PART NO. WJBF90-EN-00

HITACHI

Reliable solutions

Workshop Manual

ZX670LC-5G

Hydraulic Excavator

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TOJBF90-EN
Technical Manual (Troubleshooting)	: Vol. No.TTJBF90-EN
Workshop Manual	: Vol. No.WJBF90-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:**
Indicated 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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Hydraulic Circuit Pressure Release Procedure

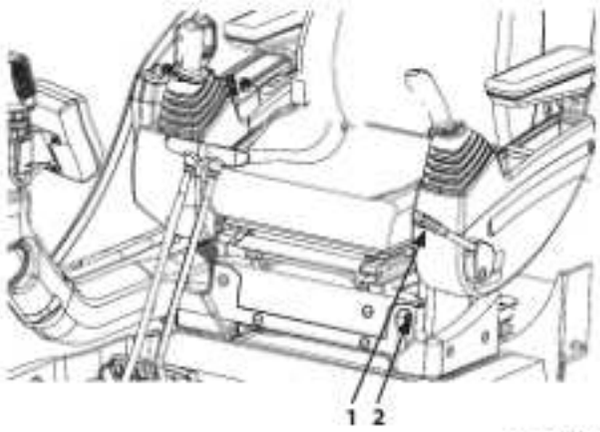
Release any remaining pressure as follows before removing/installing the front attachment.

1. Set pilot shut-off lever (1) to the UNLOCK position.
2. Turn engine stop switch (2) ON.

NOTE: Perform step 1 and step 2, and set the key switch to the START position. Although the starter rotates, the engine does not start.

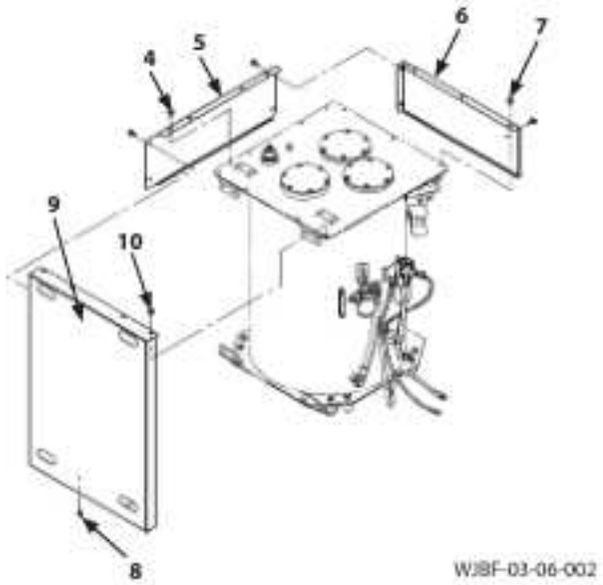
IMPORTANT: Battery will deplete. Operate the key switch for short period.

3. With the key switch set in the START position, operate the control lever in order to release any pressure in the hydraulic circuit 4 to 5 times.
4. Return pilot shut-off lever (1) to the LOCK position.
5. Turn engine stop switch (2) OFF.

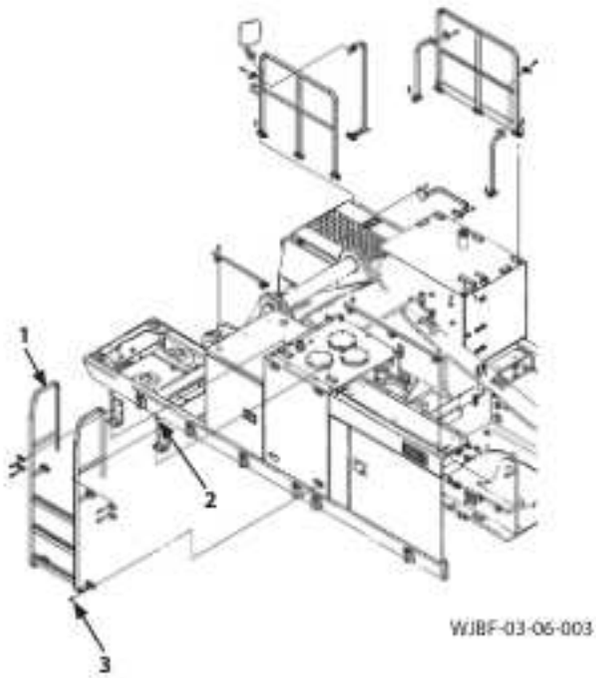


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WJBF-03-06-002



WJBF-03-06-003

CAUTION: Cover (9) weight: 34 kg (75 lb)

25. Install cover (9) with bolts, washers (10) (4 used).
    - : 19 mm
    - : 90 N·m (9 kgf·m, 66 lbf·ft)
26. Install bolts, washers (8) (2 used).
    - : 19 mm
    - : 90 N·m (9 kgf·m, 66 lbf·ft)
27. Install cover (6) with bolts, washers (7) (3 used).
    - : 19 mm
    - : 90 N·m (9 kgf·m, 66 lbf·ft)
28. Install cover (5) with bolts, washers (4) (8 used).
    - : 19 mm
    - : 90 N·m (9 kgf·m, 66 lbf·ft)

CAUTION: The handrail (1) assembly weight: 32 kg (71 lb)

29. Attach the nylon slings onto the handrail (1) assembly. Hoist the handrail (1) assembly.
30. Install the handrail (1) assembly with bolts, washers (2) (4 used).
    - : 19 mm
    - : 90 N·m (9 kgf·m, 66 lbf·ft)
31. Install bolts, washers (3) (8 used).
    - : 19 mm
    - : 90 N·m (9 kgf·m, 66 lbf·ft)

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10. Abnormal Engine Noise

Start the engine and allow it to warm up before beginning the troubleshooting procedure.

Condition	Possible Cause	Correction
Engine knocking	Use of wrong fuel	Use correct fuel
	Fuel injection timing improperly adjusted	Adjust the injection timing
	Improper injection nozzle starting pressure	Adjust or replace the injection nozzle
	Improper spray condition	
	Broken piston ring resulting in low compression pressure	Replace the piston ring
	Defective fuel injection nozzle resulting in fuel drippage after fuel injection	Replace the fuel injection nozzle
Gaseous leakage noise	Loosely connected exhaust pipes	Tighten the exhaust pipe connection
	Broken exhaust pipes	Replace the exhaust pipes
	Loose injection nozzles and/or glow plug	Tighten the injection nozzles and/or glow plug Replace the washer
	Loosely connected exhaust manifold	Tighten the exhaust manifold connections
	Damaged cylinder head gasket	Replace the cylinder head gasket
Continuous noise	Loose fan belt	Readjust the belt tension
	Loose cooling fan	Retighten cooling fan
	Worn or damaged water pump bearing	Replace the water pump bearing
	Worn or damaged alternator bearing	Replace the alternator bearing
	Valve clearance improperly adjusted	Adjust the valve clearance
Slapping noise	Valve clearance improperly adjusted	Adjust the valve clearance
	Damaged rocker arm	Replace the rocker arm
	Worn or damaged crankshaft and/or thrust bearings	Replace the crankshaft and/or thrust bearing
	Worn or damaged crankshaft and/or connecting rod bearings	Replace the crankshaft and/or connecting rod bearings
	Worn or damaged connecting rod bushing and piston pin	Replace the connecting rod bushing and/or piston pin
	Worn or damaged piston and cylinder liner Foreign material in the cylinder	Replace the piston and cylinder liner

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