

# Operator's Manual

## ZAXIS

**130-5N**

**160LC-5N • 180LC-5N**

**210-5N • 210LC-5N**

**250LC-5N**

**290LC-5N**

**350LC-5N • 380LC-5N**

## Hydraulic Excavator

Serial No.

ZX130-5N	130001 and up
ZX160LC-5N, 180LC-5N	230001 and up
ZX210-5N, 210LC-5N	330001 and up
ZX250LC-5N	430001 and up
ZX290LC-5N	830001 and up
ZX350LC-5N	930001 and up
ZX380LC-5N	630001 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

<b>MACHINE NUMBERS</b> .....	<b>1</b>
<b>SAFETY</b> .....	<b>S-1</b>
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
<b>SAFETY SIGNS</b> .....	<b>S-41</b>
<b>COMPONENTS NAME</b> .....	<b>1-1</b>
Components Name .....	1-1
<b>GETTING ON / OFF THE MACHINE</b> .....	<b>1-2</b>
Getting ON/OFF the Machine .....	1-2
<b>OPERATOR'S STATION</b> .....	<b>1-3</b>
Muffler Filter .....	1-3
Cab Features.....	1-6
Multi Function Monitor .....	1-7
Monitor Initial Value .....	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
Contents of Alarms .....	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 Compressor 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

## CONTENTS

Display Mode Setting .....	1-37	Cigar Lighter .....	1-97
Attachment Adjust .....	1-39	Using Cigar Lighter .....	1-97
Flow rate adjustment .....	1-39	Using Cigar Lighter Port as External Power Source ....	1-97
Priority (arm roll-out) .....	1-41	Cab Light Switch .....	1-98
Attachment Name Input .....	1-43	Installing Fire Extinguisher (Optional) .....	1-98
Auto Shut-Down .....	1-45	Pilot Control Shut-Off Lever .....	1-99
Auto Shut-Down: ON/OFF .....	1-45	Engine Stop Switch .....	1-99
Acting Time Setting .....	1-46	Fuse Box .....	1-100
Muffler Filter Regeneration Inhibited .....	1-47	Auto Air Conditioner .....	1-101
Setting Procedure .....	1-47	Features: .....	1-101
Password Change (Optional) .....	1-49	Components Name .....	1-102
Sub Meter .....	1-53	Controller Part Name and Function .....	1-103
Rear View Camera Monitor .....	1-55	Cab Heater Operation .....	1-105
Rear View Camera ON/OFF .....	1-55	Cooling Operation .....	1-106
Brightness Adjustment .....	1-57	Defroster Operation .....	1-107
Language Settings .....	1-59	Cool Head/Warm Feet Operation .....	1-107
Lists of Display Language .....	1-61	Tips for Optimal Air Conditioner Usage .....	1-108
Unit Selection .....	1-62	For Rapid Cooling .....	1-108
Display Item Selection (Rear View Camera OFF) .....	1-64	When Windows Become Clouded .....	1-108
Main Menu Sequence Change .....	1-66	Off-Season Air Conditioner Maintenance .....	1-108
Information Menu .....	1-68	AM/FM Radio Operation .....	1-109
Operation .....	1-69	Controls on the radio .....	1-109
Fuel Consumption .....	1-69	Tuning Procedure .....	1-109
Breaker Operation .....	1-71	Station Presetting Procedure .....	1-110
Attachment Operation .....	1-73	Station Auto-Presetting Procedure .....	1-111
Travel Operation .....	1-75	TONE Control .....	1-112
Actual Operation .....	1-77	Audio Input (Optional) .....	1-113
Maintenance .....	1-79	Cab Door Release Lever .....	1-114
Time Remains and Maintenance Interval .....	1-81	Opening/Closing and Removing Cab Inside Window ..	1-115
Troubleshooting .....	1-83	Opening Upper Front Window .....	1-116
Monitoring .....	1-85	Removing and Storing Lower Front Window .....	1-117
Switch Panel .....	1-87	Opening Side Windows .....	1-118
Return to Previous Screen (Monitor) .....	1-88	Opening/Closing Overhead Window .....	1-119
Return to Basic Screen (Monitor) .....	1-88	Opening/Closing Overhead Window	
Select/Set Switch (Monitor) .....	1-88	(Clear Hatch: If Equipped) .....	1-120
Temperature Control Switch/Mode Switch		Emergency Exit .....	1-121
(Air Conditioner) .....	1-88	Adjusting Operator's Seat .....	1-122
AUTO/OFF Switch/Fan Switch (Air Conditioner) .....	1-88	Seat Height and Angle Adjustment .....	1-122
AM/FM Selector/Tuning Switch (Radio) .....	1-89	Console and Seat Fore-aft Adjustment .....	1-122
Power Switch/Volume Control Knob (Radio) .....	1-89	Seat Fore-Aft Adjustment .....	1-122
Engine Control Dial .....	1-89	Suspension Adjustment .....	1-122
Auto-Idle Switch .....	1-90	Backrest Adjustment .....	1-123
Travel Mode Switch .....	1-90	Armrest Adjustment .....	1-123
Mode Switch .....	1-91	Adjusting Operator's Seat (Optional) .....	1-124
Work Light Switch .....	1-91	Seat Height and Angle Adjustment .....	1-124
Wiper/Washer Switch .....	1-92	Console and Seat Fore-aft Adjustment .....	1-124
Overhead Window Wiper/Washer Switch		Seat Fore-Aft Adjustment .....	1-124
(Optional) .....	1-93	Suspension Adjustment .....	1-124
Numeric Keypad .....	1-93	Backrest Adjustment .....	1-125
Switch Panel (for Optional Equipments) .....	1-94	Armrest Adjustment .....	1-125
Travel Alarm Deactivation Switch (Optional) .....	1-95	Console Height Adjustment .....	1-126
Rear Light Switch (Optional) .....	1-95	Adjusting Procedures .....	1-126
Electrical Control Main Switch (Optional) .....	1-95	Installing and Adjusting Mirror .....	1-127
Key Switch .....	1-96	Seat Belt .....	1-128
Power Boost Switch .....	1-96	<b>BREAK-IN .....</b>	<b>2-1</b>
Horn Switch .....	1-96	Observe Engine Operation Closely .....	2-1

