OPERATOR'S MANUAL

Original instructions

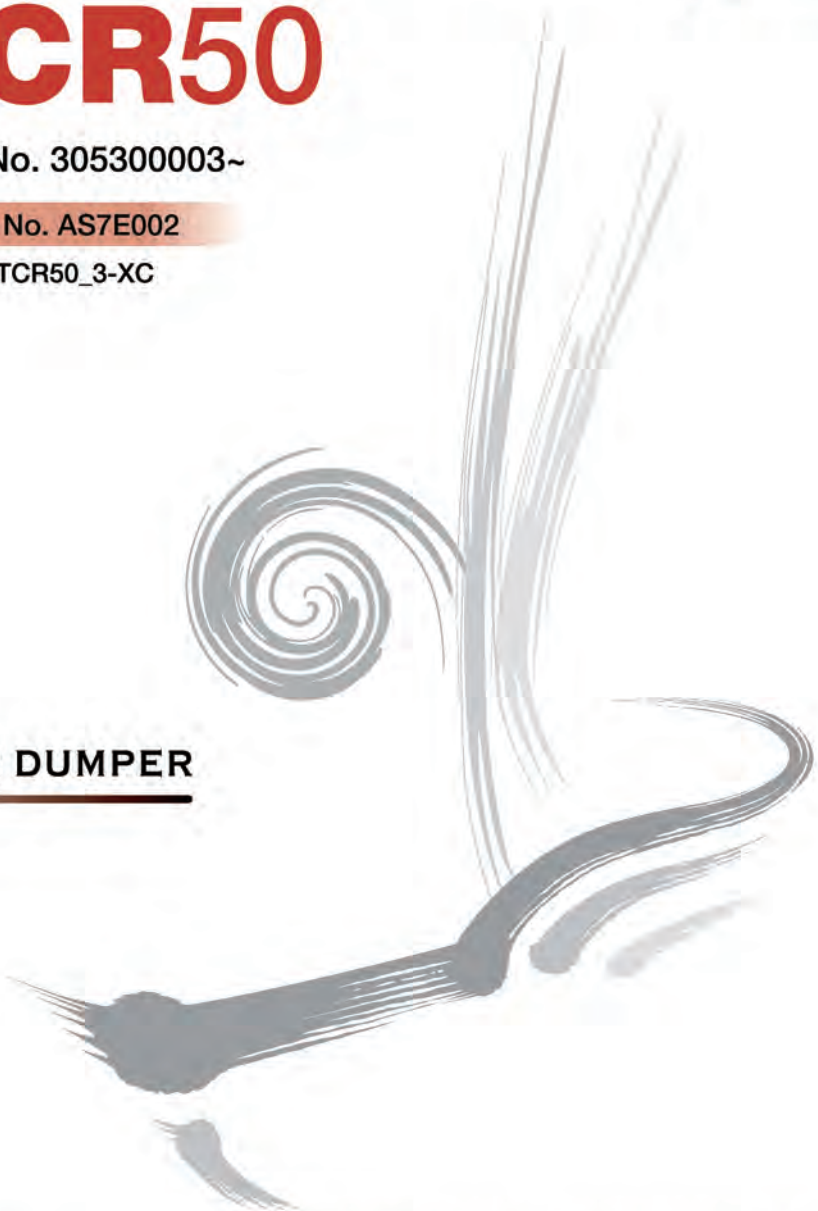
TCR50

Serial No. 305300003~

Book No. AS7E002

OETCR50_3-XC

CRAWLER DUMPER



TAKEUCHI

WARNING Read and understand these instructions.
Failure to do so can cause injury or death.

SAFETY ALERT SYMBOL



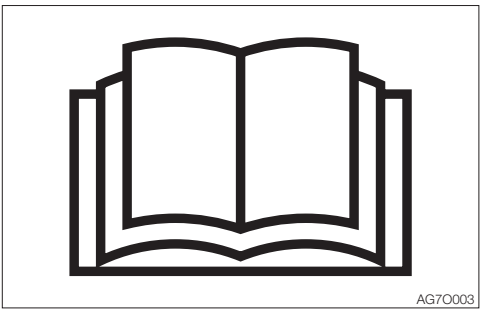
This symbol represents the safety alert. The message that follows the symbol contains important information about safety.
Read and understand the message to avoid personal injury or death.

It is the owner or employer's responsibility to fully instruct each operator in the proper and safe operation of all equipment. All persons using this machine should thoroughly familiarize themselves with the contents of this manual.

All operators must be instructed on the proper functions of this machine before running the machine.

Learn and practice correct use of the machine controls in a safe, clear area before operating this machine on a job site.

⚠ WARNING



Improper operation, inspection and maintenance of this machine can cause injury or death.
Read and understand this manual before performing any operation, inspection or maintenance on this machine.

Always store this manual near at hand preferably on the machine itself. If it should be lost or damaged, immediately order a new one from your Takeuchi dealer.
When transferring ownership of this machine, be sure to hand this manual to the next owner.

Takeuchi supplies machines complying with the local regulations and standards of the country of export. If your machine has been purchased in another country or from a person or company of another country, it may not have the safety devices or safety standards required for use in your country. Should you have any question about whether your machine complies with the regulations and standards of your country, contact a Takeuchi dealer.

SIGNAL WORDS

Safety messages appearing in this manual and on machine decals are identified by the words “DENGER”, “WARNING” and “CAUTION”. These signal words mean the following:

⚠ DANGER

DANGER indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

⚠ WARNING

WARNING indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

⚠ CAUTION

CAUTION indicates a hazard with a low level of risk which, if not avoided, could result in minor moderate injury.

IMPORTANT: The word IMPORTANT is used to alert operators and maintenance personnel about situations which could result in damage to the machine and its components.

It is impossible to foresee every possible circumstance that might involve a potential hazard. The warnings in this manual or on the machine can not cover all possible contingencies. You must exercise all due care and follow normal safety procedures when operating the machine so as to ensure that no damage occurs to the machine, its operators or other persons.

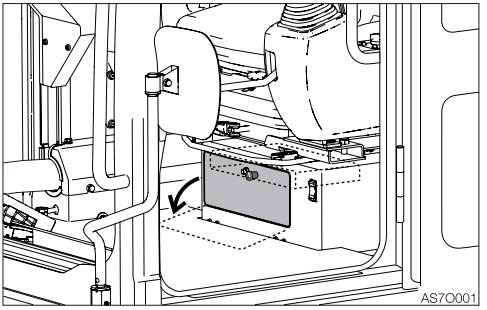
INTRODUCTION

FOREWORD

This manual describes operation, inspection and maintenance of the machine, as well as safety instructions to be heeded during these operations.
If you have any questions about the machine, please contact a Takeuchi sales or service outlet.

MANUAL STORAGE COMPARTMENT

A compartment for storing this manual is provided at the position shown on the diagram below.

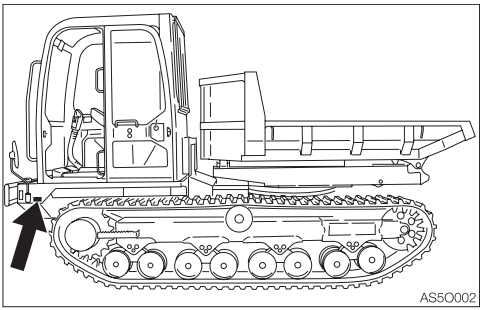


1. To open the lid under the seat, push the button.
2. After using the manual, place it in the plastic pouch and store it back in the manual storage compartment.

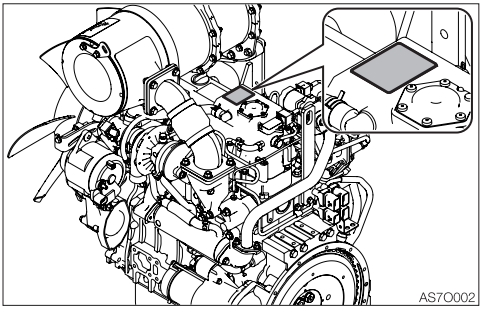
SERIAL NUMBERS

IMPORTANT: Do not remove the machine name plate with the serial number. Check the serial numbers of the machine and engine and write them down in the spaces below.

Machine number:

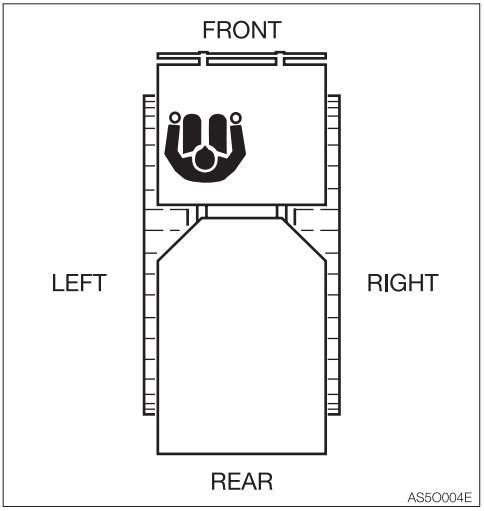


Engine number:



MACHINE DESCRIPTION

FRONT, REAR, LEFT AND RIGHT



This manual refers the front, rear, left and right of the machine as seen when sitting in the operator's seat.

DESIGNATED OPERATIONS

Use this machine primarily for the following operations:

- Hauling over rough terrain

FEATURES

- Hydrostatic drive system
- Safety structure cab with ROPS/FOPS
- Engine emergency stop system
- Dump body with 90-degree right/left swing
- Low engine noise and exhaust emissions

BREAK-IN PERIOD

When the machine is new, operate the machine for the first 100 hours (as indicated on the hour meter) by following the instructions below.
Using a new machine without a break-in period will lead to quicker deterioration of machine performance and may shorten the machine's service life.

- Sufficiently warm up the engine and hydraulic oil.
- Avoid heavy loads and rapid operations. Operate with a load of about 80% the maximum load.
- Do not abruptly start up, accelerate, change directions, or stop unless necessary.

NOTES ON READING THIS MANUAL

Please note that the descriptions and diagrams included in this manual may not be applicable to your machine.
The numbers used in the illustration are with circles around them. The same numbers appear between the parentheses in the text.
(Example: ① → (1))

Symbols used in this manual
The symbols used in this manual have the following meanings.
⃠, ✕ ..... Prohibition
..... Lock
..... Unlock

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SAFETY



GENERAL PRECAUTIONS

It is your responsibility to observe all pertinent laws and regulations and to follow the manufacture's instructions on machine operation, inspection and maintenance.

Virtually all accidents occur as the result of a failure to observe basic safety rules and precautions.
Most accidents can be prevented by identifying the potentially hazardous situations beforehand.
Read and understand all safety messages which describe how to prevent accidents.
Do not operate the machine until you are sure that you have gained a proper understanding of its operation, inspection and maintenance.

Observe all safety rules

- Operation, inspection and maintenance of this machine must be performed only by a trained and qualified person.
- All rules, regulations, precautions and safety procedures must be understood and followed when performing operation, inspection and maintenance of this machine.
- Do not perform any operation, inspection and maintenance of this machine when under the adverse influence of alcohol, drugs, medication, fatigue or insufficient sleep.

When a problem is found on the machine

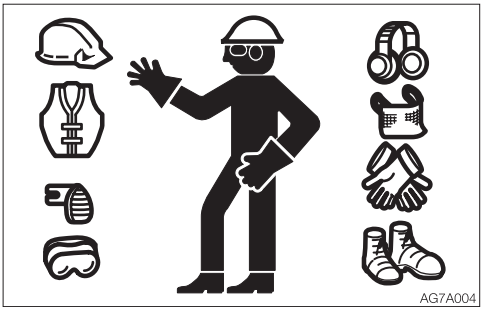
If any problem (noise, vibration, smell, disorder of instrument, smoke, oil leak or wrong indication of alarm and panel, etc.) is detected during the operation or inspection and maintenance of the machine, please inform the administrator and take proper actions. Do not operate the machine until the trouble is cleared.

Operating temperature range

To maintain the performance of machine and to prevent it from early wear, observe the following operating conditions.

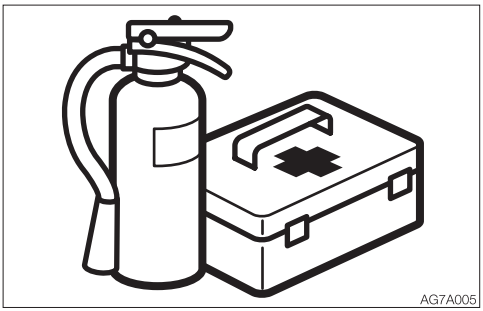
- Do not operate the machine if the ambient temperature is higher than +45°C (+113°F) or lower than –15°C (+5°F).
  - If operated at an ambient temperature of higher than +45°C (+113°F), the engine may overheat and cause the engine oil to degrade. Also, the hydraulic oil may become very hot, causing damage to the hydraulic equipment.
  - If operated at an ambient temperature of lower than –15°C (+5°F), the parts made of rubber such as gaskets may get hardened to cause an early wear or damage to the machine.
  - If the machine is to be used outside the ambient temperature range described above, consult your sales or a service dealer.

Wear appropriate clothing and protective equipment


AG7A004

- Do not wear loose clothing or any accessory that can catch on controls or in moving parts.
- Do not wear oily or fuel stained clothing that can easily catch fire.
- Wear a hard hat, safety shoes, safety glasses, filter mask, heavy gloves, ear protection and other protective equipment as required by job conditions. Wear required appropriate equipment such as safety glasses and filter mask when using grinders, hammers or compressed air, as metal fragments or other objects can fly and cause serious injury.
- Use hearing protection when operating the machine. Loud prolonged noise can cause hearing impairments, even the total loss of hearing.

Install a fire extinguisher and first aid kit

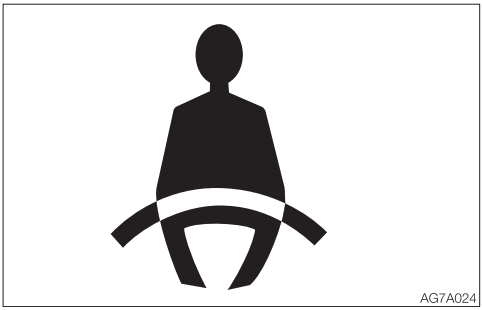

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Be prepared for fire and accidents

- Install an extinguisher and a first aid kit, and learn how to use them.
- Lean how to fight a fire and how to deal with accidents.
- Know how to contact emergency assistance and make a list of emergency contacts.

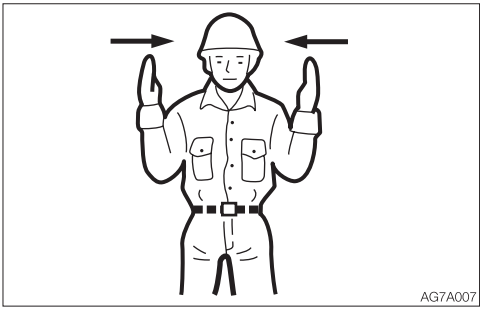
Never remove safety equipment

- Make sure all protective guards, covers, cab and doors are in place and secured. Repair or replace damaged parts before operating the machine.


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- Know how to use the safety lock lever, seat belt, dump body prop and other safety equipment and use them properly.
- Never remove any safety equipment except for servicing. Keep all safety equipment in good operating condition.

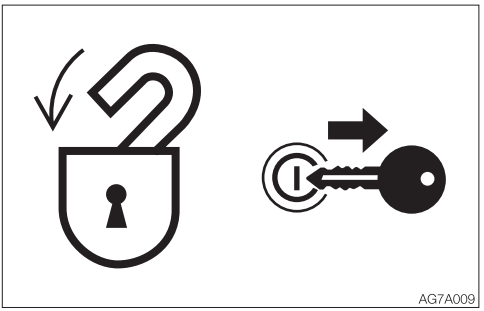
Use a signal person and a flag person



Learn how to use the hand signals required for particular jobs and make sure who has the responsibility for signaling.

- All personnel must fully understand all the signals.
- The operator must respond to signals only from the appointed signal person, but must obey a stop signal at any time from anyone.
- The signal person must stand in a clearly visible location when giving signals.

Cautions when standing up from or leaving the operator's seat



- Before standing up from the operator's seat to open/close the window, remove/install the lower window or adjust the operator's seat, lower the dump body all the way, raise the safety lock lever to engage the lock and stop the engine. If any control is accidentally touched when the safety lock lever is lowered (unlocked), the machine will suddenly move and cause serious injury or death. If it is absolutely necessary to leave the raised dump body unattended, be sure to engage the dump body prop to prevent the dump body from dropping.
- Be careful not to touch the operating levers when raising or lowering the safety lock lever.
- Before leaving the operator's seat, fully lower the dump body, raise the safety lock lever to engage the lock and stop the engine. Also, be sure to remove the key, lock the door and covers, take the key with you and store it in a specified place.

Avoid fire and explosion hazards



Keep flames away from fuel, oil, grease and antifreeze. Fuel is particularly flammable and dangerous.

- When handling these combustible materials, keep lit cigarettes, matches, lighters and other flames or sources of flames away.
- Do not smoke or permit open flames while handling fuel or working on the fuel system.
- Do not leave the location while refilling with fuel or oil.
- Never remove the fuel cap or add fuel when the engine is running or still hot. Also, do not spill the fuel on the hot surface of the machine or the component of the electric system.
- Clean up spilled fuel or oil immediately.
- Check for fuel, oil leak. Stop all leaks and clean the machine before operating.
- When operating with grinder or welding, move inflammables to a safe place.
- Do not cut or weld on pipes or tubes that contain flammable fluids. Clean thoroughly with nonflammable solvent before cutting or welding.
- Remove all trash or debris from the machine. Make sure that oily rags or other flammable material are not stored on the machine.
- Handle all solvents and dry chemicals (foam type fire extinguisher) according to procedures identified on manufacturer's containers. Work in a well-ventilated area.
- Never use fuel for cleaning purposes. Always use a nonflammable solvent.
- When handling the fuel, washing oil or paint, open the door and windows to ventilate thoroughly.
- Store all flammable fluids and materials in a safe and well-ventilated place.
- The short circuit of the electric system may cause the fire. Check for any loosened connections or damage to the wires every day. Retighten the loosened connector and wire clamp. Fix or change the damaged wire.
- Fire from the pipes:
  Make sure that the clamps, guards and cushions of the hoses and tubes are securely fixed. If not, hoses or tubes may be damaged due to vibration or contact with other parts during operation. This can cause the high-pressure oil to spurt out, resulting in the fire or injury.
- Do not perform the DPF regeneration if the machine is surrounded by flammable items such as plants, trees, dry grass, wastepaper, oil and waste tires. There is a risk of fire due to the high-temperature exhaust gas emitted from the DPF.
  DPF: Diesel Particulate Filter

Fire prevention



When working in a certain environment, it is impossible to prevent combustible debris from collecting in the machine. This debris, in itself, may cause a fire; however, when mixed with fuel, oil or grease in a hot or confined place, the danger of fire is greatly increased. The following fire prevention guidelines should be used to supplement the operator's fire prevention efforts. In no case should the guidelines be used, or assumed, as replacements for diligent operator efforts at preventing fires (that include regular schedule of cleaning and inspecting the machine as conditions require).

The following guidelines will help to keep your equipment up and running efficiently and keep the risk of fire to a minimum.

1. Maintain a CHARGED fire extinguisher on or near the machine at all times and KNOW HOW TO USE IT.
2. Remove debris and blow out dust regularly from side air intake areas, engine radiator, hydraulic oil cooler, air conditioning condenser core to prevent overheating of the engine and hydraulics and to maintain efficient operation of the machine.
3. Blow off all accumulated debris near hot engine exhaust components (turbocharger and exhaust manifold as well as exhaust pipes and muffler) at the completion of each work shift or more frequently when working in severe conditions where large amounts of combustible debris are present. Engine exhaust systems provide numerous small pockets where flammable debris can gather. Even small accumulations close to hot exhaust components can ignite and smolder.
4. Clean out all accumulated debris (twigs, pine needles, branches, bark, leaves, saw dust, small wood chips) and any other combustible materials from the under covers inside the machine or the lower machine structure, as well as from areas in proximity to the engine, fuel and hydraulic oil systems, after the completion of each work shift or more frequently.
5. Inspect the machine regularly for any signs of diesel fuel or hydraulic system leakage. Check for worn or damaged fuel or hydraulic lines before starting up any equipment.
6. Clean up any grease, diesel fuel, hydraulic and lubricating oil accumulation and spillage immediately.
7. Steam clean the areas of engine and the under covers at least once a month or more frequently when working in sever conditions where large amounts of combustible debris are present.
8. Use only nonflammable solutions for cleaning the machine and components.
9. Inspect the exhaust system daily for any signs of leakage. Check for worn, cracked, broken or damaged pipes or muffler. Also check for missing or damaged bolts or clamps. Should any exhaust leaks or defective parts be found, repairs must be made immediately. Engine exhaust leaks can cause fires. Do not operate the machine until the exhaust leak is repaired.

10. During daily operation of the machine, the occurrence of exhaust leaks are usually accompanied by a change or increase in engine exhaust noise levels. These audible warnings cannot be ignored. Should any exhaust leaks occur during operation, the machine must be shut down immediately and not put back to work until the necessary repairs have been completed.
11. Before starting repair work, such as welding, the surrounding area should be cleaned and a fire extinguisher should be close by.
12. Do not use the machine on top of or to push piles of burning timber. A machine fire will likely result.

What to do to prepare for a machine fire

- Prevent the fire from happening in the first place by ensuring that all machine systems are frequently inspected and always well maintained.
- Ensure that any hand held fire extinguishers are charged and in working order. Fire extinguishers require routine care. Follow the manufacturer's instructions for inspection and maintenance shown on the label of the fire extinguisher and in the extinguisher manufacturer's manual.
- Ensure that you follow all national, state / provincial and local regulations dealing with fire fighting in effect in your specific geographic region.
- Ensure that all information necessary for you to immediately contact all sources of help (local fire department, etc) in the event of a fire emergency is recorded and readily available at all times.

What to do if a machine fire occurs

If operating the machine when a fire occurs:

1. Fully lower the dump body.
2. Shut the engine off.
3. Exit the machine. Call for help. Be certain to report a fire immediately.
4. At all times ensure your own personal safety and the safety of anyone that may be in the area. Approach any fire with extreme caution. All fires can be very dangerous and life threatening.

Before deciding to fight the fire, be certain that:

1. The fire is small and not rapidly spreading.
2. There is always a clear, safe escape route.
3. You have received training in the use of the available fire extinguishing devices and are confident that you can operate them effectively.

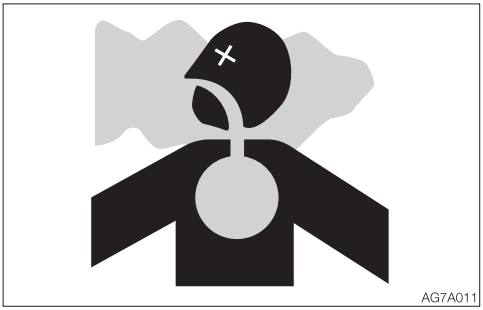
- Be aware that engine coolant, diesel fuel or hydraulic hoses could fail during a fire. If this happens, hot coolant, fuel or oil could possibly be ignited by the fire.
- If in any doubt about whether or not to fight the fire ? DON'T. Instead stand well clear of the fire and wait for help to arrive.

- Use the **PASS** method. This is the most effective use of a fire extinguisher.
  - **P**ull the pin at the top of the extinguisher that keeps the handle from being pressed. Break the plastic seal as the pin is pulled.
  - **A**im the nozzle at the base of the fire. Do not aim the nozzle at the flames. In order to put out the fire, you must extinguish the fuel, not the flames. Hose nozzles are often clipped to the extinguisher body. Release the hose before taking aim.
  - **S**queeze the handle to release the pressurized extinguishing agent. The handle can be released at any time to stop the discharge.
  - **S**weep from side to side at the base of the fire until the fire is completely out or the fire extinguisher is empty
- Only if you can safely do so, open the access panels to the machine in the area of the fire.
- Failing all attempts to access the machine compartment, discharge the extinguisher through the mesh or any available openings on the machine.
- Ensure that the machine and all components have cooled down sufficiently after a fire so that re-ignition does not occur.
- Remain in the area until help arrives.

What to do after a machine fire has occurred

- Before returning the machine to work.
  1. Ensure that the cause of the fire is determined and all appropriate repairs are completed.
  2. Ensure that all extinguishers used in fighting the fire are replaced or recharged.
- Notify your equipment dealer and/or Takeuchi Manufacturing.

Exhaust fumes from the engine is poisonous



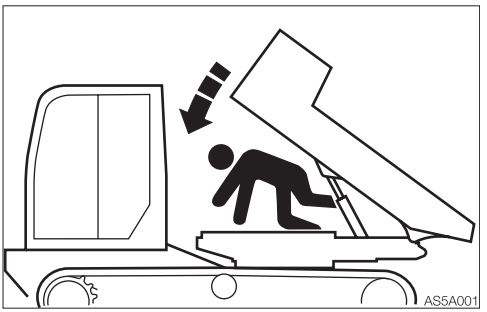
- Do not operate the engine in an enclosed area without adequate ventilation.
- If natural ventilation is not possible, install ventilators, fans, exhaust extension pipes or other venting devices.

Handling asbestos dust

Inhaling asbestos dust can cause lung cancer. When handling the materials which may contain asbestos, take the following precautions:

- Never use compressed air for cleaning.
- Avoid brushing or grinding parts containing asbestos.
- For clean up, use a vacuum equipped with a high efficiency particulate air filter (HEPA).
- Wear the stipulated respirator if there is no other way to control the dust. When working indoors, install a ventilation system with a macromolecular filter.
- Do not allow unauthorized personnel in the work area while working.
- Follow the rules and environmental standard applicable to the work area.

Be careful not to get crushed or cut



Never put your hands, feet or other parts of your body between the dump body and the machine body or between the cylinder and the dump body. The sizes of these gaps change when the dump body moves, and a person could suffer severe injury or death.

Using optional products

- Consult with Takeuchi before installing optional attachments. Depending on the type of attachments or the combination of them, the attachment may come into contact with the operator's compartment or the other parts of the machine. Make sure that the optional attachment installed is not contacted with other parts before use.
- Do not use attachments that have not been approved by Takeuchi. Doing so may compromise safety or adversely affect the machine's operation or service life.
- Takeuchi will not be held responsible for any injuries, accidents or damage to its products caused by the use by a non-approved attachment.

Never modify the machine

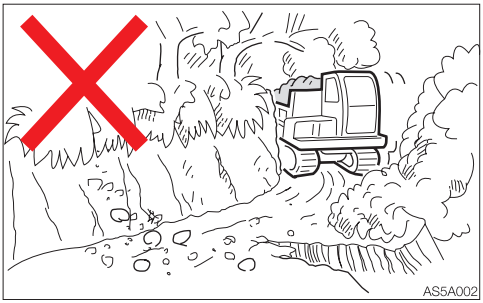
Unauthorized modifications to this machine can cause injury or death. Never make unauthorized modifications to any part of this machine.

PRECAUTIONS WHEN PREPARING

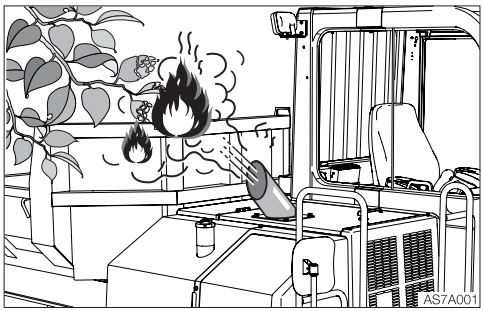
Know the work area

Before starting operation, know the working area condition to ensure a safety operation.

- Inspect the topography and ground condition of the working area, or the structure of the building when working indoors, and take the safety precautions as necessary.



