PART NO. WJBC-EN-01

HITACHI

Reliable solutions

Workshop Manual

ZX
870-5B
870LC-5B
870H-5B
870LCH-5B
870R-5B
870LCR-5B
Hydraulic Excavator

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TOJBC-EN
Technical Manual (Troubleshooting)	: Vol. No.TTJBC-EN
Workshop Manual	: Vol. No.WJBC-EN
Engine Manual	: Vol. No.ETJBA-EN, EWJBA-EN

MidWestTech | Hitachi ZX870-5B, ZX870LC-5B, ZX870H-5B, ZX870LCH-5B, ZX870R-5B, ZX870LCR-5B Excavator Workshop Service Manual | Publication WJBC-EN-01

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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:**
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.

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.

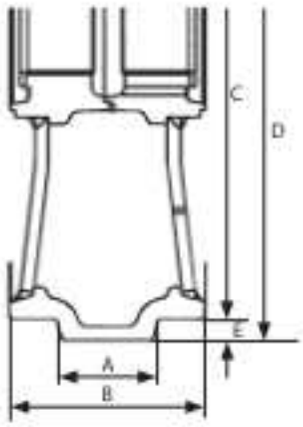
Quantity	To Convert From	Into	Multiply By
Length	mm	in	0.03937
	mm	ft	0.003281
Volume	L	US gal	0.2642
	L	US qt	1.057
	m^3	yd^3	1.308
Weight	kg	lb	2.205
Force	N	kgf	0.10197
	N	lbf	0.2248
Torque	N·m	kgf·m	0.10197
Pressure	MPa	kgf/cm^2	10.197
	MPa	psi	145.0
Power	kW	PS	1.360
	kW	HP	1.341
Temperature	°C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

Idler



W166-03-05-001

Unit: mm (in)

	Standard	Allowable Limit	Remedy
A	126 (5.0)	-	Cladding by welding and finish or replace
B	260 (10.2)	-	
C	800 (31.5)	[780 (30.7)]	
D	845 (33.3)	-	
E	22.5 (0.9)	[32.5 (1.3)]	

NOTE: Values in [ ] are just for reference.

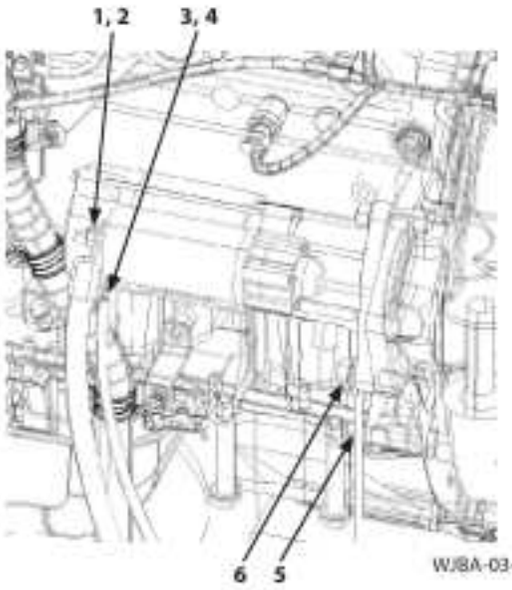
Axle and Bushing

Unit: mm (in)

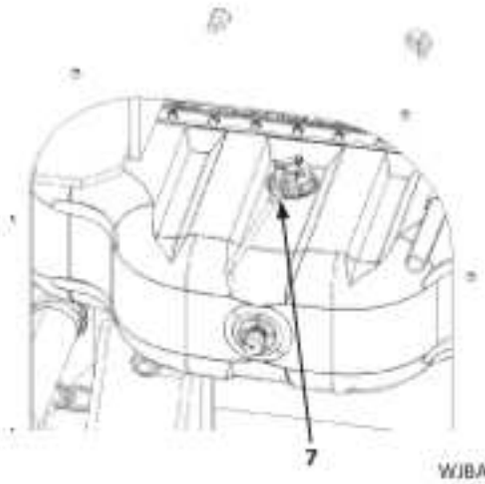
		Standard	Allowable Limit	Remedy
Axle	Outside Dia.	120 (4.7)	[119.2 (4.7)]	Replace
Bushing	Inside Dia.	120 (4.7)	[121 (4.8)]	
	Flange Thickness	6 (0.2)	[5.2 (0.2)]	

NOTE: Values in [ ] are just for reference.

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WJBA-03-04-019



WJBA-03-04-020

104. Remove nut (1). Disconnect terminal (2).

: 14 mm

105. Remove bolt (3). Disconnect terminal (4).

: 8 mm

IMPORTANT: The circuit may be shorted when doing the work with the battery ground connected.

106. Remove nut (6). Disconnect ground (5).

: 19 mm

107. Disconnect connector (7).

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9. Install slide rings (14, 15) (2 used for each) with their slits positioned 180° away facing to the opposite each other.

CAUTION: Cylinder rod (1) weight: 508 kg (1120 lb)

CAUTION: Cylinder head (4) weight: 63 kg (140 lb)

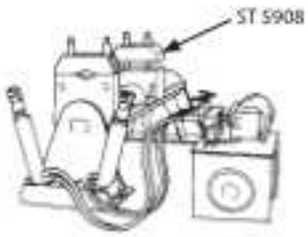
10. Install the cylinder head (4) assembly to cylinder rod (1).
11. Install cushion bearing (13) to cylinder rod (1) with the chamfered surface of cushion bearing (13) facing to the cylinder head (4) side.
12. Install the piston (17) assembly to cylinder rod (1).
13. Fit the matching marks made when disassembling and install nut (18) to cylinder rod (1) by using special tools (ST 5908, ST 3278).

    : 180 mm

    : 51800 N·m (5180 kgf·m, 38210 lbf·ft)
14. Install ball (19) and set screw (20) to nut (18). Crimp set screw (20) by using a punch (2 places).

    : 17 mm

    : 180 N·m (18 kgf·m, 133 lbf·ft)



W158-04-02-022

CAUTION: Cylinder tube (21) weight: 561 kg (1240 lb)

15. Secure cylinder tube (21) on a workbench horizontally.

CAUTION: The cylinder rod (1) assembly weight: 571 kg (1260 lb)

IMPORTANT: Do not damage the rings.

16. Fit to the center of cylinder tube (21) and insert the cylinder rod (1) assembly straight.
17. Install cylinder head (4) to cylinder tube (21) with socket bolts (3) (8 used).

    : 24 mm

    : 1910 N·m (191 kgf·m, 1410 lbf·ft)

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