min Driving time, 2 weeks: 4h 3min Break: 0 min

207227 Ostersund, Sweden Driver: Driver75560 17/01/2013 15:00

206477 Södertälje, Sweden Driver: Driver75560

208217 Södertälje, Sweden Driver: Driver75569

205923 Södertälje, Sweden Driver: Driver76089

208218 Arvidsjaur, Sweden Driver: Driver76090

207599 Södertälje, Sweden Unknown

208025 Södertälje, Sweden Unknown

# SCANIA FLEET MANAGEMENT

keeps operators in touch

By Pierre Sanson

Scania Fleet Management helps operators keep costs firmly in check. The service includes a data logging unit on-board the vehicle and communication with the office. The operator gets a comprehensive overview of how the fleet is running, which in turn contributes to lower fuel costs and helps motivate drivers. Operators will be able to spot potential problems early and be able to coach drivers into adopting more economical driving habits and improve service planning.

Rising fuel prices, increased environmental awareness and tougher demands on driver skills make it necessary for transport op-

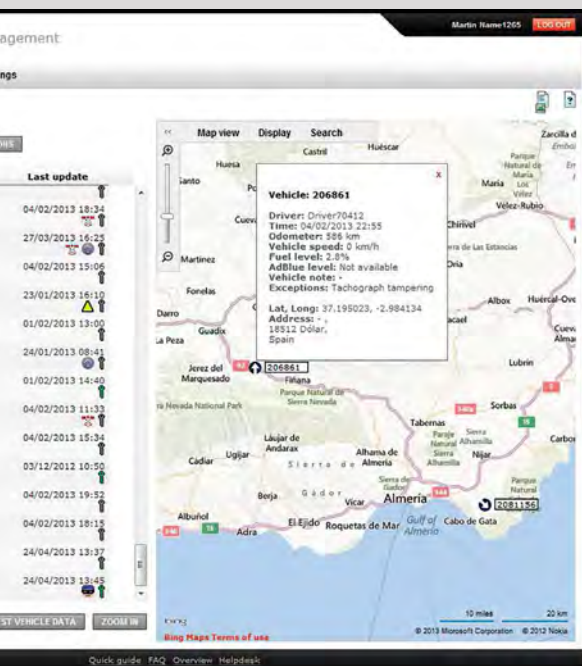
erators to have access to more information in order to optimise operations and boost profitability. Scania's customer commitment therefore goes one step further.

This service allows the operator to interpret and analyse vehicle and driver data in a transparent way. Since it is equally useful on a mixed fleet of vehicles, this will help any operator to keep down costs, increase revenues and facilitate environmentally adapted driving.

The service provides a clear and simple overview of the fuel consumption and performance of individual vehicles, as well as

tracking and information on how each vehicle has been driven – information that can be used to help improve profitability and reduce environmental impact. Included in the service is a logging and communication unit on board the vehicle (Scania Communicator) which is fitted as standard on every Scania vehicle sold. The Scania Communicator can be regarded as the nerve centre of the system which is there to transmit data concerning the complete performance level of the vehicle through either, the Monitoring Package and the Control package.

With the Monitoring Package which is free of charge, customers receive reports that get



**Theunus van der Westhuizen:**  
Area Manager, Connected Services

portal and App on any computer as well as all the information offered in the Monitoring Package. The Control Package is most useful to fleet operators requiring up to date vehicle information at all times, given in real time reports.

Some of the typical, useful information that can be extracted from the Control Package is, for example, fuel reports, fleet position, vehicle tracking, exception reports and even environmental reports. However the additional service offered by the Control Package is subject to a monthly fee of R390.00 per vehicle.

It must be noted that the information supplied by the Scania Fleet Management portal is not monitored by Scania but by the individual operators themselves. Scania does have access to all the information and through this, is able to provide instant back-up in the event of any failure on the road for any vehicle. This system does not however include any anti-theft devices and equipment supplied by 'third' party installers.

Scania data logging and communication service has been developed to provide a powerful tool for detailed monitoring and follow-up of fleet operations. The transport operator gets a complete package that provides an overview of how his fleet of vehicles is used, which in turn contributes to lower fuel costs and more perceptive and motivated drivers. 🌐

access to the Scania Fleet Management portal on a weekly basis by e-mail. From these they can see at a glance how each vehicle is performing and which ones need special attention, without paging through long lists of data. This service provides weekly, monthly and annual reports sent to any e-mails of the customer's choice. The reports provide basic fleet overviews with general performance indicators (e.g. fuel consumption, and CO<sub>2</sub> emissions), trends and deviations. This report system does not track individual drivers but rather individual vehicles and is a service particularly suitable for smaller fleets.

If it is fuel consumption that concerns the operator, then he is able to, at a glance, see how his fleet is performing. As far as emissions are concerned, the CO<sub>2</sub> emission report shows the operator the extent to which his vehicle is breaching any environmental codes, all in black and white. For operators

that are involved with food commodities transport, this information can be invaluable when negotiating or retaining contracts with food producers and manufacturers.

Operators are also able to do their service planning through the Scania Fleet Management portal and App. Service Planning provides an overview of all the vehicles in the fleet, along with their maintenance plans, including a calendar for keeping track of maintenance and repairs. With the free Scania Fleet Management App, customers can instantly report problems and even supply photographs in the event of accidents or broken components directly from the site of the incident.

