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Almost but not quite....

In numerous parts of the world, the simple 25 tonne truck mounted crane is still the preferred mobile lifting choice - with more sold than all of the other types of mobile crane combined. However this is not the case in Western Europe which for many years has preferred the All Terrain crane. However, the growth of alternative lifting solutions, rising new equipment prices and decreasing rental rates over the last few years has meant fewer and fewer small All Terrains being sold. But will this result in resurgence for the truck crane? Cranes&Access investigates.

The truck crane is by far and away the most popular type of mobile crane in the world today, put in that position by the tens of thousands produced and bought in the Far East every year. In Western Europe, there has been renewed interest again in the truck crane, with several manufacturers introducing products, mostly on commercial truck chassis, rather than their own or specially built carriers.

But as yet, very few users/rental companies have 'bitten the bullet' and numbers purchased remain small. A few months ago, Cranes&Access reviewed the All Terrain crane market and concluded that at the lower end of the market - under 35 tonnes - there has been an enormous increase in alternative lifting solutions, such as mini cranes, while the significant investment in a two axle All Terrain appears too high to make economic rental sense.



Ormig 804AC



Liebherr LTF 1060-4.1

With decreasing sales, most major crane manufacturers have stopped or curbed production of All Terrain cranes of under 35 tonnes.

With the promise of reduced 'life time ownership costs', the market conditions have been favouring the truck crane again for some time, but in spite of the additional models and manufacturers entering or getting back into the truck crane sector, why are they still a rare sight on our roads?

By using a commercially available chassis with 'off the shelf' consumable replacement parts - particularly tyres - the truck crane should offer significantly lower running costs, particularly beneficial in the UK where most mobile cranes travel far too many road miles in search of work.

While this is undoubtedly true, the unexpected factor may well be the higher initial purchase price which can be up to 10 percent more than for a similar capacity All Terrain crane. Everyone's immediate reaction is that a truck crane must surely be cheaper, however the reasons for the opposite are fairly obvious. Most of the recently introduced truck cranes have two engines and cabs, while a commercial truck chassis can be expensive when purchased in relatively small numbers. Add to this other additional costs which are not incurred with a specifically designed AT chassis, such as building a second chassis/ sub-frame and modifying the chassis to accept it and it becomes clear that the overall cost is likely to be higher. Especially given the low volumes.

More manufactures join up

Tadano Faun sold the first of its new truck crane range at Vertical Days last summer, but says that it is still too early to know the full 'running costs' comparison between a truck and All Terrain crane.

"Running costs need to be measured over a period such as five years to make meaningful comparisons and include items such as replacement tyres," explained Joe Lyon from Tadano distributor Cranes UK. "Initial feedback indicates the first customer (John Sutch Cranes) is happy with the purchase and the running costs are very competitive. However, the jury is still out on truck cranes but items such as tyres - R25 AT tyres are about £1,300 while truck crane tyres run around £300 to £400 - plus lower-cost mass produced truck parts should all add up to substantial annual savings making the initial price premium worthwhile."



Palfinger also makes a truck crane but only for the South American market.

Manufacturers obviously see the potential for increasing demand for truck cranes if new product launches are anything to go by. Liebherr, Tadano, Ormig and Sennebogen are all introducing new models in the near future, while Chinese based producers such as Zoomlion are making sure that their latest designs accommodate European requirements and preferences. What is significant is that apart from the 120 tonne Zoomlion (which probably will not be seen in Western Europe anyway) all of the new products have four or five axles and capacities between 60 and 80 tonnes - a specification that just happens to coincide with one of the most popular All Terrain capacity sector at the moment and fails to address the bottom end of the market that used to be dominated by three axle 25 tonners.

How do they stack up against AT's?

In the table on page 19, we have compared three new 'representative' truck cranes - from Tadano, Liebherr and Ormig - with capacities between 60 to 80 tonnes to give an indication of the differing specifications

largest of the truck mounted cranes but surprisingly smaller than some All Terrains of the same nominal capacity.

Of the two German truck cranes, the five axle Tadano Faun HK70 is obviously the longest by almost two metres, has the longer (44 metre) main boom and with 16 metre jib the highest on board tip height. The total machine weight is 52 tonnes allowing an extra of two tonnes for tackle etc. It can also carry five tonnes more counterweight at 15.2 tonnes. The crane was designed in partnership with Mammoet - which took delivery of the first model in the UK late last year - and uses the successful ATF 65G upper-structure and up to 61 metres tip height, mounted on a five axle commercial Mercedes chassis with rear axle steering.

