

TB138FR TB153FR TB180FR

Hydraulic Excavator

TB138 **FR**

TB153 **FR**

TB180 **FR**

Serial No.

●TB138FR: 138200080~

●TB153FR: 158300140~

●TB180FR: 178400260~

Book No. AJ3E011

OPERATOR'S MANUAL

OPERATOR'S MANUAL

Original instructions

TAKEUCHI



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

TAKEUCHI





SAFETY ALERT SYMBOL

This symbol means Attention! Be Alert! Your Safety Is Involved.

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 following sections.**
- **All operators must be instructed on the proper functions of the excavator 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.**

CAUTION



E3A010

**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 provide this manual to the next owner.**
- **Takeuchi supplies machines complying to 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.**
- **Please note that the contents and diagrams included in this manual may not match your machine exactly.**


It is your responsibility to observe all pertinent laws and regulations and to follow the manufacturer'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. An accident can often be avoided by recognizing potentially hazardous situations beforehand. Read and understand all of the safety messages which explain how to prevent these accidents from occurring. Do not operate the machine until you are sure that you have gained a proper understanding of its operation, inspection and maintenance.

■ SIGNAL WORDS

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

 DANGER
The word "DANGER" indicates an imminently hazardous situation which, if not avoided, can result in serious injury or death.

 WARNING
The word "WARNING" indicates a potentially hazardous situation which, if not avoided, could result in serious injury or death.

 CAUTION
The word "CAUTION" indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

IMPORTANT: The word "IMPORTANT" is used to alert against operators and maintenance personnel about situations which can result in possible 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.

■ EXPLANATION OF GRAPHICAL SYMBOLS

Following is an explanation of symbols used in this manual.

 , X..... prohibition

 /  Lock

 /  Unlock

INTRODUCTION

Foreword

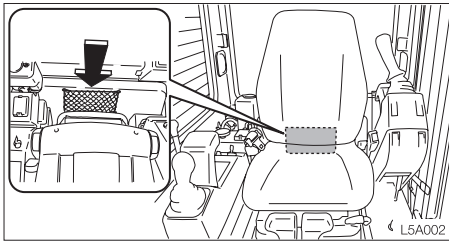
This manual describes operation, inspection and maintenance of the machine, as well as safety instructions to be heeded during these operations.

If you have any questions about the machine, please contact a Takeuchi sales or service outlet.

■ Manual storage compartment

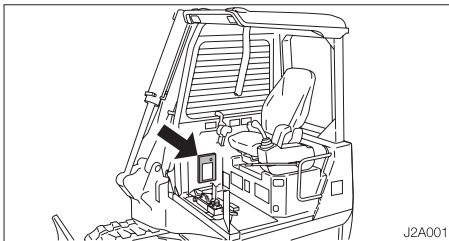
A compartment for storing this manual is provided at the position shown on the diagram below.

< Cab >



1. After using the manual, place it in the plastic pouch and store it back in the manual storage compartment.

< Canopy >

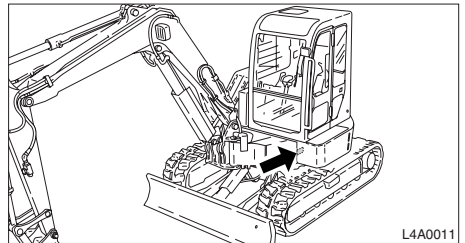


1. Insert the starter key and turn it counterclockwise to unlock the manual storage compartment.

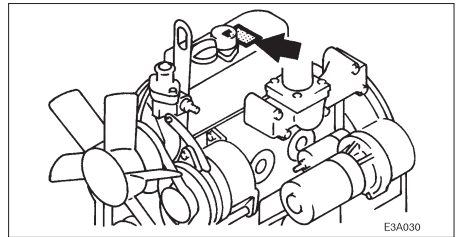
■ Serial numbers

Check the serial numbers of the machine and the engine and write them in the spaces provided below.