Operators requiring to further support their operational information have the advantage of utilising the Control Package which allows access through the Scania Fleet Management



## THE NEW RENAULT TRUCKS

### construction ranges

For its new Construction vehicles, Renault Trucks is offering two distinct ranges: the C Construction range and the K Heavy Construction range to meet customers' needs as efficiently as possible. This results in the Renault Trucks C range, available in two cab widths, focusing on high payload, low fuel consumption and comfort on a par with that of a long-distance vehicle. Furthermore, its excellent pulling power and obstacle clearance capacity will also make it attractive for earthmoving applications. For its part, the Renault Trucks K range sets new standards in terms of ruggedness and obstacle clearance capacity as well as featuring the best approach angle on the market. The new vehicles benefit from an improved powertrain, with the new Euro 6 engines and also a highly distinctive cab.

These new ranges have been designed and developed in close association with international customers, who have been involved in the project from the design stage right through to testing under actual operating conditions. The Renault Trucks K range has been tested under particularly gruelling conditions such as log transport in Cameroon, carrying 120 tonne loads in Oman and also



mine-working in Turkey. The reliability and endurance tests carried out on these new vehicles have been the most stringently exacting the manufacturer has ever used in its entire history.

The cab is one of the most striking features offered by these new construction vehicle ranges, since it is more spacious, more comfortable and more ergonomic with its use of

rotating buttons. A step on the side has also been incorporated into the design, allowing drivers to easily check the load. The vehicles offer failsafe ruggedness with reinforced protection for all exposed parts liable to suffer impacts and the all-steel bumper which is available on the C and K ranges. These new vehicles have outstanding technical capacities, with excellent ground clearance, a 120 tonne Gross Combination Weight Rating

# STRONG ON ROBUSTNESS

RENAULT  
TRUCKS  
DELIVER

HEAVY CONSTRUCTION & CONSTRUCTION  
RANGE K & C





(GCW) and the best approach angle on the market (32°) for the K range.

Furthermore, the technical qualities of the Renault Trucks new Construction ranges will allow customers to benefit from greater cost efficiency since the new Euro 6 engines deliver a hitherto unrivalled level of performance. With its optimised curb weight, the Renault Trucks C range offers an outstanding payload which can be as much as 22.8 tonne for an 8x4. The Renault Trucks K range offers a gross vehicle weight (GVW) of up to 50 tonne and a Gross Combination Weight Rating (GCW) of as much as 120 tonne. The vehicles also have several pre-equipment options which help simplify body mounting operations and enable them to be carried out more quickly, making vehicle delivery times up to 20 % shorter.

Last but not least, the vehicles are pre-equipped for installing Optifleet, the Renault Trucks fleet management solution which makes it possible to increase operating profitability.

The Renault Trucks C range features outstanding pulling power enabling it to operate over all types of terrain, thanks to its gen-

erous ground clearance, the off-road mode which comes as standard on the automated transmission and Optitrack, a hydrostatic traction system on the front axle. Models approved for off-road working are also available when even greater mobility is required.

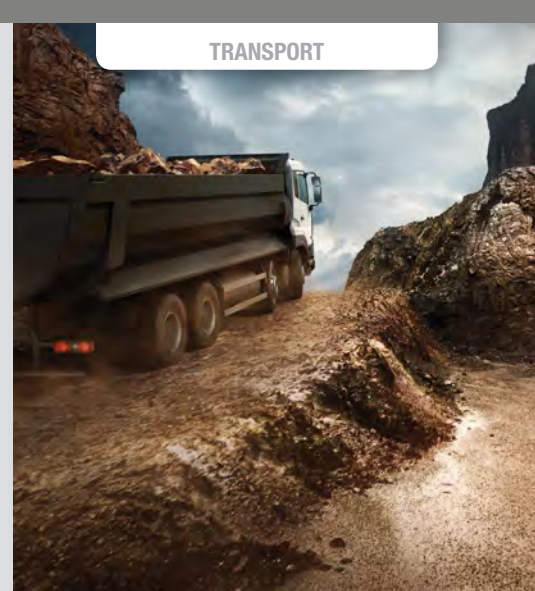
As for the vehicles in the Renault Trucks K range, their even greater ground clearance and excellent approach angle allow them to clear significant obstacles and deliver outstanding pulling power, over any the terrain. Their high precision steering and tight turning radius make them extremely maneuverable. The Optidriver gearbox, fitted as standard on the C range, is now also available on the reinforced by the dynamic and accurate roadholding offered by the C and K ranges both on-road and off-road. For its Construction ranges, Renault Trucks has also designed heated and adjustable rear-view mirrors in two blocks that guarantee optimal visibility in all weathers. In addition, the vehicles are equipped with cornering lights that provide maximum safety when maneuvering, whatever the conditions.

Furthermore, the Renault Trucks C and K ranges are equipped with systems to safeguard drivers and their loads such as, for

example, the automatically applied electric parking brake when the engine stops, the Hill Start Aid system and the anti-intrusion alarm.

The Renault Trucks C and K ranges have been designed to meet the needs of customers operating on construction sites or supplying them. In addition, earthmoving and demolition, the transport and delivery of building materials or ready-mix concrete are all activities for which the manufacturer can supply appropriate vehicles.

The performance of the C range in terms of payload, fuel consumption, driving comfort and reliability is perfectly in line with the needs of operators whose business involves delivering building materials and carrying ready-mix concrete. Furthermore, its capacities in terms of engine rating, pulling power and ground clearance make it highly efficient in meeting the demands of most earthmoving operators. For its part, the K range is specifically designed for heavy earthmoving operations, demolition, construction equipment transport and road building that call for heavy load capacity, ruggedness, obstacle clearance and power. 🌟



## UD TRUCKS QUESTER RANGE

ideal for tipper applications

The Quester range launched in southern Africa includes 13 model derivatives, including freight carriers, truck tractors, rigids and specific construction applications such as tippers and mixers. For the first time also, UD Trucks will offer a 8x4 model options for the related sub-segments within the market.

