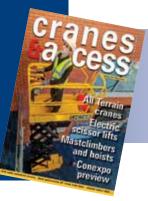




#### On the cover:

JCB has entered the powered access sector with the launch of a nine model range of scissor lifts which will be followed by a line of articulated and telescopic booms - 27 lifts in all.





# All Terrain cranes

Electric scissors





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range, we take a more in-depth look at the new product line and see how they stack up against the competition - particularly the larger 14 and 16 metre models.

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#### In the next C&A

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To lift or not to lift....

The recent launch of Palfinger's Crane Mode option on its NX truck mounted platforms has once again raised the thorny issue of equipment being used for something it wasn't initially intended.

Lifting people with cranes, using aerial work platforms or excavators to lift loads, suspended load handling with telehandlers or using loader cranes and 360 degree telehandlers for sophisticated lifts in place of mobile cranes, all trigger strong responses and objections from equipment specialists.

From an access point of view it is easy to see why associations such as IPAF stress the importance of using a purpose-built work platform when working at height and only considering cranes with man-baskets as a last resort.

Conversely crane companies will tell you about the hoops they have to jump through to get on site to carry out a lift, while a telehandler often turns up and gets on with it. The same with assessing ground conditions, with mats and ground bearing pressures high priorities for any crane operator, while large telescopic boom lifts - which can exert far more ground pressure - all too often trundle around a site seemingly without a care in the world.

This inequality has not gone un-noticed, particularly by those crane operators who do things 'by the book'. They might be forgiven for thinking that there appears to be one rule for them and almost none for everyone else.

A few years ago the European material handling federation FEM published a white paper virtually outlawing the lifting of people with cranes for entertainment in response to trends such as 'restaurant in the sky' and other rides, only to do a U-turn under pressure. Even the UK's HSE appears to turn a blind eye to 'leisure' activities such as bungie jumping from a crane, yet will throw the book at a lifting company caught doing anything risky on site.

In the real world, people will use the equipment they already have - for convenience, speed and to save money - so the ability to handle additional tasks appeals. The very reason why telehandlers have become so popular is the fact that they are a 'jack of all trades' acting as a fork lift, access platform and pick and carry crane. So it is understandable that manufacturers seek to add additional capabilities.

What perhaps should be considered however is the apparent discrepancy in paperwork, planning and training demands for the various equipment types. If they were treated in the same manner, resulting in a level playing field in regards to operation and safety, there may be a greater acceptance of equipment that can and does cross disciplines.

Unfortunately at the moment the playing field has a very discernable slope......

Mark Darwin

Comment and feedback is most welcome via post, email, fax or phone stating if we may publish them or not: editor@vertikal.net



# JCB adds powered



access

JCB has entered the powered access market with the launch of an all-new range of slab electric scissor lifts, which will soon to be followed by a full range of articulated and telescopic boom lifts. The new division - JCB Access - is headed Richard Butler with ex-Genie vice president Phil Graysmark as sales director.

The initial product line - designed by JCB and built in China - comprises nine slab electric scissor lifts in three families ranging from 15 to 45ft. All units have a standard roll-out deck extensions, and two models - the S2046E and the S2646E - are rated for indoor and outdoor use, while the rest are indoor only.

JCB will launch the new scissor lifts along with a diesel boom lift at Conexpo in Las Vegas next month, adding further models by the end of the year. These will include three diesel scissor lifts, an electric articulated boom lift - the 45ft AJ45E - four Rough Terrain articulated boom lifts and 10 telescopic booms ranging from 67 to 136ft making 27 models in all. For a full review of the new range see the scissor lift feature on page 29.

# Change of owner at Time



Vehicle mounted aerial lift manufacturer Time Versalift has been acquired by Texas-based private equity firm The Sterling Group from long-time owners O'Flaherty Holdings which acquired Time - including the Condor and Versalift brands - around 40 years ago. Few details have been released but we believe that the deal is supported by the management team on both sides of the Atlantic with the potential for a management buy-in.

Time is based in Waco, Texas with Time International in Denmark, Versalift UK and new operation Versalift France. The company is the clear European market leader for van mounted lifts and has a strong position in the pick-up truck mounted/4x4 market. Sterling has more than \$2.2 billion of assets under management.



# **United takes NES**

United Rentals has agreed the acquisition of competitor NES from Diamond Castle Holdings for \$965 million in cash. The deal is expected to complete in April.

Chicago-based NES had revenues last year of \$369 million with a pre-tax profit of around \$20 million. The NES fleet is largely made up of aerial lifts, telehandlers and small pick & carry cranes and is valued at around \$900 million at replacement cost. The company employs around 1,100 and operates from 73 branches across 27 states with a concentration in the eastern half of the United States. The company is

United chief executive Michael Kneeland said: "In NES, we are acquiring a well-run operation that's primed to benefit from our technology, infrastructure and cross-selling capabilities. We will be working side by side throughout the integration to capitalise on best-in-class expertise from both sides."





led by IPAF president Andy Studdert.



Socage acquires Manotti

Italian truck mounted lift manufacturer Socage has acquired crane and access manufacturer Manotti Autogru as a going concern, with Socage taking on all 60 employees.

Manotti has been struggling for many years and had not managed to pay salaries for



several months. It surprisingly managed revenues of €13 million last year and has an order book of €7 million. Based in Boretto, Emilia Romagna, the company was founded by Dante Manotti in 1979 and also operated under the PC Produzioni name for Platform and Crane production. Products included truck mounted lifts to 28 metres, a 35 tonne truck crane and a range of four Rough Terrain models from 35 to 85 tonnes.

# **Hewden cranes in** unreserved auction

130 All Terrain cranes from Hewden Stuart, which entered administration at the end of November, will be sold at an unreserved auction on Friday 3rd March at Newark Showground, Nottinghamshire in the UK. The original plan was sell the cranes via tender, but the live auction will be one of the largest All Terrain crane sales ever held.

Included in the sale are two, 220 tonne Tadano All Terrains registered in 2016, 23 cranes of 100 tonnes or more, 57 cranes between 50 and 100 tonnes and 45 cranes from 30 to 50 tonnes. The auction will also include a host of accessories such as ballast, test weights, slings, mats, chains and shackles.





# oxam acquires Hune...

Loxam has successfully complete its exclusive negotiations to acquire Spanish rental company Hune.

The deal substantially strengthens Loxam's position in Spain, but also adds to its coverage in Portugal, Saudi Arabia and Colombia. Hune has annual revenues of €70 million - most of it in Spain - where it has 35 locations. It employs around 600 worldwide with an overall equipment fleet said to be in the region of 18,000 units.

Hune was taken over by major lender Banesto (Banco Español de Crédito) in 2010 with a debt mountain of around €500 million. Since then it has been completely restructured.

## ...and gains control of Lavendon

Loxam gained control of a majority stake in Lavendon in mid-February, having received acceptances from shareholders representing more than 88 percent of the company's equity and voting rights. It has now declared its offer fully unconditional, kicking off the official purchase of the remaining shares that have been offered. It will now make an application to withdraw the company from the stock exchange and re-register it as a private limited company. In the case that it manages to gain a 90 percent holding, or more it will apply for a compulsory purchase of the remaining 10 percent of the equity. The latest updates indicates that TVH has now sold its 20 percent stake. The bidding battle for Lavendon between Loxam and TVH ended when TVH withdrew its final £2.61 a share offer following a £2.70 bid from Loxam. This values Lavendon at £459 million - £617 million with net debt.





## n e w s



# New generation RT from Link-Belt

Link-Belt will launch the all-new 70 tonne 75RT at Conexpo, the first model in a new generation of Link-Belt Rough Terrain cranes. The 75RT has a five section 43.3 metre full power boom, plus a 10.7 to 17.7 metre bi-fold swingaway extension with an option of a three-part version to provide an additional short three metre heavy duty extension. Maximum tip height is 63.6 metres. Matching main and auxiliary winches provide an 8,400kg maximum line pull, with line speeds of up to 148 metres a minute.

Another new feature on the crane is Link Belt's 'V-CALC' outrigger set up system - short for Variable Confined Area Lifting Capacities - which provides a wider range of outrigger configurations with automatic monitoring and load chart selection. The crane also has a full telematics suite installed as

The 75RT has multiple transportation modes starting at 45.4 tonnes for the fully equipped crane which can drive off the truck ready to work, or

40.8 tonnes with just the counterweight removed. Power comes from a Cummins Tier 4F diesel matched to a six speed transmission and hydraulic disc brakes.

Link-Belt has also upgraded its 90 tonne 100RT to the 100 tonne 110RT. There are no significant changes to the specification and it uses the same six section 50 metre main boom. The higher capacity models will begin shipping immediately and the company says that those units already delivered can be easily upgraded.

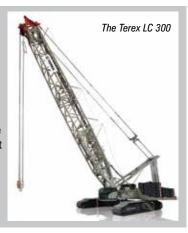


# **Terex Cranes to close Chinese plant**

**Terex Cranes has ceased** production at its crane manufacturing plant in Jinan, China and will wind down its operations. The plant had been scheduled to build the new 300 tonne LC 300 lattice crawler crane which was originally due for a Conexpo launch this year.

Terex acquired the plant - which built lattice boom crawler cranes from 70 to 360 tonnes - when it purchased a 65 percent majority stake in Shandong Topower Heavy Machinery Company in August 2010. The joint venture became fully operational in March 2011 and then in November 2014 Terex took over the rest of Topower's equity.

The LC300 will not make it onto the company's Conexpo stand, not because of the plant closure, but as a result of the crane falling foul of the company's tougher stance on not launching products until they are proven to be fully market ready. Where the new crane will now be produced is still undecided but there is room and the relevant expertise at the Terex plant in Oklahoma which has already taken over production of Terex cranes previously built in Waverly, Nebraska.





# Crane option for Palfinger NX platforms

Palfinger has announced a new Crane Mode option for its Jumbo class NX truck mounted work platforms which range from 48 to 75 metres.

The Crane Mode includes a lifting point or hook with an unrestricted capacity of up to 900kg giving a maximum radius of 38.5 metres on the 57 metre P570. The lifting point can also be used in conjunction with the machine's platform mounted material handling winch which has a capacity of up to 450kg. Palfinger says that crane option is fully compliant with the EN 13000 standard for mobile cranes when the platform is switched to Crane Mode.

The crane mode is operated from the platform's cable connected secondary remote control station, although a wireless remote control is also available. Once switched into crane mode people are not permitted to enter the platform.

# Fassi takes control of French business

Fassi has increased its stake in French manufacturing and distribution group CTELM, which owns Fassi France, Miltra and Marrel and now owns a majority of the company's equity. Co-owner Roger Boutonnet will continue as president of CTEL.

Giovanni Fassi and Boutonnet jointly acquired the business from the

Caravelle financial group in 2013 which has revenues in the region of €33 million. Fassi says it will play a more active role in the company and will use the distribution business to sell Swedish-built Cranab forestry cranes in which it gained majority control last year and Jekko spider cranes in which it has a 33 percent stake.



# Klubb acquires Comilev assets

French vehicle mounted lift manufacturer Klubb has acquired the intangible assets - the brands, know-how and intellectual property - of French vehicle mounted lift manufacturer Comilev that is in liquidation following its demise last year.

Klubb, which currently builds van and pick-up mounted platforms, intends to use the acquisition to step up its plans to develop a new range of specialist truck mounted lifts and has acquired a new 13,000 square metre facility to build the new products and created 25 new jobs.

Klubb chief executive Julien Bourrellis said: "As part of our development strategy, we began several months ago to work on the design of a range of

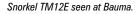
truck mounted lifts recruiting the heads of the Comilev's Research & Development team. The acquisition of the Comilev designs - including the Xtenso utility/network product range - will accelerate the launch of our range in this market segment."



## **Snorkel to launch TM16E**

Snorkel is to launch a 16ft version of its TM mast type lift - the TM16E - at Conexpo joining the new direct electric drive TM12E which was unveiled at Bauma and is now in production.

The direct electric drive provides substantially longer battery life, particularly in applications involving a large amount of travel. It also provides a true zero inside turning radius. The new 500mm roll-out extension is standard on both 'E' models. The TM16E is expected to weigh in at just under 1,000kg allowing it to be transported in a standard elevator.





# New 1,000 tonner for UK

UK company Osprey Heavy Lift - jointly owned by Osprey Maritime and Allelys heavy haulage and rigging of Redditch - is currently rebuilding a 1,000 tonne capacity Liebherr LTM 1800D cable suspended telescopic crane originally owned by Baldwins' US subsidiary Phillips Crane & Rigging.

The crane was delivered to the Huston-based company in 2000 but was returned to Liebherr when Phillips and Baldwins went under in 2003. Liebherr re-sold the crane to a company in Canada and it was acquired by Osprey last year. The unit has now been stripped down and is going through a compete rebuild. Osprey has a 750 tonne Liebherr LG 1750 lattice crane and 800 tonne LTM1800 with LG1550 lattice conversion kit. It also owns a large fleet of Self Propelled Modular Transporters (SPMT's), as well as jacking/skating systems.





# **New JCB telehandler** and transmission

JCB has unveiled a new 4,000kg/17.5 metre telehandler - the 540-180 Hi-Viz - with 800mm more lift height than the 540-170 and greater horizontal reach at 13.5 metres thanks to the new chain-synchronised four-section boom. The machine is lighter at 11,330kg and more compact, making it possible to transport two machines on a single truck reducing transport costs. Other features include a lower boom, improved visibility, a cleaner more efficient SmartPower Tier 4 Final diesel and standard LiveLink telematics.

The company also unveiled a new transmission which it says combines the best characteristics of Powershift and hydrostatic drive trains. The VT DualTech transmission features full hydrostatic drive up to 19kph for fine forward and reverse control, while at speeds above that it automatically

switches to the more efficient electronically modulated three speed Powershift transmission with maximum speed of 40kph. The new transmission is fitted to three new DualTech VT industrial telescopic handlers the seven metre 531-70, the 9.5 metre 535-95 and the 17 metre 541-170.





## **New Liebherr LTM spotted**

Liebherr will unveil a new four axle All Terrain crane - the LTM1090-4.2 - at Conexpo. The new crane was spotted at the docks in Northern Germany, heading for the USA. The first unit has been sold to Philadelphia-based Sautter Crane Rental and features the VarioBallast variable counterweight system and can be configured with 10 or 12 tonne axle weights.

# **Summit Tower** acquisition completed

Crane and access manufacturer and distributor Australian Crane and Machinery has acquired truck mounted lift rental company Summit Tower Hire. The asset-based transaction was agreed at the end of January and completed in early February.

The Summit fleet includes six truck mounts of 70 metres and more, topped by the 101 metre Bronto S101-HLA. It will be incorporated into the rental subsidiary ACM Towers. Key personnel, including chief executive Marco Peters will remain with the company.

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# Genie secondary guarding

Genie has announced a new secondary guarding system for boom lifts that will be available as standard equipment or a quick and easy retrofit for Genie Z and S boom platforms dating back to 2003.

The new 'Lift Guard' Contact Alarm system features an activation cable connected to each side of the protection rails around the platform control panel, running above the front edge of the control box - reminiscent of the original Blue Sky system launched in 2007.

The system is not yet available on the Z-33/18 self-propelled, mast booms or trailer mounted lifts, but already available on ANSI standard machines in North America and will be available on CE models during the second quarter. Retrofit kits are expected mid-year.





## JLG announces plant closures

JLG is to close its production facility in Maasmechelen, Belgium and its Bruntingthorpe telehandler technology and development centre in Leicestershire, UK, while in the USA it will close its telehandler production lines in Orville, Ohio and move them to its plants in Pennsylvania. Up to 525 JLG employees could be affected by the end of September.

The European telehandler range will also be slimmed down and production moved to the company's plant in Medias, Romania. The Maasmechelen PDI facility is likely to remain open for between 12 and 18 months. The company is estimating that the changes will cost between \$45 and \$50 million but will save \$20 to \$25 million a year from 2018.

# 16 crawler cranes for Weldex

UK-based crane rental company Weldex has placed an order for eight Liebherr crawler cranes including five LTR telescopic crawlers, a 750 tonne LR 1750, a 600 tonne LR 1600 and a 500 tonne LR 1500.

This follows an order for eight Hitachi Sumitomo crawler cranes which included a 350 tonne SCX3500-3 - the first in the UK - plus a second SCX3500-3 both with full luffing jib attachments and six 80 tonne SCX800A-3 launched at Vertikal Days. The Hitachi units - purchased through UK dealer NRC - have now been delivered.



One of the new 350 tonne Hitachi Sumitomo SCX3500-3 purchased by Weldex



## **UK rental show**

The annual UK rental Executive Hire Show held in Coventry earlier this month included a number of access and lifting exhibits including the first exhibition appearance of the new JCB scissor lifts and the launch of a new Boss mobile scaffold tower system from Werner, complete with a range of attachments and beams etc.



Manitou launched its buggy-type four metre/2,000kg MT420 telehandler first seen at Bauma and Hird showed the new 750kg Wienold MFC 750/K industrial floor crane. Other lift exhibitors included Niftylift, Russon Access, Snorkel, Kranlyft, Eurotowers, Lyte Ladders, GGR, GT Lifting, Power Towers and Sumner Lift. We will carry a full review in the next issue.

Werner unveiled is new Boss mobile scaffold tower system, complete with cantilever.



# €5 million Gardemann order

German rental company Gardemann, part of the Lavendon group, has placed a  $\in$ 5 million order for new Ruthmann truck mounted platforms.

n e w s

The order includes 22 metre TBR 220 and the all-new 25 metre TBR 250 platform on 3.5 tonne chassis. The company is also beefing up its 7.5 tonne fleet with the 28.5 metre T285, TU 285 and 33 metre T330 platforms.



(L-R) Bernd Wiesmann of Ruthmann, with Gerrit Sellmer and Ingo Rose of Gardemann at the Jaunch of the TBR 250 and TB 290.

# 10th TABS announced

The 10th Tag der Arbeitsbühnensicherheit (TABS) - the German language safety conference for working at height - will take place this year on May 31st at the Unimog Museum in Gaggenau, south west Germany.

The theme of the event will be "Who bears the risk and who is responsible?" with speakers including lawyer Rudolf Saller, Günter Hübner of Eloquadis, and Dieter Schnittjer of VDBUM, with further speakers to be announced later. To register or obtain more information, including sponsorship opportunities visit www.tagung-tabs.eu.



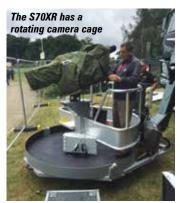
#### 70m Bronto for AA Access

UK-based rental company AA Access has purchased a 70 metre Bronto Skylift S70XR truck mounted platform with rotating camera cage and extendable platform with a camera pod and lighting rig.

The S70XR provides an outreach of 36 metres and a maximum platform

capacity of 600kg. Overall length is less than 12 metres, allowing it to have EU Whole Vehicle Type Approval. The unit is expected to spend much of its time working in the film industry and includes remote controls and a 1,100kg boom mounted winch.

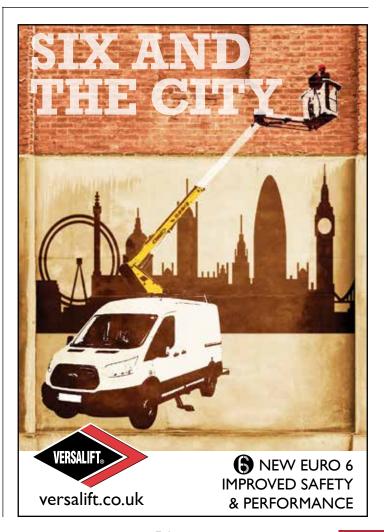
AA Access owner Andy Ainsworth said: "We like the compact size of the unit, the excellent working range, the control system and the fact it is Type approved to the latest European regulations."



# Smartstore storage

UK-based outrigger mat supplier Outriggerpads has launched Smartstore a special stillage for the storage, transportation and handling of its Multi Mat outrigger mats. Each Smartstore unit can hold up to 26 Multi Mats and be easily stacked.





## **Financials round-up**

US-based United Rentals reported a one percent fall in full year revenues to \$5.76 billion. Pre-tax profits dropped six percent to \$963 million. Rental rates fell 2.2 percent while equipment on rent increased three percent, with utilisation for the year at 67.9 percent. Capital investment was \$1.25 billion, down from \$1.5 billion in 2015.

Spending will pick up this year but that will also include NES.



Hiab reported 2016 revenues up 12 percent to €1.04 billion with operating

profits up almost 40 percent at €139 million thanks to a better mix of products, increased manufacturing efficiency and a more profitable geographic mix.



A trading statement from Lavendon reports rental revenues eight percent

higher at roughly £250 million. Revenues at Nationwide Platforms in the UK were 12 percent higher, Rapid in the Middle East was up 16 percent and Continental Europe two percent. Net debt at the end of December was £157 million compared to £119 million in 2015, £16 million due to the fall in Sterling.



Tadano has reported a 14.5 percent fall in nine month revenues to ¥128 billion (\$1.14 billion). Japanese revenues fell 5.4 percent to ¥68.1 billion (\$605 million) due to lower sales of mobile and loader cranes, partly offset by higher sales of aerial work platforms. Exports - largely mobile cranes - fell

22.9 percent ¥ 59.9 billion (\$533 million). As a result pre-tax profits fell 34 percent to ¥10 billion (\$89 million).



**Speedy Hire** of the UK, expects to beat full year forecasts following 10.6 percent growth in third quarter revenues. Lloyds British Testing will also help lift fourth quarter revenues.



Third quarter revenues at Kobelco Construction were more than 11 percent lower at ¥229 billion (\$2 billion) with a pre-tax loss of ¥32.7 billion (\$290 million) due to the first wave of write-offs in China as it dissolves local joint ventures. While crane information is not split out, the statement said that sales of crawler cranes had fallen, mainly due to lower demand in South

East Asia. The full year forecast is expected to be 11 percent lower at ¥300 billion (\$2.7 billion) with a loss of ¥34 billion (\$302 million).

and Harding marine business.



Palfinger has reported full year revenues 10.3 percent higher at €1.36 billion, but pre-tax profits improved only half a percent to €93.2 million, held back by restructuring costs in the North America crane and access business and marine operations. Net debt at the end of the year was €513 million, up from €348 million last year due to a number of factors including acquisitions such as its Spanish distribution network

PALFINGER

Hewden administrators Ernst & Young has confirmed that unsecured creditors will not receive anything from the administration. Net assets are in the region of £100 million, but secured bank creditors are owned £150 million and are first in line. The pre-pack deal with A-Plant for the powered access, generator and Interlift business raised £29 million, while depot sales to Morris Leslie, Ashbrook, GAP and Nixon Hire raised a further £29 million. The sale of the 137 cranes and residual equipment through Euro Auctions should raise a further £50 million. Unsecured creditors include the Inland Revenue, a £46 million shortfall in the pension fund and £22.5 million regular trade creditors with Tadano at the top being owed £7.4 million, while

telehandler suppliers Gunn JCB and Finning are each owed around £500,000.



Cramo has reported a 6.6 percent rise in full year revenues to €667.9 million with Finland, Sweden, Denmark and Central Europe all posted gains, while Norway and Eastern Europe were marginally lower. Pre-tax profit improved 36 percent to €86.9 million. Capital expenditure was 18 percent higher at €207 million while net debt at the end of the year was up five percent to €387 million.



Manitowoc revenues fell 30 percent in the fourth quarter depressing full year revenues by 14 percent to \$1.61 billion primarily due to continued weak demand in North America and the Middle East partially offset by growth in Europe spurred by new product introductions. Pre-tax losses more

than doubled to \$268.1 million. The backlog at the end of December was \$323.8 million, eight percent down on the year.



Caterpillar has reported machinery and equipment revenues down 19 percent to \$35.8 billion, while pre-tax profits crashed from \$3.46 billion last year to just \$139 million in 2016 due to substantial write offs in the fourth quarter.



First quarter revenues at JLG slipped eight percent to \$489 million, with aerial lifts down three percent to \$234 million, telehandler sales 17 percent lower at \$93 million falling eight percent to \$162 million. Operating profit

improved more than 19 percent to \$24.4 million. At the same time the backlog/order book was cut 17.5 percent to \$594 million.



## For the full reports on all these stories check out Vertikal.net

# Palfinger Italy appoints CPL for UK

UK-based Cumberland Platforms (CPL) has been appointed UK dealer for Palfinger Platforms Italy, which includes 3.5 tonne truck mounted platforms and Palfinger spider lifts. At the launch, CPL unveiled two new platforms - the Isuzu P130A and the Isuzu D-Max tipper. The 13.1 metre CPL Isuzu P130A offers six metres of outreach and a platform capacity of 240kg with up to five degrees of off-road levelling. The CPL Isuzu D-Max Tipper - aimed at the arborist and utility sectors - is on an uprated 3.5 tonne chassis and the aluminium or composite tipper body has a 1,300kg payload.





# New Skyjack telehandler

Skyjack has unveiled the latest model in its new SJ range of telehandlers - the 17.1 metre/5.4 tonne SJ1256 TH - at the recent World of Concrete show. The new model can take 2,721kg to its full height without outriggers or 3,175kg with outriggers set. Maximum forward reach is 12.95 metres. The new model is based on the 4.5 tonne SJ1056 TH and offers similar features including a Tier-IV final Deutz engine.



# CMC Auto loading

Italian spider and truck mounted lift manufacturer CMC has launched a self-loading outrigger system for its 32 metre S32 incorporating 425mm pinned extensions in the outrigger legs. When the legs are extended, the machine can jack itself to a clear under track height of





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Hampton

Etienne Bourcier

# Vews HIGHLIGHTS

- Link-Belt CEO Chuck Martz is to retire and will be replaced by CFO Melvin Porter.
- Klubb has acquired the intangible assets of Comilev the French vehicle mounted lift company.
- Portei
- Australian Crane and Machinery has acquired truck mounted lift company Summit Tower Hire.
- UK-based rental company Marsh Plant has taken a 60t Liebherr LTM 1060-3.1 All Terrain crane.
- Riwal has opened a depot in the port of Rotterdam. German rental company Autokran-Dienst Jaromin
- has taken a Terex Explorer 5500 All Terrain crane. Germany's Gardemann has ordered €5 million of new Ruthmann truck mounted platforms.
- Sparrows Offshore will supply 103 cranes for the East Anglia ONE offshore wind farm.
- Skyking, UK distributor for Palfinger Platforms, has appointed Jim Martyr as sales manager.
- Swedish rental company Stavdal has ordered 67 Genie booms, scissor lifts and telehandlers.
- Sweden's Lambertsson Kran has taken a Grove GMK4100L-1 crane with Samson fibre rope.
- Indian crane and access rental company JNK Lifters has taken a 250t Liebherr LTM 1250-5.1.
- German heavy lift company MSG Krandienst has taken delivery of six Grove All Terrain cranes.
- Germany's Husmann Dienstleistungen has taken delivery of an Oil&Steel Octopus 23.
- Terex has appointed Matthew Hepler as a main board director.
- Canada's Cooper Rentals has acquired 4-Way Equipment Rentals.
- Swiss rental company Sky Access has taken a 33m TCA Falcon FS330Z spider lift.
- Finnland's Pentti Hämeenaho has ordered two 62t DCG620-15 Kalmar forklift trucks.
- UK-based Total Hire has added a number of new Genie scissor and booms lifts to its fleet.
- US-based All Erection & Crane Rental has ordered 15 Liebherr 90t LRT 1090-2.1 Rough Terrain cranes.
- Genie has appointed Adam Hailey as director product management and Chad Hislop as design engineering director.

Indian crane rental





Agam Hailey

Chad Hislop

company Steel Carriers has taken a **Demag** AC700 All Terrain crane.

- US-based SL Chasse Steel has purchased a 30t Manitex 30102C boom truck.
- EasyJet has taken delivery of a 7.5t Jekko SPX1275 spider crane from TCA Lifting.
- French lift manufacturer Klubb has appointed Gantic as dealer for Norway.
- UK-based D Jones Plant Hire & Sales has purchased a 22m Ascendant A22-17TR tractor mounted
- AFI has appointed David Graham as a director of its Rapid Platforms division.
- Palfinger has acquired its Danish distributor, Palfinger Danmark AS.
- Egyptian contractor Hassan Allam Sons has taken four Potain MDT 389 L12 tower cranes, the first in the Middle East.

A-Plant employees have raised £10,000 for Cancer Research UK.

Tudor Van Hampton, managing editor at ENR has died aged 39.

Italian rental company Noleggi Generali has taken a 31.5m CTE ZED 32 JHV truck-mounted platform.

Samson Equipment has launched the Hardideck crane loading platform.

Austrian crane and access rental company Prangl has opened new headquarters in

 Instant UpRight has promoted Joe Oxley to general manager.

Vienna.

 Hungarian sales/rental group Axiál is investing a crane training and certification.

Ireland's Kavanagh Crane Hire has taken two **Demag** All Terrain cranes.

UK's Cambridge Crane Hire has taken a 35t Kato CR-350Ri City-type All Terrain crane.

Andy Pearson of Prolift Access is organising a charity bike ride to Apex.

Genie has introduced a free delivery service in North America for parts orders more than \$750.

 Austrian rope group Teufelberger has acquired Italian wire rope specialist Redaelli Tecna.

Manitex International is considering strategic alternatives for A.S.V.

 Etienne Bourcier has left JLG to join JCB as general manager Southern, Central and Russia.

Replacement parts supplier Amerparts has opened a UK company in Nottingham.

France's Joly Location has taken a Ruthmann T510HF with a T650HF on the way.

UK's scaffolder Xervon Palmers has been acquired by Colin Butt.

