PART NO. WNCC-EN-00

HITACHI

Reliable solutions

Workshop Manual

ZW120-5B

Wheel Loader

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TONCC-EN
Technical Manual (Troubleshooting)	: Vol. No.TTNCC-EN
Workshop Manual	: Vol. No.WNCC-EN
Engine Manual	: Vol. No.WNCB-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.

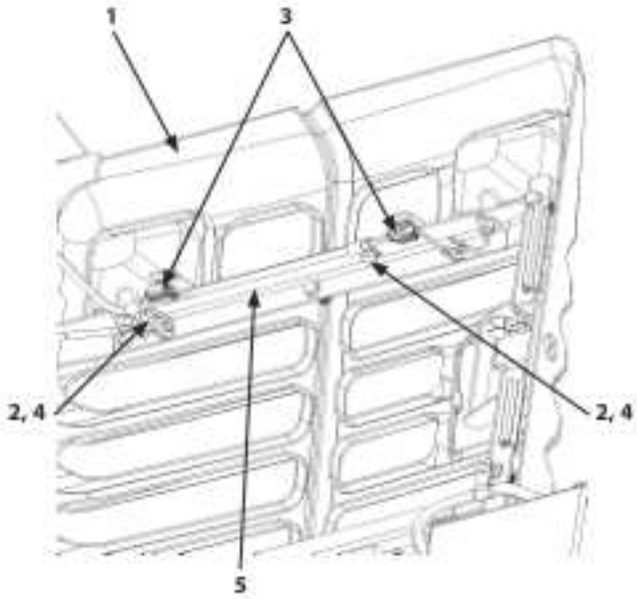
Example: 24.5 MPa (250 kgf/cm², 3560 psi)

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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WNCC-03-02-002

13. Install rear grill (1). (Refer to W3-4-2.)
14. Install wire harness (5) and clips (4) (2 used) with bolts, washers (2) (2 used).

    : 17 mm

    : 50 N·m (5 kgf·m, 37 lbf·ft)
15. Connect connectors (3) (2 used).
16. Close rear grill (1).

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Disassembly of Brake Valve

1. Remove bolts (105) (4 used) and washers (104) (4 used). Remove master cylinder assembly (102) from the body (01) assembly.

   : 17 mm

IMPORTANT: Keep the disassembled parts together by each body in order not to confuse.

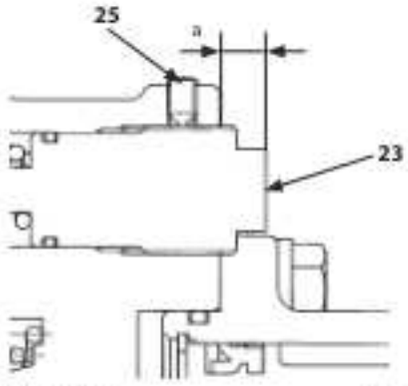
2. Remove dust cover (20) and the push rod (26) assembly from body (01).
3. Loosen nut (27). Remove joint (28), nut (27), and dust cover (20) from push rod (26).
4. Remove snap ring (30). Remove washer (29) from push rod (26).

IMPORTANT: Take care that cover (14) does not fly out by the force of springs (09, 10).

5. Push cover (14) into body (01) and remove retaining ring (19). Remove the cover (14) assembly, spring seat (11), and springs (09, 10) from body (01). Remove O-rings (18) (2 used) from cover (14).
6. Remove the spool (06) assembly from cover (14).

IMPORTANT: Oil seal (15) cannot be reused. If oil seal (15) has been removed, replace it with the new one when assembling.

