



OPERATOR'S MANUAL

CX330 EXCAVATOR

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Title Page - Right-Hand Page (First Page)

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THIS SAFETY ALERT SYMBOL INDICATES IMPORTANT SAFETY MESSAGES IN THIS MANUAL. WHEN YOU SEE THIS SYMBOL, CAREFULLY READ THE MESSAGE THAT FOLLOWS AND BE ALERT TO THE POSSIBILITY OF DEATH OR SERIOUS INJURY

M171D

Safety Decals on this machine use the words **Danger, Warning, or Caution**, which are defined as follows:

- **DANGER:** Indicates an immediate hazardous situation that, if not avoided, will result in death or serious injury. The color associated with Danger is RED.
- **WARNING:** Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. The color associated with Warning is ORANGE.
- **CAUTION:** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices. The color associated with Caution is YELLOW.

If Safety Decals on this machine are ISO two panel Pictorial, decals are defined as follows:

- The first panel indicates the nature of the hazard.
- The second panel indicates the appropriate avoidance of the hazard.
- Background color is YELLOW
- Prohibition symbols such as   and  if used, are RED.

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WARNING

IMPROPER OPERATION OF THIS MACHINE CAN CAUSE DEATH OR SERIOUS INJURY. BEFORE USING THIS MACHINE, MAKE CERTAIN THAT EVERY OPERATOR:

- Is instructed in safe and proper use of the machine.
- Reads and understands the Manual(s) pertaining to the machine.
- Reads and understands ALL Safety Decals on the machine.
- Clears the area of other persons.
- Learns and practices safe use of machine controls in a safe, clear area before operating this machine on a job site.

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

CALIFORNIA PROPOSITION 65 WARNING

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

Battery post, terminals and related accessories contain lead and lead compounds. Wash hands after handling.

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TO THE OWNER

CX330 EXCAVATOR



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This manual contains important information about the safe operation, adjustment and maintenance of your Excavator. Refer to the Detail Index at the end of this manual for locating specific items about your machine. This machine conforms to current safety regulations.

Use this manual as a guide. Your machine has been designed and built to the highest standards of quality. It conforms to all current safety regulations. However, the risk of accidents can never be completely excluded. That is why it is essential to observe elementary safety rules and precautions.

Do Not operate or permit anyone to operate or service this machine until you or the other persons have read and understand the safety, operation and maintenance instructions in this manual. Use only trained operators who have demonstrated the ability to operate and service this machine correctly and safely.

Use this manual as a guide. Your machine will remain a reliable working tool provided it is kept in good working condition and serviced properly.

The standard attachments and equipment available for use with this machine are intended for general earth moving purposes, material rehandling, etc. If the machine is to be used for handling loads, (tubing, concrete pipe sections, shoring material, etc.), make sure the machine is suitably equipped for this type of work. All legal requirements must also be strictly observed.

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TO THE OWNER

Do not use this machine for any application or purpose other than those described in this manual. If the machine is to be used for work involving the use of special attachments, accessories or equipment, consult your CASE Dealer in order to make sure that any adaptations or modifications made are in keeping with the machine's technical specifications and with prevailing safety requirements.

Any modification or adaptation which is not approved by the manufacturer may invalidate the machine's initial conformity with safety requirements and warranty.

The machine must undergo regular inspections, the frequency of which varies according to the type of use. Consult your CASE Dealer.

Before permitting a new operator on this machine, make sure that the operator has read and understood the instructions given in this manual.

The Operators Manual is to be stored in the manual compartment equipped on this machine (in the seat back). Make sure this manual is complete and in good condition. Contact your dealer to obtain additional manuals.

Contact your Dealer for any further information or assistance about your machine. Your Dealer has approved service parts. Your Dealer has technicians with special training that know the best methods of repair and maintenance for your machine.