The new HK70 is the largest in the three model Tadano Faun truck crane line-up. Smallest is the 40 tonne HK 40 with a 35.2 metre boom length and 45.4 metres when equipped with the nine metre extension. It is available either on a three or four axle chassis. Its previous range topper, the 60 tonne



Sennebogen is launching its 60 tonne HPC 60D at Bauma

tonne capacity HPC 40 - with the larger 60 tonne capacity HPC 60 D Series to be launched at Bauma. Little information is yet known but the new design uses a single boom cylinder for its 42 metre main boom and is said to be an extremely stable machine given its 'compact dimensions'.

The Truck Terrain concept - has its time arrived?

One product that ought to be popular, but has yet to make an impression in Europe is Link-Belt's Truck Terrain concept. The company currently offers two models, the 70

tonne HTT 8675 which has been launched in the UK and the 81.6 tonne HTT 8690. The concept aims to incorporate some of the best features of the All Terrain crane, including large single tyres (albeit standard truck super singles), all-wheel steer manoeuvrability and good gradeability up to 58 percent combined with the road travel characteristics of a truck crane - 90 km per hour top speed, axle loads of less than 10 tonnes and commercial truck running gear.

On the surface the concept is very attractive, so why has it not taken off?

available - four and five axle, boom to front and rear, Italian vs German design. Also in the table is an 80 tonne All Terrain crane from Terex just for comparison's sake.

What is immediately clear is that the Ormig, although it has a much shorter main boom, has the biggest lifting capacity from the smallest overall chassis. The 804AC is significantly shorter, lower and lighter than the others - three metres shorter, 500mm lower and 22 tonnes lighter than the Tadano - although its outrigger spread at 7.2metres by 7.4 metres is the

capacity HK 60 mounted on a 4 axle chassis has recently been upgraded. Liebherr sees its new LTF 1060-4.1 truck crane as an 'economical alternative' in the taxi crane class, capable of being driven to site with full 10.2 tonnes ballast ready to work. Its low operating costs are helped by using a standard Scania CB 8x4 chassis, which it also says gives low fuel consumption. The new crane is the largest truck crane in Liebherr's four model range.

German crane and materials handler manufacturer Sennebogen is adding to its single truck crane - the 40



XCMG has a 16 model truck crane range

So how do they stack up

	Tadano	Liebherr	Ormig	Terex
Model	HK70	LTF 1060-4.1	804AC	AC80-2
Type	Truck	Truck	Truck	All Terrain
Max Capacity	70t	60t	80t	80t
o/a length/m	13.25	11.35	10.25	12.11
o/a width/m	2.55	2.55	2.50	2.75
o/a height/m	3.95	3.97	3.4	3.59
Total weight	52t	42t	32t	48t
Outrigger spread/m	6.47 x 6.28	6.40 x 6.84	7.2 x 7.4	7.7x7.0
Main boom length	44m	40m	34m	50m
Max capacity	70@2.5m	60@2.5	80@2.5	80@3.0
Max lift/t@height/m	9.2t @46m	10.4t@41m	-	6.5t @51m
Max capacity/t@reach/m	1.2t@40m	1.6t@36m	-	1.0t@42m
Lattice extension	16m	16m	12m	17.6m
Jib offset angle/degrees	0 - 40	0 - 40	0 - 40	0-40
Max counterweight	15.2t	10.2t	-	18.0t
Boom sections	5	5	6	6
Chassis	5 axle Mercedes Atros 10x4	4 axle Scania CB 8x4 MHZ	Iveco/ MAN 8x4x4	Specific 8x6x6
S/S engine	Mercedes 90kW	Liebherr 129kW	-	N/A

One factor that is always mentioned as an attractive feature of All Terrain cranes are compact dimensions and at around 14 metres overall length the HTT's are a good two metres longer than an equivalent AT and in the case of the 8675 a boom overhang of almost 2.5 metres may also be an issue. Interestingly the 8690 is more compact at 13.89 metres long, with less overhang and a longer boom at 42.7 metres. It may well be that this would have been the better of the two to launch in Europe? Most of all perhaps is that the concept does not yet have a 'champion' or two among the crane rental fraternity proving that it can work. With some tweaking and development, could this be a concept that has yet to find its time?

Only in South America

Austrian manufacturer Palfinger also makes a proper truck crane, which it builds in Brazil for the South American market,

following the company's acquisition of crane manufacturer Madal in 2001. The company Madal Palfinger is based in Caxias do Sul and the Palfinger centre for South America. The truck cranes are built solely for that market and are not available for sale anywhere else. Palfinger has systematically maintained that it has no interest in the mainstream mobile crane market. It has though benefited from the demise of small mobile cranes, with its larger loader cranes often being used for work previously carried out by mobiles.