7. Remove retaining ring (17). Remove plate (16) and oil seal (15) from cover (14).
8. Remove piston (12) from the spool (06) assembly. Remove O-ring (13) from piston (12).
9. Remove retaining ring (08). Remove connector (03), thrust washer (07), spring (04), and rod (05) from spool (06).
10. Measure and record mounting dimension (a) of plug (23) before loosening set screw (25).



a: Mounting Dimension WNCC-04-06-011

11. Loosen set screw (25).

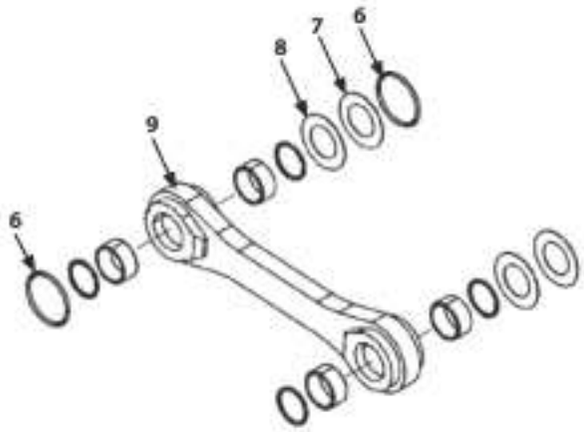
    : 5 mm

12. Remove plug (23), spring (22), and valve (21) from body (01). Remove O-ring (24) from plug (23).

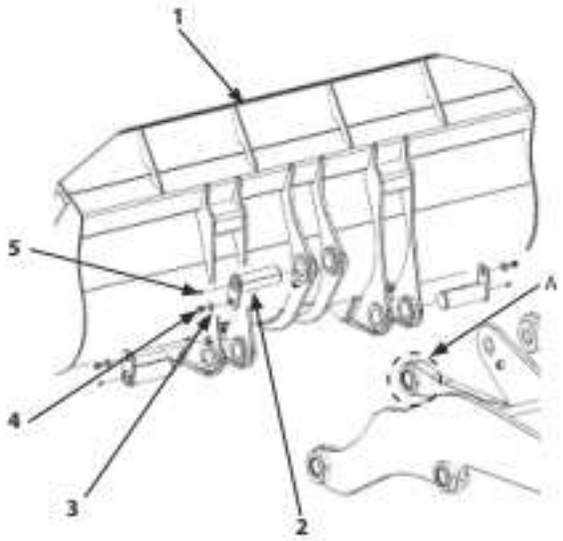
    : 17 mm

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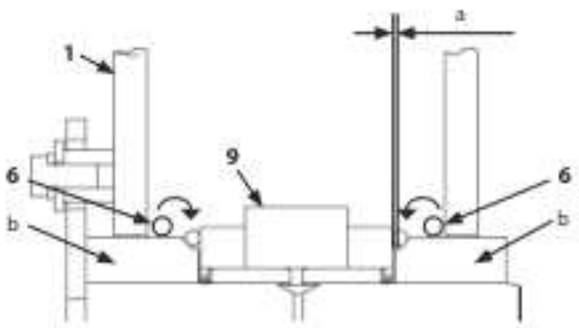
Detail A



WNCC-05-01-014



WNCC-05-01-015



WNCC-05-01-018

a- Clearance b- Boss Part

8. Install O-rings (6) (2 used) to the boss part (b) positions (2 places) of bucket (1).

CAUTION: Bucket link (9) weight: 33 kg (73 lb)

9. Attach nylon slings onto bucket link (9). Hoist bucket link (9).
10. Start the engine. Operate the bucket cylinder. Fit the bucket link (9) mounting holes to bucket (1). Stop the engine.

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.

11. Fit spacer (8) and shim (7) to the bucket link (9) mounting holes so that clearance (a) is adjusted within 1.5 mm (0.059 in). Install pin (2) to bucket (1) by using a hammer.

NOTE: Fit at least one spacer (8) or shim (7) to the bucket link (9) mounting hole.

NOTE: Thickness of spacer (8): 2.3 mm (0.091 in), Thickness of shim (7): 1.6 mm (0.063 in)

12. Install washer (3) and bolt, washer (4).

: 19 mm

: 90 N-m (9 kgf-m, 66 lbf-ft)

13. Install grease fitting (5). Apply grease.

: 10 mm

: 4 N-m (0.4 kgf-m, 3 lbf-ft)

14. Move O-rings (6) (2 used) which have installed to the boss part (b) positions (2 places) of bucket (1) to the connecting part of bucket (1) and bucket link (9).

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