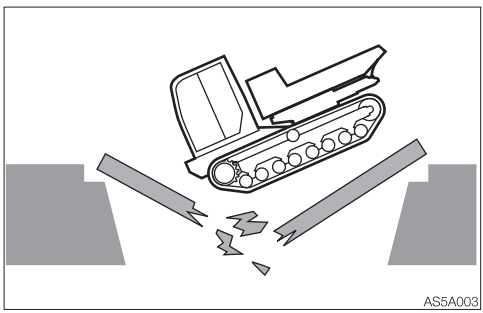
- Be sure to avoid all hazards and obstructions such as ditches, trees, cliffs, overhead electrical wires, or places where there is a danger of falling rocks or landslides.
- When working on roads, be sure to consider the safety of pedestrians and vehicles.
  - Use a flag person and/or a signal.
  - Fence off the working area and keep off unauthorized persons.
- When working in water or crossing shallow streams or creeks, check the depth of the water, the solidity of the ground and the water flow speed beforehand.
  Refer to “Cautions on operating” for further instructions.



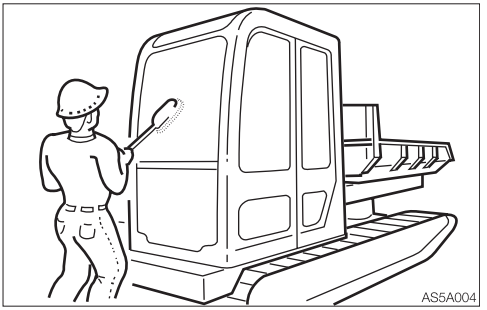
- Do not perform the DPF regeneration if the machine is surrounded by flammable items such as plants, trees, dry grass, wastepaper, oil and waste tires. There is a risk of fire due to the high-temperature exhaust gas emitted from the DPF.
  DPF: Diesel Particulate Filter
- The DPF may automatically perform the regeneration while the engine is left running. Make sure that there are no flammable items around the DPF and the exhaust line, and also that the engine hood is closed to prevent fire. Be careful not to burn yourself on the high-temperature exhaust gas.
- Do not perform the DPF regeneration in poorly-ventilated indoor spaces, as smoke may be generated during the regeneration.

Check the strength of the bridge

When traveling over a bridge or a structure, check the permissible load. If the strength is insufficient, reinforce the bridge or the structure.

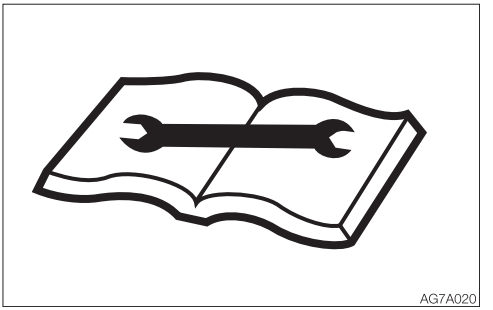


Always keep the machine clean



- Clean windows, mirrors and lights to ensure good visibility.
  Adjust the mirror to the best position for the operator to see the rear view (blind spot) from the operator's seat.
- Wipe off any oil, grease, mud, snow or ice, to prevent accidents due to slipping.
- Remove all loose objects and unnecessary devices from the machine.
- Remove any dirt, oil or grease from the engine area to prevent fires.
- Clean around the operator's seat and remove any unnecessary object from the machine.

Perform inspection and maintenance every day



Failure to identify or repair the irregularities or damage on machine can lead to accidents.

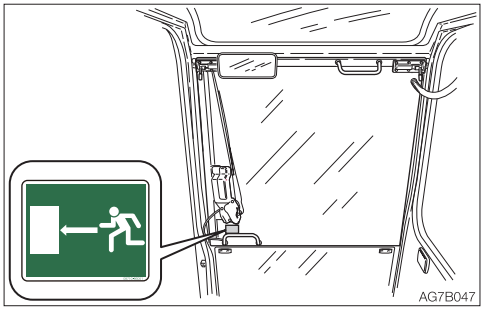
- Before operating, perform the specified inspection and make prompt repairs where necessary.
- If a failure occurs and the operation becomes impossible or the engine fails, immediately stop the machine by following the shutdown procedure, and keep machine securely parked until the malfunction is corrected.

Cautions in the operator's compartment

- Remove mud and grease from shoe soles before entering the operator's compartment.
  Pedaling the machine with the shoes with mud and grease will cause a slip accident.
- Do not leave the parts or tools around the operator's seat.
- Do not leave any plastic bottles in the operator's compartment or attach any suction cups on the window glass. The plastic bottle or suction cup act as a lens and can cause fire.
- Do not use the mobile phone during traveling or working.
- Do not bring combustibles or explosives into the operator's compartment.
- After smoking, be sure to tightly close the lid of the ashtray to put out the match or cigarette.
- Do not leave the cigarette lighter in the operator's compartment. When the room temperature rises, the lighter may explore.

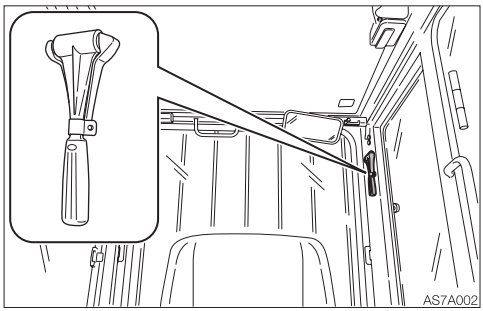
Emergency exit

Front window (excluding machines with a front guard)



If you should become trapped inside the cab, open the front window to get out.

Emergency hammer (optional)



An emergency hammer is installed to be used to escape from the cab in an emergency. When escaping, break the windows with the hammer.

- When breaking the window pane with a hammer, take great care not to injure yourself with the broken glass pieces.
- Remove the glass pieces from the window sill so as not to cut yourself when evacuating. Broken glass will fall from the window, so be careful of your footing and do not slip on the glass.

PRECAUTIONS WHEN STARTING

Support your weight in a three point secure stance when getting on/off the machine

- Do not jump on or down from the machine. Never attempt to get on or off the moving machine.
- When getting on or off the cab, first fully open the door to the locked position and check that it does not move.


AG7A022

- Climb up/down the steps facing the machine and holding the handrail to support your weight in a three point secure stance (hand and feet).
- Never use the safety lock lever or control levers as hand holds.

Before starting the machine, ask any unauthorized personnel to leave the area

Do not start the engine until you are sure it is safe to start the machine by checking the following items.

- Walk around the machine and warn the person who is servicing the machine or is walking near the machine. Do not start the machine until you are certain that no one is around the machine.

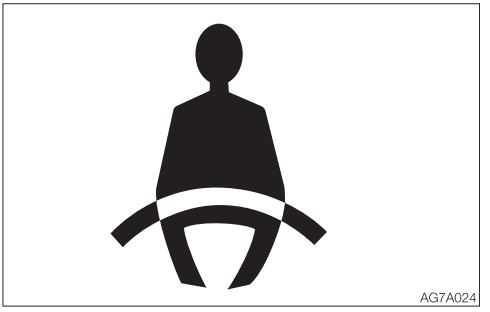


AG7A023PE

- Check if there is a “DO NOT OPERATE” alert sign or similar sign is on the cab door, controls or ignition switch. If there is one, do not start the engine or touch any levers.
- Sound the horn to warn people around the machine.

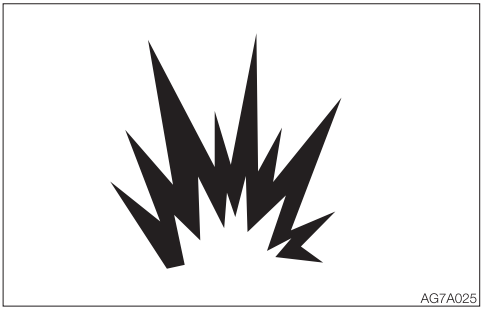
Sit in the operator’s seat and start the engine

- Adjust the seat to securely latch it.


AG7A024

- Fasten the seat belt.
- Check if the parking brake is on and the control levers are in the neutral position.
- Check if the safety lock lever is in the lock position.
- Make sure that no one is near the machine.
- Start and operate the machine only from the operator’s seat.
- Never attempt to start the engine by shorting across the starter terminals.

Starting with jumper cables



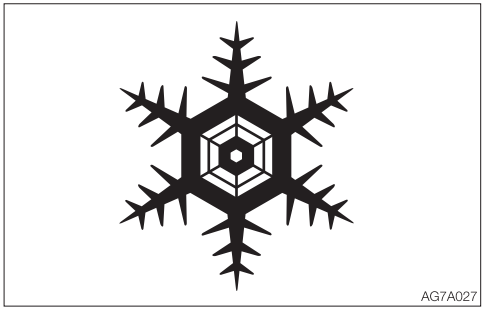
Use jumper cables only in the recommended manner. Improper use of jumper cables can result in battery explosion or unexpected machine motion.
Refer to “If the battery goes dead” for further instructions.

After starting the engine

After starting the engine, perform the operations and checks described below in a safe place with no persons or obstacles in the area. If any malfunction is found, follow the shutdown procedure and report the malfunction.

- Warm up the engine and hydraulic oil.
- Check if all gauges and warning devices are properly working.
- Check for any noises.
- Test the engine speed control.
- Operate each control to ensure they are properly working.

In cold climates



- Be careful of slippery conditions on freezing ground, steps and hand holds.
- In severe cold climates, do not touch any metal parts of the machine with bare hands. The skin will freeze to the metal, resulting in severe injury.
- Do not use ether or starting fluid on this engine. The starting fluids can cause explosion and serious injury or death.
- Warm up the engine and hydraulic oil. If the levers are operated without warming, the machine will not react or move promptly or properly, resulting in accident.

PRECAUTIONS WHEN OPERATING

Ensure good visibility

- When working in dark places, turn on the machine's working lights and headlights and additional lighting equipment installed, as necessary.
- When visibility is poor due to bad weather (fog, snow, rain or a cloud of dust), stop operating the machine and wait until visibility improves.

Do not permit riders on the machine

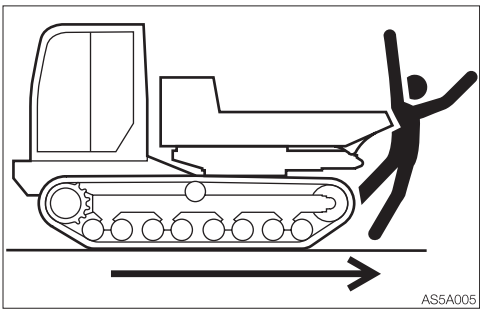


Do not allow anyone to ride on any part of the machine at any time while traveling or operating.

Operate the machine only from the operator's seat

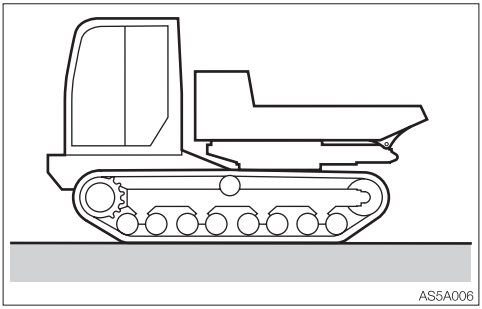
When operating any lever or switch, always do it while sitting in the operator's seat. Failure to do so may be very dangerous.

Check if the work area is safe and secure before operation

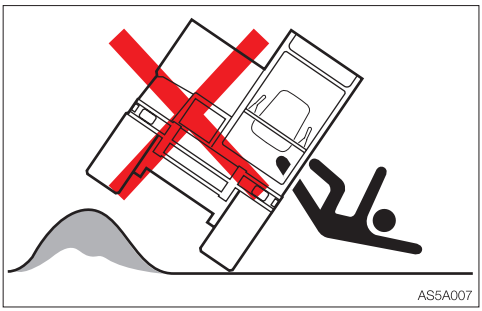


- Confirm the performance limits of the machine.
- Use a signal person at road shoulders, narrow places or where your vision is obstructed.
- Never allow anyone to enter the machine's swing radius and path.
- Signal your intention to move by sounding the horn.
- There is a blind spot in the rear of the machine. Before traveling in reverse, check that the area is safe and clear.

Precautions on traveling and turning


AS5A006

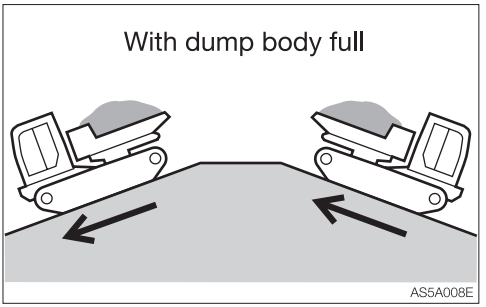
- Do not travel while the dump body is being swung or raised. Doing so is dangerous because it causes the machine to become unstable. Fully lower the dump body and make it parallel to the main frame.
- Avoid sudden starting, stopping and turning. Otherwise, the loaded material could be shifted to cause the machine to lose its balance, or the structures in the surrounding area could be damaged by the material fallen from the dump body.
- Do not raise the safety lock lever while traveling. Doing so is dangerous; the parking brake will be activated and the machine will stop abruptly.
- Do not switch off the ignition switch while traveling. Doing so is dangerous; the machine will stop abruptly.
- Before traveling in reverse, visually check if the rear view is clear. Failure to do so could result in contact with a worker or obstacle.
- When hauling materials or when traveling over rough terrain or slippery road surface, slow down the travel speed and drive carefully.

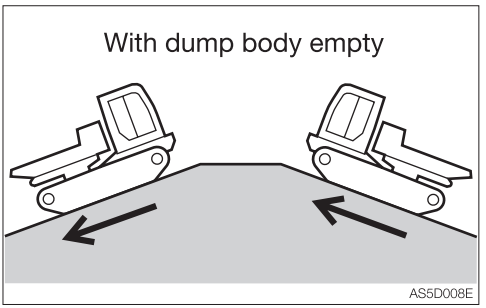

AS5A007

- Avoid crossing over obstacles whenever possible. If you must do so, try to go over the obstacle at a right angle to it at a low speed. Never cross obstacles which will tilt the machine to an angle of 10° or greater.

Precautions when traveling on slopes

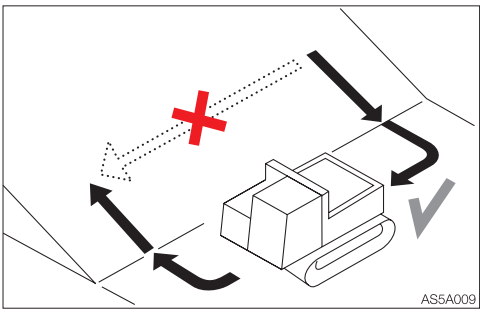
When traveling on slopes, do it carefully so that the machine does not tip (roll) over or slide.





When traveling on slopes of 15 degrees or more, position the heavier end of the machine (front or back, whichever is heavier) pointing up the slope.

- Never travel on slopes that are too steep for the machine to maintain its stability. Note that in reality, the machine's performance decreases on slopes due to its poor working condition.
- When traveling on slopes or grades, drive slowly in 1st (low) speed. Especially on down slopes, slow down the engine speed and limit the stroke length of the left control lever to less than half. Going down a slope at high speed may lead to loss of control.
- Braking abruptly on slopes could result in the machine losing its balance and tipping over.

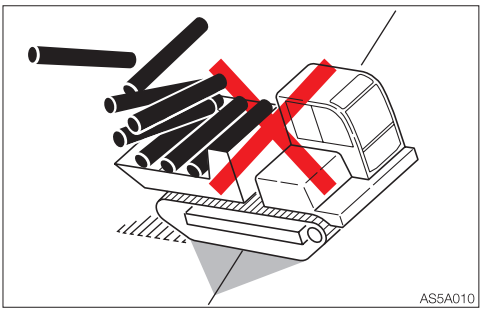


- Do not change directions on slopes or traverse slopes. First return to a flat surface, and then take an alternative path.
- The machine may slip sideways even on a slight slope if the ground is covered with grass or dead leaves, or when traveling on a wet metal plate or frozen surfaces. Make sure the machine is never positioned sideways on slopes.
- If the machine is stalled on the slope, return each control lever to the neutral position before restarting the engine.

Operate the machine on snow or ice with extra care

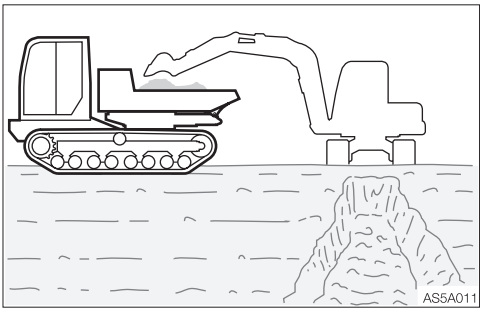
- When traveling on snow or on frozen surfaces, drive at a low speed and avoid starting, stopping or changing directions abruptly.
- In the snowy area, the road shoulder and objects placed beside the road are buried in the snow and cannot be seen. There is a hazard of the machine tipping over or hitting covered objects, so always carry out operations carefully.
- If the machine enters deep snow, there is a hazard that it may tip over or become buried in the snow.
  Be careful not to drive beyond the road shoulder or to get trapped in a snow drift.
- With frozen ground surfaces, the ground becomes soft when the temperature rises, and this may cause the machine to tip over, resulting in an operator trapped inside the machine.

Take care when handling unstable loads



Unstable load such as round items, cylindrical items and stacked plates may fall from the dump body. When handling unstable load, be sure to secure it for hauling.

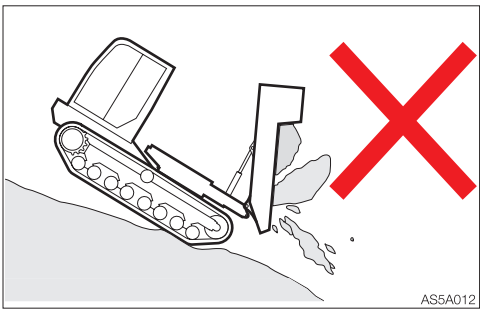
Precautions when loading material



When loading earth or sand, make sure that the machine operator is safe. Do not load material on slopes. Do it only on a firm ground.
Improper loading is dangerous, as it could cause the machine to tip over or result in the load shifting.

- Do not exceed the maximum loading capacity (3700 kg, 8155 lb).
- Load the material so that it is evenly distributed in the dump body.
- Be sure to properly secure the unstable load onto the dump body.

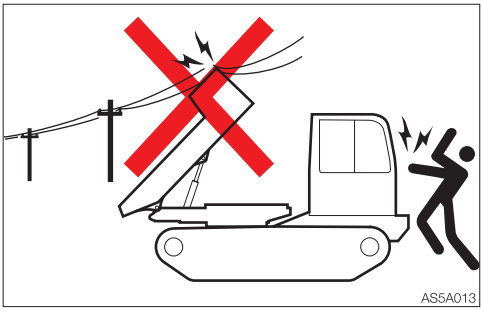
Precautions when dumping



Do not perform the following dumping operations. The machine may tip over due to the shift of the center of gravity.

- Dumping on slopes or bumpy terrain
- Dumping while swing the dump body
- Dumping while traveling

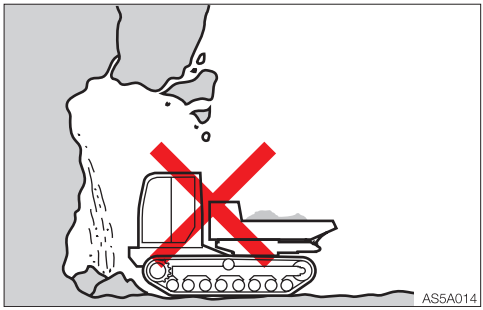
Keep a safe distance from the overhead high-voltage cables



Never bring any part of the machine or loaded material to near to the high voltage cables unless all safety precautions required by the local and national authorities have been installed. If a person comes near to the machine that is discharging sparks or located near to or in contact with the power source, there is a hazard of electric shock and death.

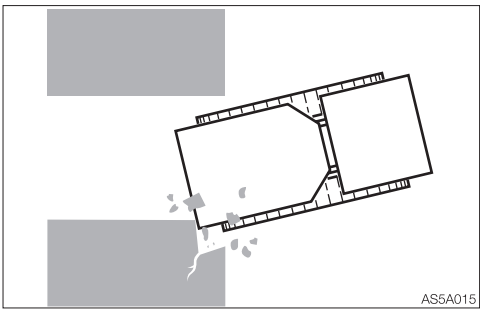
- Always maintain a safe distance between the machine and the high-voltage electric cable.
- Check with the local power company about safe operating procedure before starting operations.
- Consider all cables to be high-voltage cables and treat all cables as energized even though it is known or believed that the power is shut off and the cables are visibly grounded.
- Use a signal person to give warning if the machine approaches too close to the high-voltage electric cables.
- Caution all personnel in the work area not to come close to the machine or the loaded material.

Watch out for hazardous working conditions



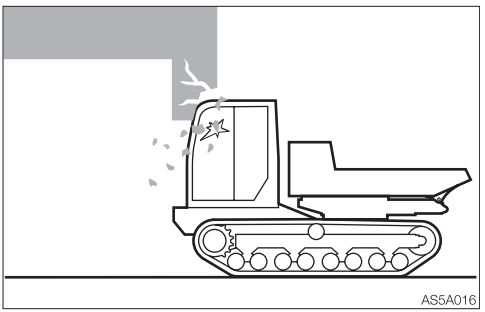
- Never operate the machine under the cliff. Doing so is dangerous as it could cause landslides.
- Do not operate in places where there is a danger of falling rocks.
- Do not come close to unstable grounds (cliffs, road shoulders, deep ditches). If the ground should collapse under the weight or vibration of the machine, there is a hazard that the machine may fall or tip over.
  - Remember that the soil after heavy rain or blasting is weak.
  - The ground of top of the embankment and of the circumferences of the excavated ditches are also weak.

Travel in narrow or crowded places



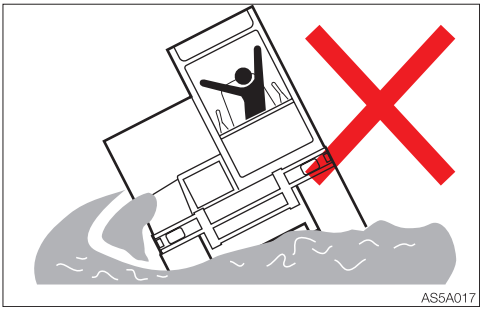
When traveling in narrow sites, crowded places or indoors, operate the machine while carefully looking around the area and maintaining the safe speed to avoid contact accidents.

Precautions when passing through tunnels or going under bridges



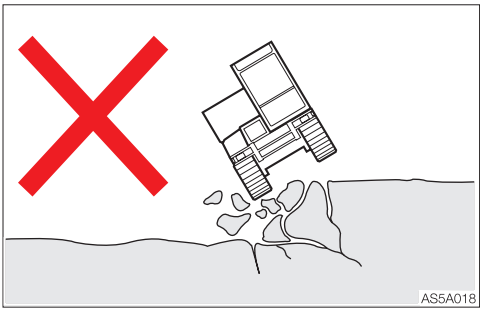
Check the height limit and width limit of tunnels and bridges beforehand to avoid the machine from contact with the ceiling or walls. If contacted, it could result in a serious accident.

Do not enter areas where there is soft ground.



Driving on the soft ground could cause the machine to tilt under its own weight, resulting in a machine tipping over or sinking into the ground.
Do not drive on soft surface such as a back-filled ground.

Do not come close to unstable grounds



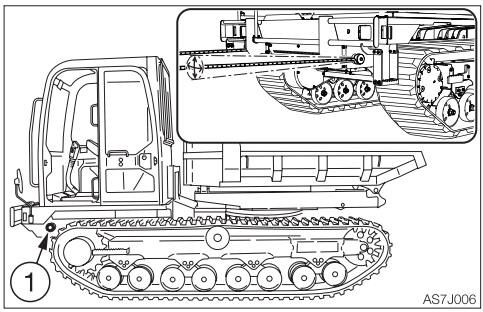
Working on unstable grounds is dangerous because the machine is likely to tip over.

- Avoid coming close to cliffs, road shoulders and ditches because they are surrounded by soft ground.
- Take care when working over the embankment/mound; the weight or the vibration of the machine could cause the embankment/mound to collapse or the machine to suddenly tilt over.
- Remember that the soil after heavy rain or blasting is weak.

Be careful with flying objects

This machine is not equipped with protective equipment to protect the operator from flying objects. Do not use this machine in places where there are risks of the operator being hit by flying objects.

Cautions when towing



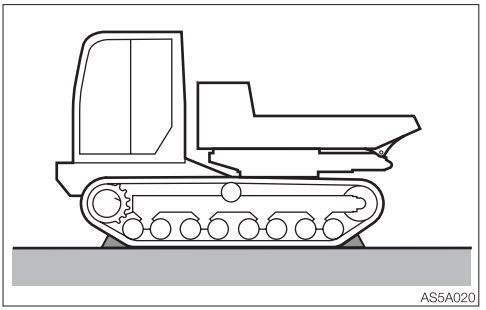
When towing, serious injury or death could result, if performed incorrectly or the wire rope being used is inappropriate or not properly inspected.

- Do not tow using only a towing hook or hole on one side.
- It becomes dangerous if the wire rope breaks or becomes disengaged. Use a wire rope appropriate for the required tractive force.
- Do not use a wire rope that is kinked, twisted or otherwise damaged.
- Do not apply heavy loads abruptly to the wire rope.
- Wear safety gloves when handling the wire rope.
- Make sure there is an operator on the machine being towed as well as on the machine that is towing.
- Never tow on slopes.
- Do not let anyone come near to the wire rope while towing.

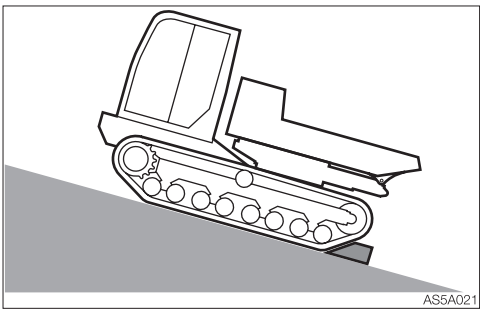
Refer to “Towing” for further instructions.

PRECAUTIONS WHEN STOPPING

Park safely

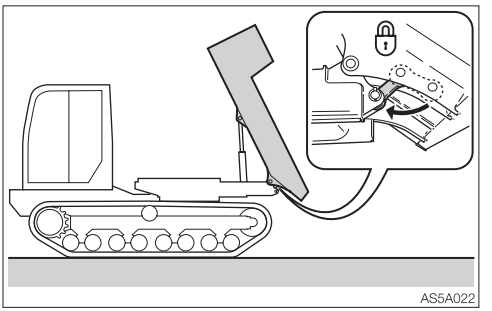


- Park the machine on a flat, rigid and safe ground. Set the parking brake.

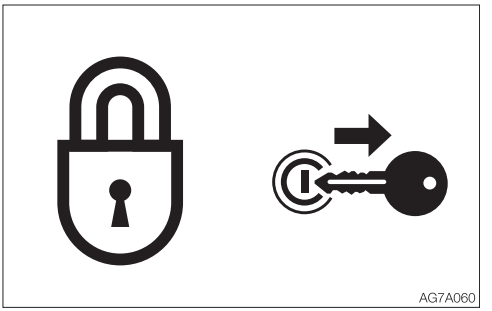


If you must park on a slope or incline, park the machine securely and block the movement of the machine.

- When parking on a street, use barriers, caution signs, lights, etc., so that the machine can easily be seen even at night to avoid collision with other vehicles.
- Before leaving the operator's seat, raise the safety lock lever to engage the lock and stop the engine.



