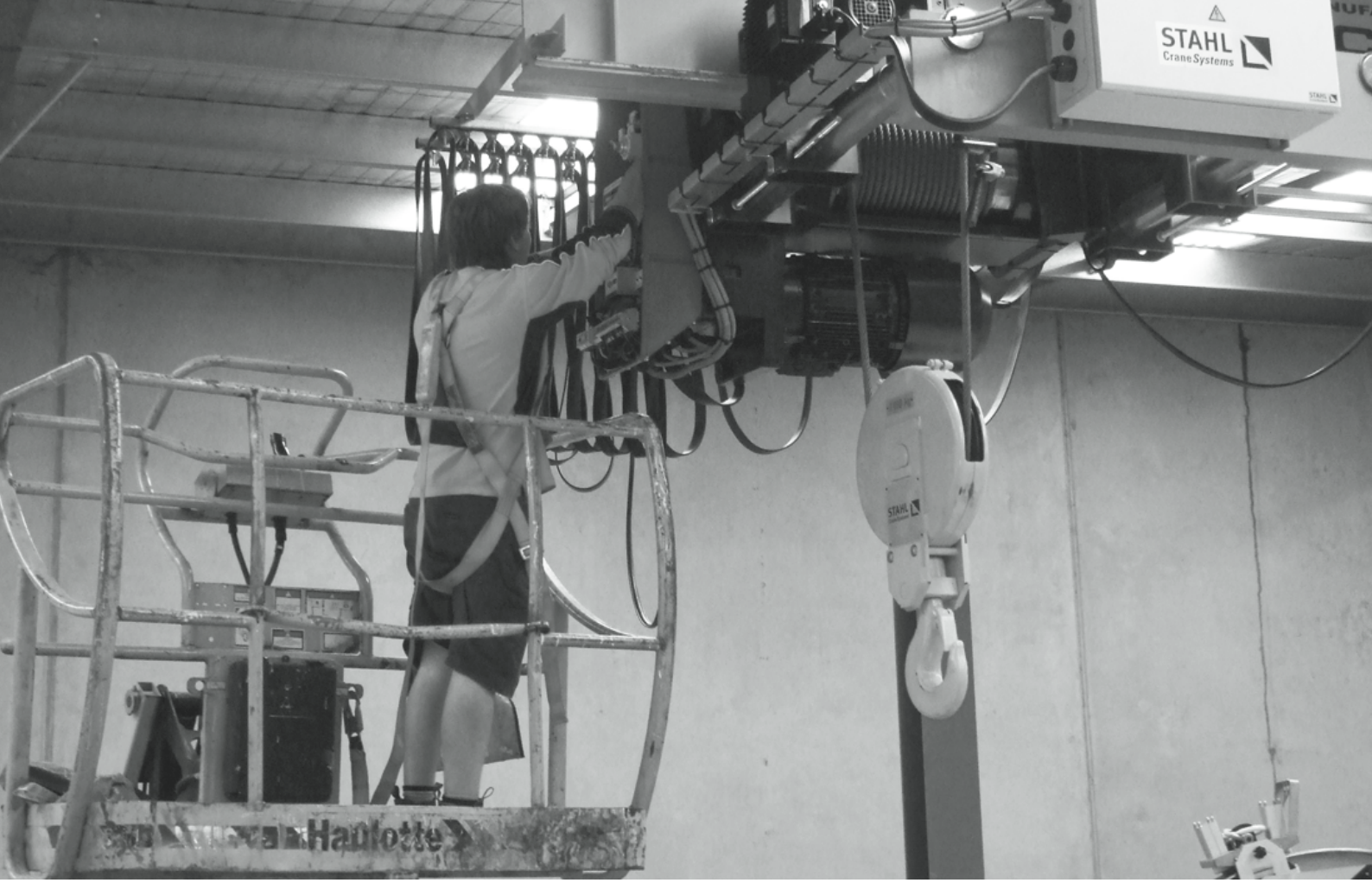

Your guide to Crane Maintenance, Inspection & Repair

Expectations of WorkSafe & Other Regulators

As part of their obligations under Plant Regulations Section 3.5 - 2007, crane owners are required to undertake a preventative maintenance program to the Standard outlined in the relevant parts of AS 2550.1 - 2005, which includes consideration of the manufacturers recommendations.

In respect of major inspections, WorkSafe and other regulators expect the supporting records, including the 'Assessment for continued safe operation' to be available for inspection on request. Records should be readily accessible at the crane owners business address and should include records of the implementation of the recommendations set out in the assessment report.

> “ It is important that regular servicing, maintenance & repair of hoists & cranes is carried out by specialist electricians & mechanical fitters who can identify the problem before it becomes an operational risk in your workplace.”

KEEP YOUR WORKPLACE SAFE

Is Your Crane Compliant?

Australian Standard AS2550.1 clause 7.3.5 requires the following cranes to be subjected to a major inspection.

