

PART NO.

EM8R8-1-4

**HITACHI**

# **Operator's Manual**

# **EH3500ACII**

## **Rigid Dump Truck**

Serial No 010132 and up

# INDEX

MACHINE NUMBERS

SAFETY

SAFETY SIGNS

COMPONENTS NAME

GETTING ON/OFF MACHINE

EMERGENCY EXIT

OPERATOR'S STATION

BREAK-IN

OPERATING ENGINE

DRIVING MACHINE

OPERATING MACHINE

MAINTENANCE

MAINTENANCE UNDER SPECIAL ENVIRONMENTAL CONDITIONS

STORAGE

TROUBLESHOOTING

SPECIFICATIONS

INDEX

# CONTENTS

<b>MACHINE NUMBERS</b> .....	1	Beware of Asbestos and Silicon Dust and Other Contamination .....	S-26
<b>SAFETY</b> .....	S-1	Prevent Battery Explosions .....	S-27
Recognize Safety Information .....	S-1	Service Air Conditioning System Safely .....	S-27
Understand Signal Words.....	S-1	Handle Chemical Products Safely.....	S-28
Follow Safety Instructions.....	S-2	Dispose of Waste Properly.....	S-28
Prepare for Emergencies.....	S-2	Precautions for Communication Terminal.....	S-28
Wear Protective Clothing.....	S-3	<b>SAFETY SIGNS</b> .....	S-29
Protect Against Noise .....	S-3	<b>COMPONENTS NAME</b> .....	1-1
Inspect Machine .....	S-3	Components Name .....	1-1
General Precautions for Cab.....	S-4	<b>GETTING ON/OFF MACHINE</b> .....	1-2
Use Handholds and Steps .....	S-4	Getting ON/OFF Machine.....	1-2
Operator's Visibility .....	S-5	<b>EMERGENCY EXIT</b> .....	1-3
Adjust Operator's Seat.....	S-6	Emergency Exit .....	1-3
Fasten Your Seat Belt.....	S-6	Evacuating in Case of Fire.....	1-4
Move and Operate Machine Safely.....	S-7	<b>OPERATOR'S STATION</b> .....	1-5
Handle Starting Aids Safely .....	S-7	Cab Features.....	1-5
Operate Only from Operator's Seat .....	S-8	Monitor Display.....	1-6
Jump Starting .....	S-8	How to Use Screens.....	1-6
Avoid Injury Caused by High Tension Electric Shock .....	S-9	Displaying Starting Check Screen.....	1-6
Investigate Job Site Beforehand .....	S-9	How to Use Key Pad.....	1-8
Provide Signals for Jobs Involving Multiple Machines.....	S-9	Basic Screen.....	1-9
Drive Machine Safely.....	S-10	Speedometer.....	1-10
Wheel Maintenance .....	S-11	Odometer (2).....	1-10
Drive on Snow Safely .....	S-12	Tachometer (3), Shift Lever Position Indicator (4) .....	1-10
Avoid Injury from Rollaway Accidents.....	S-12	Engine Oil Pressure Gauge .....	1-10
Avoid Injury from Back-Over Accidents .....	S-13	Coolant Temperature Gauge .....	1-11
Keep Person Clear from Working Area.....	S-13	Wheel Motor Temperature Gauge .....	1-11
Avoid Tipping.....	S-14	Brake/Steering Oil Pressure Gauge.....	1-11
Protect Against Falling Stones and Debris .....	S-15	Engine Related Warning Indicators.....	1-12
Operate with Caution .....	S-15	Engine Warning Indicator .....	1-13
Avoid Power Lines.....	S-15	Engine Oil Pressure Warning Indicator.....	1-13
Precautions for Lightning.....	S-16	Engine Overheat Warning Indicator .....	1-13
Avoid Overloading.....	S-16	Engine Coolant Level Warning Indicator.....	1-14
Protect Against Flying Debris .....	S-17	Alternator Warning Indicator.....	1-14
Park Machine Safely.....	S-17	Air Cleaner Restriction Warning Indicator .....	1-14
Prevent Unintended Machine Movement.....	S-18	Stop Valve Warning Indicator .....	1-14
Handle Fluids Safely – Avoid Fires .....	S-18	Grid Dry Warning Indicator .....	1-14
Practice Safe Maintenance.....	S-19	Driving Related Warning Indicators.....	1-15
Warn Others of Service Work .....	S-20	Traction Fault Warning Indicator .....	1-16
Support Machine Properly.....	S-20	Drive Shut Down Warning Indicator.....	1-16
Stay Clear of Moving Parts .....	S-20	Wheel Motor Temperature Warning Indicator .....	1-16
Prevent Parts from Flying .....	S-21	Wheel Motor & Alternator Blower Fault Warning Indicator.....	1-16
Prevent Burns.....	S-21	Electric Brake Warning Indicator .....	1-17
Replace Rubber Hoses Periodically.....	S-22	Parking Brake Warning Indicator.....	1-17
Avoid High-Pressure Fluids .....	S-22	Load/Dump Brake Warning Indicator .....	1-17
Prevent Fires.....	S-23	Engine Stop Warning Indicator .....	1-18
Evacuating in Case of Fire.....	S-24	Central Warning Indicator.....	1-18
Beware of Exhaust Fumes.....	S-24	AC Drive System Maintenance Required Warning Indicator.....	1-18
Precautions for Welding and Grinding .....	S-25	Hydraulic Related Warning Indicators .....	1-19
Avoid Heating Near Pressurized Fluid Lines .....	S-25	Hydraulic Oil Overheat Warning Indicator.....	1-20
Avoid Applying Heat to Lines Containing Flammable Fluids .....	S-25		
Precautions for Handling Accumulator and Gas Damper.....	S-26		
Remove Paint Before Welding or Heating .....	S-26		