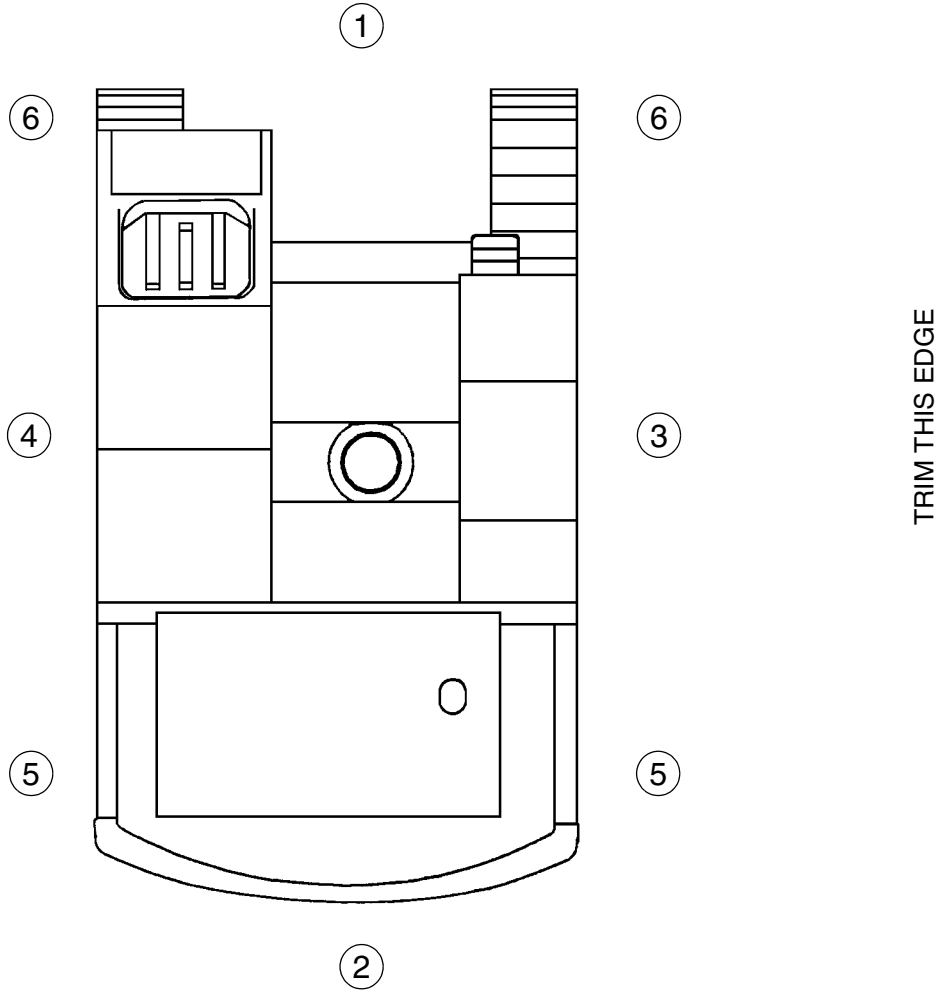
Contact your Dealer for additional Operator Manuals or manuals translated into another language.

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RIGHT, LEFT, FRONT AND REAR OF MACHINE

The terms "Right", "Left", "Front" and "Rear" are used in this manual to indicate the sides as they are seen from the operator's seat when the cab is over the idler wheels.

The illustration below shows the machine in normal TRAVEL position. In normal TRAVEL position, the cab is over the idler wheels. The travel reduction gears are at the rear of the upper structure.



- 1. FRONT
- 2. REAR
- 3. RIGHT-HAND SIDE
- 4. LEFT-HAND SIDE
- 5. TRAVEL REDUCTION GEARS
- 6. IDLER

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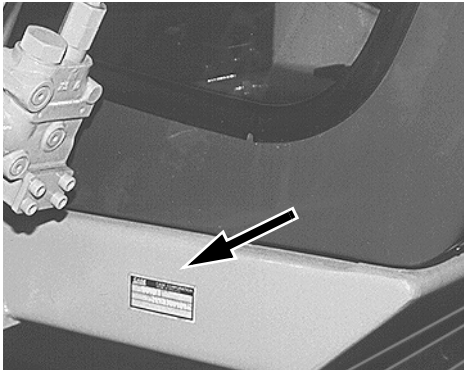
IDENTIFICATION NUMBERS

TYPE, PIN AND YEAR OF MANUFACTURE


When ordering parts, obtaining information or assistance, always supply your CASE Dealer with the type and serial number of your machine or accessories.

Write your machine Model Number, Product Identification Number and year of manufacture on the lines below. Also record the serial numbers of the listed components. Make a record of the numbers, and keep the record and your Manufacturer's Statement of Origin in a safe place.

Machine



CP98N006

	
CNH America LLC Racine, WI 53404 U.S.A. Made In Japan	
Type _____	
Product Identification Number []	
KHP10680-00	

CXPIN

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1. (1) Type.....
2. (2) Serial number.....
3. (3) Year of build.....

