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Refurbishment and rebuilding

A major trend emerging in North America is the reconditioning and even rebuilding of older aerial work platforms, particularly booms and big scissors. We take a look at refurbishment, repairs and rebuilds for Cranes, Telehandlers and Aerial lifts on this side of the pond.



This JLG 40H+6 is eight years old

First of all lets get the wording sorted out. **Rebuilt, Reconditioned, Refurbished, Restored** they all mean roughly the same thing in general terms, although subtle differences apply. A rebuild for example, which is required by law on older aerial lift equipment in some countries, suggests a full strip down, and then reassembly with new or service exchange components. This can be very costly, and only really makes sense on the largest equipment where the steel structure is a very large and costly part of the machine.

The three other "Re" words are, depending on who you talk to, virtually interchangeable. The degree of restoration, as with classic cars, varies enormously depending on the end result desired.

Our research begins with the manufacturers. In the USA Skyjack, Snorkel, JLG and Genie are all now offering some form of production line refurbishments/rebuilds for aerial lifts and in some cases telehandlers. Snorkel and Skyjack carry out factory based rebuilds with Skyjack rebuilding JLG, Genie and Snorkel booms in addition to its own. JLG does some factory

on this side of the pond.



An old Snorkel 60ft Articulated boom before and...



the same unit after the factory refurbishment

rebuild, but also has local rebuild centres within its Service plus business. Genie takes a slightly different approach and tends to work with certain local outlets rebuilding only Genie units.

Cranes lend themselves to ongoing refurbishments and as a result is a long established industry but the business tends to be much less production line based and more local, with few manufacturers providing factory based refurbishments.

In Europe only JLG has attempted to replicate its North American efforts with its rebuild centre in

Tonneins France. We spoke with Walter van Winkel Director of Equipment services at JLG. He is the person responsible for JLG's rebuild/refurbishment programmes in Europe. He told us that up until now most of the refurbishment work that has been carried out has been on machines traded in by JLG distribution companies and then sold in fully or partially refurbished condition.

In North American customers either buy low cost used units at auction or take units from their fleet and send them to the manufacturers for refurbishment, choosing the level of work they want to have done from a fixed price menu. JLG intends to offer this same service from its French base, but acknowledges that it will need to build up the service gradually. Van Winckel also recognises that due to the cost of freight a single location will not be viable for all levels of work for all of Europe.

The units coming out of Tonneins so far have been largely JLG and the quality of the finished product that we saw was exceptional, with seven and eight year old units looking brand new. Whether such a high degree of rebuilding is profitable, only JLG knows but with deliveries of new booms now seriously extended the time might be just right.

NON!

Haulotte as the largest European producer, said that they had no plans to enter the rebuild or refurbishment market and in fact hold strong views that this is a negative development for the aerial lift market. Haulotte prefer to see ongoing improvements in new machine safety and performance force the regular upgrading of rental fleets. The company says that this is not a purely profit or revenue based strategy based on planned obsolescence. Haulotte believe that if rental companies in the western world are commercially obliged to replace aerial lifts on a regular basis in order to keep up with a rapidly developing "state of the art" this will not only help improve safety but will also keep rental

rates at commercially viable levels.

Most importantly, it believes that such a policy provides a stream of relatively young second hand lifts for the developing markets of the world and will thus help expand the world wide market for safer access equipment. Certainly at a faster pace than if developing markets have to rely on new product or very old machines. To this end Haulotte does see a benefit in having some form of refurbishment programme in new EU member states and further east, where costs are lower and skilled labour more readily available.

Regular rebuilds

Certain machines need rebuilds on a far more frequent basis, such as aerial lifts with insulated booms which are often subjected to a strip down inspection every five years. Or Units used in hostile environments such as shipyard blasting work or in certain production processes such as aluminium smelters or steel coking ovens. Versalift the van and vehicle mount producer dedicates several of its UK production bays to customer rebuilds and refurbishments. Samuel Walker, based in Manchester and Glasgow also provides regular rebuilds for machines that are subjected to hostile working conditions.

The Crane market has for some time had a strong rebuild and refurbishment culture given the cost of the equipment and the need to depreciate it over a longer period. However unlike the aerial lift market which is developing along production line methods with complete makeovers, crane refurbishment is far more of an individual and local affair,



Liebherr has developed a purpose built facility in the UK which will offer a wide range of repairs and refurbishment work

Purpose built crane facility

with refurbishments going in stages, with possibly a slew bearing and hoist replacement or repair one year and a boom overhaul a year or two later. The past few years have seen a rapid development in crane technology with new lighter weight units with longer booms obsoleting certain older models and thus causing companies to look at how much of this on-the-go refurbishment they carry out. A strong export market to developing regions has allowed

Of the three large mobile crane suppliers in the UK Liebherr has invested a vast amount in its new facility in Biggleswade, part of the strategy for this new facility is to be in a position to carry out more rebuild and refurbishment work as it builds its UK operation into a full customer service operation. At present Liebherr only refurbishes and rebuilds its own cranes, apart from work on units that it takes in trade. The longer term plan though is to build this part of the business up in order to offer a refurbishment service for all makes of crane.



"A Manitowoc 4600 recently rebuilt by Adrighem&Barnhoorn"

many crane owners to sell cranes on, prior to any need for refurbishment.

Conventional lattice boomed cranes have always been subject to ongoing rebuilds, while the development of modern hydraulic models some years back made older units less attractive for the rental industry, there is a good market for such machines with smaller ports and end users. In Holland companies like Adrighem & Barnhoorn make a business of rebuilding older cranes for stock, there is a ready market for such units both in Europe as well as further afield.

