PART NO. WDFU90-EN-00

HITACHI

Reliable solutions

Workshop Manual

ZX
225US-5A
225USLC-5A
Hydraulic Excavator

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TODFU90-EN
Technical Manual (Troubleshooting)	: Vol. No.TTDFU90-EN
Workshop Manual	: Vol. No.WDFU90-EN
Engine Manual	: Vol. No.ETDCY-EN, EWDCY-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)

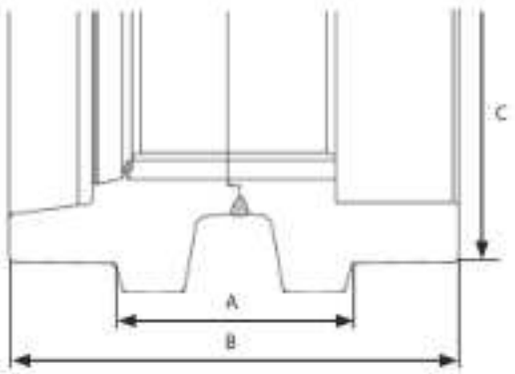
A table for conversion from SI units to other system units is shown below for reference purposes.

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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Upper Roller



WDDE-02-02-001

Unit: mm

	Standard	Allowable Limit	Remedy
A	84	78	Replace
B	165	-	
C	120	[114]	

NOTE: *Values in [ ] are just for reference.*

Axle and Bushing

Unit: mm

		Standard	Allowable Limit	Remedy
Axle	Outer Diameter	45	[44.2]	Replace
Bushing	Inner Diameter	45	[45.8]	
	Flange Thickness	2.0	[1.6]	

NOTE: *Values in [ ] are just for reference.*

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•Assembly of Load Check Valve (Auxiliary 2 Parallel Circuit) (ad)

27. Install O-ring (218) to plug (100). Install poppet (115), spring (31), and plug (100) to housing (1).

: 8 mm

: 76±3 N·m

•Assembly of Load Check Valves (Boom 2 Parallel Circuit, Arm 3 Tandem Circuit, Auxiliary Parallel Circuit) (p, q, af)

28. Install poppets (48) (3 used), springs (22) (3 used), and O-rings (21) (3 used) to housing (1).

29. Install flanges (79) (3 used) to housing (1) with socket bolts (104) (12 used).

: 8 mm

: 61±3 N·m

30. Install O-rings (220) (2 used) and backup rings (221) (2 used) to plugs (108) (2 used) of the main relief valve (80A) side. Install plugs (108) (2 used) to housing (1).

: 24 mm

: 83±5 N·m

•Assembly of Load Check Valve (Auxiliary 2 Tandem Circuit) (r)

31. Install O-ring (282) to plug (94). Install plug (94) to flange (93).

: 36 mm

: 216±10.8 N·m

32. Install poppet (91), spring (92), and O-ring (21) to housing (1). Install the flange (93) assembly to housing (1) with socket bolts (107) (4 used).

: 8 mm

: 61±3 N·m

33. Install O-rings (110) (2 used) to housing (1). Install caps (109) (2 used) to housing (1) with socket bolts (104) (8 used).

: 8 mm

: 61±3 N·m

34. Install O-rings (112) (2 used) to housing (1). Install caps (111) (2 used) to housing (1) with socket bolts (125) (8 used).

: 8 mm

: 61±3 N·m

35. Install O-ring (219) to plug (101) of the cap (111) side. Install plug (101) to housing (1).

: 10 mm

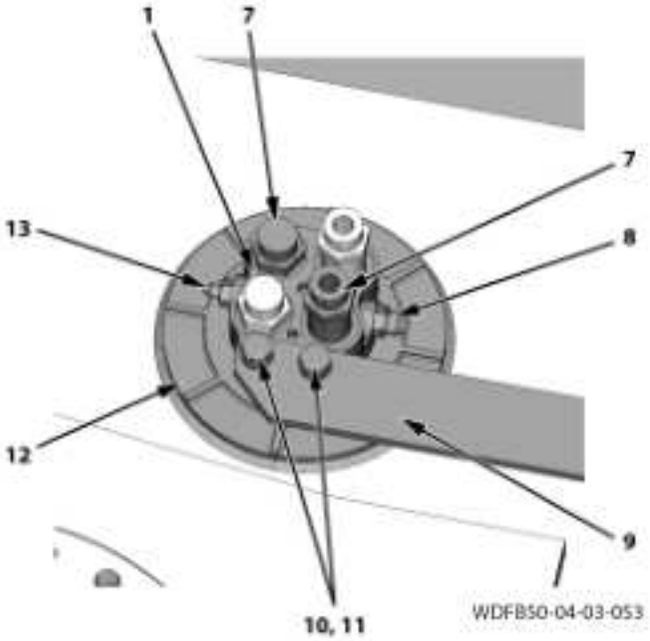
: 106 to 141 N·m

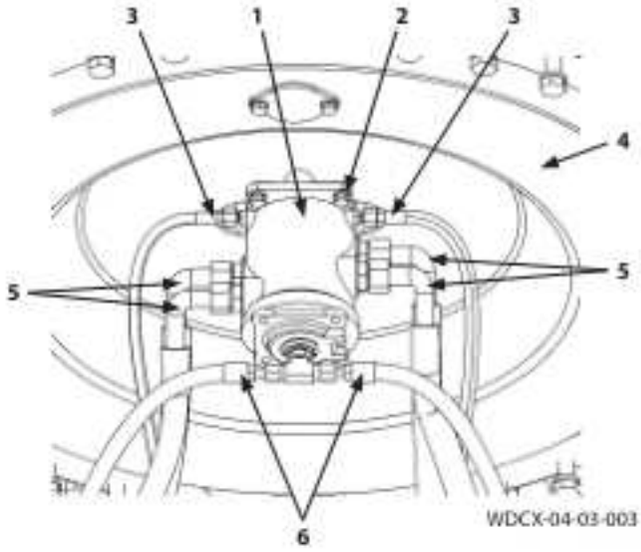
36. Install O-rings (218) (4 used) to plugs (100) (4 used) of the body (57) side and cap (17) side. Install plugs (100) (4 used) to housing (1).

: 8 mm

: 76±3 N·m

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Installation

1. Install all adapters which have been removed in step 19 for removal to center joint (1).

CAUTION: Center joint (1) weight: 27 kg

2. Install special tools (ST 0244) (2 used) to adapters (7) (2 places) of center joint (1). Attach nylon slings onto the special tools (ST 0244) (2 used). Hoist center joint (1).
3. Install center joint (1) to track frame (4) with bolts, washers (2) (4 used).
   - : 19 mm
   - : 90 N·m
4. Connect hoses (3) (2 used).
   - : 17 mm
   - : 25 N·m
5. Connect hoses (5) (4 used).
   - : 36 mm
   - : 180 N·m
6. Connect hoses (6) (2 used).
   - : 27 mm
   - : 80 N·m
7. Install rubber (12).
8. Install adapter (13).
   - : 19 mm
   - : 30 N·m
9. Install adapter (8).
   - : 22 mm
   - : 70 N·m
10. Install stopper (9) with spring washers (11) (2 used) and bolts (10) (2 used).
    - : 22 mm
    - : 140 N·m

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