## CONTENTS

Steering Oil Pressure Warning Indicator.....	1-20	Rear Axle Inside Maintenance Light Indicator (24).....	1-45
Auto-Lubrication Warning Indicator.....	1-20	AC Drive System Maintenance Switch (25).....	1-45
Hydraulic Oil Level Warning Indicator.....	1-21	Dome Light Switch.....	1-46
Dump Body Up Indicator.....	1-21	Sun Visor.....	1-46
Hoist Lever Position Warning Indicator.....	1-21	Air Conditioner.....	1-47
Light Indicators.....	1-22	Designations and Functions of the Control Panel.....	1-48
Rear Light Indicator.....	1-23	Cooling.....	1-49
Front Tire Light Indicator (Optional).....	1-23	Heating.....	1-50
Head Light/High Beam Indicator.....	1-23	Dehumidifying and Heating.....	1-50
Miscellaneous Indicators.....	1-23	Defrosting.....	1-50
Turn Signal/Hazard Indicator.....	1-23	Blower Operation Without Cooling or Heating.....	1-51
Fuel Gauge.....	1-24	Ventilation of the Cab.....	1-51
Load Meter.....	1-24	AM/FM Radio Operation.....	1-52
Hour Meter.....	1-24	Controls on the Radio.....	1-52
Clock.....	1-24	Tuning Procedure.....	1-52
Alarm Occurrence Screen.....	1-25	Station Presetting Procedure.....	1-52
Clock Setting.....	1-26	Sound Adjustment.....	1-53
Time Adjusting.....	1-27	Digital Clock Setting Procedure.....	1-53
Head Lights/Front Combination Lights/Horns.....	1-28	Camera Monitor.....	1-54
Side Lights.....	1-29	How to Use Camera Monitor.....	1-54
Rear Lights.....	1-30	Control Panel Designation and Function.....	1-54
Maintenance Lights.....	1-31	Adjusting Operator's Seat.....	1-55
Steering Wheel.....	1-32	Seat Incline Adjustment.....	1-55
Horn Switch.....	1-32	Seat Fore-Aft Adjustment.....	1-55
Turn Signal/High Beam Lever Switch.....	1-32	Armrest Angle Adjustment.....	1-55
Hazard Warning Lamp Switch.....	1-33	Armrest Height Adjustment.....	1-55
Tilt/Telescope Steering Wheel.....	1-33	Seat/Backrest Fore-Aft Adjustment.....	1-56
Accelerator Pedal.....	1-33	Seat Height Adjustment.....	1-56
Service Brake Pedal.....	1-34	Absorber Adjusting.....	1-56
Electric Brake Pedal.....	1-35	Seat/Armrest/Backrest Fore-Aft Adjustment.....	1-56
Parking Brake.....	1-35	Backrest Adjustment.....	1-57
Center Console.....	1-36	Headrest Adjustment.....	1-57
Shift Lever (1).....	1-36	Adjusting Trainer's Seat.....	1-58
Dump Override Switch (2).....	1-36	Weight adjustment.....	1-58
Load/Dump Brake Switch (3).....	1-37	Seat Belt.....	1-59
Hoist Lever.....	1-38	Seat Belt.....	1-59
Hoist Lever Functions.....	1-38	Cab Door Lock.....	1-60
Console Panel.....	1-40	Opening/Closing Cab Left Door.....	1-60
Cruise Control/Auto Retard Main Switch (1).....	1-41	Electrical Equipment Box (Behind Cab).....	1-61
Cruise Control/Auto Retard Speed Setting		Relays.....	1-62
Switch (2).....	1-41	Fuses.....	1-63
Grid Dry Switch (4).....	1-41	Deck Upper Relay Box.....	1-64
AC Drive Shut Down Switch (5).....	1-41	Relays.....	1-65
Parking Brake Switch (6).....	1-42	Relay Box 3.....	1-65
Emergency Engine Stop Switch (10).....	1-42	Relay Box Optional.....	1-65
Key Switch (11).....	1-42	Relay Box 2.....	1-65
Headlight Switch (12).....	1-42	Fuse Box 3.....	1-66
Front Tire Light Switch (15) (Optional).....	1-43	<b>BREAK-IN</b> .....	2-1
Rear Light Manual Switch (16).....	1-43	Observe Machine Closely.....	2-1
Ladder & Deck Light Switch (17).....	1-43	Every 10 Hours or Each Shift.....	2-1
Wiper/Washer Switch (18).....	1-43	After the First 50 Hours.....	2-1
AC Drive Fault Reset Switch (19).....	1-44	<b>OPERATING ENGINE</b> .....	3-1
Cigar Lighter (20).....	1-44	Inspect Machine Daily Before Starting.....	3-1
Dimmer Switch (21).....	1-44	Before Starting Engine.....	3-2
Buzzer Deactivation Switch (22).....	1-44	System Check.....	3-3
Engine Room Maintenance Light Indicator (23).....	1-45		

