Manual No. : KM-1LSE Vol. No. : W1LSE-00

# Workshop Manual



Service Manual (Manual No. KM-1LSE) consists of the following two separate volumes;

Technical Manual : Vol. No. T1LSE Workshop Manual : Vol. No. W1LSE

**HITACHI** 

#### INTRODUCTION

#### TO THE READER

- This manual is written for an experienced technician to provide technical information needed to maintain and repair this machine.
  - Be sure to thoroughly read this manual for correct product information and service procedures.
- If you have any questions or comments, at if you found any errors regarding the contents of this manual, please contact using "Service Manual Revision Request Form" at the end of this manual. (Note: Do not tear off the form. Copy it for usage.):

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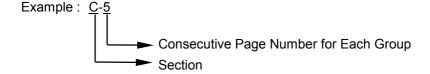
#### **ADDITIONAL REFERENCES**

- Please refer to the materials listed below in addition to this manual.
  - · The Operator's Manual
  - · The Parts Catalog
  - · Technical Manual of the Crawler Crane
  - · Workshop Manual of the Crawler Crane
  - · Operator's Manual of the Crawler Crane
  - · Parts Catalog of the Crawler Crane

- Operation Manual of the Engine
- · Parts Catalog of the Engine
- · Hitachi Training Material

#### **PAGE NUMBER**

 Each page has a number, located on the center lower part of the page, and each number contains the following information:



### SAFETY ALERT SYMBOL AND HEADLINE NOTATIONS

In this manual, the following safety alert symbol and signal words are used to alert the reader to the potential for personal injury of machine damage.

This is the safety alert symbol. When you see this symbol, be alert to the potential for personal injury. Never fail to follow the safety instructions prescribed along with the safety alert symbol.

The safety alert symbol is also used to draw attention to component/part weights.

To avoid injury and damage, be sure to use appropriate lifting techniques and equipment when lifting heavy parts.

#### • A CAUTION:

Indicated potentially hazardous situation which could, if not avoided, result in personal injury or death.

#### • IMPORTANT:

Indicates a situation which, if not conformed to the instructions, could result in damage to the machine.



Indicates supplementary technical information or know-how.

#### INTRODUCTION

#### **UNITS USED**

• SI Units (International System of Units) are used in this manual.

MKS system units and English units are also indicated in parenthheses just behind SI units.

Example: 24.5 MPa (250 kgf/cm<sup>2</sup>, 3560 psi)

A table for conversion from SI units to other system units is shown below for reference purposees.

Quantity	To Convert From	Into	Multiply By	Quantity	To Convert From	Into	Multiply By
Length	mm	in	0.03937	Pressure	MPa	kgf/cm <sup>2</sup>	10.197
	mm	ft	0.003281		MPa	psi	145.0
Volume	L	US gal	0.2642	Power	kW	PS	1.360
	L	US qt	1.057		kW	HP	1.341
	m <sup>3</sup>	yd <sup>3</sup>	1.308	Temperature	°C	°F	°C×1.8+32
Weight	kg	lb	2.205	Velocity	km/h	mph	0.6214
Force	N	kgf	0.10197		min <sup>-1</sup>	rpm	1.0
	N	lbf	0.2248	Flow rate	L/min	US gpm	0.2642
Torque	N⋅m	kgf⋅m	1.0197		mL/rev	cc/rev	1.0
	N⋅m	lbf⋅ft	0.7375				

All information, illustrations and specifications in this manual are based on the latest product information available at the time of publication. The right is reserved to make changes at any time without notice

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#### RECOGNIZE SAFETY INFORMATION

- This is the SAFETY ALERT SYMBOL.
  - When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.
  - Follow recommended precautions and safe operating practices.



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#### **UNDERSTAND SIGNAL WORDS**

- On machine safety signs, signal words designating the degree or level of hazard - DANGER, WARNING, or CAUTION - are used with the safety alert symbol.
  - DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
  - WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
  - CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
  - DANGER or WARNING safety signs are located near specific hazards. General precautions are listed on CAUTION safety signs.
- CAUTION also calls attention to safety messages in this manual.
- To avoid confusing machine protection with personal safety messages, a signal word IMPORTANT indicates a situation which, if not avoided, could result in damage to the machine.
- **NOTE** indicates an additional explanation for an element of information.



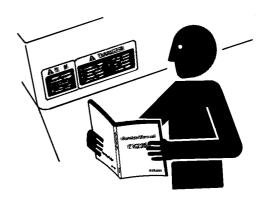
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#### **FOLLOW SAFETY INSTRUCTIONS**

- Carefully read and follow all safety signs on the machine and all safety messages in this manual.
- Safety signs should be installed, maintained and replaced when necessary.
  - If a safety sign or this manual is damaged or missing, order a replacement from your authorized dealer in the same way you order other replacement parts (be sure to state machine model and serial number when ordering).
- Learn how to operate the machine and its controls correctly and safely.
- Allow only trained, qualified, authorized personnel to operate the machine.
- Keep your machine in proper working condition.
  - Unauthorized modifications of the machine may impair its function and/or safety and affect machine life.
- The safety messages in this SAFETY chapter are intended to illustrate basic safety procedures of machines. However it is impossible for these safety messages to cover every hazardous situation you may encounter. If you have any questions, you should first consult your supervisor before operating or performing maintenance work on the machine.

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#### PREPARE FOR EMERGENCIES

- Be prepared if a fire starts or if an accident occurs.
  - Keep a first aid kit and fire extinguisher on hand.
  - Thoroughly read and understand the label attached on the fire extinguisher to use it properly.
  - Establish emergency procedure guidelines to cope with fires and accidents.
  - Keep emergency numbers for doctors, ambulance service, hospital, and fire department posted near your telephone.



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