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Other related documents	Replaced by
LKT 1500.100.018, LKT 1500.100.020,	
	Supplier
Work Process	Supplier's document number
Planning, construction, purchasing, operation and maintenance, storage	
Key Words	Supplier's reference name
Instruction, code of practice, check list, instructions for use	

Document History

Revision	Date	Signature	Comment
00	2006-02-24	MLPRJO	Document SUT adm 2002-0028-K transferred to LKT template
01	2008-03-20	V WALEIJ	Revised by Autotech Teknikinformation AB, Approved
02	2008-05-21	MLPRJO	Requirement Index (Register of search words) introduced in "Marking and..."
03	2008-08-08	MLPRJO	Correction Other related documents, Work Process
04	2012-09-07	MLPRJO	New logo type, correction of subtitle and internal e-mail,
05	2017-03-07	DANTAN	New reference, www.lkab.com

Translation

This document is a translation from Swedish of LKAB Technical Instruction LKT 1500.100.021. In the event of disagreement concerning the interpretation and content of this text, the Swedish version shall have priority.

Latest Revision


The latest revision of this instruction can be obtained from e-mail: tekadm.krn@lkab.com or tekadm.mbg@lkab.com

You can also find this instruction and all the others instructions (LKT) at

<https://www.lkab.com/sv/om-lkab/leverantor/styrdokument-och-mallar/tekniska-anvisningar-lkt/>

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Background and Purpose

LKAB continually purchases machinery for its plants in the different operating locations. The legislation places requirements on the drawing up of a so-called technical file for machinery. The technical file shall be stored and the applicable parts distributed to the operator of the machinery/plant and introduced into LKAB's maintenance system. An important part of the technical file is the instructions for use. Today, the "technical files" and instructions for use are supplied in many different formats, which results in unnecessary extra work for LKAB.

The purpose of this check form is to make it easier for LKAB during the delivery inspections of the instructions for use.

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LKAB's Requirements, Application and Interpretation

Check Form

This check form is a compilation of the requirements that are set in the Requirements Specification for the instructions for use, written in tabular form.

Comment: However, the form shall also be used as a checklist for checking instructions that are not drawn up according to LKAB's instructions.

Topicality


Information	Without comment		
	Yes	No	Remaining point
Applies to the delivered machinery			
Applies to the delivered version			
Language: Swedish			
Original Instructions			
Translation of the Original Instructions (where the original are not in Swedish)			

Delivery Format

Information	Without comment		
	Yes	No	Remaining point
The paper edition and the CD/DVD delivered at the same time. Quantity as agreed.			
Paper Edition: A4, loose sheets, single-sided (right side) in binder(s).			
Paper Edition: Binders and paper are durable and water resistant. Swedish standard for the holes.			
Digital edition: On the CD/DVD, preferably in the original format, as a minimum in Acrobat PDF format (PDF/A - long-term archive format), the Acrobat PDF files include bookmarks with the same scope and structure as the list of contents.			
Digital edition: not password protected, separate files and correctly named			

Marking and Graphical Design of the Documentation

Information	Without comment		
	Yes	No	Remaining point
Front: correctly and clearly marked			
Spine Label: correctly and clearly marked			
Register: structure and chapter names			
Register: correctly and clearly marked			
Register: indication of which chapters are included in which binders (where the instructions for use are divided into several binders)			
List of Contents: exists, structure and heading levels, page numbering			
Index (register of search words): alphabetical order, chapter and page references			
Format and text area: A4, loose sheets, single sided (right-hand side).			

