WEAM003900

Operation & Maintenance Manual

PC75R-2

HYDRAULIC EXCAVATOR

SERIAL NUMBER

PC75R-2 22E5210001 and up

It is our policy to improve our products whenever it is possible and practical to do so. We reserve the right to make changes or add improvements at any time without incurring any obligation to install such changes on products sold previously.

Due to this continuous program of research and development, periodic revisions may be made to this publication.
It is recommended that customers contact their distributor for information on the latest revision.

June 2002

KOMATSU

1.1 FOREWORD

- This manual is provided by Komatsu in order to supply their customers with all the necessary information on the machine and the safety regulations related to it, together with the use and maintenance instructions that enable the operator to exploit the capacity of the machine with optimal results and to keep the machine efficient over time.
- The operation manual, together with the parts book, is an integral part of the machine and must accompany it, even when it is resold, until the machines.
- The manual must be handled with the greatest care and always kept on board the machine, so that it can be consulted at any moment; it must be placed in the appropriate compartment behind the seat, where also the ownership documents and the logbook are usually kept.
- This manual must be given to the persons who use the machine and carry out the routine maintenance operations; they must read the contents carefully more than once, in such a way as to clearly understand what are the correct operating conditions and the dangerous conditions that must be avoided.
  In case of loss or damage of this manual, request a new copy to Komatsu or your Komatsu Dealer.
- The illustrations contained in this manual may represent machine configurations available on request.
  The machines are constantly upgraded in order to increase their efficiency and reliability; this manual sums up all the information regarding the state of technical progress at the moment in which the machine is launched on the market.
  Consult your Komatsu Dealer for any updated information.
- Punctual periodic annotations regarding the maintenance operations that have been carried out are important to have a clear prospect of the situation and to know exactly what has been done and what has to be done after the next maintenance interval. Therefore, consult the hour meter and the maintenance plan frequently.
- Over the years Komatsu Dealers have gathered considerable experience in customer service.
  If more information is needed, do not hesitate to contact your Komatsu Dealer: he always knows how to get the best performance from the machine, he can suggest the use of the equipment that is most suitable for specific needs and can provide the technical assistance necessary for any change that may be required to conform the machine to the safety standards and traffic rules. Furthermore, Komatsu Dealers also ensure their assistance for the supply of Komatsu genuine spare parts, which alone guarantee safety and interchangeability.
- The table included in this manual must be filled in with the machine data, which are the data that must always be indicated to the Dealer when requiring assistance and ordering spare parts.

WARNING

- **Improper operation and maintenance of this machine may be hazardous and cause serious injuries and even death.**
- **Operators and maintenance personnel must carefully read this manual before operating the machine or performing maintenance operations.**
- **Some actions involved in the operation and maintenance of the machine may cause serious injuries or even death, if they are not performed in compliance with the instructions given herein.**
- **The procedures and precautions described in this manual are valid for application to the machine only when it is used correctly. If the machine is used for any purpose or in any way other than those described herein, the operator is risking serious bodily injury or death.**

CALIFORNIA PROPOSITION 65 WARNING

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.

CALIFORNIA PROPOSITION 65 WARNING

Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
Wash hands after handling.

1.2 INFORMATION ON SAFETY

Many accidents are caused by insufficient knowledge of and failure to comply with the safety regulations prescribed for the maintenance and operations of the machine.
In order to avoid accidents, before starting work and before carrying out any maintenance operation, carefully read and be sure to understand all the information and warnings contained in this manual and given on the labels applied onto the machine.
To identify the messages regarding safety that are included in this manual and written on the machine labels, the following words have been used.

DANGER

- **This word is used on safety messages and safety labels where there is a high probability of serious injury or death if the hazard is not avoided. These safety messages or labels usually describe precautions that must be taken to avoid the hazard. Failure to avoid this hazard may also result in serious damage to the machine.**

WARNING

- **This word is used on safety messages and safety labels where there is a potentially dangerous situation which could result in serious injury or death if the hazard is not avoided. These safety messages or labels usually describe precautions that must be taken to avoid the hazard. Failure to avoid this hazard may also result in serious damage to the machine.**

CAUTION

- **This word is used on safety messages and safety labels for hazards which could result in minor or moderate injury if the hazard is not avoided. Failure to follow caution may also result in damage to the machine.**

IMPORTANT

- **This word is used when precautions are indicated, which must be taken to avoid actions that may shorten the life of the machine.**

Komatsu cannot reasonably predict every circumstance that might involve a potential hazard during the operation or maintenance of the machine; for this reason, the safety messages included in this manual and applied onto the machine may not include all possible safety precautions.
If any procedures or actions not specifically recommended or allowed in this manual are used, you must be sure that you and others can do such procedures and actions safely and without damaging the machine. In case of doubt regarding the safety measures necessary for some procedures, contact your local Komatsu dealer.