Mobile Cranes Asia (MCA) has ordered three 220t Demag AC 220-5 All Terrain cranes.

DP World Jebel Ali Port has ordered 13 Kalmar DCG80-45ES8 container handlers.

 Mike Watts, founder/chairman of Sunstate Equipment is retiring, Sumitomo has purchased his shares.

**Dromad Hire** has taken the first 15m Hinowa spider lift in Ireland. Ivory Coast-based Petro Sea Logistics

has taken three Grove All Terrain cranes.

Flexible Driver Hire has joined Crewit Resourcing to form Crewit Technical.

 Germany's Göllnitz Umwelttechnik is using an Atlas AK300.2V loader crane for piling work

Genie has restructured its Germany. Austria and Switzerland sales team, appointing Lars Raagaard as sales director.

The UK's Access Link held its quarterly meeting at JLG UK.

UK's GAP Hire Solutions has taken a Penny Hydraulics PH510 loader crane.

Sany Palfinger has launched its new articulated and telescopic loader cranes in Malaysia.

Tadano America has appointed Lance Rydbom as regional manager East coast USA.

German rental company Lanz has taken delivery of a 40ft JLG H340AJ hybrid boom lift.







- bearing-type slew ring. Australia's Monitor Lifts has taken four
- containers of Platform Basket spider lifts. German manufacturer PB has delivered two
- aviation scissor lifts to Hydro Systems. UK Quinto Crane and Plant Hire has taken two Terex AC 40/2L All Terrain cranes.
- IPAF has promoted Jur Kamsteeg to operations manager for the Benelux region.
- Spreader beam manufacturer Modulift has built a 20m/1,500t beam.
- Germany's Goldhofer has split into two divisions and appointed Lothar Holder director.
- Australia's EWPA Registered Inspector Programme for aerial work platforms has gone
- Singapore has unveiled two new codes of practice for work at height platforms.
- Point of Rental Software has launched the first Customer Rewards app.
- UK rental company John Sutch Cranes has taken a 100t Demag AC 100-4L All Terrain
- Genie has promoted Lee Edwards to regional sales and distribution network manager for the UK and Republic of Ireland.
- ATN has appointed Alfa Access Services to provide technical support in the UK.
- Russia's Vertex has teamed up with CRC Kazakhstan.
- UK-based Access Hire Nationwide has taken delivery of eight Versalift ETL36-F (E6) van mounts.
- Walter Sellick, founder of Canadian heavy fork lift manufacturer Sellick Equipment has died.
- US-based Noble Iron and American High Reach have announced an 'asset sharing partnership'.
- Thailand's Provincial Electricity Authority has ordered eight Grove GMK2035E All

president, sales & services.

- Terrain cranes. Hiab has appointed Scott Hall as senior vice
- Chinese manufacturer LiuGong has completed the first CLG2450 reach stacker.
- Wacker Neuson sales director Jan Willem Jongert has left the company due to 'differences' over sales strategy.
- AFI has invested £280,000 in a new paint
- Germany's Autokran-Dienst Jaromin has taken a six tonne Jekko SPK60 crane.
- UK crane and access company Hird has moved its Doncaster depot and expanded its fleet.
- UK's Advanced Access Platforms has taken two 30ft Snorkel SL30SL Speed Levels.
- Timber-Tech Tree Services has taken the first Leguan L165 lift in the UK.

Gary Spickler a senior manager with Grove Manufacturing for many years has died, he was 78.



Lars

Raagaard





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Last year in Cranes & Access we featured All Terrain cranes in two separate issues concentrating on the smaller City cranes in July/August and the mid-range cranes earlier in the year, when many manufacturers had geared product development and launches to coincide with Bauma. With so many new products developed around a Bauma launch, the year or so following the show tends to be rather guiet. And sure enough we have seen few new product launches since then as most manufacturers concentrate on getting the raft of newly launched products to market.

With this in mind, we think of Tadano's largest and most revolutionary All Terrain to date, the 600 tonne ATF600G-8 which was unveiled a whole year before Bauma in June 2015. Since then Tadano has been very quiet regarding its flagship model, even though six units were in production just after the launch, with sales due to start last year. In recent years several companies got their fingers burnt over premature product launches - the Terex AC1000 springs to mind.

Introducing a machine too early can have devastating consequences and cripple a new product permanently. However, delaying a launch also indicates that there have been development problems, design changes or production issues. Let's hope that the ATF600 - with its unusual 56 metre triple boom design - sees the light of day soon. We hear the first cranes will be rolling off the production line sometime this year. Terex certainly appears to have learnt its lesson on releasing products before they are marketready the hard way and is currently in the process of massive product and manufacturing changes under new Terex Cranes president Steve



Filipov. Many were looking forward to the launch of the new 300 tonne Terex LC300 crawler crane at Conexpo, but this has now been delayed, when the product fell foul of the company's tougher stance on not launching products until they are fully proven and ready.

The policy was spelt out by Filipov in his interview with Cranes & Access soon after his appointment when he said: "In the past, we have had a very bad experience by bringing products out too early and much as I want to push for new products, they have to work. be competitive, reliable and top quality. Unless they meet these requirements they will not be launched."

#### The LC300 obviously has some way to go.

The big news for Terex over the past year has been the revival of the Demag brand but changing the name to one with a better image and pedigree does not of course immediately produce a better crane. The Demag name is now being applied to the AC All Terrains over 100 tonnes capacity and CC lattice crawler cranes over 400 tonnes - cranes that are currently being manufactured at its Zweibrucken plant in Germany although the

The appointment of Filipov to replace Ken Lousberg after just a year in the job was an early sign that the company had some serious work to do to restore both the Terex and Demag brands to their glory

Filipov openly admitted that the company had to sort out a number of product issues that were severely affecting several models. Terex has lost All Terrain market share as a result and will need to work hard to revive its previous success - in the past month or two we have seen some possible early signs of increased customer confidence in the once loved brand. Filipov said that a new six axle AT would be 'unveiled soon'. Perhaps it will be a surprise launch at Conexpo - but only if it is 100 percent ready. He admits that the range also needs a good 80 tonne AT and it recently introduced a new 220 tonne Demag AC 220-5 and 250 tonne AC 250-5 while a new City-type All Terrain crane is on the cards.

The Demag brand was traditionally all about quality, reliability and innovation. Filipov and the team are determined to re-establish those values but the proof of course will be in the eating.



#### all terrains

The first three Demag All Terrains launched at Bauma were the 130 tonne five axle AC130-5, the AC220-5 and the 250 tonne AC250-5. At Conexpo next month there will be 'information' on the new six axle 300 tonner - the AC300-6? - but while this will not physically be on display, we understand that visitors will be able to see a 'virtual reality' presentation on the crane. To help with reducing its axle loadings Terex will also show it with a two and three axle boom trailer aimed at the American market. The rumoured six axle 250 tonner is apparently not yet ready to be unveiled.

#### City crane developments

The Terex - or should it be Demag? - City crane re-entry will be catered for at Conexpo with a first glimpse of a 45 tonner with another virtual reality presentation.

With Terex pulling out of the market pent-up demand for small City cranes has only recently been satisfied with the reintroduction of the Kato City crane range. Congested roads and increasingly cramped construction sites have led to an increase in the demand for smaller, more compact cranes of all lifting capacities. Kato is doing very well at the smaller end of the market with its three model range which runs from 13 to 35 tonnes. Launched in 2015 numerous cranes have already been delivered to customers in Ireland, the UK, Spain, Germany and the Netherlands with very positive feedback so far.

The sales have all been made by Kato distributor Rivertek Services, which is headquartered in Ireland. While it acknowledges that the City crane sector is a niche market crane rental companies have been more than willing to invest

One of the Terex City cranes before the range was dropped.

in them and are developing their local markets, with indications that there is more potential than some thought.

Rivertek's Ivan Bolster says: "Every company that has purchased a crane so far has invested the time and effort to develop a niche City crane focused customer-base. The capital cost of a City crane is much lower than a conventional All Terrain crane so from an investment point they make sense."

When Terex re-enters the market it is likely to find that the Kato brand is not only back in Europe to stay, but that it has a strong market position. It may well pay therefore for Terex to come in at the top end of the current market with a 45 tonner, before tackling the smaller models.

Kato says that the short-term intention is to continue to promote the current CR range of cranes, that have been designed specifically for the European market and stay with these three models at least until 2018 after which it hopes to introduce other cranes, most likely with capacities within the existing 13 to 35 tonne range. It already has an extensive range of RTs and ATs which it manufactures for its Japanese home market and is thinking of producing another range - European All Terrain cranes - purely for export, depending on market demand to bolster sales in Japan.

#### Improved roadability

Another trend creeping into the All Terrain market is the ability to configure cranes with axle loadings



as low as 10 tonnes. Liebherr for example is set to launch a new 90 tonner - the LTM 1090 - at Conexpo next month. No official details have been released yet but the crane was spotted at the docks heading for the USA and this year's big show. The LTM 1090 - the first of which has been sold to Philadelphia-based Sautter Crane Rental - features the new VarioBallast variable counterweight system and can be configured with either 10 or 12 tonne axle weights.

The chassis is slightly longer than the previous model with the front outriggers now positioned between axles one and two, rather than just behind the chassis cab. Although

the chassis is longer than its predecessor the turning circle is apparently the same. The company is also releasing production versions of its new 450 tonne eight axle LTM 1450-8.1 first seen at Bauma last year.

#### Tadano brings back the ATF110G-5

At the same time Tadano is planning to reintroduce its 110 tonne ATF110-G5 which has been upgraded to include multiple counterweight configurations making it easier to configure it for road travel in regions where lower axle weights are essential. It also features the new AML-F load moment system with full on-board







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## all terrains





The 110 tonne ATF110-G5 has been upgraded to include multiple counterweight configurations making it easier to configure for road travel.

diagnostics. The crane has a 13 to 52 metre five section main boom with a 32 metre extension.

The previous ATF110-G-5 was one of Tadano's most popular cranes and the new model retains the twin engine concept at a time when single is becoming the norm for this size of crane. It now includes variable outrigger set-up, Tadano's Lift Adjuster system which automatically compensates for boom deflection when lifting a load off the ground and closed circuit cameras on both hoist drums and around the crane.

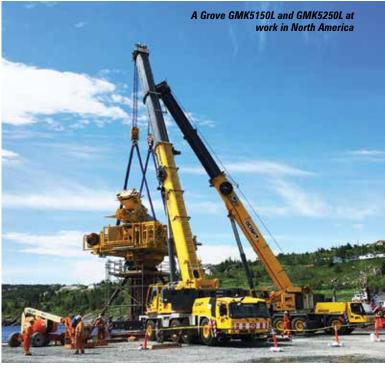
Another new Tadano to meet 10 tonne axle loadings is 60 tonne three axle ATF 60G-3 with a 'compact' 48 metre main boom. which is just completing the test and final development phase. The ATF 60G-3 also features a new drive concept with the single engine and gearbox mounted not in the chassis but in the rear part of the superstructure, allowing the chassis to be made both more rigid and lighter with the drive components acting as an additional counterweight.

The combination of the main boom and overall design of the crane means that the ATF60 is particularly suited for operations with height limitations such as inside buildings, tunnels or under bridges. Because of the distance of the engine from the chassis cab, the operator benefits from lower noise levels, with exhaust heat and gasses always well out of the way, both when driving on the road and during crane operations.

#### **Latest Groves**

Over the past two years Grove has updated its 150 to 250 tonne capacity All Terrains and launched two mid-range ATs at Bauma the new compact five axle 150 tonne GMK5150 and GMK5150L - which replace the GMK5110-1 and GMK5130-2 respectively. The GMK5150L has the longer 60 metre boom compared to 51 metres on the GMK5150. The new cranes are now coming off the production line.

Maximum counterweight for both is 45 tonnes providing a 20 percent increase in the overall load chart over the GMK5130-2. Up to 10.2 tonnes of counterweight can be carried by the GMK5150 in its 12 tonne per axle taxi crane set-up, while the GMK5150L manages 7.9 tonnes. The longer boom model can lift 11.6 tonnes on its fully extended 60 metre boom making it ideal for tower crane assembly. An 18 to 34 metre bi-fold swingaway extension is available on both models, with up to 50 degrees of offset. Both cranes are powered by a single engine (Tier 4 Final) - a concept



recently pioneered by Grove on its 400 tonne GMK6400 - which it says saves weight and reduces fuel consumption. Other features include a new Mercedes carrier cab, Twin-Lock boom pinning system and Megatrak independent active suspension.

In 2015 Grove released its five-axle 200 tonne Grove GMK5200-1 with VIAB turbo clutch module - first seen on its bigger brother the 250 tonne GMK5250L. The system is said to eliminate overheating and clutch burning and improve fuel economy. The VIAB module also works in tandem with the crane's integrated retarder, resulting in wear-free braking and starting. Other features on the GMK5200-1 include interchangeable counterweight slabs, a self-rigging auxiliary hoist and 64 metre main boom.

Grove launched its 250 tonne five axle GMK5250L All Terrain crane just before the GMK5150-1 with the bold claim that it had the strongest reach and load chart of any five-axle crane. The crane has a 70 metre,

seven section main boom and a 12 to 21 metre hydraulic bi-fold swingaway, which can offset from five to 50 degrees. The swingaway can be extended further with two eight metre inserts for a total of 37 metres and a maximum tip height of 110 metres. The crane has been well received with the 100th unit delivered a few months ago to German rental company Armbruster Autokran-Vermietunghas.

The GMK5250L has the regular 12 tonne axle loadings, but special attention was given to the axlegroup spacing and specifically exceeds 2.4 metres - a strict requirement for roading larger cranes in North America.

Although Conexpo is a major international equipment show, there will be few new All Terrain crane launches. Instead many manufacturers will finalise products already unveiled, while adding product line infill models and upgrades, while working on the next major new product launches for Bauma 2019.





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# A family affair

The demise of any crane rental company is a sad day for the industry. When that company is the second largest in the UK with a fleet of 140 cranes then the effects are felt throughout the country. However, as the saying goes... every cloud has a silver lining... and the difficulty for one company has resulted in other crane companies around the UK making the most of a rare influx of vastly experienced and qualified people, to fill existing vacancies and in some cases taking the opportunity to expand.

One such company is Ellis Crane Hire based between Stroud and Gloucester in south west England and run by father and son team Bill - now the 'semi-retired chairman' - and managing director Simon Ellis.

"We have been very lucky following the misfortune of Hewden Crane Hire, which was a total shock as it is one of the companies that has been synonymous with crane hire since I started in the business in 1986," says Simon. "We were approached by several ex-Hewden employees and this allowed us to fill several vacancies within the company. We were already short of a driver and wanted to move one of ours into a more supervisory role so we ended up taking two new drivers as well as an Appointed Person and a manager, all with a wealth of experience. Four new employees

a small crane company like ours is huge, considering we only had 15 added an experienced fitter and a trainee operator in January taking the total to 21."

The addition of the new manager has meant that Simon - who would often start work early in the morning, finish late in the evening and fill in where necessary. including not only managing the company but operating cranes, acting as an A/P or banksman and ensuring things were running smoothly - is now less pressured and can spend more time on running the business and on the long-term strategy of the company rather than day to day problems.

Ellis Crane Hire runs a fleet of nine cranes with capacities from 25 to 80 tonnes. It purchased its first

started on the same day which for employees before the additions. We



boat out and took on a fitter! Both

the new manager and Appointed

Person have already brought in

cranes in the 1980s with the first

five being Kato truck cranes.

our current level of work we have had a really strong start to the year."



The company is a typical family affair started by Bill and his wife Irene (now a retired director) in 1982 as a subcontract concrete frame erection company - Ellis Erection Services - working all over the UK. Simon joined the company in 1986 after finishing his carpentry apprenticeship and this was the year that the company bought its first crane - a 15 tonne Kato NK140. Simon ran the erection side of the business while his father ran the crane operations, renting the cranes out when not erecting concrete frames.











"We were spending around £35,000 a year on crane hire to erect the concrete frames and at a cost of £64,000 for a new Kato NK 140 it seemed the obvious time to purchase our own," says Bill. "That first crane stayed in the fleet for 25 years before being sold and it was a sad day for both of us when it finally went."

A second crane - a 25 tonne Kato NK 250 - was added in 1989 making the most of the increasing crane rental opportunities. Unfortunately with the economic recession of the early 1990s the market for concrete

frame buildings almost evaporated overnight, but fortunately Simon managed to secure an 18 month pipeline contract which kept the business busy through the difficult period. When this contract ended the pair decided to concentrate solely on crane rental, adding another 25 tonne Kato in 1994 followed by a fourth in 1997 and a fifth two years later.

Each time a new crane was ordered it was decided to trade in an older model but with demand continuing to grow this never happened. As with a number of other UK crane

rental companies Ellis still runs three of the aging Kato truck cranes, but with Kranlyft having stopped importing new Kato cranes in 2001, these have been fully refurbished to 'as new condition' with Crowland Cranes carrying out the work on the most recent one to be rejuvenated.

"The Kato cranes performed well and were totally reliable and if we had any problems we had Kranlyft on our doorstep," says Bill. "At that time the 25 tonne truck cranes were very popular on general construction sites lifting in roof trusses, erecting steelwork and general site work. Whether refurbishing cranes rather than buying new is the best way forward is difficult to say. You can spend a lot of money on the refurb but the crane's market value doesn't change much, and it is now getting more and more difficult to get the parts. Kato entered the All Terrain market with a 40, 80 and 90 tonner but they didn't really catch on as,



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## all terrains





although no doubt of excellent quality, they were quite a bit more expensive and had shorter booms than the competition."

#### Looking at new ATs

Having to look for another manufacturer for new cranes, Ellis dipped its toe into the AT market and purchased a 55 tonne Grove in 2005 - a major departure for the small company, although it was regularly cross-hiring 50 and 80 tonne ATs and was offering the usual contract lifts and package deals etc. The Grove was a good crane but All Terrain crane reliability was not the same as the Kato truck cranes, with very different technical and electronic breakdown problems.

"It is a shame the truck crane was overtaken by the All Terrain," he says. "I think it was just a trend towards ATs which happened almost overnight - not helped by the unavailability of truck cranes. A 55 tonne All Terrain with all wheel steer and long boom could get into places a 25 tonne truck-mount would

struggle to and still have a similar foot print. The two axle 40 tonne ATs have taken over from the three axle 25 tonne truck cranes, but younger people manning hire desks do not know what a 25 tonne truck crane can do and probably would not be looking at them as an option. People are conditioned now to have a 40 tonne AT as a standard."

"The 25 tonne truck-mount was the bread and butter crane of its day at a time when many companies thought a 50 tonner was the ultimate," says Simon. "We almost bought one of the early Kato City cranes, following their European launch in the 90's but found it to be a bit too niche for our general fleet at the time."

Today Ellis has a fleet of nine cranes which includes the fully refurbished Kato's, three 40 tonners - two Tadano ATF 40G-2s and one Terex AC40-2L, a 50 tonne Tadano ATF50G-3, a 60 tonne Grove GMK3060 and an 80 tonne GMK4080-1.



"We are also looking at another 40 tonner which will probably replace one of the older Katos or take our fleet to ten!" says Simon. "If we replace the 80 tonner I think we may look for something a bit bigger, a 90 or 100 tonner?"

With its head office in Brookthorpe just outside of Gloucester it generally serves the market within a 50 mile radius, which takes it into South Wales, down into the South West and up to the Midlands. Even though its compact head office facility is one of the most picturesque (and very easy to miss from the road because of a high privet hedge) with careful planning - individual bays with reversing stops etc - it houses six of the nine cranes. The remaining three are kept at its second yard in Stroud.

"Our yard works so long as everything moves," says Simon.
"We do have problems if clients want us to store equipment in our Brookthorpe yard, but if it can move it works. Our Stroud yard however gives us a bit more scope to accommodate this."

#### Family future?

Unfortunately the crane company will not be passed on to Simon's two sons - one is now a blacksmith and the other a professional

musician - and although interested in the business, they do not appear to want to be part of its future. "It is a shame Bill's grandsons won't take over the business one day, but as long as I enjoy doing it I will continue for as long as I can."

Simon and Bill are both avid readers of Cranes & Access and www. vertikal.net and are always willing to share an opinion on the current state of the industry.

In the November 2016 issue Simon had his letter - 'Wrong type of Medical' - printed in the readers' Letters (page 67) which outlined the stupidity of doubling up on full medical examinations both to renew a HGV Class 2 license when aged over 45 and then to undergo a second medical just to comply with certain construction companies' site requirements. One of his previous letters regarding some contractor's intentions not to allow cranes over ten years old on site was also printed.

"Unfortunately the sector has several anomalies, the doubling up of the full medical is just one of many," he says. "Another recent one which was just as annoying involved one of our trainees on site. The trainee in question had just started with us and for him to gain experience we took him out with a very experienced crew just to observe and get a feel for how things work. When we arrived on site the contractors asked for the trainees CPCS card. We explained that he did not have one as he had only just joined us, and that he would just be observing - so surely this would be acceptable? He was not even allowed on the site. How are we to train youngsters when there are so many barriers put up that make it almost impossible? These people are the desperately needed future of the industry and we need to do everything in our power to give them the hands-on training and experience needed. There are just too many contractors which just don't see it that way, their tick-box mentality needs to change!"



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# 14 crane tandem lift

Construction, crane and transport company Aertssen Kranen used 14 Grove All Terrain cranes to tandem lift a 14 section length of pipeline at an industrial plant in Antwerp, Belgium. The pipeline will be used temporarily to carry sludge to the plant at the Port of Antwerp. Each crane lifted a 6.1 tonne section of the pipe positioned on its own pontoon, located adjacent to the quay. Eight supervisors monitored the lift to ensure the project went smoothly. The cranes included seven 30 tonne GMK3055s, three 80 tonne GMK4080s, two 100 tonne GMK5095s and two 130 tonne GMK5130-2s.

"We have previously organised multi-lift operations with up to 11 cranes that involved pipelines up to 250 metres, but lifting a 14 section pipe with joints was new to us," said Yves Smets of Aertessen Kranen. "Nevertheless, the preparatory work of our engineering team and the professionalism of the crane operators made it a success story. We are glad to have taken part in this project and are always looking forward to new record-breaking challenges."



Each crane lifted a 6.1 tonne section of pipe.



# **Demag** duo take on TBM



German crane rental and heavy haulage company MSG Krandienst used two of its cranes - a 500 tonne Demag AC 500-8 and a 700 tonne AC 700-9 - to lift a 200 tonne drive system for a Herrenknecht tunnel boring machine from a 12 axle trailer.

In perfect weather conditions MSG's four-man team needed only two hours to set-up each crane for the tandem lift. The nine axle AC 700 used 25.5 metres of main boom, 100 tonnes of counterweight with the X-type outriggers extended to 12 metres. It was set

up in-line behind the eight axle AC 500 with 24 metres of main boom and 140 tonnes of counterweight and a 9.6 metre outrigger spread.

Working together the two cranes lifted the load off the trailer to a height of three metres before slewing through almost 180 degrees with the load over-sailing the crane chassis and passing between the cranes before being lowered onto the ship at a radius of 14 metres.

MSG runs a fleet of cranes from 200 to 750 tonnes from facilities in Kehl, Kappel-Grafenhausen, and Teningen-Freiburg, with a branch office in Alsace, France, operating primarily in the area between Karlsruhe and Weil am Rhein in Germany.



# Challenging indoor tandem lift

Levage Manutention of Strasbourg, France used a 50 tonne Grove GMK3050-1 and a 250 tonne GMK5250L for a tricky internal lift at a local industrial plant. Both cranes were configured with fully retracted booms working at a low angle due to the low headroom in the building.

The cranes' anti-two-block systems were bypassed in order to reduce the height below the boom nose, hoist speeds were limited and an additional supervisor employed to monitor the distance between the boom nose and hook blocks. The load - a 50 tonne zinc tray - was then moved into place mostly with the boom telescope function.



Gaudi tower crane relocation

**Construction of Barcelona's famous** cathedral Basílica i Temple Expiatori de la Sagrada Família - by Catalan architect Antoni Gaudí - began in 1882 with current plans to finish the structure in 2026 to mark the 100th anniversary of Gaudi's death. At that point it will be 172.5 metres high topping the Ulm Minster in Germany currently the tallest church in the world - by

Spanish crane rental company Grúas Rigar was called in last November to relocate one of three

11 metres.

tower cranes working on the iconic building. Rigar needed one of its largest telescopic cranes - a 500 tonne Liebherr LTM 1500-8.1 with 84 metre main boom and 70 metre luffing jib - to reach and remove the tower crane. There were also several challenging logistical issues, such as the minimal space available to position and set-up the eight-axle All Terrain in Y-Guy superlift configuration with maximum 165 tonnes of ballast. However once erected the crane was able to fully dismantle the tower crane and then reassemble it in a new location on the building.

Grúas Rigar is based in Valencia and operates 40 cranes from seven locations along the Mediterranean coast. The LTM 1500-8.1 has been the most successful big AT of all time. Launched at Bauma 1998, the 500th unit rolled off the production line in 2015.





# Italian Design



Stock code: 603338.sh



# **JCB** unveils access



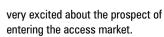
The biggest news so far this year is the entry of JCB into the powered access market. The worldwide launch of its aerial lift plans at the beginning of this month came as no surprise, given that an increasing number of people in the industry were aware of it in general terms. What we all lacked was confirmation of specific facts. So at the start of the month the company unveiled a nine model range of electric scissor lifts which will soon be followed by a line of articulated and telescopic booms to create a range of 27 lifts in all.

During the latter months of the two year product development programme, rumour of the impending launch grew, particularly as word of high profile access industry characters such as ex-Genie vice president Phil Graysmark - now JCB Access sales director - started seeping

Given the scale of the new division and operation, JCB did very well to keep the lid on the launch details, considering its dealers were told about the products in November and almost 1,000 signed nondisclosure agreements. The press



launch preceded the customer event by a day and included a product introduction from JCB Access managing director Richard Butler - a 28 year JCB veteran - and Lord Anthony Bamford who appeared



"We are continually developing products - in many cases leading products - and this is the life blood for the future of the company," he said. "This year alone we will launch 58 new products into the construction and agricultural markets, last year it was 54. Compare this to a car manufacturer which may have five or six model ranges. We have 18 totally new products this year and 300 basic product ranges with most designed in the UK and in India."

"We have no problem recruiting engineers mainly because we have exciting products. We also educate engineers with 690 pupils at the JCB Academy between the ages of 14 to 18 who can then either join us or our Core Challenge Partners including Rolls Royce aero engines, Toyota, Rexroth or go on to university. People are trained to be practical, to ask questions and to find a solution."

"Much of what we see in engineering has been done before. This access product has been done before but you will find lots of little features which are intelligent

solutions - that is what I am looking for. Success depends on customers buying our products and our bigger rental customers have been telling us that they would like us to be in the access market - we will have products and the service and parts backup so we can compete very well with the established manufacturers such as JLG and Genie. Parts and service is an area in which we excel."

Lord Bamford at the worldwide launch

Chief executive Graeme Macdonald added: "We are suppliers to the two biggest rental companies in the world - United Rentals and Ashtead (owner of Sunbelt Rentals





#### electric scissor lifts





in the US and A-Plant in the UK) so we see a nice access business growing very quickly. The dealers are all very enthusiastic but in this sector the vast majority of the market is rental which is a direct sale. Our differentiation is service back-up with more than 20 parts warehouses all over the world."

"We have customer events over

the next few days, with a North American event to be held just before the ARA at the end of the month. At Conexpo we will have an articulated boom on show as well as the scissors. It will be interesting to gauge reaction of customers and competitors. The product is being manufactured in China - like many competitors - because of the factors of capacity, supply, capability and cost. The scissor lift sector is a very price sensitive market with rental companies buying thousands each year. One customer told me last week he will be buying 15,000 scissors in the next five years. Exciting times!"

#### Advantages of being late

Entering late into any sector can have its advantages, such as sizing up competitor products with the aim of benefiting from their learning curves and using customer feedback to see what needs improving. The main reason JCB cites as to why it has entered this market after avoiding it in the past, was that its customers said that they wanted a credible alternative product with good product support. JCB may not know the access market but it



does have strong relationships with rental companies, along with 770 dealers worldwide operating from 2,200 locations to provide back for its products.

JCB chief innovation and growth officer Tim Burnhope said: "The access market is a truly global market and offers immense opportunities for growth for JCB. It's a market that is ripe for a new supplier with the ability to offer industry leading, round-the-clock product support."

#### **Product range**

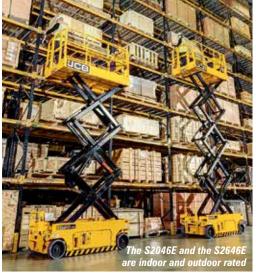
The initial product line - which JCB says it has designed itself comprises nine slab electric scissor



lifts in three families with platform heights ranging from 15 to 45ft - or 6.5 to 15.5 metres working height if you prefer metric. The new range comprises the 15ft S1530E and 19ft S1930E 'elevator scissors', the 20ft S2032E and S2046E, 26ft S2632E and S2646E, 32ft S3246E, 40ft S4046E and finally the 45ft S4550E. The S2046E and S2646E are rated for outdoor use, with the rest are indoor only and all have a 900mm









roll-out deck extension as standard.

The JCB access range uses classic American nomenclature and specifications, the S1530E and S1930E have an overall width of 30 inches/762mm with an overall length of 1.78 metres, stowed height with folded quardrails of 1.84 and 1.86 metres, and platform capacities of 280 and 230kg respectively.

