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# 'Tough Terrain' scissiors still developing

c&a

RT scissiors

**Rough Terrain scissor lift developments - or Tough Terrain as Chinese manufacturer LGMG calls them - tend to be measured rather than radical, with gradual improvements in performance, ease of use, serviceability and total cost of ownership. It is after all a fairly conservative market, with most being employed by construction companies, which are more interested in familiarity than innovation.**

The mainstream market continues to be dominated by the major North American manufacturers - JLG, Genie and Skyjack - although Chinese manufacturers are showing early signs of gaining a foothold, having gained some credibility in the slab electric scissor market. Chinese manufacturers have been producing aerial work platforms and scissor lifts for less than 20 years and have largely been viewed as poor quality copies of North American products, making it very difficult for them to break into markets outside of China - even if their machines were substantially cheaper. A major reason for this has been the lack of local sales and service support as well as credibility and resale value.

However as the quality and designs have improved - and prices increased - Chinese products are becoming more widely accepted, particularly as

the manufacturers have learnt what western markets want and have adapted their products accordingly. As a result the better companies are now exporting products to North America and Europe and beginning to offer the required regional parts and service backup.

It should also be remembered that most of the major western powered access manufacturers are also either manufacturing scissiors in China or badging products from companies such as Sinoboom, Mantall and Dingli etc. So like it or not, there are already plenty of Chinese products in the market but most perhaps are in more familiar livery/branding and they tend to be limited to simpler, less expensive electric powered products such as slab scissor lifts and push arrounds.

In terms sales revenues several Chinese companies are now figuring among the leading manufacturers headed by Dingli which now has higher sales volumes than Niftylift,



Genie GS-4390

Snorkel or Palfinger Platforms and at least three times that of the nearest Chinese competitors which include, Sinoboom, LGMG and Mantall, not to mention the arrival of the big crane and earthmoving equipment manufacturers XCMG and Zoomlion.

In a bid to keep ahead of the pack and further cement its inroads into the western market, Dingli took a 25 percent stake in American aerial lift manufacturer MEC last year, in a deal worth \$20 million. MEC was already selling a bespoke version of Dingli's smaller slab scissor lifts, mainly in North America but also for export.

Chinese manufacturers must now have a respectable slice of the global slab scissor lift market in terms of numbers of machines produced, something that looks set to grow, at least in the short term. However a key challenge is whether they can also manage to gain traction in the Rough Terrain scissor or boom lift markets, which are far more challenging given the higher investments and importance of product support and resale value.

On top of this the pricing gap is far smaller given that larger machines require more globally produced componentry, have a lower labour content percentage and lower volumes. All these factors make it a far more level playing field. The solution, if they are to continue to make gains will probably involve more deals like the MEC investment, and badging or co-operation deals with companies like JCB, GMG etc...

Dingli - which also has a 20 percent stake in Magni Telehandlers and has invested in a joint R&D centre in Europe - has a five model range of second generation diesel powered RT scissiors with platform heights



Chinese companies are now figuring among the leading manufacturers headed by Dingli.

of between 33ft and 66ft - or if you prefer working heights from 12 to 22 metres. The 66ft JCMPT2223RTA has an overall width of 2.35 metres, a 750kg maximum platform capacity, self levelling jacks and 4x4 drive, with an overall weight of 13 tonnes. The two smaller platforms - the 1.76 metre wide 12 metre JCPT1218 and the 14.3 metre JPTC1418 - are available with either diesel or battery electric power.

Some of the first units to arrive in Europe were five 39ft, 363kg capacity JCPT 1418DC electric scissiors delivered to UK-based rental company Media Access Solutions (MAS) a few months ago. The units went straight out on a specific contract and according to MAS have performed well, while impressing the company's operations team and the client in terms of quality and performance. Dingli also produces what is essentially a copy of the telescopic MEC Titan which it sells as the GTBZ16SU with a 55ft platform height and 1,350kg platform capacity.