DANGER

- **Before starting any maintenance operation, position the machine on a firm and level surface, lower the equipment to the ground, engage the safety locks of the equipment and of the controls and stop the engine.**

WARNING

- **To make the information clearer, some illustrations in this manual represent the machine without safety guards. Do not use the machine without guards and do not start the engine when the engine protection casing is open, if this is not expressly prescribed for some specific maintenance operations.**

WARNING

- **It is strictly forbidden to modify the setting of the hydraulic system safety valves; Komatsu cannot be held liable for any damage to persons, property or the machine, if this has been tampered with by modifying the standard setting of the hydraulic system.**

IMPORTANT

- **Before carrying out any electrical welding, disconnect the battery and the alternator (See "2.8.13 PRECAUTIONS CONCERNING THE BATTERY AND THE ALTERNATOR").**

WARNING

- **Install only authorized additional equipment (See "6.1.3 CHARACTERISTICS OF THE OPTIONAL EQUIPMENT").**

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 must be kept inside the cab for reference and periodically reviewed by all personnel who will come in contact or be working near the machine.**

1.3 INTRODUCTION

1.3.1 INTENDED USES

The Komatsu HYDRAULIC EXCAVATOR described in this manual have been designed and constructed to be used mainly for the following functions:

- DIGGING WORKS
- SMOOTHING WORKS
- DITCHING WORKS
- SIDE DITCHING WORKS
- LOADING WORKS

If provided with suitable safety devices, they can be used with authorized optional equipment having the characteristics illustrated at point “6.1 AUTHORIZED OPTIONAL EQUIPMENT”.

1.3.2 IMPROPER OR UNAUTHORIZED USE

CAUTION

- **This paragraph describes some of the improper or unauthorized uses of the machine; since it is impossible to predict all the possible improper uses, if the machine happens to be used for particular applications, contact your Komatsu Dealer for instructions on the proper use before carrying out the work.**

IMPORTANT

- **The instructions regarding the authorized optional equipment are given in the relevant operation and maintenance manuals; if the equipment is supplied by Komatsu, these publications are enclosed in this manual.**
- **The instructions regarding the assembly of the authorized equipment, the controls requiring special arrangements on the machine and the hydraulic couplings necessary for the operation of the equipment are grouped in the final section of this manual.**

Komatsu MACHINES are constructed exclusively for the handling, excavation and treatment of inert materials; therefore, the following uses are absolutely forbidden:

- USE OF THE MACHINE BY MINORS OR INEXPERIENCED PERSONS.
- USE OF THE MACHINE FOR LIFTING PERSONS OR OBJECTS.
- USE OF THE MACHINE FOR TRANSPORTING PERSONS.
- TRANSPORT OF CONTAINERS WITH FLAMMABLE OR DANGEROUS FLUIDS.
- USE OF THE BUCKET FOR DRIVING OR EXTRACTING PILES.
- USE OF THE MACHINE FOR TOWING DAMAGED VEHICLES.

1.3.3 MAIN CHARACTERISTICS

- Simple and easy operation.
- Hydrostatic transmission obtained through two variable displacement motors that operate epicyclic reduction gears equipped with hydraulic brakes with negative control.
- Upper structure rotation achieved through an axial piston hydraulic motor acting on an epicyclic reduction gear.
- Lubrication of the ball-bearing ring toothing and of the pinion in grease bath.
- Main equipment servo levers ensuring also combined movements that can be modulated proportionally and continually.
- Boom swing and travel controls with servo assisted pedals that ensure proportional and continuous modulated movements.
- Travel speed increase by means of a button.
- Servo controls also for the two-piece boom and the blade.
- Complete series of instruments visible from the operating position.
- Lever accelerator.
- Easy maintenance with simplified intervals.

1.3.4 RUNNING-IN

Every machine is scrupulously adjusted and tested before delivery.
A new machine, however, must be used carefully for the first 100 hours, in order to ensure proper running-in of the various components.
If the machine is subjected to excessive work load at the beginning of operation, its potential yield and its functionality will be untimely reduced.
Every new machine must be used carefully, paying special attention to the following indications:

- After the start, let the engine idle for 5 minutes, in such a way as to warm it up gradually before actual operation.
- Avoid operating the machine with the limit loads allowed or at high speed.
- Avoid abrupt starts or accelerations, useless sudden decelerations and abrupt reversals.
- After the first 250 hours, carry out the following operations, in addition to those to be performed every 250 hours:
  1 - Change the oil in the travel reduction gears.
  2 - Change the oil in the swing reduction gear.
  3 - Change the hydraulic circuit oil filter.
  4 - Check and adjust the engine valve clearance.

SYNTHETIC BIODEGRADABLE OIL TYPE HEES

On machines in which the synthetic biodegradable oil type HEES is used, the following operations are to be performed besides the standard maintenance operations:

- After the first 50 hours of operation, change the hydraulic circuit drain filter.
- After the first 500 hours of operation, change the hydraulic circuit oil.

