

When will we ever learn?

Barely a week goes by in which there is at least one or more accidents, caused purely by the incorrect set-up of outriggers. Lack of appropriate sized outrigger mats or cribbing is the usual cause and if operators and users would simply get this aspect of crane usage right it could easily cut the number of mobile crane tip-over's by half or more.

In spite of being one of the most basic of areas in which an operator should be well trained and experienced, not to mention the fact that simple common sense should prevent many of the errors that occur, it seems that even some long-serving operators make mistakes.

It is clear that some accidents are down to pure ignorance which raises the question should such people should be trusted with such an expensive and in the wrong hands, dangerous piece of equipment? Another cause is clearly down to laziness - the operator has the appropriate mats but just cannot be bothered to use them.

In such cases where injuries or death results there is a strong

case for the operator, assuming he survives, being tried for manslaughter. And finally there is the rare occasion where a good operator working with a first rate company has an accident related to poor outrigger set up. Such cases are very difficult to understand... did the operator simply have an off-day? Or was he in a hurry and just pushing his luck? Given that accidents with this latter cause are rare we have never managed to find out why...

However there was one such example recently which wrecked a brand new 250 tonne All Terrain crane. As we have gone to press we have been given a very detailed step by step review of what went wrong. We hope to publish this in

This accident caused by the lack of Outrigger mats cost Cheshire Crane hire a £17,000 fine on top of the damage and other costs.



the November issue - it will make a good case study.

There are still many things that can be done to reduce the number of accidents from poor outrigger set up. One is to insist - by regulation - that mats are supplied with all machines, including the provision of



A good sized mat for small truck mounts, spider and trailer lifts.

appropriate storage points. In some countries wheel chocks are still required on commercial vehicles, so why not mats on equipment with outriggers?

The situation is complicated of course in that some manufacturers fit large pads to their outrigger jacks in order to avoid the need for mats on most surfaces. However many think that even if the machine is fitted with big pads or the surface is rock solid, it is still a good policy to use mats so that it becomes second nature. Perhaps the industry could agree a maximum ground bearing pressure for standard use? A bearing pressure/point loading that is low enough to cope with most firm ground conditions. If the bearing pressures are above this then the machine must be supplied with appropriate mats and stowage as standard equipment?

After a recent spate of accidents in the UK and Ireland an editorial was included on the industry web site www.vertical.net which included a vote on whether the use of outriggers mats should be mandatory. The vast majority of replies said they should (787 to 179), however a number of rental companies expressed a concern that if, as they would like to, they insist that customers rent a set of mats with any self drive crane or platform that is equipped with outriggers (or sign a declaration that they have their own or absolutely do not need them) they will open themselves up to a law suit if the customer uses the machine on ground which is too soft for the mats provided and an accident results. Some such companies are therefore currently choosing not to make mats available in order to avoid this perceived risk!

Companies are also concerned about what size of pads they should supply - what if they are too small? Again the adoption of standard point loadings/ground bearing pressures would provide some guidance here. It seems though that some industry associations which could and should be definitive on this are also afraid to be too subscription, lest they then come under fire in the case of an accident with the recommended mats! It is our experience after monitoring this kind of accident over several years that cranes or lifts rarely suffer from such accidents if mats are used, regardless of their size - this is clearly an over simplification, however it is a fact that the vast majority of accidents involving cranes, lifts or concrete pumps

where the ground gave way under the outriggers, the machines were operating without any mats at all. Our recommendation - for what it is worth - having spoken to numerous industry experts, is that on spider lifts, trailer lifts, 3.5 tonne truck mounted lifts and spider cranes a mat of around 350mm square or diameter will cover most applications. Larger mats or additional shoring is only required in special cases, such as on very soft ground, in areas with ground bearing restrictions and on slopes.

For mid-sized truck mounted lifts and cranes a mat of around 750mm square/diameter will cover most eventualities. They are reasonably easy to handle and can be practically stowed on board. For larger equipment such as a 100 metre truck mounts or cranes of 100 tonnes and over etc the outrigger mats and shoring is down to a case by case basis with full ground surveys often required.

As to the risk of a legal battle in the case of a customer using such mats and having an accident, a simple clause or addendum to the rental contract should be possible. We understand that both the CPA and IPAF are looking at this subject.



Excellent on board mat storage, shame they are not in use



Some traditional cribbing, while not ideal, it is better than nothing



Good use of mats on this 80 tonne crane, shame they are not just slightly larger



C&A

outriggers

Excellent steel mats in use with larger cranes, also well suited to the largest truck mounted lifts

An example of the wording might be:

This machine is equipped with outriggers/stabilisers which must be properly set as per the instruction card/manual. We also recommend that you use mats or appropriate cribbing under the outrigger pads. Unless you have your own mats or are using the machine on reinforced and tested ground we will add a set of standard mats to your rental contract. These should be used under the outrigger pads at all times, they will reduce the point loading of the machine and help protect the surface you are setting up on from damage. The mats provided should be sufficient for most firm ground conditions, if however you are using the machine on soft ground or where point loadings are critical, you may need larger or special outrigger mats and may need to have a detailed ground survey.

Polls conducted on Vertikal.net

Should the use of outrigger mats be made mandatory on cranes & lifts?

Yes: 787 No: 179

Do you offer outrigger mats on all self-drive crane and aerial rentals?

Yes: 98 No: 84

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