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Information	Without comment		
	Yes	No	Remaining point
Header and footer: correctly marked			
CD/DVD Label: correctly and clearly marked			
Layout and placing of attention texts: correct and consequent			
Page numbering: starts from one (1) for each chapter, includes chapter number			
Tables: design and positioning			


Use of Language, Images and Illustrations

Information	Without comment		
	Yes	No	Remaining point
Language: simple and suited to the target group			
Language: common linguistic expression, correct and consequent terminology			
Good balance between text and image			
Images and illustrations: well thought out, good quality and simple to reproduce			


Content of the Instructions for Use

Heading/Information	Without comment		
	Yes	No	Remaining point
Structure and chapter names, heading levels			
Subcontractor's documentation is integrated with the supplier's documentation			

Introduction	Without comment		
	Yes	No	Remaining point
The target group is stated for chapter/section			
Structure and section names, heading levels			
This is how to read the instructions for use			
Archiving and distribution of the instruction for use			
The intended use of the machine/plant			
Applicable international/national standards for the machine/plant			
Guarantee and complaints			
Contact details for manufacturer / manufacturer's authorised representative			

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Safety	Without comment		
	Yes	No	Remaining point
The target group is stated for chapter/section			
Structure and section names, heading levels			
General			
Explanation of the warning levels			
Explanation of the warning symbols/signs/stickers			
Supervisor and operator			
Responsibility			
Operator requirements			
Protective equipment			
Personal protective equipment			
Emergency stop, signals and warning functions			
Fire fighting equipment			
Evacuation routes			
Other protective equipment			
Residual risks			
Forbidden use			
Risk area and safe distance			
Hazards during assembly/installation			
Hazards during commissioning			
Hazards during use (work/handling)			
During lifts			
During transport			
At the workplace			
Before work			
During work (the operators positioning, the machine's stability, etc.)			
Manoeuvring (moving and towing)			
After work			
..... (any extra section)			
Hazards when fault finding			
Hazards during maintenance and repair			
..... (any extra section)			
Accident or breakdown			

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Design and Function (technical description, process description)	Without comment		
	Yes	No	Remaining point
The target group is stated for chapter/section			
Structure and section names, heading levels			
Machine designation (type or series designation) and year of manufacture			
Area of use and environment			
Symbols, stickers and signs on the machine/plant			
The machine/plant			
Components included			
Workstation(s) that are manned by the operator(s)			
Essential characteristics of tools			


Transport and Packing	Without comment		
	Yes	No	Remaining point
The target group is stated for chapter/section			
Structure and section names, heading levels			
Transport (incl. dangers/risks and protective measures, as well as stability requirement)			
Preparations, protective measures (incl. fastenings)			
Equipment/tools, personal protective equipment			
Reduction of noise and vibrations			
Transport			
Settings/Adjustments			
Checks			
Unpacking			
Repacking			

Assembly, Installation and Connection	Without comment		
	Yes	No	Remaining point
The target group is stated for chapter/section			
Structure and section names, heading levels			
Assembly (incl. dangers/risks and protective measures, as well as stability requirement)			
Preparations, protective measures (incl. fastenings)			
Equipment/tools, personal protective equipment			
Reduction of noise and vibrations			
Assembly			
Settings/Adjustments			
Checks			

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Assembly, Installation and Connection	Without comment		
	Yes	No	Remaining point
Installation (incl. dangers/risks and protective measures, as well as stability requirement)			
Preparations, protective measures (incl. fastenings)			
Equipment/tools, personal protective equipment			
Reduction of noise and vibrations			
Installation			
Settings/Adjustments			
Checks			
Connection (incl. dangers/risks and protective measures, as well as stability requirement)			
Preparations, protective measures			
Equipment/tools, personal protective equipment			
Reduction of noise and vibrations			
Connection			
Settings/Adjustments			
Checks			


Commissioning	Without comment		
	Yes	No	Remaining point
The target group is stated for chapter/section			
Structure and section names, heading levels			
Instructions incl. dangers/risks and protective measures			
Preparations, protective measures			
Equipment/tools, personal protective equipment			
Reduction of noise and vibrations			
Settings/Adjustments			
Connection to power supply (especially for protection against electrical overload)			
Before first start			
Before start			
During start			

