

Operator's Manual

ZAXIS

135US-5N

245USLC-5N

Hydraulic Excavator

Serial No.

ZX135US-5N 100001 and up

ZX245USLC-5N 400001 and up

INDEX

MACHINE NUMBERS

SAFETY

SAFETY SIGNS

COMPONENTS NAME

GETTING ON/OFF THE MACHINE

OPERATOR'S STATION

BREAK-IN

OPERATING THE ENGINE

DRIVING THE MACHINE

OPERATING THE MACHINE

TRANSPORTING

MAINTENANCE

MAINTENANCE UNDER SPECIAL ENVIRONMENTAL CONDITIONS

STORAGE

TROUBLESHOOTING

SPECIFICATIONS

INDEX

CONTENTS

MACHINE NUMBERS	1
SAFETY	S-1
Recognize Safety Information	S-1
Understand Signal Words.....	S-1
Follow Safety Instructions.....	S-2
Prepare for Emergencies.....	S-3
Wear Protective Clothing.....	S-3
Protect Against Noise	S-4
Inspect Machine	S-4
General Precautions for Cab.....	S-5
Use Handholds and Steps	S-6
Adjust the Operator's Seat	S-6
Ensure Safety Before Rising from or Leaving Operator's Seat.....	S-7
Fasten Your Seat Belt	S-7
Move and Operate Machine Safely.....	S-8
Operate Only from Operator's Seat	S-8
Jump Starting	S-9
Keep Riders off Machine	S-9
Precautions for Operations	S-10
Investigate Job Site Beforehand	S-11
Install OPG Guard	S-12
Provide Signals for Jobs Involving Multiple Machines....	S-13
Confirm Direction of Machine to Be Driven.....	S-13
Drive Machine Safely.....	S-14
Avoid Injury from Rollaway Accidents.....	S-16
Avoid Injury from Back-Over and Swing Accidents	S-17
Keep Person Clear from Working Area.....	S-18
Never Position Bucket Over Anyone	S-18
Avoid Undercutting.....	S-19
Avoid Tipping.....	S-19
Never Undercut a High Bank.....	S-20
Dig with Caution.....	S-20
Operate with Caution	S-20
Avoid Power Lines.....	S-21
Precautions for Lightning.....	S-21
Object Handling	S-22
Protect Against Flying Debris	S-22
Park Machine Safely.....	S-23
Handle Fluids Safely—Avoid Fires.....	S-23
Transport Safely	S-24
Practice Safe Maintenance.....	S-25
Warn Others of Service Work	S-26
Support Machine Properly.....	S-26
Stay Clear of Moving Parts	S-27
Prevent Parts from Flying	S-27
Store Attachments Safely	S-28
Prevent Burns.....	S-28
Replace Rubber Hoses Periodically.....	S-29
Avoid High-Pressure Fluids	S-29
Prevent Fires.....	S-30
Evacuating in Case of Fire.....	S-32
Beware of Exhaust Fumes.....	S-32
Precautions for Welding and Grinding	S-33
Avoid Heating Near Pressurized Fluid Lines	S-34
Avoid Applying Heat to Lines Containing Flammable Fluids.....	S-34
Precautions for Handling Accumulator and Gas Damper	S-34
Remove Paint Before Welding or Heating	S-35
Beware of Asbestos and Silicon Dust and Other Contamination	S-35
Prevent Battery Explosions	S-36
Service Air Conditioning System Safely	S-36
Handle Chemical Products Safely.....	S-37
Dispose of Waste Properly.....	S-37
Never Ride Attachment.....	S-38
Notes for Muffler Filter.....	S-38
Precautions for Communication Terminal.....	S-38
Precaution for Communication Terminal Equipment	S-39
SAFETY SIGNS	S-41
COMPONENTS NAME	1-1
Components Name	1-1
GETTING ON/OFF THE MACHINE	1-2
OPERATOR'S STATION	1-3
Muffler Filter	1-3
Cab Features (Std. Model)	1-6
Multi Function Monitor	1-7
Default Setting	1-8
Basic Screen.....	1-9
How to Use Screens.....	1-10
Displaying Basic Screen	1-10
Hour Meter	1-13
Clock.....	1-13
Fuel Gauge	1-13
Coolant Temperature Gauge	1-14
Operating Status Icon Display.....	1-14
Security Functions (Optional)	1-15
Input Password	1-15
Extending Password Duration Time	1-16
Alarm Occurrence Screen.....	1-17
Remedy	1-19
Muffler Filter	1-23
Muffler Filter Condition Display.....	1-23
Muffler Filter Manual Regeneration Request.....	1-24
Manual Regeneration Procedure	1-25
Main Menu.....	1-26
Air Conditioner.....	1-27
Circulation Air Mode.....	1-27
Air Conditioner ON/OFF	1-27
Radio	1-28
Work Mode	1-29
Attachment Selection	1-29
Mail (Optional).....	1-30
Setting Menu	1-32
Date and Time.....	1-33
Time Adjustment	1-33
Date Adjustment.....	1-35
Display Mode Setting	1-37

