PART NO. WAFA-EN-00

HITACHI

Reliable solutions

Workshop Manual

ZX65USB-5A

Hydraulic Excavator

Service Manual consists of the following separate Part No.

Technical Manual	: Vol. No.TAFA-EN
Workshop Manual	: Vol. No.WAFA-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)

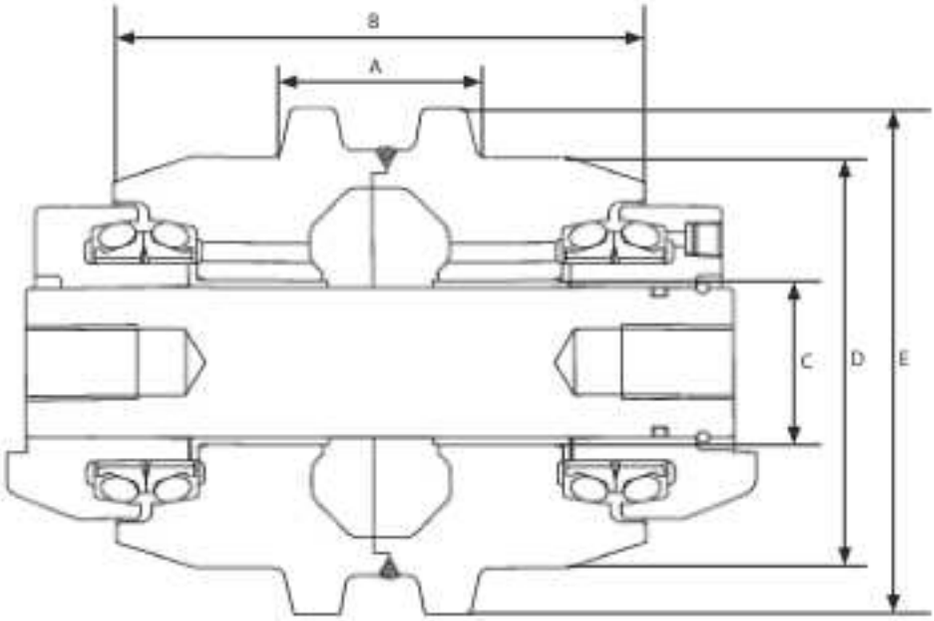
A table for conversion from SI units to other system units is shown below for reference purposes.

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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Lower Roller



WAFA-02-02-001

Unit: mm (in)

	Standard	Allowable Limit	Remedy
A	53 (2.09)	45 (1.77)	Replace
B	142 (5.59)	-	
C	44 (1.73)	-	
D	110 (4.33)	102 (4.02)	
E	137 (5.39)	-	

Axle and Bushing

Unit: mm (in)

		Standard	Allowable Limit	Remedy
Axle	Outer Diameter	40 (1.58)	39.2 (1.54)	Replace
Bushing	Inner Diameter	40 (1.58)	40.5 (1.59)	
	Flange Thickness	2.0 (0.079)	1.5 (0.059)	

NOTE: Values in [ ] are just for reference.

Lubrication Oil

Gear Oil (API CD class, SAE #30)
Amount of oil: 120 ml (120 cm^3)

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CAUTION: As spring (01) is compressed, a strong force is applied. Check if track adjuster (a) is installed correctly when raised.

5. Install nuts (b) (4 used) of the special tool (ST 4943). Secure track adjuster (a). Slowly operate the oil jack. Compress track adjuster (a) until the clearance between washer (10) and nut (03) becomes approx. 10 mm (0.4 in).

: 46 mm

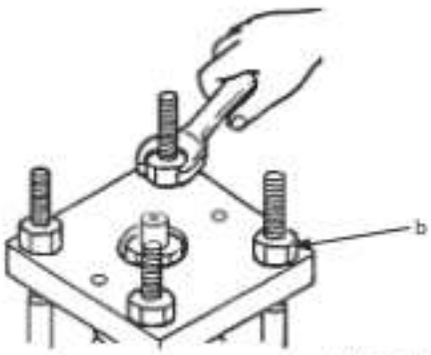
NOTE: Spring (01) compressed length:

Rubber crawler:

Spring free length (321.3 mm (12.6 in)) - Spring set length (234.5 mm (9.2 in)) = Spring compressed length (86.8 mm (3.4 in))

Steel crawler:

Spring free length (321.3 mm (12.6 in)) - Spring set length (256 mm (10.1 in)) = Spring compressed length (65.3 mm (2.6 in))



W105-03-04-012

b- Nut

CAUTION: There may be pressure accumulated inside of cylinder (00). As valve (08) may fly out and the high-pressure grease may spout out, do not loosen valve (08) quickly. Keep body parts and face away from valve (08) and loosen it carefully. Do not loosen grease fitting (09).