Engine

Make and type.....
 Serial number.....

Component serial numbers

Hydraulic pump

Swing reduction gear

Travel reduction gears

Travel control valve.....

Attachment control valve

Swing control valve

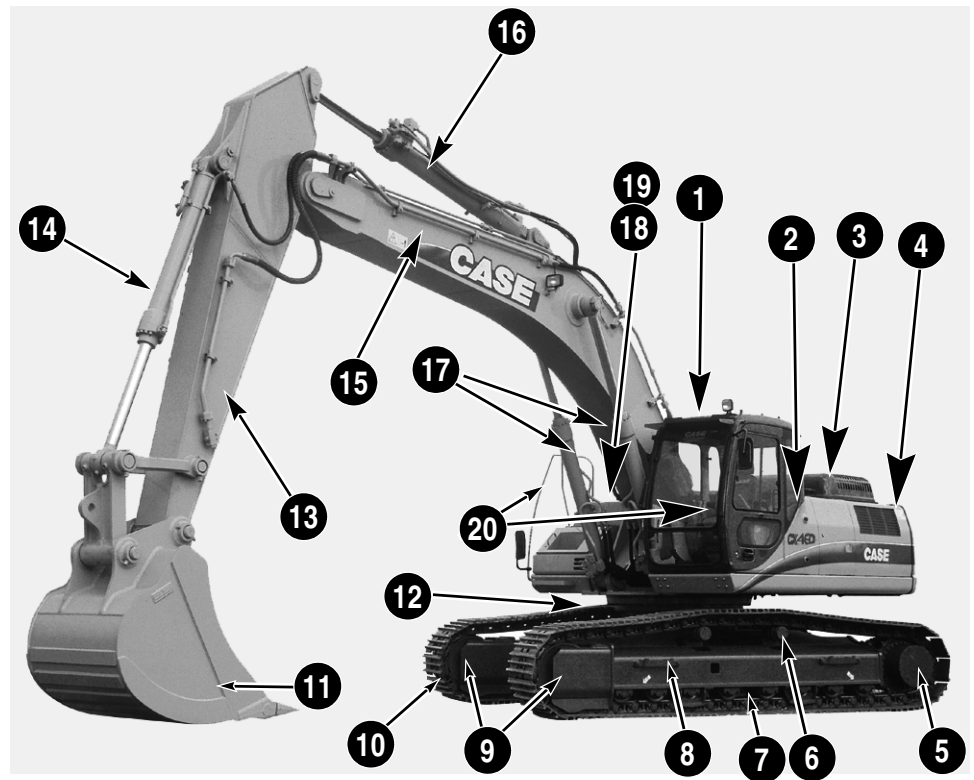
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MACHINE COMPONENTS

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Key to main components

- | | |
|-------------------------------|-------------------------|
| 1. Cab/Operator's compartment | 12. Undercarriage |
| 2. Upper structure | 13. Arm |
| 3. Engine compartment | 14. Bucket cylinder |
| 4. Counterweight | 15. Boom |
| 5. Travel reduction gears | 16. Arm cylinder |
| 6. Upper rollers | 17. Boom cylinders |
| 7. Lower rollers | 18. Hydraulic reservoir |
| 8. Steps | 19. Fuel tank |
| 9. Idler wheels | 20. Access handles |
| 10. Tracks | |
| 11. Bucket | |

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SAFETY/DECALS/HAND SIGNALS

SAFETY RULES



WARNING: *This safety alert symbol indicates important safety messages in this manual. When you see this symbol, carefully read the message that follows and be alert to the possibility of death or serious injury.*

Figure 1

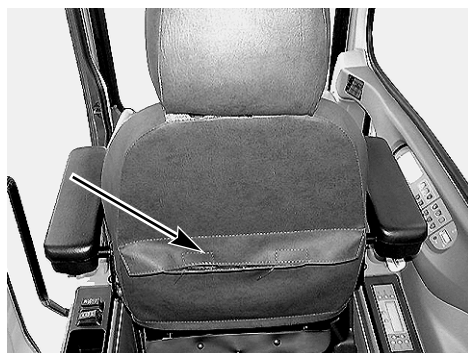
Most accidents involving machine operation and maintenance can be avoided by following basic safety rules and precautions. Read and understand all the safety messages in this manual, the safety manual, and the safety decals on the machine before you operate or service the machine. See your dealer if you have any questions.