IMPORTANT

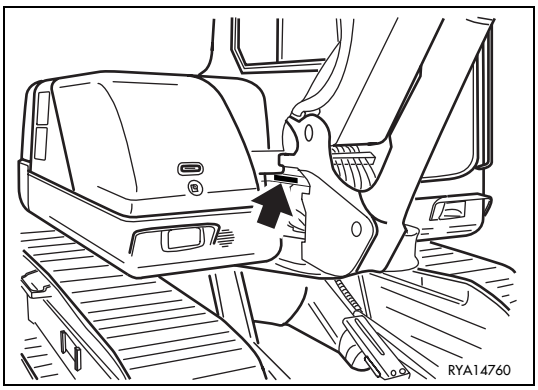
- **When changing the oil filters (cartridges), check their innner part to make sure that there are no deposits.**
  If considerable deposits are observed, find out what may have caused them before starting the machine.
- **The number of operating hours is indicated by the Hour meter.**

1.4 PRODUCT IDENTIFICATION

The Komatsu EXCAVATOR and its main components are identified by serial numbers stamped on the identification plates.
The serial number and the identification numbers of the components are the only numbers that must be indicated to the Dealer when requiring assistance and ordering spare parts.

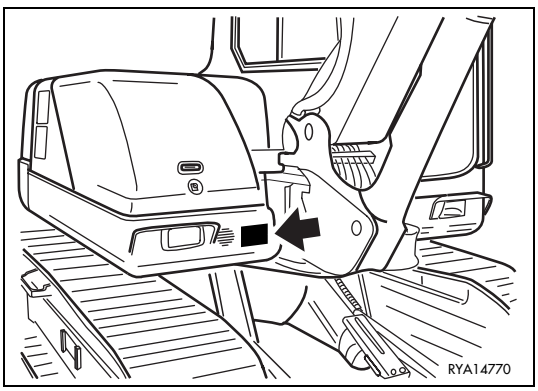
1.4.1 MACHINE SERIAL NUMBER

The machine serial number is stamped on the front right part of the main frame.



1.4.2 MACHINE IDENTIFICATION PLATE

The Komatsu EXCAVATORS described in this manual are provided with the CE mark, which certifies that they are in compliance with the CE harmonized standards.
The plate with the mark is applied onto the front wall of the main frame, on the right side.



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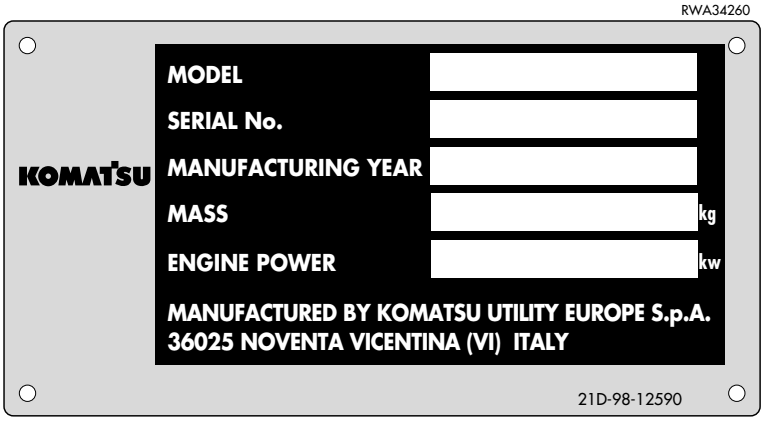
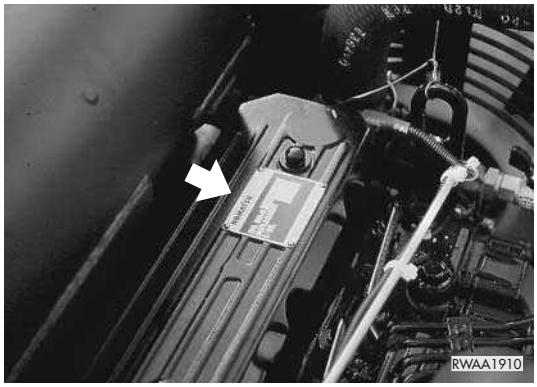
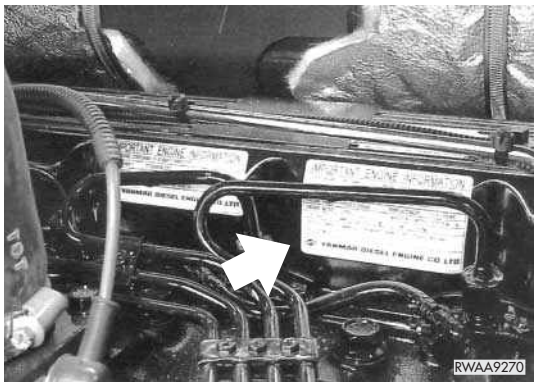


1.4.3 ENGINE SERIAL NUMBER AND EMISSION LABEL

The engine serial number is stamped on the plate positioned on the top of the engine cylinder head cover.