6. Remove valve (08) from cylinder (00).

: 19 mm

7. Remove plug (04) from nut (03).

: 5 mm

8. Remove nut (03) from cylinder (00).

: 46 mm

CAUTION: Lower the oil jack before removing nut (b) and the special tool (ST 4140). Prevent washer (10) and spring (01) from flying out due to the spring (01) force.

9. Slowly lower the oil jack until spring (01) reaches the free length.

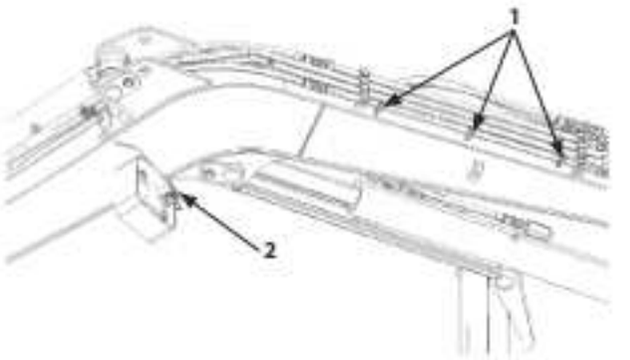
NOTE: Spring (01) free length: 321.3 mm (12.6 in)

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

CAUTION: Release any pressure in the hydraulic circuit. (Refer to W1-5-1.)

6. Disconnect connector (2) of the headlight. Loosen clips (1) (10 used) which secure the pipe of the boom back and the harness of the headlight. Remove the harness from clips (1) (10 used).



W1M7-04-01-025

CAUTION: Front attachment weight: 750 kg (1660 lb)

7. Attach the nylon slings onto the boom. Reduce slack of the nylon slings. Hoist and hold the boom at the center of gravity.
8. Disconnect hoses (3) (6 used).

   : 22 mm, 27 mm
9. Remove nuts (6) (2 used). Remove bolt (4) from the swing post.

   : 24 mm

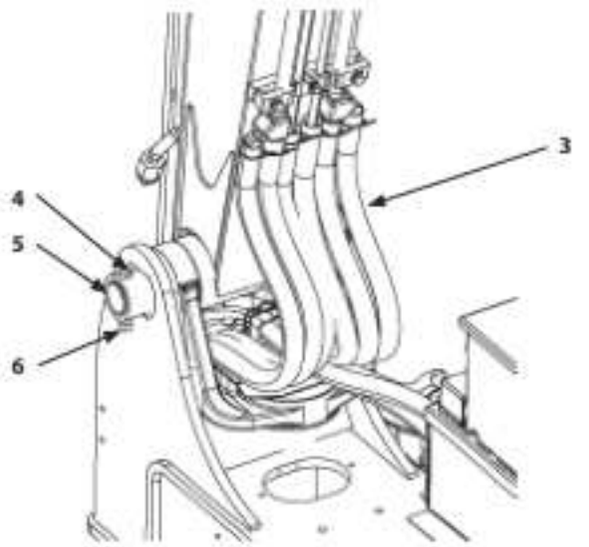
NOTE: LOCTITE #262 has been applied on bolt (4)

CAUTION: Metal fragments may fly off when a hammer is used. Wear necessary protection, such as goggles, helmets, etc in order to prevent personal injury.

10. Remove boom foot pin (5) from the swing post by using a bar and a hammer.

NOTE: Put the matching marks on the swing post boss and boom foot pin (5) for assembling.

11. Hoist and remove the front attachment. Remove the thrust plates from left and right sides of the boom foot pin (5) part.



WAFA-05-01-002

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