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STGO Tyre Check

The STGO rules that came into force last August will be fully enforced from December 1, 2004.

This is the deadline by which an STGO plate must be fitted to your crane.

C&A highlights some of the potential limitations.

THE NEW plates will highlight the fact that a crane's travel speed and/or maximum travel weight can be severely limited by its tyres – 14:00 tyres will be particularly limited.

As explained in our February/March issue, only a handful of cranes with axle weights of less than 10.5 tonnes per axle will meet the normal transport/ road regulations, meaning that only the very lightest truck cranes or city cranes will escape the new plates. The vast majority of cranes will fall into one of four STGO categories, which is where some of the problems begin to surface.

The three main STGO categories, A, B and C, allow axle loads of up to 11,500, 12,500 or 16,500 kilograms respectively, while the respective maximum speeds allowed, subject to component limitations, are 60, 50 and 40 miles per hour. If a crane is fitted with 14:00 tyres, however, it will be restricted to average speeds of 50, 40 and 12 miles per hour. Running the crane for long periods at the maximum permitted speeds, raises the risk that the tyres will overheat resulting in damage or, even worse, a 'blow-out'.

So, if your crane is fitted with 14:00 tyres you have two options. Either keep the crane's axle loads under 12,500 kilograms, allowing the crane to travel at an average speed of 42 miles per hour continuously with peak speeds of up to

around 55 miles per hour. Or, limit the average speed to 32 miles per hour with peak speeds of up to 44 miles per hour to permit axle loads of up to 14,000 kilograms. 14:00 tyres are not operationally practical for axle loads in excess of 14,000 kilograms regardless of the rules, according to the manufacturers.

16:00 tyres are by far the most commonly used tyres on all terrain (AT) cranes and are highly suitable for the first two categories, A and B. They will not, however, allow the crane to maintain the legally permitted speed of 40 miles per hour for axle loads of 16,000 kilograms or more. The Larger 17.5 tyres will simply not handle the axle loads underlined in category C, nor will they handle the maximum speeds allocated in categories A and B.

20.5 tyres are as good as it gets, allowing cranes in all four categories to travel continuously at the permitted maximum speeds. The problem with these larger tyres, however, is their weight. For example, 20.5 tyres and their rims will add a

dead weight of over 220 kilograms to each axle compared with 14:00 tyres. They will also take some cranes over the width limits.

The maximum speeds permitted by the weakest link in the cranes drive-train, which in most cases is its tyres, must be highlighted on the STGO plate and displayed in the cab where the driver can easily be made aware of it.

Low speed limits down to 12 miles per hour have been the law for many STGO cranes over many years, but the police have never enforced it. In fact, they have often stopped cranes for going too slow and issued penalties for obstruction with no regard to the law. The new plates will, however, make it very easy for the police to understand just how fast a crane will be permitted to travel. So, expect a more consistent approach, but also understand that extra diligence is now required for both legal and safety reasons.

C&A

One more tip

INCORRECT tyre pressures are the biggest cause of premature tyre failure and wear, not to mention fuel efficiency loss if the tyres are under inflated. One way to avoid this, and possibly aid tyre cooling, is to inflate tyres with Nitrogen rather than air.



Axle loads allowed for popular crane tyre sizes at various speeds

Tyre/Max Speed	12 mph	30 mph	40 mph	45 mph	50 mph	60 mph
14-inch R24/25	16,500 kg	14,000 kg	12,500 kg	12,000kg	10,000 kg	7,500 kg
16-inch R25	16,500 kg	16,500 kg	15,500 kg	14,500 kg	12,000 kg	8,800 kg
17.5-inch R25	15,500 kg	14,000 kg	12,500 kg	12,000 kg	10,000 kg	7,500 kg
20.5-inch R25	16,500 kg	16,500 kg	16,500 kg	15,500 kg	12,500kg	10,00 kg
	Category B; up to 12,500 kgs 50 mph			Category C; up to 16,500 kgs (max 40 mph)		