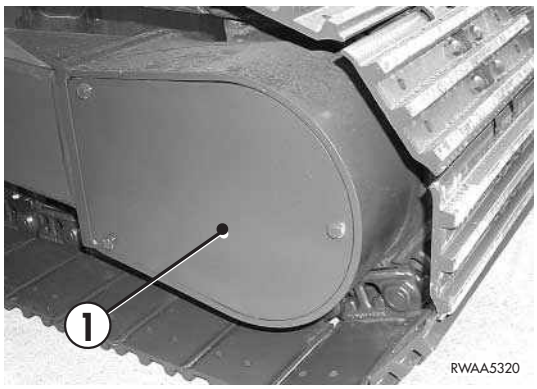


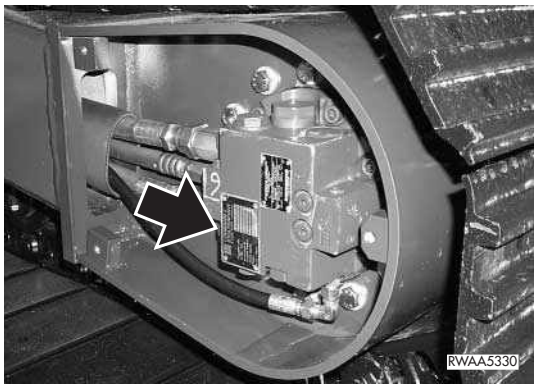
The emission label is applied on the front of the engine cylinder head cover.



1.4.4 TRAVEL REDUCTION GEAR SERIAL NUMBER

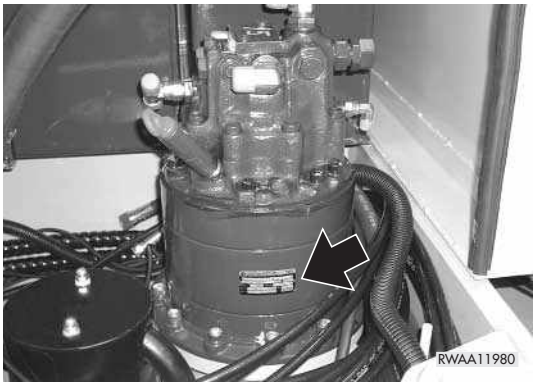
The travel gear serial number is stamped on the plate positioned on the hydraulic motor and can be seen after removing the cover (1).





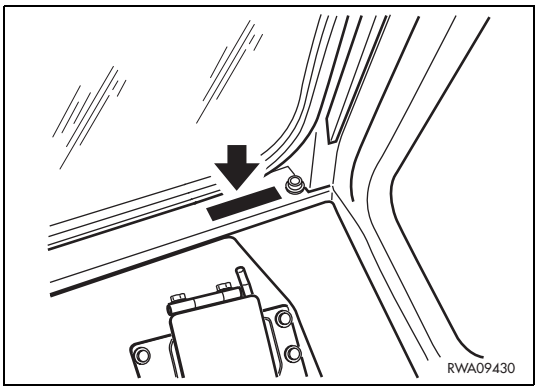
1.4.5 SWING REDUCTION GEAR SERIAL NUMBER

The serial number is stamped on the plate positioned on the reduction gear.



1.4.6 CAB SERIAL NUMBER

The cab serial number is stamped on the plate positioned on the right side of the front base cross member.



1.4.7 SERIAL NUMBERS AND DEALER'S ADDRESS

Machine n. _____ Model _____

Engine n. _____

Travel reduction gear n. _____

Swing reduction gear n. _____

Cab n. _____

Dealer:

