PART NO. WAFAJ0-EN-00

HITACHI

Reliable solutions

Workshop Manual

ZX68USR-5A

Hydraulic Excavator

Service Manual consists of the following separate Part No.

Technical Manual	: Vol. No.TAFAJ0-EN
Workshop Manual	: Vol. No.WAFAJ0-EN
Engine Manual	: Vol. No.ETADB-EN, EWADB-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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Releasing Pressure in Hydraulic Circuit

Release any remaining pressure in the following procedures when removing and installing the front attachment.

1. Set the machine position for inspection and maintenance. (Refer to W1-6-1.)

CAUTION: Bleed air from the hydraulic oil tank. (Refer to W1-4-1.)

2. Tilt up the floor. (Refer to the operator's manual.)

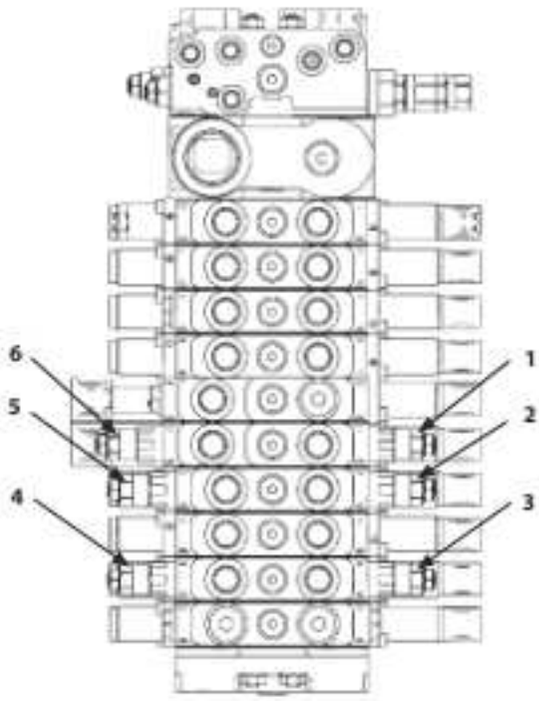
CAUTION: Each attachment may move rapidly in case the overload relief valve is loosened rapidly. Check that the machine has set in the position for inspection and maintenance and loosen it slowly. Do not loosen it more than 3/4 turns as hydraulic oil may spout.

IMPORTANT: Do not turn lock nut (8) and adjusting screw (9). If turning, the setting changes.

3. Slowly loosen body (7) of the overload relief valve in which any remaining pressure will be released.

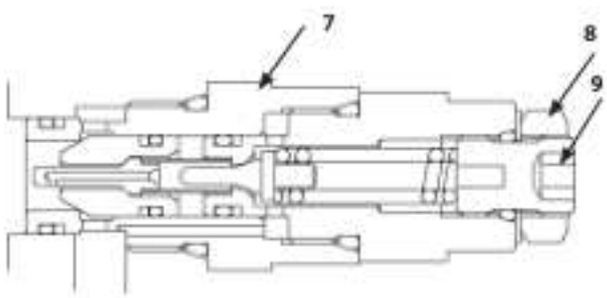
: 24 mm

: 70 to 80 N·m (7 to 8 kgf·m, 52 to 59 lbf·ft)



TAFAJ0-03-04-003

1- Overload Relief Valve (Boom Lower)
2- Overload Relief Valve (Arm Roll-Out)
3- Overload Relief Valve (Bucket Roll-Out)
4- Overload Relief Valve (Bucket Roll-In)
5- Overload Relief Valve (Arm Roll-In)
6- Overload Relief Valve (Boom Raise)



TAEA-03-04-013

7- Body
8- Lock Nut
9- Adjusting Screw

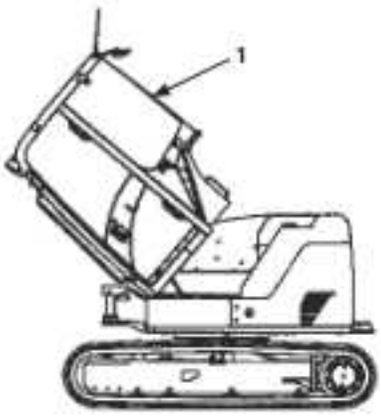
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Unit: mm (in)