# CONTENTS

Starting Engine in Normal Temperature .....	3-4	Replace Full-Flow Filter Element .....	7-37
Starting Engine in Cold Weather .....	3-5	Replace Line Filter Element .....	7-39
Check Instruments After Starting .....	3-6	Change Hydraulic Oil .....	7-41
Using Booster Batteries .....	3-7	Replace Suction Filter .....	7-41
Stopping Engine .....	3-9	Replace Tank Air Breather Element .....	7-44
<b>DRIVING MACHINE</b> .....	4-1	Check Hoses and Lines .....	7-45
Drive Machine Carefully .....	4-1	E. Fuel System .....	7-51
Starting .....	4-2	Drain Fuel Tank Sump .....	7-53
Propel Change .....	4-3	Drain Fuel Filter (Stage 1 Filter) .....	7-53
Acceleration .....	4-3	Replace Fuel Filter Element (Stage 1 Filter) .....	7-54
Cruise Control .....	4-4	Replace Fuel Filter (Stage 2 Filter) .....	7-55
Deceleration .....	4-6	Check Fuel Hoses .....	7-56
Electric Brake .....	4-6	Clean Fuel Tank Breather .....	7-57
Auto Retard .....	4-7	F. Air Cleaner .....	7-58
Steering .....	4-9	Clean Air Cleaner Outer Element .....	7-58
Stopping Machine .....	4-10	Replace Air Cleaner Outer and Inner Elements .....	7-58
Parking Machine .....	4-11	Clean Air Cleaner Dust Cups .....	7-60
Towing .....	4-12	G. Cooling System .....	7-61
<b>OPERATING MACHINE</b> .....	5-1	Check Coolant Level .....	7-62
Loading .....	5-1	Check DCA4 Concentration in Coolant .....	7-63
Load Weighing System .....	5-2	Replace Coolant Filter .....	7-71
Hauling .....	5-3	Change Coolant .....	7-72
Dumping .....	5-4	Clean Radiator, After Cooler Interior .....	7-72
Speed Limitation Function While Dump Body is Raised ...	5-7	Clean Radiator, After Cooler Core .....	7-73
Deactivation of Speed Limitation Function in an Emergency .....	5-7	Check Fan Belt for Wear .....	7-73
<b>MAINTENANCE</b> .....	7-1	H. Air Conditioner .....	7-74
Correct Maintenance and Inspection Procedures .....	7-1	Clean and Replace Recirculation Air Filter .....	7-74
Check Hour Meter Regularly .....	7-2	Clean and Replace Ventilation Air Filter .....	7-75
Use Correct Fuels and Lubricants .....	7-2	Check Refrigerant Quantity .....	7-76
Prepare Machine for Maintenance .....	7-3	Check Compressor Belt Tension .....	7-77
Installing Dump Body Prop Pins .....	7-5	Clean Condenser Core .....	7-78
Removal and Storage of Dump Body Prop Pins .....	7-6	Check Tightening Torque .....	7-79
Installing Dump Body Prop Cable .....	7-7	Seasonal Maintenance .....	7-80
Removal and Storage of Dump Body Prop Cable .....	7-8	I. Electrical System .....	7-81
Inspection/Maintenance Lights .....	7-9	Batteries .....	7-82
Main Part/Component Location Diagram .....	7-11	Replacing Fuses .....	7-87
Periodic Replacement of Parts .....	7-13	Check Fusible Link .....	7-91
Hydraulic System .....	7-14	Check Electrical Cables and Wire Harnesses .....	7-92
Maintenance Guide .....	7-16	Check Emergency Engine Stop Switch .....	7-94
A. Greasing .....	7-21	Check Lights .....	7-95
B. Engine .....	7-24	Check Horn and Backup Alarm Buzzer .....	7-95
Check Engine Oil Level .....	7-25	Check Suspension Pressure Sensor .....	7-96
Change Engine Oil .....	7-26	J. Brakes & Steering System .....	7-98
Replace Engine Oil Filters .....	7-26	Check Brake Operation .....	7-98
C. Travel Reduction Gear .....	7-28	Check Service Brake .....	7-98
Check Gear Oil Level .....	7-29	Check Parking Brake .....	7-99
Change Gear Oil .....	7-30	Check Accumulator .....	7-100
Replace Gear Oil Filter .....	7-30	Check Front/Rear Brake Lining .....	7-102
Clean and Replace Air Breather .....	7-31	Check Front/Rear Brake Disk .....	7-102
Clean Oil Cooler Core .....	7-31	K. Suspension, Wheels & Tires .....	7-103
D. Hydraulic System .....	7-32	Check Suspension .....	7-104
Inspection and Maintenance of Hydraulic Equipment ...	7-33	Check Wheels .....	7-105
Check Hydraulic Oil Level .....	7-35	Check Front Axle .....	7-106
Drain Hydraulic Oil Tank Sump .....	7-36	Check Front Wheel Lubricant .....	7-106
		Change Front Wheel Lubricant .....	7-106
		Check Tire Inflation Pressure .....	7-107

---

## CONTENTS

---

Check Tire Condition .....	7-108
Check Wheel Alignment .....	7-108
L. Miscellaneous .....	7-109
Check, Clean and Replace Alternator Carbon Brush .....	7-109
Check and Change Coolant in the Control Cabinet .....	7-112
Clean and Replace Pressurized Control Cabinet Filter .....	7-113
Clean Rear Axle Inside .....	7-114
Check and Replace Seat Belt .....	7-114
Check Windshield Washer Tank .....	7-114
Check Play Amount in Steering Wheel Stroke .....	7-115
Auto-Lubrication System .....	7-116
Check Tightening Torque of Bolts and Nuts .....	7-118
Check Dump Body Prop Cable .....	7-130
<b>MAINTENANCE UNDER SPECIAL ENVIRONMENTAL CONDITIONS .....</b>	<b>9-1</b>
Maintenance Under Special Environmental Conditions .....	9-1
<b>STORAGE .....</b>	<b>10-1</b>
Storing Machine .....	10-1
Removing Machine from Storage .....	10-2
<b>TROUBLESHOOTING .....</b>	<b>11-1</b>
Cummins Fault Code Lamps and Diagnostic Switches ..	11-1
Engine .....	11-2
Electrical System .....	11-5
Hydraulic System .....	11-8
Hydraulic Hoist System .....	11-10
Hydraulic Steering System .....	11-10
Steering Pump .....	11-11
Steering Control Valve .....	11-12
Front Axle .....	11-13
Rear Axle .....	11-14
Hoist Pump Driveline .....	11-14
Rear Axle Planetary .....	11-15
Parking Brake .....	11-15
Alternator .....	11-16
Wheel Motor .....	11-16
Blower Motor .....	11-17
<b>SPECIFICATIONS .....</b>	<b>12-1</b>
Specifications .....	12-1
Hitachi Loading Policy .....	12-2
<b>INDEX .....</b>	<b>14-1</b>