Machine number :



Engine number :



MACHINE DESCRIPTION

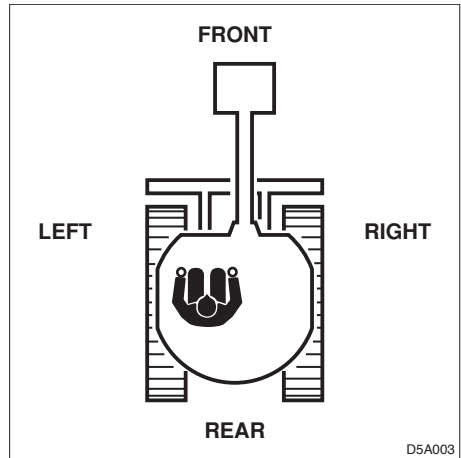
■ Front, rear, left and right

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

■ Designated operations

Use this machine primarily for the following operations:

- Excavating
- Digging ditches
- Digging side ditches
- Leveling
- Loading



■ Features

- A unique adjustable offset boom system
- Short tail swing radius
- Short pitch rubber crawler
- Low engine noise and exhaust emissions
- One touch engine deceleration button
- Slew cushioning system for easy bucket positioning
- Tilt-up operators platform for easy access to major compartment

■ Break-in period

When the machine is new, heed the instructions below when operating the machine for the first 100 hours (as indicated on the hour meter).

Using a new machine roughly without breaking it in will lead to quicker deterioration of machine performance and may shorten the machine's service life.

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

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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

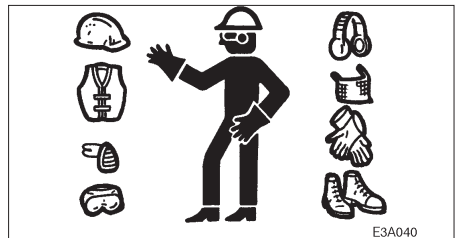
To maintain the performance of machine and to prevent it from early wear, observe the following operating conditions.

- 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 personal protective equipment



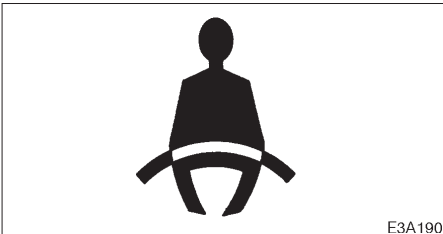
- Do not wear loose clothing or any accessory that can catch on controls or in moving parts.
- Do not wear oily or fuel stained clothing that can catch fire.
- Wear a hard hat, safety shoes, safety glasses, filter mask, heavy gloves, ear protection and other protective equipment as required by job conditions. 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.

**Provide a fire extinguisher and first aid kit**

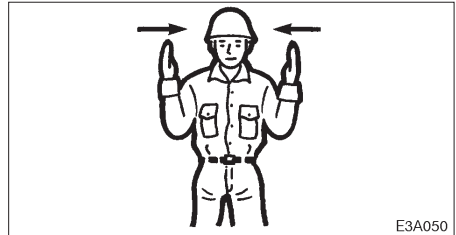
- Know where a fire extinguisher and first aid kit are located and understand how to use them.
- Know how to contact emergency assistance and first aid help.

Never remove safety equipment

- Make sure all protective guards, canopies, doors, etc., are in place and secure. Repair or replace damaged components before operating the machine.



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

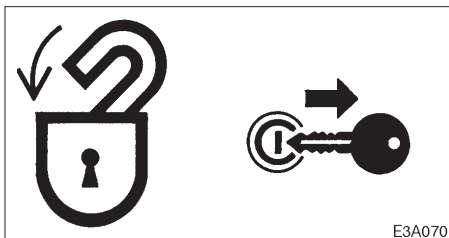
Use a signal person and flagman

Know and 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 shall respond to signals only from the appointed signal person, but shall obey a stop signal at any time from anyone.
- The signal person must stand in a clearly visible location when giving signals.



Be sure to lock the safety lock lever before leaving the operator's seat



- Before leaving the operator's seat, raise the safety lock lever to engage the lock and stop the engine. If any controls should be touched accidentally when the safety lock lever is lowered, the machine will move suddenly, and cause serious injury or death.
- < TB138FR / TB153FR > : Note that the dozer blade control is not locked, even when the safety lock lever is set to the lock position. Do not touch this control accidentally.
- Before leaving the operator's seat, lower the working equipment, raise the safety lock lever to engage the lock and stop the engine. Also, be sure to remove the key and take it with you.

Avoid fire and explosion hazards



Keep flames away from fuel, hydraulic fluid, 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 fueling or near fueling operations.
- Never remove the fuel cap or refuel with the engine running or hot. Never allow fuel to spill on hot machine components.
- Clean up spilled fuel, oil or other flammable fluids immediately.
- Check for fuel, oil or hydraulic fluid leaks. Stop all leaks and clean the machine before operating.
- 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 according to procedures identified on manufacturers' containers. Work in a well-ventilated area.
- Never use fuel for cleaning purposes. Always use a nonflammable solvent.
- Store all flammable fluids and materials in a safe and well-ventilated place.

