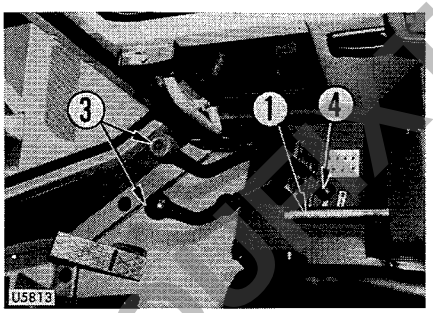
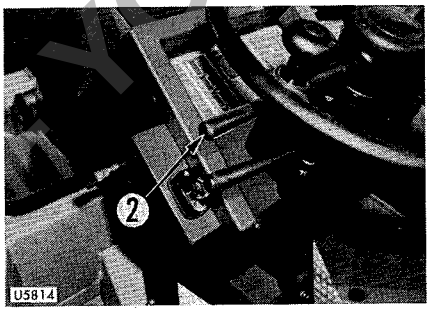
OPERATING YOUR MACHINE

BEFORE STARTING THE ENGINE

⚠ **Before starting the engine, use a damp cloth to wipe off the dust accumulated on the top surface of the battery or on the starting motor and the alternator.**

⚠ **If the control levers are touched by accident, the work equipment may move suddenly. When leaving the operator's compartment, always set the safety lock securely to the LOCK position.**

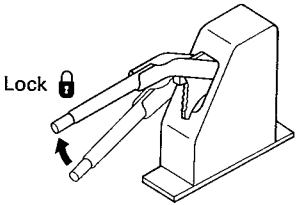




1. Carry out an initial inspection. (For details of the inspection, see CHECK BEFORE STARTING.)

2. With your back against the back rest of the operator's seat, adjust the seat position so that the brake pedal can be easily depressed.

3. Is parking brake lever (1) in lock position?



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PERIODICAL REPLACEMENT OF SAFETY PARTS

The users of our machine should carry out periodical maintenance in order to ensure the working and operation safety. Those parts, as listed on the right, which are closely connected with safety, must be replaced periodically so that the highest safety standard can be maintained.

These parts with the passage of time have a great tendency to deteriorate in quality, and to wear or deform. Furthermore, their defective condition is difficult to detect during periodical maintenance. These parts must, therefore, be replaced with new ones after a predetermined service period even though there is no apparent abnormality.

It goes without saying that if any abnormality should be found, these parts must be replaced or repaired even before the predetermined period expires.

The periodical replacement is completely different from the replacement due to the claim against the guarantee by the manufacturer, so they must be treated separately.

	Safety parts for periodic replacement	Replacement interval	Remarks
1	Brake hose	Every year	
2	Piston and packing of brake valve	Every year	Replace with repair kit
3	Packings seals, O-rings of steering cylinder	Every 2 years	
4	Rubber hose for steering cylinder	Every 2 years	
5	Fuel hose	Every 2 years	

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TROUBLE SHOOTING GUIDE

This guide is not intended to cover every conditions, however many of the more common possibilities are listed.

ELECTRICAL SYSTEM

Lamp does not glow brightly even when engine runs at high speed.
Lamp flickers while engine runs.
- Check for loose terminals and open-circuit wiring.
- Adjust belt tension.

Charge monitor does not go out even when engine runs at high speed.
- Replace the alternator.
- Inspect and repair wiring.

Unusual noise is emitted from the alternator.
- Replace the alternator.

Starting motor does not turn when starting switch is turned on.
- Inspect and repair the wiring.
- Charge the battery.

The pinion of the starting motor keeps going in and out.
- Charge the battery.

Starting motor turns the engine sluggishly.
- Charge the battery.
- Replace the starting motor.

The starting motor disengages before the engine starts up.
- Check and repair the wiring.
- Charge the battery.

The engine pre-heating monitor does not flash.
- Check and repair wiring.
- Replace the heater relay.
- Replace the monitor.

The engine oil pressure monitor does not light up when engine is stationary (when the starting switch is in ON position.)
- Replace the monitor.
- Replace the monitor switch.

