

TIN 102 Four Yearly Overload Testing of Mobile Cranes (Wheeled & Crawler)

In the past, mobile cranes in the UK have frequently been subjected to overload testing at four yearly intervals, in addition to the periodic thorough examinations required by *The Lifting Operations and Lifting Equipment Regulations 1998* (LOLER). This is a legacy from the requirements of the old *Construction (Lifting Operations) Regulations 1961*, which were repealed when LOLER was introduced in 1998.

The Approved Code of Practice to Regulation 9 of LOLER states that any testing is at the discretion of the competent person carrying out a thorough examination and that the competent person will decide on the nature of the test and the method of carrying it out.

Routine overload testing of mobile cranes has a significant number of disadvantages:

- Most mobile crane manufacturers do not recommend overload tests, except in “*exceptional*” circumstances and then place a limit on the magnitude of the test load that may be applied;
- Repeated overloads may have a deteriorating effect on the crane structure over time;
- Most structural failures are the result of fatigue cracks and such defects will not be identified by an overload test. Fatigue cracks should be identified during thorough examination;
- Inspection bodies (such as SAFed members) do not recommend it, as there is no defined structural or mechanical benefit;
- A significant number of insurance policies do not provide cover for a crane that has been overloaded in any circumstances, including overload testing;
- Periodic overload testing gives a false sense of security to both mobile crane owners and users.

A far better indication of the condition of a mobile crane is given by adopting the “*defined scope*” approach to thorough examination. The defined scope of thorough examination is specific to an individual crane and should cover at least:

- What is to be looked at;
- How often;
- Examination methods to be employed including special tools, equipment or procedures;
- Details of any supplementary reports and tests;
- Anticipated duration.

The defined scope of thorough examination for an individual crane will comprise of generic elements applicable to most cranes, supplemented by crane specific elements derived from consideration of information including:

- Crane specific details;
- Maintenance and repair data;
- Manufacturer’s information (alerts and technical bulletins);
- In-service history;
- Proposed future use.

This approach ensures that the thorough examination concentrates on those areas of the crane which are highly stressed, are subject to deterioration or are known to wear rapidly.

The defined scope of examination should be recorded in writing and reviewed on a periodic basis.

Further detailed information on the defined written scope of thorough examination approach is given in the CPA *Good Practice Guide on the Maintenance, Inspection and Thorough Examination of Mobile Cranes*. which may be downloaded free of charge at:

<https://www.cpa.uk.net/safety-and-technical-publications/mobile-and-crawler-crane-guidance>