_____

_____

_____

_____

Address _____

_____

_____ Tel. _____

Person to contact: _____

NOTES: _____

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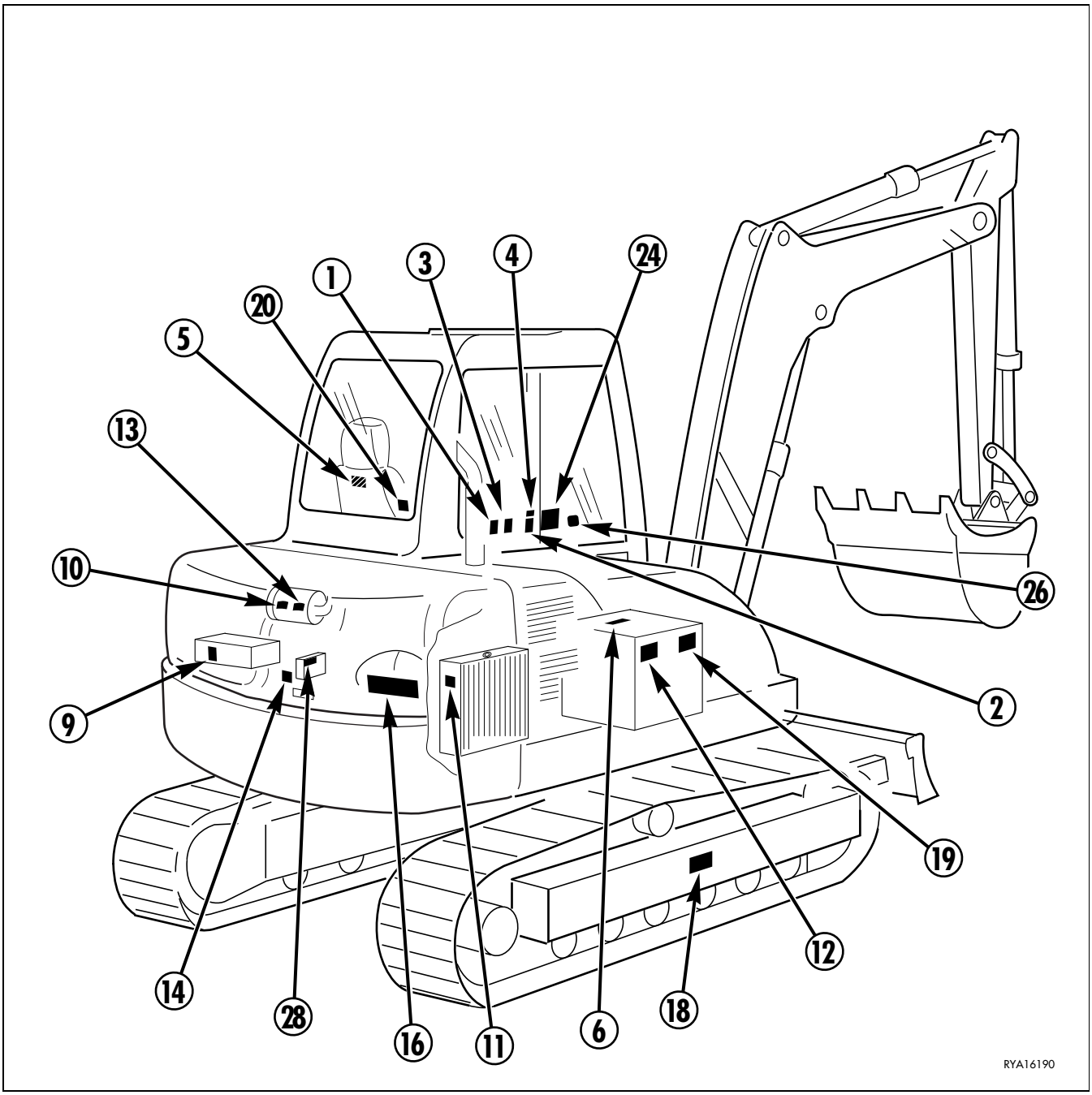
AUTHORIZED OPTIONAL EQUIPMENT

