TEN00778-00

# Operation & Maintenance Manual

HYDRAULIC
EXCAVATOR

## PC360LC-11

SERIAL NUMBERS 90276 and up

**WARNING**

Unsafe use of this machine may cause serious injury or death. Operators and maintenance personnel must read this manual before operating or maintaining this machine. This manual should be kept near the machine for reference and periodically reviewed by all personnel who will come into contact with it.

**NOTICE**

Komatsu has Operation & Maintenance Manuals written in some other languages. If a foreign language manual is necessary, contact your local distributor for availability.

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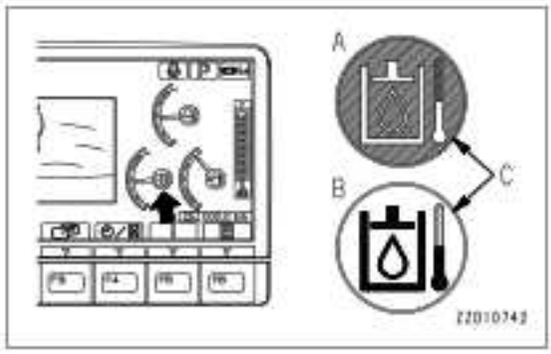


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## METHOD FOR OPERATIONS AND CHECKS AFTER STARTING ENGINE

**⚠ WARNING**

- **If there has been any emergency stop, abnormal actuation or trouble, turn the starting switch key to OFF position.**
- **Do not perform operations nor operate the levers or pedal abruptly while the hydraulic oil is at low temperature. Always perform the warm-up operation for the hydraulic equipment until the hydraulic oil temperature caution lamp displays the correct temperature.**
  **When the hydraulic oil temperature is low, the low temperature display shown in the figure is given.**
  - **Display (A) when temperature is correct: Caution lamp background (C) is blue.**
  - **Display (B) when temperature is low: Caution lamp background (C) is white.**
- **If the warm-up operation for the hydraulic equipment is not performed thoroughly, and the machine is moved, the reaction of the machine to the operation of the control levers and pedals will be slow and the movement of the machine may not be what the operator intended. Particularly in a cold weather, be sure the warm-up operation is completed.**
- **Keep away from the exhaust pipe while the engine is running and immediately after stopping the engine. Keep combustible materials away from the exhaust pipe outlet.**




There are 2 types of warm-up operation: warm-up of the engine and warm-up of the hydraulic equipment. In addition, depending on the environment, the method of performing the warm-up operation may differ, so perform the warm-up operation according to the descriptions given in the appropriate section.

The hydraulic equipment is not warmed by simply performing engine warm-up operation. Perform the warm-up operations for the hydraulic equipment and engine separately. Warm-up of the hydraulic equipment thoroughly ensures that the hydraulic oil is warmed up and that warm hydraulic oil circulates in all the control circuits.

## METHOD FOR CHECKING STARTING CONDITION AND UNUSUAL NOISE OF ENGINE

- When starting the engine, check that the engine causes no abnormal noise and that it starts up easily and smoothly.
- Check that there is no abnormal noise when the engine is idling or when the engine speed rises slightly.

When there is an abnormal noise at the engine startup and if that condition continues, the engine may be damaged. In that case, ask your Komatsu distributor to check the engine as soon as possible.

## METHOD FOR CHECKING LOW-SPEED RUN AND ACCELERATION OF ENGINE

**⚠ CAUTION**

- **Perform these checks in a safe place, watching out for danger in the surroundings.**
- **When the engine performs very badly at low idle and in the acceleration and if that condition continues, it may damage the engine or confuse the operator's sense of driving or lower the braking efficiency, and as a result lead to an unexpected accident. In that case, ask your Komatsu distributor to check the engine as soon as possible.**



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# MAINTENANCE INTERVAL FOR HYDRAULIC BREAKER

On the machine equipped with a hydraulic breaker, the hydraulic oil and grease deteriorate faster than in normal bucket digging operations, so set the maintenance intervals as follows.

**Replace hydraulic filter element**

On a new machine, replace the element after the first 100 to 150 hours, then perform further replacement of the element according to the table.