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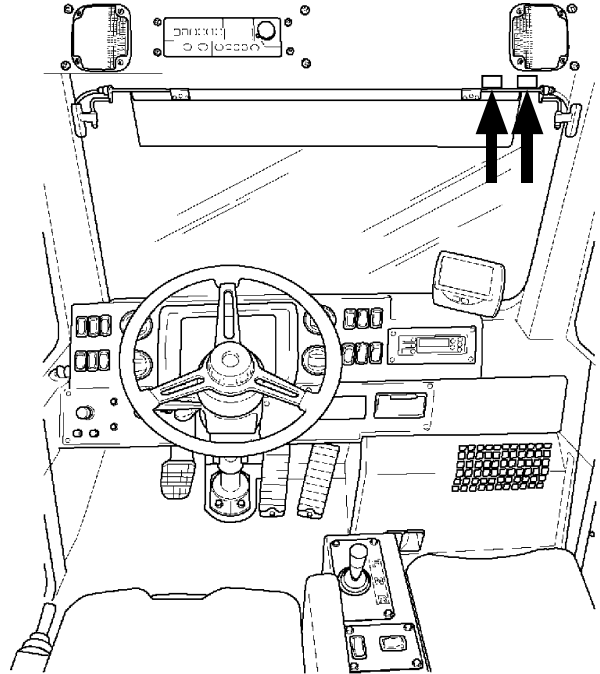
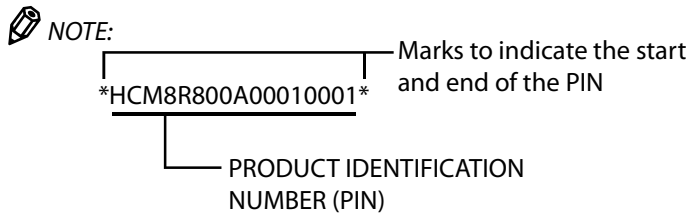
## MACHINE NUMBERS

The manufacturing Nos. explained in this group is the individual number (serial No.) given to each machine and main components. These numbers are requested when inquiring any information on the machine and/or components. Fill these serial Nos. in the blank spaces in this group to immediately make them available upon request.

### Machine

MODEL/TYPE: \_\_\_\_\_

PRODUCT  
IDENTIFICATION  
NUMBER: \_\_\_\_\_



M8R8-01-105

### Rollover Protective Structure Cab Name Plate

MODEL/TYPE: \_\_\_\_\_

ROPS  
MODEL  
NUMBER: \_\_\_\_\_

MAX  
MACHINE  
MASS, M-kg: \_\_\_\_\_

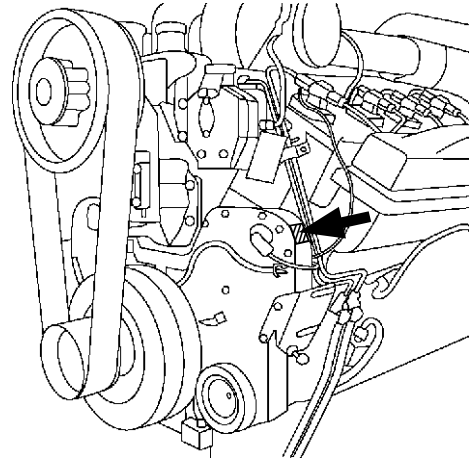
# MACHINE NUMBERS

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## Engine

TYPE: \_\_\_\_\_

MFG. NO.: \_\_\_\_\_



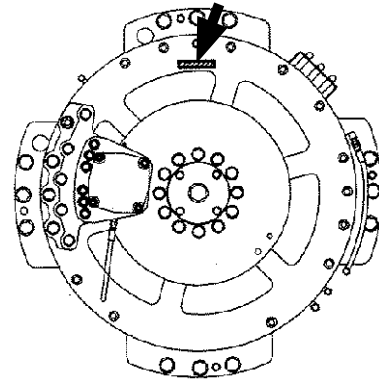
M8R8-00-025

## Wheel Motor

TYPE: \_\_\_\_\_

MFG. NO. (LEFT): \_\_\_\_\_

MFG. NO. (RIGHT): \_\_\_\_\_

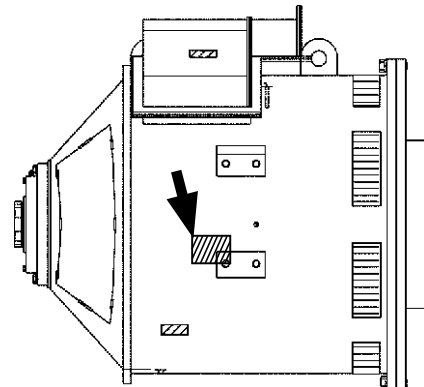


M8R8-00-028

## Alternator

TYPE: \_\_\_\_\_

MFG. NO.: \_\_\_\_\_



M8R8-00-027

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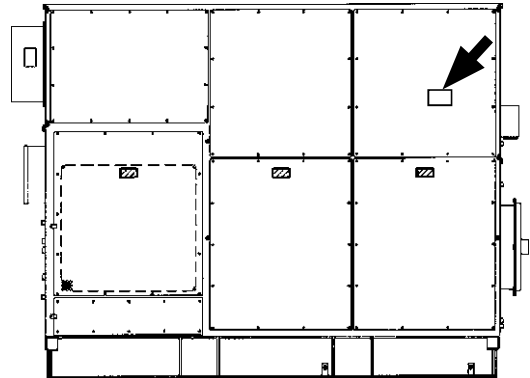
# MACHINE NUMBERS

