

Back with a bang!

Among the equipment we cover the telehandler is often seen as a lead 'economic indicator' giving early signs of changes in the economy. Last month JCB announced one of its largest orders ever - 900 telehandlers worth £53 million - while in the USA telehandlers have been driving much of JLG's growth. However while sales are on the rise innovation has taken a back seat to engine developments and improved operator comfort and safety. Cranes & Access investigates...

UK rental company Fork Rent's order for 900 telehandlers - to be delivered during this year - is notable on several fronts. Apart from its size, the deal means that Fork Rent is the first major rental company to buy the new 20 metre 540-200, Europe's highest reach rigid frame telescopic handler and many of the units are fitted with JCB's new Ecomax Tier 4 Interim/Stage IIIB engines which meet emission standards without using diesel particulate filters or exhaust after-treatment fluids, such as Ad Blue. The new engines are said to reduce maintenance costs, while being seven percent more fuel efficient compared to the outgoing models. It also helps maintain a compact engine compartment for better visibility from the cab.



Alan Blake (L) shakes hands on the JCB Ecomax engine agreement with Riccardo Magni

At the end of last year there was speculation that JCB and new telehandler manufacturer Magni (more on them later) were to form a joint venture, with Magni supplying JCB with 360 degree branded telehandlers - a model type JCB does not offer. Whilst negotiations appear to have ended for the time being, the two companies have entered a long-term engine agreement with JCB supplying

Magni with its new Ecomax engine for its new seven model range of rotating machines which offer lift heights from 18 to 30 metres.

It is thought that as many as half of Magni's estimated 200, 360 degree telehandler sales this year will be supplied to JCB dealers and the tie-up and distribution network will give the Italian manufacturer a significant boost of profile as it tries to break into the European market.

Magni enters sector

Whilst Magni Telehandlers is a relatively new company, the Magni family is steeped in experience. The company was founded by current managing director Riccardo Magni's father in 1972 building Fargh hydraulic yard cranes. One of the first was the 30 tonne capacity Tipo 400 Qm in 1972, followed by some new models with rough terrain performance - the eight tonne Fargh Tipo 825F and 15 tonne Fargh 1525 FB. These two small Rough Rerrain cranes had front and rear stabilisers and although they had a front mounted cab, resembled the larger 360 degree telehandlers of today.

It was 1980 when Fargh built its first rough terrain telescopic handler. The Fargh 4000 F.S. had a four tonne lift capacity and a 10 metre working height and is thought to be the first telescopic forklift in Italy.

The father's accidental death in 1981 led to Riccardo succeeding him and a few months later an agreement was signed between Fargh and Manitou to export Fargh machines under the Manitou brand.

From 1983 there were a string of new models. Early success in the



In the USA telehandlers have been driving much of JLG's growth



One of the new 360 degree Magni telehandlers at Bauma

USA in 1983 was with the Manitou branded Fargh 5500RTL followed by the first telescopic with four drive and steer - the Fargh MT 435 CPC. Then in 1985 the Fargh MT 440 DCP was launched with a special patented boom and double telescopic jib. In 1986 Manitou purchased a stake in the business and eventually went on to own it outright. Riccardo, as head of Manitou Italy, gained enormous experience in the design and production of fixed and rotating telehandlers, but departed in 2009. When his three year non-compete clause ended in 2012 Riccardo, together with his two sons and two daughters formed Magni Telehandlers with its new, two assembly line 6,000 square metre plant (opposite the old one!) and a claimed potential production capacity of 1,000 machines a year from its 80 staff.

Magni current 360 range

Magni has seven 360 degree RTH models from two 'simple' 18 metre lift models (four and five tonnes capacity) with folding stabilisers, to five tonne 23 metre and 26 metre lift machines with a 'Super Scissor' stabilisation system and a five tonne 30 metre ultra-high lift unit with straight scissor style outriggers. All share a new ROPS/FOPS cab where the operator has superb forward visibility as the conventional dashboard is replaced by a steering binnacle more akin to a wheeled excavator, which gives a clear view to the ground in front. A curved windscreen gives equally unrestricted upward view. The cab is luxurious compared to most and has air conditioning and is fully pressurised to keep weather and dust out.