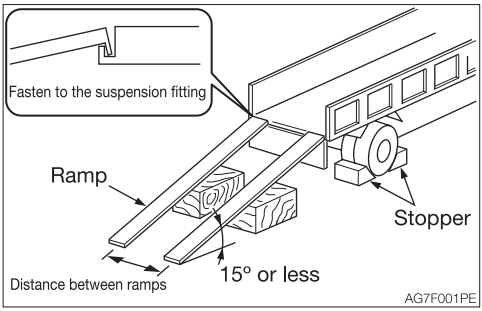
- Do not leave the machine while the dump body is being raised. If it is absolutely necessary to leave the raised dump body unattended, be sure to engage the dump body prop to prevent the dump body from dropping.



- Before leaving the machine, do the followings:
  1. Fully lower the dump body and make it parallel to the main frame.
  2. Raise the safety lock lever to the lock position.
  3. Stop the engine and remove the ignition key.
  4. Lock the cab and covers and take the key with you.

PRECAUTIONS WHEN TRANSPORTING

Load/unload the machine safely



The machine may roll or tip over or fall while being loaded or unloaded. Take the following precautions:

- Select a firm, level surface and keep sufficient distance from road shoulders.
- Secure the ramps of adequate strength and size to the truck bed. The slope of the ramps must not exceed 15°. If the rumps are bowed down too low, support them with poles or blocks.
- Keep the truck bed and loading ramps clean of oil, soil, ice, snow, and other materials to prevent the machine from sliding sideways. Clean the tracks.
- Chock the transporter wheels to prevent movement.
- When being loaded or unloaded, travel slowly in 1st (low) gear by following the signal from the signal person.
- Never change courses on the ramp. If it is necessary, move down from the ramps, change the course and then get on the ramps again.
- Do not swing or raise the dump body on the ramps. The machine may tip over.
- When raising the dump body on the truck bed, do it slowly as the footing should be unstable.
- Lock the cab door after being loaded, if applicable. Otherwise, the door may open during transport.
- Chock the tracks and secure the machine to the truck bed with wire rope or chain.

Hoist the machine safely

- Know and use correct crane signals.
- Check the hoisting equipment for damaged or missing parts on a daily basis and replace as necessary.
- When hoisting, use a wire rope capable of lifting the machine mass.
- Hoist the machine in such a manner described in the procedure below. Do not do it in any other manner, as it may result in the machine losing its balance.
  Refer to “Hoisting the machine” for further instructions.
- Do not hoist the machine with an operator on it.
- When hoisting, hoist slowly so that the machine does not tip.
- Keep everyone out of the area when hoisting. Do not move the machine over the heads of the persons.

Transport the machine safely

- Know and follow the applicable safety rules, vehicle code and traffic laws when transporting the machine.
- Select the best transport route by considering the length, width, height and weight of the truck with the machine loaded on it.
- Never abruptly start or stop or run at a high speed at the sharp curves during transport. Doing so will move or lose the balance of the loaded machine.

PRECAUTIONS ON MAINTENANCE

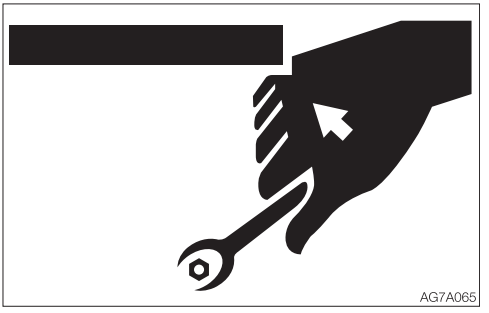
Display a “DO NOT OPERATE” alert sign

Severe injury could result if an unauthorized person should start the engine or touch controls during inspection or maintenance.
- Before performing maintenance, stop the engine and remove the ignition key which will be kept by the maintenance personnel.



- Display a “DO NOT OPERATE” alert sign on easy-to-see locations such as the ignition switch or control levers.

Use the correct tools



Do not use damaged or weakened tools or tools designed for other purposes. Use tools appropriate for the work involved.

Replace safety-critical parts periodically

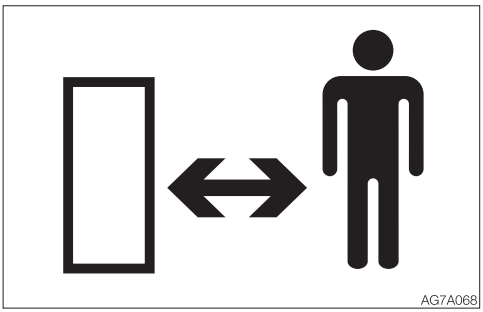
- Replace fuel hoses periodically. Fuel hoses wear out over time, even if they do not show any symptom of wear.
- Regardless of the replacement schedule, replace immediately if a symptom of wear is found.
  Refer to “List of safety-critical parts” for further details.

Explosionproof lighting



To prevent an ignition or explosion, use explosion-proof lights when inspecting fuel, oil, coolant or battery fluid. Otherwise, explosion could result causing serious injury or death.

Prohibit access by unauthorized persons



Do not allow unauthorized personnel in the work area while working. Be careful when grinding, welding or using a hammer. You could be injured by flying debris from the machine.

Prepare work area

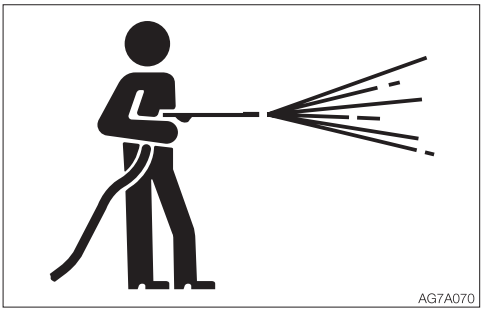
- Select a firm, level work area. Make sure there is adequate light and, if indoors, ventilation.
- Clear obstacles and dangerous objects. Eliminate slippery areas.

Cautions on working on top of the machine



- Before performing maintenance on the top of the machine, clean the place you will work on and observe the following to prevent falling.
  - Do not spill oil or grease.
  - Do not leave tools scattered around.
  - Watch your step when walking.
- Never jump down from the machine. Use the steps and handrails when climbing up and down the machine, and always support your body at three points with your hands and feet.
- Do not stand on the track and perform maintenance work. Doing so is dangerous because of the unsteady foothold. Use the work bench.

Always keep the machine clean

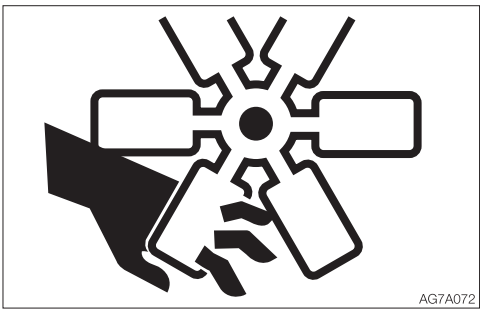


- Clean the machine before performing maintenance.
- Stop the engine before washing the machine. Cover the electrical parts so that water cannot enter. Water on electrical parts could cause short-circuits or malfunctions. Do not use water or steam to wash the battery, electronic control components, sensors, connectors or the operator's compartment.

Stop the engine before performing maintenance

- Avoid lubrication or mechanical adjustments while the machine is moving or while the engine is running when the machine is not moving.
- If maintenance must be performed with the engine running, always work as a two person team communicating each other.
  - One person must sit in the operator's seat so that he/she can immediately stop the engine when necessary. He/she must take care not to touch the lever or pedal unless necessary.
  - The one who performs maintenance must make sure to keep his/her body or clothing away from the moving part of the machine.

Stay clear of the moving parts


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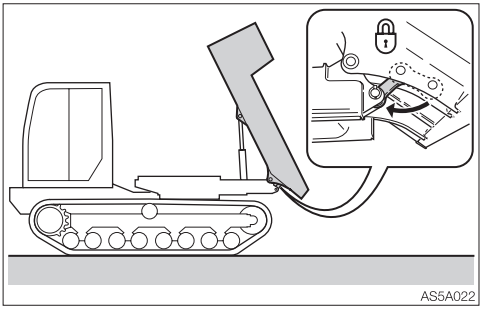
- Stay clear of all rotating and moving parts. If a hand or tool becomes trapped in the rotating or moving part, serious injury or death could result.
- If a tool or other objects is dropped or inserted in the fan or fan belt, it will be flown or cut in pieces. Do not drop or insert anything in the fan or fan belt.

Firmly secure the machine or any component that may fall


AG7A073

- Before performing maintenance or repairs under the machine, lower the dump body completely.
- Chock the tracks.
- If you must work under the raised machine or its components, always use the dump body prop, wood blocks, jack-stands or other rigid and stable supports to keep the machine or its components raised. Never get under the machine or its components if they are not sufficiently supported. This procedure is especially important when working on hydraulic cylinders.
- The support device provided on the machine is designed assuming that there is no load. Remove the load before using the support device.

Precautions when raising the dump body

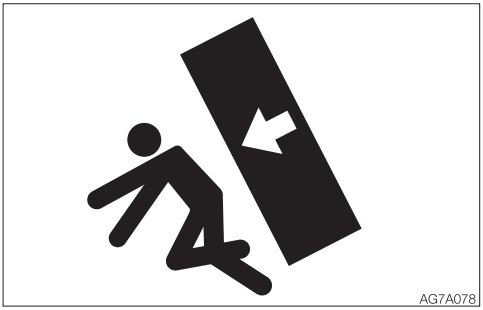


- If you must work under the raised dump body, be sure to engage the dump body prop to prevent the dump body from dropping. Never position yourself under the dump body without making sure that it is securely supported.
- Disconnecting or loosening any faulty hydraulic line, hose, fitting or component could cause the dump body to fall.
- Repair or replace the dump body prop if it is damaged or any part is missing. Failure to do so may cause the dump body to fall, resulting in a serious injury or death.

Secure the engine hood or covers when opened.

Be sure to secure the engine hood or covers when they are left open. Do not leave the engine hood or cover open on a windy day or if the machine is parked on a slope.

Place heavy objects in a stable position



When it is necessary to temporally place a heavy machine part or an attachment on the ground during removal or installation, be sure to place it in a stable position. Keep off unauthorized persons from the storage place for such object.

Cautions when refueling



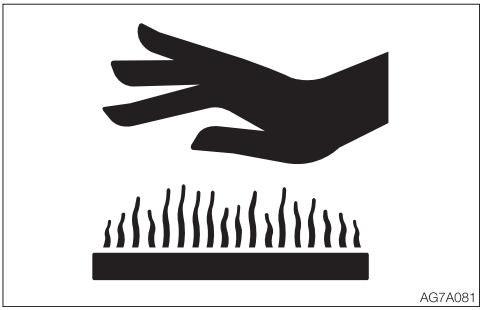
- Do not smoke or permit open flames while fueling or near fueling operations.
- Never remove the fuel cap or add fuel when the engine is running or still hot. Do not spill fuel on the hot surface of the machine.
- Fill the fuel tank in a well ventilated place.
- Do not fill the fuel tank to capacity. Allow room for oil expansion.
- Clean up spilled fuel immediately.
- Securely tighten the fuel filler cap. If the fuel cap is lost, replace it only with the genuine cap. Use of a non-approved cap without proper venting may result in pressurization of the tank.
- Never use fuel for cleaning.
- Use the correct grade of fuel for the operating season.

Handling of hoses

Oil leak or fuel leak can cause a fire.

- Do not twist, bend or hit the hoses.
- Never use twisted, bent or cracked pipes, tubes or hoses; otherwise, they may burst.
- Retighten loose connection.

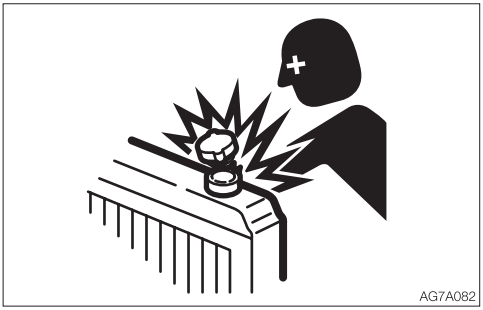
Be careful with hot and pressurized components



Stop the engine and allow the machine to cool down before performing maintenance.

- The engine, muffler, radiator, hydraulic lines, sliding parts and many other parts of the machine are hot immediately after the engine is stopped. Touching these parts will cause burns.
- The engine coolant, hydraulic oil and other oils are also hot and under high pressure. Be careful not to touch the hydraulic oil when loosening the cap or plug. Working on the machine under these conditions could result in burns or injuries due to the hot oil spurting out.

Be careful with hot cooling systems

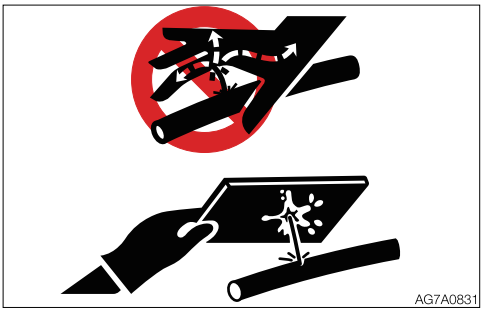


Do not remove the radiator cap or the drain plug when the cooling water is hot. Stop the engine and wait until the engine and the cooling water cool. Then, slowly loosen the radiator cap to release the internal pressure and remove it.

Be careful with oil internal pressure

Pressure is maintained in the hydraulic circuit long after the engine has been shut down.

- Completely relieve the internal pressure before performing maintenance work.



- The hydraulic oil is high enough pressure to penetrate the skin or eyes and cause serious injury, blindness or death. Remember that the hydraulic oil escaping from a small hole is almost invisible. When checking for leaks, wear protective goggle and thick gloves, and use a paperboard or plywood to keep your skin from oil spurting.
  If oil penetrates the skin, it must be surgically removed within a few hours by a doctor familiar with this type of injury.

Release pressure before working on the hydraulic system

Oil may spurt out if caps or filters are removed or pipes are disconnected before releasing the pressure in the hydraulic system.

- When removing plugs or screws, or when disconnecting hoses, stand to the side and loosen them slowly to gradually release the internal pressure before removing.
- Oil or plug may spurt out according to the pressure in the travel motor case. Loosen the plug slowly and release the internal pressure.

Be careful with debris when the hammer is being used

When using a hammer, pins may fly out or metal particles may be scattered. This may lead to serious injury.

- If hard metal parts such as pins and bearings are hit with a hammer, wear protective gear such as safety goggles and gloves.
- When hitting pins, always check that there is no one in the surrounding area.

Cautions when servicing the air conditioner

If the refrigerant comes in contact with eyes, it damages your eyesight. If the refrigerant comes in contact with skin, it may cause frostbite. Never touch the refrigerant.

Disconnect the battery wiring



Disconnect the battery wiring before working on the electrical system or doing electric welding. Disconnect the negative (–) battery cable first. When reconnecting, connect the negative (–) battery cable last.

Use caution when handling batteries

- Batteries contain sulfuric acid which will damage the eyes or skin in case of contact.
  - If eye contact occurs, flush immediately with clean water and get prompt medical attention.
  - If accidentally swallowed, drink large quantities of water or milk and call a physician immediately.
  - If acid contacts skin or clothing, wash off immediately with a lot of water.
- Wear protective goggle and gloves when working with batteries.
- Batteries generate flammable hydrogen gas which may explode. Keep away from flame, sparks, fire or lighted cigarettes.
- When checking the level of the battery fluid, use a flashlight.
- Be sure to stop the engine by turning off the ignition switch before inspecting or handling the battery.
- Be careful not to let metal tools or any metal objects come into contact with the battery terminals and cause a short circuit.
- Loose battery terminals may result in sparks. Be sure to fasten terminals tightly.
- Make sure the battery caps are tightened securely.
- Do not charge a battery or jump-start the engine if the battery is frozen; otherwise it may explode. Warm the frozen battery to 15°C (60°F) before use.
- Do not use the battery when the fluid level is below the lower level limit. Doing so will hasten the deterioration of the internal portions of the battery and shorten the battery life. It also can cause rupturing (explosion).
- Do not add the distilled water above the upper level limit. Doing so could cause the fluid to leak. This fluid can cause skin damage if contacted, or can cause the machine components to corrode.
- Use a dampened cloth to clean around the fluid level line and check the fluid level. Do not clean with a dry cloth; otherwise it could cause static electricity to build up, resulting in ignition or explosion.

Periodically replace the safety-critical parts

- To use the machine safely for a longer period, periodically add oil and perform inspection and maintenance. To improving the safely, replace the safety-critical parts like hoses and seat belts periodically. Refer to “Safety-critical parts to be replaced periodically” for further details.
- The “Safety-critical parts to be replaced periodically” are the parts which deteriorate, wear and fatigue after repeated use and whose properties change over time. While these characters of these parts could cause serious physical or personal damage, judging the remaining life of these part are difficult from external inspection or the feeling when operating.
- Replace the “Safety-critical parts to be replaced periodically” if any defect is found from external inspection, even when they have not reached the time specified interval.

Jump starting with booster cables

- When starting the engine using the booster cables, be sure to connect the cables in the proper order described below. Wrongly connected cables can result in sparking and battery explosion.
  - Do not allow the “machine in trouble” and “rescue machine” to touch each other.
  - Do not allow the positive (+) and negative (–) clips of the booster cables to touch each other or to come in contact with the machine.
  - When connecting, attach the positive booster cable to the positive (+) terminals first. When disconnecting, remove the negative cable from the negative (–) terminal (ground) first.
  - Be sure to connect the clips securely.
  - Connect the last clip of the booster cable to a point as far away from the battery as possible.
- Always wear the protective goggle and gloves when starting the engine by using the booster cables.
- Use the booster cables and clips of a size suited to the capacity of battery. Do not use damaged or corroded booster cables and clips.
- Be sure that the battery of the “rescue machine” has the same capacity as the battery of the “machine in trouble”.

Have a Takeuchi service agent repair welding

If welding must be performed, make sure that it is done by a qualified person in a properly equipped workplace. To prevent any part from breaking down or being damaged due to overcurrent or sparks, observe the following.

- Disconnect the wiring from the battery before doing electric welding.
- Do not continuously apply 200 V or more.
- The earth ground must be connected within one meter from the welding section. Do not connect the earth ground near to an electronically controlled device/ instrument or connectors.
- Make sure that there are no seals or bearings between the welding section and the earth ground.
- Do not connect the earth ground around the pins in the dump body or hydraulic cylinders.
- When welding is to be done on the machine body, disconnect the connectors for the electronically controlled devices before working.

Vibrations operators are subject to

According to the results of the tests conducted to determine the vibrations transmitted to the operator by the machine, the upper limbs are subjected to vibrations lower than 2.5 m/s^2(8.2 ft/s^2) while the seated part of the body is subjected to vibrations lower than 0.5 m/s^2 (1.64 ft/s^2).

Checks after maintenance

- Gradually increase the engine speed from a low idle to maximum speed and check that there is no oil or water leaking from the serviced parts.
- Operate each control lever and check that the machine is operating properly.

Disposing of wastes


AG7A0991

- Always collect oil that is drained from the machine in containers. Improperly disposed waste oil can cause environmental harm.
- Follow appropriate laws and regulations when disposing of harmful objects such as oil, fuel, coolant, solvent, filters and batteries.

Handling of poisonous chemicals

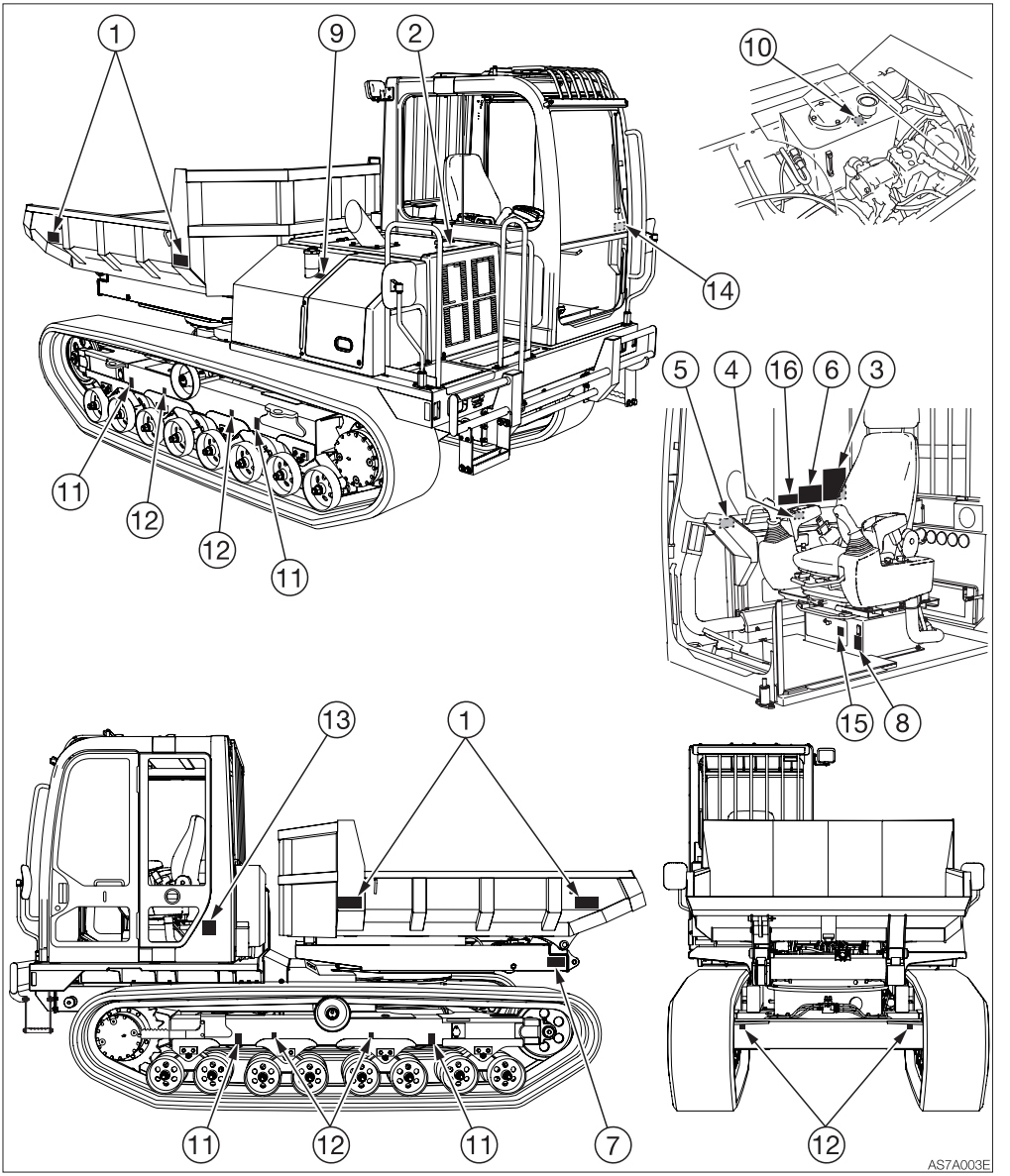
Poisonous chemicals will cause serious injury if directly contacted.
Poisonous chemistry used in this machine includes grease, battery solution, coolant, paint and adhesive agent.
Handle the poisonous chemicals properly with care.

SAFETY SIGNS (DECALS)

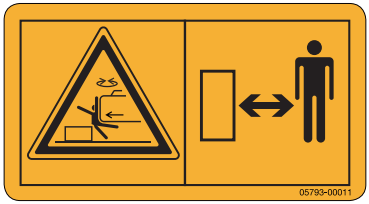
For the safety of the operator and the personnel working around the site, safety signs (decals) are placed at certain locations on the machine as shown below. Walk around the machine with this manual, and check the content and location of these safety signs. Review these signs and the operating instructions in this manual with your machine operators.

- Keep the signs clean and legible. If any of the safety labels is peeling or damaged and becomes difficult to read, replenish it with a new one. Please include your product serial number when ordering a new sign from the Takeuchi service agent.
- When a part/unit to which a safety sign is attached is replenished, a new sign must be attached to the new part/unit.

SAFETY SIGNS (DECALS)



1. No.05793-00011
Safety Distance
Do not get near or stand within the machine working area.



2. No.03793-66006
Hazard of rotating parts.
Turn off before inspection and maintenance.



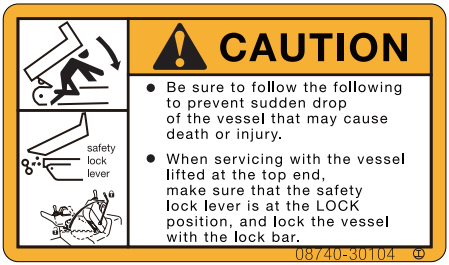
4. No.08710-80515



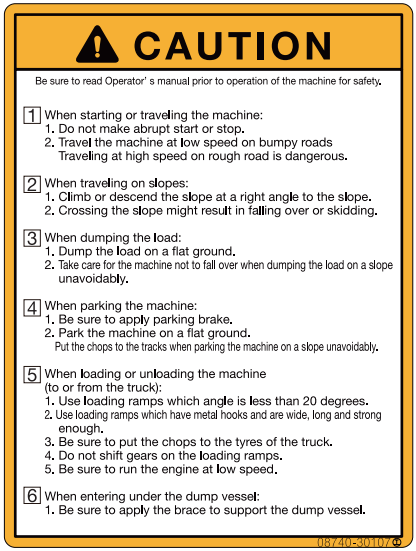
5. No.08710-83006



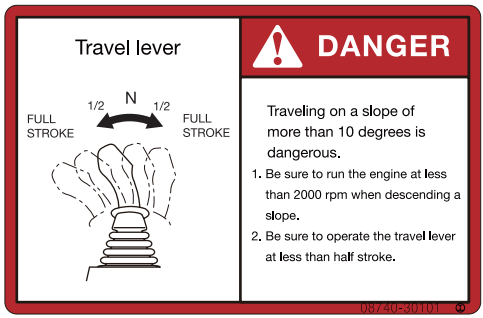
7. No.08740-30104



3. No.08740-30107



6. No.08740-30101



8. No.03993-00400
Position of Fire extinguisher

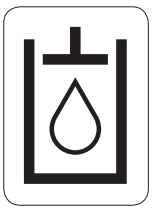


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9. No.03593-06600
Diesel Fuel



10. No.03593-06700
Hydraulic oil



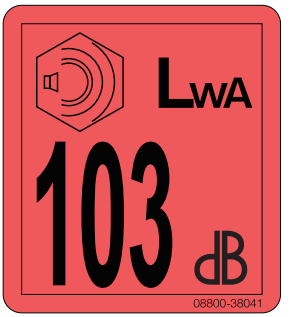
11. No.03993-00500
Position of Hoisting



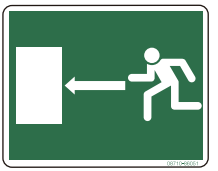
12. No.08810-31549
Tie down point



13. No.08800-38041
Noise Outside the Cab (If equipped)
This value indicates the noise level outside the machine and refers to the noise perceived by the persons who are in the vicinity of the work area.