Charge monitor does not light up when the engine is stationary. (When the starting switch is in ON position.)
- Replace the monitor.
- Inspect and repair the wiring.

Outside the electrical intake air heater is not warm when touched with the hand.
- Check and repair wiring.
- Replace the electrical intake air heater.
- Check and repair the heater switch.

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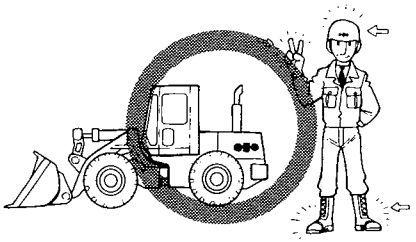
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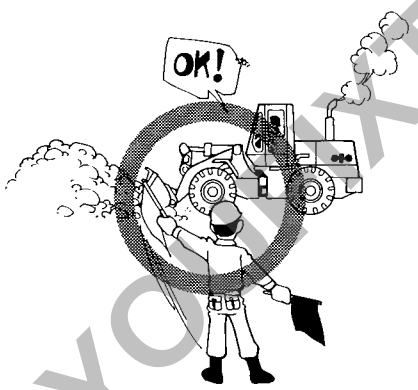
SAFETY HINTS . . . ⚠

OPERATION
GENERAL

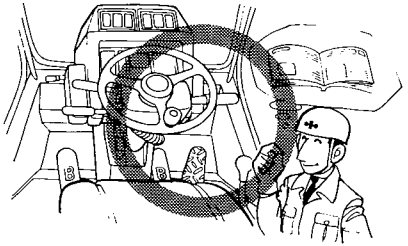
Protect yourself and others. Safety is always first.



- Wear proper clothes
  Loose clothes, ornaments or other things that may possibly contact the control lever or other machine parts must not be worn. Do not let you clothes get caught on protruding parts of the machine. Do not wear oily clothes since they may catch fire.
- Wear well-fitting helment, safety shoes and working clothes. If the nature of the work requires safety, wear protective goggles or mask, thick gloves, ear plugs or other protection.
- Take care of your health. Do not operate when tired, or after drinking.



- When there is a leader, fix standard signals and always follow these signals when operating.
- Learn the prohibitions, cautions and rules about work procedures in the work site.

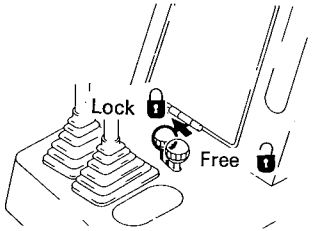


- Read the Operation and Maintenance Manual carefully. Learn how to use the control devices, gauges and warning devices. Be sure you understand the meaning of the caution plates.

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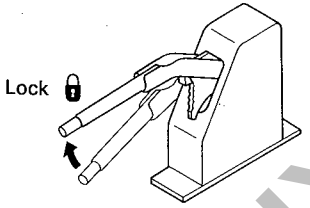
9. SAFETY LOCK
(for work equipment control levers)



This is used to lock the lift arm and bucket control levers.

⚠ **When parking or leaving the machine, or when the performing maintenance, always lower the bucket to the ground and lock the control levers.**

10. PARKING BRAKE LEVER



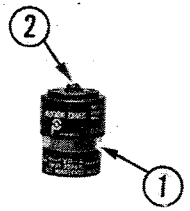
This lever operates the parking brake. The brake is applied by pulling this lever, and the parking brake pilot lamp lights up. Push the button on the tip of the lever to release the parking brake.

⚠ **Always apply the parking brake when leaving the machine or parking it.**

★ If the directional lever is placed in F (FORWARD) or R (REVERSE) with the parking brake applied, the warning lamp will flash and the alarm buzzer will sound.

★ When the parking brake is applied, the machine will not move even if the directional lever is placed in a travel position.

DUST INDICATOR



T8774

This device indicates clogging of the air cleaner element. When red piston (1) appears in the transparent part of this indicator, the element is clogged. Immediately clean element.