CONTENTS

Attachment Adjust.....	1-39	Cigar Lighter.....	1-99
Flow Rate Adjustment.....	1-39	Using Cigar Lighter	1-99
Priority (arm roll-out).....	1-41	Using Cigar Lighter Port as External Power Source	1-99
Priority (arm roll-in) (Except ZX135US-5N)	1-43	Cab Light Switch.....	1-100
Attachment Name Input.....	1-45	Installing Fire Extinguisher (Optional)	1-100
Auto Shut-Down	1-47	Pilot Control Shut-Off Lever	1-101
Auto Shut-Down: ON/OFF	1-47	Engine Stop Switch.....	1-101
Acting Time Setting.....	1-48	Fuse Box.....	1-102
Muffler Filter Regeneration Inhibited	1-49	Auto Air Conditioner	1-103
Setting Procedure	1-49	Features:.....	1-103
Password Change (Optional).....	1-51	Components Name.....	1-104
Sub Meter.....	1-55	Controller Part Name and Function	1-105
Rear View Camera Monitor	1-57	Cab Heater Operation	1-107
Rear View Camera ON/OFF.....	1-57	Cooling Operation.....	1-108
Brightness Adjustment.....	1-59	Defroster Operation.....	1-109
Language Settings.....	1-61	Cool Head/Warm Feet Operation.....	1-109
Lists of Display Language.....	1-63	Tips for Optimal Air Conditioner Usage	1-110
Unit Selection	1-64	For Rapid Cooling	1-110
Display Item Selection (Rear View Camera OFF)	1-66	When Windows Become Clouded	1-110
Main Menu Sequence Change	1-68	Off-Season Air Conditioner Maintenance	1-110
Information Menu	1-70	AM/FM Radio Operation.....	1-111
Operation	1-71	Controls on the Radio.....	1-111
Fuel Consumption	1-71	Tuning Procedure	1-111
Breaker Operation	1-73	Station Presetting Procedure.....	1-112
Attachment Operation.....	1-75	Station Auto-Presetting Procedure	1-113
Travel Operation.....	1-77	TONE Control.....	1-114
Actual Operation.....	1-79	Audio Input (Optional)	1-115
Maintenance	1-81	Cab Door Release Lever	1-116
Time Remains and Maintenance Interval.....	1-83	Opening/Closing and Removing Cab Inside	
Troubleshooting	1-85	Window	1-117
Monitoring.....	1-87	Opening Upper Front Window	1-118
Switch Panel.....	1-89	Removing and Storing Lower Front Window	1-119
Return to Previous Screen (Monitor)	1-90	Opening Side Windows.....	1-120
Return to Basic Screen (Monitor)	1-90	Opening/Closing Overhead Window (Std. Model)	1-121
Select/Confirm Switch (Monitor).....	1-90	Opening/Closing Overhead Window (Clear Hatch: If	
Temperature Control Switch/Mode Switch (Air		Equipped)	1-122
Conditioner)	1-90	Emergency Exit	1-123
AUTO/OFF Switch/Fan Switch (Air Conditioner).....	1-90	Adjusting Operator's Seat	1-124
AM/FM Selector/Tuning Switch (Radio).....	1-91	Seat Height and Angle Adjustment	1-124
Power Switch/Volume Control Knob (Radio)	1-91	Console and Seat Fore-aft Adjustment.....	1-124
Engine Control Dial	1-91	Seat Fore-Aft Adjustment	1-124
Auto-Idle Switch.....	1-92	Suspension Adjustment	1-124
Travel Mode Switch	1-92	Backrest Adjustment	1-125
Power Mode Switch	1-93	Armrest Adjustment	1-125
Work Light Switch.....	1-93	Adjusting Operator's Seat (Optional)	1-126
Wiper/Washer Switch	1-94	Adjusting Seat Height	1-126
Overhead Window Wiper and Washer Switch		Console and Seat Fore-aft Adjustment.....	1-126
(Optional)	1-95	Seat Fore-Aft Adjustment	1-126
Numeric Keypad.....	1-95	Suspension Adjustment	1-127
Switch Panel (for Optional Equipments).....	1-96	Fore-Aft Position Adjustment of Seat Surface.....	1-127
Travel Alarm Deactivation Switch (Optional).....	1-97	Angle Adjustment of Seat Surface.....	1-127
Seat Heater Switch	1-97	Backrest Adjustment	1-127
Electrical Control Main Switch (Optional)	1-97	Armrest Adjustment	1-127
Key Switch.....	1-98	Console Height Adjustment.....	1-128
Power Boost Switch	1-98	Adjusting Procedures	1-128
Horn Switch	1-98	Installation and Adjustment of Mirrors	1-129

