ZX19-5A HYDRAULIC EXCAVATOR WORKSHOP MANUAL

PART NO. WABG50-EN-00

HITACHI

Reliable solutions

Workshop Manual

ZX19-5A
Hydraulic Excavator

Hitachi Construction Machinery Co., Ltd.
URL:http://www.hitachi-c-m.com

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WABG50-EN-00

Service Manual consists of the following separate Part No.

Technical Manual	: Vol. No.TABG50-EN
Workshop Manual	: Vol. No.WABG50-EN
Engine Manual	: Vol. No.EABA-EN

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 it for usage.):
  - Technical Information Center Hitachi Construction Machinery Co., Ltd.
  - TEL: 81-29-832-7084
  - FAX: 81-29-831-1162
  - E-mail: HCM-TIC-GES@hitachi-kenki.com

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, and each number contains the following information:

Example:

- 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

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.

CAUTION:
Indicates 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.

NOTE:
Indicates supplementary technical information or know-how.

Units Used

SI Units (International System of Units) are used in this manual. MKSA system units and English units are also indicated in parentheses just behind SI units.

Example: 24.5 MPa (250 kgf/cm^2, 3560 psi)

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
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

NOTE: The numerical value in this manual might be different from the above-mentioned table.

SYMBOL AND ABBREVIATION

Symbol / Abbreviation	Name	Explanation
TO	Technical manual (Operational principle)	Technical manual (Operational Principle).
TT	Technical manual (Troubleshooting)	Technical manual (Troubleshooting).
T/M	Technical manual	Technical manual.
W, W/M	Workshop manual	Workshop manual (Removal and Installation, Disassembly and Assembly).
OP, OPT	Option	Optional component.
Li	Low (Slow) Idle	Slow idle engine speed.
ATT	Attachment	Attachment. Attachment is optional parts such as breaker, crusher, and pulverizer in this manual.
HI, Hi	High	Travel fast position.
LO, Lo	Low	Travel slow position.