The 20 and 26ft models are available in 32 inch/810mm narrow versions, or with the wider 46 inch/1.15 metre overall width, with capacities ranging from 250 to 550kg. The higher S3246E and S4046E are currently only available with the 46 inch/1.15 metre width, and both offer a 320kg platform capacity. All six models have an overall length of

The new product line is topped by the more unusual 45ft S4550E with it is 55inch/1.25 metre overall width and an overall length of 2.76 metres. Platform capacity is 227kg and total weight 3,366kg.

The new scissors are typical of the type, with traditional hydraulic front wheel drive and steer, 25 percent gradeability (30 percent on the S1530E), swing-out battery and component trays, power to the platform and a hinged gate. Other features include six harness points, electrophoretic paint and

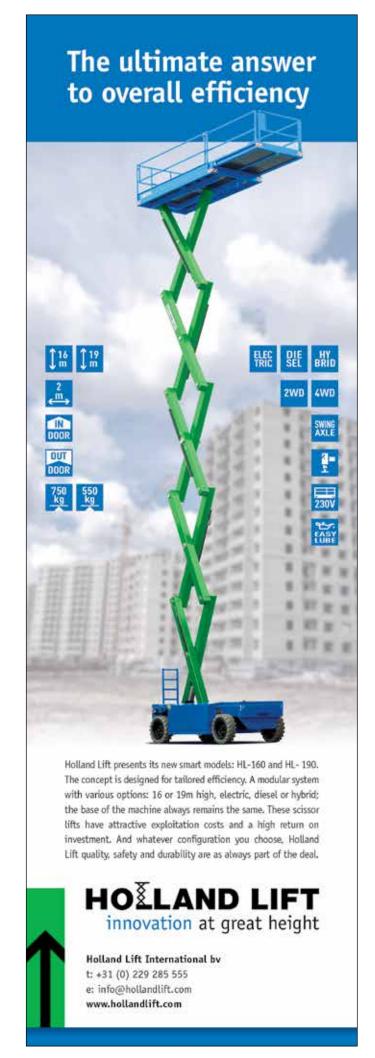


encapsulated scissor pivot pins. JCB's LiveLink telematic system will be optional on the scissors but standard on all boom lifts.

The company says that it has set up a dedicated production line at an existing aerial lift factory in China, which is run by its own dedicated management team, and that it owns the intellectual property rights - as you would expect if it designed the machines itself. It also says that it is in the process of entering into a deeper partnership with the manufacturer of the new range but is remaining exceptionally tight lipped over its identity. Certainly the serial number/CE plate does not reveal either the manufacturer or even the country where it is made. JCB will show the new scissor lift range along with an articulated boom lift at Conexpo next month, adding further models by the end of the year. These will include three diesel scissor lifts, one electric articulated boom lift - the 45ft AJ45E - four Rough Terrain diesel articulated boom lifts and 10 telescopic booms ranging from 67 to 136ft - 27 models in all. Boom capacities will be 227kg and 250kg. Dealers have already undergone sales and service training to provide back-up for the product range, which will initially be marketed in the UK, France, Germany and North America, with deliveries beginning at the end of March. All machines have been CE certified by TÜV and comply with the latest ANSI and CSA standards.

#### So how do they stack up?

The new models use a traditional design that has changed little in more than 20 years. JCB has chosen to keep it simple, rather than risk innovations such as the direct electric drive that is becoming



#### electric scissor lifts



increasingly popular in western markets. It is a formula that has worked well for companies like Skyjack, and JCB clearly hopes to match the Canadian manufacturer for cost-effectiveness and being easy to deal with.

The JCB name has a strong reputation in some market sectors but it is an unknown quantity when it comes to aerial lifts. It will not be the first western manufacturer to build platforms in China, although few if any use China as a global source. With a new more protectionist regime in the White House it will be interesting to see how this pans out in North America. The models that the company has launched or announced, account for the majority of the market. Having a reliable traditional product with good service back-up has the potential to succeed, while its good working relations with some major rental companies is also a major advantage. Whether those customers are ready to place more eggs in the JCB basket, and switch away from suppliers and products

that they know well and understand is another thing and certainly not a 'given'. One has to assume that JCB already has some substantial commitments from a few big customers to have pressed ahead with the launch. If so the ongoing success will depend on how well the new products perform in the field and just how well its dealers adapt to the peculiarities of the access market.

JCB is not a company to be underestimated and it certainly knows how to enter a market late and make a go of it. It has its eyes on grabbing a slice of the growing access market from others, but it is also quite possible that the addition of another major manufacturer to the sector could boost powered access market penetration. Interesting times ahead.

## How do JCB's two largest scissor lift models stack up?

The most interesting model in JCB's nine model scissor range is its largest - the 45ft platform height S4550E. This is a relatively new sector for high volume electric

The JCB S4046 v the competition

Make Model	Haulotte Compact 14	lmer IT12122	JCB S4046	Genie	Skyjack SJIII 4740
Work Height	13.85m	13.9m	13.9M	13.89m	13.8m
Capacity	350kg	350kg	320kg	249kg	350kg
Width	1.2m	1.22m	1.15m	1.19m	1.19m
Length	2.49m	2.47m	2.39m	2.44m	2.40m
Stowed Height*	2.08m	2.11m	1.98m	1.88m	2.21m
Weight	3,175kg	3,085kg	2,996kg	3,260kg	2,985kg
Battery	340Ah	300Ah	300Ah	300AH	300Ah
Deck ext	920mm	1.4m	900mm	910mm	900mm
Raise/lower	61/50 sec	75/60sec	75/60sec	71/41sec	71/41 sec
Gradeability	23%	25%	25%	25%	25%
Travel speed	2.7kph	4kph	3.2kph	3.1kph	3.2kph

<sup>\*</sup> Guardrails folded

scissors with very few companies offering lifts capable of almost 16 metres working height. MEC recently launched its 15.7 metre 4555SE and surprisingly Dingli has two platforms of similar height but in two different widths - 1.25 and 1.4 metres.

The main scissor players in the market - Genie, JLG and Skyjack and Haulotte - only have products with 14 metres working height. Haulotte has its new Compact 14 - a 14 metre working height, 350kg capacity scissor.

On paper the JCB acquits itself very well against the other 14 and 16 metre machines as the charts clearly demonstrate. However in this category of machines the specification only needs to be in the general ball park - after all if performance is the key then the heavy-duty Holland lift knocks all of the competition into a cocked hat, but check its weight and the price! Distribution, reputation, price, availability, and of course finance are all more important. As is being easy to deal with of course. Watch this space.

#### The nine model JCB scissor range

	S1530E	S1930E	S2032E	S2046E	S2632E	S2646E	S3246E	S4046E	S4550E
Working ht	6.6m	7.8m	8.3m	8.3m	10.1m	10.1m	12.0m	13.9m	15.8m
Platform cap	280kg	230kg	380kg	550kg	250kg	450kg	320kg	320kg	227kg
Overall length	1.78m	1.78m	2.39m	2.39m	2.39m	2.39m	2.39m	2.39m	2.76m
Overall width	760mm	760mm	810mm	1.15m	810mm	1.15m	1.15m	1.15m	1.25m
Stowed height	1.84m	1.86m	1.83m	1.83m	1.96m	1.96m	1.86m	1.98m	2.20m
Weight	1330kg	1526kg	1834kg	2134kg	1972kg	2528kg	2646kg	2996kg	3366kg
Deck extension	900mm	900mm	900mm	900mm	900mm	900mm	900mm	900mm	900mm
Indoor/outdoor	Indoor	Indoor	Indoor	Outdoor	Indoor	Outdoor	Indoor	Indoor	Indoor
Gradeability	30%	25%	25%	25%	25%	25%	25%	25%	25%
Max speed	4kph	4kph	3.2kph	3.2kph	3.2kph	3.2kph	3.2kph	3.2kph	3.2kph

#### The JCB S4550E vs MEC 4555SE vs Dingli JCPT 1614/1612 HD vs Holland Lift HI 160 F12

1614/1612 HD vs Holland Lift HL160 E12							
Make Model	JCB S4550E	MEC 4555SE	Dingli JCPT 1612HD	Holland Lift HL160 E12			
Work height	15.79m	15.72m	15.7m	16.0			
Capacity	227kg	227kg	200kg	750kg			
Width	1.25m	1.4m	1.25m	1.20m			
Length	2.76m	2.8m	2.84m	3.74m			
Height o/a	2.6m	2.6m	2.59m	3.1m			
Height stowed	2.2m	2.0m	2.05m	2.43m			
Weight	3,366kg	3,260kg	3,130kg	7,550kg			
Battery	300 Ah	300Ah	300Ah	420Ah			
Deck ext	900mm	900mm	900mm	1,500mm			
Raise/lower	80/63 sec	88/60 sec	88/60 sec	70/74 sec			
Gradeability	25 %	25 %	25%	25%			
Travel speed	3.2kph	4 kph	3.5 kph	2kph			





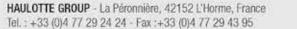






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# Sino-Italia sympatice

One of the more significant new product launches at Bauma China in November was the global unveiling of eight new European designed boom lifts by leading Chinese manufacturer Dingli.



manufacturers
mount the
engine in-line
and then have to
place them on
swing-out trays
for maintenance
access. Magni
has mounted
the engines
in his booms

transversely which allows access all around without the need for a swing out tray. Being in the chassis they are also much easier to reach, even when the machine is on a truck.

The result is a range of products that are generally more compact, lighter in weight with strong performance characteristics, easy access for service and maintenance and a very low centre of gravity. The new machines which range from a 45ft articulated boom to the 86ft straight boom stand out from the crowd due to their ultra slim superstructures and low slung 'moulded' counterweights. This gives them a visual appearance of having a lot of tail swing - not a desirable characteristic - when in fact it is no greater than most other products and better than some. The booms are all tested

operation on slopes up to five degrees - this compares to the more usual 'firm level ground' on most existing boom lifts. The most remarkable aspect of the launch though is not product related but the speed with which they were conceived, designed and high quality prototypes built and

and approved for



The new Dingli Italian booms

use telehandler drive axles

shipped to China in time for the show.

Even more significant than this is the remarkable relationship and working partnership that has developed between Dingli founder and major shareholder Xu Sughen and Magni founder and owner Riccardo Magni even more surprising given the fact Xu does not speak English or Italian and Magni speaks no Chinese. In spite of this the two men have developed a profound relationship of trust and respect that is particularly rare between two such diverse cultures and have no shared language. The remarkable relationship resulted in Dingli purchasing a 20 percent stake in Magni last year after only the briefest of discussions and negotiations.

Speaking to Cranes & Access in Shanghai, the two discussed how they only met for the first time at the CTT show in Moscow in June 2015. When asked about how they managed to 'hit it off' so quickly, Xu says that having known of him from his Manitou days and having seen the Magni products at the



Dingli booms

show, he sought Ricardo Magni out, and that his face and body language clearly indicated that this was a man he could both trust and do business with - a kindred spirit if you like. Magni says that he had pretty much the same feeling, to the point that discussions about mutual distribution soon leap-frogged to an even closer and deeper working relationship.

Xu was more than willing to put his money where his gut instincts were, while Magni was equally willing to give up 20 percent of his business to a company he did not know, from a region where he had limited experience and which is renowned for being devious when it comes to business dealings.

Magni said: "I have worked with several manufacturers in my life and negotiated with some of the biggest such as JCB and Manitou. No one was ever willing to give me the level of funds that this man did purely on trust and belief in what I could do. He had complete faith in what I proposed. We found that we have a connection, with similar sized business similar ideas and

Significant in that the Italian designer Ricardo Magni was given a free hand in both the machine concept and the specifications. The renowned telehandler engineer kicked off the project just 10 months earlier and started by looking at how boom lifts are actually used from a variety of aspects including

transportation and maintenance.

He then began questioning every aspect of traditional boom lift designs. With no aerial lift baggage in his closet he wondered why most boom lifts have all their running gear in the superstructure rather than the chassis, and why hydraulic wheel motors and planetary reduction hubs are employed when rugged off-road axles are 'relatively inexpensive, durable and well proven'. He also could not understand why



# Dingli booms All models include four wheel drive and steel

aspirations - there was a spark and even our families get on extremely

The Dingli Italian machines will be built in China, and initially marketed and sold in more developed markets, while the current Dingli boom lift models will largely be sold in China and developing markets. Some of this is due to the sophistication and cost of the componentry that Magni has selected for his machines, sparing no expense to get the best components, from the fine grade steels to the variable displacement pumps and motors. There is some trade off benefits in that the use of a large single drive motor, coupled to a splitter box and Dana off road axles compares favourably with four large wheel motors and planetary

reduction hubs. This drivetrain. along with the latest load sensing technology also allows a smaller engine to be used, providing substantial cost savings and fuel efficiencies. All the new booms use the same running gear apart from the axles, with the larger machines requiring heavier axles.

Xu has sufficient faith in the partnership that he is currently working on a brand new 160,000 square metre state of the art boom lift production facility located on a 241,000 square metre plot. The total cost will be in the region of \$150 million and it will take two years to complete. If they have both got it right, this is a relationship that is likely to have a significant impact in the years ahead.









#### PB aviation specials

German aviation solutions company Hydro Systems has taken delivery of two custom designed and built slab electric scissor lifts from aerial lift manufacturer PB Lifttechnik for work with an aircraft manufacturer in Japan.

The 21ft platform height, 1.2 metre wide PB S65-12ESPs are based on PB's standard TOP 12 series but have been heavily modified for specific repair and maintenance work in the spaces between the fuselage, engines and wings. Modifications include a side traversing platform which is specially developed for aircraft maintenance. The 1.2 metre wide platform matches overall machine width, and offers up to 800mm of lateral outreach. Once in position specially designed guardrails

- which include an additional folding top rail open along the extending side allowing open access to the aircraft fuselage.

The scissor lifts feature a host of additional safety and convenience features, including a pneumaticelectric Barger pressure wave system and pressure sensitive strips and soft rubber bumpers/gap fillers. The chassis is also equipped with numerous sensors to ensure that no part of the machine ever comes into contact with the aircraft. Finally the two machines were painted in special aviation grade bright yellow paint.







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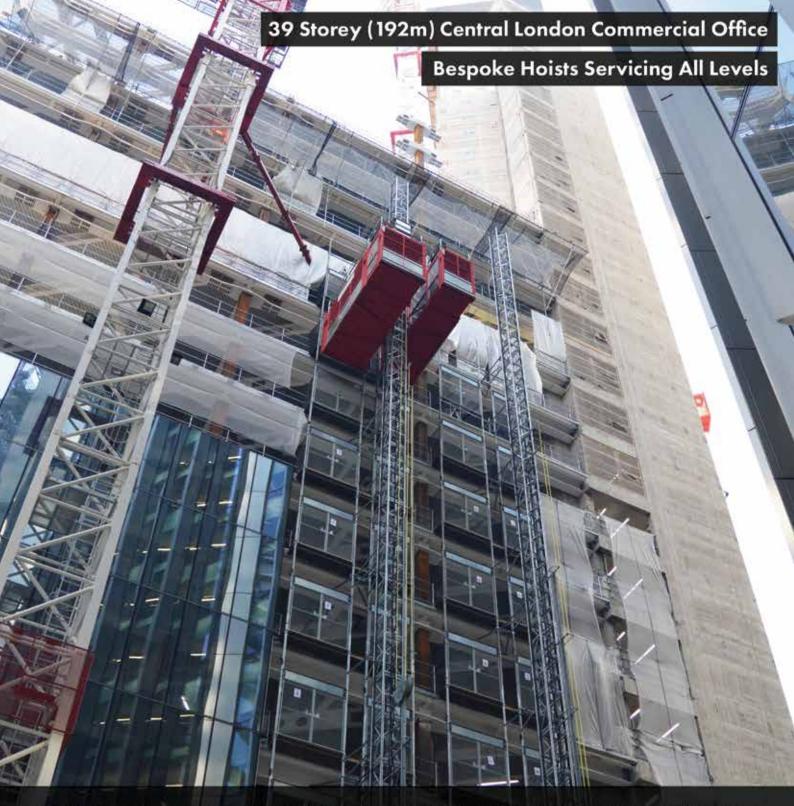
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## Slowly but surely...

It would seem the benefits and cost savings of the mastclimber are still lost on many contractors but the message may just be starting to hit home - at least in certain markets. Traditional access equipment such as façade scaffolding or swingstage suspended platforms are still widely used even when a mastclimber could transform productivity, convenience and safety. This lack of take-up is surely related to awareness or product availability? But this is starting to change.

For many contractors traditional tube and fitting or system scaffolding has been the solution for most external access problems, particularly facade work, even with its inherent drawbacks and costs. And as we know from many other niche equipment trying to break into a sector, contractors and the construction industry are slow to change - even when many advantages are to be had.

There are however an increasing number of countries that have seen the mastclimber light including parts of Europe - such as the Netherlands, Scandinavia and perhaps surprisingly Eastern Europe - as well as North America and Australasia have substantial mastclimber 'fleets' and the knowledge and commitment to make the most of them.

In Europe's largest powered access market, the UK, the mastclimber



sector is continuing to grow, in spite of the fact that there are only a handful of suppliers. Companies such as London-based Brogan Group - one of only a few in the country offering an allencompassing specialist access solution - is becoming one of the major players with its mastclimber and hoist division recording its highest revenues ever last year. (See page 40)

However, the decision on whether to use façade scaffold, hoists or mastclimbers is never an easy or straightforward one and often ends up as a combination of two or three depending on the length and height of the building, contract time and schedule of work. And as the demolition of a concrete tower in Sydney, Australia on page 42 demonstrates, mastclimbers can be adapted to go around all manner of corners as well as curved or circular structures, making them highly adaptable to a multitude of uses.

#### When to use a mastclimber?

Perhaps the main problem in deciding when to use a mastclimber rather than traditional scaffolding is that there are no absolute rules. Some companies say that mastclimbers should be used on contracts above 20 metres high. while others claim that tube and fitting cost is effective up to 45 metres high. Planning and costing the many different access methods means more pre-contract work which many cannot be bothered with - not for the access equipment! Obviously the higher the project the more the advantage swings towards mastclimbers.





#### "Above 20 metres or under 20 weeks is ideal territory for mastclimbers'

Construction time may also be crucial. If the contract is more than 20 weeks then traditional scaffolding will begin to have a cost advantage - depending on the type of construction and the scheduling of the work. Higher scaffolds always need a hoist and operator to move people and materials to the various levels and this also needs to be factored into the costings, as well as a method of distributing the materials once delivered to the correct floor.

The aesthetics of the building can also be critical, particularly during



the refurbishment of residential tower blocks or historic landmarks. It may be far more preferable to use the more discrete mastclimber than looking at a scaffold-clad building for weeks or months. When not in use the mastclimber platform is often parked out of sight at its lowest position and the slim masts are often difficult to see against the building's elevations.

As well as the usual features of always being at the correct level for the various trades, it should be remembered that mastclimbers also have a reduced number of anchor points so need much less repair work to the façade when the masts are removed. Where space on the ground around the building is limited, the mastclimber can also



#### mastclimbers

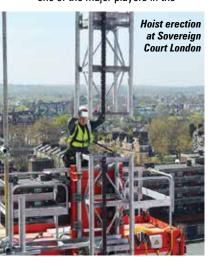
be positioned higher up the face of the building using a cantilevered gallows bracket. And finally leaving the mastclimber in the lower position overnight provides more security than if the building was cloaked in scaffold.

#### Market challenges

For all the positives, there are of course some negatives. The mastclimber is not your usual item of rental equipment in that the work has to be planned, and the installation needs an approved design and be supplied, erected and dismantled by trained operatives. With depressed rental rates - in many cases due to the plethora of cut price scaffolders - many mastclimber rental companies suffer from insufficient funds to reinvest in enough new equipment, skilled people and training. Like the construction industry in general it needs the infusion of young blood but it is difficult to recruit the best when less demanding careers are readily available.

#### Brogan on the up and up

London-based Brogan has become one of the major players in the



Street entrance. Skanska Construction with a total of five passenger and goods hoists. This includes two, twin hoists servicing 40 landings and standing at 160 metres in height, as well as an additional single hoist. The machinery maximises efficiency for





During 2016 the company provided combined access solutions on a number of prestigious and high profile projects in the capital such as Battersea Power Station (Phase 1) and The Southbank Centre. It recently started work on The Scalpel, a very distinctive £198 million commercial tower block project located on Lime Street in the City of London. This project joins Brogan's growing list of iconic City structures that it has worked on, having previously provided access for the recently completed Walkie Talkie building at 20 Fenchurch Street. When completed the 37 storey Scalpel office tower will stand 192.1 metres high with retail shops at street-level, a basement restaurant on the Leadenhall Street frontage and a café at the Lime

Brogan is supplying main contractor











Varoius Brogan projects in London.

the scope of works and because of the substantial 2,800kg payload needed, was purchased specifically for the project. The twin hoists are some of the largest passenger and goods hoists in the City and can cope with the fit-out on all floors.

The two hoists vary in capacity and have different sized cages. One of the twin hoists measures 5.3 metres long by 1.5 metres wide for one cage and 5.3 metres long by two metres wide on the other. Its maximum lift capacity is 2.4 tonnes. The other twin hoist has smaller cages measuring 4.6 by two metres and 4.6 metres by 1.5 metres, but has a higher 2,800kg maximum lifting capacity. This variation in size and capacity offers versatility and increased efficiency. In addition, both twins travel at a maximum speed of 70 metres a minute, a key feature on a tower of this height. Each hoist has also been fitted with a specialist call system which provides details of wind speed and also alerts drivers which floors need servicing. Hoist operators are also able to communicate with each other which improves efficiency by reducing the number of journeys.

Ian Perry the Skanska project director for the site said: "We are really pleased with Brogan's

performance so far as well as the great, new equipment and good service delivery. Successful hoisting is key to any project, but particularly for a high rise construction like this."

#### The Colossus

The purchase of the large hoists was part of a £2.4 million investment by Brogan in its hoist and mastclimber division last year. Its combined mastclimber and hoist fleet now numbers more than 375 machines, all of which are less than 10 years old. The investment also included the addition of the UK's only mammoth hoist, aptly named by the company as 'Colossus'. The purchase followed the company's regular prospecting trip to Bauma last April.

'Colossus' is a twin mast hoist with a 4,000kg capacity and an internal car measuring three by five metres. Capable of lifting to a height of 350 metres, the unit can accommodate buildings over 100 storeys high and will be used to transport both passengers (up to 45 at one time) and materials on large scale construction projects.

"Our clients are building bigger and better so the size and speed of hoists matters more now than ever," says group managing director James Brogan, "They are looking





to achieve results efficiently and effectively by procuring a reliable service and cutting-edge equipment is a number one priority. This acquisition shows our commitment and desire to be the leading hoists supplier in the UK."

#### Seeing the light

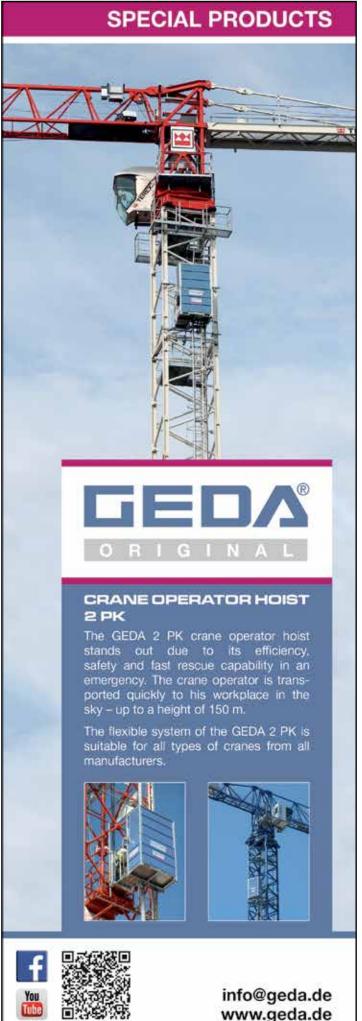
In addition to existing clients, the company has supplied a record number of mastclimber and/or hoists to new clients over the last 12 months. The company says this is down to various factors including an increase in the popularity of mastclimbers among main contractors and specialist trades alike. Many are now seeing the clear benefits in the results on site shorter erection/dismantle times, less intrusive dimensions, improved safety and the ability to work at the absolute optimum level.

It says that high demand for hoists has also put increased pressure on rental company fleets and services, and all too often clients are supplied with unreliable and ageing machines. There is also greater demand for larger hoists with only a few companies re-investing and purchasing units in this sector.

affolding and mastclimbers - for the Grade II listed landmark 16 storey building Great Arthur House in the Barbican, London constructed in 1956 Skills shortage a major issue With the increased workload, Brogan has to address a common issue in the construction industry - the shortage of skilled staff to support the influx of new clients and projects. The company - which has an IPAF accredited training centre has successfully recruited a number of installation and service engineers which goes hand in hand with its investment in new machines. Lack of skilled labour is now another of the barriers to entry into the mastclimber and hoist sector.

"With fairly limited competition an outsider would think that this is the reason we are well placed to take advantage of the demand for mastclimbers and hoists," says Brogan. "But what few realise is that with the increased demand you need a strong team of support staff, enough storage space for the machines, a fully equipped and efficient workshop to service and maintain returning machines, adequate transport with lifting equipment to deliver and collect from site and of course, continual investment to ensure that your fleet is modern, reliable and offers variety to your client base."

The company's strategy to meet what it sees as a growing and perhaps game-changing demand in the industry for increasingly varied, high quality machines and the skills and capacity to service them is clearly paying dividends as it continues to receive more enquiries and orders for high profile, iconic projects. The company also celebrated a total of two million man-hours/two years without a reportable accident across all of its services, including scaffolding, mastclimbers and hoists - primarily because of the emphasis placed on diligent planning, effective supervision, management and a trained and competent workforce.



#### mastclimbers

#### Csa

# Specialist formwork hoist boosts efficiency

Xavier Lombard formed specialist hoist and mastclimber company XL in 1999 simply naming it with his initials. Based in Paris, France, the company has concentrated on designing access systems to fit specific projects. Its range of systems include construction elevators and material hoists, mastclimbers and custom-made structural formwork.

The company has helped with the construction of many interesting products including providing the suspended formwork hoist used on the Manhattan Loft Gardens project in London last year and the XMH circular work platform used in the top-down demolition of the Barangaroo harbour control tower in Sydney, Australia (see below).

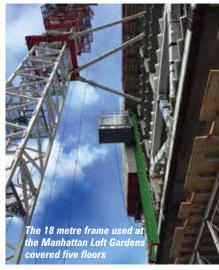
The 42 storey Manhattan Loft Gardens apartment block being built by contractor Bouygues UK involved using XL's formwork hoist to move formwork, men and materials around the upper floors of the building during construction. The system has a height range of up to 24 metres - or eight storeys, freeing up site craneage for other duties. As one floor is completed and work starts on the formwork for the next floor up, the formwork hoist frame is moved up one floor by tower crane. The hoist frame is hooked onto the top slab with support shoes with tie pins which engage into sleeves in the edge of the concrete slab.

The formwork hoist has three frame heights - 12, 18 or 24 metres - with a travel distance of eight, 14 and 20 metres respectively. The 18 metre frame used at the Manhattan Loft Gardens covered five floors of lift and weighed 4,700kg. The 1.7 metre wide and 2.1 metre high hoist



cage is available in three lengths three, 3.5 and four metres - with a maximum capacity of 2,800kg and speeds of 12 or 18 metres a minute. Extended platforms are available measuring 2.6 by 4.2 metres with a 3,000kg capacity and being open can be loaded and unloaded by the tower

The LL suspended system has built-in landing doors and takes less than 30 minutes to move from one floor to another. XL says that savings in construction time of up to 25 percent can be achieved and the system can be used in windy weather when the crane is not in service.



### Circular demolition platform

There are many large concrete towers in locations where they are surrounded by houses and shops etc where it is unsafe to use explosives to demolish the structure. One solution that is becoming increasingly popular is a work platform at the top of the column from which mini excavators with hydraulic breakers and crushers can systematically break up the structure working from the top downwards.

One such structure is the 87 metre high concrete Barangaroo harbour control tower which has dominated the Sydney skyline since the 1970s, but which became redundant in 2011 when vessel control services were moved to Port Botany. The tower was used to control shipping

movements in and out of Port Jackson however as technology advanced and commercial shipping in the harbour dwindled it was no longer necessary to have sightlines on the harbour 24 hours a day.

The controlled demolition is being achieved using remote controlled demolition machines fitted with



hydraulic breakers and crushers nibbling away at the concrete and then pushing it down the old elevator shaft in the centre of the tower to ground level where it is collected and taken away to be pulverised and reused. About two to three metres per day is being taken off the height of the tower and 98 percent of the demolished concrete will be recycled. XL provided an XM6 four mast ringed platform for the work deck around the top of the column. The tower is 12 metres diameter at the top and five metres diameter below. The circular mastclimber work platform is 3.5 metres wider with a 6,000kg working capacity to accommodate the two Brokk 180 demolition machines and associated men and equipment. Although the platform can climb and descend, a separate hoist has also been installed to transport people to and from the deck, preventing work disruption and as an emergency back-up.



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#### A better crane loading deck

**Samson Equipment has** launched the Hardideck loading platform for loading materials onto the upper floors of high rise towers with cranes. Designed in Australia as a crossover between a fixed and a retractable loading platform, the Hardideck aims to prevent the risk of relocating traditional type cantilever loading platforms between floor levels.

The platform is made up of two interconnecting halves, an 'inboard' section which is fitted to each floor and remains fixed





in position within the building, and an outboard/cantilever section which is relocated between floors.