CONTENTS

Seat Belt.....	1-130	Precautions for Crusher Operation	5-35
BREAK-IN	2-1	Attachment.....	5-38
Observe Engine Operation Closely.....	2-1	Allowable Weight Limits of Installed Attachment	5-38
Every 8 Hours or Daily.....	2-1	Attachment Connection Parts	5-42
After the First 50 Hours	2-1	Precaution for Arm Roll-In/Bucket Roll-In Combined	
After the First 100 Hours.....	2-1	Operation.....	5-44
OPERATING THE ENGINE	3-1	Shackle Hole Usage	5-44
Inspect Machine Daily Before Starting	3-1	How to Lower Boom in Case of Emergency and When	
Before Starting Engine	3-2	Engine Stops.....	5-45
Starting the Engine.....	3-3	Precautions for After Operations.....	5-46
Check Instruments After Starting.....	3-7	TRANSPORTING	6-1
Using Booster Batteries.....	3-8	Transporting by Road	6-1
Stopping the Engine	3-10	Loading/Unloading on a Trailer	6-2
Engine Auto-Stop in Extremely Low Temperature.....	3-11	Fastening Machine for Transporting	6-5
DRIVING THE MACHINE	4-1	Unloading	6-5
Drive the Machine Carefully	4-1	Lifting Machine	6-7
Steering the Machine Using Pedals.....	4-2	MAINTENANCE.....	7-1
Steering the Machine Using Levers	4-3	Correct Maintenance and Inspection Procedures.....	7-1
Travel Mode Switch	4-4	Check the Hour Meter Regularly.....	7-3
Travel Alarm (Optional)	4-4	Maintenance Guide Table	7-4
Operating on Soft Ground	4-5	Preparations for Inspection and Maintenance	7-6
Raise One Track Using Boom and Arm	4-5	Hood and Access Covers.....	7-7
Towing Machine a Short Distance.....	4-6	Daily Check.....	7-9
Operating in Water or Mud.....	4-7	Maintenance Guide	7-10
Parking the Machine on Slopes.....	4-8	Periodic Replacement of Parts.....	7-15
Parking the Machine	4-8	Kind of Oils.....	7-16
OPERATING THE MACHINE	5-1	Recommended Engine Oil.....	7-16
Control Lever (ISO Pattern)	5-1	A. Greasing.....	7-19
Attachment Pedal (Hydraulic Breaker) (Optional)	5-2	Front Joint Pins	7-19
Attachment Pedal (Hydraulic Crusher) (Optional).....	5-3	Swing Bearing	7-21
Pilot Control Shut-Off Lever	5-4	Swing Internal Gear.....	7-22
Warming Up Operation.....	5-5	B. Engine.....	7-23
Engine Speed Control.....	5-6	Engine Oil Level.....	7-23
Auto-Idle.....	5-7	Change Engine Oil	7-25
Auto-Idle ON/OFF	5-8	Replace Engine Oil Filter.....	7-25
Auto Shut-Down.....	5-9	Check and Clean Around the Engine.....	7-27
Muffler Filter Manual Regeneration.....	5-12	C. Transmission.....	7-28
Work Mode	5-14	Pump Transmission	7-28
Power Boost Switch	5-17	Swing Reduction Gear	7-29
Power Mode	5-18	Travel Reduction Gear	7-30
Operating Backhoe.....	5-19	D. Hydraulic System.....	7-32
Shovel	5-20	Inspection and Maintenance of Hydraulic Equipment... 7-32	
Grading Operation.....	5-21	Check Hydraulic Oil Level	7-36
Do Not Strike the Ground with Bucket Teeth	5-22	Change Hydraulic Oil.....	7-37
Avoid Hammer Work	5-22	Air Bleeding Procedures.....	7-39
Avoid Abusive Operation	5-23	Suction Filter Cleaning.....	7-40
Avoid Side Load the Bucket.....	5-23	Replacement of Full-Flow Filter	7-41
Do Not Use Wide Track Shoes on Rough Ground.	5-24	Replace Pilot Oil Filter.....	7-46
Hydraulic Breaker and Hydraulic Crusher.....	5-25	Replace Air Breather Element.....	7-47
Piping for Breaker and Crusher	5-26	Check Hoses and Lines	7-48
Secondary Relief Pressure Adjustment	5-28	E. Fuel System	7-52
Precautions for Breaker Operation.....	5-30	Recommended Fuel.....	7-52
Change Hydraulic Oil and Replace Full-Flow Filter		Refueling.....	7-52
Element	5-34	Drain Fuel Tank Sump.....	7-54
		Drain Fuel Filter.....	7-55