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## Control Cabinet

TYPE: \_\_\_\_\_

MFG. NO.: \_\_\_\_\_

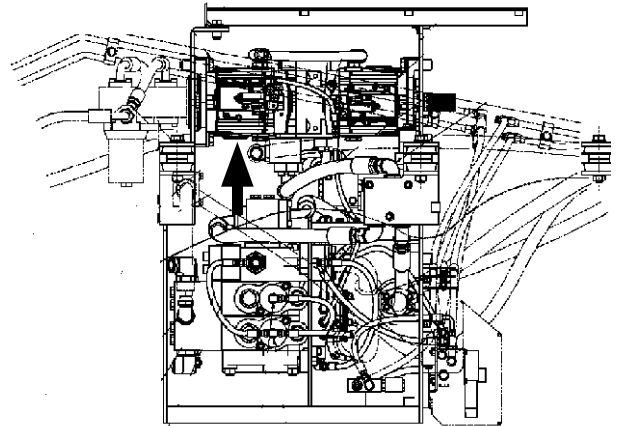


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## Hydraulic Pump

TYPE: \_\_\_\_\_

MFG. NO.: \_\_\_\_\_

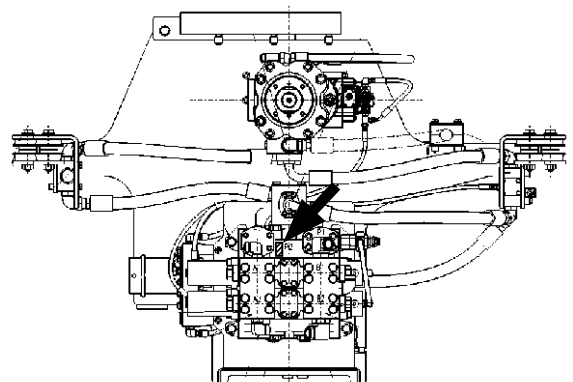


M8R8-00-029

## Control Valve

TYPE: \_\_\_\_\_

MFG. NO.: \_\_\_\_\_



M8R8-00-030

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# MACHINE NUMBERS

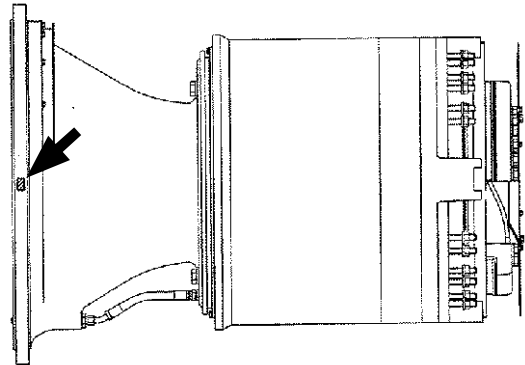
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## Travel Reduction Gear

TYPE: \_\_\_\_\_

MFG. NO. (LEFT): \_\_\_\_\_

MFG. NO. (RIGHT): \_\_\_\_\_



M8R8-00-031

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## SAFETY

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### Recognize Safety Information

- These are the **SAFETY ALERT SYMBOLS**.
  - When you see these symbols on your machine or in this manual, be alert to the potential for personal injury.
  - Follow recommended precautions and safe operating practices.



SA-688

### Understand Signal Words

- On machine safety signs, signal words designating the degree or level of hazard - **DANGER**, **WARNING**, or **CAUTION** - are used with the safety alert symbol.
  - **DANGER** indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
  - **WARNING** indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
  - **CAUTION** indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
  - **DANGER or WARNING safety signs** are located near specific hazards. General precautions are listed on **CAUTION safety signs**.
  - Some safety signs do not use any of the designated signal words above after the safety alert symbol are occasionally used on this machine.
- To avoid confusing machine protection with personal safety messages, a signal word **IMPORTANT** indicates a situation which, if not avoided, could result in damage to the machine.
-  **NOTE** indicates an additional explanation for an element of information.



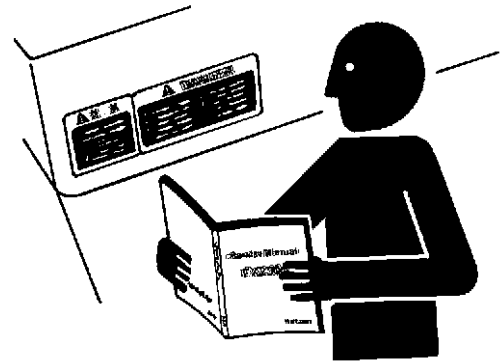
SA-1223

## SAFETY

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### Follow Safety Instructions

- Carefully read and follow all safety signs on the machine and all safety messages in this manual.
- Safety signs should be installed, maintained and replaced when necessary.
  - If a safety sign or this manual is damaged or missing, order a replacement from your authorized dealer in the same way you order other replacement parts (be sure to state machine model and serial number when ordering).
- Learn how to operate the machine and its controls correctly and safely.
- Allow only trained, qualified, authorized personnel to operate the machine.
- Keep your machine in proper working condition.
  - Unauthorized modifications of the machine may impair its function and/or safety and affect machine life.
- The safety messages in this SAFETY chapter are intended to illustrate basic safety procedures of machines. However it is impossible for these safety messages to cover every hazardous situation you may encounter. If you have any questions, you should first consult your supervisor and/or your authorized dealer before operating or performing maintenance work on the machine.

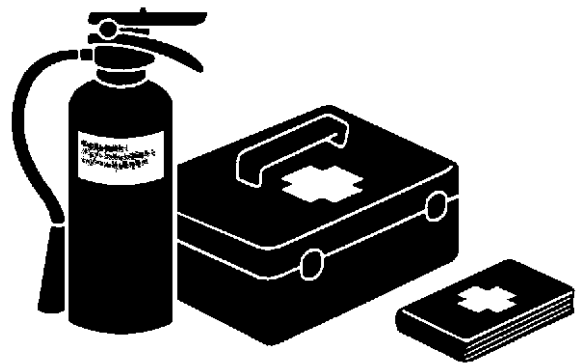


SA-003

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### Prepare for Emergencies

- Be prepared if a fire starts or if an accident occurs.
  - Keep a first aid kit and fire extinguisher on hand.
  - Thoroughly read and understand the label attached on the fire extinguisher to use it properly.
  - To ensure that a fire-extinguisher can be always used when necessary, check and service the fire-extinguisher at the recommended intervals as specified in the fire-extinguisher manual.
  - Establish emergency procedure guidelines to cope with fires and accidents.
  - Keep emergency numbers for doctors, ambulance service, hospital, and fire department posted near your telephone.