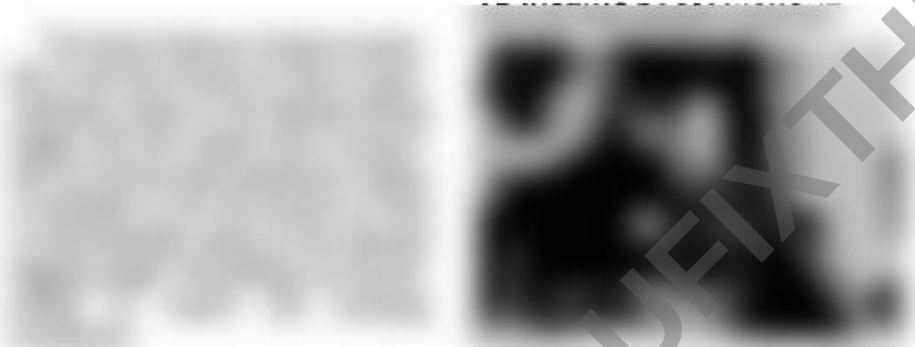
After cleaning, push indicator button (2) to return red piston to original position.

Dust indicator is on air cleaner bracket in engine hood.

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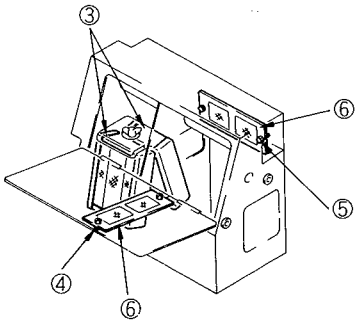
ADJUSTMENT OF WORK EQUIPMENT



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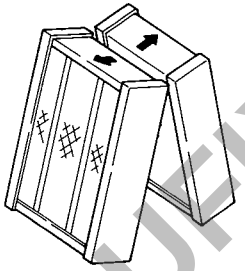
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4. Remove screw (4) and bolt (5) holding the filter element, then take out element (6) and clean it.

★ Direct dry compressed air (less than 7 kg/cm²) to element from inside along its folds, then direct it from outside along its folds and again from inside, and check element.



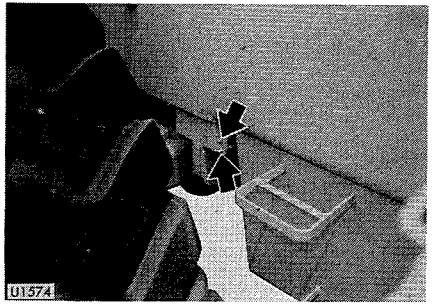
⚠ **When using compressed air, wear safety glasses and other things required to maintain safety.**

5. After cleaning the element, align it with the direction shown by the arrow, and install.

c. LUBRICATING

Apply grease to the grease fittings shown by arrows.

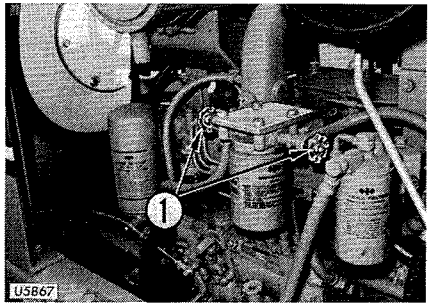
1. Rear axle pivot pin (2 points)



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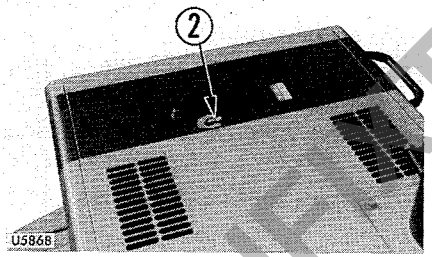
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Corrosion resistor



1. Stop the engine and tighten up corrosion resistor valve (1).
2. Turn cap (2) slowly until it comes off.
3. Open drain valve (3) at the bottom of the radiator and plug (4) on the side of cylinder block to drain off the cooling water.
4. Drain off all the water, then close up drain valve (3), plug (4), and pour in soft water (ex: city water) up to the vicinity of the water filler.