CONTENTS

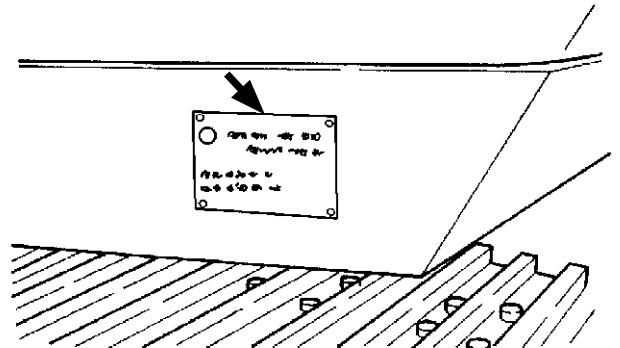
Replace Fuel Main Filter Element	7-59	SPECIFICATIONS	12-1
Replace Fuel Pre-Filter Element	7-61	Specifications.....	12-1
Clean Fuel Solenoid Pump Strainer.....	7-63	ZX135US-5N.....	12-1
Check Water Separator	7-65	Working Ranges (Grouser shoe).....	12-2
Check Fuel Hoses	7-67	ZX135US-5N.....	12-2
F. Air Cleaner.....	7-68	Shoe Types and Applications	12-3
Clean Air Cleaner Outer Element	7-68	ZX135US-5N.....	12-3
Replace Air Cleaner Outer and Inner Elements.....	7-68	Bucket Types and Applications	12-4
G. Cooling System	7-70	ZX135US-5N.....	12-4
Check Coolant Level	7-71	Specifications.....	12-5
Check and Adjust Fan Belt Tension	7-72	ZX245USLC-5N.....	12-5
Change Coolant.....	7-74	Working Ranges (Grouser shoe).....	12-6
Clean Radiator/Oil Cooler/Inter Cooler Core.....	7-76	ZX245USLC-5N.....	12-6
Clean Oil Cooler, Radiator and Inter Cooler Front Screen	7-78	Shoe Types and Applications	12-7
Clean Air Conditioner Condenser	7-78	ZX245USLC-5N.....	12-7
Clean Fuel Oil Cooler	7-78	Bucket Types and Applications	12-8
H. Electrical System.....	7-79	ZX245USLC-5N.....	12-8
Battery.....	7-80	OPTIONAL ATTACHMENTS AND DEVICES.....	13-1
Replacing Fuses	7-85	Using Pad Crawler Shoe.....	13-1
I. Miscellaneous.....	7-87	Traveling and Other Cautions.....	13-2
Check and Replace Bucket Teeth	7-87	Transporting.....	13-3
Change Bucket.....	7-93	Precautions for Transporting Machines with Pad Crawler Shoes	13-3
Convert Bucket Connection Into Face Shovel.....	7-94	Long Arm Operation --- If Equipped.....	13-8
Adjust Bucket Linkage	7-95	Blade Lever	13-9
Remove Travel Levers	7-96	Avoid Hitting Blade with Front-End Attachment.....	13-10
Check and Replace Seat Belt.....	7-96	Blade Maintenance	13-11
Check Windshield Fluid Level.....	7-97	Specifications.....	13-12
Check Track Sag	7-98	ZX135US-5N with Blade	13-12
Clean and Replace Air Conditioner Filter	7-102	Working Ranges.....	13-13
Check Air Conditioner	7-105	ZX135US-5N with Blade	13-13
Clean Cab Floor.....	7-107	Shoe Types and Applications	13-14
Retighten Cylinder Head Bolt.....	7-108	ZX135US-5N with Blade	13-14
Inspect and Adjust Valve Clearance	7-108	Bucket Teeth (Transverse-Type-Pin-Used Type)	13-15
Measure Engine Compression Pressure.....	7-108	INDEX.....	14-1
Check Starter and Alternator	7-108		
Check and Replace EGR Device	7-108		
Clean EGR Cooler	7-108		
Check Turbocharger.....	7-108		
Check and Clean Fuel Injector.....	7-108		
Check Gas Damper	7-109		
Tightening and Retightening Torque of Nuts and Bolts.....	7-109		
Check Tightening Torque of Bolts and Nuts.....	7-110		
J. Muffler Filter	7-124		
Check and Clean Filter Element of Muffler Filter	7-124		
Check and Clean Muffler Filter	7-124		
MAINTENANCE UNDER SPECIAL ENVIRONMENTAL CONDITIONS	9-1		
Maintenance Under Special Environmental Conditions	9-1		
STORAGE	10-1		
Storing the Machine.....	10-1		
TROUBLESHOOTING.....	11-1		
Troubleshooting	11-1		

MACHINE NUMBERS

The manufacturing Nos. explained in this group is the individual number (serial No.) given to each machine and hydraulic 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

TYPE: _____
 PRODUCT IDENTIFICATION NUMBER: _____

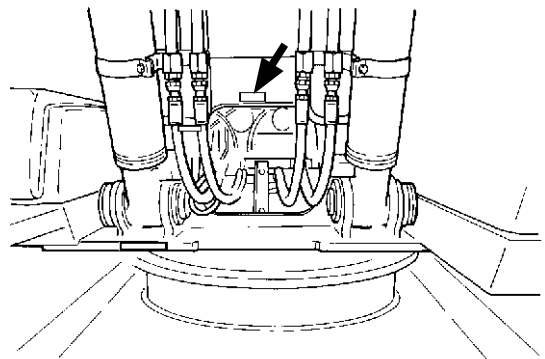


M157-00-001

Product Identification Number

NOTE:

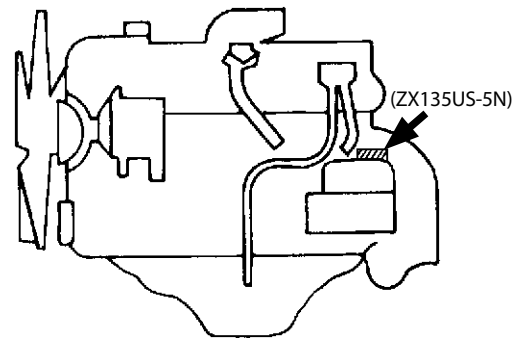
HCMDCN50000030001 Marks to indicate the start and end of the PIN
 PRODUCT IDENTIFICATION NUMBER (PIN)