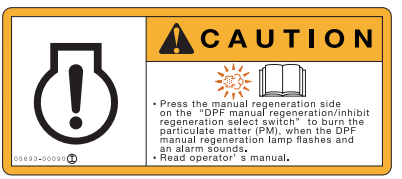
14. No.08710-86051
Position of Emergency Exit



15. No.05693-34080
Position of First Aid Kit



16. No.05693-00090

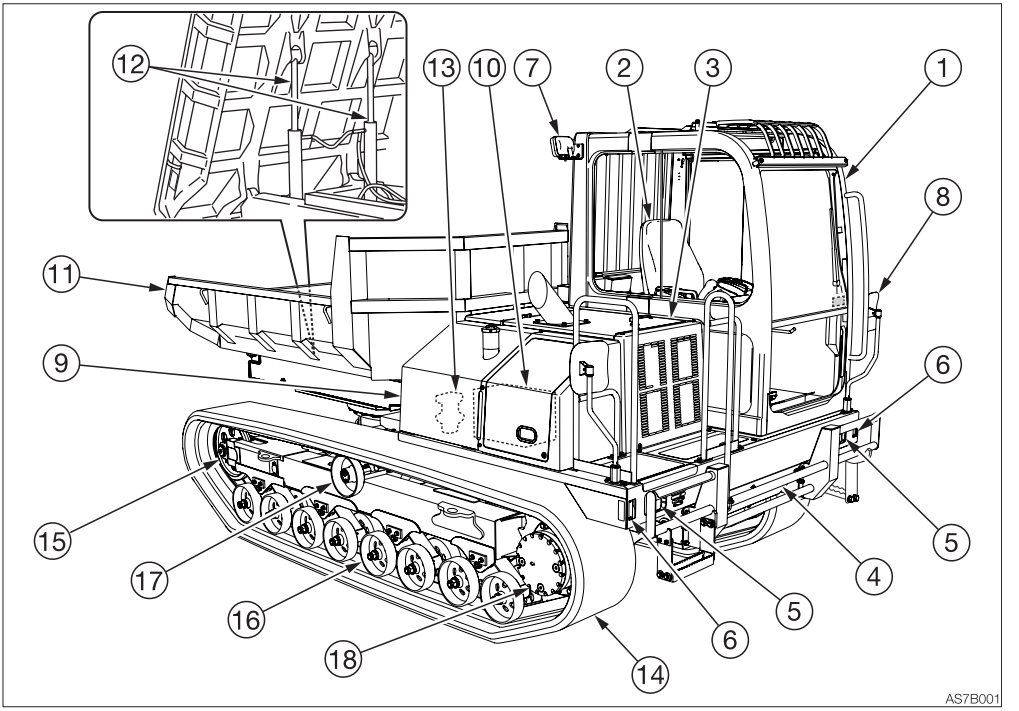


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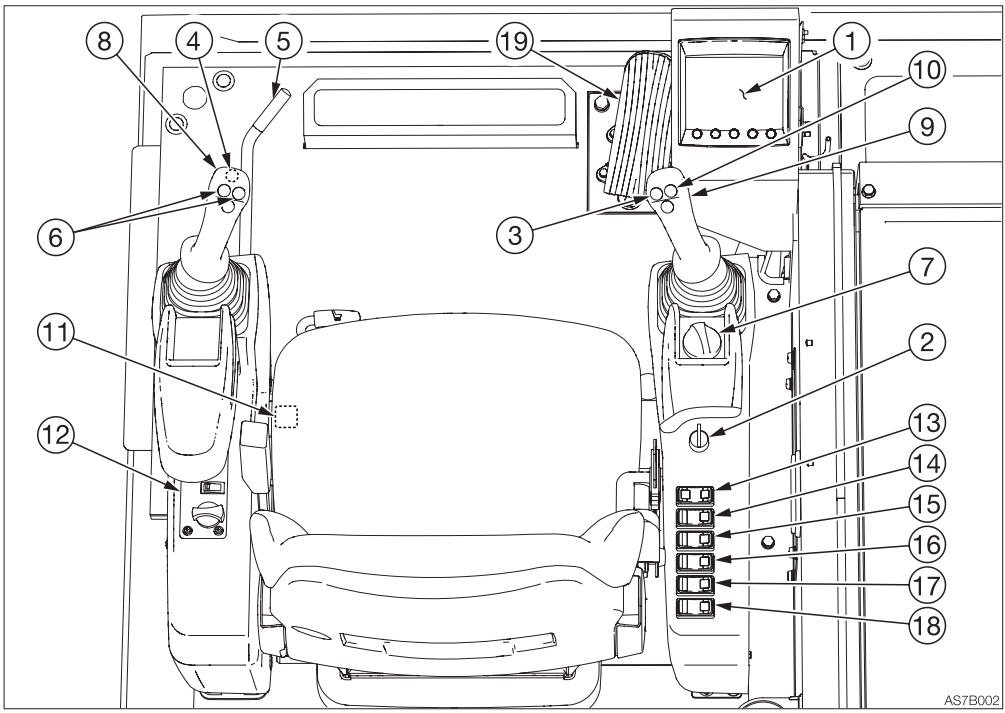
CONTROLS



NAMES OF COMPONENTS



1. Cab
2. Seat
3. Engine hood
4. Bumper
5. Front light
6. Turn signal light
7. Rear light
8. Rear view mirror
9. Fuel tank
10. Hydraulic oil tank
11. Dump body
12. Dump cylinder
13. Swing motor
14. Rubber track
15. Idler
16. Track roller
17. Carrier roller
18. Travel motor

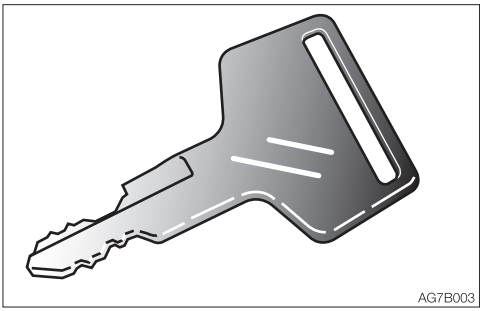


1. Multi-information display
2. Ignition switch
3. Horn button
4. Travel speed button
5. Safety lock lever
6. Turn signal buttons
7. Throttle controller
8. Left control lever
9. Right control lever
10. Deceleration button
11. Engine shutdown switch*
12. Air conditioner control panel*
13. DPF manual regeneration/inhibit select switch
14. Parking brake switch
15. Working light switch
16. Wiper switch
17. Washer switch
18. Beacon lamp switch
19. Throttle pedal*

*: Subject to the specifications or optional products selected

COVERS

IGNITION KEY



The ignition key is used to start and stop the engine, as well as to lock and unlock the following components:

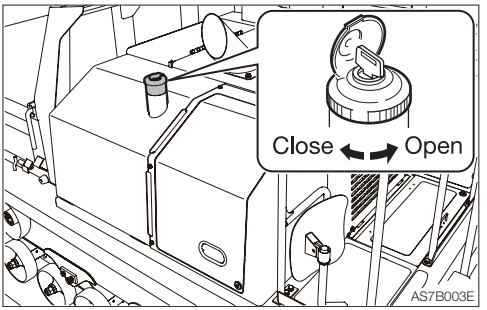
- Fuel filler cap
- Cab door
- Engine hood
- Side cover
- Battery cover

FUEL FILLER PORT

⚠ WARNING

- **Do not smoke and keep away from heat or flame while filling the fuel tank.**
- **Fill the fuel tank in a well ventilated place, with the engine turned off.**
- **Clean up spilled fuel immediately.**
- **Do not fill the fuel tank to capacity. Allow room for oil expansion.**
- **Securely tighten the fuel filler cap.**

Opening



1. Open the cover, insert the key and turn it counterclockwise to unlock the cap.
2. Turn the fuel filler cap counterclockwise and remove it.

Closing

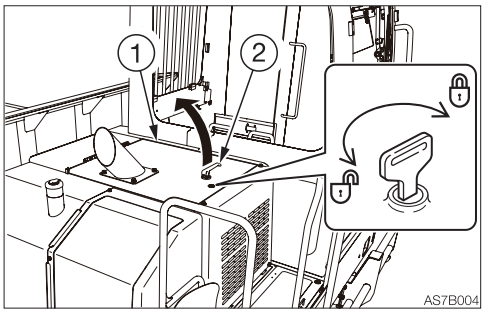
1. Install the fuel filler cap to the fuel filler port, and then turn the cap clockwise to close it.
2. Lock the fuel filler cap.

ENGINE HOOD

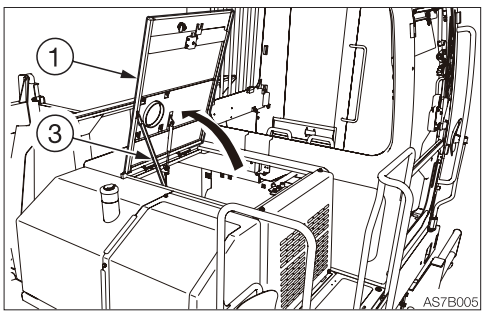
⚠ WARNING

- Before opening the engine hood, be sure to stop the engine. If a hand or tool becomes trapped in the rotating or moving part, serious injury could result.
- Be sure to secure the engine hood before working under the engine hood. Do not leave the engine hood or cover open on a windy day or if the machine is parked on a slope.
- When opening or closing the engine hood, be careful not to get your hands or other parts of your body caught by it.
- Before performing maintenance on the top of the machine, clean the place you will work on and observe the following to prevent falling.
  - · Do not spill oil or grease.
  - · Do not leave tools scattered around.
  - · Watch your step when walking.
- Never jump down from the machine. Use the steps and handrails when climbing up and down the machine, and always support your body at three points with your hands and feet.

Opening



1. Insert the ignition key and turn it counterclockwise to unlock the engine hood (1).
2. Turn the handle (2) clockwise and lift the engine hood (1).



3. Raise the stay (3) and insert it into the stay holder to support the engine hood (1).

Closing

1. Support the engine hood (1) by hand, and then release the stay (3) to return it to the original position.
2. Close the engine hood (1) and press down the edge of it until a click is heard.
3. Insert the ignition key and turn it clockwise to lock the engine hood (1).

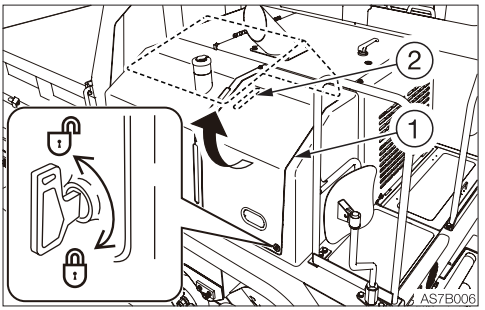
SIDE COVER (TOOL BOX)

⚠ CAUTION

- **When opening the side cover, open it all the way to the position where it is securely stopped.**
- **When opening or closing the side cover, be careful not to get your hands or other parts of your body caught by the cover.**

The grease gun and the tools are stored under the cover.

Opening



1. Insert the ignition key and turn it counterclockwise to unlock the side cover (1).
2. Open the side cover (1) until it stops.

Closing

1. Support the side cover (1) by hand and release the stay (2).
2. Close the side cover (1).
3. Insert the ignition key and turn it clockwise to lock the side cover (1).

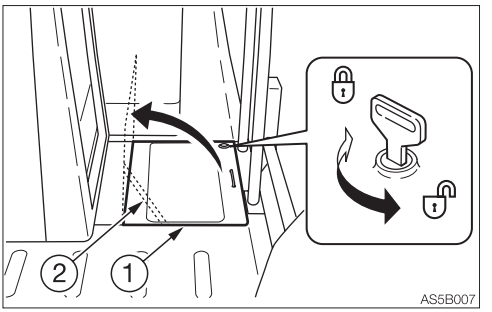
BATTERY COVER

⚠ CAUTION

- **When opening the battery cover, open it all the way to the position where it is securely stopped.**
- **When opening or closing the battery cover, be careful not to get your hands or other parts of your body caught by the cover.**

Perform the maintenance of the battery and the fusible links.

Opening



1. Insert the ignition key and turn it counterclockwise to unlock the battery cover (1).
2. Open the battery cover (1) until it stops.

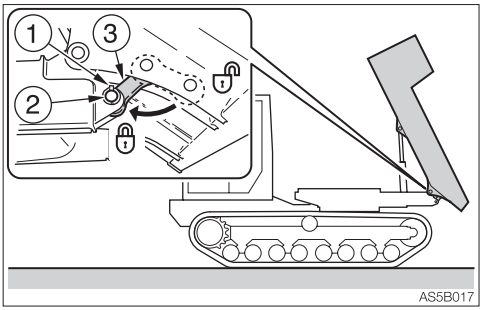
Closing

1. Support the battery cover (1) by hand and release the stay (2).
2. Close the battery cover (1).
3. Insert the ignition key and turn it clockwise to lock the battery cover (1).

DUMP BODY PROP

⚠ WARNING

If you must work under the raised dump body, be sure to engage the dump body prop to prevent the dump body from dropping. Never position yourself under the dump body without making sure that it is securely supported.



Engaging the dump body prop

1. Fully raise the dump body.
2. Raise the safety lock lever to the lock position and stop the engine.
3. Pull up the ring and disengage the lock pin (1), and then remove the pin (2).
4. Pull the disconnected end of the prop (3) toward the lock hole, and then insert the pin (2) into the lock hole.
5. Attach the lock pin (1) and push down the ring.

Disengaging the dump body prop

1. Move the right control lever to raise the dump body.
2. Disengage the dump body prop (3) and put it back in place.

CAB

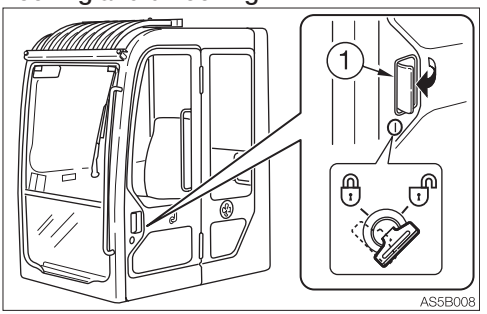
CAB DOOR

⚠ WARNING

When getting on or off the cab, first open the door all the way until it is secured in the catch and check that it does not move.

Open the door fully and press it against the catch at the back of the door to secure it in place.
The door must be locked when getting on or off the machine and while in operation.

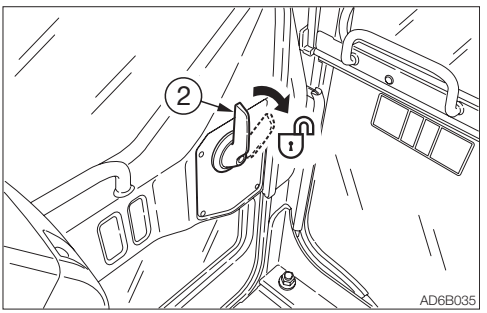
Locking and unlocking



Insert the ignition key and turn it.

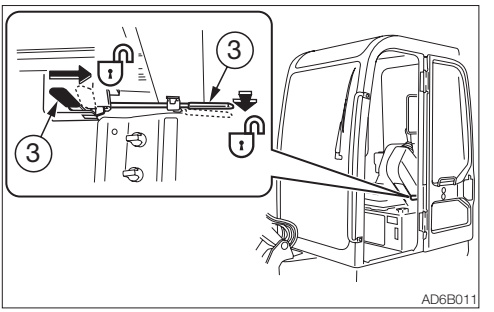
Opening

1. Pull the knob (1) towards you and open the door.



   To open the door from inside the cab, push the lever (2) to the lower.
2. Open the door fully and press it against the cab to secure it in place.

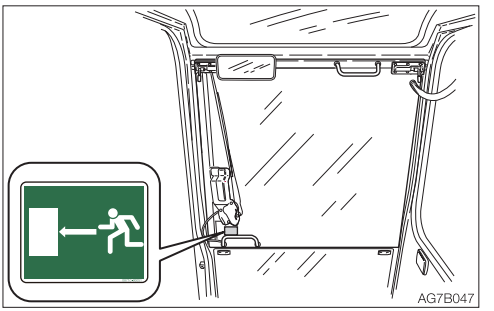
Closing



1. Push the release lever (3) downward.
2. Close the released door.

EMERGENCY EXIT

Front window (excluding machines with a front guard)



If you should become trapped inside the cab, open the front window to get out.

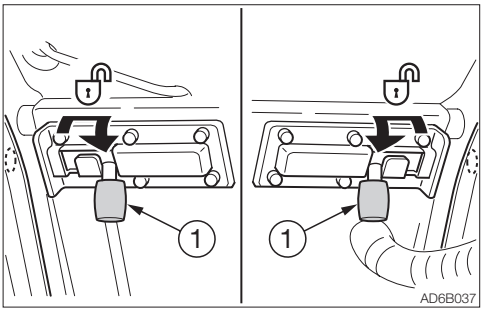
FRONT WINDOW

⚠ WARNING

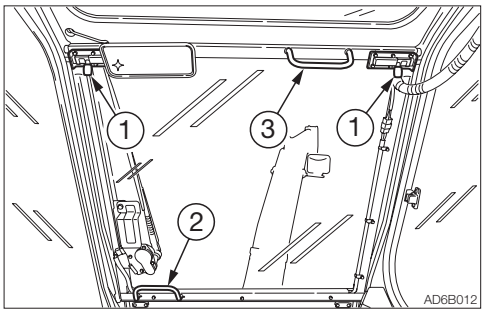
- **Grasp the handles firmly with both hands when opening and closing the front window. Your head or hands may get caught if it slips from your hands.**
- **When the front window is opened or closed, it will come close to the head. Be careful that the window does not strike the head.**
- **When you open the front window, be sure to lock it in place with the lock pins on the left and right sides. The window may fall if it is not locked in place.**

Opening

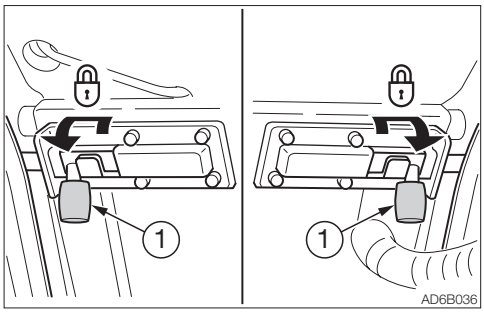
1. Park on a level surface and stop the engine.
2. Set the safety lock lever to the locked position.



3. Unlock the window by pulling the lock pins (1) (right and left) inward.
   Be sure that the lock pins (1) are turned until they are secured.



4. Grasp the lower handle (2) with your left hand and the upper handle (3) with your right hand.
5. Lift the front window by pulling it toward you.

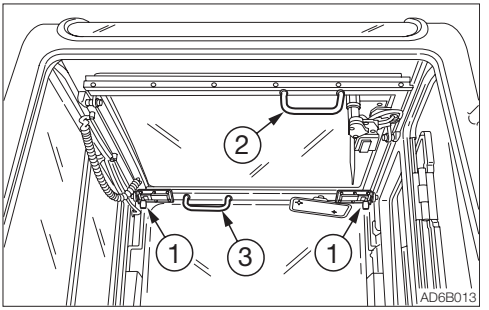


6. When the window frame hits against the stopper, move the lock pins (1) outward to lock the window.

Closing

⚠ WARNING

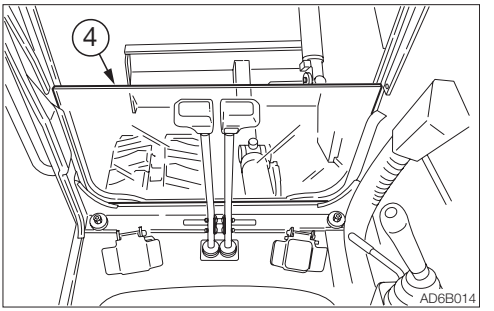
When closing the front window slowly so as not to hit your head. Lowering the window abruptly may result injury or damage the front window.



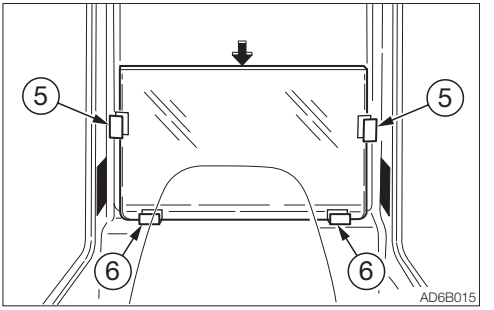
1. Pull the right and left lock pins (1) inward and turn them to the secured position to unlock the window.
2. Grasp the front handle (2) with your left hand and the back handle (3) with your right hand.
3. Slowly pull down the front window by sliding it forward.
4. Move the right and left lock pins (1) outward to lock the window.

LOWER FRONT WINDOW

Removing

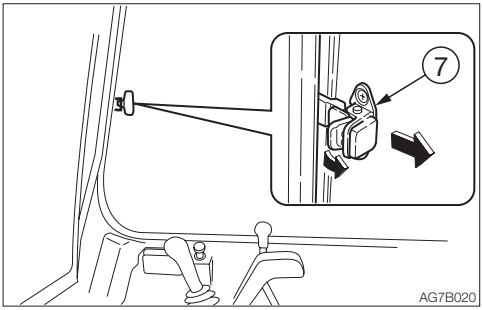


1. Open the front window and stow it in the ceiling.
2. Slowly lift the lower front window (4).



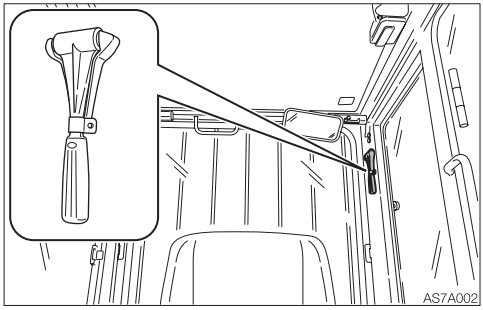
3. Place the lower front window through the guides (5) at the rear, and then set it on the guide (6).

SIDE WINDOW



1. Grasp the catch (7), unlock it and open the side window.
2. To close the side window, close it until a click is heard.

EMERGENCY HAMMER (OPTIONAL)



An emergency hammer is installed to be used to escape from the cab in an emergency. When escaping, break the windows with the hammer.

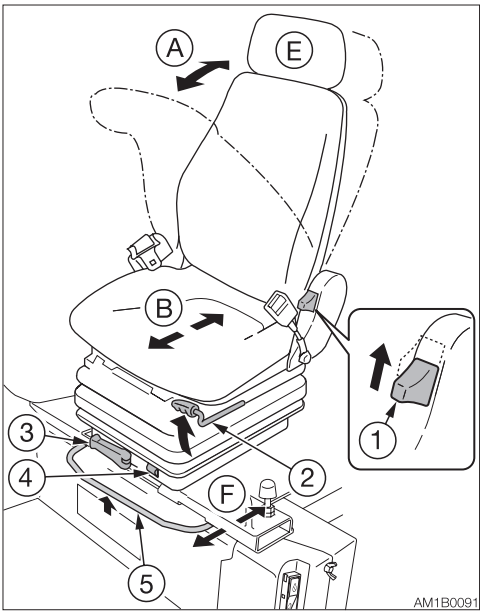
- When breaking the window pane with a hammer, take great care not to injure yourself with the broken glass pieces.
- Remove the glass pieces from the window sill so as not to cut yourself when evacuating. Broken glass will fall from the window, so be careful of your footing and do not slip on the glass.

SEAT AND SEAT BELT

SEAT

⚠ WARNING

- **Adjust and secure the seat.**
- **Do not make any adjustments while operating the machine.**
- **Do not set the backrest to its maximum reclining position and slide the seat backwards at the same time. Doing so may damage the rear window or cause injury.**
- **Remember that the backrest returns to the forward position abruptly due to the spring force.**

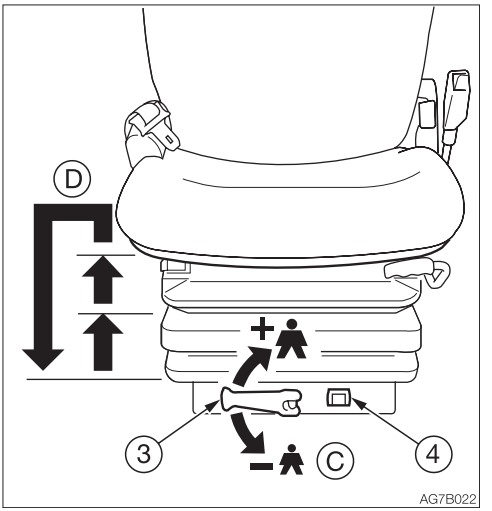


(A) Adjusting the backrest angle

1. Sit up and sit back in the chair.
2. Pull up the lever (1), recline the backrest by using the spring force. Release the lever (1) at the desired angle to secure the backrest.

(B) Fore-and-aft adjustment

1. Pull up the lever (2) and slide the seat backward or forward to the desired position for operation of machine.
2. Release the lever (2) at the desired position to secure the seat.
   Adjustment range: 15 positions, in 150 mm (5.9 in.)



(C) Adjusting according to operator's weight

1. Turn the handle (3) until the scale (4) indicates the weight of operator.
   Adjustment range: 50 to 130 kg (110 to 287 lbs)

(D) Adjusting the height of the seat

Upward

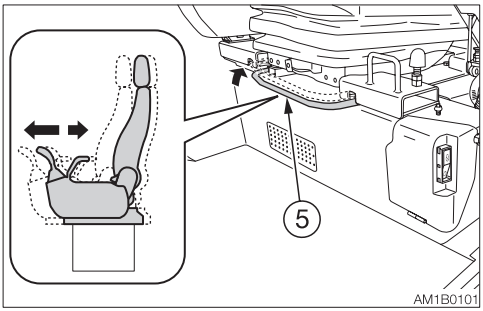
1. Lift the seat to first or second position click-stop.
   Adjustment ranges: 2positions, in 60mm (2.36 in.)

Downward

1. First lift the seat to highest position, then the seat can be lowered to lowest position.

(E) Adjusting the headrest (Option)
The headrest (E) can be moved upward or downward.
1. Grab the headrest (E) with both hands, and move upward or downward to the desired position.

(F) Adjusting the operating lever stand



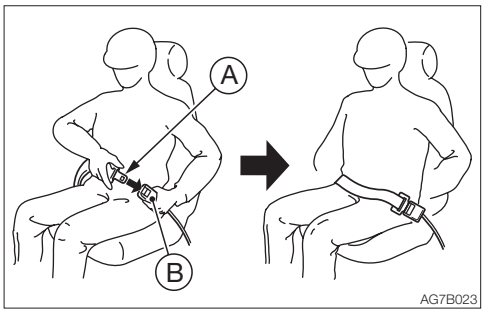
1. Pull up the lever (5) and slide the lever stand (seat).
2. Release the lever (5) at the desired angle to secure the lever stand (seat).
   Adjustment range: 9 positions, in 90 mm (3.5 in.)

SEAT BELT

⚠ WARNING

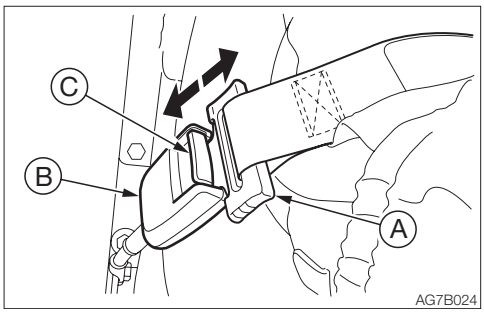
Be sure to fasten the seat belt securely before starting the engine.

Fastening the seat belt
1. Adjust the seat to the desired position for operation, sit up and sit back in the chair.
2. Pull the seat belt to the desired length.



3. Make sure that the belt is not twisted and then insert the tongue plate (A) into the buckle (B) of the seat belt until you hear a clicking sound as it locks in place.
4. Check if the belt is securely locked by pulling it, and arrange the belt around your waist.

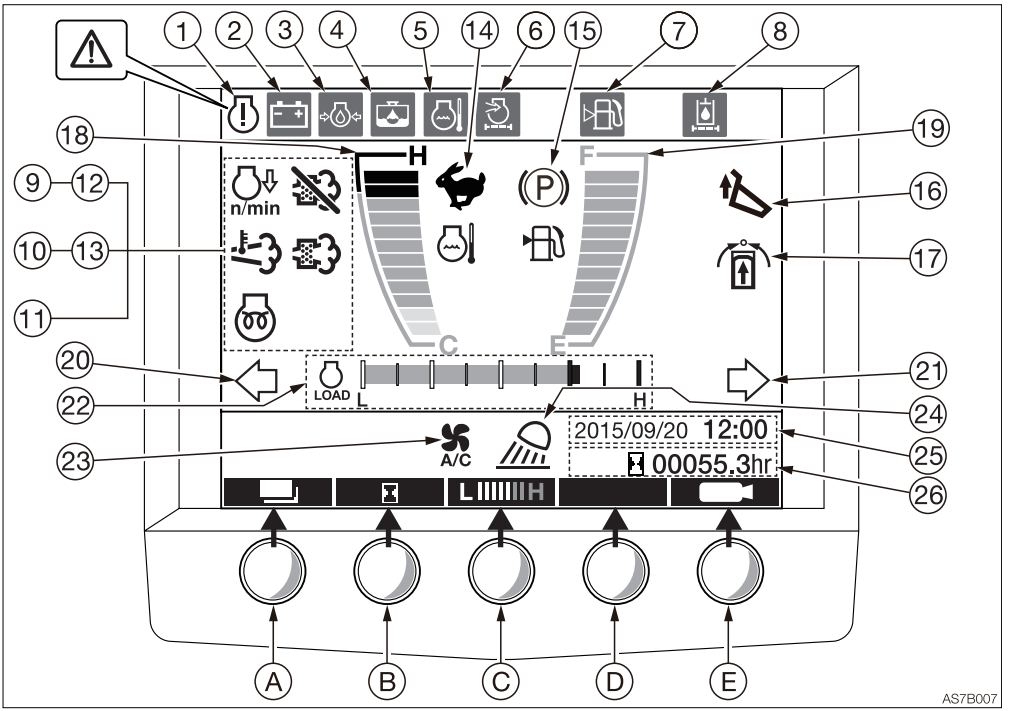
Releasing the seat belt



1. Grasp the tongue plate (A) and press the button (C) on the buckle (B).
   The seat belt retracts back into its original position.