## New LGMG RT

Construction equipment manufacturer LGMG has been



The mainstream market continues to be dominated by the major North American manufacturers including JLG, Genie and Skyjack



LGMG is due to launch the new 46ft SR1623 RT in the near future.

gearing up its access equipment export operations for the past year or two and opened a European headquarters and distribution centre in Rotterdam, the Netherlands at the beginning of October. The company has also agreed a partnership deal with German aerial lift manufacturer PB Lifttechnik which now badges small LGMG scissor lifts for its Eco range. These were previously supplied by Dingli. The company now operates as LGMG Europe selling through a combination of direct sales staff, local dealers and the badged OEM sales.

Formed in 1972 as a general construction equipment manufacturer, LGMG only began producing aerial work platforms - booms and scissors - in 2015. The company says it will concentrate initially on selling scissor lifts in Europe but aims to add booms this year. Its current range includes seven slab scissors with platform heights from 16ft to 40ft with platform capacities from 230kg to 380kg. However at the recent Verticaaldagen show in Gorinchem, the Netherlands it revealed that it will launch a new 46ft SR1623 Rough Terrain scissor lift - or Tough Terrain scissor as it is described - in the near future.

Final product information is limited at this point, but it will have an overall width of 2.29 metres, four wheel drive, 680kg platform capacity, a platform length of 3.89 metres, with a single deck extension option taking this to 5.34 metres or double deck extensions for a 6.57



Sinoboom has a four model Rough Terrain scissor lift range including the GTJZ1018D.

metre platform, although capacity on the extension is reduced to 230kg. Gradeability is 40 percent and total weight without outriggers is 8,100kg. An automatic levelling system allows the machine to work on slopes of up to seven degrees.

### Sinoboom targets Europe

Sinoboom - like LGMG - has also been working on stepping up its European presence, following a few false starts with weak partners. It has now formed a partnership with Polish company Liftstore and opened a new European operation in Jawczyce, Poland. In addition the company has employed access industry veteran Erik Geene and plans to open a facility in the Netherlands. Since launching the new venture the manufacturer has had a good few successes, having delivered several hundred slab electric scissor lifts, mostly in Poland the Netherlands. It certainly strengthened its international profile in 2018 and looks well set to build on this in 2019.

While Liftstore is currently focusing its efforts on slab scissors, Sinoboom has a four model Rough Terrain scissor lift range - the GTJZ0818D, GTJZ1018D, GTJZ1218D and GTJZ1623D - with platform heights from 26ft to 55ft or working heights of 9.9 to 18.8 metres. Platform capacity of the 40ft GTJZ1218D is 385kg, while the 33ft 1018D has 450kg and the 26ft 0818D and 55ft GTJZ1623 both have 680kg.

Sinoboom also builds slab scissors for other manufacturers, including JCB which originally had plans to extend the product range it offers to include Rough Terrain scissor lifts and boom lifts. Perhaps we will see one or both of these at Bauma or Vertikal Days?

### Mantall maintains low profile

The third Chinese manufacturer Mantall has three Kubota powered Rough Terrain scissor lifts, 26ft XD100RT, the 33ft XD120RT and the 40ft XD140RT - with capacities of 567kg, 454kg and 345kg respectively. Each has a 1.5 metre deck extension which reduces the capacity on the extension to 136kg.

Unlike the other Chinese manufacturers, Mantall is keeping a relatively low profile in Europe, concentrating on markets outside of Western Europe. It does however build products for other companies and has a deal with US-based GMG (Global Machinery Group) which launched in May 2017 and is based in California, with operations in the Netherlands and more recently Australia. GMG says that its units are modified and separately tested with propriety control and electronics, which makes its units substantially different to the standard Mantall units. It has launched three compact Rough Terrain scissor lifts with 26ft, 33ft and 40ft platform heights, all with 69 inch/1.75 metre overall widths, the 2669, 3369 and 4069-RT. A 1.53 metre long slide out deck extension extends the platform length to 4.32 metres. Auto levelling jacks are standards as is 4x4 drive and four wheel braking.

### Leading players

The leading aerial lift manufacturers such as Genie, JLG, Skyjack, Haulotte and Snorkel all offer Rough Terrain models, both compact and full size models with platform heights from 26ft to 60ft.