The usual plethora of switches and controls are largely replaced by a



The Magni HTH 30.12 claims to be the biggest telehandler in the world with a 30 tonnes maximum capacity and 11.7 metre maximum lift height

glass touch-screen that is very reminiscent of an iPad which provides a high-resolution photographic quality display of the load diagram, stabiliser controls (including auto-levelling) and general settings – both intuitive and good-looking.

The 23 metre and 26 metre machines have a stabiliser system combining the folding feet of the simpler models with the extending legs of larger ones. This arrangement produces stabilisers that do not need to overlap across the machine, leaving chassis length available for increased wheelbase and stabiliser footprint. According to Magni the result is 500mm more footprint in both length and width which results in more capacity than its competitors.

Attention to detail is evident in the quality of componentry. There are no cheap hoses and fittings and

and guides and only two bolts are required to release the whole package for maintenance. An automatic attachment RF recognition system takes the guesswork out of using winches, jibs etc by automatically selecting the respective load chart for the load moment control system.

World's biggest

An even bigger surprise at Bauma was Magni's HTH range – quite simply the largest rough terrain telehandlers in the world. On show was a HTH 12.30 (12 metre lift/30 tonnes capacity) - with at least one already sold - and a prototype 25 tonne HTH 11.25.

Magni has strategically decided not to take on all the other players in the telehandler sector but rather to concentrate on areas of speciality. Typical applications for these fully hydrostatic machines are mining and quarrying, principally for maintenance duties.



The new Farasin FH8.40 telehandler

the boom hoses are run internally inside the boom for extra protection. The advantages says Magni is that all six hoses are glued together so they can't run off rollers

The HTH 30.12 displayed was fitted with a Magni-designed clamp for handling tyres of up to 64 inches which weigh in at up to 16 tonnes when fitted with chains.

New 36 metre rotary telehandler?

We also understand that Magni is working on a 36 metre 360 degree telehandler the 5-36RTH. The 2.5 metre wide unit has an overall length of 7.75 metres and is just over three metres high. The fully deployed telescopic pivoting stabilisers have a width of just under six metres.

Attachments

For several years Riccardo's son Carlo has been running an attachment company supplying telehandler manufacturers. That experience has now come in-house and a very clever work platform, which can be quickly opened in mid-air, has also been launched. With only two locking pins this must be one of the easiest EN280 compliant extending

a new parts and service organisation, Magni Sales and Parts Maastricht.

360 degree sector numbers

Accurate numbers for 360 degree telehandler sales are tricky to obtain, but we understand that in 2011 the total sales in Europe were about 2,300 with almost half of them five tonne, 21 metre units. The 16-18 metre sector was second most popular at just under 25 percent, 25 metre models around 20 percent, with the balance being 18 to 20 metre models. Of the total Manitou and Merlo accounted for just over 85 percent of the sales.

JCB gets bigger

JCB's new 20 metre 540-200 is now in production. With a nominal 20 metre lift height, the 540-200 is



(L-R) Fork Rent's Guy Nicholls and Trudi Nicholls with Watling JCB managing director Richard Telfer

platforms so far. Magni's hydraulic locking system includes fixed metal arms that prevent a jib or platform detaching from the machine unless flat on the ground so tilting the head will not cause departure and potential fatalities at ground level.

Distribution

Collé Rental & Sales has been appointed distributor for the Netherlands, Belgium, Luxembourg, Germany, Austria (see article page 44) however as part of the deal to take JCB Tier 4 Ecomax engines, Magni will have access to the JCB dealer network with yellow-painted machines.

Both Magni and JCB point out that this is not a formal distribution agreement. JCB dealers are not obligated to take the new machines and all parts and service support is via Magni. Indeed, to support European JCB dealers, there is

the highest-reaching European fixed chassis telehandler. When introduced some may have seen this as merely a specification exercise, but JCB say that the production machines are selling well especially to existing rental customers. The lift height is particularly attractive in comparison to the more expensive and complex solution of roto-style handlers. The problem with previous large fixed machines has been to keep a reasonable overall size for manoeuvring on site. The 540-200's turning circle is just 4.1 metres, the same as its 17 metre 540-17 stable mate, although it is 500mm longer at just over 6.8 metres.