> This takes away any risk associated with working on an open edge, eliminating the need for harnesses. Each section weighs less than a tonne, meaning it can be installed and shifted between floors with self-erecting or smaller city tower cranes. Also a load bearing handrail means

long materials such as formwork beams can easily be loaded out of a floor without the need for the front opening gates seen on traditional platforms, which can present additional hazards.

The Hardideck is available in two standard sizes with a safe working load of three tonnes the HD20 with a clear load area of 4.2 metres by two metres and the larger HD25 measuring 4.2 metres by 2.5 metres.



### Böcker's new mastclimber

German access and lifting equipment manufacturer Böcker has added a new mastclimber - the Maxi MC 650 - to its mastclimber and hoist product range. Available in single and twin mast configuration the dual mast Maxi MC 650 has a maximum capacity of 6.300kg and platform lengths of up to 34 metres. In single mast form it has a maximum 15 metre platform length and 3,500kg capacity. Lift height is up to 200 metres using 1.5 and/or 1.2 metres mast sections, weighing 140kg and 82kg respectively. In addition to the standard compact fixed base, Böcker also offers a trailer chassis for on-site re-positioning. Features include a distance between ties of 15 metres and a seven metres a minute lift speed.

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#### New HEK MCs

Alimak Hek has been a global leader in the manufacture and supply of mastclimbers since it merged with Dutch mast climber specialist Hek in 2001.

The latest additions to its mastclimber range were unveiled at Bauma last April and included the HEK MC 650 and HEK MC 450. Both platforms are available in a single or twin mast configuration and offer adjustable platform lengths and widths for increased versatility. The HEK MC 450 has a maximum capacity of 2,500kg for a single mast and 4,500kg in twin mast configuration and offers platform lengths from 10 to 30 metres. The HEK MC 650 has an increased capacity - 4,000kg in single and

7,500kg in twin mast. Both have a maximum lift height of 200 metres. Anchor tie distances are eight to 10 metres and speeds of eight and 9.6 metres a second are available, depending on the electricity source available. Platform components are hot-dip galvanised and both the MC 650 and MC 450 are and accessories enabling increased utilisation of existing construction and materials hoists and transport platform components.





One of the new twin mast Hek MC450 has been used for finishing work on a new hotel/office building

> in Urdarhvarf, Kopavogur, Iceland. The 20 metre long platform had a lift height of 30 metres and with a 50Hz electric supply the speed of the unit was eight metres a minute. A crew of four worked from the platform making good the concrete

surface and sealing around the windows before applying a render to the entire façade.

#### **Avanti joins Alimak**

Alimak has also recently acquired Avanti Wind Systems - a leading provider of rack and pinion and ladder-type service elevators, ladders and fall arrest equipment for wind turbine towers, with more than 30,000 units installed. Based in Denmark it operates in nine countries with six production facilities in Denmark, Spain, China, the USA and Brazil.

#### Geda hoist for India

German mastclimber and hoist manufacturer Geda has sold the first new hoist aimed at markets outside Europe. The Geda SBL 2000 was first seen at Bauma last April, with the first production unit now at work on a housing complex in Mumbai, India, providing high-quality apartments in Mumbai's Bhayandar East district.

The Samriddhi complex consists of four identical interconnected 20 storey buildings and a three storey car park, the project covers an area of 15 hectares. Construction is well underway with the SBL 2000 - supplied on a rental basis by Mumbaibased rental company ISPAT Infrastructure to India's largest contracting and engineering company Larsen & Toubro - servicing one of the four tower blocks.

A crew of four worked from the platform making good the concrete surface and sealing around the windows before applying a render to the entire façade

> Work on the complex is due to be completed at the end of 2017. Unlike other variable Geda hoists, the SBL 2000 is only available in a fixed platform size of 3.2 by 1.45 by 2.1 metres with a load capacity of 2,000kg or 23 people. It has a hoist speed of 55 metres a minute and maximum height of 250 metres. In future the SBL 2000 will be available with both single and twin cabin options.

#### Lithium powered ladder hoist

At the opposite end of the scale, Geda recently unveiled the novel BatteryLadderLIFT - a battery powered ladder hoist which uses a highcapacity 24 V/10 Ah lithium ion battery and offers lift heights from 2.5 to 10 metres. With a small load platform it can handle up to 120kg of materials at a hoist speed of 15 metres a minute. The battery powered lift eliminates the need to search for an electricity source on site and is controlled via a wireless remote controller which has a range of about 10 metres. It can also be controlled via a mobile app.

The lift's low weight means easy handling and set-up time takes just five minutes for the shorter ladder lengths. Three different load platform designs are available, depending on the specific usage and the combination of ladders and ladder connectors means lifting heights can be variably adjusted up to the maximum of 10 metres. Battery charging takes just 90 minutes. When not in use as a hoist the ladder frames can be used as a step or inclined ladder up to its maximum height.







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Conexpo looms

Following on from our initial preview in the last issue of the Cranes & Access we now have the final Conexpo round up before the year's big equipment exhibition opens in Las Vegas on Tuesday March 7th. We have more information on what to expect as well as a complete listing of exhibitors associated with cranes, aerial lifts and telehandlers - more than 300 in total - although the majority are component and ancillary equipment suppliers.

One of the most notable things about this year's event is the number of first-time European exhibitors in the lifting sector, while at the same time a number of regular aerial lift exhibitors have pulled out of the show, due to its proximity with the ARA Rental show in Orlando which is without question a better event for aerial work platforms. That said there is plenty to see at Conexpo and the organisers have made a greater effort this year to accommodate all of the crane, access and telehandler companies in the Gold Lot which makes life much easier. Cranes & Access has a stand and will be distributing the bi-lingual Vertikal Conexpo guide.

#### So what's new? **Horyong becomes ZEE crane**

If you missed it at Bauma there is another chance to see the battery powered Horvong carrydeck crane from South Korea. Branded for the North American market as the ZEE crane by Zero Emission Equipment, the company will have two models on display - the four tonne 4500 and the new eight tonne 9000. Both cranes have long booms for their type, offsetting jibs and a work platform option.



#### Link-Belt

Since our last issue Link-Belt has announced another all-new product for the show - the 70 tonne 75RT - the first of a new generation of Rough Terrain cranes. The new crane will have a five section 43.3 metre full-power boom, plus a 10.7 to 17.7 metre bi-fold swingaway extension with the option of a three-part version to provide an additional short three metre heavyduty extension. An all-new tilting cab is said to offer 20 percent more visibility and is fitted with the company's Pulse 2.0 system with 10 inch display screen, wi-fi hub and a wide range of monitoring cameras located around the crane. While the new 'V-CALC' outrigger set-up system - short for Variable

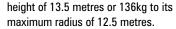


#### **Skid Crane**

If you are looking for something completely different the 2.3 tonne capacity Skid Crane might be just the ticket. It is a three section 13.5 metre full power telescopic boom, with rolling outriggers and stabilisers which attaches to the front linkage of a standard skid steer loader, using it as a cab, power source, chassis and counterweight. If the online video is to be believed it looks relatively effective for pick & carry work and manages its 2.3 tonnes capacity at 2.7 metres. It can lift 450kg to its maximum hook

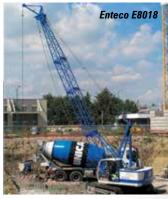






#### Enteco

Italian foundation crane company will show its new 18 tonne E8018 compact crawler crane which weighs just 18.5 tonnes, complete with a 16 metre folding lattice boom. The longest boom is 18 metres, a short auxiliary jib adds around two metres to that and has three tonnes capacity. Overall track width extends from 2.5 to three metres.



#### Maeda/Jekko

Maeda will focus its efforts on the recently launched six tonne CC1485S-1 which is now in production. Jekko will also show its new six tonne mini crawler crane, the SPK60, which has already created quite a bit of interest in the US.



Conexpo 2017



Tadano is launching its new Mantis telescopic crawlers with the 60 tonne GTC 600 and its 36 metre four section main boom, and the 80 tonne GTC 800 with its heavy duty 43 metre five section main boom. Both offer additional reach with a 17.7 metre bi-fold swingaway extension. The new cranes have plenty of new features including automatic switching to plus four degree load charts when the crane is out of level. The new product on show will be the upgraded ATF 110G-5 which offers multiple counterweight configurations, the new AML-F load moment system with on-board diagnostics and symmetrical outrigger set-up.

Tadano ATF 110G-5



#### **Palfinger**

Palfinger is pushing the boat out this year with big equipment from Europe alongside its North American-built products. The loader crane range will be topped by the PK 165.002 TEC 7 making its US debut following its launch at Bauma last

#### Conexpo 2017



year. The 125 tonne/metre crane has a maximum capacity with jib of 8.2 tonnes and a maximum lift height of 35 metres with the PJ 240 jib or 40 metres with the PJ 300L. The unit is designed for trucks of 32 tonnes or more. At the other end of the scale is the PAL Pro 39 Mechanics Truck crane.

The Palfinger Platforms display will be topped by the 103 metre WT 1000 on a five axle Faun carrier aimed at the North American wind turbine sector. Locally-built ETI Aerial Lifts will also be a key feature aimed at the telecommunications, street lighting and utility markets with heights up to 17 metres.

#### Genie

Genie is keeping quiet about some of its exhibits but we do know that one product will be the new 125ft SX125XC and we would not be surprised to see the ZX135 on the more compact X chassis. But more important is to check out some of the exciting developments the company is launching to meet the new ANSI and CSA standards, including the XC models which offer dual capacities. In most cases this will include the existing unrestricted capacity plus a higher capacity with outreach or jib restrictions and automatic management. The other is the slope warning and cut out. The company is looking to

offer some advantages to offset the imposition of a cut-out on boom lifts, such as safe slope working with restricted working envelopes. This is definitely something worth checking out.

#### Sany

Sany will have five cranes on display hopefully including at least one of its latest generation of All Terrain cranes, in particular the new 100 tonne SAC1000 shown at Bauma China.

#### Ruthmann

Ruthmann platforms can be found on two stands at the show, the first is on its distributor Time Manufacturing which focuses on the larger Ruthmann models marketed under the Versalift Speedbird brand. The unit on show is a 72 metre T2335A on a five axle truck. Sold to Blade Access it has a 600kg platform capacity with 36 metres of outreach from a five section boom and three section articulated jib.



A Ruthmann can also be found on the Reachmaster stand which is the Ruthmann/Bluelift dealer. It will focus on smaller models and will show a 33 metre model mounted on a Ford F650 with a total weight below 26,000lbs (11.8 tonnes) and can be driven with regular driver's license.

#### Elliot

Elliot Equipment will show its all-

new cab for large boom trucks/truck cranes and the new 18 ton 1881TM boom truck.





#### Time

Time Versalift - now under new ownership - will have a 56 metre Versalift PHX-180-I mounted on a five axle truck chassis with more than 30 metres of outreach, an up and over height of 36 metres and a maximum capacity of up to 907kg. The unit also has a material handling

function. Also look for an insulated model developed as a joint venture with Ruthmann, the Skybird 151.

#### Raimondi

Italian tower crane manufacturer Raimondi is making its Conexpo debut located in the Silver Lot so do pay a visit. The company is principally aiming to send a message that it is looking to expand its customer and distribution base in North America. It will also launch



its new 14 tonne LR213 luffing jib crane, available with a 55 metre jib, along with the MRT159.

#### TCA

TCA Falcon and distributor
Reachmaster will unveil for the first
time anywhere, the all-new Falcon
FS108Z Vario, (FS330Z Vario) the
first of a new line of machines
with variable track widths. The
new model uses the basic design
of the lighter undercarriage from
the FS105T (FS320C) that was
launched at Bauma, combined with
the superstructure of the FS108Z,
(FS330Z) to offer the best outreach
in its class - expected to be close
to 19 metres - along with a more
compact footprint.

#### Almac/Bibi

The global launch will be the allnew Almac Bibi BL33 EVO with an additional 2.1 metres of platform height plus dynamic levelling allowing it to maintain its level while driving. The new machine will be shown alongside the Bibi HE26





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#### Conexpo 2017



narrow machine, which features levelling jacks in addition to the normal chassis levelling capability. This will be its US debut.

#### .ICE

The highlight of the JCB stand will be its new scissor range, as well as a 50ft diesel AJ500D Rough Terrain articulated boom lift. The company may also have the new 4,000kg/17.5 metre



540-180 Hi-Viz telehandler and its new dual technology transmission combining the best characteristics of powershift and hydrostatic drives.

#### Liebherr

Liebherr will unveil the new four axle LTM1090-4.2. All Terrain with VarioBallast variable counterweight system, Variobase outrigger set-up system and can be configured with 10 or 12 tonne axle loadings. The first unit has been sold to Philadelphia-based Sautter Crane Rental. The company has also confirmed that it will exhibit its new 250 tonne LTM 1250-5.1 and 450 tonne LTM 1450-8.1 All Terrains alongside the units covered in the last issue of the magazine.

#### MEC

MEC is launching a new range of slab scissor lifts - built to MEC designs by Dingli - with a number of classic MEC features and material



handling attachments. The new range includes six models from a 13ft 1330SE micro scissor, with regular 19, 26 and 33ft slab scissors topped by the 40ft 4046SE and unusual 45ft 4555SE. The new models have direct electric drive standard sheet material carriers, faster drive speed and

cycle times and fewer hydraulic connections.

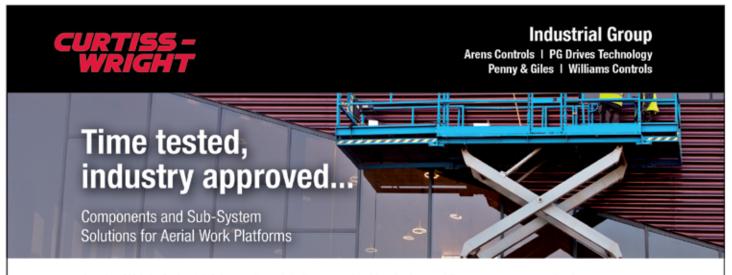
#### **Xtreme Manufacturing**

Xtreme will show a range of its heavy-duty fixed frame telehandlers with capacities from 9,000kg to the giant 32 tonne XR7038.

#### Magni

The star exhibit on the Magni stand is the world's highest reaching telehandler, the 5,000kg capacity 39 metre RTH 5.39S. The company





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is also launching its Romastor fork rotator that allows up to 2.5 tonnes to be rotated by up to 90 degrees to each side of the boom.

#### Merlo

Merlo is also focusing on its line of 360 degree telehandlers, alongside its more compact straight frame models.

#### **Klubb**

Making its Conexpo debut the French manufacturer is testing the market and looking for dealers for both North and South America. It will show a 12 metre K26 van mount on cut down Mercedes Sprinter chassis.





#### Wolffkran

Wolffkran will show its largest flat top tower crane, the 7534 Clear with a maximum capacity of 16.5 tonnes and 2.9 tonnes capacity at the maximum 75 metre jib tip.

#### **Snorkel**

Snorkel will show a wide range from its boom and scissor range, while launching the new 16ft mast-type TM16E - derived from the highly popular TM12 - with direct electric drive. Weighing in at just under a tonne it is ideally suited for moving between floors in a standard elevator.

#### Dieci

Dieci will have its 30 metre Pegasus 45.30 360 degree telehandler on display, along with a new range of four US style high boom straight frame telehandlers.

#### Manitou

The company has said little about what it will show but expect to see the US launch of its ultra-buggy type telehandler the two tonne/four metre MT 420.

#### **Dinolift**

Reachmaster will show the Dinolift RXT87 (265RXT) North America, launched two years ago it is finding favour for its low overall weight of 4,500kg. The unit on display will be equipped with a tree-care package which includes additional protection for outrigger cylinders and wide turf tyres.

#### **Bluelift**

Staying on the Reachmaster stand the Bluelift line will be represented by the 26 metre B85 Combo with lithium ion battery pack combined with a choice of gas or diesel engine. Launched in the US last year the machine has been highly successful.



Winlet

Reachmaster will unveil the new Winlet glass handlers, the 785kg capacity Winlet 1730 alongside the recently launched Winlet 2200.

Conexpo 2017

#### Skyjack telehandlers

Watch out for Skyjack's largest SJ telehandler to date - the 17.1 metre/5.4 tonne SJ1256 TH prototype launched last month. The new machine can take 2.721kg to its full height without outriggers, or 3,175kg with outriggers set.







#### JLG TAKES BOOM LIFT PERFORMANCE TO NEW HEIGHTS. AGAIN.

Wire rope replacement intervals from JLG raise the bar for machine longevity. An industry first exclusive to JLG boom lifts, this new standard extends wire rope and sheave replacement intervals to 12 years (or 7,000 machine hours).

JLG.

Learn more at www.jlg.com/en-gb/wire-rope

# So who is exhibiting?

The following is an alphabetical list of all exhibitors that produce products or services that have any relationship to lifting equipment, predominantly cranes, access and telehandlers. More detailed lists by product sector will be found in the Vertikal Conexpo Guide.

Company	Stand No/Hall
Α	
3D Lift Planner	2231 Gold
A1A	2231 Gold
Actek	91121 Bronze
ADB Hoist Rings	73422 Gold H
AEM	20401 G Lobby
Aldura & EXA	92820 Bronze
Alimak Hek	1825 Gold
Allison Transmission	84206 South
Almac	3831 Gold
Alps Wire Rope	73125 Gold H
Altec	4864 Gold
Alturnamats	20571 Central
AMS-Merlo	1026 Gold
Anderson Hydra Platforms	3129 Gold
ANMOPyC	12287 G Lobby
APEM	83145 South
Arrow Material Handling Products	5066 Silver
ASME	12596 G Lobby
Associated Wire Rope & Rigging	70613 Gold H
Atlas	4436 Gold
Auburn Gear	83542 South
Ausa	2331 Gold
Australian Crane & Machinery	4200 Gold
Autec	13380 North
Auto Crane	64207 South
Automation Studio	82744 South
Axle Tech	82633 South
В	OZOGO GOGUN
Badger	4464 Gold
Bauer	5420 Silver 2
Bauma 2019	
Bauma 2019 Bibi lift	12590 G Lobby
Bibi lift	12590 G Lobby 3831 Gold
Bibi lift Bices	12590 G Lobby 3831 Gold 12286 G Lobby
Bibi lift Bices Bigge Crane and Rigging	12590 G Lobby 3831 Gold 12286 G Lobby 72812 Gold H
Bibi lift Bices Bigge Crane and Rigging Bil-Jax	12590 G Lobby 3831 Gold 12286 G Lobby 72812 Gold H 3155 Gold
Bibi lift Bices Bigge Crane and Rigging Bil-Jax BKT	12590 G Lobby 3831 Gold 12286 G Lobby 72812 Gold H 3155 Gold 22020 Central
Bibi lift Bices Bigge Crane and Rigging Bil-Jax BKT Bluelift/Ruthmann	12590 G Lobby 3831 Gold 12286 G Lobby 72812 Gold H 3155 Gold 22020 Central 3831 Gold
Bibi lift Bices Bigge Crane and Rigging Bil-Jax BKT Bluelift/Ruthmann Bobcat	12590 G Lobby 3831 Gold 12286 G Lobby 72812 Gold H 3155 Gold 22020 Central 3831 Gold 4876 Gold
Bibi lift Bices Bigge Crane and Rigging Bil-Jax BKT Bluelift/Ruthmann Bobcat Böcker (Centry Elevators)	12590 G Lobby 3831 Gold 12286 G Lobby 72812 Gold H 3155 Gold 22020 Central 3831 Gold 4876 Gold 71202 Gold H
Bibi lift Bices Bigge Crane and Rigging Bil-Jax BKT Bluelift/Ruthmann Bobcat Böcker (Centry Elevators) Bonfiglioli Riduttori	12590 G Lobby 3831 Gold 12286 G Lobby 72812 Gold H 3155 Gold 22020 Central 3831 Gold 4876 Gold 71202 Gold H 81740 South
Bibi lift Bices Bigge Crane and Rigging Bil-Jax BKT Bluelift/Ruthmann Bobcat Böcker (Centry Elevators) Bonfiglioli Riduttori BorgWarner	12590 G Lobby 3831 Gold 12286 G Lobby 72812 Gold H 3155 Gold 22020 Central 3831 Gold 4876 Gold H 71202 Gold H 81740 South 92403 Bronze
Bibi lift Bices Bigge Crane and Rigging Bil-Jax BKT Bluelift/Ruthmann Bobcat Böcker (Centry Elevators) Bonfiglioli Riduttori BorgWarner Bosch Rexroth	12590 G Lobby 3831 Gold 12286 G Lobby 72812 Gold H 3155 Gold 22020 Central 3831 Gold 4876 Gold 71202 Gold H 81740 South 92403 Bronze 80214 South
Bibi lift Bices Bigge Crane and Rigging Bil-Jax BKT Bluelift/Ruthmann Bobcat Böcker (Centry Elevators) Bonfiglioli Riduttori BorgWarner Bosch Rexroth Braden Winch	12590 G Lobby 3831 Gold 12286 G Lobby 72812 Gold H 3155 Gold 22020 Central 3831 Gold 4876 Gold 71202 Gold H 81740 South 92403 Bronze 80214 South 83340 South
Bibi lift Bices Bigge Crane and Rigging Bil-Jax BKT Bluelift/Ruthmann Bobcat Böcker (Centry Elevators) Bonfiglioli Riduttori BorgWarner Bosch Rexroth Braden Winch Brand Hydraulics	12590 G Lobby 3831 Gold 12286 G Lobby 72812 Gold H 3155 Gold 22020 Central 3831 Gold 4876 Gold 71202 Gold H 81740 South 92403 Bronze 80214 South 83340 South 82952 South
Bibi lift Bices Bigge Crane and Rigging Bil-Jax BKT Bluelift/Ruthmann Bobcat Böcker (Centry Elevators) Bonfiglioli Riduttori BorgWarner Bosch Rexroth Braden Winch Brand Hydraulics Brevini	12590 G Lobby 3831 Gold 12286 G Lobby 72812 Gold H 3155 Gold 22020 Central 3831 Gold 4876 Gold 71202 Gold H 81740 South 92403 Bronze 80214 South 83340 South 82952 South
Bibi lift Bices Bigge Crane and Rigging Bil-Jax BKT Bluelift/Ruthmann Bobcat Böcker (Centry Elevators) Bonfiglioli Riduttori BorgWarner Bosch Rexroth Braden Winch Brand Hydraulics Brevini Bridgestone	12590 G Lobby 3831 Gold 12286 G Lobby 72812 Gold H 3155 Gold 22020 Central 3831 Gold 4876 Gold 71202 Gold H 81740 South 92403 Bronze 80214 South 82952 South 82952 South 12503 North
Bibi lift Bices Bigge Crane and Rigging Bil-Jax BKT Bluelift/Ruthmann Bobcat Böcker (Centry Elevators) Bonfiglioli Riduttori BorgWarner Bosch Rexroth Braden Winch Brand Hydraulics Brevini Bridgestone Bridon-Bekaert	12590 G Lobby 3831 Gold 12286 G Lobby 72812 Gold H 3155 Gold 22020 Central 3831 Gold 4876 Gold H 81740 South 92403 Bronze 80214 South 83340 South 82952 South 82952 South 12503 North 72513 Gold H
Bibi lift Bices Bigge Crane and Rigging Bil-Jax BKT Bluelift/Ruthmann Bobcat Böcker (Centry Elevators) Bonfiglioli Riduttori BorgWarner Bosch Rexroth Braden Winch Brand Hydraulics Brevini Bridgestone Bridon-Bekaert Broderson	12590 G Lobby 3831 Gold 12286 G Lobby 72812 Gold H 3155 Gold 22020 Central 3831 Gold 4876 Gold 71202 Gold H 81740 South 92403 Bronze 80214 South 83340 South 82952 South 82952 South 12503 North 72513 Gold H 4324 Gold
Bibi lift Bices Bigge Crane and Rigging Bil-Jax BKT Bluelift/Ruthmann Bobcat Böcker (Centry Elevators) Bonfiglioli Riduttori BorgWarner Bosch Rexroth Braden Winch Brand Hydraulics Brevini Bridgestone Bridon-Bekaert	12590 G Lobby 3831 Gold 12286 G Lobby 72812 Gold H 3155 Gold 22020 Central 3831 Gold 4876 Gold H 81740 South 92403 Bronze 80214 South 83340 South 82952 South 82952 South 12503 North 72513 Gold H

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Company	Stand	No/Hall
С		
Casagrande	5272	Silver
Casar	73012	Gold H
Caterpillar	4490	Gold
Centry Elevators	71202	Gold H
Changzhou Aoxuan Slew Rir	ng 82156	South
China Const. Machinery Ass		G Lobby
CICB	74207	Gold H
Cobo	92902	Bronze
Cobra	4082	Gold
Comansa	2789	Gold
Comer	81630	South
Cometto	73913	Gold H
Concentric	80806	South
Condor Time	1012	Gold
Continental	32986	Central
Cormach	1220	Gold
Cormidi	2229	Gold
Crane & Hoist Canada	73321	Gold H
Crane Hot Line	3880	Gold
Cranes & Access	73414	Gold H
Cranes Today Magazine	70925	Gold H
Cranesmart Systems	72016	Gold H
CraniMax	3348	Gold
Crosby	3881/20647 G	
CTE - Effer	1119	Gold
CTS - Jaso	1926	Gold
Cummins	84406	South
Curtiss-Wright Controls	83534	South
Custom	3827	Gold
D		
Dana	84712	South
Danfoss	80730	South
Demag	3382	Gold
Denka	3831	Gold
Deutz	85230	South
DICA	4022/20571 G	old/Cntrl
Dieci	4408	Gold
Dinamic Oil	83216	South
Dingli MEC	3931	Gold
Dino	3831	Gold
DLH Fluid Power	83634	South
Donaldson Filtration Solution		South
Doosan	4876	Gold
Dynamic Fluid Components	82813	South
Е		
Eagle Hydraulics	82942	South
Eaton	80230	South
Effer	1119	Gold
Elebia	70304	Gold H
Elliott Equipment	3757	Gold
Enerpac	1127	Gold



	Control of the latest	MANAGE STATE
Company	Stand	No/Hall
Enteco	5171	Silver
Equipment Parts Wholesale	22431	Central
F		
F&M Mafco	73320	Gold H
Faresin	4016	Gold
Fascan	3722	Gold
Fassi	3722	Gold
Faymonville	1326	Gold
Fernsteuergeräte	72721	Gold H
Force America	82542	South
Freightmonster	65413	South
Furukawa	3713/3886	Gold
G		
Galizia	3831	Gold
Gates	80206	South
Gearmatic	83340	South
Geda	2522	Gold
Gehl	4165	Gold
Genie	3382	Gold
Genie	3382	Gold
GKD Technik	22807	Central
GKS Lifting and Moving	22541	Central
Goldhofer	4416	Gold
Golight	63456	South
Goodyear	11527	North
Grove	3348	Gold
Gunnebo Johnson	3033	Gold
Н		
Harrington Hoists	72113	Gold H
Hatz Diesel	83840	South
Haulotte	3155	Gold
HAWE Hydraulik	80529	South
HBC-radiomatic	13324	North
HBS	83515	South
Helac	21053	Central
Hetronic	9205	Bronze
Hinowa (badged JLG)	3946	Gold
Hirschmann (PAT)	72715	Gold H
Historical Cons. Equip. Ass.		G Lobby
Hitachi (Link Belt)	3864	Gold
HMF (IMT)	10625	North
Hoistcam	71913	Gold H
Honda	84834	South
HookCam	1121	Gold
Horyong (ZEE)	1412	Gold
Hydraforce	80539	South
Hydro Mobile	1319	Gold
Hydrocontrol	82240	South
i I		
Ikusi	83709	South
Imperial Crane Services	2329	Gold
Instant Upright	9103	Bronze



Launching the newest addition to its growing boom lineup, the SJ85AJ Articulating Boom fills out Skyjack's offering in the core 40', 60' and 80' boom classes.