MULTI-INFORMATION DISPLAY

MAIN MENU SCREEN



For explanation purposes, all lamps on this page are in the lit condition. This screen image is quite different from that of the real operation. In the actual operation, if a warning is given or any function is selected, the corresponding symbol appears enlarged at the center of the display for approx. one second.

When the starter switch is set to ON, the battery charge warning lamp and the engine oil pressure warning lamp first appear enlarged, and then turn on with an alarm at their original locations. The machine system is normal if the lamps turn off after the engine is started.

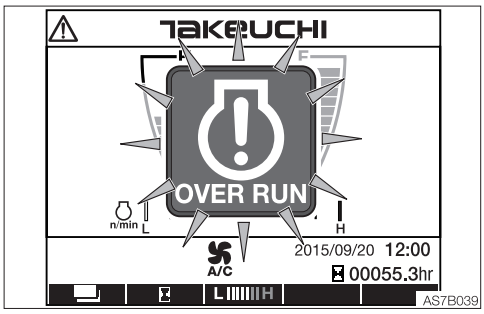
WARNING LAMPS

IMPORTANT: If a warning lamp flashes and an alarm is sounded, immediately stop all operations and check the corresponding component.
Refer to "If a warning lamp flashes" on pages 6-10 and 6-11.

1. ECU error warning lamp
This warning lamp flashes if the Electronic Control Unit (ECU) detects an engine problem while the ignition switch is in the ON position. The problem detected is recorded as an ECU error.
Refer to "Engine error code list" on pages 6-14 to 6-19.

1-1. Vehicle and engine emergency lamp
This lamp is displayed enlarged for one second, and then flashes and an alarm sounds if there is a problem with the machine. Go to the (4) Error code display from the Menu screen, get the vehicle or engine error code number, and consult your sales or service dealer referring to the "Vehicle error code list" or "Engine error code list" in this manual.
Refer to "Menu screen" on page 2-22.
Refer to "Error code display" on page 2-24.
Refer to "Vehicle error code list" on pages 6-12 and 6-13.
Refer to "Engine error code list" on pages 6-14 to 6-19.

1-2. Overrun warning indicator



If the engine revolution becomes too high to cause the engine to overrun, the vehicle and engine emergency lamp lights up and the buzzer sounds. Also, the overrun warning indicator is displayed on the LCD as shown in the figure. If the engine revolution is further increased, the buzzer sound changes from intermittent to continuous. The main cause of overrun could be that the machine is descending slopes at high speed or that the overloaded machine is descending the slopes. If the indicator appears on the LCD, stop the machine and observe the following procedures.
- Move to a more gentle slope to descend.
- Keep the low speed by minimizing the travel lever inclination angle.
- Travel with the accelerator dial set to the half throttle or less.
- The machine may be overloaded. Reduce the load and travel.

2. Battery charge warning lamp
This lamp flashes and an alarm is sounded if a problem rises in the charging system while the engine is running.

3. Engine oil pressure warning lamp
This lamp flashes and an alarm is sounded if the lubricant oil pressure abnormally low while the engine is running.

4. Water separator warning lamp
This lamp flashes if the water is detected within the water separator while the starter switch is in the ON position.

5. Coolant temperature warning lamp
This lamp flashes and an alarm is sounded if the engine coolant temperature becomes abnormally high while the engine is running.

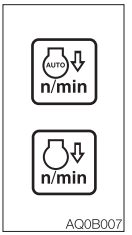
6. Air cleaner warning lamp
This lamp flashes and an alarm is sounded if the air cleaner filter is clogged while the engine is running.

7. Fuel level warning lamp
This lamp flashes when the fuel level is low while the starter switch is in the ON position.

8. Pilot line filter warning lamp
This lamp flashes if the pilot line filter is clogged while the engine is running. This lamp may flashes directly after the engine in started in cold weather. This is not a malfunction. The lamp will turn off as the engine warms up.

INDICATORS

9. Deceleration indicator lamp



..... Automatic deceleration mode

..... Deceleration mode

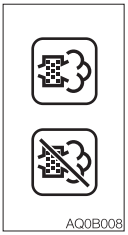
Automatic deceleration mode
When the ignition switch is turned to ON, this lamp turns on to indicate that the engine is in the automatic deceleration mode.
The engine speed automatically drops to low idle (deceleration mode) four seconds after the control levers are set to neutral, to reduce fuel consumption. Moving the control levers will cause the speed to return to the original engine speed.

Deceleration mode
This lamp turns on when the deceleration button is pressed. The lamp lights up to indicate that the engine is in the deceleration mode at low idling speed (1200 rpm).
Refer to “Deceleration button” on page 2-28.

10. Exhaust temperature warning indicator lamp
This indicator lights up to warn if the exhaust temperature is abnormally increased. Check for any flammable items around the exhaust piping.

11. Glow indicator lamp
This indicator lamp turns off when the engine preheating is completed.

12. DPF auto regeneration/inhibit indicator lamp



..... DPF auto regeneration under way

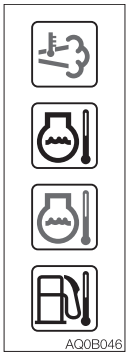
..... DPF auto regeneration inhibit

DPF auto regeneration under way
The DPF regeneration is automatically performed by the engine, when certain criteria are met. The operator only has to check the display.

DPF auto regeneration inhibit
The DPF manual regeneration inhibit symbol appears on the display when the DPF manual regeneration under way or the DPF auto regeneration under way is cancelled.
Refer to “DPF manual regeneration/inhibit select switch” on page 2-30.

13. DPF manual regeneration under way/ regeneration promoting/DPF manual regeneration error indicator lamp
The indicator starts flashing and an alarm starts sounding, if the accumulated PM exceeds the limited amount on the DPF. Immediately perform the manual DPF regeneration.
Refer to “DPF manual regeneration/ inhibit select switch” on page 2-30.

Note: When the DPF manual regeneration is started, there may be a case that the symbol corresponding to the error source is repeatedly displayed, resulting in DPF manual regeneration error. This problem will disappear after a while. If it continues for more than 15 minutes, contact your sales or service dealer for repair.



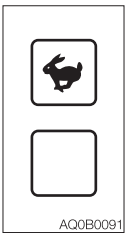
..... Exhaust temperature is too low.

..... Orange: Water temperature is too high.

..... Blue: Water temperature is too low.

..... Fuel temperature is too high.

14. Travel speed indicator lamp



..... High-speed travel

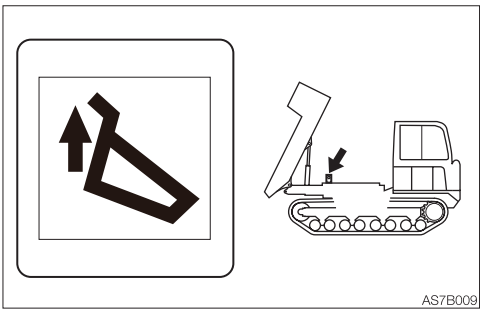
..... Low-speed travel

This lamp turns on when the travel speed button is set to the 2nd (high) speed.

15. Parking brake indicator lamp

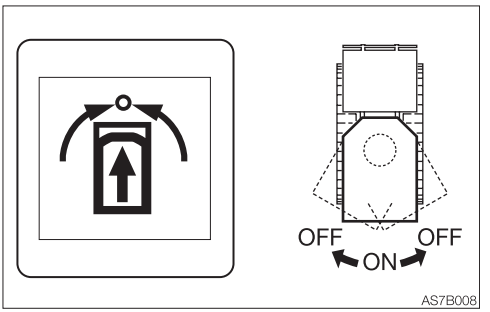
This lamp turns on when the parking brake switch is pressed.

16. Dump body raising indicator lamp



This lamp lights up when the dump body is raised and moves out of the sensor's range. It goes out when the dump body is lowered all the way down.

17. Dump body alignment indicator lamp



This lamp lights up when the orientation of the dump body is parallel to the main frame. The lamp goes out when the dump body swings to the left or right.

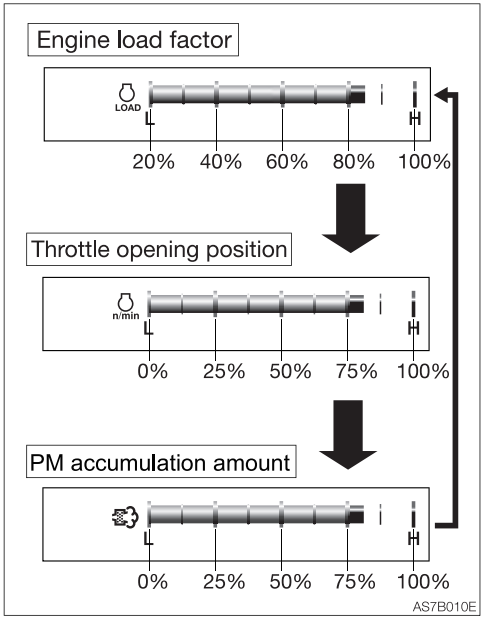
18. Water temperature gauge
Indicates the temperature of the engine coolant water. The indicator level must be within the green range during machine operation. The red range indicates overheating.

19. Fuel gauge
Indicates the amount of fuel in the tank. Be sure to fill up the tank before running out of fuel.

20. Turn signal indicator lamp (L)
This lamp lights to indicate that the left turn signal indicator is flashing.

21. Turn signal indicator lamp (R)
This lamp lights to indicate that the right turn signal indicator is flashing.

22. Engine load factor indicator

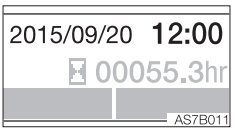


This gauge displays the load condition of the work. When the gauge is in the green range, the work load is light to medium. When the gauge is in the red range (75% or more), the work load is high. When the button (C) (Bar meter key) is pressed in a normal screen, the display changes in the following order: the engine load factor, throttle opening position and PM accumulation amount indicator.
Note: The machine is not faulty if the gauge is in the red range. Operating the machine with the gauge being in the green range is energy-saving and will help conserve the global environment.
- The throttle opening position is displayed if there is a change in the throttle opening position.

23. Air conditioner indicator lamp
Lights up while the air conditioner is operating.

24. Working lights indicator lamp
Lights up when the working light is turned on.

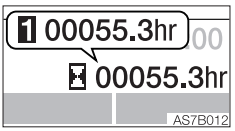
25. Date and time indicator



Displays the date and time set.
Refer to “Date and time setting” on page 2-23.

26. Hour meter/Trip meter

- **Hour meter**

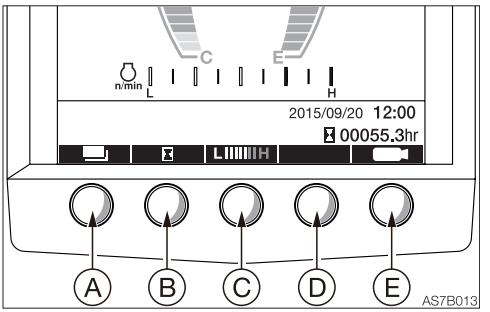


Displays the total engine running time in hours.
The rightmost digit indicates tenths of hours (6 minutes).
Set the inspection and maintenance intervals according to the time displayed on the hour meter.

- **Trip meter**

Three patterns of desired operating hours can be displayed.
Refer to “Trip meter setting” on page 2-23.

SCREEN CONTROL KEY



Note: Do not press the symbol keys on the display. The LCD could be damaged if the symbol keys are pressed hard. For actual operation, press the push button keys located at the bottom of the screen.

A. Menu key

Use this key to switch between the Home screen and the Menu screen. This key is also used to cancel changes made in each setting. The screen returns to the Home screen if this key is pressed in the information screen.

B. Hour meter key

This hour meter symbol is displayed in the initial screen. Pressing this key changes the meter display in the following order: the trip meter 1, trip meter 2, trip meter 3 and hour meter.

Down (↓) key
Use this key to move the cursor ▶ downward and to decrease the value in each setting. Press and hold this key for one second to rapidly decrease the value.

C. Bar meter key

This bar meter symbol is displayed in the initial screen. Pressing the key changes the meter display in the following order: the engine load factor, throttle opening position and PM accumulation amount.

Up (↑) key

Use this key to move the cursor ▶ upward and to increase the value in each setting. Press and hold this key for one second to rapidly increase the value.

D. Enter key

Use this key to confirm or execute the setting made by each key.

To clear the trip meter being displayed, press and hold this key for three seconds.

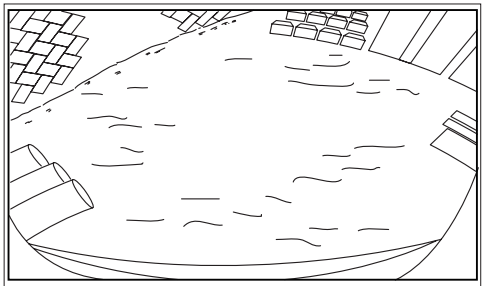
E. Camera image key (option)

⚠ WARNING

Do not look at the images produced by the camera when traveling in reverse. Move in reverse while visually looking at the direction of travel.

Since the camera is installed at the back of the dump body, the screen can be used to check the position or condition of dumping, as well as to display the rear view image.

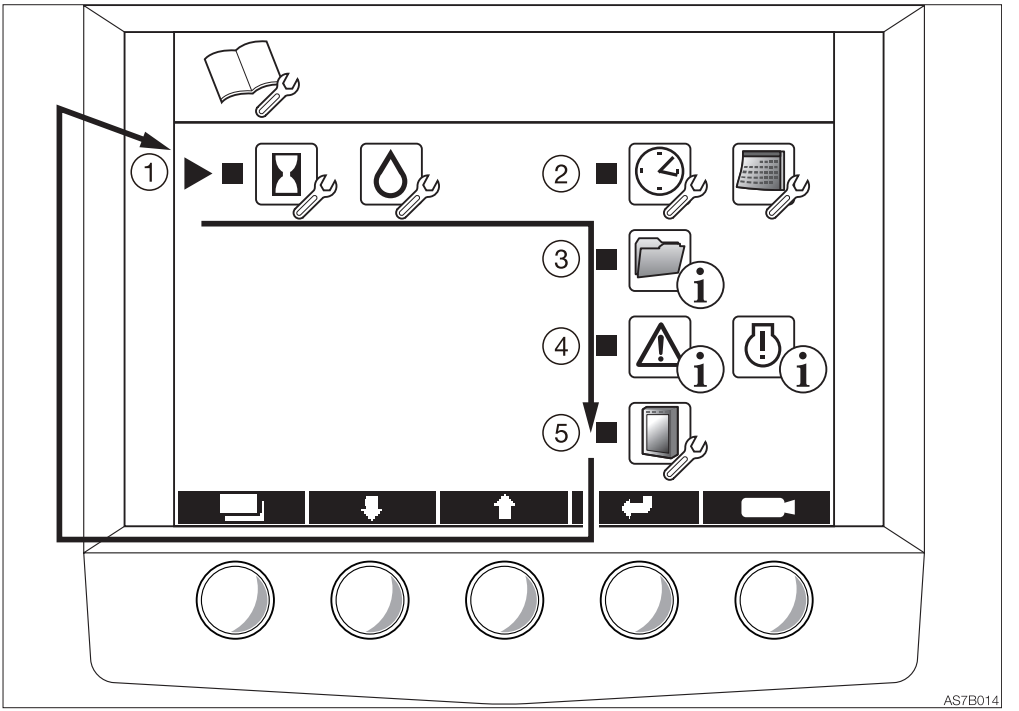
Note: When the screen is used as a rear view monitor while traveling, make sure that the dump body is parallel to the main frame and the dump body alignment indicator lamp is on. It is dangerous to use the monitor when the dump body is swinged.



1. Press the Camera key in the Main screen to display the images taken by the rear camera.
2. Press the Camera key again or other key to return to the Main screen.

SCREEN NAVIGATION

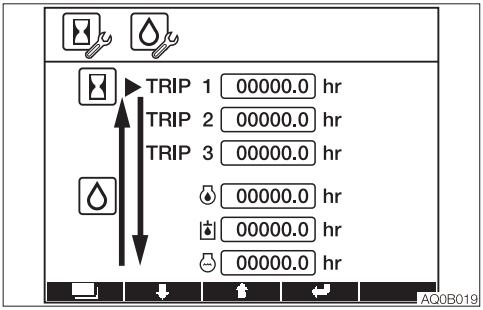
• Menu screen



Press the Menu key to go the Menu screen while in the Home screen.

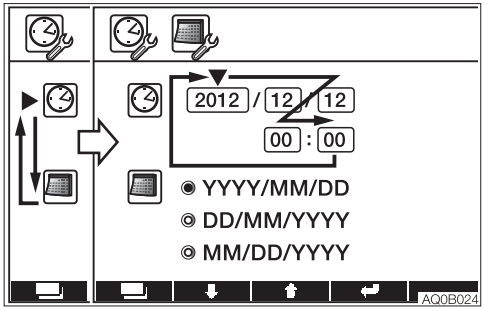
(1) Trip meter setting
(2) Date and time setting
(3) Data display
(4) Error code display
(5) LCD setting
Move the cursor ▶ with the Up (↑) or Down (↓) key to go to the desired item to be set, and then press the Enter key to confirm. To return to the Menu screen, press the Menu key.
The wrench symbol indicates the “setting is possible state” and the (i) mark indicates information only.

(1) TRIP METER SETTING



Six patterns of desired operating hours can be set.
To start setting, press the Enter key. The value flashes while being set.
Up (↑) key: Increases the value or moves the cursor ▶ upward. Rapidly increases the value when pressed and held for one second.
Down (↓) key: Decreases the value or moves the cursor ▶ downward. Rapidly decreases the value when pressed and held for one second.
Enter key: Confirms setting
Menu key: Cancels setting or returns to the Menu screen.
Pressing and holding the Enter key for three seconds clears the trip meter pointed by the cursor.

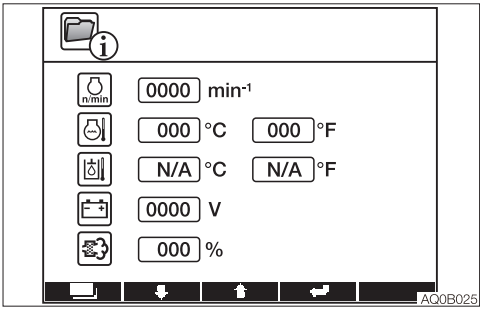
(2) DATE AND TIME SETTING



The year, month, date, hour and minute can be set. (Effective year range: 2010 to 2099)

- Move the cursor ▶ to the clock symbol, and then press the Enter key. The cursor ▼ will be shifted to the place for setting the year.
  Press the Enter key again, and then enter the year. (The year display keeps flashing during editing.)
  Press the Enter key to confirm. The month, date, hour and minute can be set using the same procedure for the year.
- Move the cursor ▶ to the calendar symbol, and then press the Enter key to change the format of “Year-Month-Date” to “Date-Month-Year” or “Month-Date-Year”.
  Refer to the trip meter setting for the key operation.

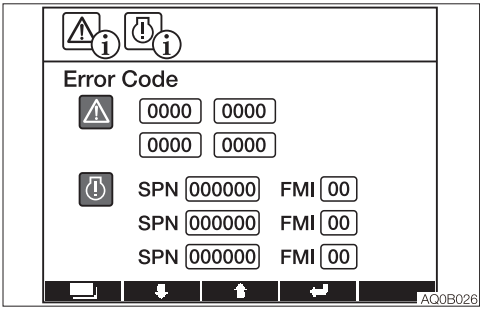
(3) DATA DISPLAY



Displays various data. The setting cannot be changed.

Display items
- Engine RPM
- Coolant temperature
- Hydraulic oil temperature
- Battery voltage
- PM accumulation amount

(4) ERROR CODE DISPLAY



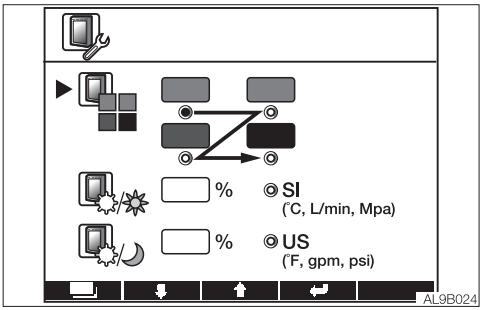
⚠.....Vehicle error code
Displays four error codes, with the latest code in the upper left.
Refer to “Vehicle error code list” on pages 6-12 to 6-13.

.....ECU error code
Engine Control Unit (ECU) error code
Displays three error codes, with the latest code at the top.
Refer to “Engine error code list” on pages 6-14 to 6-19.

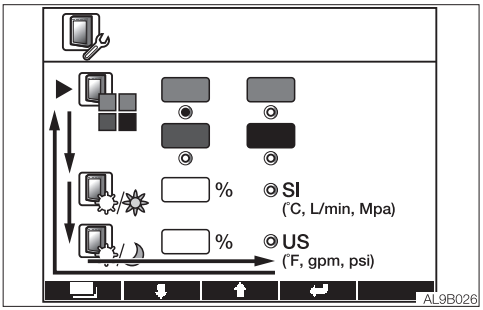
IMPORTANT: If an error code appears, immediately stop the operation and contact a Takeuchi sales or service outlet for help.

(5) LCD SETTING

- **Background color setting**



Move the cursor ▶ to the background color symbol, and then press the Enter key. The blue flashing light moves from blue gray to gray, blue and black, in this order. Move the blue flashing light to the desired color position, and then press the Enter key to confirm.
The background color can be changed in this screen, regardless of mode (day or night).

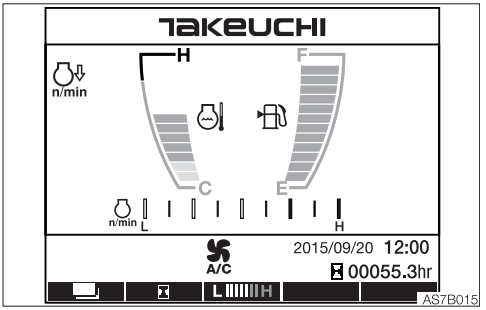


- **The brightness of the LCD is set to between 0 and 100%.**
The brightness changes each time the adjustment is made.
Day mode: initial setting value is 50%
Night mode: initial setting value is 50%
While in the day (night) mode, adjustment is possible only for the brightness set to the night (day) mode.
Refer to the trip meter setting for the key operation.

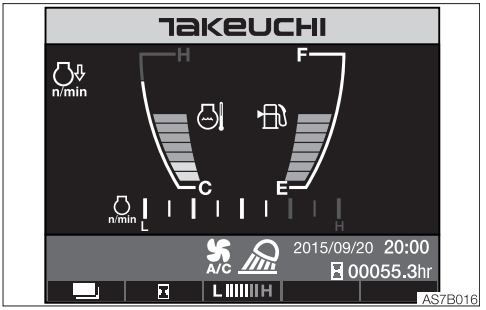
- **Unit setting**
Switch between SI unit and US units.
Move the blue flashing light to the desired unit position, and then press the Enter key to confirm.

Menu key: returns to the Menu screen. Pressing the Menu key again returns to the Home screen.

SWITCHING IMAGES



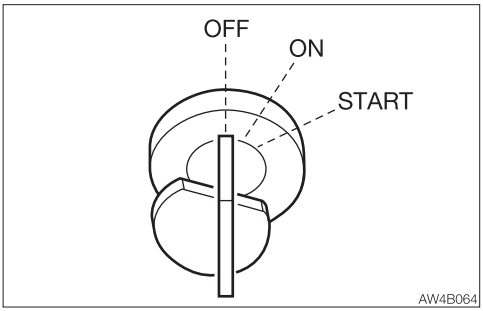
- **Changing the background color (day/ night)**



Turn on the light switch on any screen to decrease the display brightness and to enter the “evening mode”.

SWITCHES

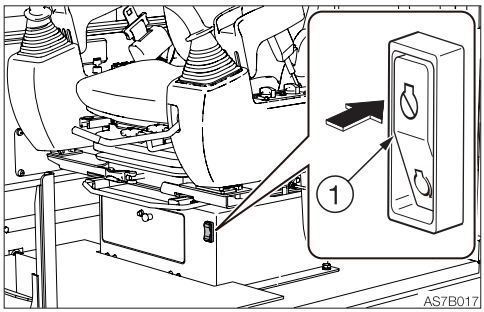
IGNITION SWITCH



IMPORTANT: Do not repeatedly switch the key from OFF to ON and ON to OFF over a short period. Doing so will cause engine breakdown.

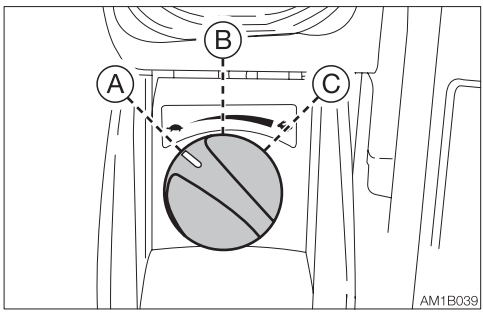
OFF ..... Position for stopping the engine and inserting or removing the key.
ON ..... Position in which the engine is running. At this position, all the electrical equipment is functional. When the coolant temperature is too low, the engine is automatically preheated.
START ..... Position for starting the engine. When the key is released, the switch automatically returns to the ON position.

ENGINE SHUTDOWN SWITCH



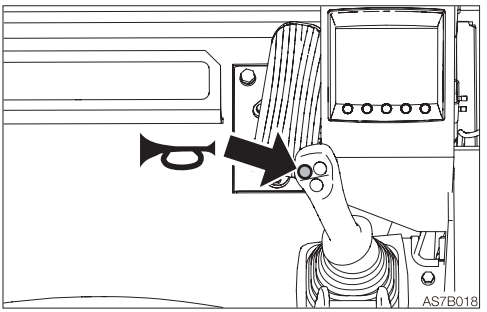
This switch is used to shutdown the engine if it fails to stop, due to machine failure or breakage, when the ignition switch is set to the OFF position.
1. Press the switch (1).
2. After use, reset the switch (1).

THROTTLE CONTROLLER



This dial controls the engine speed.
(A).....Low idling
(B) .....Medium speed
(C) .....Maximum speed

HORN BUTTON

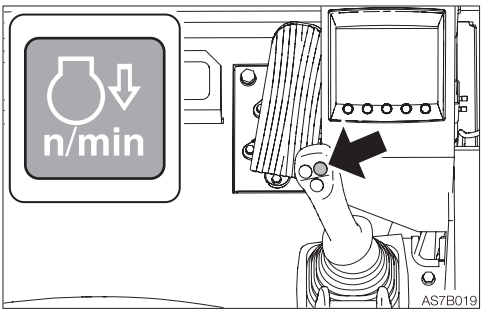


Press the button situated on the right operating lever to blow the horn.