UD's two engine options are designed with fuel-efficiency and performance in mind. UD specifically developed the engines with wide torque bands to adjust to all operating conditions such as high-traffic scenarios, as well as for operations on tarred and gravel roads, and of course for cruising conditions.

The 8-litre GH8E engine has already built a good reputation for its economy and performance, which makes it ideal for distribution and construction work. The engine is turbo-charged with an air-to-air intercooler and delivers 243 kW at 2 200 rpm, as well as 1 200 Nm of torque at between 1 400 and 1600 rpm.

The 11-litre GH11E engine offers good torque of 1 734 Nm at low revolutions which results in a quick response to acceleration. It delivers 278 kW of power at 1 900 rpm. An electronically-controlled cooling fan reduces losses and it has an engine-driven power take-off with a high torque output of maximum 650 Nm.

UD also offers a UD Extra Engine Brake on the 11-litre engine derivatives, which uses the engine as an auxiliary braking device. The GH11E engine boasts a sturdy, depend-

able design featuring an overhead camshaft, four valves per cylinder and a precisely-controlled electronic unit injector. Driveability is enhanced by the broad torque range.

The heart of every Quester is the integrated powertrain that performs optimally because they were specially designed and manufactured to work together. They combine the efficiency and durability of a Quester engine with a selection of globally-proven drivetrain components.

In addition, the driveline has been carefully balanced to optimise performance under varying conditions, while providing good fuel economy at cruising speeds by matching the driveline with the correct rear axle ration.

Quester utilises proven UD SYNCRO transmissions that are built for reliability and durability. For the 11-litre engine there are 9 or 12-speed options available, while the 8-litre engine range has a 9-speed transmission. It has a very high input-torque of up to 2 000 Nm on both transmissions.

For rough and hilly operations, Quester offers hub reduction for the 6x4 R, 8x4 R and 6x4 T configurations. Quester's rear axle housing is also made from fabricated steel to handle heavy loads. The 6x2 R configurations can also be provided with a bogie lifting axle which is used to lift the axle in an unladen condition. The lifting function gives the truck more traction when activated.

The chassis frame forms the backbone of

quester as it is dimensioned to provide stability, payload capacity and long-life performance. The frame is made from cold-formed steel and produced in a rolling form process that gives the chassis extended strength and flexibility.

In essence, the potential of Quester lies in its versatility. The range offers customisation for a variety of adaptations that will suit varied transport requirements. For example, Quester is designed for ease of superstructure installation with comprehensive bodybuilder instructions and drawings. The parallel side members, designed bodybuilder mounts and a range of power take-offs add to the ease of installation.

The T-ride rear suspension on the 6x4T/R has been especially designed for rough conditions and particularly suitable for construction where durability and reliability are of the highest importance. Rubber springs between the springs and rear axles contribute to good comfort under all axle loads. Rubber journalled V-stays and reduction rods ensure a smooth operation.

A system of coil springs supports the entire cab, absorbing road shocks and vibrations. It's a reliable and hassle-free system that keeps maintenance costs to a minimum.

Quester's built-in fuel coaching system constantly monitors the performance of the driver in real time. This system keeps the driver informed of the truck's current fuel consumption and if they are driving at the optimum speed and gear in order to ensure the best economy. Fuel Coach is also able to advise the driver which corrective action to take in order to get back into the so-called sweet spot of performance.

UD Trucks has also included a new interactive telematics system as standard on all Quester models, which also monitors fuel economy and even fuel theft. 🌐

## FAW CONTINUES TO INNOVATE

with 15.180FL truck

In their drive to provide customers with their unique value-for-money FAW experience, the company decided to promote its highly efficient FAW15.180FL, 8-ton payload dropside 4x2 freight carrier truck at one of the lowest prices for a vehicle with these specifications on offer today.

The 15.180FL sports one of the most spacious and comfortable semi-sleeper forward-tilt cabs available. The cab design features wide door openings and low entry height for everyday convenience. Grab handles and anti-slip steps are well positioned for effortless movement in and out the cab. The seating area is equipped with an optional folding centre seat, while the cab offers abundant head, shoulder and legroom for three people. The driver has the luxury of a panoramic windshield and easy to view instrument panel, with a tilt and telescopic steering column assuring the best possible driver comfort. The 'heart' of the drivetrain is the proven FAW engine – the FAW CA6DF2-18 with its

6 557 cm<sup>3</sup> 6-cylinder in-line engine is water-cooled, turbo-charged and intercooled. This powerhouse is supported with the easy-to-operate 6-speed manual transmission from FAW – the FAW CA6TBX085. A full-floating, single reduction axle is made of forged steel into an I-section beam.

The ABS brakes are full-air, dual assisted and supported by park or emergency spring brakes with a rear booster.

The 150 litre fuel tank combined with a reported consumption of around 4.5 km/litre will cut down on the frequency to fill up. The straight ladder-type chassis is longer than comparative products allowing for improved payload capacity, while the robust chassis is made from the highest tensile steel ensuring the required strength to cope with abnormal situations.