Cranes that have reached their end of design life, or where this is unknown, after a maximum of:-

10 Years of service for the mechanical components; and

25 Years for the structure.

Old or second-hand cranes that are to be re-commissioned and do not have previous records.

Cranes that are to be upgraded or modified.

The major inspection is comprehensive and includes inspection for wear, fatigue and cracking of all components of the crane critical to its safe operation and use. The inspection includes attention to structural and mechanical irregularities, based on a strip down inspection and non destructive examination. Guidance on what items should be included in an inspection is provided in AS 2550.1 Appendix B.

Crane owners and operators should schedule major inspections well in advance to avoid disruptions to production. The planning process should allow for consequential repairs of the particular crane and should take into account alternative measures such as the hire of stand-by or other temporary equipment.

Owners and operators may choose not to conduct a single event major inspection by incorporating the requirements of the 10 year major inspection into the comprehensive periodical inspections; in which case the owner &/or operator must:

Ensure the periodic maintenance regime is developed by a competent person supervised by a professional engineer, and includes all critical safety components, normally stripped down at the major inspection; and

Maintain all service, maintenance and repair records in order to verify adherence to the regime.

Recommended maximum period between maintenance/inspection services

Crane classifications	**C1**	**C2**	**C3**	**C4**	**C5**	**C6**	**C7**	**C8**
	M1	**M2**	**M3**	**M4**	**M5**	**M6**	**M7**	**M8**
Working hours per day	>0.5	0.5-1	>1-2	>2-4	>4-8	>8-16	>16	>20
Routine maintenance service, weeks	12	12	12	12	8	8	4	4
Periodic inspection, weeks	48	48	48	24	24	16	12	8
Third party inspection, years (optional)	3	3	2	2	2	1	1	1

NOTE: Crane maintenance & inspection services must be carried out at least every 12 weeks.

10 & 25 Year Inspection Periods

The specification of 10 years for major inspection of mechanical parts and 25 years for structures is due to:

Plant & components likely to be designed to Australian or overseas standards are based on a 10 & 25 year design life (eg: AS 1418.1 clause 2.2)

10 Years is regarded as a maximum period for checking wear limits of mechanical parts and verifying design assumptions.

10 Years is regarded as a minimum period for the first signs of fatigue to appear in mechanical components.

A period of 10 Years for a major inspection of mechanical parts should be used as a default where no other evidence of history of the crane is available and a hazard identification, risk assessment, of risk control process does not identify a shorter time interval (such is the case with second-hand equipment).

Extending the 10 Year Major Inspection

Any decision to extend the major inspection past the 10 years stipulated in AS 2550.1 should be verified by the manufacturer or a competent person. This must be documented, using engineering as well as hazard identification and risk assessment principals in compliance with the OH&S Act 2004 and the Plant Regulations.

Records of previous maintenance and repair must be able to establish that all safety critical components that would normally remain in service for the design life of the crane have not been subjected to excessive wear or failure requiring premature replacement. These maintenance records should be maintained for the life of the unit.

Any decision to delay the major inspection past the 10 year requirement should also specify the proposed date for the major inspection (further extensions should not be considered).

Where unforeseen circumstances inhibit taking a crane out of service for a periodic or major inspection, a competent person (preferably a representative of the manufacturer) shall determine if it is safe to continue to operate the crane until the respective maintenance can be carried out. The assessment undertaken in reaching that decision must be fully documented.

Assessment for Continued Safe Operation

The assessment for continued safe operation of a crane should:

Be undertaken by a competent person and be supervised by a professional engineer experienced in the inspection, testing and assessment of the particular type of crane.

Note: A person of competence is a person who by their training or experience has the skills and knowledge to carry out the task.

Include a summary of what items have been assessed, how the assessment was carried out and the results of the assessment.

The recommendation on what works need to be done to the crane to provide the equivalent level of safety to that which would be achieved by the current version of the applicable parts of AS 1418. These recommendations should consider the likely operational and environmental parameters under which the crane is intended to operate. The supervising engineer should also record the rationale for the recommendations made.

Include a documented maintenance programme for the repair or replacement of components necessary to bring the crane into conformance with the Plant Regulations. This programme should include:

A list of those items which should be undertaken prior to the crane returning to service in order to ensure the immediate safe operation of the crane; *and* the recommended time frames for the remaining program works to ensure the ongoing safe operation of the crane.

Include a program for the ongoing maintenance and inspection of the crane. This program must include specific recommendations on the scheduling of further assessments for continued safe operation.

Assessment for Changed Operation

Where there is an intended change in the operation of a crane, it shall be assessed by a competent person for suitability for its intended operation. Cranes to be assessed for changed operation shall include, but not be limited to the following:

Cranes that are to be recommissioned and that do not have previous operating records, or cranes that were designed and built to unknown Standards.

Cranes that are to be upgraded or modified.

Cranes that have a proposed increased frequency of use.

The above also relates to relocations and refurbishments.

Austin's Service Technicians maintain, inspect and repair all makes and models of hoists & cranes.

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