DECELERATION BUTTON

⚠ WARNING

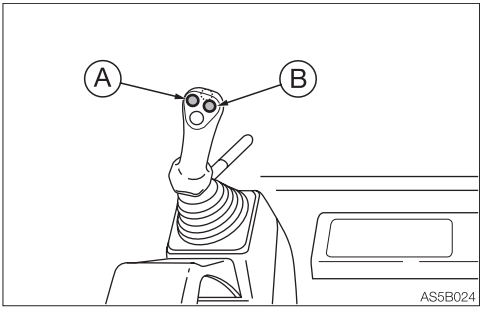
Before operating the deceleration button, set the operating lever to the neutral position and take your foot off the pedals. If the deceleration button is pressed while driving, the machine's operating speed will abruptly change to result in a dangerous situation.



Press this button on the right operating lever to lower the engine speed to low idling. Press the button again to return to the engine speed set with the throttle controller. For safety reasons, it is designed that the deceleration function is activated to set the engine revolutions to low idling whenever the engine is started.
Cancel the deceleration mode by pressing the deceleration button as necessary.

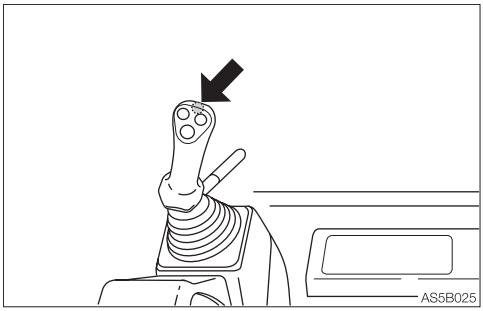
Note: This deceleration button is capable of decreasing the engine speed and reducing the fuel consumption, with a simple operation, in a situation such as when little engine output is required and thus the operating or the travel levers are in neutral.

TURN SIGNAL BUTTONS



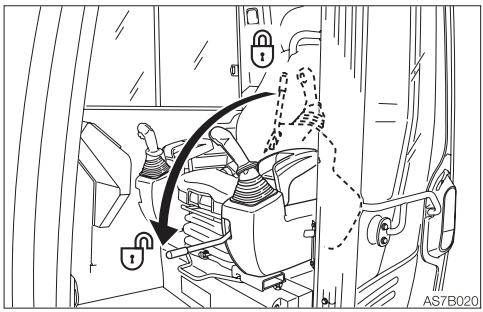
The turn signal starts flashing and an alarm is sounded once any of the buttons is pressed.
(A).....Left turn lights
(B) .....Right turn lights

TRAVEL SPEED BUTTON



Press this button to set the travel speed to 2nd (high) speed. Press it again to return to 1st (low) speed.

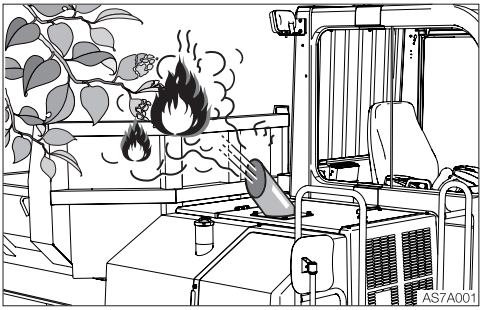
AUTOMATIC DECELERATION SWITCH



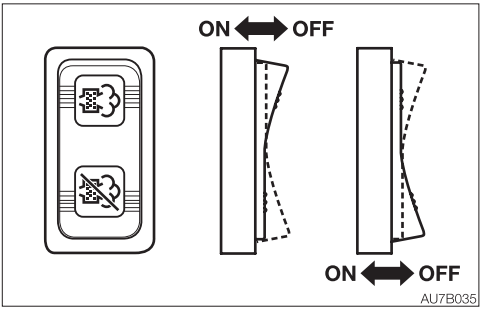
When the safety lock lever is lowered to the unlock position, the deceleration lamp in the instrument cluster flashes. This flashing stops when the deceleration function starts working, and the lamp remains lit while in the deceleration mode. The engine speed automatically drops to low idle (deceleration mode) four seconds after the control levers are set to neutral, to reduce fuel consumption. Moving the control levers will cause the speed to return to the original engine speed.

DPF MANUAL REGENERATION/INHIBIT SELECT SWITCH

⚠ WARNING

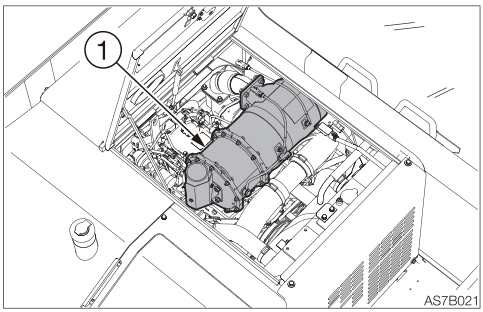


- The DPF and the exhaust gas emitted from the exhaust line can be very hot while the engine is running or the regeneration is under way, as well as immediately after the engine is stopped. Be careful not to accidentally touch them; doing so could cause burns.
- Do not perform the DPF regeneration if the machine is surrounded by flammable items such as plants, trees, dry grass, wastepaper, oil and waste tires. There is a risk of fire due to the high-temperature exhaust gas emitted from the DPF.
- Do not perform the DPF regeneration in poorly-ventilated indoor spaces, as smoke may be generated during the regeneration.
- Do not perform regeneration when the engine hood is open. There is a risk of fire due to the high-temperature exhaust gas emitted from the DPF.



IMPORTANT: Press the manual regeneration side on the DPF manual regeneration/inhibit select switch to burn the particulate matter (PM), when the DPF manual regeneration lamp flashes and an alarm sounds. If the machine continues to be operated without performing the manual regeneration, the engine power will decrease and eventually the engine will stop running. The ECM warning display will also flash if the DPF needs to be repaired. A number appears on the engine error code screen. Refer to the "Engine error code list" and contact a Takeuchi sales or service dealer for repair.

- **DPF manual regeneration**
  When the DPF manual regeneration symbol on the display starts flashing and an alarm starts sounding, perform the DPF manual regeneration by following the procedure below.
  1. Park the machine in a safe place where there is no fire hazard.
  2. Raise the safety lock lever to the lock position.
     · Do not lower the safety lock lever and move the control levers during regeneration. Doing so interrupts the regeneration.
  3. Decrease the engine speed to low idling.
  4. Press and hold the manual regeneration side on the DPF manual regeneration/ inhibit select switch.



5. The manual regeneration symbol stops flashing and remains lit to indicate that the engine RPM is automatically increased and the DPF (1) regeneration (PM burning) has started.
6. Release the switch. Do not leave the machine during regeneration.
   It takes approximately 25 to 30 minutes, depending on the ambient temperature, to complete the regeneration operation.
7. The manual regeneration symbol goes off to indicate the end of manual regeneration.

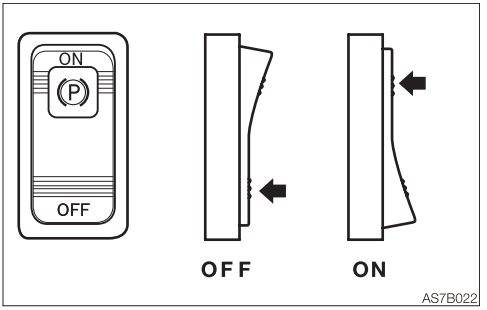
Note:
- Since the exhaust gas is cleaned through the catalyst fitted inside the DPF, it has a smell different from that of the conventional diesel engine.
- In some cases smoke may be emitted from the tail pipe while the DPF regeneration is being performed. This is not a failure; it is due to burning of the particulate matter (PM).
- It is normal that a sound is produced when the DPF regeneration is started or completed; This is to adjust the air-intake throttle and EGR opening position.
- In some cases the noise associated with the DPF regeneration operation or cancel operation may change; this is not a failure.
- The DPF manual regeneration can be completed faster while the machine engine is warm rather than cold. Note that the manual regeneration does not start unless the coolant temperature is higher than a set value. The coolant temperature may increase while manual regeneration is being performed.
- Since the DPF regeneration is designed to work only when the accumulated particulate matter (PM) in the filter exceeds a certain amount, it will not start otherwise, even if you attempt to perform manual regeneration.

- **DPF regeneration inhibit (cancel)**
  To cancel the DPF regeneration currently being processed (manual or auto), press the regeneration inhibit symbol side.
  The DPF regeneration inhibit symbol appears on the display, and the regeneration operation must be performed again. Start the manual regeneration procedure from Step (1) above, as soon as possible. Do not press the DPF regeneration inhibit switch unless there is a risk of fire.
  To cancel, press the switch again. Turning the ignition switch to OFF will also cancel the operation.
  Refer to “DPF auto regeneration/inhibit indicator lamp” and “DPF manual regeneration under way/regeneration promoting/DPF manual regeneration error indicator lamp” on page 2-17.

PARKING BRAKE SWITCH

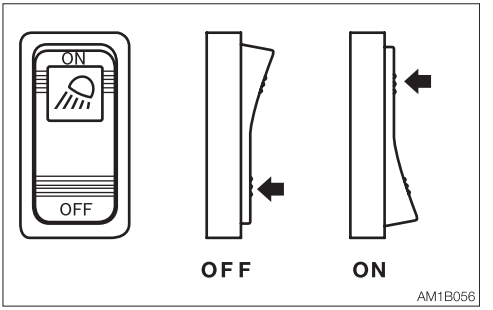
⚠ WARNING

It is dangerous to press this button while traveling, as it causes the machine to stop abruptly. It may also damage the travel motors. Do not press this button while traveling except in emergency.



Pressing this button will light up the indicator and activate the parking brake.
ON .....Forced activation of the parking brake
OFF ....Automatic activation of the parking brake.
Even when this button is OFF, the parking brake is automatically activated when the machine stops traveling.

WORKING LIGHT SWITCH

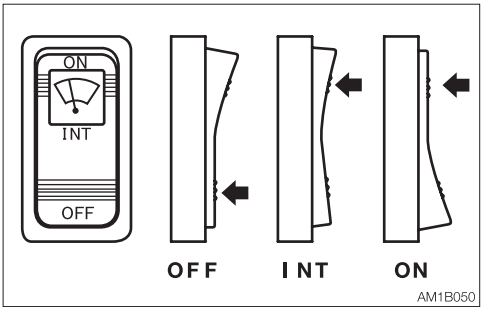


When this switch is turned while the ignition switch is at ON, the lights turn on as follows:

OFF ....Off
ON .....Switch lamps, front light and rear light will be lit.

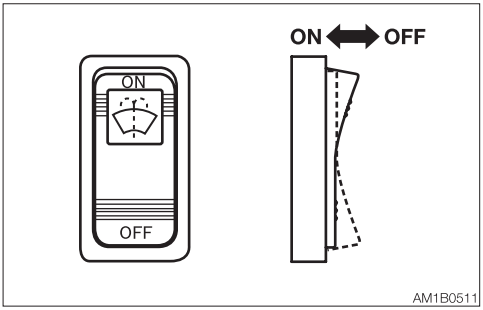
WIPER SWITCH

IMPORTANT: If no washer fluid is discharged, do not operate the washer. Doing so may damage the pump.
IMPORTANT: Operating the wiper with no moisture on the windshield will scratch the glass. Use water or washer fluid when operating the wiper.
IMPORTANT: In cold climates, the wiper blade may freeze to the glass. Operating the wiper forcibly may damage the wiper motor.



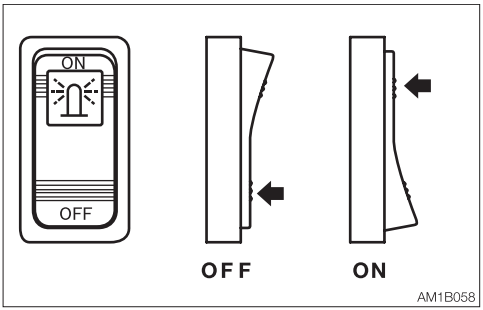
OFF ....Off
INT .....Intermittence operation
ON .....Continuous operation

WASHER SWITCH



ON .....Pressing the ON side of the switch causes the washer to spray washer fluid. To stop spraying, release the switch.

BEACON LAMP SWITCH (IF EQUIPPED)



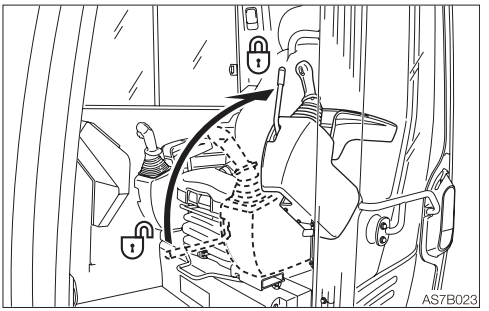
When this switch is turned on while the starter switch is at ON, the lamp turns on as follows:
OFF ....Off
ON .....Beacon lamp is lit

LEVERS AND PEDALS

SAFETY LOCK LEVER

⚠ WARNING

- **Before standing up from the operator's seat to open/close the window, remove/install the lower window or adjust the operator's seat, lower the dump body all the way, raise the safety lock lever to engage the lock and stop the engine. If any control is accidentally touched when the safety lock lever is lowered (unlocked), the machine will suddenly move and cause serious injury or death.**
- **Be careful not to touch the operating levers when raising or lowering the safety lock lever.**
- **Before leaving the operator's seat, fully lower the dump body, raise the safety lock lever to engage the lock and stop the engine. Also, be sure to remove the key, lock the cab, fuel filler cap and covers, take the key with you and store it in a specified place.**

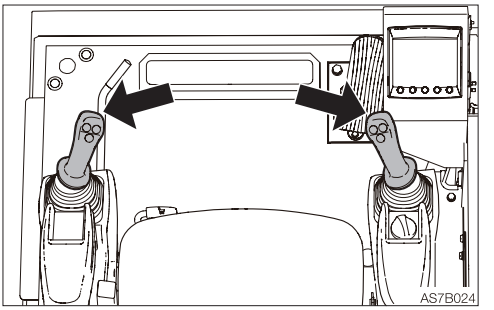


This device is for locking the dump body and travel operation.
When the lever is raised, the lever stand springs up to lock the lever.

CONTROL LEVERS

⚠ WARNING

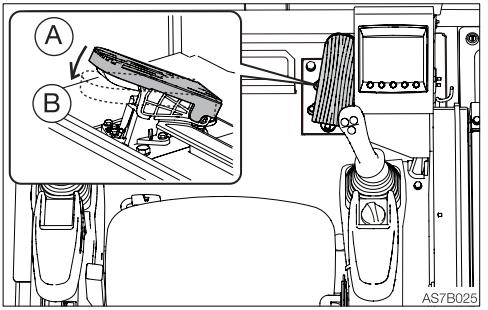
Before starting operation, carefully check which lever pattern you are going to use.



Right control lever
Use this lever to operate the dump body.
Refer to "Lever pattern" on page 3-6.
Refer to "Operating the dump body" on page 3-13.

Left control lever
Use this lever to move forward and in reverse and to change directions.
Refer to "Lever pattern" on page 3-6.
Refer to "Traveling the machine" on page 3-10.

THROTTLE PEDAL (OPTIONAL)



Releasing the pedal will return to the engine speed set with the throttle controller.
(A).....Low idling
(B) .....Maximum speed

ACCESSORIES

AIR CONDITIONER (IF EQUIPPED)

CAUTIONS ON USE

Ventilate periodically

- When using the air conditioner over an extended period of time, open the windows about once each hour to let in fresh air.
- Your eyes may become irritated if you smoke while using the air conditioner. If this happens, open the windows to let in fresh air. Smoking particularly irritates the eyes when the air conditioner is being used. Since the humidity in the cab drops, the cornea becomes dry.
- If the outside air is dirty, set the air conditioner to the circulation mode.

Always maintain good visibility

Working with the dirty windows or fogged windows restricts visibility and is dangerous. Always clean dirt and moisture off the windows before working.

- The windows tend to get foggy when the humidity is high. If this happens, turn on the air conditioner to use outside air and the defroster to get rid of the fog.
- If the air conditioner is set to high when using the defroster, the difference between the external and internal temperatures increases, resulting in frost on the outside of the windows. If this happens, either turn the air conditioner off or turn the temperature control dial clockwise to increase the internal temperature.
- Mist may blow out of the air outlets. This is not a malfunction. When moist air passes through the evaporator on the air conditioner unit, water particles in the air freeze and are emitted as mist.

Do not overcool

For health reasons, the air inside the cab should be kept at a temperature at which you feel a little cool when entering the cab from outside (a difference of 5 to 6°C (41 to 43°F)). Remember to adjust the temperature properly.

Do not turn on the air conditioner until the engine is started

To avoid placing an excessive load on the compressor, wait until the engine is started and is running smoothly before turning on the air conditioner.

Let hot air out first

If the machine has been parked in the sun, open the windows and door to let the hot air out of the cab before using the air conditioner.

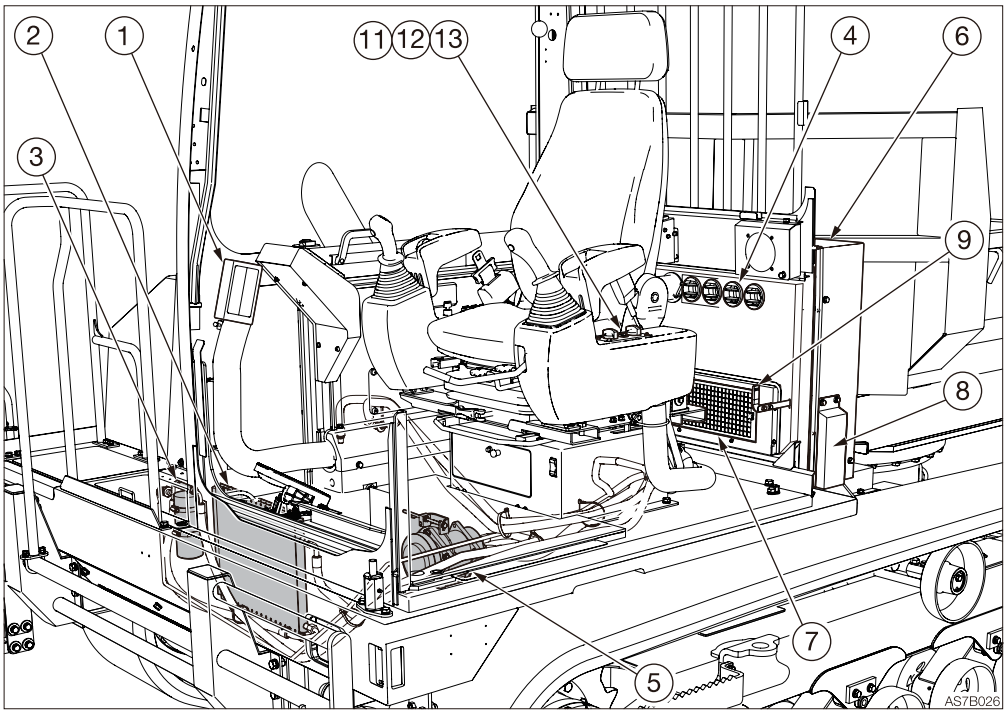
Caution on refrigerant (gas)

If the refrigerant comes in contact with skin or eyes, it may cause frostbite or eye damage. Never touch the refrigerant or loosen the parts on the cooling circuit.
If the refrigerant gas leaks, keep flames away.

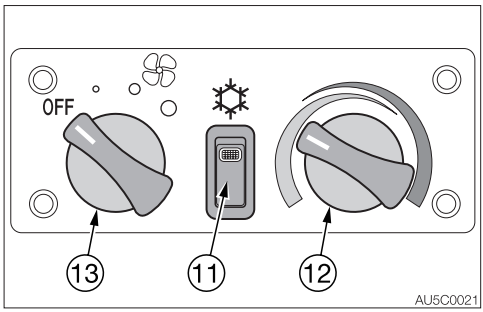
Off-season inspection

Even off season, run the air conditioner for 3 to 5 minutes at least once a week to maintain oil in the various parts of the compressor.

NAMES OF COMPONENTS



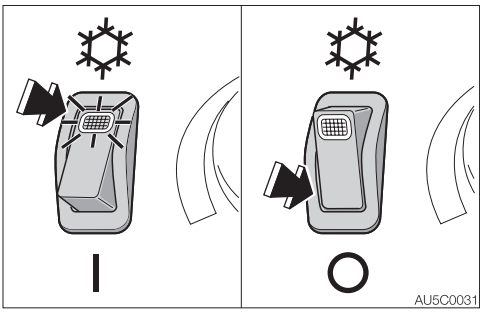
1. Defroster
2. Condenser
3. Receiver dryer
4. Outlets
5. Compressor
6. Air conditioner unit
7. Circulation filter
8. Ventilation filter
9. Ventilation/Circulation select lever
10. —



Control panel
11. Air conditioner switch
12. Temperature control dial
13. Fan dial

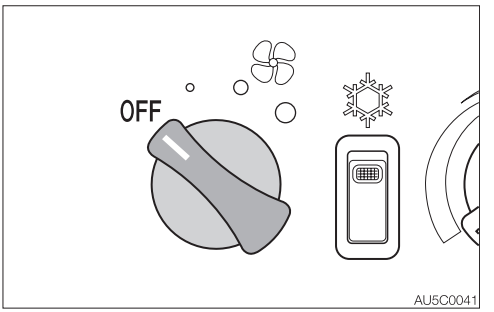
Air conditioner switch

IMPORTANT: To avoid placing an excessive load on the compressor, wait until the engine is started and is running smoothly before turning on the air conditioner.



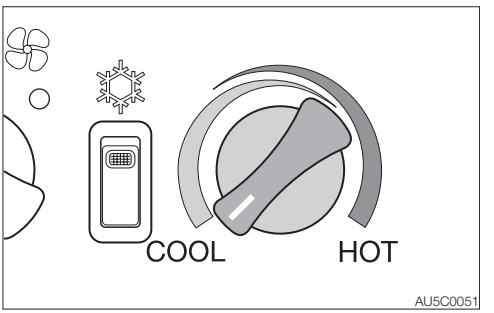
Use this switch to turn on or off the cooling/dehumidifying function. When this switch is pressed while the engine is running with the fan dial set to ON, the lamp lights up and the cooling/dehumidifying function is turned on. Press this switch again or turn the fan dial to OFF to turn off the cooling/dehumidifying function.
Lamp is off ..... OFF
Lamp is on ..... ON
Note: To prevent leakage of refrigerant gas from the compressor's seal, operate the air conditioner at least once a week, regardless of the season.
Note: The air conditioner will not function if the temperature in the cab is low (3°C (38°F) or lower).

Fan dial



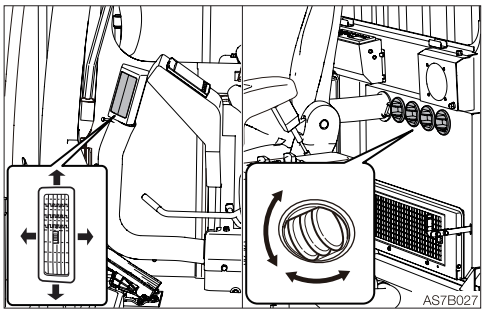
Use this dial to select the fan speed from the three levels. Turning this dial to the OFF position turns off the air conditioner.
OFF ....Turning off the fan and the air conditioner.
∘ .....Low
○ .....Medium
◯ .....High

Temperature control dial



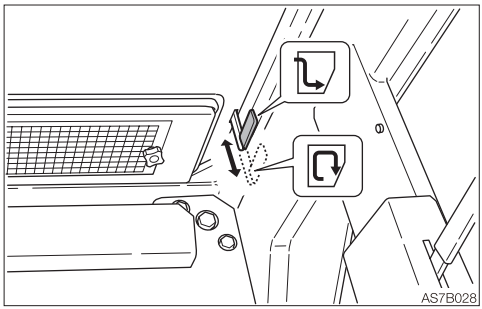
Use this dial to adjust the air temperature.
COOL..... Decreases the temperature
HOT ..... Increases the temperature
Note: No warm air is emitted if the temperature of the engine coolant is low.

Outlets



Move the louvers up or down or left or right to adjust the air flow direction and volume.

Ventilation/Circulation select lever



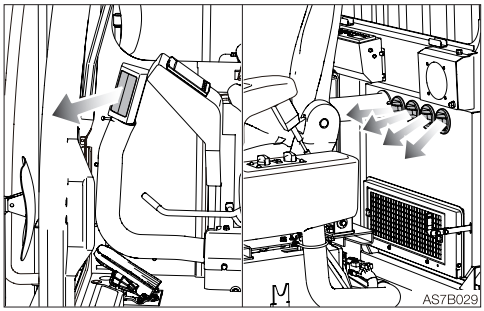
Use this lever to select between Ventilation and Circulation.

⟲ ..... Circulation
- Cool or heat the cab quickly
- When external air is dirty

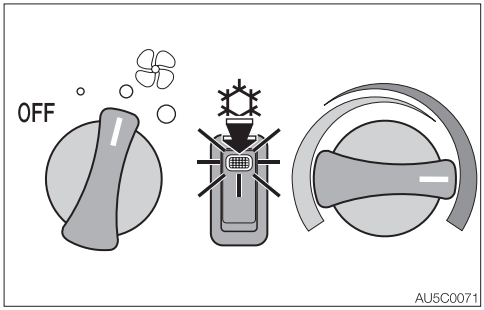
⟲ ..... Ventilation
- Lets in fresh air
- Removes frosting from the windows
- Ventilates while cooling or heating

Operation

Dehumidifying and Heating (in cold climates or when the humidity is high)



Arrange the foot outlets and the defroster so that they are directed to the front window. Let the dehumidified warm air blow on the front window, to prevent frosting.



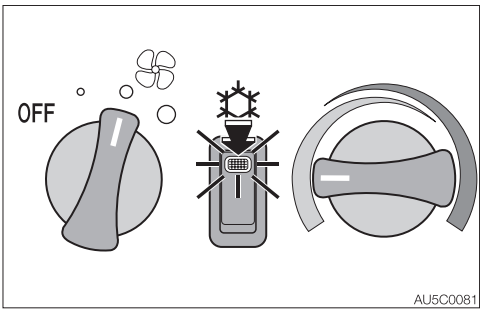
1. Set the desired temperature by turning the temperature control dial to between the center and the right end (HOT).
2. Set the fan dial to the desired position.

Cooling

⚠ CAUTION

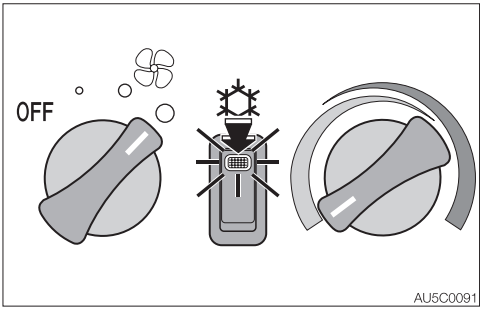
- **When the air conditioner is set to the circulation mode, the air in the cab gradually becomes dirty. Switch to the "ventilation" to ventilate once a comfortable temperature is obtained.**
- **Excessive cooling can be harmful to your health. It is best to keep the air inside the cab only about 5 to 6°C (41 to 43°F) cooler than the outside air.**

Note: If the machine has been parked in the sun, open the windows and door to let the hot air out of the cab before using the air conditioner.



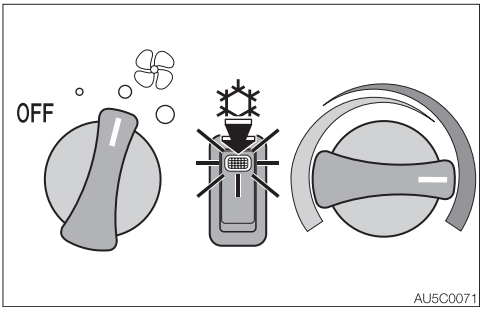
1. Set the fan outlet to the desired position.
2. Set the desired temperature by turning the temperature control dial to between the center and the left end (COOL).
3. Set the fan dial to the desired position.