DO NOT remove this manual from the machine. See your dealer for additional manuals. Also see the manual information on the Title pages (first and second pages in front of the Table of Contents) of this manual.

The safety information given in this manual does not replace safety codes, insurance needs or federal, state, and local laws. Make sure your machine has the correct equipment according to these rules or laws.

Additional safety messages are used in the text of the manual to show specific safety hazards.

IMPORTANT: *The safety messages in this chapter point out conditions which can happen during the normal operation and maintenance of your machine. These safety messages also give possible ways of dealing with these conditions.*



BK99A006

OPERATOR'S MANUAL LOCATION AND STORAGE

READ THIS MANUAL COMPLETELY and make sure you understand the controls. All equipment has a limit. Make sure you understand the speed, brakes, steering, stability and load characteristics of this machine before you start to operate.

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Safety Decals on this machine use the words, Danger, Warning or Caution, which are defined as follows:

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- **WARNING:** Indicates a potentially hazardous situation which, if not avoided will result in death or serious injury. The color associated with Warning is **ORANGE**.
- **CAUTION:** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices. The color associated with Caution is **YELLOW**.

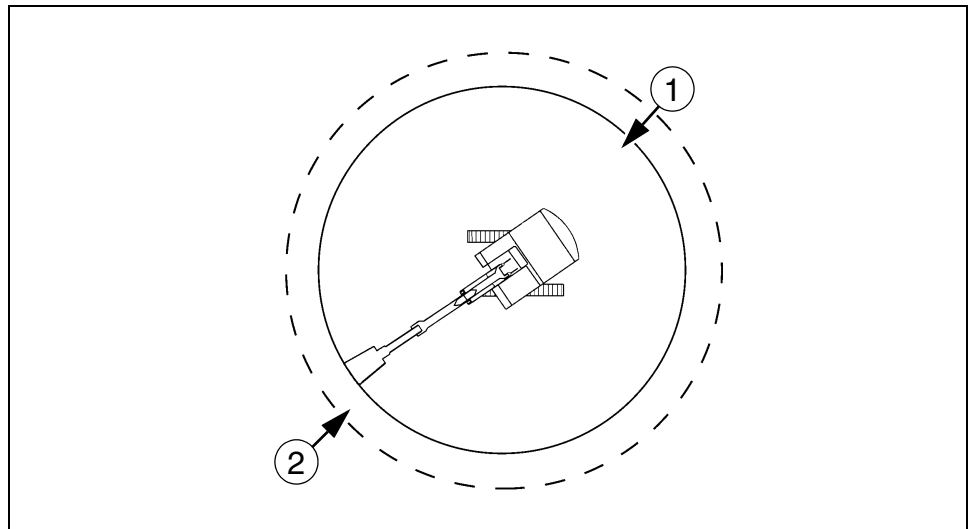
ISO two panel pictorial symbol decals are defined as follows:

- The first panel indicates the nature of the hazard.
- The second panel indicates the appropriate avoidance of the hazard.
- Background color is **YELLOW**.
- Prohibition symbols such as   and  if used, are **RED**.



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1. WORKING AREA
2. SAFETY AREA

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- The safety area is the space necessary for the machine to operate at the maximum range of the tool and a full 360° swing plus 6 feet (2 metres).

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UTILITY SAFETY

Safety precautions **MUST** be followed when working near buried and overhead utility lines.

During operation it is likely that you will be working around or near buried or overhead utility lines which may include, but are not limited to:

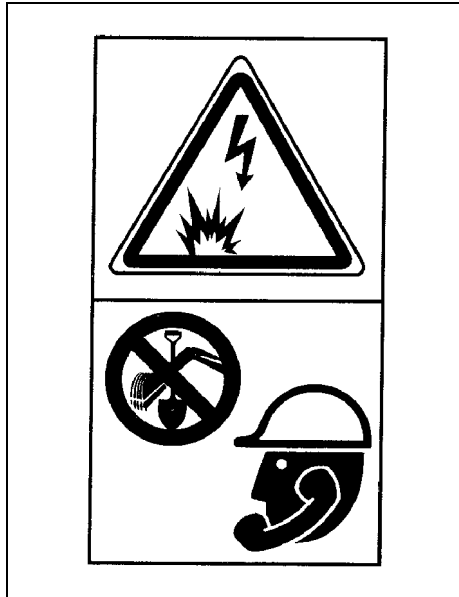
- Electrical Power Line
- Gas Line
- Water Line
- Communication Line - Telephone or Cable Television
- Sewer Line

IMPORTANT: *Before beginning any machine operation, it is your responsibility to be aware of all such utility lines buried and overhead in the area of your project and to avoid them.*

ALWAYS have all local utility companies mark the location of their lines.