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Use	Without comment		
	Yes	No	Remaining point
The target group is stated for chapter/section			
Structure and section names, heading levels			
Instructions incl. dangers/risks and protective measures, as well as stability requirement			
Before start			
Machine start			
During operation			
Instructions for manoeuvring, settings/adjustments, etc.			
Before stop			
Machine stop			
..... (any extra section)			

Fault Finding	Without comment		
	Yes	No	Remaining point
The target group is stated for chapter/section			
Structure and section names, heading levels			
Measures if the machine/plant does not start			
Over heating			
Poor power, capacity			
Faulty working pressure			
Seizure			
..... (any extra section)			

Maintenance and Repair	Without comment		
	Yes	No	Remaining point
The target group is stated for chapter/section			
Structure and section names, heading levels			
Preventative maintenance			
Cleaning			
Cleaning schema, as per LKAB's maintenance plan, in Excel format, only the interval stated in the schema			
Instructions for cleaning while the machine/plant is in operation			
Component (cleaning point) and instructions for execution incl. dangers/risks and protective methods			
Instructions for cleaning while the machine/plant is stopped			
Component (cleaning point) and instructions for execution incl. dangers/risks and protective methods			

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Maintenance and Repair	Without comment		
	Yes	No	Remaining point
Condition Check			
Condition checks schema, as per LKAB's maintenance plan, in Excel format, only the interval stated in the schema			
Instructions for condition checks while the machine/plant is in operation			
Component (inspection point) and instructions for execution incl. dangers/risks and protective methods			
Instructions for condition checks while the machine/plant is stopped			
Component (inspection point) and instructions for execution incl. dangers/risks and protective methods			
Programmed Replacement			
Replacement of component/consumable while the machine/plant is in operation			
Component/consumable, interval and instructions for execution incl. dangers/risks and protective methods			
Replacement of component/consumable while the machine/plant is stopped			
Component/consumable, interval and instructions for execution incl. dangers/risks and protective methods			
Lubrication			
Lubrication schema, as per LKAB's maintenance plan, in Excel format, only the interval stated in the schema			
Instructions for lubrication while the machine/plant is in operation			
Component (lubrication point) and instructions for execution incl. dangers/risks and protective measures, lubricant samples, management of spills and used lubricant.			
Instructions for lubrication while the machine/plant is stopped			
Component (lubrication point) and instructions for execution incl. dangers/risks and protective measures, lubricant samples, management of spills and used lubricant.			
Repair maintenance			
Repair of components/consumables while the machine/plant is in operation			
Component/consumable and instructions for execution incl. dangers/risks and protective methods			
Repair of components/consumables while the machine/plant is stopped			
Component/consumable and instructions for execution incl. dangers/risks and protective methods			
Replacement of components/consumables while the machine/plant is in operation			
Component/consumable and instructions for execution incl. dangers/risks and protective methods			

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Maintenance and Repair	Without comment		
	Yes	No	Remaining point
Replacement of components/consumables while the machine/plant is stopped			
Component/consumable and instructions for execution incl. dangers/risks and protective methods			

Taking Out of Service, Disassembling and Disposal	Without comment		
	Yes	No	Remaining point
The target group is stated for chapter/section			
Structure and section names, heading levels			
Taking out of service (incl. dangers/risks and protective measures, as well as stability requirement)			
Preparations, protective measures			
Equipment/tools, personal protective equipment			
Reduction of noise and vibrations			
Before stop			
Machine stop			
Disassembly (incl. dangers/risks and protective measures, as well as stability requirement)			
Preparations, protective measures			
Equipment/tools, personal protective equipment			
Reduction of noise and vibrations			
Disassembly			
Disposal (incl. dangers/risks and protective measures, as well as stability requirement)			
Destruction			
Recycling			
Disposal (removal)			

Storage	Without comment		
	Yes	No	Remaining point
The target group is stated for chapter/section			
Structure and section names, heading levels			
Instructions incl. dangers/risks and protective measures, as well as stability requirement			
Preparations, protective measures			
Equipment/tools, personal protective equipment			
Storage			

