THE LICCON-WORKING AREA LIMITATION (LABB) for TELE- and LATTICE CRANES

Description of the Technical Realization and Operation by the Operator

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393200-02-02

LIEBHERR

1 The automatically LICCON-working area limitation (LABB)

1.1 Tasks

The LICCON-working area limitation assists the operator, especially when handling a load requiring all his attention by monitoring work area limitations.
His working area can be impeded in many different ways, for example, buildings, neighboring cranes, power lines, structural conduiting, bridges, hall roofs, etc.
The automatic LICCON-working area limitation is easy and understandable for the operator, both in programming and actual handling.
It allows for high flexibility when setting work area limitations due to its capabilities, without requiring complicated programming work.

1.2 Programming basics of the working area limitation

On the whole, the automatic LICCON working area limitation offers the possibility of 4 different types of limitation functions and overlapping of these:
- The pulley head height limitation
- The radius limitation
- The slewing angle limitation
- The border limitation*****

Each limitation can be activated individually, so that either one limitation only is active, or all four simultaneously.
All four limitation types can be overlapped making it possible to describe relatively complex working area limitations. The activated limitation **cannot** be over-ridden by the mounting switch. If an area limitation requires over-riding then it must be deactivated. If a new limitation is programmed, the old limitation is automatically over-ridden and is no longer valid.
Programming a new limitation can be done at any time, whether the limitation is activated or not. If a new limitation is programmed which over-rides one that has already been programmed, the first limitation function must be deactivated.

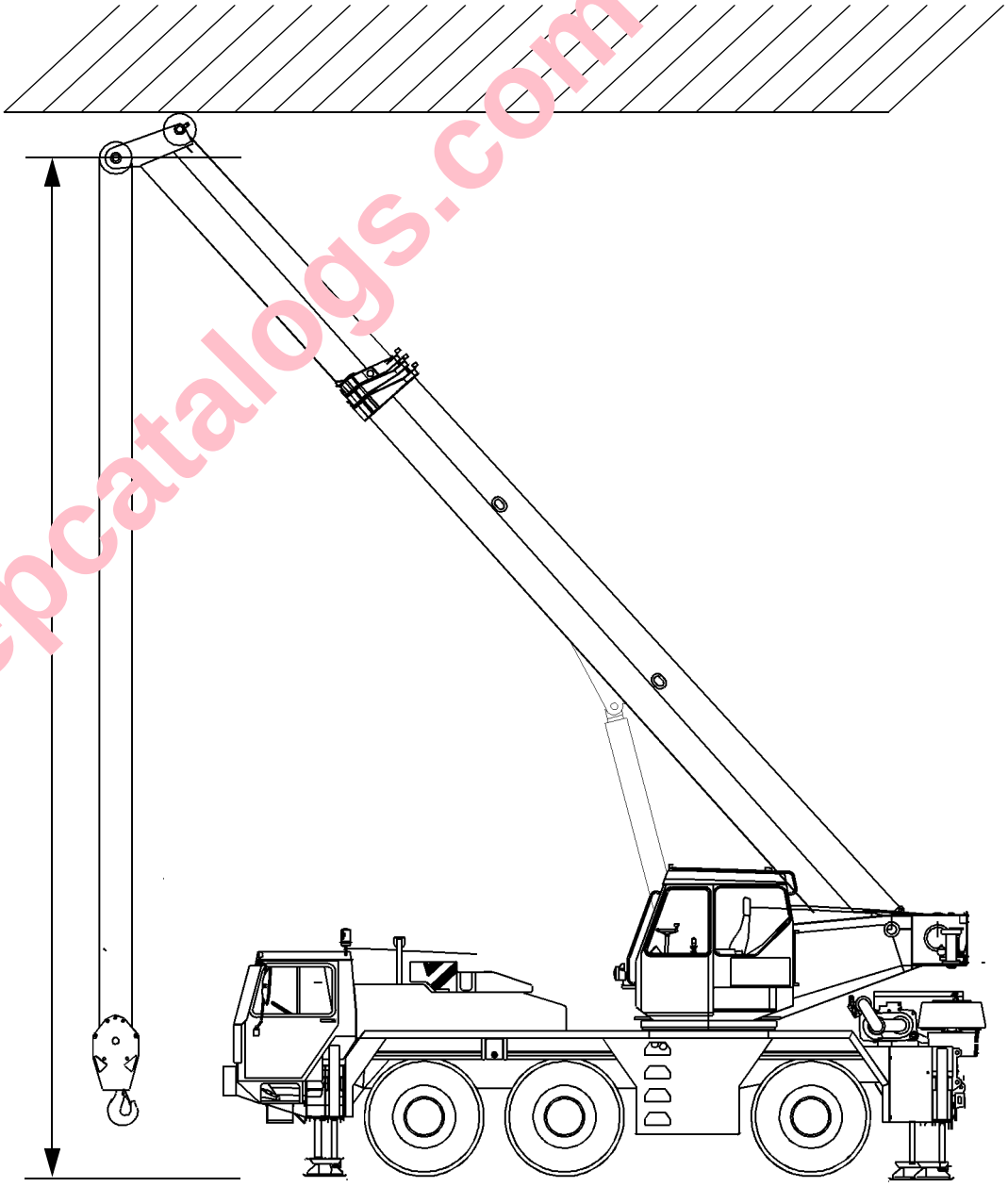
Warning !