**Change of oil in hydraulic tank**

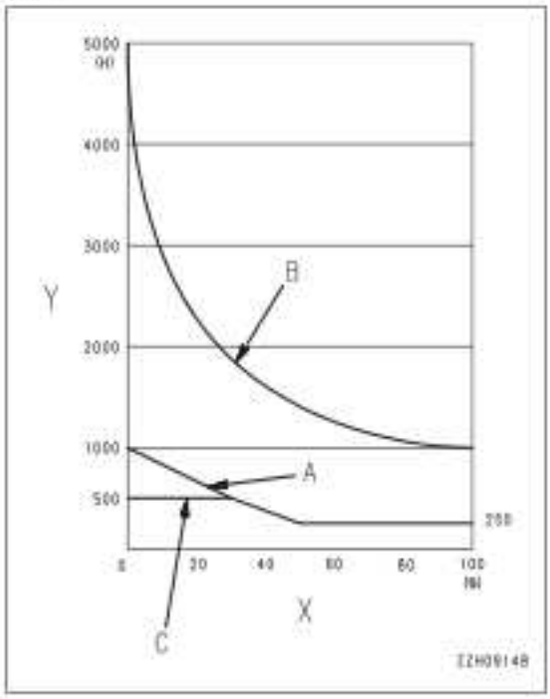
Change the oil according to the table.

**Replace additional filter element for breaker (if equipped)**

Use a guideline of 250 hours for use of the breaker (operating ratio of the breaker: 50% or more), and replace the element according to the table.

**Replace pilot filter element (if equipped)**

Use a guideline of 250 hours for use of the breaker (operating ratio of the breaker: 50% or more), and replace the element according to the table.




X: Breaker operating ratio (%)
Y: Replacement interval (H)
(A):Hydraulic tank element, pilot filter element
(B):Hydraulic oil
(C):Element of additional filter

For detail, see "METHOD FOR REPLACING ADDITIONAL FILTER ELEMENT FOR BREAKER (6-19)" and "METHOD FOR REPLACING ADDITIONAL PILOT FILTER ELEMENT FOR BREAKER (6-20)".

**REMARK**

Breaker operating ratio 100% means that only the breaker is used
Breaker operating ratio 0% means that the breaker is not used

## Lubrication

When the hydraulic breaker is equipped, lubricate the machine on 100-hour intervals. For detail, see "METHOD FOR LUBRICATING (4-53)".

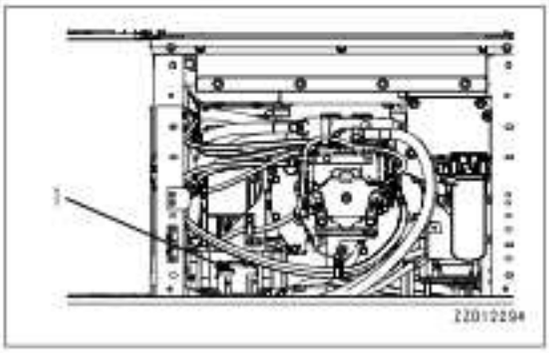


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## METHOD FOR CHECKING WINDOW WASHER FLUID LEVEL, ADDING FLUID

1. If air is in the window washer fluid, check the fluid level in window washer tank (1).
2. If the level is low, add window washer fluid for automobile.

   Be careful not to let dirt or dust get in when adding fluid.




### Mixture ratio of pure washer fluid and water

The proper mixing proportion varies with the ambient temperature. Add washer fluid diluted with water at the following proportion.

| Area, season | Mixing proportion | Freezing temperature |
|---|---|---|
| Normal | Washer fluid 1/3: water 2/3 | -10 °C {14 °F} |
| Winter in cold district | Washer fluid 1/2: water 1/2 | -20 °C {-4 °F} |
| Winter in extremely cold district | Pure washer fluid | -30 °C {-22 °F} |

There are 2 types of -10 °C {14 °F} (for general use) and -30 °C {-22 °F} (for cold district). Use them properly according to the area and season.



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