**Exhaust fumes from the engine can kill**

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

Be careful not to get crushed or cut

Never put your hands, feet or other parts of your body between the upperstructure and the undercarriage or tracks, between the machine body and working equipment, or between a cylinder and moving part. The size of these gaps change when the machine moves and if caught a person can suffer severe injury or death.

Handling asbestos dust

Inhaling asbestos dust has been linked to lung cancer. When handling materials which may contain asbestos, take the following precautions:

- Never use compressed air for cleaning.
- Avoid brushing or grinding of the materials.
- For clean up, use wet methods or a vacuum equipped with a high efficiency particulate air (HEPA) filter.
- Wear an approved respirator if there is no other way to control the dust. When working indoors, install a ventilation system with a macro molecular filter.

Using optional products

- Consult with a Takeuchi before installing optional attachments.
- 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 of 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.



Know the working area

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

- Check the topography and ground condition of the working area, or the structure of the building when working indoors, and take the necessary safety measures in dangerous spots.
- Note and avoid all hazards and obstructions such as ditches, underground lines, trees, cliffs, overhead electrical wires or areas where there is danger of a slide.

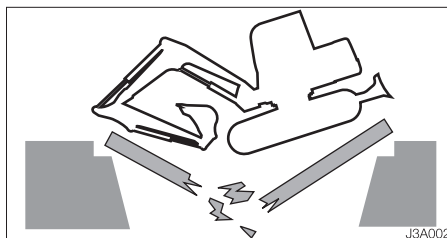


- Check with the local utilities for the locations of buried gas and water pipes and buried power cables. Determine jointly what specific precautions must be taken to insure safety.
- When working on roads, be sure to take into account the safety of pedestrians and vehicles.
 - Use a flagman and / or signals.
 - Fence off the working area and prohibit entry to 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 speed of the current beforehand. Make sure the water is not deeper than the allowable depth.

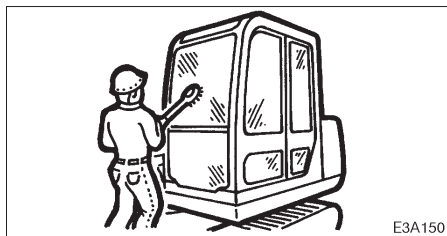
Refer to the section titled “Cautions on Operating” for further instructions.

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.



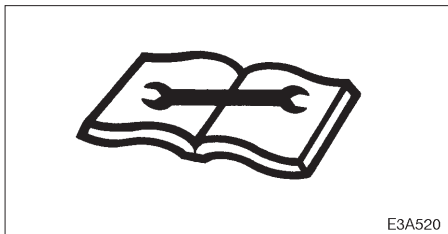
Always keep the machine clean



- Clean windows, mirrors and lights to ensure good visibility.
- Wipe off any oil, grease, mud, snow or ice, to prevent accidents due to slipping.
- Remove all loose objects stored in the machine and all objects which do not belong in or on the machine and its equipment.
- Remove any dirt, oil or grease from the engine area, to prevent fires.
- Clean the area around the operator's seat, removing any potential obstacles.



Perform inspection and maintenance daily



Failure to notice or repair machine irregularities or damage can lead to accidents.

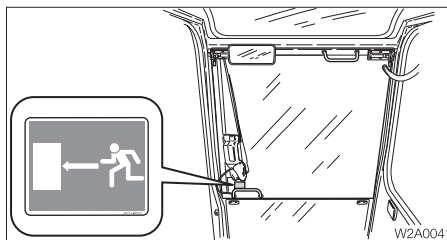
- Before operating, perform the prescribed inspections and make repairs immediately should any irregularities be found.
- If a failure that causes loss of control such as steering, service brakes or engine occurs, stop the machine motion as quickly as possible, follow the shutdown procedure, and keep 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 explode.

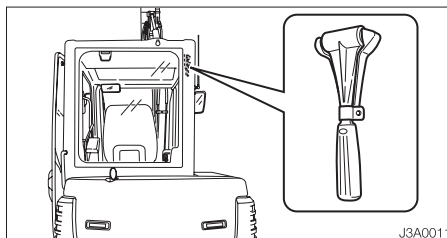
Emergency exit

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 windowpane 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.

