PART NO. TODB050-EN-00

HITACHI

Reliable solutions

Technical Manual
Operational Principle

ZX
180LC-7
180LCN-7
Hydraulic Excavator

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TODB050-EN
Technical Manual (Troubleshooting)	: Vol. No.TTDB050-EN
Workshop Manual	: Vol. No.WDB050-EN
Engine Manual	: Vol. No.ETDBZ50-EN, EWDBZ50-EN

Hitachi Construction Machinery Co., Ltd.
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ZX180LC-7 • 180LCN-7 HYDRAULIC EXCAVATOR TECHNICAL MANUAL OPERATIONAL PRINCIPLE

TODB050-EN-00

INTRODUCTION

To The Reader

This manual is written for an experienced technician to provide technical information needed to maintain and repair this machine.

The machine specification and description according to destination may be explained on this manual.

- 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 this form for usage.)
  - Hitachi Construction Machinery Co., Ltd.
  - E-mail: HCM-TIC-GES@hitachi-kenki.com

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.

Additional References

Please refer to the other materials (operator's manual, parts catalog, engine technical material and Hitachi training material etc.) in addition to this manual.

Manual Composition

This manual consists the Technical Manual, the Workshop Manual and the Engine Manual.

- Information included in the Technical Manual: Technical information needed for redelivery and delivery
  - Operation and activation of all devices and systems, operational performance tests, and troubleshooting procedures.
- Information included in the Workshop Manual: Technical information needed for maintenance and repair of the machine
  - Tools and devices needed for maintenance and repair, maintenance standards, and removal / installation and assemble / disassemble procedures
- Information included in the Engine Manual: Technical information needed for redelivery and delivery and maintenance and repair of the machine
  - Operation and activation of all devices and systems, troubleshooting and assemble / disassemble procedures

Page Number

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

- Technical Manual: T 1-3-5

T	Technical Manual
1	Section Number
3	Group Number
5	Consecutive Page Number for Each Group

- Workshop Manual: W 1-3-2-5

W	Workshop Manual
1	Section Number
3	Group Number
2	Sub Group Number
5	Consecutive Page Number for Each Group

Trademark

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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.

⚠ WARNING

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.

⚠ CAUTION

Indicates potentially hazardous situation which could, if not avoided, result in personal injury or death. This is also provided before the indication of mass to draw attention to safety during handling of the machine.

IMPORTANT

Indicates a situation which, if not conformed to the instructions, could result in damage to the machine. This header is given to matters that are important in terms of operation and management.

NOTE

Indicates supplementary technical information or know-how.

Units Used

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

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

Quantity	To Convert From	Into	Multiply By
Length	mm	in	0.03937
	mm	ft	0.003281
Volume	L	US gal	0.2642
	L	US qt	1.057
	m^3	yd^3	1.308
Weight	kg	lb	2.205
Force	N	kgf	0.10197
	N	lbf	0.2248
Torque	N·m	kgf·m	0.10197
Pressure	MPa	kgf/cm^2	10.197
	MPa	psi	145.0
Power	kW	PS	1.360
	kW	HP	1.341
Temperature	°C	°F	°C×1.8+32

Quantity	To Convert From	Into	Multiply By
Velocity	km/h	mph	0.6214
	min^{-1}	rpm	1.0
Flow rate	L/min	US gpm	0.2642
	mL/rev	cc/rev	1.0