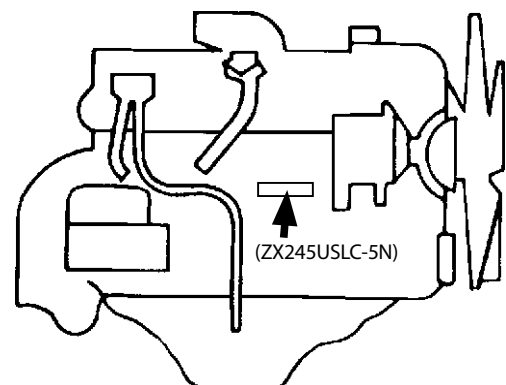
M157-12-008

Engine

TYPE : _____
 MFG. NO. : _____



M178-00-002



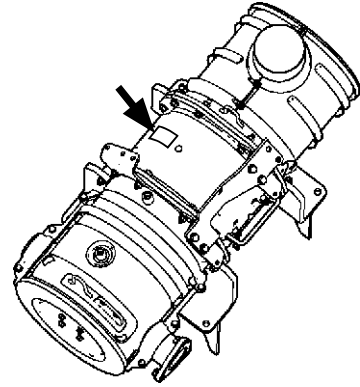
MDAA-00-001

MACHINE NUMBERS

Muffler Filter

TYPE : _____

MFG. NO. : _____

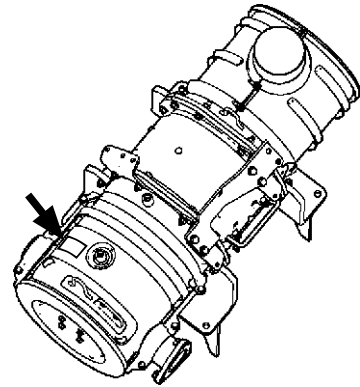


MDAA-00-002

DOC (Diesel Oxidation Catalyst)

TYPE : _____

MFG. NO. : _____

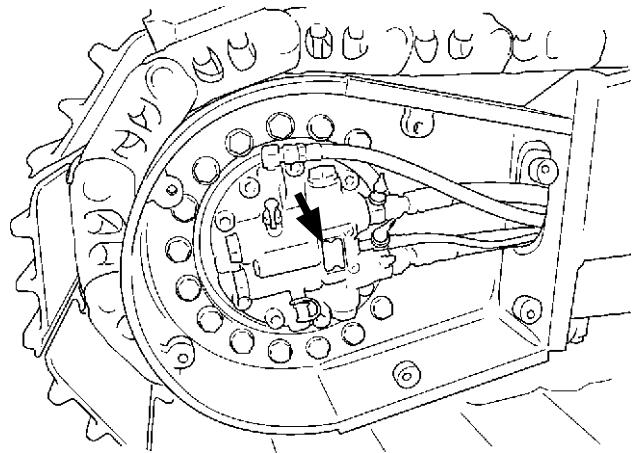


MDAA-00-002

Travel Motor

TYPE : _____

MFG. NO. : _____

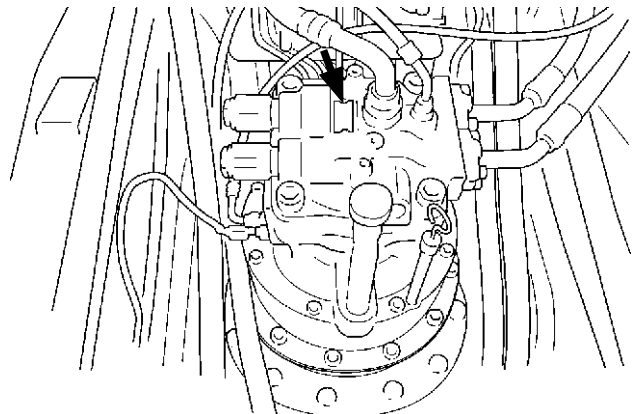


M178-07-047

Swing Motor

TYPE : _____

MFG. NO. : _____



M178-07-086

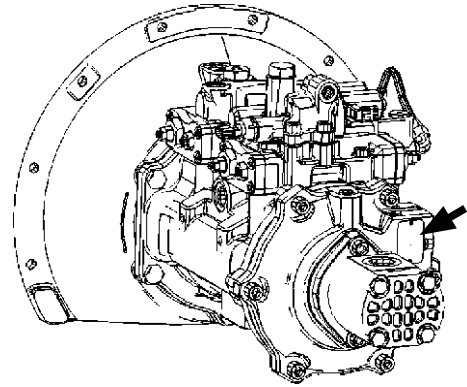
MACHINE NUMBERS

Hydraulic Pump

(ZX135US-5N)

TYPE : _____

MFG. NO. : _____

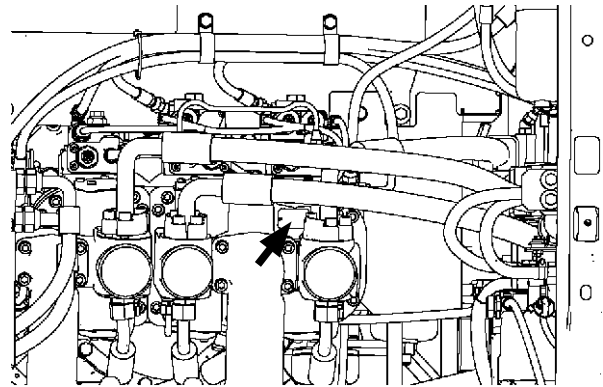


MDAA-07-072

(ZX245USLC-5N)