Water filler

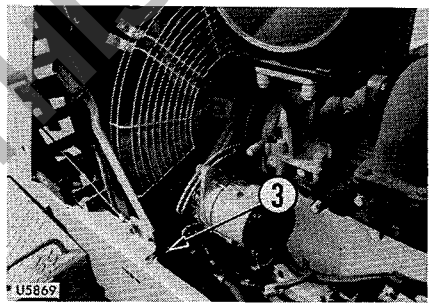


5. When the water reaches the vicinity of the water filler, put the engine at low idling, open drain valve (3), plug (4), then pass water through the cooling system for 10 minutes.

★ When doing this, adjust the inflow and outflow of water so that the radiator is always full.

6. After flushing with water, stop the engine. Close drain valve (3) and drain plug (4) after draining water.

Drain valve (bottom of radiator)



7. After draining water, use a flushing agent to clean.

★ We recommend the use of Komatsu genuine goods as the flushing agent. Follow the instructions on the label of the flushing agent to clean the system.

8. After washing the cooling system, drain off all the water, then close up drain valve (3) and plug (4), and pour in soft water (ex: city water) up to the vicinity of the water filler.

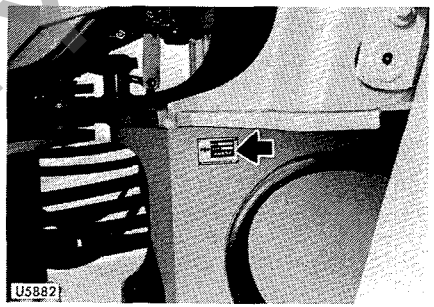
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MACHINE AND ENGINE SERIAL NUMBERS

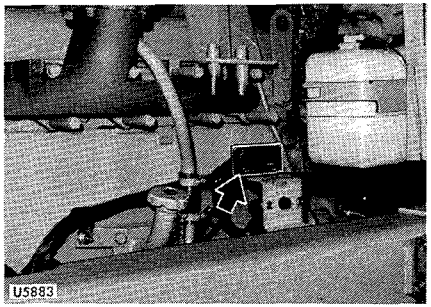
When calling for a service of mechanic or when making replacement-parts order, be sure to give Komatsu distributor the machine and engine serial numbers as well as the service meter reading before mentioned. These numbers are founds on the plates shown in the photos below.

- **Location of the machine serial number mark**



This is seen on the center right of the front frame.

- **Location of the engine serial number mark**

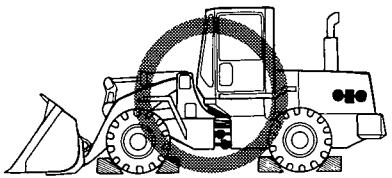


This is seen on the upper right of the cylinder block, when seen from the fan side.

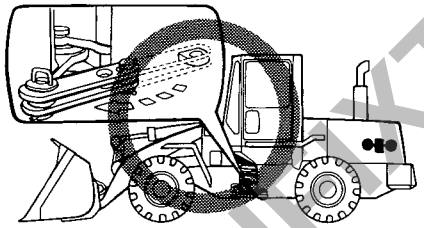
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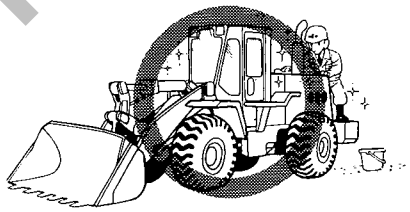
BEFORE MAINTENANCE



- Before starting work, stop the machine on a firm, level surface, and use blocks to keep the machine from moving during operations.
- Lower the bucket to the ground. If this is impossible, use the safety pin and blocks to hold the work equipment securely in position. In addition, apply the locks to all control levers.



- Always lock the front and rear frames before inspecting and servicing the machine.
  (In articulate frame model)



- Remove all oil and mud from the machine. In particular, be sure that the steps, hand grips, and the floor of the operator's compartment are clean.
- Always use the standard ROPS equipment. Do not modify the ROPS equipment.

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