PART NO. WDEE-EN-00

HITACHI

Reliable solutions

Workshop Manual

ZX85USB-5A

Hydraulic Excavator

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TODEE-EN
Technical Manual (Troubleshooting)	: Vol. No.TTDEE-EN
Workshop Manual	: Vol. No.WDEE-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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Unit: mm (in)

	Part Name	Standard	Allowable Limit	Remedy
G	Pin	45 (1.77)	44.0 (1.73)	Replace
	Boss (Arm)	45 (1.77)	46.5 (1.83)	
	Bushing (Bucket Cylinder)	45 (1.77)	46.5 (1.83)	
H	Pin	55 (2.17)	54.0 (2.13)	
	Boss (Link B)	55 (2.17)	56.5 (2.22)	
	Bushing (Link A)	55 (2.17)	56.5 (2.22)	
	Bushing (Bucket Cylinder)	55 (2.17)	56.5 (2.22)	
I	Pin	50 (1.97)	49.0 (1.93)	
	Boss (Link B)	50 (1.97)	51.5 (2.03)	
	Bushing (Arm)	50 (1.97)	51.5 (2.03)	
J	Pin	50 (1.97)	49.0 (1.93)	
	Boss (Bucket)	50 (1.97)	51.5 (2.03)	
	Bushing (Link A)	50 (1.97)	51.5 (2.03)	
K	Pin	50 (1.97)	49.0 (1.93)	
	Boss (Bucket)	50 (1.97)	51.5 (2.03)	
	Bushing (Arm)	50 (1.97)	51.5 (2.03)	
L	Pin	50 (1.97)	49.0 (1.93)	
	Boss (Track Frame)	50 (1.97)	51.5 (2.03)	
	Bushing (Blade)	50 (1.97)	51.5 (2.03)	
M	Pin	71 (2.80)	70.0 (2.76)	
	Boss (Track Frame)	71 (2.80)	72.5 (2.85)	
	Bushing (Blade Cylinder)	71 (2.80)	72.5 (2.85)	
N	Pin	71 (2.80)	70.0 (2.76)	
	Boss (Blade)	71 (2.80)	72.5 (2.85)	
	Bushing (Blade Cylinder)	71 (2.80)	72.5 (2.85)	
O	Pin	60 (2.36)	59 (2.32)	
	Boss (Swing Post)	60 (2.36)	61.5 (2.42)	
	Bushing (Boom Swing Cylinder)	60 (2.36)	61.5 (2.42)	
P	Pin	60 (2.36)	59 (2.32)	
	Boss (Main Frame)	60 (2.36)	61.5 (2.42)	
	Bushing (Boom Swing Cylinder)	60 (2.36)	61.5 (2.42)	
Q	Pin	110 (4.33)	109 (4.29)	
	Bushing (Main Frame)	110 (4.33)	111.5 (4.39)	
	Bushing (Swing Post)	110 (4.33)	111.5 (4.39)	

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

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Installation

CAUTION: Front attachment weight: 1000 kg (2210 lb)

1. Hoist the front attachment. Fit the boom foot part to the mounting hole of the swing post. Insert the thrust plates (8) to both right and left of the boom foot parts and adjust the right and left clearances within 1 mm (0.039 in).

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.

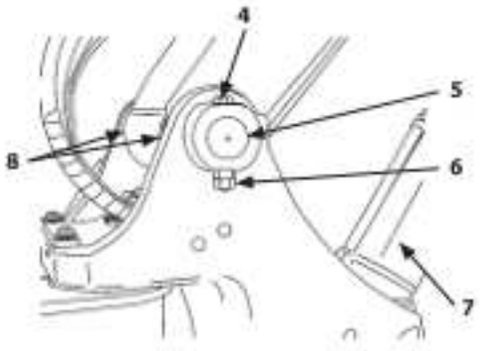
2. Install boom foot pin (5) by using a hammer.

IMPORTANT: Install nut (6) so that the clearance between nut (6) and the swing post boss should be 2 to 3 mm.