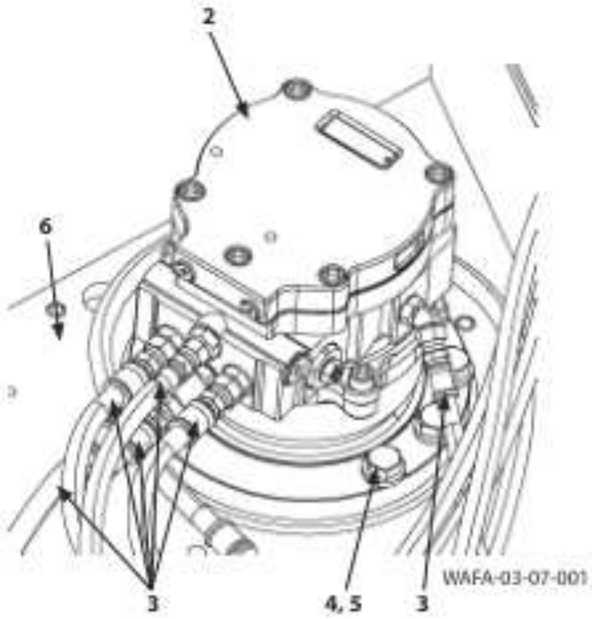
	Part Name	Standard	Allowable Limit	Remedy
H	Pin	50 (1.97)	49 (1.93)	Replace
	Bushing (Bucket Cylinder)	50 (1.97)	51.5 (2.03)	
	Bushing (Link A)	50 (1.97)	51.5 (2.03)	
	Link B	50 (1.97)	51.5 (2.03)	
I	Pin	45 (1.78)	44 (1.73)	
	Bushing (Arm)	45 (1.78)	46.5 (1.83)	
	Link B	45 (1.78)	46.5 (1.83)	
J	Pin	45 (1.78)	44 (1.73)	
	Bushing (Link A)	45 (1.78)	46.5 (1.83)	
K	Pin	45 (1.78)	44 (1.73)	
	Bushing (Arm)	45 (1.78)	46.5 (1.83)	
L	Pin	50 (1.97)	49 (1.93)	
	Bushing (Blade)	50 (1.97)	51.5 (2.03)	
M	Pin	71 (2.80)	70 (2.76)	
	Bushing (Blade Cylinder)	71 (2.80)	72.5 (2.85)	
N	Pin	65 (2.56)	64 (2.52)	
	Bushing (Blade Cylinder)	65 (2.56)	66.5 (2.62)	

IMPORTANT: When replacing HN bushing for the front attachment, install it by using a press.

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M1M0-07-032



WAFA-03-07-001

Installation

1. Install all removed adapters to swing device (2).

CAUTION: Swing device (2) weight: 45 kg (100 lb)

2. Install swing device (2) to main frame (6) with washers (5) (8 used) and bolts (4) (8 used).
   - : 24 mm
   - : 270 N·m (27 kgf·m, 200 lbf·ft)
3. Connect hoses (3) (6 used) to swing device (2).
   - : 17 mm
   - : 25 N·m (2.5 kgf·m, 18.5 lbf·ft)
   - : 19 mm
   - : 30 N·m (3 kgf·m, 22 lbf·ft)
   - : 22 mm
   - : 40 N·m (4 kgf·m, 29.5 lbf·ft)
4. Return the cab (1) assembly to the original position. (Refer to the operator's manual.)

IMPORTANT: Check the hydraulic oil level. Start the engine. Tilt up cab (1) and check for any oil leaks. After checking, tilt down cab (1). (Refer to the operator's manual.)

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