PART NO. WDBL90-EN-00

HITACHI

Reliable solutions

Workshop Manual

ZX160LC-5A

Hydraulic Excavator

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TODBL90-EN
Technical Manual (Troubleshooting)	: Vol. No.TTDBL90-EN
Workshop Manual	: Vol. No.WDBL90-EN
Engine Manual	: Vol. No.EDBL-EN

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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.

⚠ 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/cm², 3560 psi)

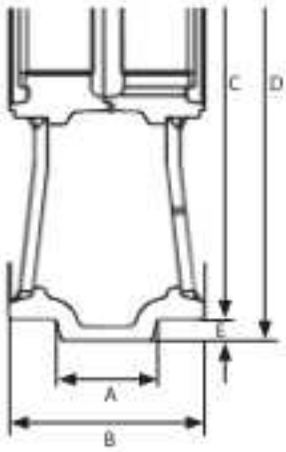
A table for conversion from SI units to other system units is shown below for reference purposes.

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.

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Front Idler



W166-03-05-001

Unit: mm (in)

	Standard	Allowable Limit	Remedy
A	84 (3.31)	[68 (2.67)]	Build up welding and hand finishing
B	159 (6.26)	-	
C	500 (19.7)	[488 (19.2)]	
D	538 (21.2)	-	
E	19 (0.75)	25 (0.98)	

Axle and Bushing

Unit: mm (in)

		Standard	Allowable Limit	Remedy
Axle	Outer Diameter	75.0 (2.95)	[74.2 (2.93)]	Replace
Bushing	Inner Diameter	75.0 (2.95)	[76 (2.99)]	
	Flange Thickness	2 (0.08)	[1.2 (0.05)]	

NOTE: Values in [ ] are just for reference.

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Installation

CAUTION: Boom cylinder (1) weight: 160 kg (355 lb)

1. Attach nylon slings onto boom cylinder (1). Hoist boom cylinder (1). Fit the hole at the cylinder bottom side to the mounting hole on the main flame.



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IMPORTANT: Use one or more thrust plates (6) respectively at the right and left sides.

2. Fit the holes of thrust plates (6) and the left and right sides at cylinder bottom side. Adjust the clearance between cylinder bottom side and main frame within 1 mm (0.039 in). At this time, install thrust plate (6) (thickness: 1mm (0.039 in)) on the opposite side of the cab and adjust the clearance at the cab side.

NOTE: Thrust plate (6) thickness: 1 mm (0.039 in), 2 mm (0.079 in)

CAUTION: Metal fragments may fly off when a hammer is used. Wear necessary protection, such as goggles, hard hat, etc. in order to prevent personal injury.

3. Install pin (3) by using a hammer. Install bolt (2) to pin (3) with nuts (4) (2 used).

   : 24 mm

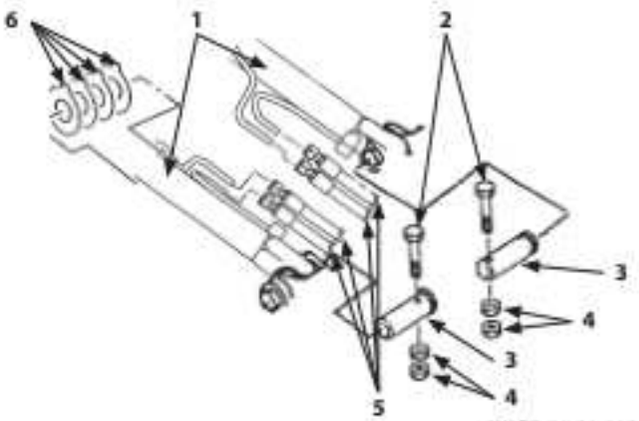
   : 140 N·m (14 kgf·m, 103 lbf·ft)

4. Install other boom cylinder (1) in the same way as step 1 to step 3.

5. Connect hoses (5) (4 used) to boom cylinders (1) (2 used).

   : 36 mm

   : 180 N·m (18 kgf·m, 133 lbf·ft)



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