TYPE : _____

MFG. NO. : _____

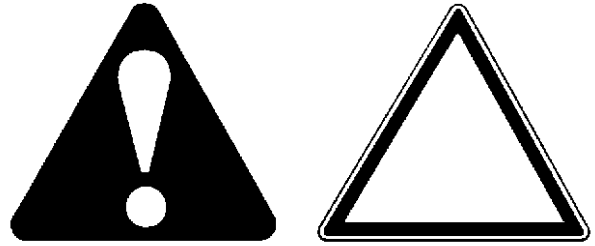


MDAA-00-003

SAFETY

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.



IMPORTANT



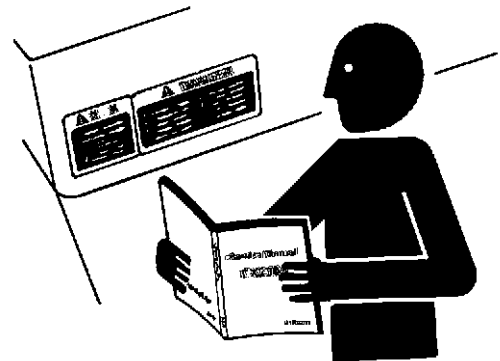
- To avoid confusing machine protection with personal safety messages, a signal word **IMPORTANT** indicates a situation which, if not avoided, could result in damage to the machine.
-  **NOTE**: indicates an additional explanation for an element of information.

SA-1223

SAFETY

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.
 - Do not modify any machine parts without authorization. Failure to do so may deteriorate the part safety, function, and/or service life. In addition, personal accident, machine trouble, and/or damage to material caused by unauthorized modifications will void Hitachi Warranty Policy.
 - Never attempt to modify or disassemble the inlet/exhaust parts and the muffler filter. Avoid giving shocks on the muffler filter by striking elements with other objects or dropping the elements. Failure to do so may affect the exhaust gas purifying device, possibly damaging it or lowering its performance.
 - Do not use attachments and/or optional parts or equipment not authorized by Hitachi. Failure to do so may deteriorate the safety, function, and/or service life of the machine. In addition, personal accident, machine trouble, and/or damage to material caused by using unauthorized attachments and/or optional parts or equipment will void Hitachi Warranty Policy.
- 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

SAFETY

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.



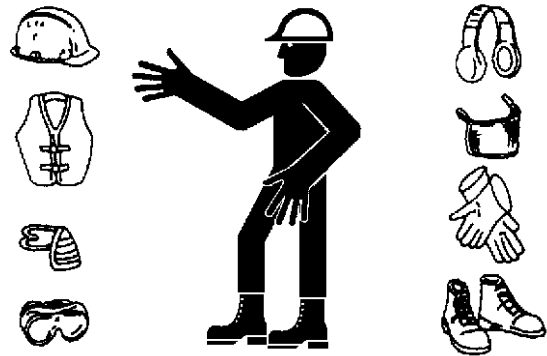
SA-437

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.



SA-438

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.

SAFETY

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

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" section in the operator's manual.



SA-435

SAFETY

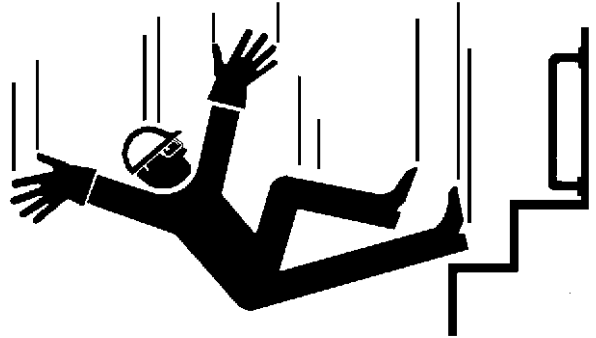
General Precautions for Cab

- 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 levers or pedals become inoperable if obstacle jams in operation stroke of the travel levers/pedals, pilot control shut-off lever or control levers, which may result in serious injury or death.
- 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 travel pedals during operation, resulting in serious injury or death.

SAFETY

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 hand-holds.
 - 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.
 - Never get on and off the machine with tools in your hands.