Versalift carry out regular rebuild and recertification of insulated booms



With its wide range of equipment including large overhead cranes it is ideally suited for larger work and recently completed a slew ring replacement on a 500 tonner within two days.

Liebherr is also planning to offer a wide range of crane training courses starting off with Operator training and expanding into appointed person, slinger/banksman and other programmes.

A seven year old JLG 600S





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Boom and structural repairs are available from a number of specialised suppliers.

All Terrains need to be moved on sooner

The conversion of the UK crane hire fleet from Truck to All Terrain cranes is also causing a change in approach. A number of hirers we spoke to said that ideally All Terrain cranes need to be changed out every five years or so, as this is the age when maintenance costs start to rise rapidly on the expensive carriers. If this practice takes root and proves to be viable the demand for major crane refurbishment work could fall rather than climb. However if the government gets its way and cranes have to start using fully taxed diesel we could see a drop in the mileage that UK cranes rack up, currently the highest in Europe. With lower mileage perhaps the five year cost cross over will go away?

A contrary trend affects some machines that are not easily replaced, for example many companies are holding on dearly to their Japanese truck mounted cranes and will refurbish the better ones for as long as it is practical, given that it is not possible to buy new ones.

This idea of holding on to a loved machine was also raised by a number of the rebuild companies we spoke to. Samuel Walkers said that a good number of the crane and access machines that they completely refurbish are older units from end users. The machine they own is likely to have proved to be ideal for the job and they would rather

A Genie boom arrives for mid life refurbishment at Sam Walkers



spend a high proportion of the new cost to rebuild it.

This mentality can also affect more recent machines especially when a product that is no longer available suffers an accident. A few companies in Holland the UK and Germany are able to handle highly sophisticated structural repairs including dealing with twisted and buckled chassis, re-welding and repairing high yield steel booms and other components, complete with new certification. This makes it possible and practical to repair all but the very worst accident cases. The only question is how much are you willing to spend?

A growing pool of suppliers

One thing that helps make refurbishment or rebuilding an easier task is the number of suppliers now offering services such as structural repairs and major component service exchange. B&C reconditioning for example not only reconditions almost any slew bearing found on lifting equipment but also hold a stock of service exchange bearings for fast change over and can provide new bearings for most cranes, aerial lifts and 360 telehandlers.

Hydraulic cylinders and hoists are also an area where rebuild or service exchange can be the best option, particularly on an older machine or where delivery on a new cylinder might be extremely slow or expensive.

For example large telescope cylinders that are made in North America or the Far East are not only cost prohibitive to ship by air, but most airlines will not or simply cannot carry them. Companies like Samuel Walker and Kohler in Germany will repair even the most badly damaged cylinders.

Refurbishing the paintwork

With most UK rental companies painting their equipment in company colours, one area that comes up for refurbishment more often than users would like is the paintwork. The UK is a relatively inexpensive location for full machine repaints, certainly compared to Germany or Scandinavia. However an increasing problem is the workload that specialist painting companies have. Particularly for cranes and larger truck mounted



A skylift truck mount gets its gloss back after a Dakota shine treatment.

platforms. Not only can the wait be long and the cost high, but the worst case can be the down time. Times of two to three weeks from coming off its last hire to going out again was quoted by several companies for a full repaint of a mid sized crane.

This makes the job exceptionally expensive and in these days of tight margins can blow a machines profitability in one go. Last year Future Products began importing an alternative called Dakota Shine, while nothing like a proper blast and repaint job, it does restore the shine and colour to a faded/oxidised machine. The other benefit is that any touch up work done prior to the application of the Dakota shine, (a practice that usually makes the machine look worse than before)



A Skyjack 9250 after a Sam Walker refurbishment

blends in well with the existing paintwork and is well worth doing. Dakota shine has been adopted and branded by Caterpillar and used in the USA by most of the big crane and access companies including All Erection and Sunbelt. (See *Cranes & Access on site test June/July 2004*)

In summary

We have been very impressed with the quality of rebuild work that the major manufacturers are doing and amazed at how fast the trend has taken off in the USA. Skyjack for example are currently working towards 70 full refurbishments a month and have a huge backlog of units waiting to go through its programme.

Haulotte though also make a good point, perhaps the aerial lift industry should be aiming to get back to a position where it is profitable to turn units over every five years with the intent that lower cost refurbished units can help speed up the development of new markets in Eastern Europe, South America, India and other Asian markets. Interestingly the import of used machines into China is officially highly restricted to the point of an effective ban.

While refurbished booms are currently helping cover the shortage of new units in the USA, several rental companies there told us that rates for large scissors are currently so poor that it is only by buying cheap used machines and having them refurbished that they can turn a profit. This latter practice clearly has a limited time to run and cannot be good for the long term health of the industry.

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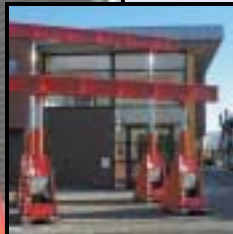
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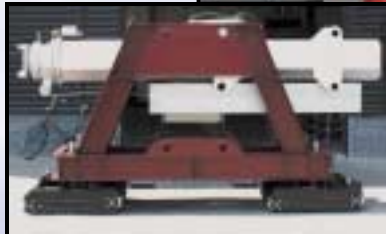


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