Link Belt
HTT 8675



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Tadano Faun HK70



six-section oviform boom with a patented compact automatic telescopic system provides a maximum 85 metres tip height when equipped with jib.

XCMG has a 16 model truck crane range topped by the six axle, 130 tonne QUY130K. Its cranes look well designed and do sell well in markets such as the Middle East, but so far have

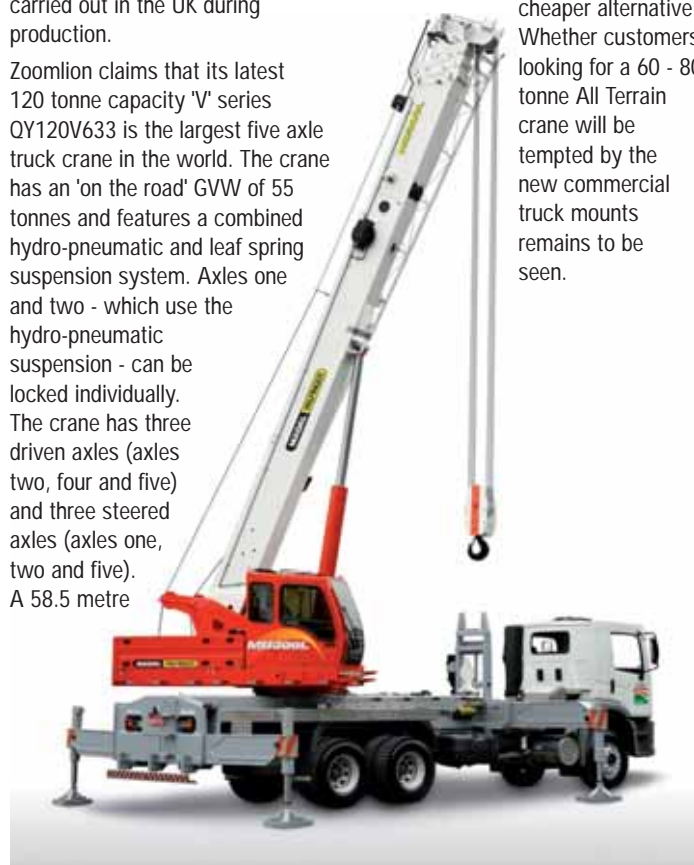
Chinese producers build between 10,000 and 14,000 three axle 25 tonne truck cranes, (on purpose built carriers) a year between them, with Terex, Manitowoc and Tadano all having a finger in this pie, along with local producers XCMG and Zoomlion. None of the international manufacturers considers that the design or quality levels of these products are up to European standards and none have attempted to introduce them here. The two local producers on the other hand have introduced them, with XCMG working through Belgian-based Michielsens and Zoomlion having most success through UK-based Universal Cranes. However in order to achieve that success Universal has had to improve certain areas of the crane - the paint finish in particular - for the UK market. Peter Issit of Universal says that Zoomlion has been increasingly responsive and has continued to incorporate many of the changes previously carried out in the UK during production.

Zoomlion claims that its latest 120 tonne capacity 'V' series QY120V633 is the largest five axle truck crane in the world. The crane has an 'on the road' GVW of 55 tonnes and features a combined hydro-pneumatic and leaf spring suspension system. Axles one and two - which use the hydro-pneumatic suspension - can be locked individually. The crane has three driven axles (axles two, four and five) and three steered axles (axles one, two and five). A 58.5 metre

not made a great impression in Europe. A number of small Italian companies also continue to build truck cranes, including family owned Marchetti, which produces a small range of sturdy truck cranes with capacities ranging from 60 to 90 tonnes, all on commercial chassis, but volumes are relatively low.

So a quick look at the European market shows that all of the new truck cranes have capacities of more than 60 tonnes which is perhaps significant and an effort by manufacturers to offer an alternative to the popular sized All Terrains based on lower running costs. There appears, however, to be no attempt to try and cater to users looking for 25 to 35 tonne cranes. Perhaps the market has realised that other less expensive and lighter weight machines, such as spider and mini crawler cranes, along with aluminium and loader cranes really can offer a better, cheaper alternative.

Whether customers looking for a 60 - 80 tonne All Terrain crane will be tempted by the new commercial truck mounts remains to be seen.



The Ormig 804AC

Marchetti MKT60 at Intermat



Zoomlion's 130 tonne QY 130H truck crane