Applicable machine models
TB138FR: 138200319 or later
TB153FR: 158300655 or later
TB180FR: 178400392 or later



Maintain three point contact when mounting and dismounting

- Do not jump on or off the machine. Never attempt to mount or dismount a moving machine.
- When mounting and dismounting the cab, first open the door fully to the locked position and check that it does not move. (For machines with cabs)



- Always face the access system and maintain a three point contact with the recommended handrails and steps while getting on and off the machine. Keep steps and platform clean.
- Never use the safety lock lever or control levers as hand holds.

Clear the area of other persons before starting the machine

Do not start the engine until you are sure it is safe. Before starting, check or perform the following.

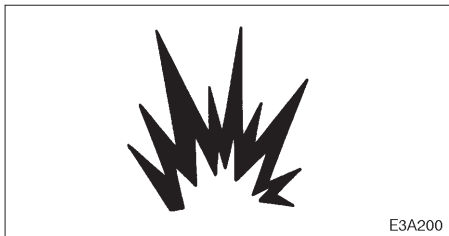
- Walk around the machine and warn all personnel who may be servicing the machine or are in the machine path. Do not start until all personnel are clearly away from the machine.
- Check for any “DO NOT OPERATE” tags or similar warning notices on the cab door, controls or starter switch.
- Sound horn to alert everyone around the machine.

Start the engine from the operator's seat

- Adjust, secure and latch the operator's seat.



- Fasten the seat belt.
- Check that the parking device is applied and place all controls in the neutral position.
- Check that the safety lock lever is in the lock position.
- Clear the area of all persons.
- Start and operate the engine from the operator's seat only.
- Never attempt to start the engine by shorting across the starter terminals.

**Starting with jumper cables**

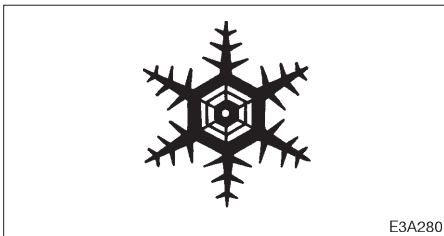
Use jumper cables only in the recommended manner. Improper use of jumper cables can result in battery explosion or unexpected machine motion.

Refer to the section titled “If the Battery Goes Dead” for proper instructions.

After starting the engine

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

- Warm up the engine and hydraulic fluid.
- Observe all gauges or warning instruments for proper operation.
- Listen for unusual noises.
- Test engine speed control.
- Operate each control to insure proper operation.

In cold weather

- Be careful of slippery conditions on freezing ground, steps and hand holds.
- In severe cold weather, do not touch any metal parts of the machine with exposed flesh, as flesh can freeze to the metal and Cause injury.
- Do not use ether or starting fluids on this engine. These starting aids can cause explosion and serious injury or death.
- Warm up the engine and hydraulic fluid before operating.



Ensure good visibility

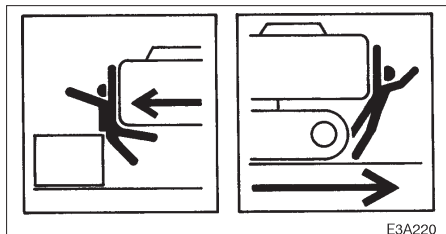
- When working in dark places, turn on the machine's working lights and headlights and/or provide extra stationary lighting if necessary.
- When visibility is poor due to severe weather (fog, snow or rain), stop operating the machine and wait until conditions improves.

Do not permit riders on the machine



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

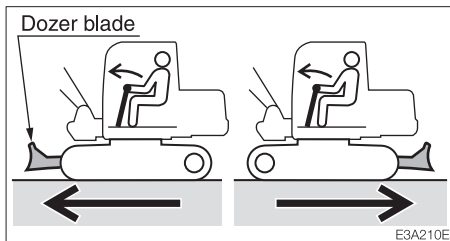
Check for safety in the surrounding area before starting



- Understand the machine limitations.
- Use a signal person where clearances are close or your vision is obstructed.
- Never allow anyone to enter the slewing (swing) radius and machine path.
- Signal your intention to move by sounding the horn.
- There are blind spots to the rear of the machine.
If necessary, swing the cab around before backing up to check that the area is safe and clear.