### Hybeko Tunnel 3390 RT

Genie has RT scissors with electric, diesel or bi-energy power, two wheel or four wheel drive and has been tweaking its product range with improved traction control, improved parts and component



Mantall is keeping a relatively low profile in Europe but does build products for GMG



Haulotte Compact 10DX Diesel Scissor Lift 2-1

commonality, while moving towards more hybrid and all electric Rough Terrains. It has also standardised



Skyjack SJ9250 RT

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and streamlined its maintenance regimes that extend some service and inspection intervals while condensing and simplifying service manuals.

A variation on a 33ft Genie GS-3390 RT has recently been produced by Hybeko - the Genie distributor for Norway. The 33ft Hybeko Tunnel 3390 RT is a factory approved conversion which features a simple two mode operation - Tunnel or Standard - with working heights of either eight or 11.94 metres respectively. In Tunnel mode the lift can drive at full height on slopes of up to eight degrees, while the maximum travel speed when stowed is 8kph. Maximum platform capacity is 1,134kg as per the standard Genie model.

Hybeko decided to retain diesel power, rather than convert to battery power due to long recharging times and the fact that recharging is currently not permitted in tunnels in Norway. The engine is equipped with a high performance catalyst and diesel particulate filter to keep emissions as low as possible. The unit features the 7.39



*The Hybeko Tunnel can drive on inclines of up to eight degrees at working heights of up to eight metres*



*The Hybeko Tunnel GS-3390 includes a chassis mounted cable drum stand*



*The two modes have working heights of 8 or 11.94 metres*

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*JLG has updated its three model LRT series of Rough Terrain scissor*

metre long dual extension Super Deck, a chassis mounted cable drum stand that extends to avoid interference with the extended deck, towing support and air/water services to the platform.

**JLG updates LRT scissors**

JLG has updated its three model LRT series of Rough Terrain scissor lifts in response, it says, to customer feedback. The upgraded 33ft 330LRT, 43ft 430LRT and 53ft 530LRT machines offer smoother operation with a new joystick controller and improvements to the control system, with finer proportional function control. Left and right steer functions now feature renewed digital inputs for a higher level of functionality and

better response. Jack levelling has also been improved and is quicker, enhanced by integrating a dedicated levelling function within the current lift/drive switch.

All machines feature Tier 4 Final diesel engines with new mufflers lowering the sound level by five percent. Engine noise and vibration levels are also reduced through new engine isolators and improved door bumper locations. The tilt sensor is relocated so that it is less prone to damage. The updated 530LRT will use proportional lift valves for the upper and lower lift cylinders to give a smoother, more controlled and proportional ascent and descent.

Machine calibrations can now be performed from the stowed position and the elevation sensor calibration no longer requires recalibration after a software update. The 53ft 530LRT uses the same steel covers and fold down ladder design as the 33ft 330LRT and the 43ft 430LRT, while a 60 degree swing out engine tray gives easier access to engine and hydraulics. The multifunction digital indicator (MDI) displays fault codes for faster troubleshooting reducing the number and duration of service calls. Operation and control layouts are common with the entire line for ease of training and operation.

**Large heavy duty scissors**

So far we have only discussed the compact RT scissor lifts and the larger mainstream models that are

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Holland Lift presents its new smart models: HL-160 and HL-190. The concept is designed for tailored efficiency. A modular system with various options: 16 or 19m high, electric, diesel or hybrid; the base of the machine always remains the same. These scissor lifts have attractive exploitation costs and a high return on investment. And whatever configuration you choose, Holland Lift quality, safety and durability are as always part of the deal.

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*AB Lift is one of the manufacturers in the larger heavy-duty and narrow aisle scissor sector*

most commonly used for cladding work. However a niche, but growing market sector for larger heavy-duty and narrow aisle products has been growing steadily led by Holland Lift with PB Lifttechnik and AB Lift - previously HAB - also participating in the market.

The market for the tall, narrow electric scissor lifts over 60ft now make up a good portion of the heavy-duty market, mainly in response to specific demand during the construction of high cube warehousing and the installation of high racking systems spurred on by growth of internet shopping.

The market for these heavy-duty scissor lifts, the Rough Terrain and ultra-narrow, is now in the region of 500 units a year, with demand outstripping supply as all three manufacturers struggle to increase production and meet delivery times, let alone reduce them. This has led to high residual values and a substantial business in rebuilding and updating older models.