Before commencing operation with the crane, the operator must be convinced that the previously programmed working area limitation functions are still in accordance with his instructions, activated or deactivated respectively. When the crane's position is changed, new working area limitations have to be programmed

***** This function is only featured in LTM cranes!

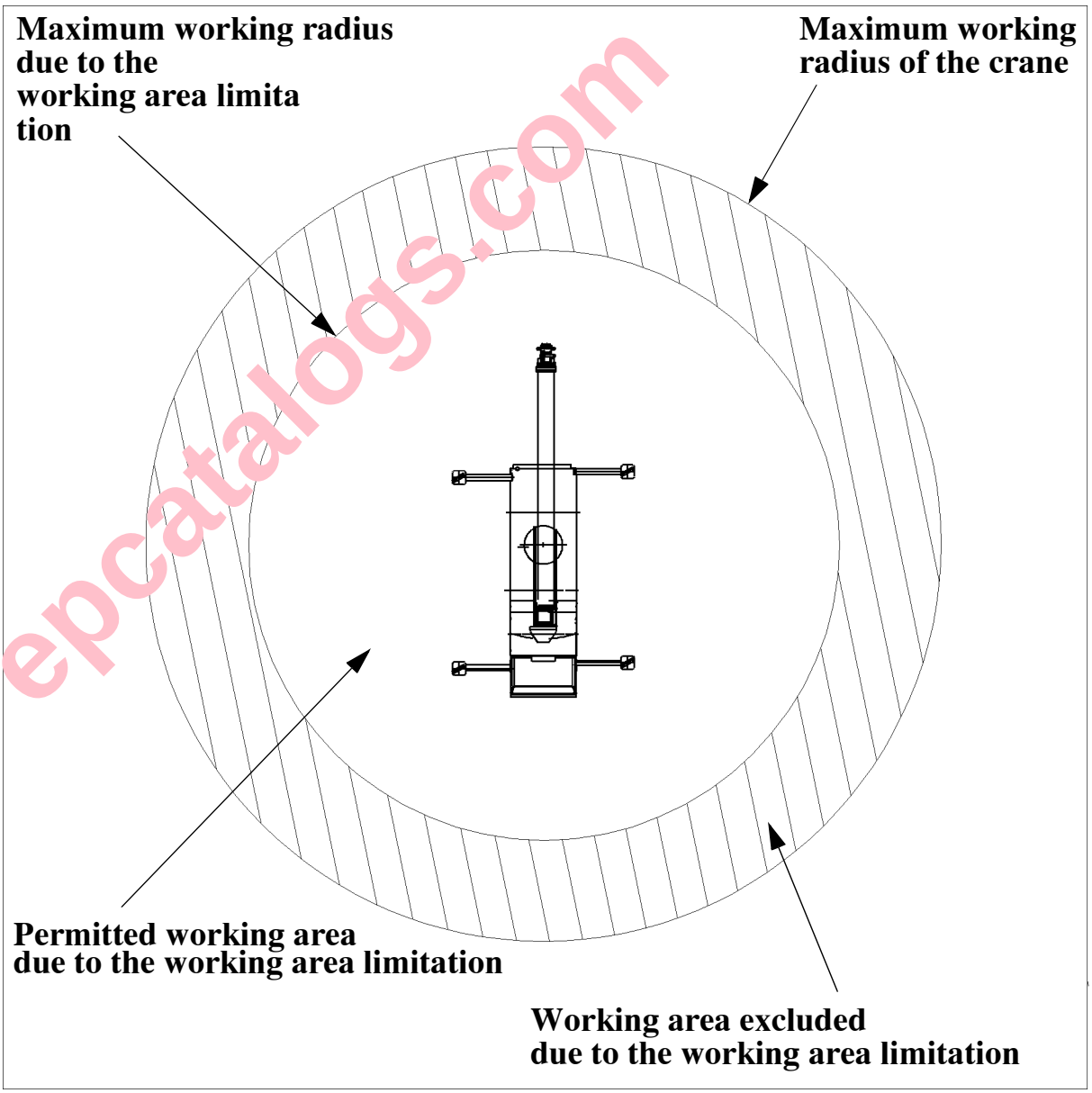
1.3 The pulley head height limitation

The pulley head height limitation limits the load pulley to a predetermined height. This allows arrestment of the ***luffing up*** and ***extension*** extension movements (only possible for LTM cranes). The speed of both movements continues to reduce as the programmed limit is reached. Programming is executed by approaching the limit height and applying the key as confirmation so that the actual pulley head height is accepted by the LICCON system as the limit height. ***The limit must be programmed by the operator in such a way that, in the event of the boom height shutting down, all of the higher attached parts, such as the neck pulley, the guy rocker etc. are all taken into account***.



1.4 The radius limitation

The radius limitation ensures that the load hook does not exceed a specific maximum radius. The ***luffing down*** and ***extension*** movements (only possible for LTM cranes) are discontinued. The speed of both movements continues to reduce as the programmed limit is reached. Programming is executed by approaching the maximum permissible radius and applying the key as confirmation so that the actual radius is accepted by the LICCON system as the limit height.



1.5 The slewing angle limitation

The slewing angle limitation consists of a right and left angle limit, which may not be exceeded when the limitation is activated. To program these limits, the maximum angles are approached one after the other and confirmed by pressing the respective buttons which the system sets as the limit.
This limitation form, can cause the load to begin swinging upon shut down. This is avoided by the movement being slowed down steadily when an angle limit is approached. The counter movement can then be operated at the maximum permitted speed. If the permitted angle limitation is programmed too narrowly, the boom might only operate at a reduced speed because it is always moving in the reduced speed area.