The 8-ton dropside fits equally into the urban and rural environment where local customers' demands call for an agile, easy-to-operate robust vehicle. Some of the earliest sold units are clocking over 170 000 kms at present. The FAW15.180 with its good tare weight will run well in operations in a wide range of numerous sectors. It is 'at home' amongst the agricultural communities, in building and construction, as a support unit in the mining fields, as a runner in large de-



livery enterprises, or for the timber industry. It is an ideal vehicle for many of the municipal service operations. And for the truck rental companies, this is literally the best multi-task vehicle with limitless applications.

Zhang Cheng, National Marketing Manager explains: "We decided to demonstrate to the local market, and to all prospective and existing customers, that we really support the growth and expansion of business enterprises here in South Africa and across all of the southern Africa regions. FAW is a force to be reckoned with in this market segment when it comes to added value, combined with the lowest and most effective total cost of ownership."

Overall lifetime costs on a FAW vehicle are crucial and taking into account the relatively low initial capital outlay and the proven reduction in downtime which the vehicles achieve because of the uncomplicated mechanical nature of FAW trucks, the lifetime value they add to any operation is incomparable.

Cheng further added, "We have testimony from numerous customers on extraordinary fuel efficiency, exceptional reliability, robust chassis which can take a punch in payload when needed. We received very favourable reports from customers regarding the durability of our trucks. For instance, one operator in Parys has an 8 ton FAW freight carrier that has clocked up almost 1,5 million kilometres, while the original Chinese rear tyres lasted more than 385 000 km on his 28.330FL. This is the type of feedback that

we believe proves our brand values."

FAW SA is committed to offering vehicles engineered, developed and rigorously tested to meet the harsh operating conditions in Africa. FAW China holds a 98 % shareholding interest in FAW SA. The support by the parent company in China, along with an aggressive strategy to assist in building the brand and putting us in a strong financial position to offer excellent deals to our customers are contributing to building confidence in the company and its products by making it clear that FAW is definitely in South Africa to stay. The current assembly plant in Spartan will become a dedicated national parts distribution centre now that the new R600-million manufacturing facility is up and running in Coega.

While price and quality are two-thirds of the equation, the third leg of after-sales support is just as important in keeping the fleet up-time at its optimum level. In the case of FAW the initial economical price is backed by uncompromising after-sales service and parts availability through the network of 31 FAW sales/service and parts dealers across the length and breadth of southern Africa. The 98 % spare parts availability is dedicated to getting vehicles back on the road.

FAW prides itself on giving 'extreme service' and this, combined with world-class products, has made it one of this country's champions in the truck industry. Today FAW SA can rightfully add the badge 'SA's most affordable 8-tonner' to their accolades. 🌟



# NEW FAW 8.140 FL

Lowest cost-per-ton truck



**R239 000** (excluding VAT) 8.140 FL chassis cab

Introducing the all-new medium-weight FAW truck range, specially designed for southern Africa.

- At a price of R239 000 (excluding VAT) the new FAW 8.140 FL chassis cab offers the lowest cost-per-ton available in this class
- 6-ton body and payload allowance
- 5.1m standard body length
- Can operate at 120km/h (below 9 000 kg GVM)
- The new range is locally built and internationally engineered
- Renown Cummins ISF 3.8 litre engine with Euro 3 pedigree
- Reliable ZF 6-speed synchromesh manual transmission
- Safe Wabco full-air dual-circuit brakes
- ABS and air-cut parking brake
- Ergonomically designed cab for superior visibility
- 2-year/unlimited kilometre warranty



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## VOLVO FMX

### robust construction truck contender

By Pierre Sanson

In the truck segment, Volvo has once again with the FMX, proved their leadership in truck dynamics and in specialised truck design for heavy construction duties. The truck boasts an array of updates including a totally redesigned cab interior, new air suspension, raised ground clearance and Volvo Dynamic Steering – a world first innovation designed to improve manoeuvrability.

Having set a benchmark during the last three years when the last FMX model was launched, the latest model breaks new ground for its robustness and maintainability. In fact, the new smart technology employed in its design and construction, minimises driver fatigue and maximises productivity.

The cab of any truck is the workplace of the driver and the new FMX the cab boasts a super-robust, reinforced exterior manufactured from high-tensile steel, with a comfortable and ergonomically improved interior which brings efficient and safe construction work into a new dimension. Completing the driver comfort concept is the multi-function steering wheel with integrated buttons for cruise-control, phone and navigation. Further enhancements of the Volvo FMX cab that boost the safety and robustness the heavy duty bumper design. It is a three piece unit, with the upturned middle section flanked by two separate, robust corners that are made of 3 mm thick steel.

Manoeuvrability has been taken to its ultimate level with the Tridem concept which

offers a turning circle in a 6X4 that is 5 m smaller than an 8X4 with a double front axle. The Volvo Dynamic Steering system fitted to the new FMX combined with the air suspension enables the vehicle to comfortably cope with the wide range of conditions that occur on a construction site.

The new air suspension allows the truck 300 mm of ground clearance with all the vital components under the chassis well protected from rocks and other construction site debris. Also it allows a higher clearance at the rear of the vehicle by virtue of a shorter overhang which subsequently provides less interference when tipping, especially into asphalt pavers.

The new Volvo FMX can be specified with air suspension designed for tough conditions. This brings the comfort of air to the type of road surfaces where it is most needed.