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Technical Data and Terminology	Without comment		
	Yes	No	Remaining point
Technical date			
The target group is stated for chapter/section			
Structure and section names, heading levels			
Bearing specification and vibration measurements according to LKT 1550.540.003. Bearing specification and information for vibration measurements.			
Details on the dimensions and mass (the machine/plant's and the constituent component's dimensions and mass).			
Wheel/belt suspension, dimension, number, deck/plate size and type, air pressure etc.			
Motor: manufacturer, design, manufacturing number, technical data, filter, cooling system, etc.			
Power transmission: coupling, drive wheel/disks/chains/belts, etc			
Control system (mobile equipment also turning radius).			
Hydraulic system: capacity, type, manufacturing number, cooler, working pressure, etc.			
Braking system stating retardation and max. load/loading.			
Compressed air system: compressor, valves, type, capacity, control unit, equipment, etc.			
Electrical system: battery type/capacity, fuses, control unit, equipment, electrical measurements, etc.			
Energy consumption.			
Production capacity.			
Volumes of fluids, gases as well as statements of type and quality.			
Lubrication and cleaning agents			
Requirements for cleanliness.			
Safety class conditions, IP classes.			
Control values.			
Alarm limit lower.			
Alarm limit upper.			
Vibration level.			
Noise level (noise emissions, operating conditions during measurement and the measurement methods used).			
Exhaust emissions			
Radiation			
Hazardous substances.			
Operating environment (information on the allowed conditions in the surroundings, e.g. lighting, temperature, humidity, vibration, electromagnetic radiation, etc.).			
Operating tools: (mobile equipment) type, main dimension, weight, volume, working area, accessories, etc.			
Other equipment.			
Technical terms (definitions)			


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Components and Spare Parts	Without comment		
	Yes	No	Remaining point
The target group is stated for chapter/section			
List of components and spare parts, according to LKAB's maintenance plan, in Excel format.			

Drawings, Schema and Diagrams	Without comment		
	Yes	No	Remaining point
The target group is stated for chapter/section			
Structure and section names, heading levels			
Drawings and schema with LKAB's drawing number, delivered in one or several separate binders.			
Electricity			
List of drawings and schema with LKAB's drawing number.			
Drawings without LKAB's drawing number			
Schema without LKAB's drawing number			
Diagrams			
Hydraulics			
List of drawings and schema with LKAB's drawing number.			
Drawings without LKAB's drawing number			
Schema without LKAB's drawing number			
Diagrams			
Pneumatics			
List of drawings and schema with LKAB's drawing number.			
Drawings without LKAB's drawing number			
Schema without LKAB's drawing number			
Diagrams			

Modification	Without comment		
	Yes	No	Remaining points
The target group is stated for chapter/section			
Structure and section names, heading levels			
Allowed modifications			
Instructions for how the machine/plant may be modified			

EC Declaration of Conformity	Without comment		
	Yes	No	Remaining points
EC Declaration of Conformity			

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References

2006/42/EC Machinery Directive

LKAB's Technical Instructions

LKT 1500.100.018 Requirements for the Technical File
LKT 1500.100.020 Requirements for the Instructions for Use
LKT 1550.540.003 Specification for bearings and vibration monitoring
LKT 1500.150.002 Object card (Machine card)

LKAB's Maintenance Handbook Section Maintenance Plan

LKAB's instructions can be ordered by e-mail: tekadm.krn@lkab.com or tekadm.mbgt@lkab.com

Proposals for Improvement

LKAB carries out continual improvements in accordance with the LKAB quality policy (SS-ISO 10006, sections 8.2 and 5.2.7) and this also applies to instructions and codes of practice. Comments and suggested improvements are welcome at the following e-mail address: instructions@lkab.com.

LKAB's internal address in Outlook: *SE SM Anvisningar LKT*