Manitou

Manitou claims to have completely renewed its mid-lift range, with the European rental customer and user

in mind. Standardisation of parts and controls, easier maintenance and a choice of torque converter or hydrostatic transmissions on a machine offered at the same price were all a part of this package idea. Certainly, the new cab design and simple control system look the part. Manitou's JSM joystick combines loader hydraulics and forward/reverse selector into a single controller, completely removing the numerous levers of the past. Some have queried the safety aspects of this in the past, but it is very well accepted in the agricultural market and commonality means it is easy to transfer from machine to machine.

All new models - the eight metre MT 835, 11 metre MT 1135 and the 13 metre MT 1335 - are rated at 3.5 tonnes lift capacity and share a common chassis. Stabilisers are standard on the MT 1335, optional on the 1135 and not available on the MT835. The 11 and 13 metre models have standard 10 degree frame levelling and platform-equipped models have automatic rear axle locking.

Each is also available in three builds. Taking the 11 metre models as an example; the MT 1135 comes with a torque converter transmission, the MT 1135H has hydrostatic, whilst the MT 1135 HA is pre-loaded with the equipment necessary for work platform use (hydrostatic drive only). All have the same Stage 3B Perkins engine, delivering 75kW and will travel at up to 25 km per hour (35 km per hour is an option). There has been much improvement in the area of engine and transmission access and there are no longer complicated access panels to remove for anything other than daily maintenance - a big time saving for the new models!

A 'digicode' is needed to start the machine which can be disabled if required and the tilt controls can be electrically isolated for use with certain attachments. The ECS (easy connect system) ensures that attachment lines can be instantly de-pressurised to facilitate attachment changeovers. The JSM joystick can also be disabled for road travel.

Manitou has also updated its MRT 360 degree machines including auto-recognition (E-Reco) of attachments, which have their load charts stored within the KMI unit. Attachments not equipped with this recognition system can have

it retro-fitted.

Perhaps the biggest practical change is to the load management system which now permits variable and asymmetrical deployment of the stabilisers with the machine automatically adjusting the capacity to suit the stabiliser configuration. Safety zones can be pre-set and up to four sets of speed parameters can be stored for varying applications.

Merlo

The largest Italian telehandler manufacturer, Merlo, is normally the first place to go for innovations,

Manitou has three all new models - the eight metre MT 835, 11 metre MT 1135 and the 13 metre MT 1335 (below) - are rated at 3.5 tonnes lift capacity and share a common chassis



however with almost 70 percent of sales going into the agriculture sector that sector has taken up much of its design time. However its latest models include the five tonne capacity, eight metre lift P50.8 CS - the construction variant of Merlo's latest generation of high duty-cycle telehandlers. The CS has a suspended cab - a first for a construction telehandler - which is proving a big hit with drivers.

The machine is the first to feature a new hydrostatic drive system with a continuously variable (vario) transmission. The new M CVTronic drive utilises a single variable delivery hydrostatic pump driving two hydrostatic motors, connected to a central dropbox. At lower speeds, both motors work together, delivering maximum torque to the wheels. As speed rises, the second pump disconnects, directing all the pump flow through a single motor and producing more speed (up to 50 km per hour where permitted) albeit



JCB 542-200 2 [With a nominal 20 metre lift height, the 540-200 is the highest-reaching European fixed chassis telehandler

at reduced torque. This replaces the two-speed mechanical gearbox previously favoured by Merlo - a simpler solution, but one that required coming to a full stop to change speed ranges.



Latest models from Merlo include the five tonne capacity, eight metre lift P50.8 CS

When coupled with Merlo's EPD (EcoPowerDrive) software control, this more elegant solution claims a fuel saving of up to three litres an hour, with no interruption in torque delivery to the wheels.

The P50.8 CS also has the latest Merlo cab design which will probably be gradually introduced throughout the range. The joystick now includes transmission forward/reverse, which is rapidly becoming one of the 'must-have' items on telehandlers.

Merlo was the first telehandler manufacturer to feature automatic attachment recognition as a part of its M CDC load management system. This latest version has a full 8.5 inch sized screen for a clearer, brighter display of load moment indications. Merlo has always produced its own cabs 'in-house', which sometimes results in a rather utilitarian appearance however this cab is a big improvement.