FOR MORE INFORMATION VISIT WWW.SKYJACK.COM



#### Conexpo 2017

Int. Union of Operating Engineers   10780 G Lobby   Intermat 2018   20903 G Lobby   Intermat 2018   20903 G Lobby   Interstate   4316   Gold   Gowa Mold Tooling   10625   North   PAF   4301   Gold   Farman	Company	Stand	No/Hall
Intermat 2018   10903 G   10bby   Interstate   4316   Gold   FAF   4301   Gold   FAF   73524   Gold   HII   71407   Gold   FAF   73524   Gold   HII   71407   Gold   FAF   Gold   Gold	Int. Union of Operating Engineers	10780	G Lobby
Interstate			
Iowa Mold Tooling         10625         North           IPAF         4301         Gold H           IPS         73524         Gold H           ITI         71407         Gold H           Jaso         1926         Gold J           JCB         3364         Gold J           JLG         3946         Gold J           JMG         503         Silver 2           K           Kaydon Cooper Bearings         85726         South           Kessler         85316         South           KHL         5922         Silver           Kinshofer         4547         Gold           Klubb         4322         Gold           Kohler         84053         South           Kubota         84912         South           Lampson         73223         Gold			
PAF			
Time		4301	Gold
Time		73524	Gold H
Jaso         1926         Gold           JCB         3364         Gold           JLG         3946         Gold           JMG         5037         Silver 2           K         K           Kaydon Cooper Bearings         85726         South           KHL         5922         Silver           Kinshofer         4547         Gold           Klubb         4322         Gold           Kohler         84053         South           Kran & Bühne         73414         Gold H           KTI Hydraulics         80644         South           Kubota         84912         South           Kubota         84912         South           Lampson         73223         Gold H           Layher         62152         South           LGH         2528         Gold           Lift Safety Zone         4301		71407	Gold H
JCB         3364         Gold           Jekko         3722         Gold           JLG         3946         Gold           JMG         5037         Silver 2           K         K           Kaydon Cooper Bearings         85726         South           KESsler         85316         South           KHL         5922         Silver           Kinshofer         4547         Gold           Klubb         4322         Gold           Kobelco         4155         Gold           Kohler         84053         South           Kran & Bühne         73414         Gold H           KITI Hydraulics         80644         South           Kubota         84912         South           Kuth         2528         Gold H           KIT Hydraulics         8064         South           Ligh         2528         Gold L           Lift Safety Zone         4301         Gold L	J		
Jekko   3722   Gold   JLG   3946   Gold   JMG   5037   Silver 2   K   Kaydon Cooper Bearings   85726   South Kessler   85316   South Kessler   85316   South Kessler   4547   Gold Klubb   4322   Gold Klubb   4322   Gold Kobelco   4155   Gold Kobelco   4155   Gold Kobler   84053   South Kran & Bühne   73414   Gold H KTI Hydraulics   80644   South Kubota   84912   South Layher   62152   South LGH   2528   Gold Liebherr   4637   Gold Liebherr   4637   Gold Lift & Hoist   3880   Gold Lift & Hoist   3880   Gold Lift & Hoist   3880   Gold Lift Safety Zone   4301   Gold Hill	Jaso	1926	Gold
March	JCB	3364	Gold
MG	Jekko	3722	Gold
K         Kaydon Cooper Bearings         85726         South           Kessler         85316         South           KHL         5922         Silver           Kinshofer         4547         Gold           Klubb         4322         Gold           Kobelco         4155         Gold H           Kohler         84053         South           Kran & Bühne         73414         Gold H           KIT Hydraulics         80644         South           Kubota         84912         South           Lampson         73223         Gold H           Layher         62152         South           IGH         2528         Gold           Ligher         4637         Gold           Lift & Hoist         3880         Gold           Lift Safety Zone         4301         Gold           Lift Systems         1112         Gold           Lift Systems         1112         Gold           Lift Systems         1112         Gold           Lift Systems         1112         Gold           Lift Gara Hire         2528         Gold           Lift Hoda         4210         South	JLG	3946	Gold
Kaydon Cooper Bearings         85716         South           Kessler         85316         South           KHL         5922         Silver           Kinshofer         4547         Gold           Klubb         4322         Gold           Kobelco         4155         Gold           Kohler         84053         South           Kran & Bühne         73414         Gold H           KITI Hydraulics         80644         South           Kubota         84912         South           Kubota         84912         South           Lampson         73223         Gold H           Layher         62152         South           LGH         2528         Gold           Liebherr         4637         Gold           Lift & Hoist         3880         Gold           Lift Safety Zone         4301         Gold           Lift Systems         1112         Gold           Lift Systems         1112         Gold           Lift Gear Hire         2528         Gold           Lift Gear Hire         2528         Gold           Limden Comansa         2789         Gold           Lin		5037	Silver 2
Kessler         85316         South           KHL         5922         Silver           Kinshofer         4547         Gold           Klubb         4322         Gold           Kobelco         4155         Gold           Kohler         84053         South           Kran & Bühne         73414         Gold H           KITI Hydraulics         80644         South           Kubota         84912         South           Lampson         73223         Gold H           Layler         62152         South           LGH         2528         Gold           Lieherr         4637         Gold           Liff & Hoist         3880         Gold           Liff & Hoist         3880         Gold           Liff Systems         1112         Gold           Lift Systems         1112         Gold           Lift Systems         1112			
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Klubb         4322         Gold           Kobelco         4155         Gold           Kohler         84053         South           Kran & Bühne         73414         Gold H           KTI Hydraulics         80644         South           Kubota         84912         South           L         L         L           Lampson         73223         Gold H           Layher         62152         South           LGH         2528         Gold           Liebherr         4637         Gold           Lift & Hoist         3880         Gold           Lift Systems         1112         Gold           Lift Systems         1112         Gold           Liftking         4210         Gold           Liftking         4210         Gold           Limde Hydraulics         81129         South           Linde Hydraulics         81129         South           Linde Hydraulics         81129         South           Linde Hydraulics         81129         South           Linde Hydraulics         81129         South           Maliche Hydraulics         6014         H           L	•		
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Kohler         84053         South           Kran & Bühne         73414         Gold H           KTI Hydraulics         80644         South           Kubota         84912         South           L         L         L           Lampson         73223         Gold H           Layher         62152         South           LGH         2528         Gold           Liebherr         4637         Gold           Lift & Hoist         3880         Gold           Lift Safety Zone         4301         Gold           Lift Systems         1112         Gold           Lift Ligon         82916         South           Linde Hydraulics         81129         South           Linde Comansa         2789         Gold           Little Giant Ladder         72221         Gold H           LiuGong         3322         Gold <t< td=""><td></td><td></td><td></td></t<>			
Kran & Bühne         73414         Gold H           KTI Hydraulics         80644         South           Kubota         84912         South           L         L           Lampson         73223         Gold H           Layher         62152         South           LGH         2528         Gold           Liebherr         4637         Gold           Lift & Hoist         3880         Gold           Lift Safety Zone         4301         Gold           Lift Systems         1112         Gold           Lift Systems         1112         Gold           Lifting Gear Hire         2528         Gold           Ligon         82916         South           Linde Hydraulics         81129         South           Linde Comansa         2789         Gold           Link-Belt         3864         Gold           Little Giant Ladder         72221         Gold H           LiuGong         3322         Gold           LoJack         64507         South           M         Maanshan FangYuan Slewing Ring         92525         Bronze           Maeda         4017         Gold	•		
KTI Hydraulics         80644         South           Kubota         84912         South           L         L           Lampson         73223         Gold H           Layher         62152         South           LGH         2528         Gold           Liebherr         4637         Gold           Lift Safety Zone         4301         Gold           Lift Indea         4210         Gold           Lift Gant         4210         Gold           Lindea         Hydraulics         81129         South           Lindea         72221         Gold         Hydraulics         Bronze           LiuGong			
Kubota         84912         South           L         L           Lampson         73223         Gold H           Layher         62152         South           LGH         2528         Gold           Liebherr         4637         Gold           Lift & Hoist         3880         Gold           Lift Safety Zone         4301         Gold           Lift Systems         1112         Gold           Lift Systems         1112         Gold           Lifting Gear Hire         2528         Gold           Liftking         4210         Gold           Ligon         82916         South           Linde Hydraulics         81129         South           Linde Hydraulics         81129         South           Linde Hydraulics         81129         South           Little Giant Ladder         72221         Gold H           Liugong         3322         Gold           Liudong         3322         Gold           Liudong         3322         Gold           Liudong         3322         Gold           Maanshan FangYuan Slewing Ring         92525         Bronze           Maeda </td <td></td> <td></td> <td></td>			
L         L           Lampson         73223         Gold H           Layher         62152         South           LGH         2528         Gold           Liebherr         4637         Gold           Lift S Hoist         3880         Gold           Lift Safety Zone         4301         Gold           Lift Systems         1112         Gold           Lifts Gear Hire         2528         Gold           Liftking         4210         Gold           Ligon         82916         South           Linde Hydraulics         81129         South           Linde Hydraulics         81129         South           Linde Comansa         2789         Gold           Lirk-Belt         3864         Gold           Little Giant Ladder         72221         Gold H           LiuGong         3322         Gold           LoJack         64507         South           Maeda         4017         Gold           Magna Tyres         2826         Gold           Magni         1018         Gold           Mait         5292         Silver 2           Manitex         4464			
Lampson         73223         Gold H           Layher         62152         South           LGH         2528         Gold           Liebherr         4637         Gold           Lift S Hoist         3880         Gold           Lift Safety Zone         4301         Gold           Lift Systems         1112         Gold           Lift Systems         1112         Gold           Lifting Gear Hire         2528         Gold           Liftking         4210         Gold           Ligon         82916         South           Linde Hydraulics         81129         South           Linde Hydraulics         81129         South           Linde Comansa         2789         Gold           Little Giant Ladder         72221         Gold H           LiuGong         3322         Gold           Load Systems International         12067         North           LoJack         64507         South           Maeda         4017         Gold           Magna Tyres         2826         Gold           Magna Tyres         2826         Gold           Manitex         4464         Gold		84912	South
Layher         62152         South           LGH         2528         Gold           Liebherr         4637         Gold           Lift & Hoist         3880         Gold           Lift Safety Zone         4301         Gold           Lift Systems         1112         Gold           Lifting Gear Hire         2528         Gold           Liftking         4210         Gold           Ligon         82916         South           Linde Hydraulics         81129         South           Linden Comansa         2789         Gold           Link-Belt         3864         Gold           Little Giant Ladder         72221         Gold H           LiuGong         3322         Gold           Load Systems International         12067         North           LoJack         64507         South           Maeda         4017         Gold           Magnar Tyres         2826         Gold           Magnar Tyres         2826         Gold           Manitex         4464         Gold           Manitex         4464         Gold           Manitou         4165         Gold		70000	0.1111
Ligh         2528         Gold           Liebherr         4637         Gold           Lift & Hoist         3880         Gold           Lift Safety Zone         4301         Gold           Lift Systems         1112         Gold           Lifting Gear Hire         2528         Gold           Liftking         4210         Gold           Ligon         82916         South           Linde Hydraulics         81129         South           Linden Comansa         2789         Gold           Link-Belt         3864         Gold           Little Giant Ladder         72221         Gold H           LiuGong         3322         Gold           Load Systems International         12067         North           LoJack         64507         South           Maeda         4017         Gold           Magna Tyres         2826         Gold           Magni         1018         Gold           Mait         5292         Silver 2           Manitex         4464         Gold           Manitou         4165         Gold           Mantis         4137         Gold           Me			
Liebherr         4637         Gold           Lift & Hoist         3880         Gold           Lift Safety Zone         4301         Gold           Lift Systems         1112         Gold           Lifting Gear Hire         2528         Gold           Liftking         4210         Gold           Ligon         82916         South           Linde Hydraulics         81129         South           Linden Comansa         2789         Gold           Link-Belt         3864         Gold           Little Giant Ladder         72221         Gold H           LiuGong         3322         Gold           Load Systems International         12067         North           LoJack         64507         South           Manashan FangYuan Slewing Ring         92525         Bronze           Maeda         4017         Gold           Magna Tyres         2826         Gold           Magni         1018         Gold           Mait         5292         Silver 2           Manitex         4464         Gold           Manitou         4165         Gold           Manitiou         4165         Gold			
Lift & Hoist         3880         Gold           Lift Safety Zone         4301         Gold           Lift Systems         1112         Gold           Lifting Gear Hire         2528         Gold           Liftking         4210         Gold           Ligon         82916         South           Linde Hydraulics         81129         South           Linden Comansa         2789         Gold           Link-Belt         3864         Gold           LiuGong         3322         Gold           Load Systems International         12067         North           LoJack         64507         South           Manashan FangYuan Slewing Ring         92525         Bronze           Maeda         4017         Gold           Magna Tyres         2826         Gold           Magni         1018         Gold           Mait         5292         Silver 2           Manitex         4464         Gold           Manitou         4165         Gold           Mantis         4137         Gold           Mantis         4137         Gold           Mel         1026         Gold			
Lift Safety Zone         4301         Gold           Lift Systems         1112         Gold           Lifting Gear Hire         2528         Gold           Liftking         4210         Gold           Ligon         82916         South           Linde Hydraulics         81129         South           Linden Comansa         2789         Gold           Link-Belt         3864         Gold           Little Giant Ladder         72221         Gold H           LiuGong         3322         Gold           Load Systems International         12067         North           LoJack         64507         South           Manashan FangYuan Slewing Ring         92525         Bronze           Maeda         4017         Gold           Magna Tyres         2826         Gold           Magni         1018         Gold           Mait         5292         Silver 2           Manitex         4464         Gold           Manitou         4165         Gold           Mantis         4137         Gold           Mantis         4137         Gold           Mec         3931         Gold      <			
Lift Systems         1112         Gold           Lifting Gear Hire         2528         Gold           Liftking         4210         Gold           Ligon         82916         South           Linde Hydraulics         81129         South           Linden Comansa         2789         Gold           Link-Belt         3864         Gold           Little Giant Ladder         72221         Gold H           LiuGong         3322         Gold           Load Systems International         12067         North           LoJack         64507         South           Manashan FangYuan Slewing Ring         92525         Bronze           Maeda         4017         Gold           Magna Tyres         2826         Gold           Magni         1018         Gold           Mait         5292         Silver 2           Manitex         4464         Gold           Manitou         4165         Gold           Mantis         4137         Gold           Manuli Hydraulics         81152         South           MEC         3931         Gold           Merlo         1026         Gold			
Lifting Gear Hire         2528         Gold           Liftking         4210         Gold           Ligon         82916         South           Linde Hydraulics         81129         South           Linden Comansa         2789         Gold           Link-Belt         3864         Gold           Little Giant Ladder         72221         Gold H           LiuGong         3322         Gold           Load Systems International         12067         North           LoJack         64507         South           Maeda         4017         Gold           Magna Tyres         2826         Gold           Magni         1018         Gold           Mait         5292         Silver 2           Manitex         4464         Gold           Manitou         4165         Gold           Mantis         4137         Gold           Manuli Hydraulics         81152         South           MEC         3931         Gold           Merlo         1026         Gold           Miller Lifting         70501         Gold H           Mitchell Crane         73421         Gold H			
Liftking         4210         Gold           Ligon         82916         South           Linde Hydraulics         81129         South           Linden Comansa         2789         Gold           Link-Belt         3864         Gold           Little Giant Ladder         72221         Gold H           LiuGong         3322         Gold           Load Systems International         12067         North           LoJack         64507         South           Mananshan FangYuan Slewing Ring         92525         Bronze           Maeda         4017         Gold           Magna Tyres         2826         Gold           Magni         1018         Gold           Manitex         4464         Gold           Manitex         4464         Gold           Manitou         4165         Gold           Manuli Hydraulics         81152         South           MEC         3931         Gold           Merlo         1026         Gold           Miller Lifting         70501         Gold H           Mitchell Crane         73421         Gold H           Morooka         2883         Gold<			
Ligon         82916         South           Linde Hydraulics         81129         South           Linden Comansa         2789         Gold           Link-Belt         3864         Gold H           Little Giant Ladder         72221         Gold H           LiuGong         3322         Gold           Load Systems International         12067         North           LoJack         64507         South           Maanshan FangYuan Slewing Ring         92525         Bronze           Maeda         4017         Gold           Magna Tyres         2826         Gold           Magni         1018         Gold           Mait         5292         Silver 2           Manitex         4464         Gold           Manitou         4165         Gold           Mantis         4137         Gold           Manuli Hydraulics         81152         South           MEC         3931         Gold           Merlo         1026         Gold           Miller Lifting         70501         Gold H           Mitchell Crane         73421         Gold H           Morooka         2883         Gold<	Lifting Gear Hire	2528	Gold
Linde Hydraulics         81129         South           Linden Comansa         2789         Gold           Link-Belt         3864         Gold           Little Giant Ladder         72221         Gold H           LiuGong         3322         Gold           Load Systems International         12067         North           LoJack         64507         South           M           Maanshan FangYuan Slewing Ring         92525         Bronze           Maeda         4017         Gold           Magna Tyres         2826         Gold           Magni         1018         Gold           Mait         5292         Silver 2           Manitex         4464         Gold           Manitou         4165         Gold           Manitowoc         3348         Gold           Manuli Hydraulics         81152         South           MEC         3931         Gold           Merlo         1026         Gold           Miller Lifting         70501         Gold H           Mitchell Crane         73421         Gold H           Morooka         2883         Gold           M	1:61::	4210	C-14
Linden Comansa         2789         Gold           Link-Belt         3864         Gold           Little Giant Ladder         72221         Gold H           LiuGong         3322         Gold           Load Systems International         12067         North           M           M           Maanshan FangYuan Slewing Ring         92525         Bronze           Maeda         4017         Gold           Magna Tyres         2826         Gold           Magni         1018         Gold           Manitex         4464         Gold           Manitou         4165         Gold           Manitowoc         3348         Gold           Manuli Hydraulics         81152         South           MEC         3931         Gold           Merlo         1026         Gold           Miller Lifting         70501         Gold H           Mitchell Crane         73421         Gold H           Moba         32977         Central           Morooka         2883         Gold           MTU         84529         South           Mustang         4165         Gold </td <td></td> <td></td> <td></td>			
Link-Belt         3864         Gold Little Giant Ladder         72221         Gold H Gold	Ligon	82916	South
Little Giant Ladder         72221         Gold H           LiuGong         3322         Gold           Load Systems International         12067         North           LoJack         64507         South           M           Manshan FangYuan Slewing Ring         92525         Bronze           Maeda         4017         Gold           Magna Tyres         2826         Gold           Magni         1018         Gold           Mait         5292         Silver 2           Manitex         4464         Gold           Manitou         4165         Gold           Manitowoc         3348         Gold           Manuli Hydraulics         81152         South           MEC         3931         Gold           Merlo         1026         Gold           Miller Lifting         70501         Gold H           Mitchell Crane         73421         Gold H           Moba         32977         Central           Morooka         2883         Gold           MTU         84529         South           MWE         20369         Central           MWE         20	Ligon Linde Hydraulics	82916 81129	South South
LiuGong         3322         Gold           Load Systems International         12067         North           LoJack         64507         South           M           Mananshan FangYuan Slewing Ring         92525         Bronze           Maeda         4017         Gold           Magna Tyres         2826         Gold           Magni         1018         Gold           Mait         5292         Silver 2           Manitex         4464         Gold           Manitou         4165         Gold           Manitowoc         3348         Gold           Manuli Hydraulics         81152         South           MEC         3931         Gold           Merlo         1026         Gold           Miller Lifting         70501         Gold H           Mitchell Crane         73421         Gold H           Moba         32977         Central           Morooka         2883         Gold           MTU         84529         South           Mustang         4165         Gold           MWE         20369         Central           MACB         73503	Linde Hydraulics Linden Comansa	82916 81129 2789	South South Gold
Load Systems International         12067         North           LoJack         64507         South           M         M           Maanshan FangYuan Slewing Ring         92525         Bronze           Maeda         4017         Gold           Magna Tyres         2826         Gold           Magni         1018         Gold           Mait         5292         Silver 2           Manitex         4464         Gold           Manitou         4165         Gold           Manitowoc         3348         Gold           Manuli Hydraulics         81152         South           MEC         3931         Gold           Merlo         1026         Gold           Miller Lifting         70501         Gold H           Mitchell Crane         73421         Gold H           Morooka         2883         Gold           MTU         84529         South           Mustang         4165         Gold           MWE         20369         Central           N         NACB         73503         Gold H           National Crane         3348         Gold	Ligon Linde Hydraulics Linden Comansa Link-Belt	82916 81129 2789 3864	South South Gold Gold
LoJack         64507         South           M         M           Maanshan FangYuan Slewing Ring         92525         Bronze           Maeda         4017         Gold           Magna Tyres         2826         Gold           Magni         1018         Gold           Mait         5292         Silver 2           Manitex         4464         Gold           Manitou         4165         Gold           Manitowoc         3348         Gold           Manuli Hydraulics         81152         South           MEC         3931         Gold           Merlo         1026         Gold           Miller Lifting         70501         Gold H           Mitchell Crane         73421         Gold H           Morooka         2883         Gold           MTU         84529         South           Mustang         4165         Gold           MWE         20369         Central           N         NACB         73503         Gold H           National Crane         3348         Gold	Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder	82916 81129 2789 3864 72221	South South Gold Gold Gold H
M           Maanshan FangYuan Slewing Ring         92525         Bronze           Maeda         4017         Gold           Magna Tyres         2826         Gold           Magni         1018         Gold           Mait         5292         Silver 2           Manitex         4464         Gold           Manitou         4165         Gold           Manitowoc         3348         Gold           Manuli Hydraulics         81152         South           MEC         3931         Gold           Merlo         1026         Gold           Miller Lifting         70501         Gold H           Mitchell Crane         73421         Gold H           Moba         32977         Central           Morooka         2883         Gold           MTU         84529         South           Mustang         4165         Gold           MWE         20369         Central           N         NACB         73503         Gold H           National Crane         3348         Gold	Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong	82916 81129 2789 3864 72221 3322	South South Gold Gold Gold H Gold
Maanshan FangYuan Slewing Ring         92525         Bronze           Maeda         4017         Gold           Magna Tyres         2826         Gold           Magni         1018         Gold           Mait         5292         Silver 2           Manitex         4464         Gold           Manitou         4165         Gold           Manitowoc         3348         Gold           Manuli Hydraulics         81152         South           MEC         3931         Gold           Merlo         1026         Gold           Miller Lifting         70501         Gold H           Mitchell Crane         73421         Gold H           Morooka         2883         Gold           MTU         84529         South           MWE         20369         Central           MWE         20369         Central           NACB         73503         Gold H           National Crane         3348         Gold	Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International	82916 81129 2789 3864 72221 3322 12067	South South Gold Gold Gold H Gold North
Maeda         4017         Gold           Magna Tyres         2826         Gold           Magni         1018         Gold           Mait         5292         Silver 2           Manitex         4464         Gold           Manitou         4165         Gold           Manitowoc         3348         Gold           Mantis         4137         Gold           Manuli Hydraulics         81152         South           MEC         3931         Gold           Merlo         1026         Gold           Miller Lifting         70501         Gold H           Mitchell Crane         73421         Gold H           Moba         32977         Central           Morooka         2883         Gold           MTU         84529         South           Mustang         4165         Gold           MWE         20369         Central           N         NACB         73503         Gold H           National Crane         3348         Gold	Ligon Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International LoJack	82916 81129 2789 3864 72221 3322 12067	South South Gold Gold Gold H Gold North
Magna Tyres         2826         Gold           Magni         1018         Gold           Mait         5292         Silver 2           Manitex         4464         Gold           Manitou         4165         Gold           Manitowoc         3348         Gold           Mantis         4137         Gold           Manuli Hydraulics         81152         South           MEC         3931         Gold           Merlo         1026         Gold           Miller Lifting         70501         Gold H           Mitchell Crane         73421         Gold H           Moba         32977         Central           Morooka         2883         Gold           MTU         84529         South           Mustang         4165         Gold           MWE         20369         Central           N         NACB         73503         Gold H           National Crane         3348         Gold	Ligon Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International LoJack M	82916 81129 2789 3864 72221 3322 12067 64507	South South Gold Gold H Gold North South
Magni         1018         Gold           Mait         5292         Silver 2           Manitex         4464         Gold           Manitou         4165         Gold           Manitowoc         3348         Gold           Mantis         4137         Gold           Manuli Hydraulics         81152         South           MEC         3931         Gold           Merlo         1026         Gold           Miller Lifting         70501         Gold H           Mitchell Crane         73421         Gold H           Moba         32977         Central           Morooka         2883         Gold           MTU         84529         South           Mustang         4165         Gold           MWE         20369         Central           N         NACB         73503         Gold H           National Crane         3348         Gold	Ligon Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International LoJack M Maanshan FangYuan Slewing Ring	82916 81129 2789 3864 72221 3322 12067 64507	South South Gold Gold H Gold North South
Mait         5292         Silver 2           Manitex         4464         Gold           Manitou         4165         Gold           Manitowoc         3348         Gold           Mantis         4137         Gold           Manuli Hydraulics         81152         South           MEC         3931         Gold           Merlo         1026         Gold           Miller Lifting         70501         Gold H           Mitchell Crane         73421         Gold H           Moba         32977         Central           Morooka         2883         Gold           MTU         84529         South           Mustang         4165         Gold           MWE         20369         Central           N         NACB         73503         Gold H           National Crane         3348         Gold	Ligon Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International LoJack M Maanshan FangYuan Slewing Ring Maeda	82916 81129 2789 3864 72221 3322 12067 64507 92525 4017	South South Gold Gold H Gold North South
Manitex         4464         Gold           Manitou         4165         Gold           Manitowoc         3348         Gold           Mantis         4137         Gold           Manuli Hydraulics         81152         South           MEC         3931         Gold           Merlo         1026         Gold           Miller Lifting         70501         Gold H           Mitchell Crane         73421         Gold H           Moba         32977         Central           Morooka         2883         Gold           MTU         84529         South           Mustang         4165         Gold           MWE         20369         Central           N         NACB         73503         Gold H           National Crane         3348         Gold	Ligon Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International LoJack M Maanshan FangYuan Slewing Ring Maeda Magna Tyres	82916 81129 2789 3864 72221 3322 12067 64507 92525 4017 2826	South South Gold Gold H Gold North South Bronze Gold Gold
Manitou         4165         Gold           Manitowoc         3348         Gold           Mantis         4137         Gold           Manuli Hydraulics         81152         South           MEC         3931         Gold           Merlo         1026         Gold           Miller Lifting         70501         Gold H           Mitchell Crane         73421         Gold H           Moba         32977         Central           Morooka         2883         Gold           MTU         84529         South           Mustang         4165         Gold           MWE         20369         Central           N         NACB         73503         Gold H           National Crane         3348         Gold	Ligon Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International LoJack M Maanshan FangYuan Slewing Ring Maeda Magna Tyres Magni	82916 81129 2789 3864 72221 3322 12067 64507 92525 4017 2826 1018	South South Gold Gold H Gold North South Bronze Gold Gold Gold
Manitowoc         3348         Gold           Mantis         4137         Gold           Manuli Hydraulics         81152         South           MEC         3931         Gold           Merlo         1026         Gold           Miller Lifting         70501         Gold H           Mitchell Crane         73421         Gold H           Moba         32977         Central           Morooka         2883         Gold           MTU         84529         South           Mustang         4165         Gold           MWE         20369         Central           N         NACB         73503         Gold H           National Crane         3348         Gold	Ligon Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International LoJack M Maanshan FangYuan Slewing Ring Maeda Magna Tyres Magni Mait	82916 81129 2789 3864 72221 3322 12067 64507 92525 4017 2826 1018 5292	South South Gold Gold H Gold North South Bronze Gold Gold Gold Silver 2
Mantis         4137         Gold           Manuli Hydraulics         81152         South           MEC         3931         Gold           Merlo         1026         Gold           Miller Lifting         70501         Gold H           Mitchell Crane         73421         Gold H           Moba         32977         Central           Morooka         2883         Gold           MTU         84529         South           Mustang         4165         Gold           MWE         20369         Central           N         NACB         73503         Gold H           National Crane         3348         Gold	Ligon Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International LoJack M Maanshan FangYuan Slewing Ring Maeda Magna Tyres Magni Mait Manitex	82916 81129 2789 3864 72221 3322 12067 64507 92525 4017 2826 1018 5292 4464	South South Gold Gold H Gold North South Bronze Gold Gold Gold Silver 2 Gold
Manuli Hydraulics         81152         South           MEC         3931         Gold           Merlo         1026         Gold           Miller Lifting         70501         Gold H           Mitchell Crane         73421         Gold H           Moba         32977         Central           Morooka         2883         Gold           MTU         84529         South           Mustang         4165         Gold           MWE         20369         Central           N         NACB         73503         Gold H           National Crane         3348         Gold	Ligon Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International LoJack M Maanshan FangYuan Slewing Ring Maeda Magna Tyres Magni Mait Manitex Manitou	82916 81129 2789 3864 72221 3322 12067 64507 92525 4017 2826 1018 5292 4464 4165	South South Gold Gold H Gold North South Bronze Gold Gold Silver 2 Gold Gold
MEC         3931         Gold           Merlo         1026         Gold           Miller Lifting         70501         Gold H           Mitchell Crane         73421         Gold H           Moba         32977         Central           Morooka         2883         Gold           MTU         84529         South           Mustang         4165         Gold           MWE         20369         Central           N         NACB         73503         Gold H           National Crane         3348         Gold	Ligon Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International LoJack M Maanshan FangYuan Slewing Ring Maeda Magna Tyres Magni Mait Manitex Manitou Manitowoc	82916 81129 2789 3864 72221 3322 12067 64507 92525 4017 2826 1018 5292 4464 4165 3348	South South Gold Gold H Gold North South Bronze Gold Gold Silver 2 Gold Gold Gold Gold Gold
Merlo         1026         Gold Miller Lifting         70501         Gold H Gold H           Mitchell Crane         73421         Gold H         Gold H           Moba         32977         Central           Morooka         2883         Gold           MTU         84529         South           Mustang         4165         Gold           MWE         20369         Central           N         N         N           NACB         73503         Gold H           National Crane         3348         Gold	Ligon Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International LoJack M Maanshan FangYuan Slewing Ring Maeda Magna Tyres Magni Mait Manitex Manitou Manitowoc Mantis	82916 81129 2789 3864 72221 3322 12067 64507 92525 4017 2826 1018 5292 4464 4165 3348 4137	South South Gold Gold H Gold North South Bronze Gold Gold Silver 2 Gold Gold Gold Gold Gold Gold
Miller Lifting         70501         Gold H           Mitchell Crane         73421         Gold H           Moba         32977         Central           Morooka         2883         Gold           MTU         84529         South           Mustang         4165         Gold           MWE         20369         Central           N         NACB         73503         Gold H           National Crane         3348         Gold	Ligon Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International LoJack M Maanshan FangYuan Slewing Ring Maeda Magna Tyres Magni Mait Manitex Manitou Manitowoc Mantis Manuli Hydraulics	82916 81129 2789 3864 72221 3322 12067 64507 92525 4017 2826 1018 5292 4464 4165 3348 4137 81152	South South Gold Gold H Gold North South Bronze Gold Gold Gold Gold Gold Gold Gold Silver 2 Gold Gold Gold Gold Gold Gold Gold
Mitchell Crane         73421         Gold H           Moba         32977         Central           Morooka         2883         Gold           MTU         84529         South           Mustang         4165         Gold           MWE         20369         Central           N         NACB         73503         Gold H           National Crane         3348         Gold	Ligon Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International LoJack M Maanshan FangYuan Slewing Ring Maeda Magna Tyres Magni Mait Manitex Manitou Manitowoc Mantis Manuli Hydraulics MEC	82916 81129 2789 3864 72221 3322 12067 64507 92525 4017 2826 1018 5292 4464 4165 3348 4137 81152 3931	South South Gold Gold H Gold North South Bronze Gold Gold Gold Gold Gold Silver 2 Gold Gold Gold South Gold Gold Gold Gold Gold Gold
Moba         32977 Central           Morooka         2883 Gold           MTU         84529 South           Mustang         4165 Gold           MWE         20369 Central           N         NACB           National Crane         3348 Gold	Ligon Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International LoJack M Maanshan FangYuan Slewing Ring Maeda Magna Tyres Magni Mait Manitex Manitou Manitowoc Mantis Manuli Hydraulics MEC Merlo	82916 81129 2789 3864 72221 3322 12067 64507 92525 4017 2826 1018 5292 4464 4165 3348 4137 81152 3931 1026	South South Gold Gold Gold H Gold North South Bronze Gold Gold Gold Gold Gold Gold Gold Gold
MTU         84529         South           Mustang         4165         Gold           MWE         20369         Central           N         N           NACB         73503         Gold H           National Crane         3348         Gold	Ligon Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International LoJack M Maanshan FangYuan Slewing Ring Maeda Magna Tyres Magni Mait Manitex Manitou Manitowoc Mantis Manuli Hydraulics MEC Merlo Miller Lifting	82916 81129 2789 3864 72221 3322 12067 64507 92525 4017 2826 1018 5292 4464 4165 3348 4137 81152 3931 1026 70501	South South Gold Gold H Gold North South Bronze Gold Gold Gold Gold Silver 2 Gold Gold Gold Gold Gold Gold Gold Gold
Mustang         4165 Gold           MWE         20369 Central           N         N           NACB         73503 Gold H           National Crane         3348 Gold	Ligon Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International LoJack M Maanshan FangYuan Slewing Ring Maeda Magna Tyres Magni Mait Manitex Manitou Manitovoc Mantis Manuli Hydraulics MEC Merlo Miller Lifting Mitchell Crane	82916 81129 2789 3864 72221 3322 12067 64507 92525 4017 2826 1018 5292 4464 4165 3348 4137 81152 3931 1026 70501 73421	South South Gold Gold H Gold North South Bronze Gold Gold Gold Gold Gold Gold Gold Gold
Mustang         4165         Gold           MWE         20369         Central           N         N           NACB         73503         Gold H           National Crane         3348         Gold	Ligon Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International LoJack  M Maanshan FangYuan Slewing Ring Maeda Magna Tyres Magni Mait Manitex Manitou Manitovoc Mantis Manuli Hydraulics MEC Merlo Miller Lifting Mitchell Crane Moba	82916 81129 2789 3864 72221 3322 12067 64507 92525 4017 2826 1018 5292 4464 4165 3348 4137 81152 3931 1026 70501 73421 32977	South South Gold Gold H Gold North South Bronze Gold Gold Gold Gold Gold Gold Gold Gold
N           NACB         73503 Gold H           National Crane         3348 Gold	Ligon Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International LoJack  M Maanshan FangYuan Slewing Ring Maeda Magna Tyres Magni Mait Manitex Manitou Manitowoc Mantis Manuli Hydraulics MEC Merlo Miller Lifting Mitchell Crane Moba Morooka	82916 81129 2789 3864 72221 3322 12067 64507 92525 4017 2826 1018 5292 4464 4165 3348 4137 81152 3931 1026 70501 73421 32977 2883	South South Gold Gold H Gold North South  Bronze Gold Gold Gold Gold Gold Gold Gold Gold
NACB         73503         Gold H           National Crane         3348         Gold	Ligon Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International LoJack M Maanshan FangYuan Slewing Ring Maeda Magna Tyres Magni Mait Manitex Manitou Manitowoc Mantis Manuli Hydraulics MEC Merlo Miller Lifting Mitchell Crane Moba Morooka MTU	82916 81129 2789 3864 72221 3322 12067 64507 92525 4017 2826 1018 5292 4464 4165 3348 4137 81152 3931 1026 70501 73421 32977 2883 84529	South South Gold Gold H Gold North South  Bronze Gold Gold Gold Gold Gold Gold Gold Gold
National Crane 3348 Gold	Ligon Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International LoJack M Maanshan FangYuan Slewing Ring Maeda Magna Tyres Magni Mait Manitex Manitou Manitowoc Mantis Manuli Hydraulics MEC Merlo Miller Lifting Mitchell Crane Moba Morooka MTU Mustang	82916 81129 2789 3864 72221 3322 12067 64507 92525 4017 2826 1018 5292 4464 4165 3348 4137 81152 3931 1026 70501 73421 32977 2883 84529 4165	South South Gold Gold H Gold North South  Bronze Gold Gold Gold Gold Gold Gold Gold Gold
	Ligon Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International LoJack  M Maanshan FangYuan Slewing Ring Maeda Magna Tyres Magni Mait Manitex Manitou Manitouoc Mantis Manuli Hydraulics MEC Merlo Miller Lifting Mitchell Crane Moba Morooka MTU Mustang MWE	82916 81129 2789 3864 72221 3322 12067 64507 92525 4017 2826 1018 5292 4464 4165 3348 4137 81152 3931 1026 70501 73421 32977 2883 84529 4165	South South Gold Gold H Gold North South  Bronze Gold Gold Gold Gold Gold Gold Gold Gold
NBB Controls 73627 Gold H	Ligon Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International LoJack  M Maanshan FangYuan Slewing Ring Maeda Magna Tyres Magni Mait Manitex Manitou Manitouoc Mantis Manuli Hydraulics MEC Merlo Miller Lifting Mitchell Crane Moba Morooka MTU Mustang MWE N NACB	82916 81129 2789 3864 72221 3322 12067 64507 92525 4017 2826 1018 5292 4464 4165 3348 4137 81152 3931 1026 70501 73421 32977 2883 84529 4165 20369	South South Gold Gold H Gold North South  Bronze Gold Gold Silver 2 Gold Gold Gold Gold Gold Gold Gold Gold
	Ligon Linde Hydraulics Linden Comansa Link-Belt Little Giant Ladder LiuGong Load Systems International LoJack  M Maanshan FangYuan Slewing Ring Maeda Magna Tyres Magni Mait Manitex Manitou Manitowoc Mantis Manuli Hydraulics MEC Merlo Miller Lifting Mitchell Crane Moba Morooka MTU Mustang MWE N NACB National Crane	82916 81129 2789 3864 72221 3322 12067 64507 92525 4017 2826 1018 5292 4464 4165 3348 4137 81152 3931 1026 70501 73421 32977 2883 84529 4165 20369	South South Gold Gold H Gold North South Gold Gold Gold Gold Gold Gold Gold Gold