SA-439

Adjust the Operator's Seat

- A poorly adjusted seat for either the operator or for 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 control levers with his back against the seat back.
 - If not, move the seat forward or backward, and check again.
 - Adjust the rear view 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-378

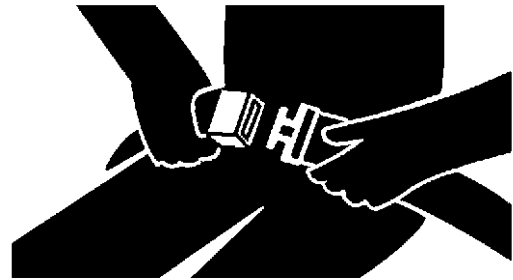
SAFETY

Ensure Safety Before Rising from or Leaving Operator's Seat

- Before rising from the operator's seat to open/close either side window or to adjust the seat position, be sure to first lower the front attachment to the ground and then move the pilot control shut-off lever to the LOCK position. Failure to do so may allow the machine to unexpectedly move when a body part unintentionally comes in contact with a control lever and/or pedal, possibly resulting in serious personal injury or death.
- Before leaving the machine, be sure to first lower the front attachment to the ground and then move the pilot control shut-off lever to the LOCK position. Turn the key switch OFF to stop the engine.
- Before leaving the machine, close all windows, doors, and access covers and lock them up.

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 be replaced every three years regardless of its apparent condition.

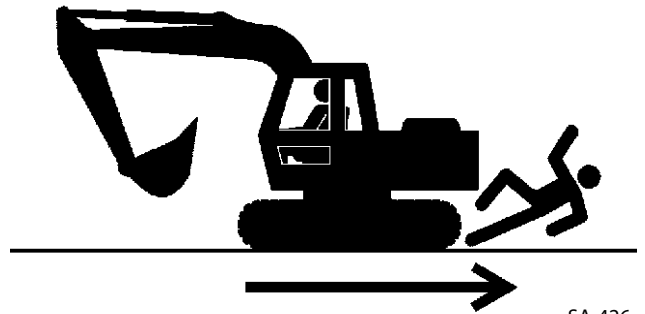


SA-237

SAFETY

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, swinging, 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, swinging, 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.
 - Ensure the cab door, windows, doors and covers are securely locked.
 - Check the mirrors and the monitor in the CAB for problems.
If there is, replace the problem part(s) or clean the mirror, camera and the monitor.
Refer to Rear View Monitor section on the cleaning of the camera and the monitor.



SA-426

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 track or on ground.
 - Do not start engine by shorting across starter terminals.
 - Before starting the engine, confirm that all control levers are in neutral.
 - Before starting the engine, confirm the safety around the machine and sound the horn to alert bystanders.

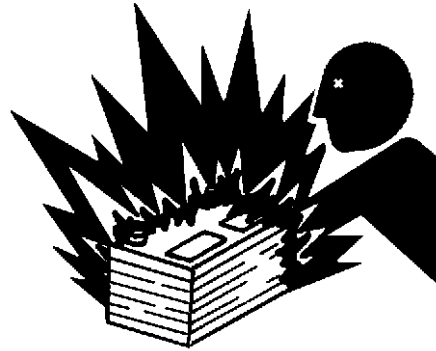


SA-444

SAFETY

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 THE ENGINE” chapter in the operator’s manual.
 - 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

Keep Riders off Machine

- Riders on machine are subject to injury such as being struck by foreign objects and being thrown off the machine.
 - Only the operator should be on the machine. Keep riders off.
 - Riders also obstruct the operator’s view, resulting in the machine being operated in an unsafe manner.



SA-379

SAFETY

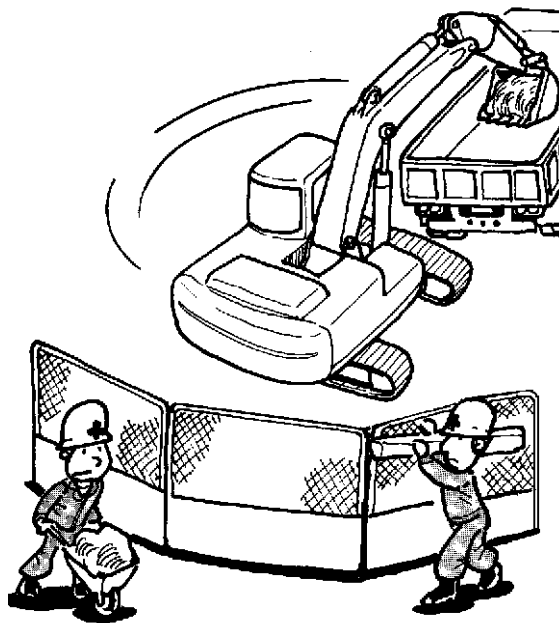
Precautions for Operations

- Investigate the work site before starting operations.
 - Be sure to wear close fitting clothing and safety equipment appropriate for the job, such as a hard hat, etc. when operating the machine.
 - Clear all persons and obstacles from area of operation and machine movement.

Always beware of the surroundings while operating.

When working in a small area surrounded by obstacles, take care not to hit the upperstructure against obstacles.

- When loading onto trucks, bring the bucket over the truck beds from the rear side. Take care not to swing the bucket over the cab or over any person.