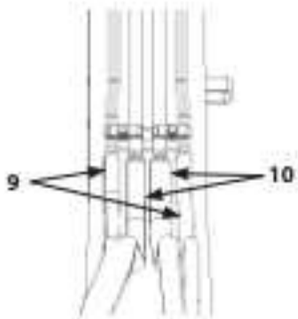
3. Apply LOCTITE #262 onto bolt (4). Install bolt (4) and nuts (6) (2 used).
   - : 24 mm
   - : 80 N·m (8 kgf·m, 59 lbf·ft)
4. Connect hoses (9, 10) (2 used each).
   - : 27 mm
   - : 95 N·m (9.5 kgf·m, 70 lbf·ft)
   - : 36 mm
   - : 180 N·m (18 kgf·m, 133 lbf·ft)

CAUTION: Boom cylinder (7) weight: 88 kg (195 lb)

5. Attach nylon slings onto boom cylinder (7). Hoist and hold boom cylinder (7).



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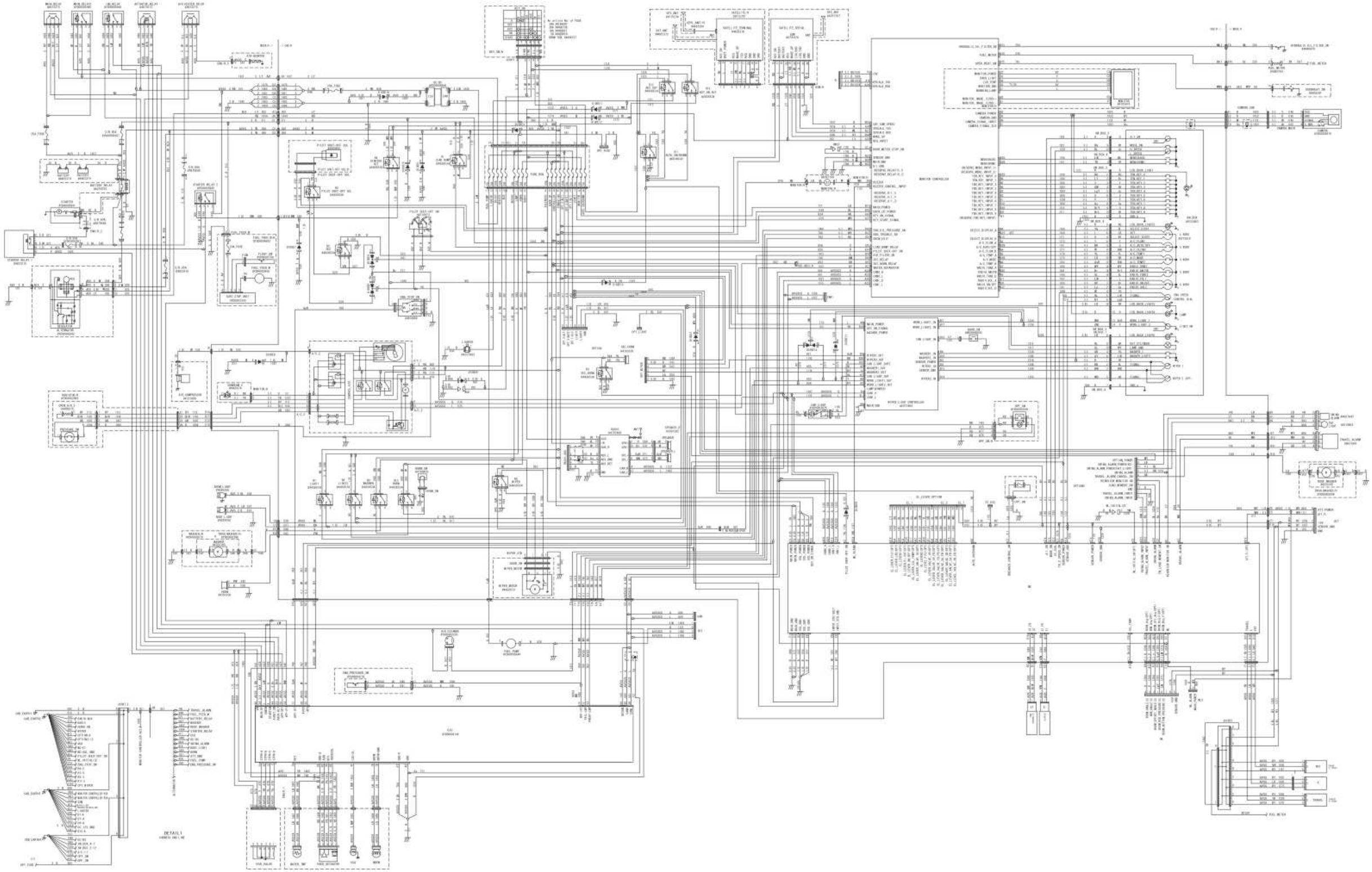
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ELECTRICAL CIRCUIT DIAGRAM

CAUTION: Parts numbers on the drawing are provided only for reference purpose. To order parts on the drawing, be sure to consult the Parts Catalog.

Applicable Machine

Attach to vol. No.	Model
TTDEB-EN-00	ZX85US-5A



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