SA-437

## SAFETY

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### Wear Protective Clothing

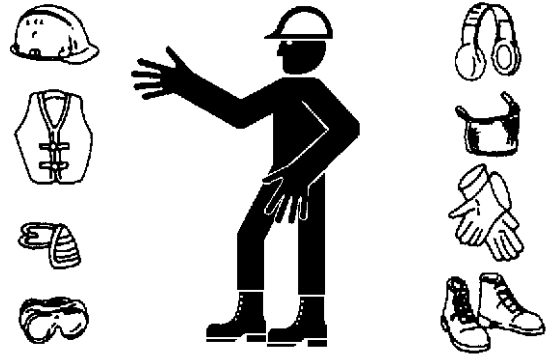
- Wear close fitting clothing and safety equipment appropriate to the job.

You may need:

- A hard hat
- Safety shoes
- Safety glasses, goggles, or face shield
- Heavy gloves
- Hearing protection
- Reflective clothing
- Wet weather gear
- Respirator or filter mask.

Be sure to wear the correct equipment and clothing for the job. Do not take any chances.

- Avoid wearing loose clothing, jewelry, or other items that can catch on control levers or other parts of the machine.
- Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating the machine.



SA-438

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### Protect Against Noise

- Prolonged exposure to loud noise can cause impairment or loss of hearing.
- Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortably loud noises.



SA-434

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### Inspect Machine

- Inspect your machine carefully each day or shift by walking around it before you start it to avoid personal injury.
- In the walk-around inspection, be sure to cover all points described in the "INSPECT MACHINE DAILY BEFORE STARTING" chapter in the operator's manual.



SA-435

## SAFETY

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### General Precautions for Cab

- Before entering the cab, thoroughly remove all dirt and/or oil such as mud, grease, soil or stones that may mess up the cab from the soles of your work boots. If any controls such as a pedal is operated while with dirt and/or oil on the soles of the operator's work boots, the operator's foot may slip off the pedal, possibly resulting in a personal accident.
- Do not mess up around the operator's seat with parts, tools, soil, stones, obstacles that may fold up or turn over, cans or lunch box. The pedals become inoperable if obstacle jams in operation stroke of the accelerator pedal, electric brake pedal or service brake pedal, which may result in serious injury or death.
- Do not leave parts and/or tools lying around the operator's seat. Store them in their specified locations.
- Avoid storing transparent bottles in the cab. Do not attach any transparent type window decorations on the windowpanes as they may focus sunlight, possibly starting a fire.
- Refrain from listening to the radio, or using music headphones or mobile telephones in the cab while operating the machine.
- Keep all flammable objects and/or explosives away from the machine.
- After using the ashtray, always cover it to extinguish the match and/or tobacco.
- Do not leave cigarette lighters in the cab. When the temperature in the cab increases, the lighter may explode.
- Use proper floor mat dedicated to the machine. If another floor mat is used, it may be displaced and contact with the accelerator pedal, electric brake pedal or service brake pedal during operation, resulting in serious injury or death.
- When operator drives the machine with decreased attentiveness, resulting in serious injury or death.
  - Never operate the machine in the state with drinking alcohol or drug.

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### Use Handholds and Steps

- Falling is one of the major causes of personal injury.
  - When you get on and off the machine, always face the machine and maintain a three-point contact with the steps and handrails.
  - Do not use any controls as handholds.
  - Never jump on or off the machine. Never mount or dismount a moving machine.
  - Be careful of slippery conditions on platforms, steps, and handrails when leaving the machine.
  - Do not step or climb on surfaces, which are not intended for walking. Step only on the areas provided with the slip resistant surfaces.



SA-439

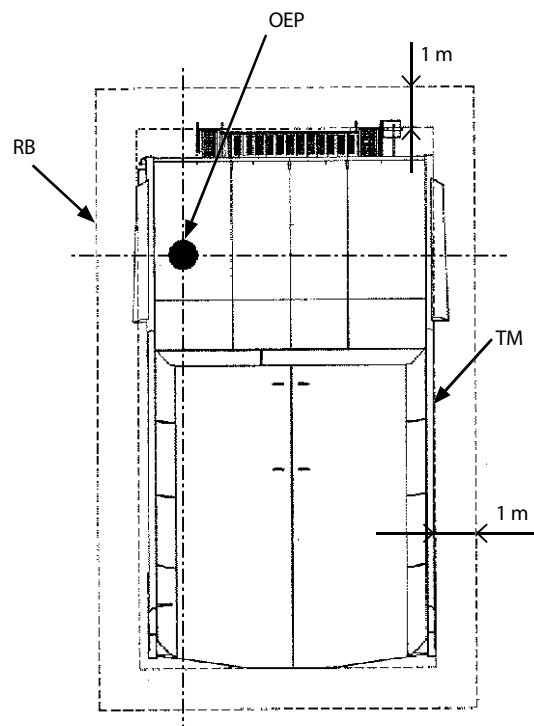
# SAFETY

## Operator's Visibility

- This machine is equipped with mirrors and cameras to see around the machine. Adjust the view mirrors and cameras position so that the best visibility is obtained from the operator's seat. If the mirrors and cameras are dirty, immediately clean them. Also see carefully around the machine while moving your viewpoint as need arises.
- The view mirrors and cameras position should be adjusted whenever changing the operator for the machine. Always take extra attention for surrounded area during operating.
- When the machine is modified or fitted with equipment that influences visibility, it is necessary to check again the operator's visibility according to the ISO 5006. Contact your authorized dealer before modifying the machine.
- This machine has the blind area created because of parts of the base machine and/or its equipment from the operator's seat by direct.
- Operate the machine safely with sufficient recognition this machine has blind area from the operator's seat by direct.
- The operator's visibility according to the ISO 5006 of this machine with standard mirrors and cameras is as follows.

