PART NO. WJBE91-EN-00

HITACHI

Reliable solutions

# Workshop Manual

# ZX870LC-5G

## Hydraulic Excavator

Service Manual consists of the following separate Part No.

| | |
|---|---|
| Technical Manual (Operational Principle) | : Vol. No.TOJBE91-EN |
| Technical Manual (Troubleshooting) | : Vol. No.TTJBE91-EN |
| Workshop Manual | : Vol. No.WJBE91-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)

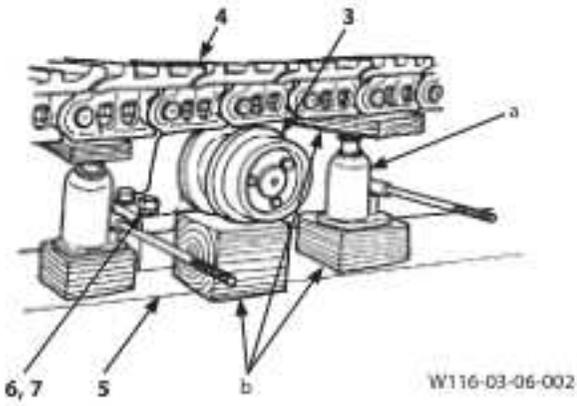
A table for conversion from SI units to other system units is shown below for reference purposes.

| 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 |

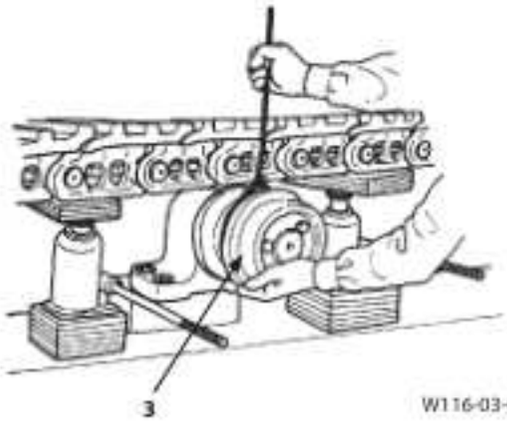
*NOTE: The numerical value in this manual might be different from the above-mentioned table.*



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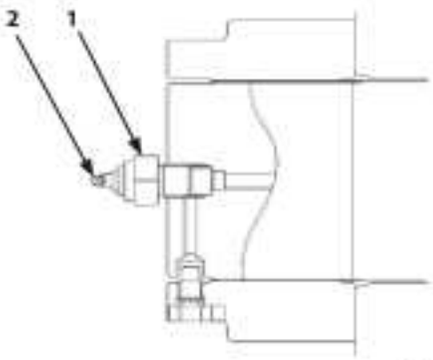



W116-03-06-002

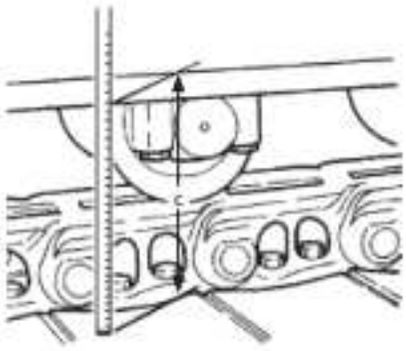



W116-03-06-003

a- Oil Jack
b- Wooden Block




W800-03-07-002




Wxxx-03-07-001

c - Track Sag Specification

**Installation**

**CAUTION: Upper roller (3) weight: 82 kg (185 lb)**

1. Attach nylon slings onto the body of upper roller (3). Hoist upper roller (3).
2. Apply LOCTITE #262 onto bolts (6) (4 used)
3. Install upper roller (3) with washers (7) (4 used) and bolts (6) (4 used).

   : 32 mm

   : 750 N·m (75 kgf·m, 550 lbf·ft)
4. Remove wooden blocks (b) and oil jack (a) between track (4) and track frame (5).
5. Tighten valve (1) of the track adjuster.

   : 24 mm

   : 150 N·m (15 kgf·m, 111 lbf·ft)

**CAUTION: Securely support the raised machine by using the blocks.**

6. Raise the track to be adjusted. Rotate the track in the reverse direction a little.
7. Apply grease through grease fitting (2) and adjust the track (4) tension.

*NOTE: Track sag specification (c):*

- *ZX870-5G, 870H-5G : 450 to 500 mm (17.7 to 19.7 in)*
- *ZX870LC-5G, 870LCH-5G, 870LCR-5G : 470 to 530 mm (18.5 to 20.9 in)*

8. Lower the track.



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## 3. Insufficient Power

| Condition | Possible Cause | Correction |
|---|---|---|
| Trouble in the air intake system | Clogged air cleaner element | Clean or replace the air cleaner element |
| Trouble in the fuel system | Water particles in fuel system | Replace fuel |
| | Clogged fuel filter element | Replace the fuel filter element or cartridge |
| | Clogged strainer or defective fuel feed pump | Repair or replace the feed pump |
| | Injection nozzle sticking | Replace the injection nozzle |
| | Injection nozzle starting pressure too low | Adjust or replace the injection nozzle |
| | Improper spray condition | Adjust or replace the injection nozzle |
| | Fuel injection pipes damaged or obstructed | Replace the injection pipes |
| | Defective delivery valve | Replace the delivery valve |
| | Injection timing improperly adjusted | Adjust the injection timing<br>Repair or replace the timing advancer |
| | Worn plunger of the injection pump | Replace the plunger assembly |
| | Worn camshaft of the injection pump | Replace the camshaft |
| Trouble in the turbocharged system | Exhaust gas leakage from the exhaust system | Repair or replace the related parts |
| | Air leakage from the intake system | Repair or replace the related parts |
| | Defective turbocharger assembly | Replace the turbocharger assembly |
| Low compression pressure | Blown out cylinder head gasket<br>Worn cylinder liner<br>Piston ring sticking or broken<br>Improper seating between the valve and valve seat | Replace the related parts |
| Trouble in the valve gear train | Valve clearance improperly adjusted | Adjust the valve clearance |
| | Worn camshaft lobe | Replace the camshaft |
| | Valve spring weak or broken | Replace the valve spring |

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