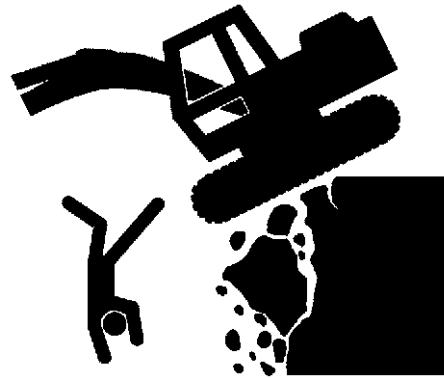


M178-05-007

SAFETY

Investigate Job Site Beforehand

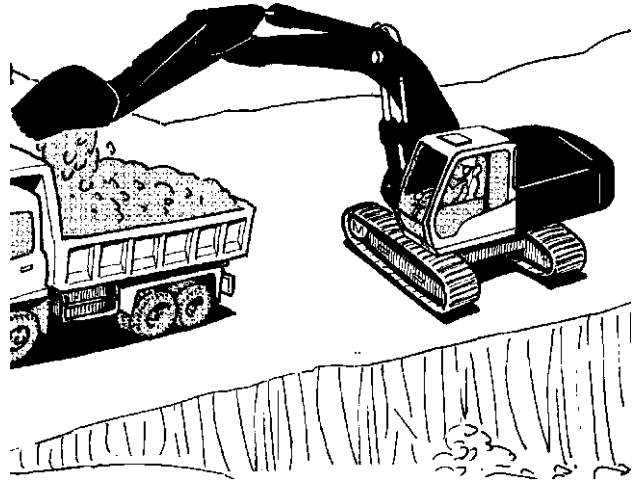
- When working at the edge of an excavation or on a road shoulder, the machine could tip over, possibly resulting in serious injury or death.
 - Investigate the configuration and ground conditions of the job site beforehand to prevent the machine from falling and to prevent the ground, stockpiles or 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.
 - Confirm that your machine is equipped with a FOPS cab before working in areas where the possibility of falling stones or debris exist.
 - 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.



SA-380

SAFETY

- Make sure the worksite has sufficient strength to firmly support the machine.
When working close to an excavation or at road shoulders, operate the machine with the tracks positioned perpendicular to the cliff face with travel motors at the rear, so that the machine can more easily evacuate if the cliff face collapses.
- If working on the bottom of a cliff or a high bank is required, be sure to investigate the area first and confirm that no danger of the cliff or bank collapsing exists. If any possibility of cliff or bank collapsing exists, do not work on the area.
- Soft ground may collapse when operating the machine on it, possibly causing the machine to tip over. When working on soft ground is required, be sure to reinforce the ground first using large pieces of steel plates strong and firm enough to easily support the machine.
- Note that there is always a possibility of machine tipping over when working on rough terrain or on slopes. Prevent machine tipping over from occurring. When operating on rough terrain or on slopes:
 - Reduce the engine speed.
 - Select slow travel speed mode.
 - Operate the machine slowly and be cautious with machine movements.

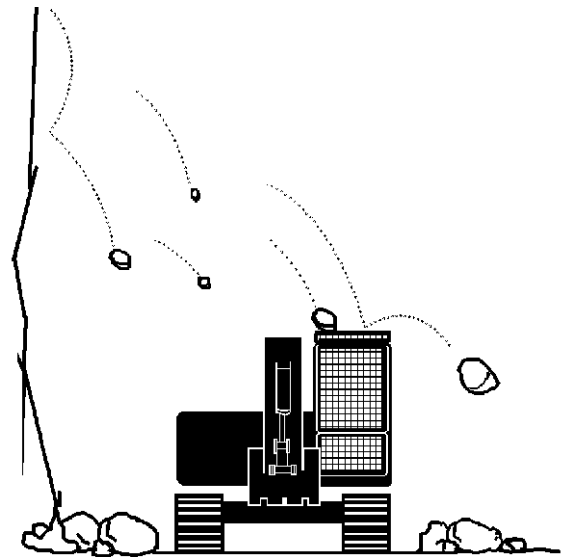


M104-05-016

Install OPG Guard

In case the machine is operated in areas where the possibilities of falling stones or debris exist, equip Hitachi OPG guard. Consult your authorized dealer for installing the OPG guard. The guard can be compliant with ROPS standards depending on the machine specifications.
In order not to impair operator protective structure:
Replace damaged ROPS or OPG guard. Never attempt to repair or modify the guard.

ROPS: Roll Over Protective Structure
OPG: Operator Protective Guard



SA-490

SAFETY

Provide Signals for Jobs Involving Multiple Machines

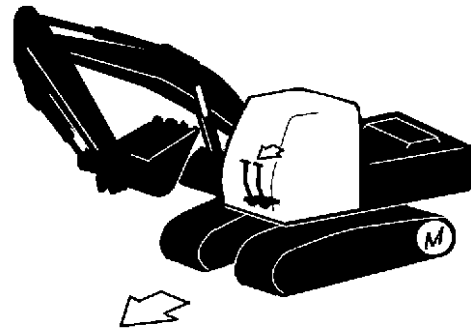
- For jobs involving multiple machines, provide signals commonly known by all personnel involved. Also, appoint a signal person to coordinate the job site. Make sure that all personnel obey the signal person's directions.



SA-481

Confirm Direction of Machine to Be Driven

- Incorrect travel pedal/lever operation may result in serious injury or death.
 - Before driving the machine, confirm the position of the undercarriage in relation to the operator's position. If the travel motors are located in front of the cab, the machine will move in reverse when travel pedals/levers are operated to the front.



SA-491

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