### Operator's visibility on a rectangular 1 m boundary close around the machine

Operator can see the entire circumference of the height 1.5 m located at 1 m distance from the outside rectangular boundary of the machine as illustrated.

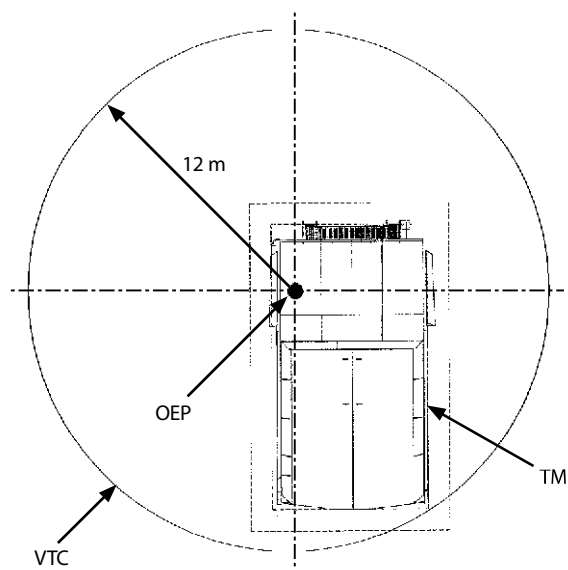


SS-3231

### Operator's visibility on a 12 m visibility test circle

Operator can see the entire circumference located the circle with 12 m radius located on the ground reference plane with its center vertically below the operator's eye point as illustrated.

TM: test machine  
RB: rectangular 1 m boundary  
VTC: visibility test circle with 12 m radius  
OEP: operator's eye point



SS-3232

## SAFETY

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### Adjust Operator's Seat

- A poorly adjusted seat for either the operator or the work at hand may quickly fatigue the operator leading to misoperations.
  - The seat should be adjusted whenever changing the operator for the machine.
  - The operator should be able to fully depress the pedals and to correctly operate the steering wheel with his back against the seat back.
  - If not, move the seat forward or backward, and check again.
  - Adjust the mirror position so that the best rear visibility is obtained from the operator's seat. If the mirror is broken, immediately replace it with a new one.

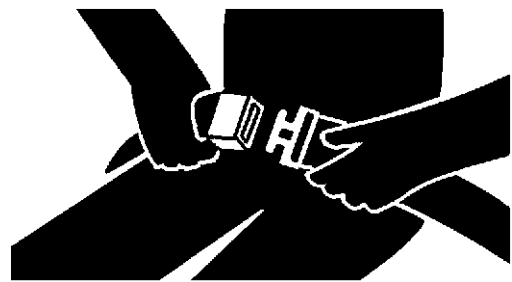


SA-462

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### Fasten Your Seat Belt

- If the machine should overturn, the operator may become injured and/or thrown from the cab. Additionally the operator may be crushed by the overturning machine, resulting in serious injury or death.
  - Prior to operating the machine, thoroughly examine webbing, buckle and attaching hardware. If any item is damaged or worn, replace the seat belt or component before operating the machine.
  - Be sure to remain seated with the seat belt securely fastened at all times when the machine is in operation to minimize the chance of injury from an accident.
  - We recommend that the seat belt is replaced every three years regardless of its apparent condition.



SA-237

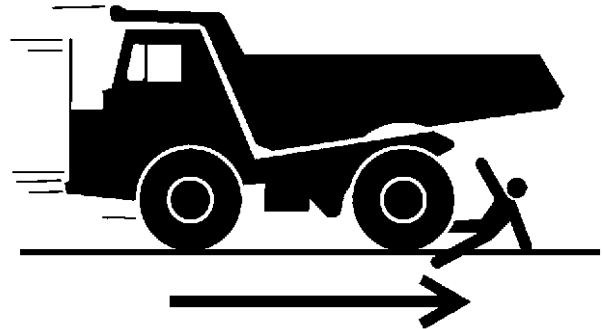


## SAFETY

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### Move and Operate Machine Safely

- Bystanders can be run over.
  - Take extra care not to run over bystanders. Confirm the location of bystanders before moving, or operating the machine.
  - Always keep the travel alarm and horn in working condition (if equipped). It warns people when the machine starts to move.
  - Use a signal person when moving, or operating the machine in congested areas. Coordinate hand signals before starting the machine.
  - Use appropriate illumination. Check that all lights are operable before operating the machine. If any faulty illumination is present, immediately repair it.
  - Always keep the cab door closed while operating the machine.
  - Check the mirrors and the monitors in the CAB for problems. If there are problems, replace the problem parts or clean the mirrors, cameras and monitors. Refer to Camera Monitor section on the cleaning of the camera and monitor.



SA-1598

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### Handle Starting Aids Safely

Starting fluid:

- Starting fluid is highly flammable.
  - Keep all sparks and flame away when using it.
  - Keep starting fluid well away from batteries and cables.
  - Remove container from machine if engine does not need starting fluid.
  - To prevent accidental discharge when storing a pressurized container, keep the cap on the container, and store it in a cool, well-protected location.
  - Do not incinerate or puncture a starting fluid container.



SA-293

## SAFETY

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### Operate Only from Operator's Seat

- Inappropriate engine starting procedures may cause the machine to runaway, possibly resulting in serious injury or death.
  - Start the engine only when seated in the operator's seat.
  - NEVER start the engine while standing on the platform.
  - Do not start engine by shorting across starter terminals.
  - Check that the parking brake switch is turned ON.
  - Before starting the engine, confirm that shift lever is in the NEUTRAL position.
  - Before starting the engine, confirm the safety around the machine and sound the horn to alert bystanders.