NCCCO	4301/10878 Gld	J/G Lbby
Nelson	2626	Gold
Next Hydraulics	4082	Gold
Nicolas	1723	Gold
North American Hydraulics	82118	South
Nylacast	73107	Gold H
0		2014 11
OEM Controls	81406	South
Oerlikon Fairfield	81015	South
Off Highway Research	22908	Central
Oil & Steel	4464	Gold
Omni Gear	83130	South
Operating Engineers Training		Gold H
Orlaco	4222	Gold
Ormig	4308	Gold
Overton Safety Training	61017	South
P		
PACCAR	83340	South
Palfinger	4444	Gold
Parker Hannifin	80242	South
PAT	72715	Gold H
PB Liftechnik	3831	Gold
Perkins	10924	North
Pettibone	11541	North
Pfeifer	1322	Gold
<u>PM</u>	4464	Gold
Poclain Hydraulics	81640	South
Poqutec	22821	Central
Potain	3348	Gold
PowerBully/Kassbohrer AT	Vehicles 1428	Gold
Precision Components	4323	Gold
Prinoth	4023	Gold
PVE Cranes & Services	5664	Silver
0		Cilvoi
Quality Mat Co		
	1317/20343 (	
Quality Mat Co	1317/20343 (	
Quality Mat Co R Raimondi	1317/20343 (	Gold/Cntl
Quality Mat Co Raimondi Ramsey Winch	1317/20343 ( 5035 82842	Silver South
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie	1317/20343 ( 5035 82842 3878	Silver South Gold
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie Reachmaster	1317/20343 ( 5035 82842 3878 3831	Silver South Gold Gold
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft	5035 82842 3878 3831 71013	Silver South Gold Gold H
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth	5035 82842 3878 3831 71013 80214	Silver South Gold Gold H South
Quality Mat Co  Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt	5035 82842 3878 3831 71013 80214 11167	Silver South Gold Gold H South North
Quality Mat Co  Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler	5035 82842 3878 3831 71013 80214 11167 83720	Silver South Gold Gold Gold H South North Silver
Quality Mat Co  Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler RUD Chain	5035 82842 3878 3831 71013 80214 11167 83720 73213/73221	Silver South Gold Gold Gold H South North Silver Gold H
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler RUD Chain Ruthmann	5035 82842 3878 3831 71013 80214 11167 83720 73213/73221 1012	Silver South Gold Gold Gold H South North Silver Gold H Gold H
Quality Mat Co  Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler RUD Chain Ruthmann Ryco Hydraulics	5035 82842 3878 3831 71013 80214 11167 83720 73213/73221 1012 81930	Silver South Gold Gold Gold H South North Silver Gold H
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler RUD Chain Ruthmann	5035 82842 3878 3831 71013 80214 11167 83720 73213/73221 1012 81930	Silver South Gold Gold Gold H South North Silver Gold H Gold H
Quality Mat Co  Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler RUD Chain Ruthmann Ryco Hydraulics	5035 82842 3878 3831 71013 80214 11167 83720 73213/73221 1012 81930	Silver South Gold Gold Gold H South North Silver Gold H Gold H
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler RUD Chain Ruthmann Ryco Hydraulics Sage	5035 82842 3878 3831 71013 80214 11167 83720 73213/73221 1012 81930	Silver South Gold Gold Gold H South North Silver Gold H Gold H South
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler RUD Chain Ruthmann Ryco Hydraulics Sage SAI Hydraulics	5035 82842 3878 3831 71013 80214 11167 83720 73213/73221 1012 81930 64057 83501	Silver South Gold Gold Gold H South North Silver Gold H Gold H South South South South
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler RUD Chain Ruthmann Ryco Hydraulics Sage SAI Hydraulics Samson Rope	5035 82842 3878 3831 71013 80214 11167 83720 73213/73221 1012 81930 64057 83501 71721	Silver South Gold Gold H South North Silver Gold H Gold H South South South South South South
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler RUD Chain Ruthmann Ryco Hydraulics Sage SAI Hydraulics Samson Rope Sany	5035 82842 3878 3831 71013 80214 11167 83720 73213/73221 1012 81930 64057 83501 71721 2877	Silver South Gold Gold H South North Silver Gold H Gold South South Gold H Gold South Gold H Gold South
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler RUD Chain Ruthmann Ryco Hydraulics Sage SAI Hydraulics Samson Rope Sany Sauer-Danfoss	5035 82842 3878 3831 71013 80214 11167 83720 73213/73221 1012 81930 64057 83501 71721 2877 82633	Silver South Gold Gold H South North Silver Gold H Gold South Gold H Gold Gold H Gold South South South South South South South South
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler RUD Chain Ruthmann Ryco Hydraulics Sage SAI Hydraulics Samson Rope Sany Sauer-Danfoss SC&RA	5035 82842 3878 3831 71013 80214 11167 83720 73213/73221 1012 81930 64057 83501 71721 2877 82633 12597	Silver South Gold Gold Gold H South Silver Gold H Gold H Gold H Gold H Gold H Gold H South South South South Gold H Gold South
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler RUD Chain Ruthmann Ryco Hydraulics Sage SAI Hydraulics Samson Rope Sany Sauer-Danfoss SC&RA Scanreco	5035 82842 3878 3831 71013 80214 11167 83720 73213/73221 1012 81930 64057 83501 71721 2877 82633 12597	Silver South Gold Gold Gold H South North Silver Gold H Gold Gold H Gold Gold H Gold South Gold H Couth South South Gold H Gold South Gold H Gold South
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler RUD Chain Ruthmann Ryco Hydraulics Sage SAI Hydraulics Samson Rope Sany Sauer-Danfoss SC&RA Scanreco Scheuerle	5035 82842 3878 3831 71013 80214 11167 83720 73213/73221 1012 81930 64057 83501 71721 2877 82633 12597 73103	Silver South Gold Gold H South North Silver Gold H Gold South Gold H Gold South South Cold South Gold H Gold South Gold H Gold South Gold H Gold South Gold H Gold South
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler RUD Chain Ruthmann Ryco Hydraulics Sage SAI Hydraulics Samson Rope Sany Sauer-Danfoss SC&RA Scanreco Scheuerle Sennebogen	5035 82842 3878 3831 71013 80214 11167 83720 73213/73221 1012 81930 64057 83501 71721 2877 82633 12597 73103 1723	Silver South Gold Gold H South North Silver Gold H Gold South Gold H Gold South Cold South Gold H Gold South Gold H Gold South Gold H Gold Gold Gold Gold Gold Gold Gold Gold
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler RUD Chain Ruthmann Ryco Hydraulics Sage SAI Hydraulics Samson Rope Sany Sauer-Danfoss SC&RA Scanreco Scheuerle Sennebogen Shuttlelift	5035 82842 3878 3831 71013 80214 11167 83720 73213/73221 1012 81930 64057 83501 71721 2877 82633 12597 73103 1723 4027 3348	Silver South Gold Gold H South North Silver Gold H Gold South Gold South Cold South Gold H Gold South Gold H Gold Gold H Gold Gold Gold Gold Gold Gold Gold
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler RUD Chain Ruthmann Ryco Hydraulics Sage SAI Hydraulics Samson Rope Sany Sauer-Danfoss SC&RA Scanreco Scheuerle Sennebogen Shuttlelift Sigalarm	5035 82842 3878 3831 71013 80214 11167 83720 73213/73221 1012 81930 64057 83501 71721 2877 82633 12597 73103 1723 4027 3348 73408	Silver South Gold Gold H South North Silver Gold H Gold Gold H Gold South Couth South Gold H Gold South Gold H Gold Gold H Gold Gold H Gold Gold H Gold Gold Gold Gold Gold Gold
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler RUD Chain Ruthmann Ryco Hydraulics Sage SAI Hydraulics Samson Rope Sany Sauer-Danfoss SC&RA Scanreco Scheuerle Sennebogen Shuttlelift Sigalarm Signature Systems Group	5035 82842 3878 3831 71013 80214 11167 83720 73213/73221 1012 81930 64057 83501 71721 2877 82633 12597 73103 1723 4027 3348 73408 9005	Silver South Gold Gold H South Silver Gold H Gold South Gold H Gold South Gold H Gold South Gold H Gold Gold H Gold Gold H Gold Gold H Gold Gold Gold H Gold Gold Gold Gold Gold Gold Gold Gold
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler RUD Chain Ruthmann Ryco Hydraulics Sage SAI Hydraulics Samson Rope Sany Sauer-Danfoss SC&RA Scanreco Scheuerle Sennebogen Shuttlelift Sigalarm	5035 82842 3878 3831 71013 80214 11167 83720 73213/73221 1012 81930 64057 83501 71721 2877 82633 12597 73103 1723 4027 3348 73408	Silver South Gold Gold H South North Silver Gold H Gold Gold H Gold South Couth South Gold H Gold South Gold H Gold Gold H Gold Gold H Gold Gold H Gold Gold Gold Gold Gold Gold
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler RUD Chain Ruthmann Ryco Hydraulics Sage SAI Hydraulics Samson Rope Sany Sauer-Danfoss SC&RA Scanreco Scheuerle Sennebogen Shuttlelift Sigalarm Signature Systems Group	5035 82842 3878 3831 71013 80214 11167 83720 73213/73221 1012 81930 64057 83501 71721 2877 82633 12597 73103 1723 4027 3348 73408 9005	Silver South Gold Gold H South Silver Gold H Gold South Gold H Gold South Gold H Gold South Gold H Gold Gold H Gold Gold H Gold Gold H Gold Gold Gold H Gold Gold Gold Gold Gold Gold Gold Gold
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler RUD Chain Ruthmann Ryco Hydraulics Sage SAI Hydraulics Samson Rope Sany Sauer-Danfoss SC&RA Scanreco Scheuerle Sennebogen Shuttlelift Sigalarm Signature Systems Group SkidCrane	5035 82842 3878 3831 71013 80214 11167 83720 73213/73221 1012 81930 64057 83501 71721 2877 82633 12597 73103 1723 4027 3348 73408 9005 2529	Silver South Gold Gold H South Silver Gold H Gold South Gold H Gold South Gold H Gold South Gold H Gold Gold Gold H Gold Gold Gold Gold Gold H Bronze Gold
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler RUD Chain Ruthmann Ryco Hydraulics Sage SAI Hydraulics Samson Rope Sany Sauer-Danfoss SC&RA Scanreco Scheuerle Sennebogen Shuttlelift Sigalarm Signature Systems Group SkidCrane Skyjack	5035 82842 3878 3831 71013 80214 11167 83720 73213/73221 1012 81930 64057 83501 71721 2877 82633 12597 73103 1723 4027 3348 73408 9005 2529	Silver South Gold Gold H South Silver Gold H Gold Gold H Gold Gold H Gold South Gold Gold H Gold South Gold H Gold Gold H Gold Gold H Gold Gold H Gold Gold Gold Gold Gold Gold Gold Gold
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler RUD Chain Ruthmann Ryco Hydraulics Sage SAI Hydraulics Samson Rope Sany Sauer-Danfoss SC&RA Scanreco Scheuerle Sennebogen Shuttlelift Sigalarm Signature Systems Group SkidCrane Skyjack SkyTrak	5035 82842 3878 3831 71013 80214 11167 83720 73213/73221 1012 81930 64057 83501 71721 2877 82633 12597 73103 1723 4027 3348 73408 9005 2529 4452 3946	Silver South Gold H South Silver Gold H Gold Gold H Gold Gold H Gold Gold H Gold Gold H Bronze Gold Gold
Quality Mat Co Raimondi Ramsey Winch Rayco-Wylie Reachmaster Reechcraft Rexroth Rock & Dirt Rotzler RUD Chain Ruthmann Ryco Hydraulics Sage SAI Hydraulics Samson Rope Sany Sauer-Danfoss SC&RA Scanreco Scheuerle Sennebogen Shuttlelift Sigalarm Signature Systems Group SkidCrane Skyjack SkyTrak SMIE	5035 82842 3878 3831 71013 80214 11167 83720 73213/73221 1012 81930 64057 83501 71721 2877 82633 12597 73103 1723 4027 3348 73408 9005 2529 4452 3946 71000	South Gold H Gold South Gold H Gold South Gold H Gold Gold H Gold Gold Gold H Bronze Gold Gold Gold Gold Gold Gold Gold Gold

0.1.11	20200	0
Solideal	20369	Central
Spanco Spydercrane	22434 3713/3886	Central Gold
SSAB	62239	South
Stros	1418	Gold
Sun Hydraulics	81029	South
Sunward	1205	Gold
Swaploader	2223	Gold
T	2223	dolu
Tadano	4137	Gold
Talbert	3131	Gold
TCA (Falck Schmidt)	3831	Gold
Tele Radio	92521	Bronze
Telemacanique	70803	Gold H
Tenstar Simulation	23005	Central
Terex	3382	Gold
Terex Utilities	3382	Gold
Teufelberger Seil	72106	Gold H
Teupen	2016	Gold
Texas Hydraulics	81819	South
TGB	73324	Gold H
TGB Group	73324	Gold H
Tieffe	81654	South
Time Manufacturing	1012	Gold
Titan International	6535	Silver
Tobroco-Giant	1122	Gold
Towmaster	2423	Gold
TracMec	73520	Gold H
Trail King	3834	Gold
Trelleborg	81616	South
Trimble	12067	North
TVH	22431	Central
TWG - Tulsa Winch	81216	South
Tyri Lights	62129	South
Tyri Lights U	62129	
Tyri Lights U Unic	62129 3713/3886	Gold
Tyri Lights U	62129	Gold
Tyri Lights U Unic	62129 3713/3886	Gold Brnz/Slvr
Tyri Lights  Unic UTV International  V	62129 3713/3886 8102/60445 E	Gold Brnz/Slvr Gold
Tyri Lights  Unic UTV International  V	62129 3713/3886 8102/60445 E	Gold Brnz/Slvr
Tyri Lights  Unic UTV International Valla Van Beest	62129 3713/3886 8102/60445 E 4464 23040	Gold Brnz/Slvr Gold Central
Tyri Lights  Unic UTV International Valla Van Beest Verope	62129 3713/3886 8102/60445 E 4464 23040 70025	Gold Brnz/Slvr Gold Central Gold H Gold
Tyri Lights  Unic UTV International Valla Van Beest Verope Versalift	3713/3886 8102/60445 E 4464 23040 70025 1012	Gold Brnz/Slvr Gold Central Gold H Gold
Tyri Lights  Unic UTV International Valla Van Beest Verope Versalift Versa-Lift	62129 3713/3886 8102/60445 E 4464 23040 70025 1012 1422	Gold Brnz/Slvr Gold Central Gold H Gold Gold
Tyri Lights  Unic UTV International Valla Van Beest Verope Versalift Versa-Lift Vertikal.net	62129 3713/3886 8102/60445 E 4464 23040 70025 1012 1422	Gold Brnz/Slvr Gold Central Gold H Gold Gold H
Tyri Lights  Unic UTV International Valla Van Beest Verope Versalift Vertikal.net W Wacker Neuson Warn	3713/3886 8102/60445 E 4464 23040 70025 1012 1422 73414 3435 71113	Gold Brnz/Slvr Gold H Gold H Gold H Gold H Gold H
Tyri Lights  Unic UTV International  Valla Van Beest Verope Versalift Versa-Lift Vertikal.net  Wacker Neuson Warn Wells Fargo Finance	3713/3886 8102/60445 E 4464 23040 70025 1012 1422 73414 3435 71113 11559	Gold Brnz/Slvr Gold H Gold H Gold H Gold H Gold H North
Tyri Lights  Unic UTV International Valla Van Beest Verope Versalift Versa-Lift Vertikal.net Wacker Neuson Warn Wells Fargo Finance White Drive	3713/3886 8102/60445 E 4464 23040 70025 1012 1422 73414 3435 71113 11559 81830	Gold Brnz/Slvr Gold H Gold H Gold H Gold H Gold H North South
Tyri Lights  Unic UTV International  Valla Van Beest Verope Versalift Versa-Lift Vertikal.net  Wacker Neuson Warn Wells Fargo Finance White Drive Winlet	3713/3886 8102/60445 E 4464 23040 70025 1012 1422 73414 3435 71113 11559 81830 71013	Gold Brnz/Slvr Gold H Gold H Gold H Gold H North South
Tyri Lights  Unic UTV International  Valla Van Beest Verope Versalift Versa-Lift Vertikal.net  Wacker Neuson Warn Wells Fargo Finance White Drive Winlet Wipro	3713/3886 8102/60445 E 4464 23040 70025 1012 1422 73414 3435 71113 11559 81830 71013	Gold Brnz/Slvr Gold H Gold H Gold H Gold H North South
Tyri Lights  Unic UTV International  Valla Van Beest Verope Versalift Versa-Lift Vertikal.net  Wacker Neuson Warn Wells Fargo Finance White Drive Winlet Wipro WireCo	3713/3886 8102/60445 E 4464 23040 70025 1012 1422 73414 3435 71113 11559 81830 71013 83506 73012	Gold Brnz/Slvr Gold H Gold Gold H Gold H North South Gold H South Gold H
Tyri Lights  Unic UTV International  Valla Van Beest Verope Versalift Versa-Lift Vertikal.net  Wacker Neuson Warn Wells Fargo Finance White Drive Winlet Wipro WireCo Wolffkran	3713/3886 8102/60445 E 4464 23040 70025 1012 1422 73414 3435 71113 11559 81830 71013	Gold Brnz/Slvr Gold H Gold Gold H Gold H North South Gold H South Gold H
Tyri Lights  Unic UTV International  Valla Van Beest Verope Versalift Versa-Lift Vertikal.net  Wacker Neuson Warn Wells Fargo Finance White Drive Winlet Wipro WireCo Wolffkran	3713/3886 8102/60445 E 4464 23040 70025 1012 1422 73414 3435 71113 11559 81830 71013 83506 73012	Gold Brnz/Slvr Gold Central Gold H Gold Gold H Gold H North South Gold H South Gold H Gold H
Tyri Lights  Unic UTV International  Valla Van Beest Verope Versalift Vertikal.net  Wacker Neuson Warn Wells Fargo Finance White Drive Winlet Wipro WireCo Wolffkran  X XCMG	3713/3886 8102/60445 E 4464 23040 70025 1012 1422 73414 3435 71113 11559 81830 71013 83506 73012 2022	Gold Brnz/Slvr Gold Central Gold H Gold Gold H Gold H Gold H South Gold H South Gold H Gold
Tyri Lights  Unic UTV International  Valla Van Beest Verope Versalift Vertikal.net  Wacker Neuson Warn Wells Fargo Finance White Drive Winlet Wipro WireCo Wolffkran  X XCMG XL	62129 3713/3886 8102/60445 E 4464 23040 70025 1012 1422 73414 3435 71113 11559 81830 71013 83506 73012 2022	Gold Brnz/Slvr Gold H Gold H Gold H North South Gold H South Gold H
Tyri Lights  Unic UTV International  Valla Van Beest Verope Versalift Vertikal.net  Wacker Neuson Warn Wells Fargo Finance White Drive Winlet Wipro WireCo Wolffkran  X XCMG	3713/3886 8102/60445 E 4464 23040 70025 1012 1422 73414 3435 71113 11559 81830 71013 83506 73012 2022	Gold Brnz/Slvr Gold Central Gold H Gold Gold H Gold H Gold H South Gold H South Gold H Gold
Tyri Lights  Unic UTV International  Valla Van Beest Verope Versalift Versa-Lift Vertikal.net  Wacker Neuson Warn Wells Fargo Finance White Drive Winlet Wipro WireCo Wolffkran  X XCMG XL Xtreme	3713/3886 8102/60445 E 4464 23040 70025 1012 1422 73414 3435 71113 11559 81830 71013 83506 73012 2022	Gold Brnz/Slvr Gold H Gold H Gold H North South Gold H South Gold H Gold
Tyri Lights  Unic UTV International  Valla Van Beest Verope Versalift Versa-Lift Vertikal.net  Wacker Neuson Warn Wells Fargo Finance White Drive Winlet Wipro WireCo Wolffkran  X XCMG XL Xtreme Y Yates Industries	3713/3886 8102/60445 E 4464 23040 70025 1012 1422 73414 3435 71113 11559 81830 71013 83506 73012 2022	Gold Brnz/Slvr Gold H Gold H Gold H Gold H North South Gold H Gold H Gold H South Gold H South Gold H South Gold H Gold H South
Tyri Lights  Unic UTV International  Valla Van Beest Verope Versalift Versa-Lift Vertikal.net  Wacker Neuson Warn Wells Fargo Finance White Drive Winlet Wipro WireCo Wolffkran  X XCMG XL Xtreme Yates Industries Yoke	3713/3886 8102/60445 E 4464 23040 70025 1012 1422 73414 3435 71113 11559 81830 71013 83506 73012 2022 1000 2416 3516	Gold Brnz/Slvr Gold H Gold H Gold H Onth Gold H North South Gold H Gold H South Gold H Gold H South Gold H Gold H Gold H South Gold H
Tyri Lights  Unic UTV International  Valla Van Beest Verope Versalift Versa-Lift Vertikal.net  Wacker Neuson Warn Wells Fargo Finance White Drive Winlet Wipro WireCo Wolffkran  X XCMG XL Xtreme Yates Industries Yoke Yokohama Tire	3713/3886 8102/60445 E 4464 23040 70025 1012 1422 73414 3435 71113 11559 81830 71013 83506 73012 2022	Gold Brnz/Slvr Gold H Gold H Gold H Gold H North South Gold H Gold H Gold H South Gold H South Gold H South Gold H Gold H South
Tyri Lights  Unic UTV International  Valla Van Beest Verope Versalift Versa-Lift Vertikal.net  Wacker Neuson Warn Wells Fargo Finance White Drive Winlet Wipro WireCo Wolffkran  X XCMG XL Xtreme Yates Industries Yoke Yokohama Tire	3713/3886 8102/60445 E 4464 23040 70025 1012 1422 73414 3435 71113 11559 81830 71013 83506 73012 2022 1000 2416 3516 82429 71725 22231	Gold Brnz/Slvr Gold H Gold H Gold H Orth Gold H North South Gold H Gold Gold Gold H South Gold H Gold Gold H Contral
Tyri Lights  Unic  UTV International  Valla  Van Beest  Verope  Versalift  Versa-Lift  Vertikal.net  Wacker Neuson  Warn  Wells Fargo Finance  White Drive  Winlet  Wipro  WireCo  Wolffkran  X  XCMG  XL  Xtreme  Yates Industries  Yoke  Yokohama Tire  Z  Zero Emission Equipment	3713/3886 8102/60445 E 4464 23040 70025 1012 1422 73414 3435 71113 11559 81830 71013 83506 73012 2022 1000 2416 3516 82429 71725 22231	Gold Brnz/Slvr Gold H Gold H Gold H Gold H North South Gold H Gold H Gold H Cold Gold H Cold Gold H Gold Gold Gold Gold Gold Gold Gold Gold
Tyri Lights  Unic  UTV International  Valla  Van Beest  Verope  Versalift  Versa-Lift  Vertikal.net  Wacker Neuson  Warn  Wells Fargo Finance  White Drive  Winlet  Wipro  WireCo  Wolffkran  X  XCMG  XL  Xtreme  Y  Yates Industries  Yoke  Yokohama Tire  Z  Zero Emission Equipment  ZF	3713/3886 8102/60445 E 4464 23040 70025 1012 1422 73414 3435 71113 11559 81830 71013 83506 73012 2022 1000 2416 3516 82429 71725 22231	Gold Brnz/Slvr Gold H Gold H Gold H Gold H North South Gold H Gold H Gold H Cold Gold H Cold Gold H Gold H Gold Gold H Gold Gold Gold Gold Gold Gold Gold Gold
Tyri Lights  Unic  UTV International  Valla  Van Beest  Verope  Versalift  Versa-Lift  Vertikal.net  Wacker Neuson  Warn  Wells Fargo Finance  White Drive  Winlet  Wipro  WireCo  Wolffkran  X  XCMG  XL  Xtreme  Yates Industries  Yoke  Yokohama Tire  Z  Zero Emission Equipment	3713/3886 8102/60445 E 4464 23040 70025 1012 1422 73414 3435 71113 11559 81830 71013 83506 73012 2022 1000 2416 3516 82429 71725 22231	Gold Brnz/Slvr Gold H Gold H Gold H Gold H North South Gold H Gold H Gold H Cold Gold H Cold Gold H Gold Gold Gold Gold Gold Gold Gold Gold

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# Hydraulic component

#### **Pressurising hydraulics** for diagnostic purposes

In 2015 a rental company employee company suffered fatal injuries whilst pressurising a hydraulic component in order to diagnose a leak. As an outcome to the incident, the CPA was tasked by the Coroner's Office to inform its members of the dangers of this activity and what procedures should be in place to prevent an occurrence.