Quick cooling



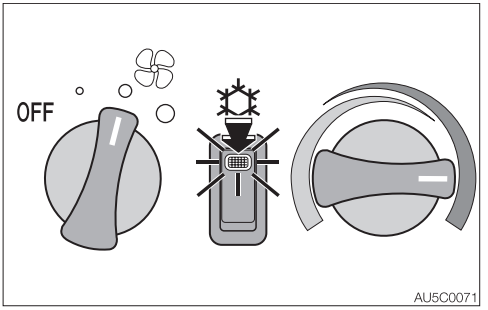
1. Set the fan outlet to the desired position.
2. Set the desired temperature by turning the temperature control dial to between the center and the left end (COOL).
3. Turn the fan dial to "High".
4. Move the Ventilation/Circulation select lever to the right to select "Circulation".

Heating



1. Arrange the outlet louvers so that air can be directed to the feet.
2. Set the fan dial to the desired position.
3. Set the desired temperature by turning the temperature control dial to between the center and the right end (HOT).
   For the highest temperature, turn the dial all the way to the right.
4. Turn the fan dial to the OFF position to turn off heating.

Defrosting or defogging the windows
Note: If the air conditioner fan is set to High when using the defroster, the difference between the external and internal temperatures increases, resulting in frost on the outside of the windows. If this happens, either turn off the air conditioner or turn the temperature control dial clockwise to increase the internal temperature.

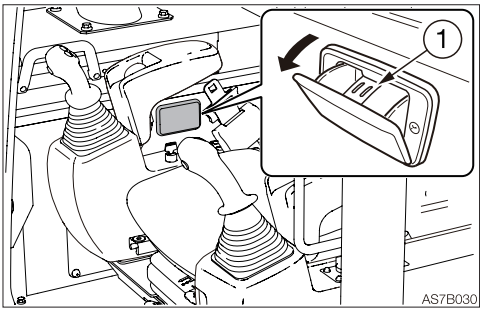


1. Set the desired temperature by turning the temperature control dial to between the center and the right end (HOT).
2. Set the fan dial to the desired position.
3. Move the Ventilation/Circulation select lever to the left to select “Ventilation”.
4. Arrange the foot and defroster outlets so that they are directed to the front window.

ASHTRAY

⚠ WARNING

- **Be sure to extinguish cigarettes and matches completely before putting them in the ashtray, and close the ashtray after each use.**
- **Do not overfill the ashtray with cigarette butts or put in paper or other easily burnable objects. Doing so could cause fire.**

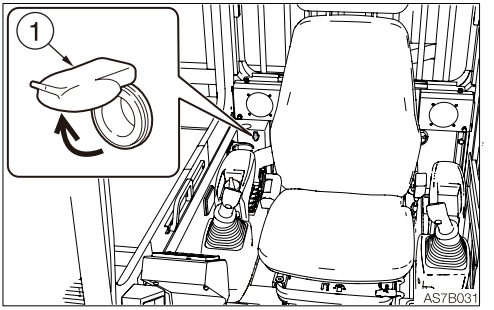


Pull the ashtray out towards you to use it. To clean, press the ash discharge button (1) and pull out the ashtray.

POWER SUPPLY SOCKET

⚠ WARNING

Use only those electric products which comply with the specifications of this socket.

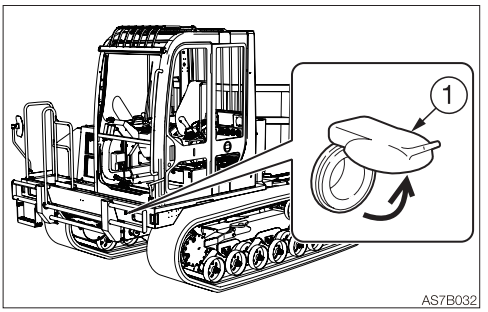


This socket is used to supply power to the devices inside the machine. When using, be careful not to exceed 12 V/ 5A.
To use, open the cap (1).

EXTERNAL POWER SOCKET

⚠ WARNING

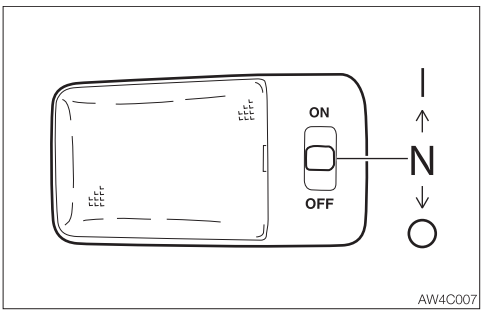
Use only those electric products which comply with the specifications of this socket.



This socket is used to supply power to the devices outside the machine. When using, be careful not to exceed 12 V/ 5A.
After use, pull out the plug and close the cap (1).

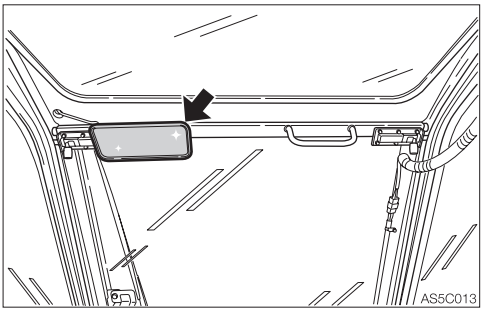
INTERIOR LIGHT

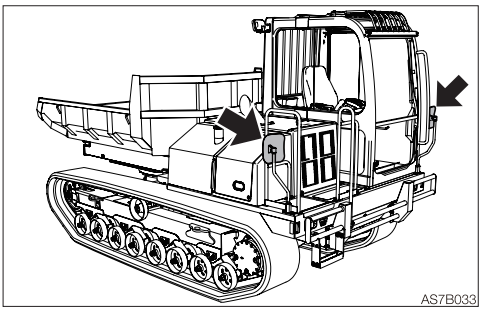
IMPORTANT: The battery capacity decreases if the interior light is left on for a long time when the engine is stopped.



O.....Remains off all the time.
I.....Lights up all the time.

MIRRORS





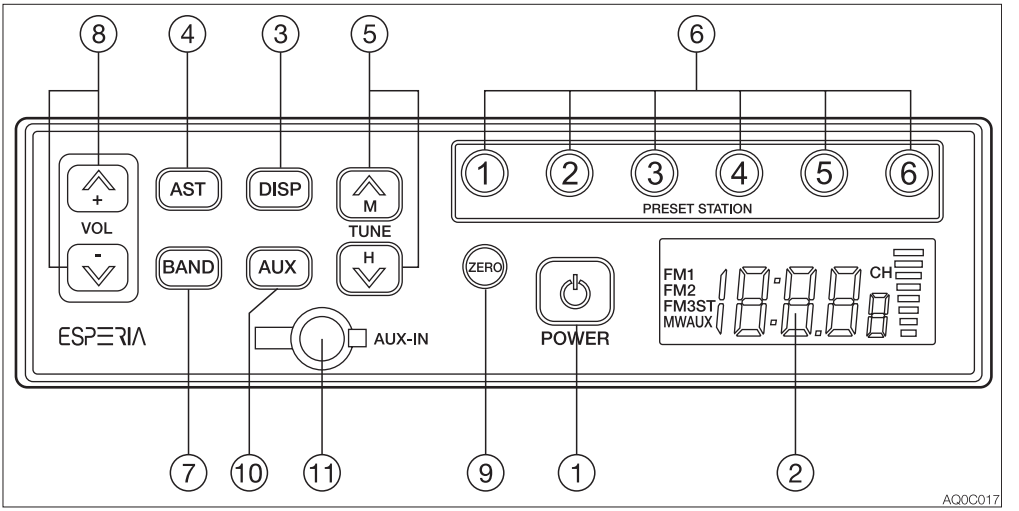
Adjust the rear view mirrors to have a better rear view before operation.

RADIO (FOR CAB)

CAUTIONS ON USE

- **To ensure safe operation of the machine, always be sure to keep the volume of the radio down to a level where you can easily hear sounds from outside the machine.**
- **Do not use the radio for a long time when the engine is stopped. Doing so will drain the battery and make it difficult or impossible to restart the engine.**
- **Be careful not to allow water or other liquids to come into contact with the radio. Otherwise, it may result in malfunction.**

NAMES OF COMPONENTS



(1) POWER button
Use this button to turn on or off the radio.

(2) LCD
Displays the time/the receiving frequency and the operation mode.

(3) Display button (DISP)
Pressing this button while the frequency is displayed on the LCD changes the display to the clock. Pressing the button again returns to the frequency. If the button is not pressed for five seconds, the display returns to the frequency.

(4) Auto store/Auto seek station (AST)
Press this button to automatically assign receivable radio stations to preset buttons (1 to 6).

(5) Tuning button (TUNE ▲ ▼)
Press and hold this button (▲ or ▼) for one second or more to start seeking the receivable stations. The seeking stops when a station is found. To cancel tuning halfway, press the button again.
Pressing the TUNE button ▲ starts seeking stations with higher frequency.
Pressing the TUNE button ▼ starts seeking stations with lower frequency.
The frequency changes as either button is pressed in one second intervals.

(6) Preset buttons (1 to 6) (PRESET STATION)
Each button can store three FM stations (FM1, FM2, FM3) and one MW (AM) station. For how to set these buttons, refer to “Presetting stations”.

(7) Band button (BAND)
Pressing this button changes the band from FM1 to FM2, FM3 and MW (AM) in this order. The received band and its frequency appear on the display.

(8) VOL buttons
Use these buttons to control the sound volume. Press the button ⏶ to increase the volume and the button ⏷ to decrease the sound volume. Press and hold each button to continuously increase/decrease the volume.

(9) Clock zero set button (ZERO)
Use this button to set the minute to “00” when it is between “55” to “59” or “01” to “05”.
The LCD returns to the frequency display if no more operation is performed for five seconds.

(10) Auxiliary input select button (AUX)
Pressing this button changes the input source to the external device connected to the AUX-IN (11) jack. The display of “AUX” appears on the LCD. Pressing the button again returns to the radio.

(11) Auxiliary input jack (AUX-IN)
Use this jack to connect an external audio source such as a portable music player. Pull off the rubber cap and connect the output terminal (headphone jack) of the portable player to the AUX-IN with the stereo mini-plug (3.5 mm) cord. Be sure that jack is closed with the rubber cap when not in use.

Playing the radio
1. Turn the ignition key to the ACC or ON position, and then press the power button (1) to turn on the radio.
2. Select the band, FM or MW (AM) by pressing the BAND button.
3. Select the station with the preset button or the tuning button, and adjust the volume with the volume button.
4. To turn off the radio, press the power button.

Selecting a station-auto select
Press and hold the TUNE button ⏶ for one second or more to start seeking stations in the higher frequencies direction. Press and hold the TUNE button ⏷ for one second or more to start seeking stations in the lower frequencies direction. The radio will stop seeking when it finds an receivable station and start playing.

Selecting a station-manual select
The selection can be done manually. Press the tune ⏶ button to seek stations with higher frequencies. Press the tune ⏷ button to seek stations with lower frequencies.

Presetting stations

1. Press the BAND button to select a band (MW (AM) or FM), and then select the station by pressing the TUNE button for seeking.
2. To assign the selected station to a preset button, press and hold the button to be assigned for one second or more. The number of the preset button appears on the LCD.
3. For more stations to preset, repeat the steps 1 and 2 above.
   - If the preset button on which a station has been assigned is pressed and held for one second or more, the preset information will be modified.
   - If the stored information is erased during battery replacement on the vehicle, assign the stations again to the preset buttons.
   - Each preset button (1 to 6) can store three FM stations (one from each FM1, FM2, FM3) and one AM station.

Auto storing (AST)

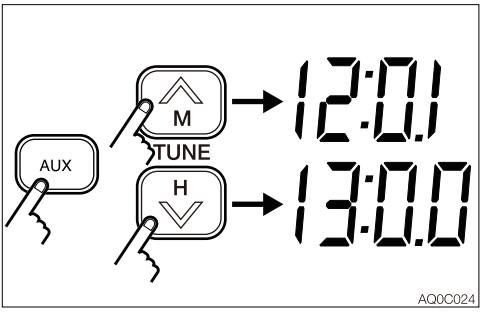
Press the AST button while playing the radio. The radio automatically starts seeking the receivable stations within the band currently selected and assign each preset button (1 to 6) a station.

Note: The previous stations stored will be cleared (cancelled) by the auto storing. If the station stored in the preset button is not desirable, try to preset the station manually.

Auxiliary input (AUX)

- Connect a portable audio player and listen to your favorite music.
- Plug a patch cord (without resistor) into the headphone jack of the audio player.
- Plug a stereo mini plug (3.5 mm) into the AUX-IN jack on the radio.
- To listen to an external portable audio player, press the AUX button. (The “AUX” display appears on the LCD and the frequency display is changed to the clock display.)
- To return to the radio, press the AUX button again.
- When connecting, adjust the sound volume level of the audio player so that it is same as that of the radio.
- Adjust the sound volume of the audio player by using the volume control buttons on the radio.
- Do not connect a device with a larger output compared with a portable audio player.

Setting the clock



- If a frequency is displayed on the LCD, press the AUX button (auxiliary input) to display the clock.
- Use the tune button to set the minute. Use the tune button to set the hour.
- To set the minute digits to “00” when they are from “55” to “59” or from “01” to “05”, press the ZERO button.

Resetting
(North, Central and South America)
If there are any problems, such as the abnormal display of frequency or failure of selection, reset the radio by pressing the “3” button* while pressing the AST button and the AUX button together. Then, “US”** and the clock display appear on the LCD, indicating that the radio is turned off. Note that the memory stored in the preset button is cleared.

*: “6” button – (Europe, Asia, Oceania)
“5” button – (China)
**: EU – (Europe, Asia, Oceania)
CH - (China)

Switching the volume mode when the radio is on
Switch the modes between SU and FI by pressing the (1) button while pressing the AST and AUX buttons together, when the radio is on.
The SU or FI display appears on the LCD, followed by the radio turning off by itself.
SU mode: .....The volume at power-off is retained.
FI mode: .....The volume at power-off is reset.

SPECIFICATIONS
Power source: .... 12/24 VDC (negative ground)
Maximum power consumption:
..... 3A or less (at max. volume, 24 V)
Maximum output power:
..... 16 W + 16 W (4Ω) (at 28.8 VDC input)
5W+5W (4Ω) (at 14.4 VDC input)
Rated output power:
..... 12 W + 12 W (10% distortion, 4Ω) (at 28.8 VDC input)
3.5 W + 3.5 W (10% distortion, 4Ω) (at 14.4 VDC input)
Dimensions:..... 178 (W) x 50 (H) x 65 (D) mm (excluding protrusions)
Receiving frequency:
..... MW (AM) 531 to 1602 kHz (Europe, Asia), 530 to 1710 kHz (North, Central and South America)
FM 87.5 to 108 MHz (Europe, Asia), 87.9 to 108 MHz (North, Central and South America)
Practical sensitivity:
..... MW (AM) 32 dB or less (S/N 20 dB)
FM 12 dB or less (S/N 30 dB)
S/N ratio:..... MW (AM) 40 dB or more
FM 50 dB or more
AUX IN: ..... Stereo mini jack (3.5 mm); rated input, 90 mV; 20 kΩ impedance

Note: Specifications and dimensions may be changed without notice.

FUEL SUPPLY PUMP

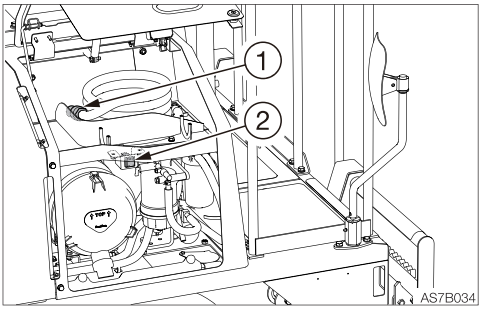
⚠ DANGER

Do not use the fuel supply pump for gasoline or hydraulic oil. Doing so could result in explosion or damage.
Only use the fuel supply pump for diesel fuel.

⚠ CAUTION

Do not fill the tank with additional fuel after the fuel supply pump stops.
Doing so could cause the fuel to spurt out.

This device automatically supplies fuel to the fuel tank and stops automatically when the fuel tank is full.



1. Open the side cover.
2. Insert the pump's nozzle (1) in the fuel supply tank.
3. Press the switch (2).
   The pump stops automatically once the fuel tank is full.
4. Turn off the switch.
5. Store the nozzle.

OPERATION

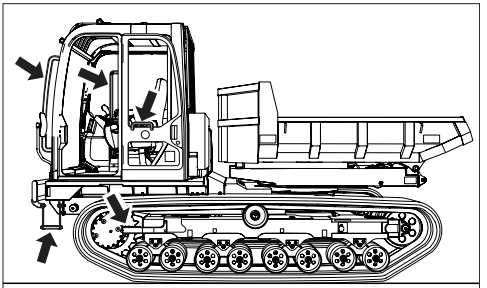


BEFORE STARTING OPERATION

GETTING ON OR OFF THE MACHINE

⚠ WARNING

- **Do not jump on or down from the machine. Never attempt to get on or off the moving machine.**
- **When getting on or off the cab, first fully open the door to the locked position and check that it does not move.**



- **Climb up/down the steps holding the handrail to support your weight in a three point secure stance (hand and feet).**
- **Never use the safety lock lever or control levers as hand holds.**

WALK-AROUND INSPECTION

Perform the walk-around inspections once a day before starting the engine for the first time that day.
Refer to “MAINTENANCE, Walk-around inspection”, on pages 5-14 and 5-15.

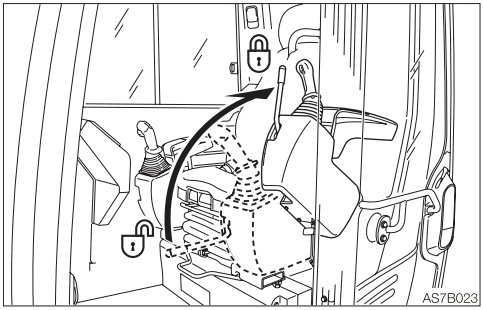
DAILY INSPECTION

Perform the daily inspections once a day before starting the engine for the first time.
Refer to “MAINTENANCE, Daily inspection”, on pages 5-16 to 5-21.

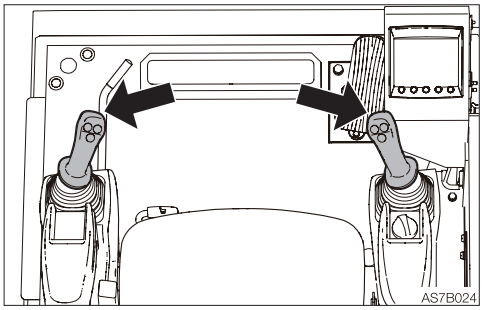
STARTING AND STOPPING THE ENGINE

BEFORE STARTING THE ENGINE

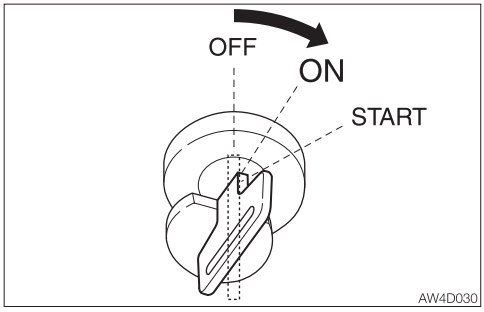
1. Adjust the seat for a comfortable operating position.
2. Fasten the seat belt.



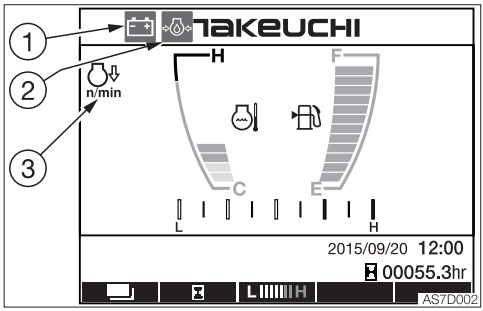
3. Check that the safety lock lever is in the locked position.



4. Check that the control levers are in the neutral position.



5. Insert the key into the ignition switch, turn it to the ON position, then perform the following inspections:



- All warning lamps flash and an alarm is sounded for two seconds. The meters also start functioning. After two seconds, the deceleration lamp (3) stops flashing and remains lit, while the battery charge warning lamp (1) and engine oil pressure warning lamp (2) remain flashing. The other lamps go out.
- Turn the light switch to check that the front light, rear light and meter light turn on.
- Operate the turn signal buttons and check if the turn signal lights flash and an alarm sounds.
- Press the horn button to check that the horn sounds
- Check the fuel level.

If a lamp does not light or the alarm is not sounded, the bulb may be burnt out or a wire may be damaged. Ask a Takeuchi service agent for repair.

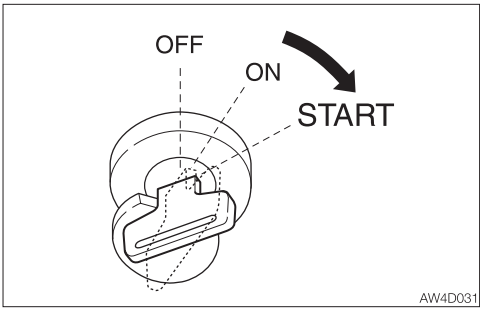
STARTING THE ENGINE

⚠ WARNING

- **Clear all personnel from the work area.**
- **Sound the horn to warn people around the machine.**

IMPORTANT: Do not run the starter motor for more than 15 consecutive seconds. If the engine fails to start, wait for 30 seconds, and then try again to start the engine.
IMPORTANT: If the engine stalls due to fuel shortage, add fuel, turn the key to the ON position for 60 seconds, and then turn it to the START position. Running the starter for a long time before there is enough fuel is going through can cause the starter to fail.

Normal starting

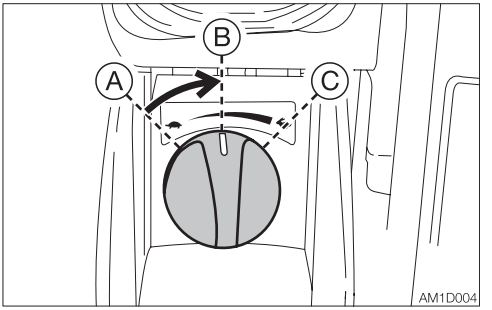


1. Turn the ignition key to the START position and start the engine.
2. Once the engine starts, release the key. The key automatically returns to the ON position.
3. Check that the warning lamps are off.
   For safety reasons, it is designed that the deceleration function is activated to set the engine revolutions to low idling whenever the engine is started.
   Cancel the deceleration mode by pressing the deceleration button as necessary.
4. Warm up the engine.
   Refer to “Warming up the engine” on page 3-5.
5. After the completion of the warming up, press the deceleration button to cancel the deceleration mode.

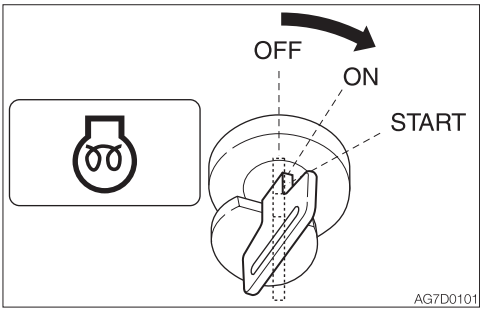
Starting in cold climates

⚠ WARNING

Never use starting fluid on this engine, as the starting fluid could cause an explosion.



1. Turn the throttle controller to the middle position.



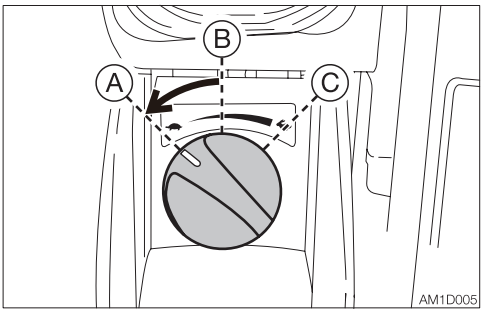
2. Turn the ignition key to the ON position, and confirm that the glow lamp is on. (The glow lamp stays lit for 15 seconds when the coolant temperature is –10°C (14°F).)
3. After the glow lamp goes out, press the deceleration button (to cancel the deceleration mode), and then turn the key to the START position to start the engine.

4. Once the engine starts, release the key. The key automatically returns to the ON position.
5. Check that the warning lamps are off.
6. Return the throttle controller to the original position and warm up the engine. Refer to “Warming up the engine”.

Note: If the engine is started at –15°C (5°F), the revolution speed is controlled to 1500 min-1 (rpm). After 10 seconds, the throttle controller operation becomes available.
Note: The glow lamp turns on if the coolant temperature is low after the engine is started.

WARMING UP THE ENGINE

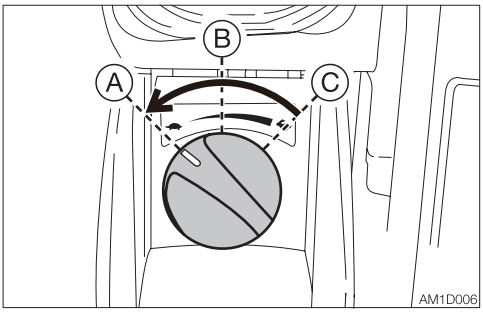
IMPORTANT: Avoid racing the engine until it has warmed up.
Do not warm up the engine for a long time (20 minutes or more). When idling is required, occasionally place a load or run the engine at medium speed.



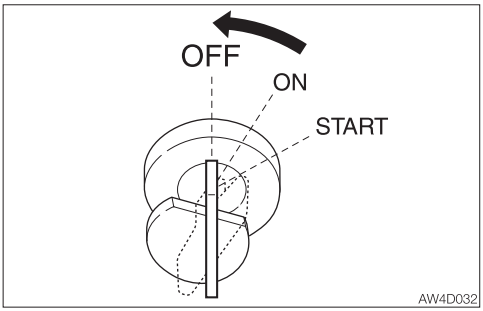
1. Return the throttle controller, and then run at a low idle with no load for 5 minutes.

STOPPING THE ENGINE

IMPORTANT: Do not stop the engine suddenly when operating with heavy loads or at the maximum speed. Doing so may cause the engine to overheat or seize. Never stop running the engine suddenly except in emergency.



1. Return the throttle controller.
2. Idle the engine for about 5 minutes to gradually let it cool.



3. Turn the ignition key to the OFF position to stop the engine.

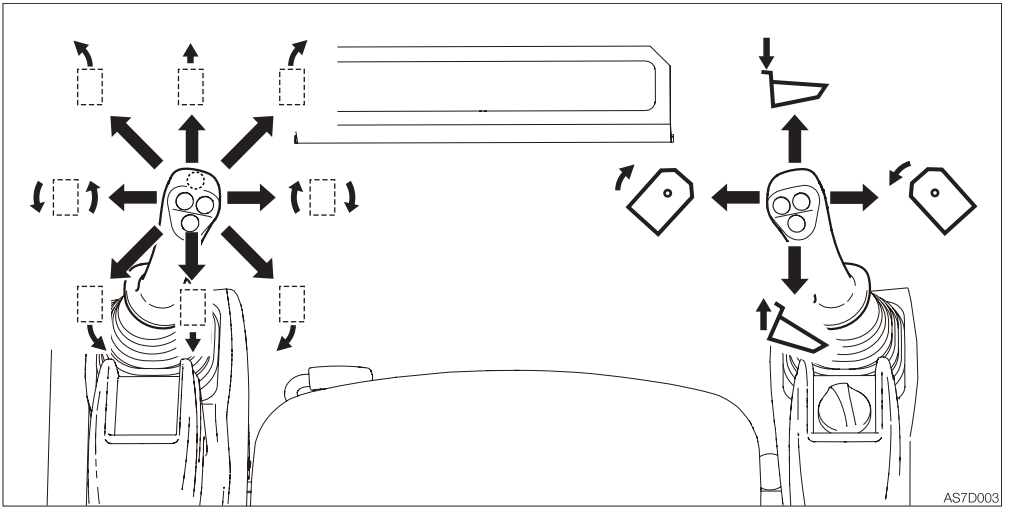
OPERATING THE MACHINE

LEVER PATTERN

⚠ WARNING

Before starting operation, be sure to check which lever pattern you are going to use.

