PART NO. WDBH-EN-00

HITACHI

Reliable solutions

# Workshop Manual

# ZX
# 180LC-5G
# 180LCN-5G
## Hydraulic Excavator

Service Manual consists of the following separate Part No.

| | |
|---|---|
| Technical Manual (Operational Principle) | : Vol. No.TODBH-EN |
| Technical Manual (Troubleshooting) | : Vol. No.TTDBH-EN |
| Workshop Manual | : Vol. No.WDBH-EN |
| Engine Manual | : Vol. No.EDAG-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.

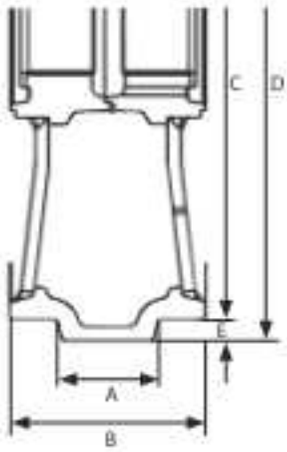
| Quantity | To Convert From | Into | Multiply By |
|---|---|---|---|
| Length | mm | in | 0.03937 |
| | mm | ft | 0.003281 |
| Volume | L | US gal | 0.2642 |
| | L | US qt | 1.057 |
| | $m^3$ | $yd^3$ | 1.308 |
| Weight | kg | lb | 2.205 |
| Force | N | kgf | 0.10197 |
| | N | lbf | 0.2248 |
| Torque | 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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## Front Idler




W166-03-05-001

Unit: mm (in)

| | Standard | Allowable Limit | Remedy |
|---|---|---|---|
| A | 84 (3.31) | [68 (2.67)] | Build up welding and hand finishing |
| B | 159 (6.26) | - | |
| C | 500 (19.7) | [488 (19.2)] | |
| D | 538 (21.2) | - | |
| E | 19 (0.75) | 25 (0.98) | |

### Axle and Bushing

Unit: mm (in)

| | | Standard | Allowable Limit | Remedy |
|---|---|---|---|---|
| Axle | Outer Diameter | 75.0 (2.95) | [74.2 (2.93)] | Replace |
| Bushing | Inner Diameter | 75.0 (2.95) | [76 (2.99)] | |
| | Flange Thickness | 2 (0.08) | [1.2 (0.05)] | |

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



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**CAUTION: Ring gear (20) weight: 49 kg (110 lb)**

9. Install eyebolts (M16, Pitch 2.0 mm) (2 used) to the bolt (21) holes (2 places) on ring gear (20). Attach nylon slings onto the eyebolts. Hoist ring gear (20). Place ring gear (20) with the cover (41) side down.
10. Install O-ring (48) to ring gear (20).

**CAUTION: Sprocket (05) + drum (04) weight: 86 kg (190 lb)**

11. Attach nylon slings onto the sprocket (05) assembly. Hoist the sprocket (05) assembly. Place the sprocket (05) assembly onto ring gear (20).
12. Apply LOCTITE #262 or THREEBOND #1386B onto bolts (21) (20 used). Install the sprocket (05) assembly to ring gear (20) with bolts (21) (20 used).

: 24 mm

: 270 N·m (27 kgf·m, 200lbf·ft)

**IMPORTANT: Handle floating seal (02) with care. (Refer to W2-4-5.)**

13. Apply gear oil onto O-ring of other side of floating seal (02). Install one side of floating seal (02) to drum (04).

*NOTE: If it is difficult to install O-ring of floating seal (02), push O-ring to the periphery direction by using a bamboo spatula.*

**CAUTION: Ring gear (20) + sprocket (05) + drum (04) weight: 140 kg (310 lb)**

**IMPORTANT: The travel motor (00) side of drum (04) is the seal sliding surface for travel motor (00). Place it on a wooden block in order not to damage.**

14. Attach nylon slings onto the ring gear (20) assembly. Hoist the ring gear (20) assembly. Place the ring gear (20) assembly with the cover (41) side up.

**CAUTION: Ring gear (20) + sprocket (05) + drum (04) weight: 140 kg (310 lb)**

15. Install eyebolts (M12, Pitch 1.75 mm) to the bolt, washer (43) hole (2 places) of ring gear (20). Attach nylon slings onto the eyebolts. Hoist the ring gear (20) assembly. Place the ring gear (20) assembly straight on travel motor (00). At this time, check that the clearance between travel motor (00) and drum (04) is even all around.
16. Push the ring gear (20) assembly into travel motor (00) straight by shaking.



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