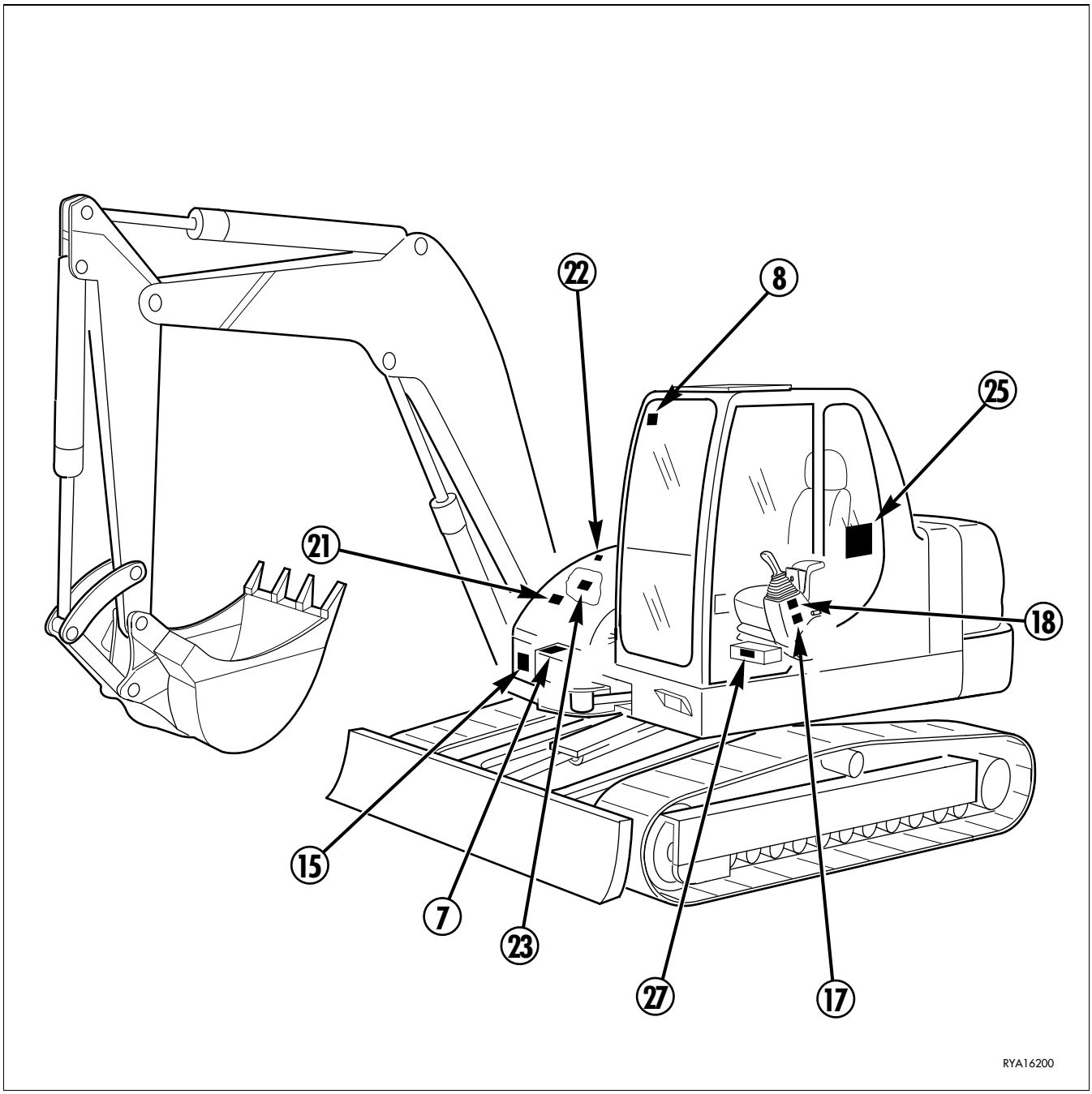
SAFETY AND ACCIDENT PREVENTION

2.1 SAFETY PLATES

2.1.1 POSITION OF THE SAFETY PLATES

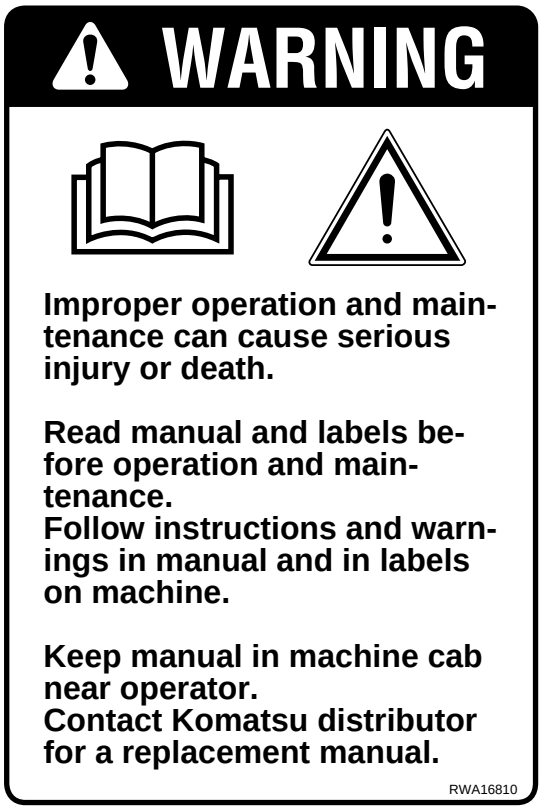
- The safety plates must always be legible and in good conditions; for this reason, if they are dirty with dust, oil or grease, it is necessary to clean them with a solution made of water and detergent.
  Do not use fuel, petrol or solvents.
- If the plates are damaged, they must be replace before operation of the product is resumed.
  Contact your Komatsu Dealer for replacement labels.
- In case of replacement of a component provided with a safety plate, make sure that this plate is applied also on the replaced component.
- The machine can be provided with other plates in addition to those indicated below; which must be followed for safe operation.




22
8
25
21
18
15
7
23
27
17
RYA16200

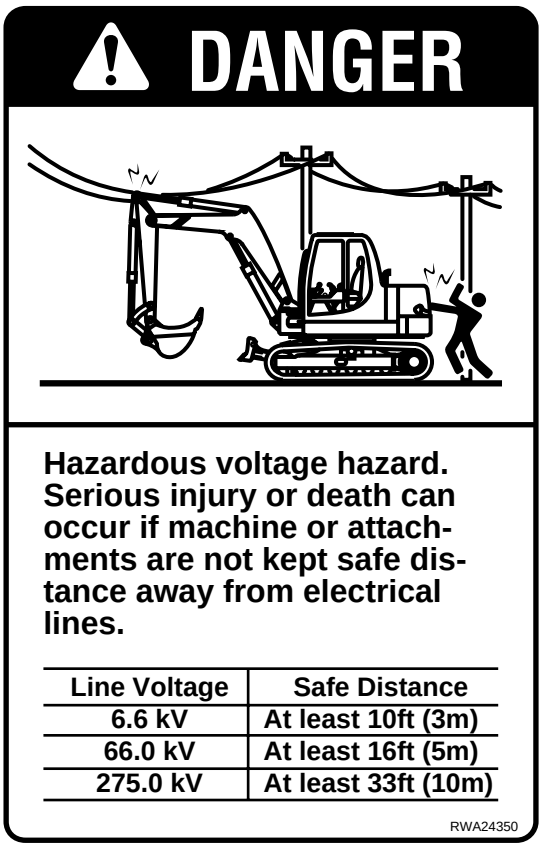
1.