Volvo Dynamic Steering is a technology that promises to do for trucks what servo once did for the automotive industry. It is a speed dependant form of servo-assisted steering that includes an electric motor. This is electronically managed 2000 times per second to provide the ideal assistance at every single moment. Consequently, when driving a fully laden truck at low speeds, one finger is enough to turn the steering wheel. A further advantage is when potholes in the road surface create impact through the steering column, the new steering is able to cancel shock before it reverberates through to the steering wheel. It also filters out the wash-

board effect of poor road surfaces which creates a more comfortable ride for the driver. Power for the new FMX is available in the eleven litre D11 or the thirteen litre D13 engines in configurations that stretch from 300 hp to 540 hp, which represent a giant step forward in terms of fuel efficiency, emission compliance and driver convenience. These engines use the same [proven Volvo technology the industry has relied on for many years. Today's Volvo Power engines are identical in design, functionality and ease of service. With the addition of advanced SCR (Selective Catalytic Reduction) system they maintain their power and performance without the need for active regenerations.

The combination of the power engines and the innovative I-Shift transmission and I-VEB engine brake makes the FMX virtually unstoppable when it comes to economic production capabilities on the construction site.

The Volvo I-Shift is a 12-speed, two pedal automated mechanical transmission that maximises driver comfort, payload and fuel economy. It's designed to integrate seamlessly with all Volvo engines. There is no clutch pedal and the gearshift is operated by intelligent electronics.

Using microprocessor technology, I-Shift continuously monitors changes in grade, vehicle speed, acceleration, torque demand, weight and air resistance. With the engine and transmission in constant communication, there is no compromising. I-Shift automatically selects the best gear for the engine, allowing every driver to shift like a fuel efficiency expert. This put less stress on the driveline, contributing to reduced maintenance and longer life.

All in all, the Volvo FMX represents a huge step forward in all the most important areas within this segment. 🌐



## Unimog is Cross-country

### VEHICLE OF THE YEAR 2015

For the eleventh time in a row the Mercedes-Benz Unimog has been named best Cross-country Vehicle of the Year in the 'special-purpose vehicles' category by readers of the specialist journal 'Off Road'. This year, the 'Cross-country Vehicle of the Year' poll had a total of twelve categories. More than 36 000 votes were cast, and 123 vehicles were in the running. The Unimog took first place amongst the special-purpose vehicles with a superb 51.4 percent of the readers' votes.

Whether it's in the bone-dry Gobi desert, in the tundra and taiga of Siberia or on the hot volcano crater road on Vesuvius, there is barely a challenge in the world which the Mercedes-Benz Unimog would not be capable of taking on.

The genes for such extreme applications are in its blood. Thanks to the new mid-engine location in the all-terrain Euro VI Unimog, the frame drop is now further back; overall this means that a lower vehicle centre of gravity with simultaneously high ground clearance has been achieved, which further optimises handling in off-road applications. Degrees of articulation of up to 30 degrees are possible

due to the use of torque tube technology in conjunction with the coil springs. Portal axles and a slope climbing ability of 45 degrees complete the all-terrain Unimog – model designation U 4023/U 5023. In addition to this there is the maximum fording depth of 1.20 m and a side inclination angle of up to 38 degrees. Driving in extreme situations with the all-wheel drive system engaged is supported by the selectable differential locks and the "Tirecontrol Plus" tyre pressure control system. This can simply be set with buttons on the steering wheel for the respective application via the "road", "sand" and "rough road" programs.

The power comes courtesy of the high-torque BlueTec 6 common-rail OM 934 LA engine, a four-cylinder unit with 5.1 l displacement, 170 kW (230 hp) and 900 Nm torque. Eight forward and six reverse gears are available, and optionally there is also an off-road gear group for all-terrain applications in the speed range between 2.5 and 35 km/h.

Available alongside this all-terrain Unimog is the implement carrier model series with the model designations U 216 to U 530;

these are frequently used in municipal applications. They also boast state-of-the-art Euro VI engines with outputs up to 220 kW (299 hp).

When it comes to maintenance, diagnosis or repair, too, everything is taken care of for the Unimog. In over 650 service outlets in more than 130 countries knowledgeable Unimog dealers look after the vehicle, whilst special service offers and financial services round off the overall package.

The magazine "Off Road" has been holding the readers' poll for Cross-country Vehicle of the Year since 1982. 🌳



## MAN TGS –

### a truck for all terrains

By Pierre Sanson

The demands placed on mining and construction trucks are high. Tough multiple shift work with extremely high daily delivery schedules with sometimes the heaviest loads having to circumnavigate rough terrain with high dust exposure, put drivers and machines under extreme test every day.

Mining and construction trucks therefore need to be extremely robust, have a high payload capacity, be fitted with powerful engines, be cost efficient to run and demonstrate high reliability, all at the same time.

The MAN TGS 41.480 WW, 8X4 BB meets all these criteria in full. The enormous 46 ton payload is specially designed for taking ores and coal from surface mines. A reinforced sub-frame allows the permissible gross vehicle weight to be increased. The chassis made from high-strength, fine grained steel combines high torsional strength and flexural rigidity with maximum stability, a low weight and good body-mounting capability. The completely even top edge of the frame allows various superstructures to be mounted quickly, easily and economically. The narrow-hole pattern makes it possible to carry out subsequent extensions and conversions without the need for time-consuming drilling work.

Safety is a priority and with this in mind, the MAN BrakeMatic electronic brake management is fitted as standard. This brake

system regulates the pressure in the brake cylinders of the individual wheels. The electronic modules are permanently linked to the central control unit via the CAN data base. In the control unit a host of actual inputs are evaluated and the optimum brake pressures calculated. Systems such as trailer control regulations, brake pad wear, ABS and constant braking function are integrated in the control unit. Automated engagement of the engine brake is by means of a continuous brake management system.