In the U.S.A. and Canada call one of many "One Call System Director" services. If you do not know the local number, call the national number (U.S.A. and Canada only): 1-888-258-0808.

IMPORTANT: *Check with local authorities for laws, regulations and/or strict penalties requiring you to locate and avoid existing utilities.*



RH99G001

**CALL ALL LOCAL UTILITY COMPANIES
BEFORE YOU PERFORM ANY MACHINE
OPERATION**

Know the utility color code (U.S.A. and Canada):

1. Electric Red
2. Gas, Oil, or Petroleum Yellow
3. Communication, Telephone,
Television Orange
4. Water Blue
5. Sewer Green/Brown
6. Proposed Excavation White
7. Surveying Pink
8. Reclaimed Water / Slurry Purple

After locating any buried utility lines, carefully dig a hole by hand and/or automatic vacuum equipment to the utility line to verify the location and depth of the line.

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PERSONNEL

- Be prepared for emergencies. Always have a first aid kit and a working fire extinguisher with you and know how to use each.
- Avoid loose fitting clothing, loose or uncovered long hair, jewelry and loose personal articles.
- Know and use the protective equipment that is to be worn when operating this machine. Hard hats, protective glasses, protective shoes, gloves, reflector type vests, respirators and ear protection are examples of types of equipment that may be required.
- Certain protective equipment should be replaced and renewed upon age and wear. Old hard hats may not provide their original protection capabilities. Faded and soiled vests are no longer as highly visible as original intent. See the manufacturer's recommendation.
- Do not rush. Walk, do not run.
- Know and use the hand signals required for particular jobs and know who has the responsibility for signaling.

GENERAL

- It is the responsibility of the operator to read and understand the Operator's Manual and other information provided and use the correct operating procedure. Machines should be operated only by qualified operators.
- Do not operate this machine or perform maintenance work if you have not had appropriate training and read and fully understand the instructions and warnings in this manual.
- Wear the seat belt to maximize the protection capability of a ROPS (Roll Over Protective Structure).
- Inspect the ROPS and seat belt mounting bolts on a daily basis to ensure their integrity.
- Do not permit riders on the machine.
- Make sure that all protective guards, canopies, doors, etc. are in place and secure.
- Remove all loose object stored in the machine. Remove all objects which do not belong in or on the machine and its equipment.
- Do not use the machine as a manlift.

MOUNTING AND DISMOUNTING PRECAUTIONS

- Use the recommended hand holds and steps with at least three points of support when getting on and off the machine.
- Keep steps and platform clean.
- Face the access system when climbing up and down.
- Do not jump off the machine.
- Do not climb down from the operator's compartment, leaving the engine running.
- Do not dismount while the machine is in motion.
- Foreign material or grease on the steps and hand rails can cause an accident. Keep the steps and hand rails clean.

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STARTING AND STOPPING PRECAUTIONS

- Walk around the machine and warn all personnel who may be servicing the machine or are in the machine path prior to starting. Do not start until all personnel are clearly away from the machine. Sound the horn, if equipped, before starting.
- Walk around the machine's tool, attachment, or furthest contact point to view operation danger area from the worksite personnel view and angle.
- Check that the parking device is applied, place the transmission in neutral or park as specified by the manufacturer, and disengage the PTO, if so equipped, before starting the machine.
- Adjust, secure and latch the seat and fasten the seat belt before starting the machine.
- Start and operate the machine only from the operator's station.
- Do not bypass the machine's neutral-start system. The neutral-start system must be repaired if it malfunctions.
- Use jumper cables only in the recommended manner. Improper use can result in battery explosion or unexpected machine motion. Ventilate the battery area before using jumper cables. Make sure that using jumper cables will not interfere or harm electronic processing or computer devices.
- Do not operate the engine in an enclosed area without adequate ventilation.
- Park the machine on level ground whenever possible and apply the parking brake. On grades, park the machine with the wheels or track securely blocked.
- Before leaving the operator's station, place the transmission in the park position as specified by the manufacturer, lower the equipment to the ground or put in the locked position, disengage the PTO, if so equipped, set the parking device and shut off the engine.
- Raise the function cancellation lever (safety bar in inward position) before leaving the operator's compartment.
- Be certain no part of the machine is encroaching on a roadway, if this cannot be avoided, install the necessary regulation signalling equipment.
- Remove the starter key or disconnect switch when leaving the machine parked or unattended.