- Warning Decal.



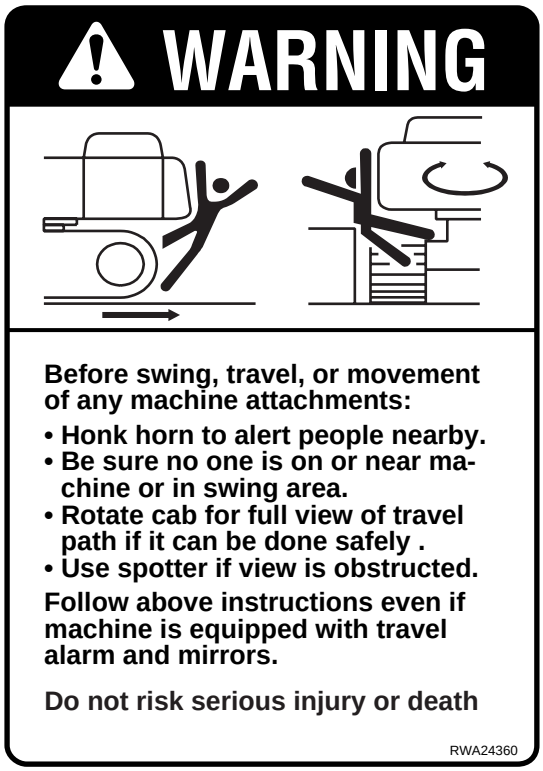
2.

- Height Decal



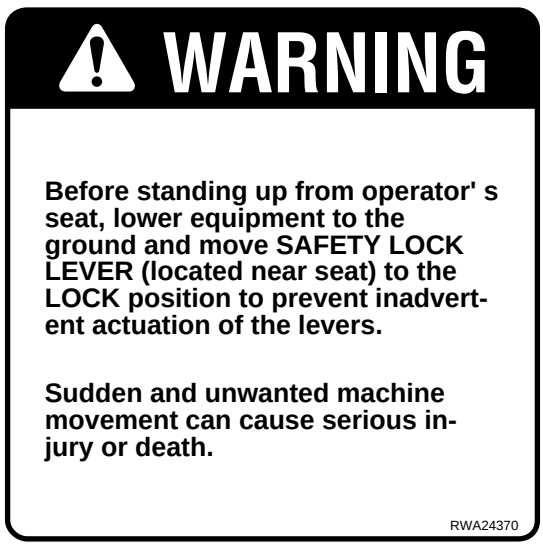
3.

- Warning Decal



4.

- Sudden Movement

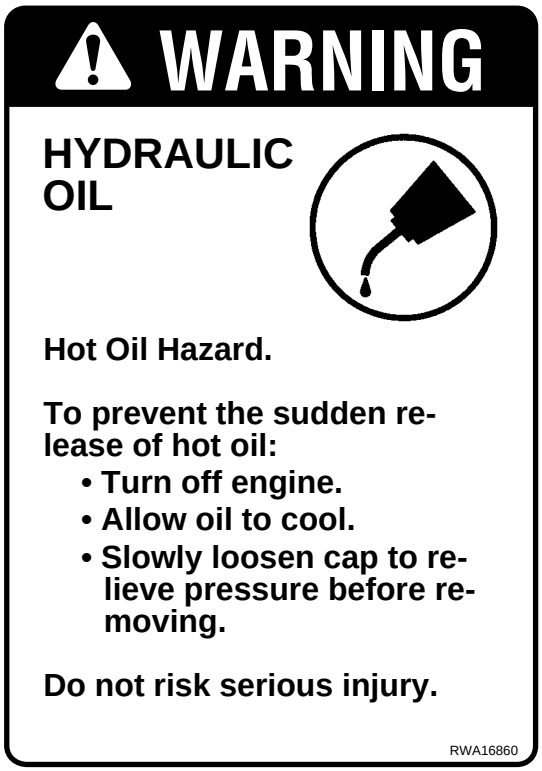


5.