This manual explains the operation by using the pattern described below.



	Travel Forward
	Travel Reverse
	Left Spin Turn
	Right Spin Turn
	Left Pivot Turn
	Right Pivot Turn
	Right Pivot Turn Reverse
	Left Pivot Turn Reverse

	Dump body lower
	Dump body raise
	Dump body left swing
	Dump body right swing

MEMO

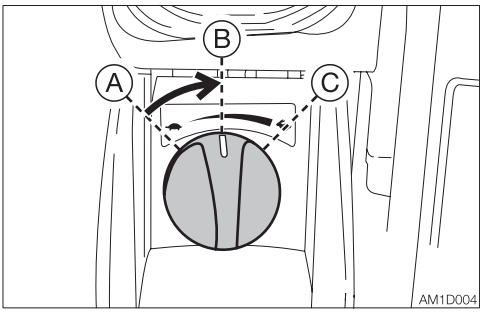
WARMING UP THE MACHINE (HYDRAULIC OIL)

⚠ WARNING

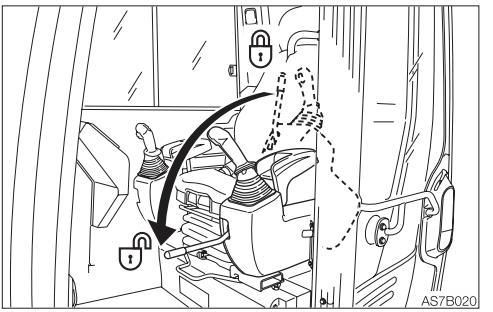
Operating the working equipment without warming up the machine (hydraulic oil) is dangerous, as the working equipment cannot response to controls quickly or may move in unexpected ways, and the safety devices may not operate properly. Be sure to sufficiently warm up the machine.

IMPORTANT: Do not operate the levers too quickly when the hydraulic oil temperature is below 20°C (68°F). The proper hydraulic oil temperature during operation is 50 to 80°C (122 to 176°F). If operations must be performed at lower temperatures, heat up the hydraulic oil to at least 20°C (68°F).

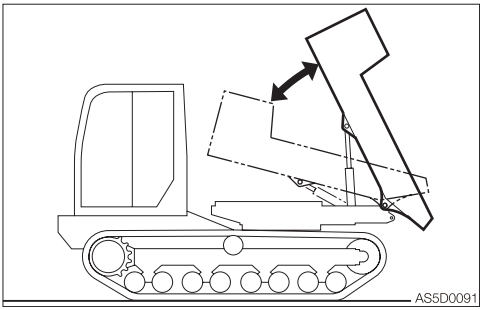
Normal warm-up



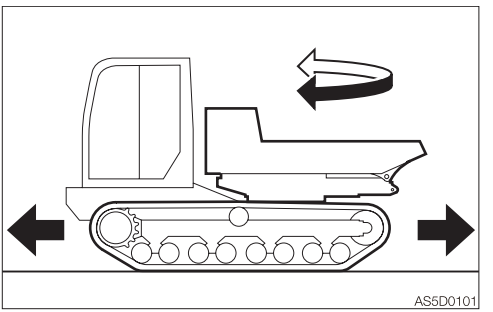
1. Turn the throttle controller to the middle position, and then run the engine at medium speed for about 5 minutes with no load.



2. Fully lower the safety lock lever to the unlock position.



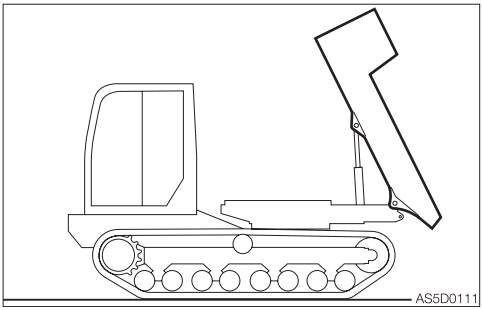
3. Extend and retract the dump cylinders slowly several times with no load.



4. Slowly swing the dump body to the left and right.
5. Travel slowly forward and in reverse several times.

Warm-up in cold climates

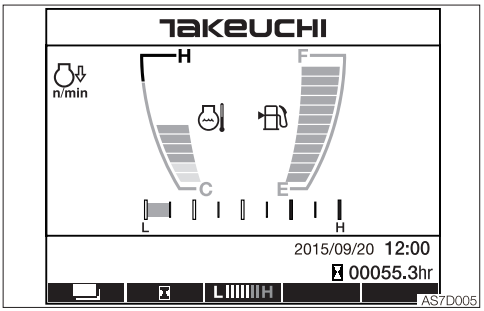
1. Perform the normal warm-up procedure.



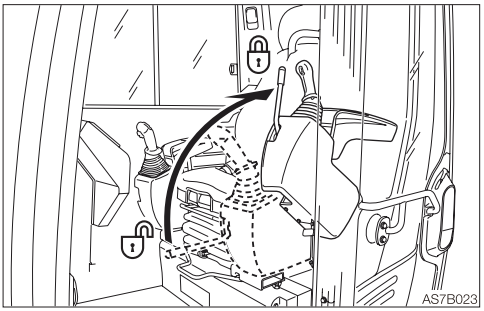
2. Set the dump cylinders at the stroke end and keep it there.
   Do not keep this condition for more than 30 seconds.
3. Repeat the step 2 until the dump body operating speed becomes normal.

INSPECTION AFTER WARM-UP

After warming up the engine and machine (hydraulic oil), perform the checks and inspections described below, and repair if necessary.



1. Check that the warning lamps and meters are as follows:
   · Are all warning lamps off?
   · Is the water temperature level within the green range?
2. Check that there are no irregularities in the exhaust color, sound and vibrations.

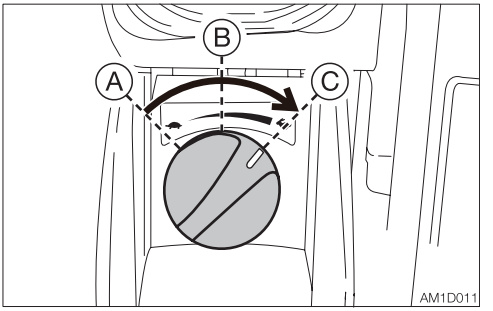


3. Raise the safety lock lever to the lock position, and then check that the control levers are locked.

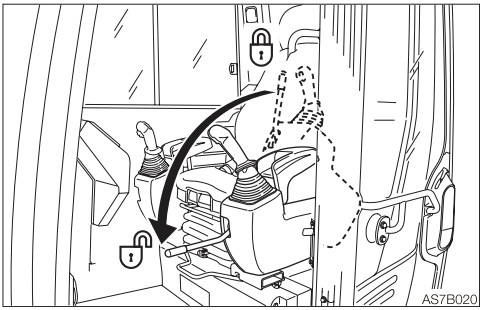
TRAVELING THE MACHINE

⚠ WARNING

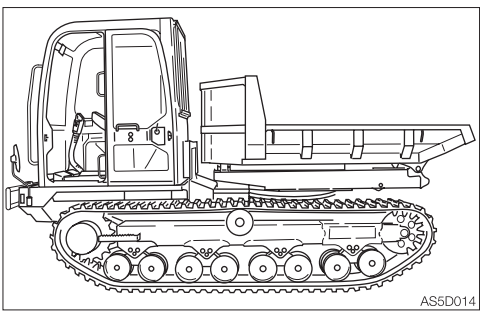
- Never allow anyone to enter the machine's swing radius and path.
- Signal your intention to move by sounding the horn.
- Do not travel while the dump body is being swung or raised. Doing so is dangerous because it causes the machine to become unstable. Fully lower the dump body and make it parallel to the main frame.
- Avoid sudden starting, stopping and turning. Otherwise, the loaded material could be shifted to cause the machine to lose its balance, or the structures in the surrounding area could be damaged by the material fallen from the dump body.
- Do not raise the safety lock lever while traveling. Doing so is dangerous; the parking brake will be activated and the machine will stop abruptly.
- Do not switch off the ignition switch while traveling. Doing so is dangerous; the machine will stop abruptly.
- Before traveling in reverse, visually check if the rear view is clear. Failure to do so could result in contact with a worker or obstacle.
- When hauling materials or when traveling over rough terrain or slippery road surface, slow down the travel speed and drive carefully.
- Avoid crossing over obstacles whenever possible. If you must do so, try to go over the obstacle at a right angle to it at a low speed. Never cross obstacles which will tilt the machine to an angle of 10° or greater.
- Clear all obstacles from the path of the machine.



1. Turn the throttle controller and increase the engine speed.



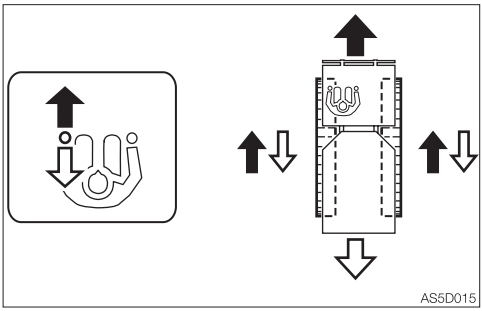
2. Fully lower the safety lock lever to the unlock position.



3. Fully lower the dump body and make it parallel to the main frame.

Moving the machine forward and backward

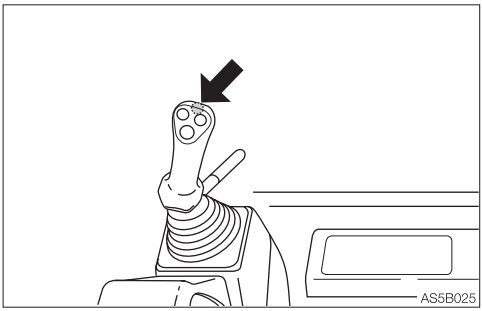
1. Operate the left control lever as below.



➡ To move forward:
Push the left control lever forward.

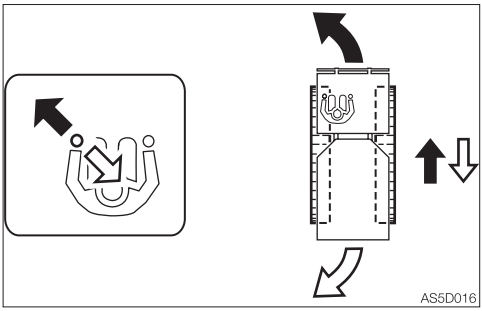
⇨ To move backward:
Pull the left control lever backward.

Traveling in 2nd (High) speed



Press the travel speed button on the left control lever to switch to 2nd (high) speed, and press it again to return to 1st (low) speed.

Left turn

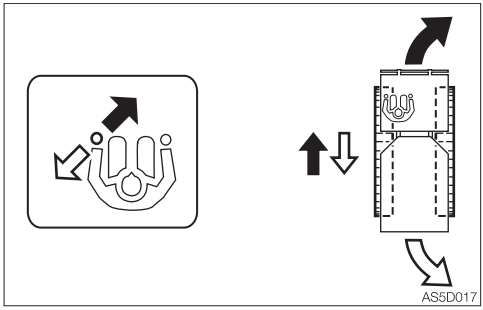


Turning to the left:

➡ To turn forward to the left:
Tilt the left control lever forward to the left

⇨ To turn backward to the left:
Tilt the left control lever backward to the right

Right turn

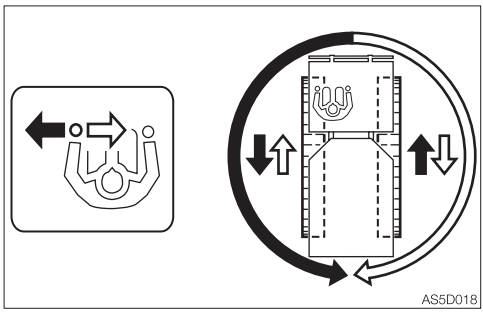


Turning to the right:

➡ To turn forward to the right:
Tilt the left control lever forward to the right

⇨ To turn backward to the right:
Tilt the left control lever backward to the left

Spin turn



➡ To spin left:
Tilt the left control lever to the left.

⇨ To spin right:
Tilt the left control lever to the right.

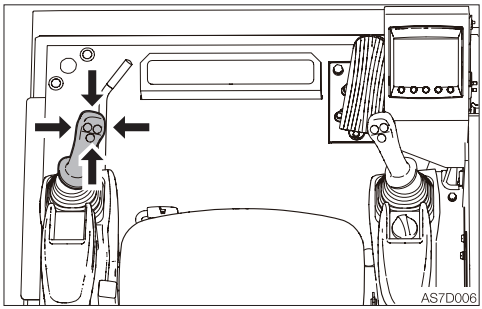
STOPPING TRAVEL

⚠ WARNING

- **Park the machine on a flat, rigid and safe ground. Set the parking brake. If you must park on a slope, chock the tracks to block the machine.**
- **Before standing up from the operator's seat, raise the safety lock lever to engage the lock. If any controls are accidentally touched when the safety lock lever is not locked, the machine will suddenly move and cause serious injury or death.**

⚠ CAUTION

Never stop running the machine suddenly except in emergency. Stop in good time, if possible.



1. Set the left control lever slowly to the neutral position. The machine stops. Braking is automatically applied by the hydrostatic drive system when the left control lever is returned to the neutral position. Full braking is achieved when the safety lock lever is raised

OPERATING THE DUMP BODY

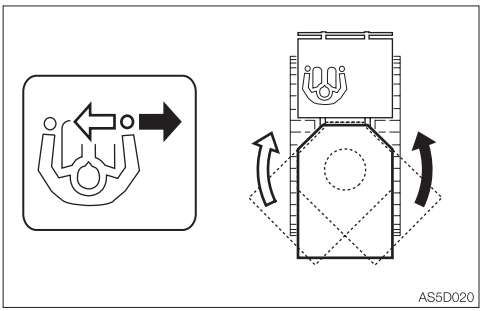
⚠ WARNING

- **Before starting operation, be sure to check which lever pattern you are going to use.**
- **Before operating the dump body, check that the surrounding area of the machine is safe and clear.**
- **Do not travel while the dump body is being swung or raised. Doing so is dangerous because it causes the machine to become unstable. Fully lower the dump body and make it parallel to the main frame.**

Use the right control lever to operate the dump body.
Return the right control lever to the neutral position to stop the dump body.

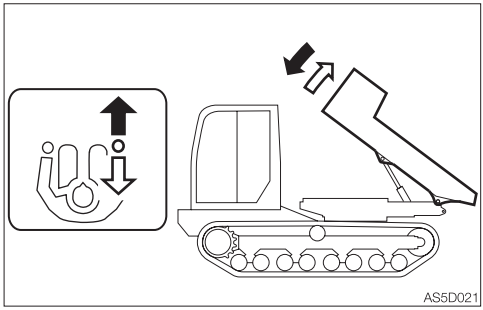
1. Lower the safety lock lever to the unlock position.

Operating the dump body swing



➡ To swing left:
Tilt the right control lever to the right
⇨ To swing right:
Tilt the right control lever to the left.

Dump body operation

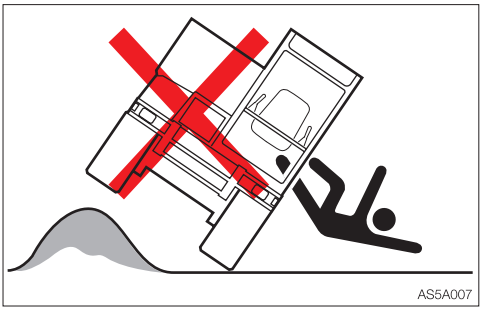


➡ To lower the dump body:
Push the right control lever forward.
⇨ To raise (dump) the dump body:
Pull the right control lever backward.

OPERATING PROCEDURES

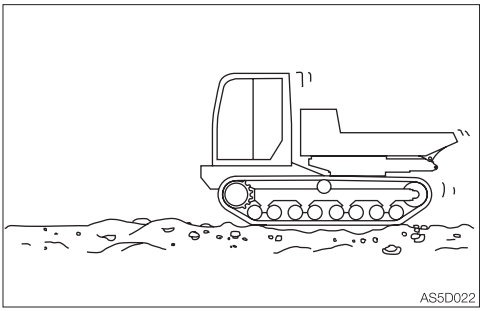
CAUTIONS ON OPERATING

Cautions on traveling



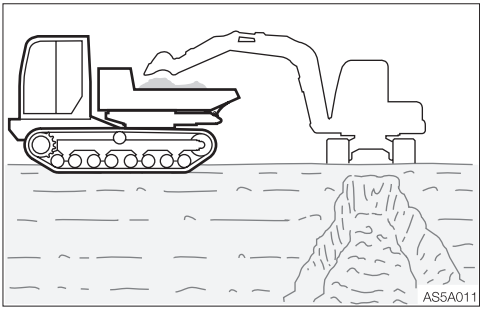
Traveling over obstacles (rocks, stumps, etc.) may put a great load on the machine body and may cause damage to it. Avoid crossing over obstacles whenever possible. If you must do so, travel at a low speed and go over the obstacle at the center of the track.

Cautions on traveling in 2nd (High) speed



On uneven ground, maintain the low speed and avoid starting, stopping or changing directions abruptly.

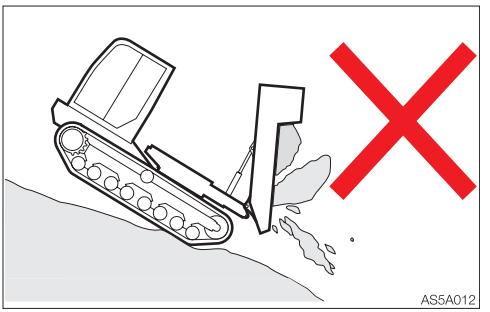
Precautions when loading material



When loading earth or sand, make sure that the machine operator is safe. Do not load material on slopes. Do it only on a firm ground.
Improper loading is dangerous, as it could cause the machine to tip over or result in the load shifting.

- Do not exceed the maximum loading capacity (3700 kg, 8155 lb).
- Load the material so that it is evenly distributed in the dump body.
- Be sure to properly secure the unstable load onto the dump body.

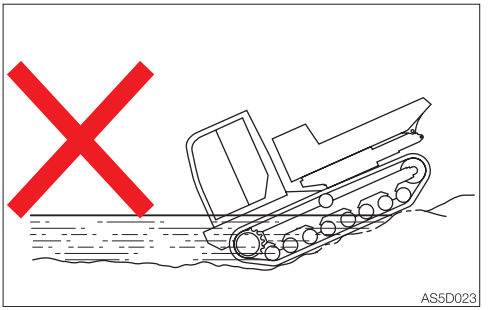
Precautions when dumping



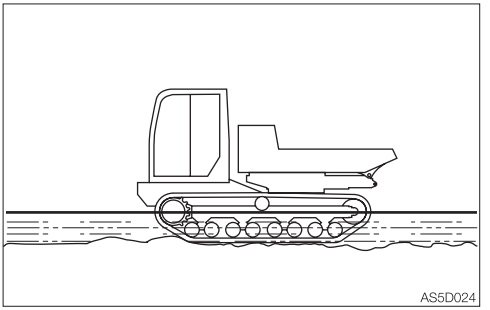
Do not perform the following dumping operations. The machine may tip over due to the shift of the center of gravity.

- Dumping on slopes or bumpy terrain
- Dumping while swing the dump body
- Dumping while traveling

PRECAUTIONS ON USING THE MACHINE IN WATER



- If the front of the machine is submerged in water as shown in the figure above, it could cause the radiator fan to turn in water, resulting in damage to the fan. The front of the machine must not be submerged.



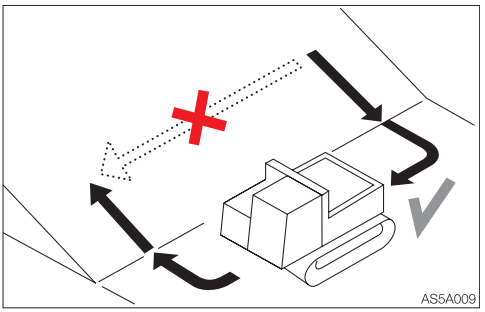
- Allowable water depth
  Use the machine in water only when the water is up to the middle of the travel reduction gear case.
- For those parts used in water for a long time, apply enough grease until the old grease is expelled.
- Never submerge the swing bearing or main frame in water or sand. If submerged, contact a Takeuchi service agent for inspection.

PRECAUTIONS WHEN TRAVELING ON SLOPES

⚠ WARNING

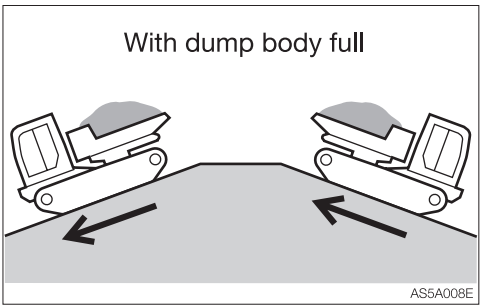
When traveling on slopes, do it carefully so that the machine does not tip (roll) over or slide.
When traveling on slopes of 15 degrees or more, position the heavier end of the machine (front or back, whichever is heavier) pointing up the slope.

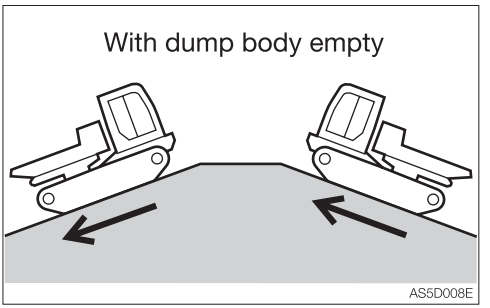
- Never travel on slopes that are too steep for the machine to maintain its stability (maximum gradeability: 30°, lateral tipping angle: 10°). Note that in reality, the machine's stability becomes lower than the above values depending on the working condition.
- When traveling on slopes or grades, drive slowly in 1st (low) speed. Especially on down slopes, slow down the engine speed and limit the stroke length of the left control lever to less than half. Going down a slope at high speed may lead to loss of control.
- Braking abruptly on slopes could result in the machine losing its balance and tipping over.



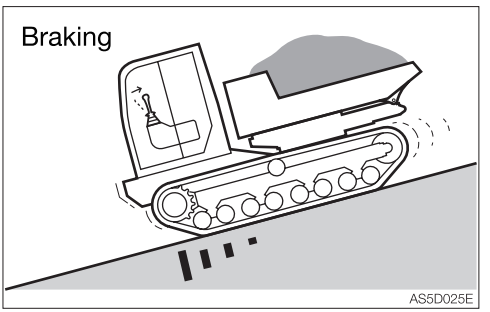
- Do not change directions on slopes or traverse slopes. First return to a flat surface, and then take an alternative path.
- The machine may slip sideways even on a slight slope if the ground is covered with grass or dead leaves, or when traveling on a wet metal plate or frozen surfaces. Make sure the machine is never positioned sideways on slopes.
- If the machine is stalled on the slope, return each control lever to the neutral position before restarting the engine.

Traveling posture on slopes



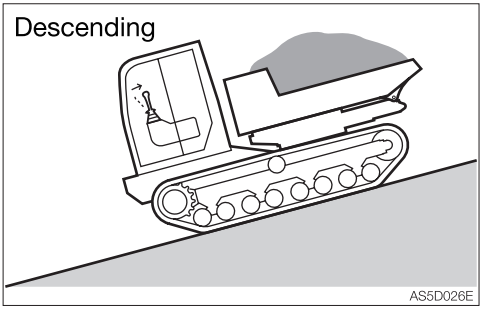


Braking when descending slopes



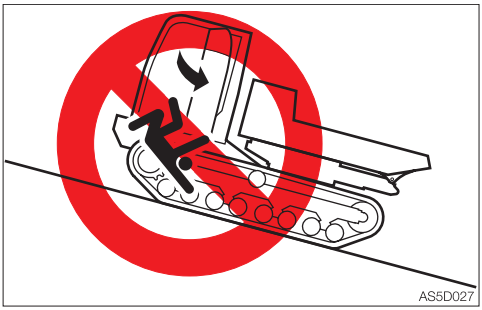
When descending slopes, the brakes are applied automatically once the left control lever is returned to the neutral position.

If the engine stops



If the engine stops when descending a slope, set the left control lever to the neutral position, stop the machine, then start the engine.

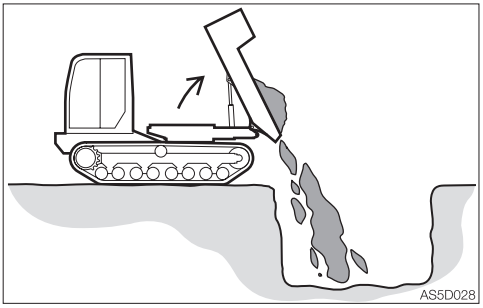
Do not open the door while traveling on slopes



Opening the door while traveling on slopes is dangerous, as the force required to open and close the door changes abruptly. Always keep the door closed when traveling on slopes.

OPERATIONS POSSIBLE WITH THIS MACHINE

Backfilling

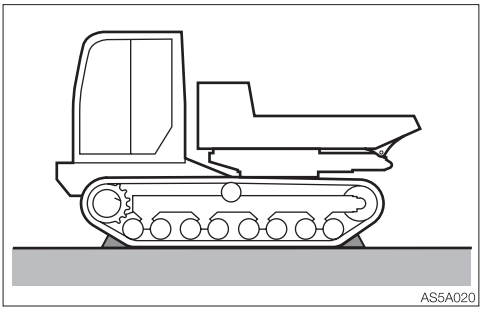


Slowly travel in reverse until the dump body reaches the near side of the hole edge, and then raise the dump body to dump the loaded material.

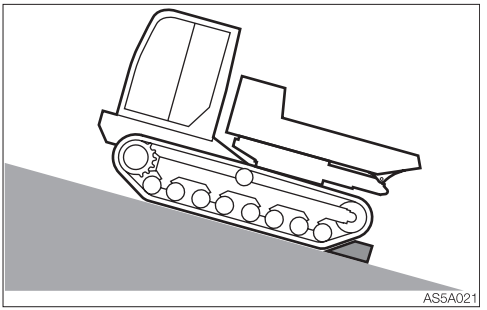
PARKING THE MACHINE

PARKING

⚠ WARNING

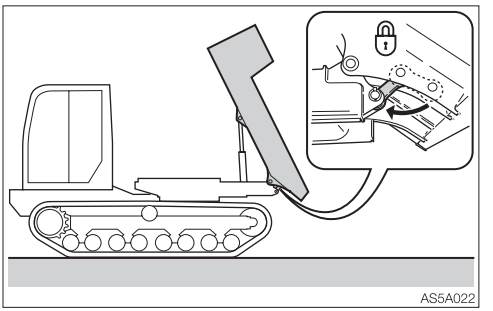


- Park the machine on a flat, rigid and safe ground. Set the parking brake.



If you must park on a slope or incline, park the machine securely and block the movement of the machine.

- When parking on a street, use barriers, caution signs, lights, etc., so that the machine can easily be seen even at night to avoid collision with other vehicles.
- Before leaving the operator's seat, raise the safety lock lever to engage the lock and stop the engine.



- Do not leave the machine while the dump body is being raised. If it is absolutely necessary to leave the raised dump body unattended, be sure to engage the dump body prop to prevent the dump body from dropping.

Before leaving the machine, do the followings:

1. Fully lower the dump body and make it parallel to the main frame.
2. Set the control levers to the neutral position.
3. Return the throttle controller to idle the engine at low speed.
4. Raise the safety lock lever to the lock position.
5. Stop the engine and remove the ignition key.
   Refer to "Stopping the engine" on page 3-5.