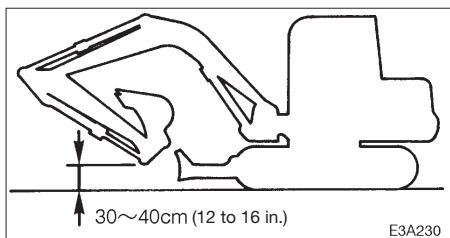


Check the position of the undercarriage (tracks) before traveling



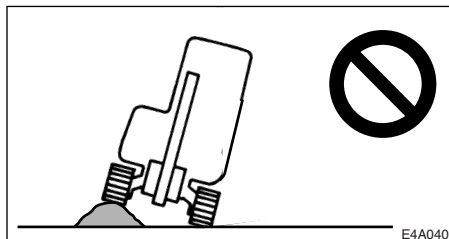
Before operating the travel levers, check to make sure that the dozer blade is to the front of the operator's seat. **BE AWARE** that when the dozer blade is to the rear of the operator's seat, the travel levers operate in the opposite direction to when the dozer blade is in the front.

Travel safety



- Travel with the dozer blade up, the hoe attachment folded as shown on the diagram, and the bucket raised 30 to 40 cm (12 to 16 in.) from the ground.
- Do not slew (swing) while traveling. If you must operate the hoe attachment while traveling, operate at speeds slow enough so you have complete control at all times.

- When a load greater than a set value is applied during 2nd speed (high speed) travel, the speed will automatically slow down by switching to 1st speed (low speed). Thereafter, when the load becomes lighter, the speed will increase by returning to 2nd speed (high speed). Exercise due caution since the travel speed changes automatically.



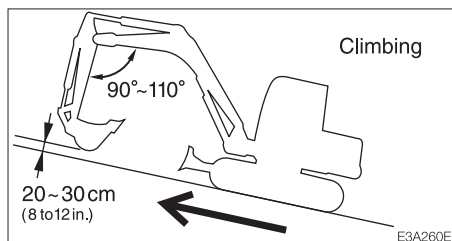
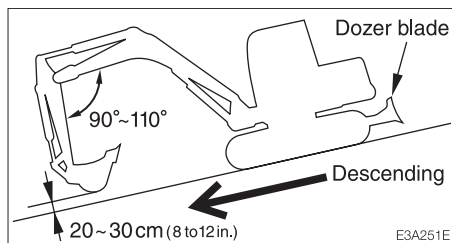
- Avoid crossing over obstacles whenever possible. If you must do so, keep the hoe attachment close to the ground and travel slowly. Never cross obstacles if they will seriously tilt the machine (to an angle of 10° or greater).
- On uneven ground, travel at low speed and avoid accelerating, stopping or changing directions abruptly.
- When roading a machine, know and use the signaling devices required on the machine. Provide an escort for road travel when required.



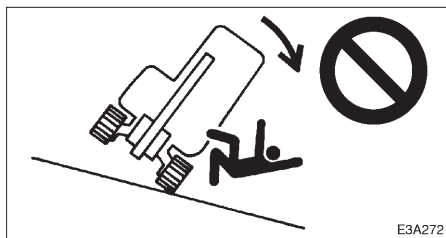
Cautions on traveling on slopes

When traveling on slopes or grades, be careful that the machine does not tip (roll) over or slide.

- Never exceed the machine's stability capabilities (maximum gradeability - 30°, lateral tipping angle - 15°). Also note that when actual working area conditions are poor the machine's stability capabilities may be lower.



- When traveling on slopes or grades, lower the bucket to a height of 20 to 30 cm (8 to 12 in.) off the ground. In emergencies, lower the bucket to the ground and stop the machine.
- When traveling on slopes or grades, move slowly in first gear (low speed).
- Do not travel down slopes in reverse.
- On grass, dead leaves, wet metal or frozen surfaces, the machine may slide sideways even on very gentle slopes. Make sure the machine never faces sideways with respect to the slope.

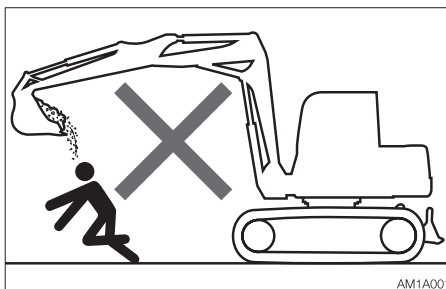


- Do not change directions or cross slopes sideways. First return to a flat surface then redirect the machine.

Operate on snow or ice with extra care

- When traveling on snow or frozen surfaces, keep the machine travel speed down and avoid accelerating, stopping or changing directions abruptly.
- Remember that the road shoulder, fences, etc., may be buried in the snow and not visible.
- Lower the dozer blade when parked on unsure ground conditions.

Do not move the bucket over the heads of people



Moving the bucket over the heads of people entails the danger of the load spilling or the sudden dropping of the bucket.



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