In particular, the CPA was asked to promote the availability of the Health and Safety Executive published guidance note GS4 - Safety Requirements for Pressure Testing. The guidance details the hazards and risks of pressure testing, how failures can occur and the actions that need to be taken, including determining the risks, preparing a written safe system of work, segregating the item under test and maintaining the integrity of test connectors.

The CPA recognised that the dangers of hydraulic pressure testing extend beyond the construction-equipment maintenance sector, and that there was a need to direct CPA members to specialist organisations which can provide a service for this activity. The CPA therefore approached the British Fluid Power Association (BFPA) which has both the expertise and a number of educational publications and courses on fluid power components. It was agreed that a specific document would be produced, based on GS4. The new document will be tailored to the construction equipment sector, and will direct readers to a number of other documents dealing with the use and maintenance of pressure systems and equipment.

Development work on the document is currently underway and the completed document is expected to be available as a free-of-charge download from the CPA website in late spring.

In the meantime, the CPA encourages employers who may undertake this

activity to acquire **Guidance Note** GS4 which can be downloaded as a free leaflet from the guidance and publications section within the HSE website at www.hse.gov.uk







#### **Lifting Technician Apprenticeship**

The new Lifting Technician Apprenticeship is aimed at both new and upskilling employees who will operate tower, crawler or mobile cranes and undertake slinging and signalling duties. It has been devised by an employer development group consisting of crane owners and contractors, including CPA members, with the lead employer being Laing O'Rourke. After much work and many meetings, the standard and the assessment plan has been approved by government and the group are now working towards preparing the apprenticeship for delivery.

The final stage in the process is to quantify and attain the requisite level of funding to support the training and assessment costs to employers. 15 funding bands have been set by government (through the Skills Funding Agency - SFA) and range from £1,500 up to £27,000 per apprentice. The group's submission, supported by three quotes from training providers, sought funding at the highest band. This reflected the high cost of crane training due to overheads such as crane hire, supporting personnel and the large range of resources required, and further reflected the stipulated 20 percent minimum off-the-job training requirement.

SFA have not yet approved the requested funding band. Further intensive

work is being undertaken by the lead employer and the group to challenge the SFA. The group has further devised a supporting training syllabus, training logbook and work experience logbook, which the CPA will host and make available as a free download on its website



#### **Executive Hire Show**

The association has once again exhibited at the Executive Hire Show in Coventry and held an Open Meeting within the exhibition centre. The event was used to promote its 'Stars of the Future' award scheme for apprentices in the equipment rental industry held in conjunction with a number of colleges offering training for equipment mechanics.

The Open Meeting topics include the finalised work on Reducing Unintended Movement of Plant, and updated guidance being produced on Lifting Operations with Excavators, Guidance on the dangers of pressurising hydraulic components for diagnostic purposes, were also discussed along with how to mitigate the effects of this activity. There was also an update on the new Trailblazer apprenticeships and finally an update on CITB's new grant offer for the industry, and the consensus process.







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#### Bakery fined £2m for fall

UK bread maker Warburtons has been fined £2 million plus costs of £20,000 after employee Andrew Sears fell around two metres after losing his footing while cleaning a mixing machine at the company's bakery in Wednesbury, Wolverhampton in November 2013. Sears spent an extended period in hospital with a compression fracture to his spine, and was unable to return to work for over 12 months. Having struggled to adapt he was dismissed in December 2015.

An investigation found that employees at the plant were expected to clean the mixers at least every two weeks, and were often unbalanced and would brace themselves to avoid falling. They received no training on how to work at height for what was a routine job and were not adequately supervised.

HSE inspector Mahesh Mahey said: "This case highlights how important it

is for companies to fully assess the risks when working at height and take appropriate action to prevent injury in the workplace. Mr Sears life has been changed forever but his injuries could have been more severe."



#### Wind training for ALE

ALE's wind turbine electromechanical installation technicians have been trained to the Global Wind Organisation (GWO) standards. ALE's Carlos Moreno said: "The wind energy sector is a major industry for ALE and our priority is to ensure our technicians are always developing and regularly trained to best serve our clients. We wanted them to be fully trained and certified to the GWO standards so that clients have the assurance that the same standards will be applied globally."

#### Top award for JCB engineer

JCB design engineer Holly Broadhurst has been named as the Higher and Degree Apprentice of the Year at the National Apprenticeships Awards

Broadhurst joined JCB at 16 after studying at the JCB Academy and

graduated last year with a degree in mechanical engineering. She now designs JCB's mini excavators. Speaking of the award she said: "I have learnt and gained so much through my apprenticeship. I look at my friends who went to university and they are only just getting the workplace experience now. I would advise anyone considering an apprenticeship to go for it."



training

#### **Unsafe ladder costs £8,500**

UK-based roofing contractor MW Roofing (NW) has been fined £6,000 plus costs of £2,440.60 after putting the lives of two employees at risk whilst working at height without protection against falls.

The two men were removing a chimney on a house when they were spotted accessing the roof via a cat ladder, whilst waste material was being removed by buckets carried down the ladder. There were no safety measures in place to prevent them from falling. They were caught on

camera and reported. The company had ignored previous warnings from the HSE about its unsafe work at height practices.

HSE inspector David Argument said: "You cannot ignore the dangers of working at height, it remains the main cause of death and serious injury in the workplace, particularly in the construction industry. Simple measures, such as providing guard rails can prevent this.



#### Fatal telehandler fall costs £168k

Two companies have been fined after two men were catapulted out of a platform on a telehandler, resulting in the death of Stephen John Greenaway, 50, who was working for Advance Door Engineering which had been contracted by Shufflebottom Ltd to fabricate and install roller shutter doors on a slipway building at Mustang Marine in Pembroke Dock, Wales.

The two men were working from the telehandler platform at a height of around 10 metres, when the operator reversed the machine in order to relocate it. The basket caught on fencing causing a strong reaction when it broke free, catapulting the two out of the platform to the ground. Greenaway was reported to have been wearing a harness but had not attached the lanyard to anything. The HSE found that the companies had not properly thought through the risks associated with the job. Shufflebottom was fined £125,000 plus costs of £43,000, whilst Advance - now in liquidation - was fined £1.

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Handbrake Interlocks

Further to an industry survey carried out in 2016, ALLMI has released Guidance Note 024 concerning the fitment of Handbrake Interlocks. Produced

by ALLMI's Technical Standards Committee, the document is aimed at a wide range of key individuals within the lorry loader industry, including owners, operators and persons conducting Thorough Examinations. It starts by looking at the legalities surrounding the subject, as well as the equipment and safety related issues which Handbrake Interlocks

quard against. The document then goes on to provide guidance on retro-fitting, alternative systems where applicable, and the actions required of a Thorough Examiner, should a Handbrake Interlock not be in place.

For a free copy of Guidance Note 024 'Handbrake Interlocks', please contact ALLMI.

**Lorry Loader** Technical Files

**ALLMI Guidance Note 025 was released in** January and looks at the subject of 'Lorry Loader Technical Files' (commonly referred to as Build Files).

The guidance explains the legal requirements for this documentation to be in place, by whom the information needs to be held and for how long, as well as which parties should have access to it. It then details the required content of a Technical File, from order confirmation and technical calculations/drawings, through to commissioning reports/paperwork, specification details, and handover documents.

ALLMI technical manager and chairman of the association's Technical Standards Committee, Keith Silvester explains: "This is yet another piece of valuable guidance produced by ALLMI's Technical Standards Committee which has been extremely busy in recent months. Whilst the document is primarily aimed at installers of

loader cranes, it is also of significance to owners and operators, those performing Thorough Examinations and national enforcing authorities. Development of the guidance stems from recurring industry enquiries and issues on this subject, which suggested that clarification was needed regarding exactly what a Technical File should contain. We hope this document enables a consistent approach across the industry, and we would encourage all those involved with lorry loaders to contact ALLMI for a complimentary copy."

#### **Election time**

**ALLMI** focus

As the UK's only trade association devoted to the lorry loader industry, ALLMI has recently concluded its annual election process for the positions of chairman and Operators' Forum chairman.

Having both successfully retained their positions, Mark Rigby of Palfinger importer, T H White, will now serve a 12th consecutive term as chairman of the association, whilst Steve Frazer-Brown of David Watson Transport makes it 12 years in a row as chairman of ALLMI's fleet owner division.

Following his reappointment, Mark Rigby said: "It has been an honour to serve as ALLMI chairman over the last 11 years. I've been privileged enough to oversee a significant number of changes and developments during that time, and I am pleased to say that the association's level of activity and profile continues to rise year on year. I am very grateful to have been given the opportunity to continue working on behalf of the membership and in conjunction with the ALLMI board. We're all striving to improve standards and bring about positive change to the industry, and 2017 will see us taking further steps forward in this regard, ensuring that good practice remains at the absolute forefront of our sector."

Steve Frazer-Brown added: "It is a great privilege to be elected as Operators' Forum chairman once again, as the position allows me to represent

fleet owners on the ALLMI board and to work with the Forum Executive Committee on so many important issues affecting the safe use of lorry loaders. 2016 was a big success for ALLMI, but the association never stands still or rests on its laurels and so I'm delighted that, through the election process, members have given me the opportunity to play a role in ensuring that this progress continues."





#### **ALLMI Guidance Notes**

Handbrake Interlocks and Lorry Loader Technical Files are just two of the latest additions to ALLMI's wide-ranging series of Guidance Notes, which spans numerous aspects of lorry loader use. A full list of the notes can be seen below, and readers are encouraged to contact ALLMI for further information on any of these documents or subject areas:

**GN001** Guidance for Life Expectancy of a Lorry Loader

**GN002** Second-hand Lorry Loaders

**GN003** Guidance for the Purchase of Second Hand Lifting Attachments

**GN004** Regulations and Standards

**GN005** Guidance for Lorry Loader Installers and

**GN006** Guidance Note for Hiring of a Lorry Loader

**GN007** Guide to Lorry Loader Purchase

**GN008** Bridge Bashing Regulations

**GN009** Trailer Mounted Loader Cranes

GN010 Thorough Examination & Testing of **Loader Cranes** 

**GN011** In-service Structural Inspections

**GN012** Non-Destructive Testing

**GN013** Stabiliser Forces

**GN014** Guide for the Purchase of Chassis Suitable for a Loader Crane

**GN015** Guidance for Calibrating Reduced **Capacity Areas** 

GN016 Guidance for the Supply & Use of **Remote Controls** 

**GN017** Guidance for Employee Induction

GN018 Implications of BS7121 Safe Use of Cranes - Part 4: Lorry Loaders

GN019 Interim Maintenance & Inspection of Lorry Loaders

GN020 Reporting of defects arising from a Thorough Examination of a Loader Crane

**GN021** Determining the Sail Effect for Wind

**GN022** Correct Identification of Appropriate Types of Stabiliser Beam Locking Device

**GN023** Protocol for Provisional Overriding of Safety Systems

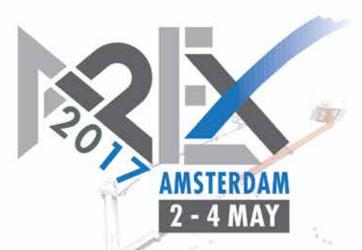
**GN024** Handbrake Interlocks

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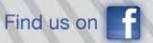
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#### Inspection and maintenance 'key to avoiding fatalities'

Rigorous inspection and maintenance regimes are vital to the safe operation of aerial work platforms, IPAF has highlighted this fact after a rental company manager was jailed for two years over safety failings that led to an incident in which one man died and another was seriously injured.

Donald Craig, 57, of Hamilton, Scoland, based Craig Services & Access, was found guilty of a breach of health and safety legislation and sentenced to the maximum penalty of two years imprisonment at Airdrie Sheriff Court, over an accident in 2012 in which Gary Currie, a safety net rigger, and Alexander Nisbet, a self-employed operator, were in the basket of a platform removing netting from the facade of the Buchanan House offices in Glasgow when a boom section buckled, causing the basket to fall 28 metres to the ground. Nisbet was seriously injured and Currie suffered fatal injuries.

HSE principal inspector Graeme McMinn said: "The death of Gary Currie was entirely preventable. Craig Services and Access and Donald Craig were advised by the manufacturer to replace the damaged boom. Instead, they chose a much cheaper repair that left the boom in an unsafe condition. At the time of the accident the platform had a catalogue of defects, some of which were safety-critical, demonstrating that Craig Services and Access did not have an adequate proactive maintenance and reactive repair system in place."

Chris Wraith, IPAF technical & safety executive, added: "This case was especially upsetting as in the view of both the HSE and the courts the incident was entirely preventable. IPAF cannot emphasise strongly enough the importance of maintaining a rigorous inspection, maintenance and thorough examination regime to any rental company or regular owneroperator of this type of equipment, in order to ensure defects are quickly identified and reported and that proper repairs are made to prevent mechanical failures, which can have tragic and far-reaching consequences. IPAF has been closely involved in the drafting of new inspection maintenance and thorough examination guidance. The new guidance was initiated through the UK strategic forum for plant safety at the request of the HSE, IPAF has been the technical author of the document which is due for publication in the next two to three months."

"This case highlights why IPAF is in constant and ongoing consultation across the industry to ensure the technical and safety guidance is right for rental companies and operators alike," he said.



#### focus



#### First speakers announced for **IPAF Summit 2017**

Speakers from the USA, China and the UK will feature at this year's IPAF Summit, which is being held on 4th April in Wembley, London, with the theme "Safety by Leadership".

The confirmed speakers to date include: Terex president John Garrison, Steve Radcliffe managing director of Clugston Construction, Jim Senior health & safety director, Multiplex Construction Europe, Yanna Zhang chairman of China Construction Industry Association Rental Branch, Matthew Elvin CEO of Xtreme Manufacturing & Snorkel together with Giles Councell and Chris Wraith of IPAF.

"The IPAF Summit is a fantastic opportunity for those involved in the powered access business to come together to network and to update their knowledge of the wider industry, including the latest technical and safety developments," says Tim Whiteman, IPAF CEO & managing director.

The 2017 IPAF Summit conference will be held at the Hilton London Wembley. Attendance is free and those interested should register in advance at www.iapa-summit.info

#### **IPAF** helps develop new ISO standard for controls

Following the publication of UK Health & Safety Executive (HSE) reports RR960 and RR961 in 2013 (www. ipaf.org/en/publications/avoidingtrappingcrushing-injuries) a member group from the IPAF vehicle-mounted manufacturers technical committee has been working in partnership with manufacturer representatives and the HSE to review the design of aerial work platform controls.

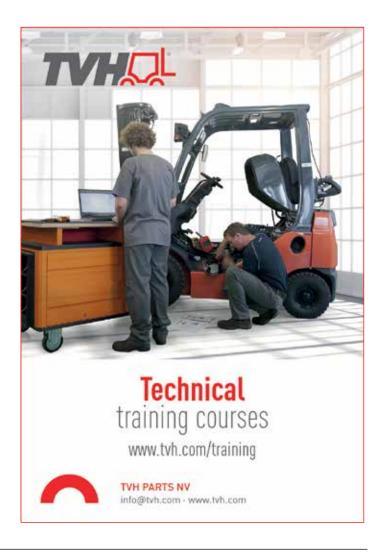


The collaboration has also gained approval for a new ISO standard to be drafted ISO 21455 Operator's controls - Actuating forces, displacement, location and method of operation. ISO working committee TC214 has been working on the draft standard since June 2016 with the next drafting meeting scheduled for March.

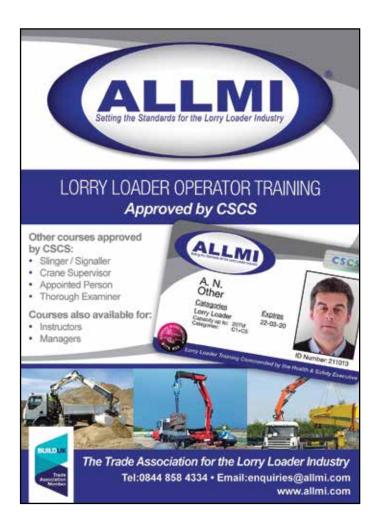
Chris Wraith IPAF technical and safety executive and a member of the ISO drafting committee, said: "The new standard is a significant landmark in the move to standardise control design and layout, and is the result of the whole industry working closely together to continually improve the safe use of work platforms worldwide."











#### Promoting podium safety in 2017

Throughout 2017, PASMA will be making buyers, owners and users of low-level work platforms - commonly referred to as pulpits and podiums aware of the introduction of a new product standard, BS 8620:2016.

Designs for low-level work platforms have previously been developed in the absence of a formal standard, and whilst the majority provide a safe solution to low-level access, there were some aspects that were able to be improved by relevant and specific design criteria which the Publicly Available Specification, PAS 250 first introduced in 2012. With PAS 250 now converted to BS 8620 by the British Standards Institution (BSI), safety and performance criteria have been further enhanced with a dimensional change to side protection and modifications to specific tests.

PASMA is quick to point out that the conversion of PAS 250 to a full British standard does not mean that existing PAS 250 compliant low-level work platforms are now obsolete.

Technical committee chairman John Darby said: "You can continue to employ PAS 250 type-approved podiums and there is no necessity to change product immediately. You can introduce the upgrade when the time comes for replacement. BS 8620 compliant products should start to become available from April and we are encouraging users to update their procurement policies accordingly to

guarantee that they are purchasing equipment that meets the very latest criteria for strength, access, stability and rigidity."

The new standard has industry-wide backing. The steering group which first contributed to its development includes the Association of British Certification Bodies, the Health and



Safety Executive, Hire Association Europe, the Ladder Association, PASMA and BuildUK.

BSI publishing manager for built environment James Wilson said: "BSI acknowledges the work that PASMA and other stakeholders have completed towards the conversion

of PAS 250 to a full British standard. Its publication should ensure wider recognition of the product standard for low-level platforms."

PASMA focus

To assist purchasers and users, PASMA has introduced a fact sheet and FAQ section on its website www.pasma.co.uk/bs8620

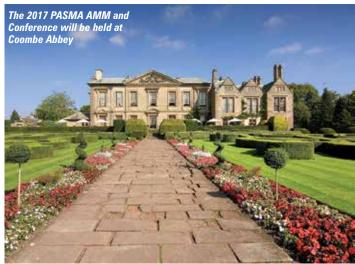


As part of the Access Industry Forum (AIF), PASMA will be a contributor to the Safety Dialogue Theatre at the upcoming Health & Safety Event at the NEC in Birmingham on 21st to 23rd March. The theme of the event will be 'Three days to save a life'.



As a member organisation of the AIF, the association will also be exhibiting at this year's Safety & Health Expo at ExCeL, London from 20th to 22nd June. PASMA representatives will be on hand to discuss the latest standards, guidance and safety-related products alongside a number of associations.

Finally, PASMA has announced that this year's Members' Conference and Annual Members' Meeting will take place at Coombe Abbey in Coventry from 6th to 7th July. More information will be posted on the PASMA website shortly, but anyone wanting to register their interest in attending or requiring more details about what's planned, should contact garv.chudleigh@pasma.co.uk.



#### Record breaking year

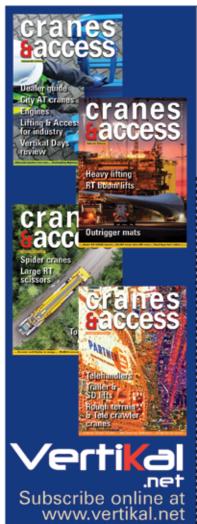
In 2016, PASMA issued a record breaking 73,000 training cards for a variety of industry standard courses. These included Work at Height Essentials, Towers for Users and Towers on Stairs.

Training committee chairman John McNeilly said: "These remarkable numbers only serve to reinforce PASMA's position as the principal provider of what is now firmly established as the definitive industry standard for mobile access tower training, both in the UK and increasingly overseas. For an overwhelming number of organisations no other form of training, and therefore demonstration of competency, is acceptable. It reflects great credit on the work of PASMA training centres and their instructors, and, of course, on those companies and individuals committed to height safety and keeping people safe."





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## Potain Hup 32-27

The Potain Hup 32-27 first appeared at the Bauma exhibition in 2016 as the first of an all-new series of self-erecting cranes. The crane has a maximum capacity of four tonnes, and a maximum reach of 32 metres. A feature of the crane is its flexibility, with different jib lengths, angles and mast heights. This 1:50 scale model is by Conrad Models and it comes with an instruction sheet.

The base is simple with four outrigger beams each having a screwed jack with a plastic outrigger pad/foot. The base of the crane has a metal equipment cabinet and the Potain and Hup names are rendered sharply.

The mast is metal and is made in three pieces, two are hinged together and open in a traditional pivot fashion, while the third section is telescopic. It has nice casting details and includes the hoisting winch which has a plastic hoist

Self-erection mode can be

renlicated

motor. The erection mode replicates that of the real crane and it works

The counterweight consists of three identical blocks, each representing four blocks of the real crane. The Potain name is nicely embossed, and the ladder rungs are more crudely formed. There is no selfballasting arrangement modelled.

The lattice jib is metal and in three sections. It is very straight when unfolded and is supported by soft plastic ties which were not fully under tension on the review model.

A key flexibility of the real crane is the number of configuration options, and the model is well engineered so the mast can be set at different heights, the jib can have three different extensions and be set at different angles.

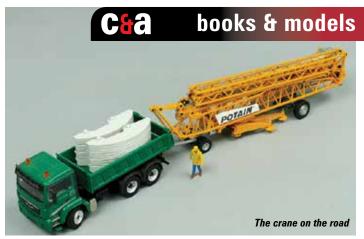
The model can be displayed in transport mode and two transport axles are supplied. One clips to the mast and has very nicely detailed wheels. The other has a tow bar and is much simpler.

It has been many years since a selferecting Potain crane model was introduced, and this one reflects the flexibility of the real Hup crane well. It has good functionality and it costs €140 from the Manitowoc web shop.

To read the full review of this model visit www.cranesetc.co.uk

POTAIN	
* / W	

Cranes Ect Model Rating		
Packaging (max 10)	8	
Detail (max 30)	23	
Features (max 20)	16	
Quality (max 25)	20	
Price (max 15)	10	
Overall (max 100)	77%	









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## Readers L

#### Good afternoon Leigh/Mark,

Following receipt of the latest Cranes & Access magazine I came across an article which highlighted a key issue within our industry. So outraged by this article I now find myself writing to you with the following comments.

The piece was written by ALLMI and discusses the stability of a lorry loader crane using an old outdated test standard to make its point. It states the criteria for stability of a lorry loader crane. However, what it does not define is when it becomes unstable, perhaps the answer to this is when the vehicle is on its side?

The piece makes no definition as to what constitutes a lorry loader, we run both mobile cranes and lorry loaders within our fleet, lorry loaders with capacities of up to 99t/m. These are not builders merchants cranes and are very technical in their own right. The standard needs revising to take in to account the size of cranes that are being manufactured and the way that we and others now use them for more technical applications.

Stability is a fine line that can be crossed very easily with the working moment of such cranes and for ALLMI to post such a piece is wholly unprofessional. I suspect that many crane operators that read this piece will be cutting it out and laminating it for that 'just in case occasion'.

If stabilises are permitted to lift, which members of the COG would allow such a vehicle to continue to operate whilst working on one of their sites with its stabilisers two feet from the ground? As the article does not define how far stabilisers can lift would ALLMI like to confirm this for those of us that operate such equipment?

Lorry loaders have come a long way since the birth of builders merchants vehicles and I attach a link to show just how far they have come:

https://www.youtube.com/watch?v=m5xLC8FS-6k

Whilst the UK still remains behind the rest of Europe the UK market is developing and cranes are increasing in size due to the varied type of work that they undertake and the loads that are being moved. The test standards in the UK must develop to allow for these larger cranes and factor in both duty and performance, stability must be further defined to limit any interpretation. The item has left more questions unanswered than answered but worse has injected doubt in to the very basis of stability calculations. I am truly incensed by this piece and I feel that ALLMI should be held to comment.

Your correspondent states to claim the differences between mobile cranes and lorry loaders and having operated both of them on our fleet we understand those differences. My question to you is does ALLMI?

Finally I would like to ask one more question: When is a crane not a crane and how close is the line between stability and failure?

I agree that lorry loader cranes are fitted with stabilisers and that vehicle chassis are designed to flex but how far are they to be pushed before a fatal accident occurs due to failure. Furthermore, the lorry loader crane is fitted to a sub-frame that takes the torsional stresses and flex away from the chassis and strengthens the vehicle whilst holding the three major components together, crane, body and chassis. The question over duty cycle has to be raised as a vehicle with extreme levels of torsion/twist and flex must have a subframe designed to withstand the load moment and support the flexibility of the OEM chassis without exceeding its yield strength.

**Best Regards** 

#### **Daniel Drury**

Director Lifting & Movement Solutions

While we appreciate the right of Mr Drury to have his view and are happy to publish it, we think his might be missing the point and being overly harsh over what is a brief summary to bring attention to the new guidance and not the definitive document or full guidance. The whole point of regular features such as the ALLMI Focus is to raise awareness to the issues and the work that ALLMI is doing and to alert readers to any new guidance and useful information that the association produces. The article on stability and leg deployment, clearly stated that the ALLMI Technical Guidance Committee has updated its guidance and also that it now references BS EN12999.

Without going over the entire article it clearly states that full copies of the new guidance can be obtained from the association.

We also published an abbreviated version of a letter sent to ALLMI members on this subject highlighting aspects of BS/ EN12999. In the summary if makes the point that given the flexible chassis of a modern road going truck it is not unusual for the rear stabiliser of a loader to lift, well within the limit of stability of the crane. And this on its own does not indicate instability. This is something that is also shared widely with truck mounted lift manufacturers. And while mobile cranes are built with stiffer heavier chassis, designed primarily as a load bearing structure, it not unusual for them also to lift a leg while operating safely within the cranes load chart. This is particularly true of classic truck cranes such as the three axle 25 tonners that were once so popular in Europe and still dominate the Chinese market.

The whole point of ALLMI publishing new guidance is aimed at trying to clarify this stabiliser lifting issue in order to try and avoid confusion on site. While it is perfectly right for those working alongside a loader crane to flag the fact that the stabiliser leg has lifted, just in case the crane really is being overloaded, it is also important that they understand that this may be an operating characteristic of the machine at that radius and that it is perfectly safe.

We fully agree with Mr Drury that the question of duty cycle work's effect on the truck structure is something that needs to be raised. And we also appreciate him raising the issue as more discussion is good?

#### Leigh

In no particular order - JOST 158s with a 50 metre jib have an out of service radius of 10 metres, the Potain Luffer is Chinese and not for sale in Europe, surely that is critical information? The Jost has 10.9 bolts not 8's and the connection between jib section one and two has doubled the number of connections so it is four times as strong as it used to be.

Customers failing to put cranes in free slew was the problem. Xxxxxxxxxx have never had a Jost issue so this is not self-protection it is truth. The heaviest load we have to lift to erect a JOST 158 is 5.43 tonnes not over

10 tonnes as per your disappointingly inaccurate article, in summary a very disappointingly poor and badly researched article. Very poor is all I can say.

