PART NO. WDDA-EN-00

HITACHI

Reliable solutions

Workshop Manual

ZX
290LC-5B
290LCN-5B
Hydraulic Excavator

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TODDA-EN
Technical Manual (Troubleshooting)	: Vol. No.TTDDA-EN
Workshop Manual	: Vol. No.WDDA-EN
Engine Manual	: Vol. No.ETDCA-EN, EWDCA-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:**
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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Master Bushing

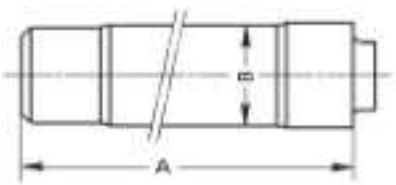


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Unit: mm (in)

	Standard	Allowable Limit	Remedy
A	148.3 (5.84)	-	Replace
B	45.45 (1.79)	[48.5 (1.91)]	
C	66.91 (2.63)	[61.9 (2.43)]	

Master Pin



W105-03-07-021

Unit: mm (in)

	Standard	Allowable Limit	Remedy
A	227.5 (8.96)	-	Replace
B	45.0 (1.77)	[42.0 (1.65)]	

NOTE: Values in [ ] are just for reference.

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Disassembly of Travel Motor

⚠ CAUTION: Travel motor weight: 135 kg (300 lb)

1. Attach a nylon sling onto travel motor. Hoist travel motor. Place the travel motor with the brake valve (32) side up.

⚠ CAUTION: Brake valve (32) weight: 23 kg (51 lb)

IMPORTANT: When removing the brake valve (32) assembly, do not drop valve plate (39).

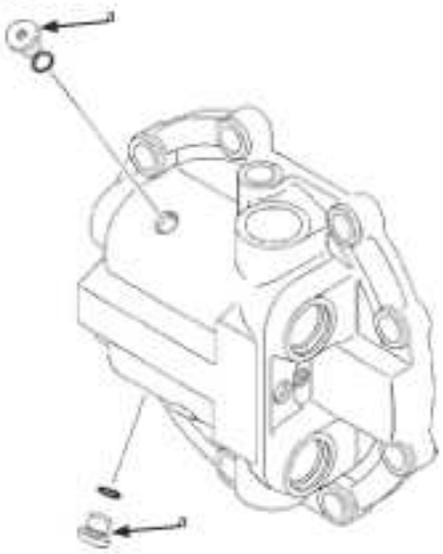
2. Remove socket bolts (40) (8 used).

   : 17 mm

3. Remove plugs (a) (2 used). Install the adapters (A852122) (2 used) to the holes of plugs (a) (2 used). Install the special tools (ST 0261) (2 used) to the adapters (A852122) (2 used). Attach nylon slings onto the special tools (ST 0261). Hoist brake valve (32). Remove brake valve (32) from housing (00).

   : 6 mm

   : 19 mm



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IMPORTANT: Do not remove needle bearing (33) unless necessary. Remove needle bearing (33) by using a small puller if necessary. Needle bearing (33) cannot be reused as the outer race is deformed.

IMPORTANT: Do not damage valve plate (39).

4. Remove valve plate (39), knock pin (37), and O-ring (30) from brake valve (32).
5. Install a tape onto the thrust surface of shaft (07) and needle bearing (33) in order to protect.
6. Remove disc spring (29) from housing (00).
7. Remove O-rings (31) (2 used) from housing (00).

⚠ CAUTION: When removing brake piston (25), cover with a cloth in order not to fly out brake piston (25).

IMPORTANT: The upper surface of brake piston (25) is seat surface (b) for high-pressure oil. Place brake piston (25) with seat surface (b) for high-pressure oil facing upward.

8. Apply air 100 to 300 kPa (1.0 to 3.0 kgf/cm², 15 to 44 psi) to the brake releasing oil passage in housing (00). Float and remove brake piston (25).



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b- Seat Surface of High-Pressure Oil

9. Remove O-rings (26, 28) from brake piston (25).
10. Remove plates (23) (4 used) and friction plates (22) (4 used) from housing (00).
11. Remove rotor (21), springs (19) (6 used), bushing (17), retainer (16) and plungers (14) (9 used) from housing (00).

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