The other new product is the Roto 40.18 S, completing the range of 'simple' Rotos with non-continuous



Dieci has several new telehandlers including the 360 degree Pegasus 40.25 and the 50.21

slew. Compact and relatively light at 13 tonnes, it has a four-section boom lifting to 17.7metres and four tonnes maximum capacity with 2.75 tonnes at full height.

New Pegasus

Italian manufacturer, Dieci has been expanding its sizeable range launching an all-new 10 tonne Hercules 100.10 at SAIE show last year. It has also launched two new Pegasus Roto models and a new range of small pivot-steer loader/handlers.

The two new Pegasus models are continuous-slew machines, with combined sliding outriggers and vertical jack legs. The Pegasus 40.25 can lift to 24.5 metres with a maximum capacity of four tonnes while the 50.21 claims a maximum lift capacity of five tonnes and lift height of 20.5 metres.

Both machines use a four-section boom, but the 25 metre model is 850mm longer overall, at just eight metres without forks fitted.

Both machines have full CANBUS digital control systems and fully asymmetrical jacking. Unusually, the self-levelling stabilisers can be operated directly from the new fully proportional joysticks.

The 'deadman' trigger on the joysticks has been replaced by a 'touch-sensitive' device serving the same function, which drivers will appreciate (it also prevents them taping them up!).



A new one-piece panel includes a self-test device and the usual graphical load moment display. An unusual feature is an automatic direction sensor, which ensures that a 'forward' command to the transmission always results in 'forward' relative to the driver.

A new rotary coupling indicates superstructure position in degrees.

The eight new pivot steer units with or without telescopic booms, are creating interest in among those farmers that appreciate the old Matbro-style telehandlers.

More Genies

Genie has launched two brand new models, in the popular four tonne high-lift sector. Based on a common chassis, the GTH-4014 lifts to 13.6 metres and the GTH-4018 to 17.6 metres. Both share the Perkins 75kW Stage IIIB engine, driving a hydrostatic transmission, with a 33 km per hour maximum travel speed. Genie claims that the new design is optimised for easy field maintenance as well as providing 'market-leading' lift performance and compactness.

A new 21 metre Genie 360 degree GTH-5021 R, enters the growing five tonne lift market. It can take 2,500kg to full height and is a continuous 360 degree slew machine with combined sliding/vertical jackleg outriggers.

Players

Bobcat/Doosan and Faresin are both in the middle of changes to incorporate Stage 3B engines. However Faresin also has the new FH840 – an eight metre lift height, four tonne capacity machine - which slots between the existing seven and nine metre models and aimed particularly at the biomass market. Haulotte continues with the HTL range which is now manufactured wholly in France.

Turkey-based Sanko claims to build a total of 2,500 backhoe loaders and telehandlers a year. Its telehandler range is from seven to 17 metres but it is hard to see why any of these products would appeal to the mainstream European market and established players.

Genie has the GTH-4014 lifts to 13.6 metres and the GTH-4018 to 17.6 metres in the popular four tonne high lift sector

Three machines in one results in big savings

A Genie GTH-4018R 360 degree telehandler working in confined areas within a chemical plant is said to be doing the job of three machines saving the customer about £1,000 a week compared to alternative equipment.

Commissioned to install new processing equipment inside a gasholder on a chemical plant, the unit was rented from Hull-based Sangwin Plant Hire as an alternative to two cranes and a fixed telehandler. However, after further investigation it also appeared that the ground in certain areas of the site would not take the load of a fully rigged 25 tonne crane.

"This would have meant using a second smaller crane which, besides being extremely difficult to handle in such a tight area, would have increased costs for our customer," said Andrew Fenton, Sangwin's operations director. "The GTH-4018R telehandler provided a far more productive and economical solution. Once we had trained our customer's operators on its capabilities and limitations, they were safe to begin work as planned almost immediately."

The 4018 was delivered fully road registered, complete with four metre jib and winch attachments, and weighing 10 tonnes less than the crane. Working back and forth between the storage compound and the gasholder, the telehandler unloaded components weighing up to a tonne, carried them to the jobsite, lift and position them ready for fixing at a height of 17 metres at between six to 10 metres outreach.



The telehandler is used to unloaded components, carry lift and position them ready for fixing at a height of 17 metres.



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