Additionally the MAN TGS 41.480 WW is equipped with the wear-free EVB engine brake as standard. This system increases engine braking power by up to 60 percent more than the normal exhaust throttle flap. The engine brake has multiple benefits for the operator as it lengthens the service life of the brake pads, significantly increases continuous braking power, thereby improving the active safety of the truck and the driver.

The MAN D2676LFO3 common rail EDC power plant in the TGS 41.480 WW is designed for optimal on/off road duty. With its 353 kW of power, combined with an impressive 2300 Nm of torque available at between 1050 and 1400 rpm the TGS 41.480 WW is well equipped for the rigours of any mining or construction operation. MAN's impressive engine boasts the lowest power-to-weight ratio in their class and specifically the engines in the TGS trucks are designed for use

in extreme climates. A larger radiator, which is concealed beneath the front of the vehicle, is the key factor. This enables the TGS to be used efficiently in both hot climates and colder regions where temperatures can reach as low as -50 degrees C.

Changing gears with the semi-automatic 12-speed MAN TipMatic gearbox creates a perfect synthesis of comfort and efficiency. The gearbox can be operated either in fully automatic or manually using the touch-action lever on the steering wheel. The clutch pedal has been removed and no gear stick is required. The kick-down function guarantees optimum ride dynamics. The MAN TipMatic with cross country drive mode has been specifically designed for use on building sites. It allows the MAN TGS WW to drive off-road comfortably in automatic mode.

The vehicle configuration of the MAN TGS WW can be optimally adapted to particular geographical requirements and meet any transport solution. "A key strategy of MAN is to partner with customers and other suppliers to the transport industry in the design and engineering of innovative solutions that enhance efficiencies in all operational areas. This is possible, because of our ability to integrate backwards into customer operations enabling us to fully understand their transport requirements," says Goeff du Plessis, Managing Director of MAN Truck and Bus. 🌐



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## FUSO CANTER LIGHT

awarded light truck of the year 2015

According to Neil McIntee, the editor of VansA2Z: "The FUSO Canter LIFT received our vote for a number of reasons: we were impressed by the optionally available Duonic automated 6-speed dual clutch transmission as well as the hybrid variants of the FUSO Canter".

Canter models with hybrid drive are already in use in some vehicle fleets in the UK, where they enable fuel savings of up to 23 percent to be achieved. A further outstanding point in its favour for the vote was the standard-fit start/stop system in the UK market, which is popular in particular with delivery services which operate in cities with high levels of traffic.

"Being awarded as the Light Truck of the Year 2015 by independent and respected experts acknowledges that the FUSO Can-

ter LIFT is a superior vehicle in all respects. From its low fuel consumption, advanced DUONIC 6-speed, dual-clutch automated manual transmission to the class-leading service intervals of 20 000 km standard, to 25 000 km in special applications stipulated in the maintenance contract, this truck continues to reduce the total cost of ownership for our operators," says Naeem Hassim, Head of FUSO Trucks Southern Africa.

At an industry gathering in London, the Canter LIFT stood out in particular and received additional points for the comprehensive range of outputs from 96 kW to 129 kW, the use of fuel-efficient engine oils and the longer final-drive ratios, all of which can add up to fuel savings of up to nine percent.

McIntee went on to say: "The UK 6.5-tonne model with 4x4 drive features exemplary

**The UK 6.5-tonne model with 4x4 drive features exemplary off-road performance at a reasonable price. An engageable step-down ratio as standard helps to ensure more traction.**

off-road performance at a reasonable price. An engageable step-down ratio as standard helps to ensure more traction".

After already being named "Light Truck of the Year" by VansA2Z in 2014, the FUSO Canter LIFT succeeded in fighting off competitors to pick up the award once again this year." 🌟

## HINO SET TO WIDEN

### 300-Series model range

Hino SA intends enlarging its range of offerings in the popular 300-Series truck line-up to meet customer requirements and changing trends in the market. Among the major target markets for the range include bakeries, security companies and local municipalities, with the latter favouring cabs when teams are used for work projects.

“We have undertaken extensive research with our dealers and customers as well as detailed market trend analysis and the results have highlighted the need for more of these trucks with crew cab bodies and the option of automatic transmission,” explained Ernie Trautmann, the Vice President of Hino SA. “At present we only have the 815 model with both these specification items, but aim to improve that situation shortly.”

“Trucks fitted with the smooth-shifting, six-speed automatic transmission designed, developed and manufactured by Hino are finding increasing favour with operators as they are easy-to-drive thereby reducing driver fatigues, allow the driver to concentrate fully on the road and traffic situation and cut maintenance costs. This is the ideal



solution for owner drivers of which there are a fair number in this market segment,” added Trautmann.

The latest Hino 300-Series range, introduced at the Johannesburg International Motor Show in 2013 is very well equipped as standard with features such as air con-

ditioning, radio, electric windows, driver and passenger airbags, multi-function display and ABS brakes and this has increased the appeal of a truck range that has been a stalwart in the South African medium truck market since its introduction here in 1965, initially as the Toyota Dyna. 🌐

## SCANIA SOUTH AFRICA

### recognised for HIV prevention work

Scania South Africa’s work to prevent the further spread of HIV/AIDS has won the Swedish Workplace HIV/AIDS Programme’s (SWHAP) Most Comprehensive Programme Achievement Award 2014.

The SWHAP Most Comprehensive Programme Achievement Award 2014 was presented to Scania South Africa primarily for its employee support programme.

John Viner, Programme manager at SWHAP explains: “The employee support programme assists in early diagnosis, access to treatment and continuous support for employees and their families. Currently over 90 percent of Scania’s employees are aware of their HIV status and 44 out of 55 HIV positive employees are on treatment.”

