TEN00791-01

Operation & Maintenance Manual

HYDRAULIC
EXCAVATOR

PC238USLC-11

SERIAL NUMBERS 5001 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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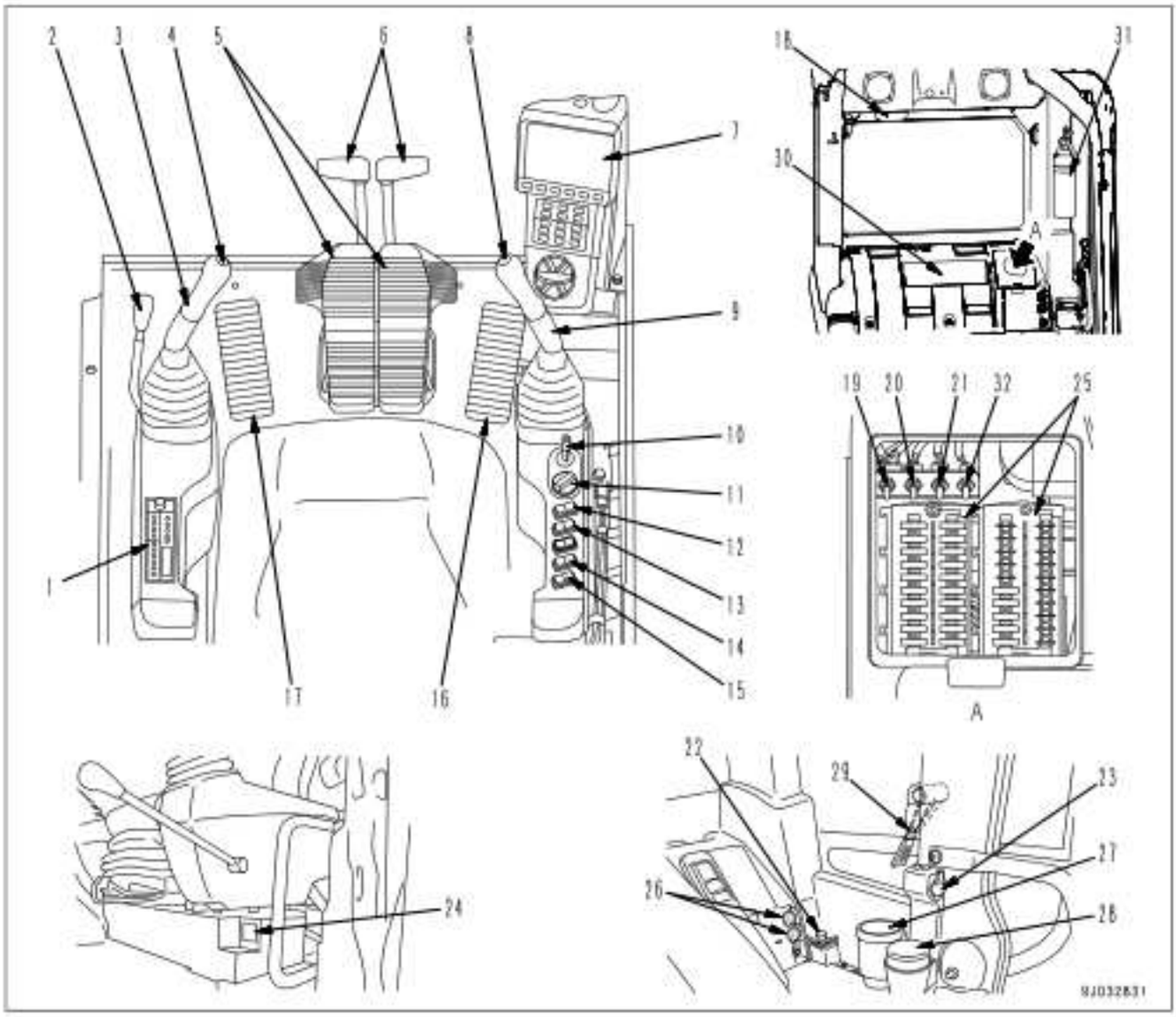
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CONTROLS AND GAUGES NAMES



(1) Radio
(2) Lock lever
(3) L.H. work equipment control lever
(4) One-touch power maximizing switch
(5) Travel pedal
(6) Travel lever
(7) Machine monitor
(8) Horn switch
(9) R.H. work equipment control lever
(10) Starting switch
(11) Fuel control dial
(12) Lamp switch
(13) Swing lock switch
(14) Seat heater switch
(15) Ceiling window wiper switch (if equipped)
(16) Attachment control pedal (if equipped)
(17) Attachment control pedal (if equipped)
(18) Room lamp switch
(19) Pump secondary drive switch
(20) Swing parking brake cancel switch
(21) Emergency work equipment control switch
(22) Cigarette lighter
(23) AUX
(24) Engine shutdown secondary switch
(25) Fuse
(26) Auxiliary electric power (if equipped)
(27) Drink holder
(28) Ashtray
(29) Emergency escape hammer
(30) Magazine holder