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OPERATING PRECAUTIONS

- Check brakes, steering and other machine control devices in accordance with the manufacturers instructions prior to starting operation. Observe all gauges or warning instruments for proper operation. Operate all controls to insure proper operation. If any malfunctions are found, remove the starter key or disconnect switch key. Place a do not operate tag on the machine until the malfunction is corrected.
- If a failure that causes loss of control such as steering, service brakes or engine occurs, stop the machine motion as quickly as possible, remove the starter key or disconnect switch key. Place a do not operate tag on the machine and keep it securely parked until the malfunction is corrected or the machine can be safely towed.
- Understand the machine limitations, and keep the machine under control.
- Operate and drive the machine with care and at speed compatible with conditions. Use extra caution when operating over rough ground, on slopes, and when turning.
- 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.
- Carry loads in recommended positions for maximum stability.
- Never lift loads in excess of capacity.
- Use the recommended machine ballast and counterweighting.
- Know and understand the job site traffic flow patterns and obey signalmen, road signs and flagmen.
- Know and understand that job site conditions may change on an hourly basis. Hills of dirt, debris or obstructions may grow and change from the time you began the day. It is your responsibility to monitor the changes and keep the machine, tools and attachments, etc. a safe distance.
- Watch for bystanders and never allow anyone to be under or to reach through the machine and its equipment while operating.
- Select a gear that will prevent excessive speed when going downhill. Do not coast downhill.
- When roading a machine, know and use the signaling devices required on the machine. Provide an escort for roading where required.
- On machines with independently operated wheel brakes, lock the brake pedals together when roading to provide equalized brake application.
- Use the recommended transport devices when roading the machine.
- Use the approved drawbar and / or attachment point when using the machine for towing. If a cable or chain is used, keep people away from the tow line.
- Before you operate at night, check that all lamps illuminate.
- Engine exhaust fumes can cause death. If you operate this machine in an enclosed area, make sure there is ventilation to replace the exhaust fumes with fresh air.

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SAFETY

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- If your machine has a cab make sure that all windows are clean and that the windshield wipers work correctly.
- Check all controls in a clear area and make sure the machine is operating correctly.
- Dust, fog, smoke, etc., can decrease your vision and cause an accident. Stop the machine or decrease the speed until you can see.
- Contact with high voltage power lines, underground cables, etc., can cause serious injury or death from electrocution.
- Before you drive or operate in an area with high voltage lines, cables, or a power station, tell the power or utility company what you are going to do. You **MUST HAVE THE POWER DISCONNECTED OR KEEP A SAFE WORKING DISTANCE** from the lines, cables, or power station. Keep all parts of the machine at least 4.6 m (15 feet) away from the power source. You must also know any federal, state/provincial, or local safety codes or regulations that apply to the job site.
- If a part of the machine touches high voltage power:

Warn other workers **NOT TO TOUCH THE MACHINE** and to stay away from the machine.

If you can break contact, reverse the operation that caused contact with the high voltage power, and move the machine away from the danger area. If you cannot break contact stay in the machine until the utility company de-energizes the line and tells you that the power is off.

- If you have extreme conditions, such as a fire, etc., and you are forced to leave the machine, do not step off the machine. Jump as far from the machine as possible with your feet together and do not touch the ground with your hands.
- Do not operate the machine if you do not feel well. This can be dangerous for you and for the people around you.
- You must make a judgment if weather, road, or earth conditions will permit safe operation on a hill, ramp, or rough ground.
- Stay away from hazardous areas such as ditches, overhangs, etc. Walk around the work area before you start and look for hazards.
- Be alert and always know the location of all workers in your area. Keep all other persons completely away from your machine. Injury or death can result if you do not follow these instructions.
- Develop fluid and smooth operating techniques and maintain the surface condition where the machine travels in order to control vibration transfer to the operator.

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