SWHAP is an initiative from the International

Council of Swedish Industry (NIR) and the Swedish Industrial and Metalworkers’ Union (IF Metall) to support HIV and AIDS programmes at Swedish related workplaces in Sub-Saharan Africa.

As well as employees and short term contract workers, Scania South Africa also supports other vulnerable groups, such as truck drivers in this work. During a recent six month period for example, 1,000 drivers were screened and tested for HIV.

“The amount of activities as well as the number of people included in the programme impressed us,” Viner says. “And this successful and systematic work to prevent a further spread of HIV/AIDS in the region resulted in the SWHAP Achievement Award.”

Andreas Follér, Sustainability Manager at



Scania, says: “Health and safety has always been important to Scania. The foundation to our success has been having motivated, engaged and highly skilled employees. The achievements of Scania in South Africa are a real inspiration to the rest of Scania.” 🌐



## THE BENEFITS OF ALCOHOL TESTING IN THE TRANSPORT SECTOR – for employers and their employees

By Rhys Evans, Director of ALCO-Safe



**T**he trucking and transportation sector is vital to the economic wellbeing of South Africa, ensuring the flow of goods between provinces for both local consumption and export. However, it is also an industry that sees prevalent use of alcohol and drugs among truck drivers. A comprehensive substance abuse program, which includes on-going random testing and importantly an educational component for employees, is essential in reducing the dangers associated with substance abuse on the roads. The benefits of such a program lie not only in their ability to reduce risk and liability for employers, but also in improving the lives of their employees. By reducing substance abuse, drivers can become healthier, more alert and more responsible, cause fewer accidents, be more

motivated and productive – and educating drivers as to these benefits can greatly improve employee response to alcohol and drug testing policies.

Truck drivers, particularly those who are involved in long-haul transport, face long, lonely hours on the road, often spending days at a time in their truck and sleeping on the side of the road or at truck stops. They are frequently away from their families and must stay awake and alert at all times while driving. This increasingly leads to the use of alcohol and/or drugs as a coping mechanism. The difficulty here is that substance abuse of any type can severely impair a person's ability to properly operate equipment and vehicles. Alcohol is one of the primary culprits, but drug use, particularly





### By Rhys Evans

of stimulants, is a growing problem, which when mixed with alcohol consumption can have devastating consequences.

Alcohol is known to reduce concentration and slow reaction time, which are both dangerous factors on the road. In fact, statistics indicate that the likelihood of having an accident increases proportionally with alcohol consumption. At the previous 0.080% legal drink-drive limit, the probability of having an accident is four to five times that of a sober person. At the 0.12% level it is 12 to 13 times and at the 0.160% level the increased chance is around 30 times. A person weighing 100kg person could reach these levels after consuming 4, 6 or 8 beers respectively, and someone who weighs less would reach them more quickly.

Substance abuse policies and programs should be implemented for a number of reasons, including improving health and safety, compliance with national legislation, reducing losses, increasing productivity and profitability and other benefits for the company, and to provide benefits for employees. Such programs quickly reduce accidents, injuries and deaths, while improving the health and wellbeing of employees.

For example, a paper mill introduced an alcohol control program, and only six months later there was an 80% reduction in intoxicated employees reporting for work. Nine

months after the company introduced random alcohol testing, disabling injuries were down 52%, non-disabling injuries were down 45%, accidents were down 50%, and all of this was achieved without introducing any other additional safety programmes. The benefits of such a program include not only financial ones resulting from reduced accidents, injuries and downtime, but also improvements to the wellbeing of staff.

Central to such programs is the use of accurate, reliable and easily calibrated Breath Alcohol Detectors in a variety of testing scenarios. These include random testing, whereby individuals are tested at random in a non-discriminatory manner before commencing work, after an accident or incident, and on reasonable suspicion of intoxication. Breathalysers can also be used for on-going monitoring for employees undergoing rehabilitation, for follow up testing on employees who have previously transgressed, and for compulsory testing for example drivers should always be tested before going on shift.

For employers, the benefits of substance abuse control centre on reduced losses as a result of common alcohol-related problems. Incidents of accident, sickness and absenteeism can be reduced, high employee turnover rates can be reduced, and medical care costs can be lowered. Employees will exhibit improved judgement and decision-making ability, along with enhanced morale and motivation. There is often also a reduction experienced in chronic lateness and violence. Additionally, insurance premiums can be kept to reasonable levels, and company image improved, if alcohol abuse can be reduced.

Effective substance abuse control programs can also deliver significant benefits to employees. Educating employees as to these benefits is essential to success. For example, on-going alcohol abuse contributes

heavily to many physical health problems and also to psychological problems such as depression, mood swings and anxiety. Reduced consumption reduces these problems, while at the same time reducing accidents, injuries and medical costs.

On-going, regular testing can also reveal the onset of dependency. Rehabilitation, accomplished for example via counselling, can assist in preventing heavy dependency and alcoholism through total addiction. Furthermore, feedback from families has revealed that reduced alcohol consumption at home arising from the need to comply with the employers policy regarding intoxication, has created a more harmonious atmosphere with less arguments and violence.

Employees and employers are also typically involved in fewer confrontational scenarios, with reduced offenses and disciplinary actions. Improved performance and behaviour at the workplace can lead to better salaries, bonuses and promotion prospects, and employees may be more inclined to undertake additional job-related training or studies. In addition, employee health can benefit considerably from the implementation of alcohol program, as the list of alcohol related health problems is extensive. This reduces the amount of sick leave required, which in turn has other knock on benefits.

