PART NO. WNDG-EN-00

HITACHI

Reliable solutions

Workshop Manual

ZW150-5B

Wheel Loader

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TONDG-EN
Technical Manual (Troubleshooting)	: Vol. No.TTNDG-EN
Workshop Manual	: Vol. No.WNDG-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.

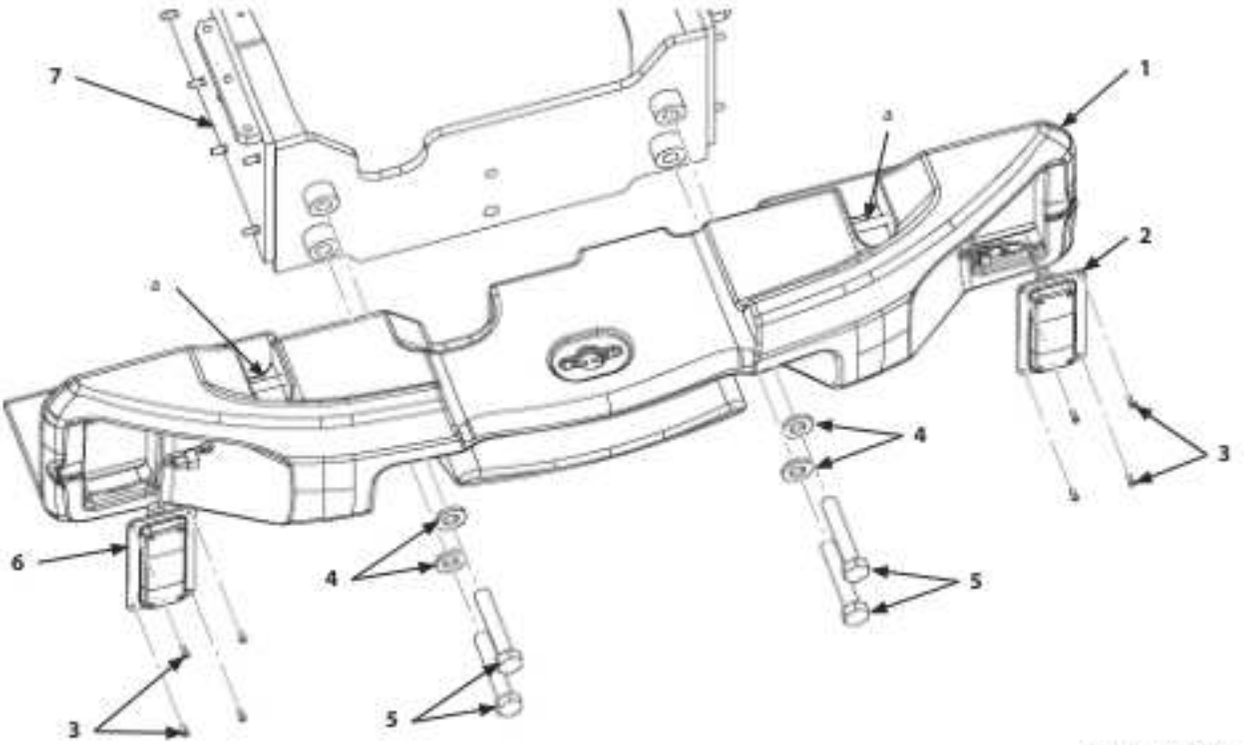
Example: 24.5 MPa (250 kgf/cm², 3560 psi)

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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a- Hoisting Position

Installation

CAUTION: Counterweight (1) weight: 1040 kg (2300 lb)

1. Attach the nylon slings onto hoisting positions (a) (2 places) of counterweight (1). Hoist and fit counterweight (1) to the bolt (5) holes (4 places) on rear frame (7).
2. Install counterweight (1) with washers (4) (4 used) and bolts (5) (4 used).

   : 46 mm

   : 1510 N·m (151 kgf·m, 1110 lbf·ft)

3. Install rear combination light (2) with bolts (3) (4 used).

   : 5 mm

   : 20 N·m (2 kgf·m, 15 lbf·ft)

4. Install rear combination light (6) with bolts (3) (4 used).

   : 5 mm

   : 20 N·m (2 kgf·m, 15 lbf·ft)

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- Assembly of Main Relief Valve (a)

IMPORTANT: If the main relief valve has been disassembled, pressure should be adjusted. (Refer to TROUBLESHOOTING / Operational Performance Test in the separated volume, T/M.)

IMPORTANT: Attach a spanner onto the hexagonal part of the relief valve case.

10. Install O-rings (50A, 50C) and backup ring (50B) to main relief valve (50). Install main relief valve (50) to housing (01).

: 27 mm

: 177 to 206 N·m (17.7 to 20.6 kgf·m, 131 to 152 lbf·ft)

- Assembly of Make-Up Valve (Lift Arm: Rod Side) (b)

11. Install poppet (31) and spring (32) to housing (01).
12. Install O-rings (09, 33) and backup ring (34) to pilot housing (19). Install pilot housing (19) to housing (01) with socket bolts (15) (3 used).

: 8 mm

: 49 to 54 N·m (4.9 to 5.4 kgf·m, 36 to 40 lbf·ft)

- Assembly of Muffler Filter Regeneration/Quick Coupler Spool (l)

13. Secure spool (57) in a vise by using wooden pieces as illustrated. Install spring seats (07) (2 used) and spring (08) to spool (57) with bolt (06).

: 19 mm

: 25 to 30 N·m (2.5 to 3 kgf·m, 18.5 to 22 lbf·ft)



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- Assembly of Bucket Spool (h)

14. Secure spool (04) in a vise by using wooden pieces as illustrated. Install spring seats (07) (2 used) and spring (08) to spool (04) with bolt (06).

: 19 mm

: 25 to 30 N·m (2.5 to 3 kgf·m, 18.5 to 22 lbf·ft)



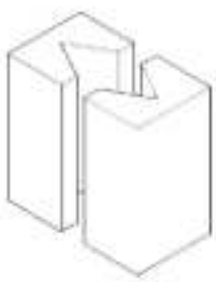
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- Assembly of Lift Arm Spool (g)

15. Secure spool (05) in a vise by using wooden pieces as illustrated. Install spring seats (07) (2 used), spring (12), and O-ring (28) to spool (05) with bolt (11).

: 19 mm

: 25 to 30 N·m (2.5 to 3 kgf·m, 18.5 to 22 lbf·ft)



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16. Install O-ring (28) to plug (27). Install plug (27) to spool (05).

: 8 mm

: 25 to 30 N·m (2.5 to 3 kgf·m, 18.5 to 22 lbf·ft)

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