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BATTERY

⚠ WARNING

- **Do not bring any open flame near the battery. Otherwise, it may explode since the battery generates the flammable gas.**
- **Battery electrolyte is dangerous object. If it gets in your eyes or on your skin, wash it off with a large amount of water and consult a doctor.**
- **Battery electrolyte dissolves paint. If it gets on the bodywork, wash it off immediately with water.**
- **Do not charge the battery or start the engine with a different power source if the battery electrolyte is frozen. Battery may explode.**
- **Battery electrolyte is toxic. Do not let it flow into drainage ditches or spray it on to the ground surface.**

When the ambient temperature drops, the capacity of the battery will also drop. Maintain the battery charging rate as close as possible to 100 %. Insulate it against cold temperature to ensure that the machine can be started easily in the next morning.

REMARK

Measure the gravity of the electrolyte and calculate the charging rate from the following conversion table.

Electrolyte Temperature Charging Rate (%)	20 °C {68 °F}	0 °C {32 °F}	-10 °C {14 °F}	-20 °C {-4 °F}
100	1.28	1.29	1.30	1.31
90	1.26	1.27	1.28	1.29
80	1.24	1.25	1.26	1.27
75	1.23	1.24	1.25	1.26

- When the ambient temperature is low, the capacity of the battery considerably drops. Cover it, or remove it from the machine to place it in the warm place. Restore it again before the operation.
- If the electrolyte level is low, add distilled water in the morning before beginning the work. Do not add water after the day's work to prevent diluted electrolyte in the battery from freezing during the night.

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EVERY 500 HOURS MAINTENANCE

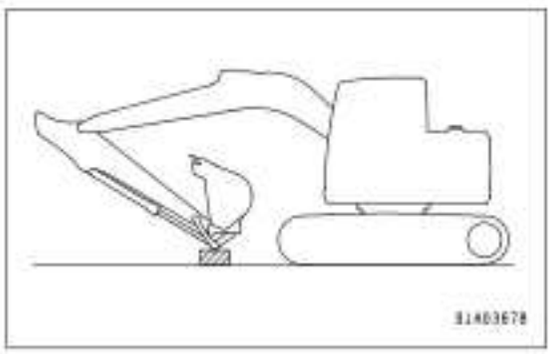
Maintenance for every 100 and 250 hours should be performed at the same time.

METHOD FOR LUBRICATING

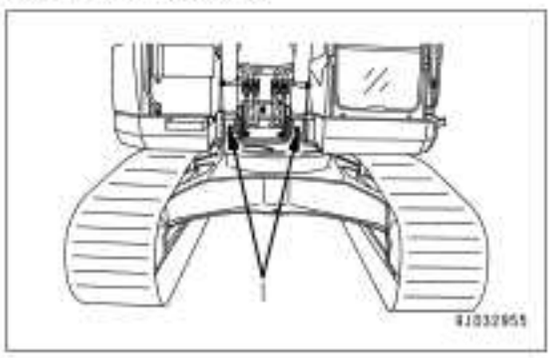
NOTICE

- **If any unusual noise is generated from any greasing point, perform the greasing regardless of the greasing interval.**
- **Perform the greasing every 10 hours for the first 50 hours of operation on a new machine.**
- **After the machine is subjected to digging work in the water, be sure to grease the wet pins.**
- **When performing the heavy-duty operations, such as hydraulic breaker operations, perform the greasing every 100 hours.**

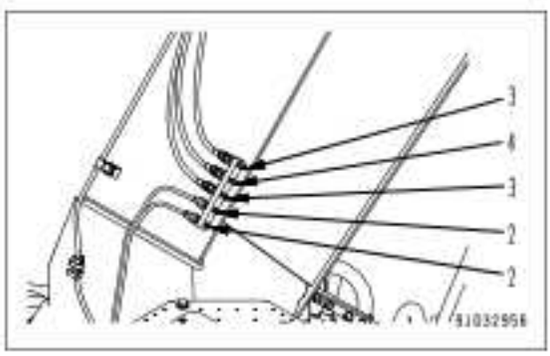
1. Set the work equipment on the level and firm ground in the maintenance posture as shown in the figure, then lower it to the ground and stop the engine.



2. By using a grease pump, pump in grease through the grease fitting shown by arrow.
   (1) Boom cylinder foot pin (2 places)



   (2) Boom foot pin (2 places)
   (3) Boom cylinder rod end (2 places)
   (4) Arm cylinder foot pin (1 place)



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