Alcohol is well known to have detrimental effects on the body, and is also one of the primary causes of accidents, injuries and fatalities on the roads. The introduction of comprehensive substance abuse policies can help to curb these negative effects, provided employers take the time to educate their employees as to the dangers of alcohol and drug abuse and the benefits of reducing consumption. This creates a more positive reaction to the program, resulting in reduced resistance, which in turn furthers the success rate of such initiatives. 🌀

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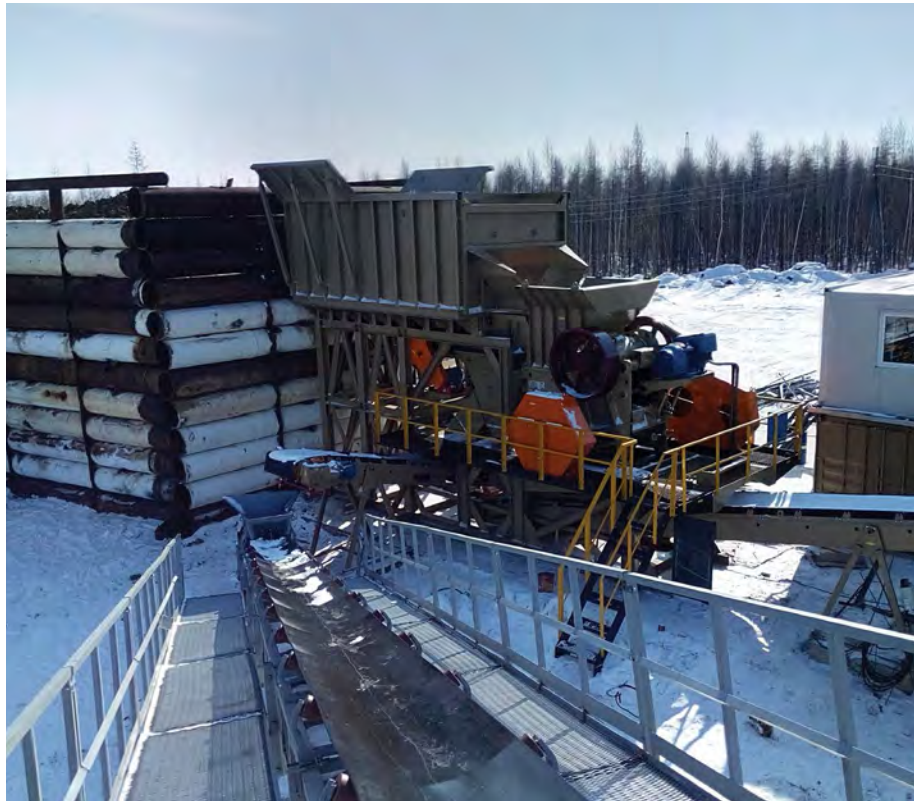


### CZECH COMPANY MRÓZEK AG TAKES DELIVERY OF TEREX® AC 100/4L AND TEREX EXPLORER 5800 ALL-TERRAIN CRANES

The Czech crane service provider Mrózek cannot deny having a certain predilection for Terex products: Along with the Terex® AC 30, AC 40-1, AC 50-1, AC 120-1, and AC 350/6 cranes already in operation, an AC 100/4L and an Explorer 5800 all-terrain crane are recent additions to this company's fleet. "Besides their capacity and wide variety of potential uses, it is largely the high dependability of Terex products that we find convincing. That is why we rely exclusively on cranes from this manufacturer for capacity classes ranging from 30 to 350 tonnes," says Mrózek director of operations Adam Czyz as justification for the purchase decision made by his company.

The two cranes were handed over to Adam Czyz and crane operators Frantisek

### OSBORN'S SA-DESIGNED AND BUILT MODULAR PLANT INSTALLED IN SIBERIA



Jochymek and Martin Jursa at the Terex factory in Watterscheid. The handover was handled by Andreas Schramm, the responsible Global Sales Manager at Terex, and Dr. Oldrich Schromazdil of Czech Terex dealer ISOS Trade, which transacted the sale.

ISOS Trade, s.r.o., has been the official Terex cranes dealer in the Czech Republic and Slovakia since 1990 and is very familiar with the conditions on these markets. "The situation is currently very difficult in these two countries," explains Schramm. "We are pleased to have found a dependable partner there in ISOS Trade."

A modular plant designed and built in South Africa by Elandsfontein based manufacturer Osborn is currently being installed and commissioned in snowy Siberia.

Osborn's R11-million export order was for a full modular plant for the Al Rosa iron ore facility in Russia. It was shipped from SA to the port of Magadan, then transported to the plant, which is situated close to Vilyuyst in Russia's Siberia region.

Marketing director Martin Botha says that Osborn's robust equipment is ideally suited for the harsh operating environment in Siberia, where temperatures drop to minus 40 degrees Celsius. The full modular plant at the Al Rosa facility offers primary and secondary crushing and screening capabilities. It features an Osborn 3042 Jaw Crusher, 6 x 20 triple deck screen and an Osborn 44H Gyrasphere Cone Crusher. In addition to this, Osborn has supplied a 5 x 14 screen.

In addition to the modular jaw, cone and screening plants, Osborn also offers a full quarry processing plant, by adding the new Horizontal Shaft Impactor modular plant to the set-up. Since adding the KPI-JCI Horizontal Shaft Impactor to its equipment offering, Osborn has seen demand for these units grow and now has several operating successfully in South Africa.



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