We did not have permission of the letter writer to use his name before going to press, and have therefore left it out. He did not request anonymity and was simply writing to reprimand us for publishing what he felt was a misleading article. While his comments are painful we appreciate his views and take them fully on board.



#### Dear Leigh,

I am writing to you concerning the article "Potain hydraulic crane", Page 8 from the latest issue of cranes & access. Within it I noticed a paragraph that contained some misleading information about Jost Cranes.

"The new machine is aimed at the market previously served by Jost and more recently the Wolff 166B. The Jost JTL 158.6 was highly popular until it started losing its jib in high winds on high profile sites."

This leaves the impression that we no longer are active in the market and that our crane structures are faulty and unstable. First of all Jost Cranes is still very active in the UK market and our crane sales have been growing by approximately 12% year on year for the last four years. I believe that we still by far are the number one provider for hydraulic luffing cranes in the UK.

Second and more importantly, our JTL 158.6 cranes were losing their jibs because in each single case the crane operator put the crane in outof-service with the slewing brakes on. With a locked slewing brake and the high winds attacking the jib NO crane would withstand the forces and fail at some point.

This happened on four occasions and the HSE could prove all cases have been operator failure. Having said this I am kindly asking you to publish a rectification notice in your next issue.

A statement like the one in your magazine can cause considerable damage to our reputation. I appreciate your understanding of the situation.

Please give us your thoughts.

Thank you.

Mit freundlichen Grüssen / Kind regards

**Alexander Jost** 

On receipt of this letter we immediately acknowledged it, as is our policy, gave him our thoughts and agreed to publish this letter in full.

In double checking the points mentioned in letter, we have received concrete information that clearly indicates that not all of four the cranes were left in out of service mode with the slew brake on as claimed. The HSE has not stated that this was the case and information supplied suggests that at least two were in the required free slew state when the incidents occurred. This indicates that the situation is not as clear-cut as suggested. In addition, a modification to reinforce the jibs at the point of failure was issued. The feedback since then is the crane with the modifications is now exceptionally strong - possibly overdesigned which is very reassuring.

We are though more than happy to make sure that Jost's view and specific points are published and also to state that it was not at all our intention to suggest that the company had vanished, just point out how successful its machines had been in driving this market forward, and that since the series of unfortunate events, sales of hydraulic luffers in general have slumped. It is clear from a couple of other correspondents that the Jost hydraulic luffers continue to sell to a considerably greater extent than we might have appreciated and that the companies operating them are very happy with them which his good to hear.

#### **Good Morning**

Lifterz are trying to find ways of providing low emission big capacity, high reach scissor lifts for trades such as pipe fitters and sprinkler contractors who need to get to 20m plus in a closed environment.

We have invested heavily in battery power but this is flawed for a few reasons, one being that Holland Lift and PB fit three phase 415v chargers as standard in Europe whilst we have to find ways of making do with 110v. Our inferior methods of charging with very limited power actually shortens battery life because the charge cycle is never really completed correctly.

We are also using diesel machines with filters but this is a very primitive solution which needs weekly filter changes at a parts cost of £70 each plus labour in going out to site to change and also the expensive threat of pressure build up in engines reducing engine life.

So, what about biodiesel? We are looking into this and would appreciate any advice you can give us.

Secondly, what I ask you guys is: is there is any reason why safe charging zones on sites cannot be installed providing power points that can give 240v or 415v?

Your thoughts would be greatly appreciated.

Kind regards

#### **Malcolm Bowers**

Lifterz

This letter was sent to IPAF and the Vertikal Press and we will be looking into this subject for the next issue of the magazine which will include a feature on batteries for scissor lifts. So if any readers have input on this subject we would be delighted to hear from you.

#### Tudor Van Hampton 1977 – 2017

**Tudor Van Hampton construction equipment** journalist and a managing editor at the prestigious Engineering News Record passed away on February 4th having been diagnosed with an inoperable Glioblastoma Multiforme brain tumour last March.



He began his career in 2000 with the US access and lifting magazine Lift Equipment and quickly went on to become editor in chief, before moving to ENR at the end of 2002. He was a first class, highly professional journalist and wrote some exceptional articles on the crane industry, including an in depth investigation into a spate of major crane accidents, including the fatal tower crane collapse in New York in 2008, for which he became a fully certified tower crane operator through the NCCCO programme. He was a true professional in everything he did.

Above all Tudor van Hampton was an exceptional person, a class act, intelligent, considered, kind, generous, funny and a joy to spend time with. A modest individual he had a great sense of humour, his laugh and his smile would light up the most tedious of press trips. He truly loved life and had a passion for, music, bad jokes, good company, classic cars and trucks - providing freelance articles to the Automobiles section of The New York Times - and the theatre.

He leaves behind his beloved wife and soul mate Jenie and their six year old daughter Jordan whom he doted on. The world and the industry has lost a truly remarkable person.

#### hats on

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February 22-25, 2017 International earthmoving and building equipment show Verona, Italy

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The leading US construction show. Las Vegas, Nevada, USA Tel: +1 414-298-4133 www.conexpoconagg.com



#### Smopyc 2017 April 25-29, 2017

Annual summit and awards dinner.

Tel: +44 (0)15395 66700

Spanish Public works & construction show Zarragoza, Spain Tel: +34 976 76 4700 www.feriazaragoza.es/ smopyc.aspx

**IPAF Summit 2017** 

Wembley London UK.

April 4, 2017

www.ipaf.org

#### Apex

May 2-4, 2017 International powered access fair Amsterdam, The Netherlands Tel: +31 (0)547 271 566 www.apexshow.com

#### Hire17

HIRE17 May 10-11, 2017 Australian Hire & Rental association annual convention and show Rosehill Gardens, Sydney, Australia Tel +61 (0)2 9998 2255 www.hireandrental.com.au

#### **Vertikal Days 2017**

UK/Ireland crane and access event. May 24-25 Silverstone Tel: +44 (0) 8448 155900 www.vertikaldays.net

May 31st, 2017, Unimog Museum, Gaggenau, Germany German language work at height safety conference Tel: +49 761 8978660 ABS www.tagung-tabs.eu

#### Matexpo 2017

September 6-10, 2017 Belgian construction Kortrijk, Belgium

equipment show

Tel: +32 (0)56 21 08 32 www.matexpo.com

#### **Platformers Days 2017**

September 2017 German access equipment show Hohenroda, Germany Tel: 05033 981742 www.platformers-days.de



#### **GIS 2017**

October 5-7, 2017 The Italian Cranes & Access Show Piacenza, Italy Tel: +39 010 5704948 www.gisexpo.it



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20,50m 25,00m + 13,00m 30,00m + 15,00m 30,00m + 15,00m 351 Liebherr LTM 1030-2.1 2006 4x4x4Liconert LTM 1030-2.1 Terex-Demag AC 40-1 City Faun ATF 45-3 Terex Demag AC 50-1 Terex Demag AC 50-1 Faun ATF 60-4 Grove GMK 4075-1 6x6x6 6x6x6 31,20m + 13,00m + 1,20m 34,00m + 15,20m 40,00m + 17,60m 2009 2006 6x6x6 40,00m + 17,60m 40,00m + 17,60m 40,00m + 16,00m 43,20m + 27,00m 43,20m + 17,00m + Runner 48,50m + 16,00m 50,00m + 17,60m + Runner 50,00m + 17,60m + Runner 501 2006 6x6x6 75 t 75 t 2001 8x6x8 Grove GMK 4075-1 2005 8x6x8

Faun ATF 80-4 Terex-Demag AC 80-2 Terex-Demag AC 80-2 Grove GMK 5100 8x8x8 8x8x8 2004 80 t 2003 Sx6x6 10x6x10 51,00m + 18,00m + 2,50m + Runner 51,00m + 18,00m 100 t Grove GMK 5100 2001 10x8x10 2009 10x8x8

160 t Tadano Faun ATF 160G-5 200 t Liebherr LTM 1200-5.1 250 t Demag AC 665 SL 60,00m + 37,00m 72,00m + 22,00m 58,00m + 41,00m + 65,00m 10x8x10 1997 12x6x8 2.00m 2007 4001 Liebherr LTM 1400-7.1 60,00m + 56,00m + 84,00m 14x8x12

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Make / Type 25 t Kato KR 250 E 25 t Kato KR 250 E 70 t Tadano GR 700 EX Boom / Fly Jib 26,70m + 7,00m 26,70m + 7,00m 44,00m + 17,70m Drive y. o. m. 1997 4x4x41998 2008 4x4x4 4x4x4 Grove RT 890 E 2008 4x4x443,00m

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More information on the company and the roles can be found at www.cherrypicker.ie/careers/. Please apply with cover letter and C.V. to frank@cherrypicker.ie or call + 353 87 2557755 for more details.

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The successful applicant will already have knowledge of the construction and plant hire industry, and possess strong geographical knowledge and organisational skills. They will be provided with the necessary training on our product range.

To apply, please email your CV and covering letter to Charles Grizzle at Outriggerpads via charles.grizzle@iapsgroup.com. Alternatively, call Charles for an informal chat about the role on 07775 508630.

Outriggerpads is the UK's leading supplier of lightweight outrigger pads, spreader plates and crane mats to the crane hire, oil and gas, utilities and powered access rental industry for more than 15 years. Outriggerpads is part of IAPS Group. outriggerpads.co.uk



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We're looking to recruit for a Product Support role to assist our sales managers with equipment demonstrations; as well as providing basic training and technical assistance to our customers.

The work load is varied, covering an extensive range of equipment from low-level access platforms up to high capacity scissors, tracked spider lifts and vehicle-mounted platforms. Reporting to the Technical Director, this role is based at our facility in Huntingdon, but requires extensive travel across the UK - including overnight stays - and occasionally overseas.

The successful applicant will already have a high level of technical knowledge of access platforms, and ideally have a track record in product support. As this is a customer-facing role, they must be an excellent communicator, well organised and have proven problem-solving skills. This is a perfect role for an enthusiastic self-motivated individual with a technical background and sales acumen wanting to build a successful career.

Ideally, candidate will hold a valid IPAF licence and have a full driving licence that entitles them to tow trailers of up to 3,500kg.

The successful candidate will be provided with a high level of training for the access equipment brands that the company represents in the UK, including Genie and Hinowa.

Please email your CV and covering letter to Chris Banks, Technical Director at APS, via chris.banks@iapsgroup.com. Alternatively, call Chris for an informal chat about the role on 07802 665258.

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A background in the powered access industry or in used plant equipment sales is preferred, but not mandatory.

In this role, the successful candidate will become a valued member of our sales team, liaising with our sales managers, administration team and workshops to help build our sales business. Full training on the brands that the company support, including Genie and Hinowa will be provided.

Ideally, candidate will hold a valid IPAF licence and have a full driving licence that entitles them to tow trailers of up to 3,500kg.

Please email your CV and covering letter to Steve Couling, Managing Director on **steve.couling@iapsgroup.com**. Alternatively, call Steve for an informal chat about the role on **07843 634409**.

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INCAA a OS	cu i iativillis
IAPS	www.iapsgroup.com
Advanced Access Platforms	www.aaplatforms.co.uk
AFI Resale	www.afi-resale.co.uk
A.J. Access Platforms	www.accessplatforms.com
Baulift	www.baulift.de
Davis Access	www.davisaccess.co.uk
Facelift	www.facelift.co.uk
Flesch w	vww.Flesch-Arbeitsbuehnen.de
Gantic Norway	www.gantic.no
Genie	www.genielift.com
GSR Aerial Platforms UK	http://en.gsrspa.it
GT Access	www.gtaccess.co.uk
Height for Hire	www.heightforhire.com
Hird	www.hird.co.uk
JLG	www.jlgeurope.com
JMS Plant Hire	www.jms-planthire.co.uk
Kemp Hoogwerkers	www.kemphoogwerkers.nl
Kunze GmbH	www.kunze-buehnen.com
Lavendon Sales	www.lavendonsales.com
Leader	www.leader-piatt.it
Liftright Access	www.liftrightaccess.com
Manlift Sales	www.manlift.ie
Mech-Serv (GB)	www.mech-serv.co.uk
Mr Plant Hire	www.mrplanthire.co.uk
	nationwideplatforms.co.uk/sales/
North American Rentals	www.biabooms.com

Rothlehner	www.rothlehner.com
Tracked Access	www.trackedaccess.com
Platform Sales	www.platformsales.co.uk
Promax Access	www.promaxaccess.com
Rapid Platforms	www.rapidplatforms.co.uk
Reachmaster (USA)	www.reachmaster.com
Riwal	www.riwal.com/used
Turner Access	www.turner-access.co.uk
TVH - Group Thermote & Vanh	nalst www.tvh.be
Universal Platforms	www.universalplatforms.com
Utility Equipment	www.utility-equipment.com
Vertimac	www.vertimac.com
Wilson Access	www.wilsonaccess.co.uk
Workplatform	www.workplatformltd.co.uk

#### Special/Bespoke Access & Lifting Solutions

APS	www.iapsgroup.com
GT Lifting Solutions	www.gtliftingltd.co.uk
Ladder Safety Devices	www.laddersafetydevices.co.uk
JMS PLant Hire	www.jms-planthire.co.uk
Liftright Access	www.liftrightaccess.com
Mantis Access	www.mantisaccess.co.uk
Nationwide Platforms	www.nationwideplatforms.co.uk/Hire
Planet Platforms	www.planetplatforms.co.uk
Platform Sales & Hire	www.platformsales.co.uk
Ranger Equipment	www.spiderlift.co.uk
Warren Access	www.warrenaccess.co.uk/hire
Working At Height Ltd	www.workingatheightltd.com
Workplatform	www.workplatformltd.co.uk

#### Special & Niche Access

- P	- 1110110 1100000
Acrolift	www.acrolift.co.uk
DENKA Narrow	www.rothlehner.com
Easy Reach Scotland	www.easyreachscotland.co.uk
Facelift	www.facelift.co.uk
Height for Hire	www.heightforhire.com
High Access Hire	www.highaccesshire.co.uk
Higher Access	www.higheraccess.co.uk
JMS PLant Hire	www.jms-planthire.co.uk
Rapid Platforms	www.rapidplatforms.co.uk
Smart Platform Rentals	www.smartplatforms.co.uk
Special Equipment	www.special-equipment.eu
Universal Platforms	www.universalplatforms.com
Wilson Access	www.wilsonaccess.co.uk

#### Special Lift & Transport Equipment

Arnold Schwerlast GmbH & Co.KG www.arnold-schwerlast.de www.collett.co.uk Collett A Sons, UK Wagenborg Nedlift, NL www.wagenborg.com

#### **Self-Propelled Modular Transporters**

Collett & Sons, UK www.collett.co.uk Wagenborg Nedlift, NL www.wagenborg.com

#### **Telescopic Handler Manufacturers**

Dieci Telehandlers Ltd	www.dieci-telehandlers.co.uk
Genie	www.genielift.com
Haulotte	www.haulotte.com
JLG	www.jlgeurope.com
Manitou	www.manitou.com
Merlo	www merlo co uk

#### New & Used Telehandlers

ci Telehandlers	www.dieci.com
Lifting Solutions	www.gtlift.co.uk
ustrial Access	www.industrialaccess.ro
nan	www.lisman.nl
ral	www.riwal.com/used
timac	www.vertimac.com
Viceare Haftruck Sarvica	ln laheldadu wwww

#### **Telehandler Rental**

ABBA	www.abbaplanthire.co.uk
GT Lifting Solutions	www.gtliftingltd.co.uk
JMS PLant Hire	www.jms-planthire.co.uk
Mr Plant Hire	www.mrplanthire.co.uk
Readyplant Ltd	www.readyplant.co.uk
0'4 0	N. C. a. B. 19a

#### **Site Safety Audits**

Alfa Access Services www.alfa-access-services.com

#### **Industry Associations**

ALLMI
CICA
CPA
EWPA
IPAF
OSHA
PASMA

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Crane Manufacturers Böcker Maschinenwerke www.boecker-group.com	Hird www.hird.co.uk Tracked Access www.trackedaccess.com	AGS www.ags-btp.fr Airtek equipment www.airteksafety.com
Galizia www.galiziagru.com	Self Erecting Tower Cranes	Heaton Trestle Handrail System www.heatonproducts.co.uk
Grove www.groveworldwide.com	City Lifting www.citylifitng.co.uk	Heaton Scaffold Towers www.heatonproducts.co.uk
HCME (Hitachi-Sumitomo) www.nrcplant.co.uk	Electrogen Int www.electrogen.ie	Load Systems UK Ltd www.loadsystems.com
Jekko Minicrane www.jekko.it JMG www.jmgcranes.com	John Sutch Cranes www.johnsutchcranes.co.uk	Marwood www.marwoodgroup.co.uk SMIE www.smie.com
Klaas www.utility-equipment.com	King Lifting www.kinglifting.co.uk Ladybird tower www.ladybirdcranehire.co.uk	Software
Kobelco www.kobelcocm-global.com	Crane Hire	Higher Concept www.higherconcept.co.uk
Liebherr www.Liebherr.com		inspHire www.insphire.com
Linden Comansa www.comansa.com Maeda www.maedaminicran es.co.uk	J&M Crane Hire www.jandmcranehire.co.uk London Tower Cranes www.londontowercranes.co.uk	Matusch GmbH www.matusch.de MCS Rental Software www.mcs.co.uk
Manitowoc www.manitowoccranes.com	Mantis Cranes www.mantiscranes.co.uk	Structural Repairs
Mantis Cranes www.mantiscranes.ie	Tower Cranes	Avezaat Cranes www.avezaat.com
Ormig www.ormig.co.uk	London Tower Cranes www.londontowercranes.co.uk	Crowland Cranes www.crowlandcranes.co.uk
Potain www.manitowoccranes.com Raimondi www.raimondi.co	Electrogen Int www.electrogen.ie	John Taylor Crane Services www.jtcranes.co.uk
Sany www.sany.com.cn	Heavy Lift Management	Training Associations & Networks ALLMI www.allmi.com
Sennebogen www.sennebogen.com	DWLS www.dwls.co.uk	AWPT www.awpt.org
Spierings www.spieringskranen.nl Tadano www.tadanofaun.de	Heavy Lift Planning & Risk Analysis	IPAF www.ipaf.org
Tadano Japan www.tadano.com	DWLS www.dwls.com HLI Consulting www.hliconsulting.com	NASC www.nasc.org.uk
Terex-Demag www.terex-cranes.com	Ancillary Equipment	Pasma www.pasma.co.uk Training Centres & Trainers
Unic Cranes www.unic-cranes.co.uk	TMC lifting supplies www.tmc-lifting.com	Access Platforms Direct www.accessplatformsdirect.co.uk
Valla www.valla-cranes.co.uk Wolffkran www.wolffkran.de	Auction Houses	Astra Access www.astratraining.co.uk
Zoomlion www.zoomlioncranes.co.uk	Ritchie Brothers www.rbauction.com	Boss Training www.bosstraining.co.uk
Lorry/Truck Loader Cranes	Battery Suppliers & Manufacturers	IAPS www.iapsgroup.co.uk Active Safety www.activerentals.co.uk
Atlas Cranes UK www.atlasgmbh.com	Shield Batteries www.shieldbatteries.co.uk	Advanced Access Platforms www.accessplatformsuk.com
Effer www.effer.it	Trojan Battery www.trojanbattery.com	Ainscough www.ainscoughtraining.co.uk
Hiab www.hiab.com Palfinger www.palfinger.com	Platinum International www.platinuminternational.com	AJ Access www.accessplatforms.com
Penny Hydraulics www.pennyhydraulics.com	Load Cells & Load Monitoring Systems	Approved Safety www.approvedsafetytraining.com
PM Cranes www.permynydradness.com	Force Logic UK Ltd www.force-logic.co.uk	Training -Ca GT Access www.gtaccess.co.uk
New & Used Cranes	Control Systems	Lift-Manager www.lift-manager.com
AGD Equipment www.agd-equipment.co.uk	MOBA Automation www.moba.de Intercontrol www.intercontrol.de	LTC Training Services www.ltctrainingservices.co.uk
Cotac Oy www.crane.fi Cranes4Cranes www.cranes4Cranes.com	Generator Sales & Rental	Mentor Training Solutions www.mentortrainingsolutions.co.uk Nationwide Platforms www.nationwideplatforms.co.uk/Training
Cranes UK www.cranesuk.net	Electrogen Int www.electrogen.ie	SGB www.sgb.co.uk
Crowland Cranes www.crowlandcranes.co.uk	JMS PLant Hire www.jms-planthire.co.uk	Smart Platform Rentals www.smartplatforms.com
Electrogen Int www.electrogen.ie	Insurance Specialist Insurance www.cover1.com	Transloader Services www.transloaderservices.co.uk
IMC Cranes www.imc-cranes.com Jones-Iron Fairy www.jonesironfairy.co.uk	Online Technical Help	UTN www.utntraining.co.uk Warren www.warrenaccesstraining.co.uk/courses/
Kobelco www.kobelco-cranes.com	Crane Tools www.cranetools.com	Access Training
Leader www.leader-piatt.it	Outrigger Pads, Mats & Roadways	Workplatform www.workplatformltd.co.uk/
London Tower Cranes www.londontowercranes.co.uk	Alimats www.craneriggermats.co.uk	customer-support/operator-training
Maeda www.maedaminicranes.co.uk Mantis Cranes www.mantiscranes.co.uk	Eco power pads www.outriggerpads.co.uk	Safety Training
IVI. STEMICK www.stemick-krane.de	GTP Europe www.gtp-europe.com	Atlas Cranes UK www.atlasgmbh.com
M. Stemick www.stemick-krane.de NRC www.nrcplant.co.uk	Marwood www.marwoodgroup.co.uk	Atlas Cranes UK www.atlasgmbh.com Avon Crane www.avoncrane.co.uk
NRC www.nrcplant.co.uk P.V. Adrighem BV www.adrighem.com	Marwood www.marwoodgroup.co.uk Mat & Timber Services www.sarumhardwood.co.uk Nolim www.nolim.nl	Atlas Cranes UK www.atlasgmbh.com
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NRC www.nrcplant.co.uk P.V. Adrighem BV www.adrighem.com Rivertek Services www.rivertekservices.com Terex Demag www.terex-cranes.com Transloader Services www.transloaderservices.co.uk Hird www.hird.co.uk Heavy Lifting Equipment	Marwood www.marwoodgroup.co.uk Mat & Timber Services www.sarumhardwood.co.uk Nolim www.nolim.nl Timbermat www.timbermat.co.uk TMC lifting supplies www.tmc-lifting.com Universal Crane Mats www.universal-crane-mats.com Welex Group www.welexgroup.com	Atlas Cranes UK Avon Crane Brogan Group Brosis Access Emerson Height for Hire  www.avoncrane.co.uk www.brogangroup.com www.davisaccess.co.uk Emerson www.emersontrainingservices.co.uk www.heightforhire.com
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2006-08 Terex Demag AC35L - choice of 12



2002-04 Terex Demag AC30 - choice of 11

#### For more information call David Betts

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Jane Company	
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2007

2003-2007

	& Repa	irs
/lake	Working	Heigh
chi TZ12		14m
enkalift DI	22N	22m
enie 230/2	ZON	11.1m
enie Z45/2	22	15.8m
rove Touc	an 1010	10.1m
sidente LIS	ETRY	75.00

venicie iwounted		
Make	<b>Working Height</b>	Year
Bronto S34MDT	34m	2001-2003
Bronto S46XDT	46m	2005
Bronto S52XDT	52m	2006-2008
Ascendant A12.5VM	12.5m	2011-2013
Ascendant A15VM	15m	2010
Ascendant A17-12T	17m	2009
Ascendant A22-17TJ	22m	2006-2012
GSR E290PX	29m	2008
GSR 160P	16m	2003-2013
Scissor Lifts		
Skylack SJ12	5.6m	2012

Make	Working Height	Year
Haulotte H21TX	21m	2006
Haulotte H23TPX	23m	2006
Haulotte H25TPX	25m	2006-2008
Nifty HR12NDE	12.2m	2007-2012
Nifty HR15NDE	15m	2007-2012
Nifty HR17D 4x4	17.2m	2007-2008
Nifty HR17NDE	17m	2011
Nifty HR21D 4x4	20.8m	2007-2008
Skyjack SJ46AJ	16.1m	2012
Haulotte Star 10	10m	2012-2013
Trailer Mounted & N	arrow Access	
Nifty 170HDET	17m	2012

THE STATE OF THE S			
Aichi TZ12		14m	2001
Denkalift DL2:	2N	22m	2001-2007
Genie 230/20	N	11.1m	1996
Genie Z45/22		15.8m	1996
Grove Toucan	1010	10.1m	2000
Haulotte H251	TPX	25m	2008
Haulotte HA1	6	16m	2006
Haulotte Com	pact 10DX	10m	2007
Haulotte Quic	k Up 14	14m	2003-2008
Nifty HR12ND	E	12.2m	2005-2008
JLG 15VP		15m	2001
Nifty 120		12m	2007
Skyjack SJ463	2	11.6m	2011
Skyjack SJ925	0 4x4	17.1m	2008
Falck Schmidt	TS24	29m	1994
Haulotte Star	10	10m	2011
Nifty V100		10.8m	2001
Mantis 20/22		22m	1996

Skyjack 5J16 6.7m 2012 Skyjack SJ3219 2011 7.6m Skyjack SJ3226 9.7m 2011-2012 Skyjack SJ4632 11.6m 2011-2012 Snorkel TM12 2012

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22m

29m





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SkyJack - SJ9250 Scissor lifts Diesel, 4x2 Drive, 17.0m Working Height, 2004 | PHM-Id 08228

€10.900·



Liftlux - SL153-22 D4WD Scissor lifts Diesel, 4x4 Drive, 17.3m Working Height, 2003 | PHM-Id 08326

€12.900·



JLG - 4394RT Scissor lifts Diesel, 4x4x2 15.0m Working Height, 2008 | PHM-Id 08417

€15,900·





HAULOTTE - QUI3AC

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12.0m Working Height,
2012 | PHM-Id 08728



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13.0m Working Height,
2013 | PHM-Id 08795



GENIE - S40
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Diesel, 4x4x2
14.0m Working Height,
2007 | PHM-Id 0848 |

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BISON PALFINGER-TKA43KS
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Diesel, 4x2
43.0m Working Height,
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5.0m Lift Height,
2004 | PHM-Id 08664



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Telescopic Cranes
60t, 8x6x8
10.4m Boom, 9/16m Jib
1998 | PHM-Id 06014

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Telescopic Cranes
220t, 10x8x10, Double Jib
60m Boom, 22m + 3x7m jib,
2009 | PHM-Id 08715



LIEBHERR - MK | 40 Tower Cranes UNUSED, Diesel, | 10x6x | 10, Plus Pack, 2017 | PHM-Id 80078

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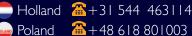


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V21637 - Genie GS1930 - 2002 Electric - 7,8 Mtr. - 526 Hrs. € 3.250



V19790 - JLG 2030ES - 2007 Electric - 8,1 Mtr. - 379 Hrs. € 4.750



V20869 - JLG 2646ES - 2006 Electric - 9,8 Mtr. - 227 Hrs. € 5.750



V21510 - Haulotte Compact 12 - 2005 Electric - 12 Mtr. - 219 Hrs. € 5,950



V21494 - Haulotte C100X - 2006 Diesel 4x4 - 10.2 Mtr. - 2178 Hrs. € 8,500



V21768 - Haulotte H125X - 2006 Diesel 4x4 - 12 Mtr. - 2604 Hrs. € 10.950



V17600 - Mec 4191RT - 2008 Diesel 4x4 - 14,5 Mtr. - 304 Hrs. € 15.950



V21784 - Haulotte H15 SX - 2007 Diesel 4x4 - 15 Mtr. - 2323 Hrs. € 12.500



V19788 - Genie G55390RT - 2006 Diesel 4x4 - 18,15 Mtr. - 434 Hrs. € 17.950



V21930 - Niftylift HR10E - 2002 Electric - 10 Mtr. - / Hrs. € 6.250



V20903 - JLG E300AJP - 2004 Electric - 11,14 Mtr. - 1711 Hrs. € 11.950



V21962 - Niftylift HR12E - 2002 Electric - 12,2 Mtr. - / Hrs. € 6.500



V22023 - Upright AB38N - 2006 Electric - 13,5 Mtr. - 6944 Hrs. € 9.950



V20195 - Manitou 150AET2 - 2005 Electric - 14,8 Mtr. - 1262 Hrs. €11.000



V20235 - Genie Z34-22RT - 2000 Diesel 4x4 - 12,62 Mtr. - 6459 Hrs. € 7.950



V20838 - Haulotte HA12PX - 2007 Diesel 4x4 - 12,62 Mtr. - 2145 Hrs. € 12,950



Diesel 4x4 - 16 Mtr. - 2539 Hrs. €11.950



V21846 - Haulotte HA16PXNT - 2004 V21216 - Haulotte HA260PX - 2008 Diesel 4x4 - 26 Mtr. - 1199 Hrs. € 33.500



V19786 - JLG 1250AJP - 2006 Diesel 4x4 - 40,1 Mtr. - 4520 Hrs. € 72.500



V18845 - Haulotte H16TPX - 2005 Diesel 4x4 - 15,44 Mtr. - 1857 Hrs. € 10.950



V20230 - Genie 545 - 2001 Diesel 4x4 - 15,7 Mtr. - 5708 Hrs. € 10,500



V18855 - Haulotte H21TX - 2008 Diesel 4x4 - 20.8 Mtr. - 2523 Hrs. € 16,950



J19153 - Genie 585 - 2007 Diesel 4x4 - 27,9 Mtr. - 1737 Hrs. € 49,500



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