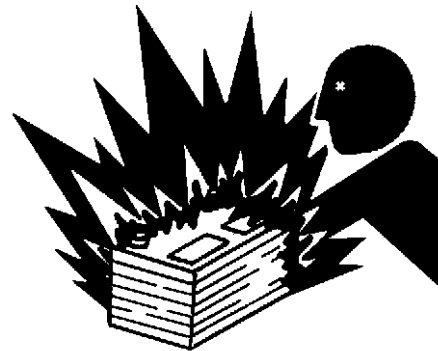


SA-1599

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### Jump Starting

- Battery gas can explode, resulting in serious injury.
  - If the engine must be jump started, be sure to follow the instructions shown in the "OPERATING ENGINE" chapter.
  - The operator must be in the operator's seat so that the machine will be under control when the engine starts. Jump starting is a two-person operation.
  - Never use a frozen battery.
  - Failure to follow correct jump starting procedures could result in a battery explosion or a runaway machine.



SA-032

## SAFETY

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### Avoid Injury Caused by High Tension Electric Shock

- Never attempt to open any electrical component covers displaying a decal with the words "HIGH VOLTAGE." You may receive an electric shock, possibly resulting in personal injury or death.
- Never attempt to touch or grab any high tension electrical components or the power cable with wet hands. You may receive an electric shock, possibly resulting in personal injury or death.



SA-112

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### Investigate Job Site Beforehand

- When working on a road shoulder, the machine could tip over, possibly resulting in serious injury or death.
- Investigate the configuration and ground conditions of the job site beforehand to prevent the machine from falling and to prevent the ground, stockpiles, or banks from collapsing.
- Make a work plan. Use machines appropriate to the work and job site.
- Reinforce ground, edges, and road shoulders as necessary. Keep the machine well back from the edges of excavations and road shoulders.
- When working on an incline or on a road shoulder, employ a signal person as required.
- When the footing is weak, reinforce the ground before starting work.
- When working on frozen ground, be extremely alert. As ambient temperatures rise, footing becomes loose and slippery.
- Beware the possibility of fire when operating the machine near flammable objects such as dry grass.
- Driver should try to travel the road once to understand potential danger.



SA-1601

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### Provide Signals for Jobs Involving Multiple Machines

- For jobs involving multiple machines, provide signals commonly known by all personnel involved. Also, appoint a signal person to coordinate the job site. Make sure that all personnel obey the signal person's directions.

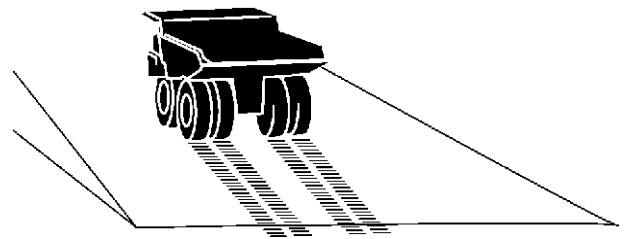


SA-481

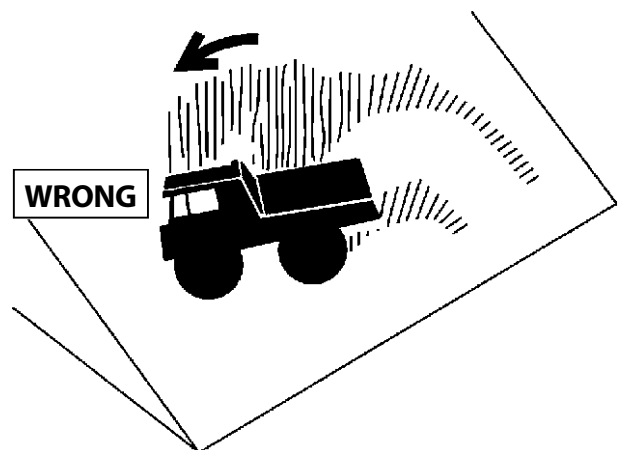
## SAFETY

### Drive Machine Safely

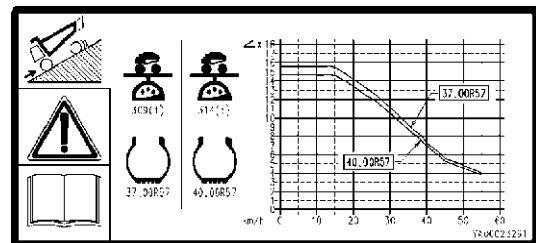
- Before driving the machine, always confirm that the shift lever direction corresponds to the direction you wish to drive.
- Be sure to detour around any obstructions.
- Avoid traveling over obstructions. Soil, fragments of rocks, and/or metal pieces may scatter around the machine. Do not allow personnel to stay around the machine while traveling.
- If the engine stops while driving, the steering function becomes inoperative. Immediately stop the machine by applying the service brake to prevent personal accident.
- Do not inertia run with the shift lever in Neutral position. Because engine speed is in the slow idling state, the cooling capability of the travel reduction gear reduces. The reduction gear unit may be seriously damaged if the machine continues to drive with the shift lever in Neutral position.
- Driving on a slope may cause the machine to slip or overturn, possibly resulting in serious injury or death.
  - Driving across the face of a slope or steering on a slope may cause the machine to skid or overturn. If the direction must be changed, move the machine to level ground, then, change the direction to ensure safe operation.
- The “Electric Brake Performance Decal” is provided in the cab as a general guideline for proper downgrade operation of the loaded machine. Warning, understand downhill speed operation thoroughly before operation. Machine road speed is reduced during downhill operation. When electric brake operation with overloaded machine on the steep downgrade continues for more than 2 minutes continuously, grid box resistance will be electrical overload. Pay attention that electric brake torque reduces.
  - Overloaded machine reduces the electric brake performance. Observe strictly the Hitachi loading policy while driving.
  - Before descending on a slope, decelerate the machine sufficiently using electric brake.
  - When descending on a slope, drive the machine slowly using electric brake.
- Driving on a rough road may cause the machine to slip or overturn, possibly resulting in serious injury or death.
  - When driving on a rough road or soft ground, reduce speed sufficiently.
  - Driving on a wet road may cause the machine to slip, possibly resulting in serious injury or death. Avoid applying the electric brake for quick stops.



SA-1602



SA-1603



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