### Holland Lift gearing up

Market leader in this sector Holland Lift has been relatively quiet in terms of new products since the last Bauma. Its newest machine - introduced just over a year ago - was the new version of its 83ft HL-275 D25 4WD/P/N Rough Terrain scissor lift. A key change is the reduction in overall width from 2.65 to 2.5 metres allowing it to be transported more easily and without a special wide load permit.

The other major change was the installation of a new Hatz 4H50TIC common rail, turbocharged Stage IIIB (EU 97/68)/Tier 4 Final (EPA) diesel engine which meets the most stringent off road emission requirements in both Europe and the USA. It is also significantly quieter with improved fuel consumption. Phasing in of the Stage V engine should begin this month.

All other aspects of the HL-275 remain the same, including driving at full height, 1,000kg platform capacity and 9.25 metre extended platform. The same Hatz engine unit should now be available for the 106ft HL-340 D25 scissor lift.

Holland Lift, which is now producing more than 270 units a year, plans to introduce new models at Bauma this year, but is keeping quiet about any specific details. A few years ago it was looking at a 37 metre machine, however the substantial

development time and lack of current demand, in what would be the world's largest scissor lift means it is unlikely to be launched anytime soon. The company's most popular size is currently 22 metres.

### Compact Snorkel

For those looking for a more compact RT scissor, Snorkel has the ultra-compact 22ft S2255RT and 27ft S2755RT both with an overall width of 1.45 metres. These are based on machines the company designed and built in New Zealand for customers wanting a narrower machine that was easily transported on a tandem trailer. This concept is growing in popularity, particularly in Germany and units are now being sold across Europe and the Middle East.

Platform capacity is 420kg and 300kg respectively and most importantly the overall weight is 2,360kg and 2,580kg respectively - complete with standard levelling outriggers and 1.2 metre roll out deck extensions - making them light enough to transport on a standard two axle trailer or on the back of a 3.5 tonne truck.

### Airo

Italian manufacturer Airo is another manufacturer offering Rough Terrain scissor lifts and has four models with 12, 14, 16, 19 metre working heights. The largest is the 56ft XL19 RTD which has a double deck extension and a 500kg capacity across its extended decks. It also has four battery electric RT scissor

*The crawler scissor such as this Almac Bibi BL-1090 is a possible alternative for an RT scissor*



*Snorkel has the ultra-compact 22ft S2255RT and 27ft S2755RT both with an overall width of 1.45 metres*



*Genie GS 4390RT*

lifts ranging from 30ft to 58ft, providing working heights of 11 and 19.5 metres which use a 775AH battery pack. The two large 24 volt full traction batteries use a three phase 80 amp charger, which can charge the batteries from 20 percent to full overnight.

### RT alternatives

A possible alternative to the regular Rough Terrain scissor is the crawler scissor lift. Italian manufacturer Almac now builds two ranges of tracked scissors - the BL which features a self levelling chassis with either static or dynamic levelling, the latter levelling on the move as it travels over uneven ground. And more recently it has introduced, the stabiliser HE range. There are three basic models in the BL range - the 19ft BL-850 and BL-870 and 30ft metre BL-1090 - which can be powered by petrol, diesel or a lithium battery Hybrid version. The BL-850's bi-levelling undercarriage can level the platform on slopes up to 20 degrees longitudinally and 15

degrees laterally. This is a slightly better performance than the larger BL-1090.

The company has also extended its HE range which includes three machines - the 19ft/250kg 870-HE, the 33ft/300kg 1270-HE and the 40ft/300kg 1470-HE. The HE differs from the BL machines in that it uses long levelling jacks to level up on slopes up to 14 degrees longitudinally and 23 degrees laterally. They can also work free on tracks on slopes up to two degrees and can drive with an elevated platform height of six metres. The larger models can lift to a platform height of 26ft/eight metres of 33ft/10 metres with inboard stabilisers and to their full heights with jacks rotated to a slightly wider position. The larger machines have a 300kg platform capacity an overall width of 1.15 metres and a 3.05 metre overall length. The 1470-HE weighs 3,380kg with the 1270-HE 200kg lighter. A Light version is also available weighing 2,880kg.



*The Holland Lift Megastar HL340-D30 has a working height of 33.5m*



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