- Do Not Operate Tag

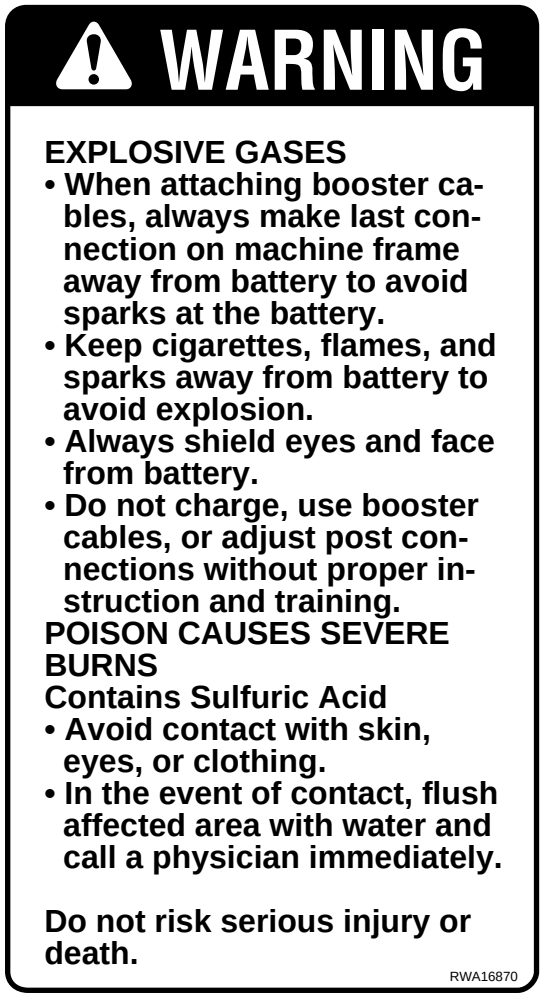
6.

- Hydraulic Oil



7.

- Battery Decal



8.

- Window warning

9.

- Accumulator (OPTIONAL EQUIPMENT)

⚠ WARNING

HIGH PRESSURE AND BURN HAZARD

1. **When breakdown or trouble develops in the accumulator, do not attempt to disassemble or repair. Always contact your nearest authorized service station.**
2. **Do not attempt to fill or re-fill with gas. Authorized servicemen, or persons licensed to handle high pressure gases, are the only persons allowed.**
3. **Never hammer a gas filled accumulator, or place one close to a fire.**
4. **Never attempt to attach a part to or bore a hole in the accumulator's wall.**
5. **Always completely exhaust the accumulator of all contaminated gas when disassembling or discarding the accumulator.**
6. **To exhaust the gas, use the air relief valve mounted on the accumulator. When there is no such valve, remove the accumulator's gas filling valve cap and release the gas by depressing the valve core (pin) with a suitable tool (screw driver).**

(1) Type of gas -	**Nitrogen**
(2) Maximum Working Pressure -	**210 bar**
(3) Testing Pressure -	**315 bar**

Do not risk serious injury or death.

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10.

- Air Filter

IMPORTANT

- **Element must be kept free of cracks and oil.**
- **For cleaning and replacement of elements, refer to the Operator's Manual.**
- **Do not put oil into this cleaner.**

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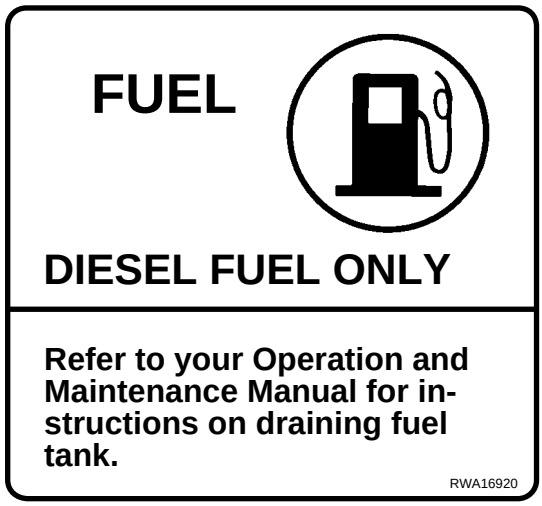
11.

- Hot Water Hazard

12.

- Fuel tank



13.

- Do not use ether

14.

- Running engine warning

15.

- Pinch point

16.

- Keep out swing area

17.

- Lever lock

WARNING

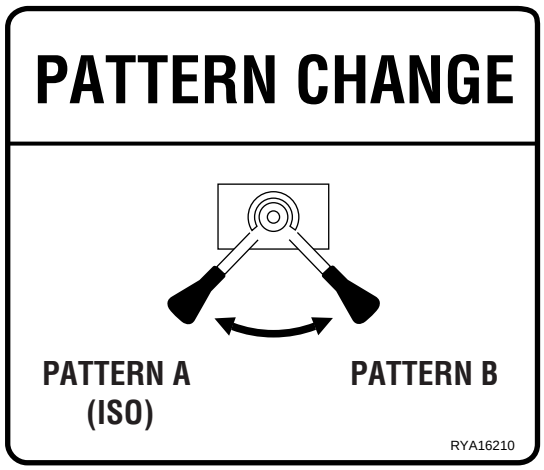
- **Never leave operators compartment without placing the safety lock lever in locked position.**
  DO NOT RISK SERIOUS INJURY OR DEATH.

18.

- High pressure hazard

19.

- Pattern change warning



20.

- Emergency exit