# CONTENTS

Every 8 Hours or Daily.....	2-1	Attachment Connection Parts .....	5-41
After the First 50 Hours .....	2-1	Precaution for Arm Roll-In/Bucket Roll-In Combined Operation.....	5-42
After the First 100 Hours.....	2-1	Shackle Hole Usage .....	5-42
<b>OPERATING THE ENGINE .....</b>	<b>3-1</b>	Emergency Boom Lowering Procedure .....	5-43
Inspect Machine Daily Before Starting .....	3-1	Precautions for After Operations.....	5-44
Before Starting Engine .....	3-2	<b>TRANSPORTING .....</b>	<b>6-1</b>
Starting the Engine in Ordinary Temperature.....	3-3	Transporting by Road .....	6-1
Starting In Cold Weather .....	3-5	Loading/Unloading on a Trailer .....	6-2
Check Instruments After Starting.....	3-7	Lifting Machine .....	6-7
Using Booster Batteries.....	3-8	<b>MAINTENANCE.....</b>	<b>7-1</b>
Stopping the Engine .....	3-10	Correct Maintenance and Inspection Procedures.....	7-1
<b>DRIVING THE MACHINE .....</b>	<b>4-1</b>	Check the Hour Meter Regularly.....	7-2
Drive the Machine Carefully .....	4-1	Use Correct Fuels and Lubricants .....	7-2
Steering the Machine Using Pedals .....	4-2	Layout.....	7-3
Steering the Machine Using Levers .....	4-3	Maintenance Guide Table.....	7-4
Travel Mode Switch .....	4-4	Maintenance Guide Table .....	7-5
Travel Alarm (Optional) .....	4-5	Prepare Machine for Maintenance.....	7-6
Operating on Soft Ground .....	4-6	Hood and Access Covers.....	7-7
Raise One Track Using Boom and Arm .....	4-7	ZX130-5N, 160LC-5N, 180LC-5N .....	7-7
Towing Machine a Short Distance.....	4-8	ZX210-5N, 210LC-5N, 250LC-5N, 290LC-5N, 350LC-5N, 380LC-5N.....	7-8
Operating in Water or Mud .....	4-9	Periodic Replacement of Parts.....	7-9
Parking the Machine on Slopes.....	4-10	Maintenance Guide .....	7-10
Parking the Machine .....	4-10	Kind of Oils.....	7-14
<b>OPERATING THE MACHINE .....</b>	<b>5-1</b>	Brand Names of Recommended Engine Oil.....	7-14
Control Lever (ISO Pattern) .....	5-1	A. GREASING.....	7-17
Control Lever (2 Way Multi Valve) (Optional).....	5-2	Front Joint Pins .....	7-17
Attachment Pedal (Hydraulic Breaker) (Optional) .....	5-3	Swing Bearing .....	7-19
Attachment Pedal (Hydraulic Crusher) (Optional).....	5-4	Swing Internal Gear.....	7-20
Pilot Control Shut-Off Lever .....	5-5	Electric Grease Gun (Only ZX350LC-5N, 380LC-5N) .....	7-22
Engine Speed Control.....	5-7	Electric Grease Gun .....	7-24
Auto-Idle.....	5-8	Specifications .....	7-24
Auto Shut-Down.....	5-10	Attachments .....	7-24
Muffler Filter Manual Regeneration.....	5-13	Components Name .....	7-25
Work Mode .....	5-15	Battery Charger Operation .....	7-26
Power Boost .....	5-18	Charger Lamp.....	7-27
Power Mode .....	5-19	Normal Charging Method .....	7-28
Operating Backhoe .....	5-20	Installing/Removing Battery Pack.....	7-28
Face Shovel Operation.....	5-21	Electric Source.....	7-28
Grading Operation.....	5-22	Preparation for Using Electric Grease Gun.....	7-30
Do Not Strike the Ground with Bucket Teeth .....	5-23	Greasing Method .....	7-31
Avoid Hammer Work .....	5-23	After Using Grease Gun .....	7-32
Avoid Abusive Operation .....	5-24	B. ENGINE.....	7-33
Avoid Side Load the Bucket.....	5-24	Engine Oil Level.....	7-33
Do Not Use Wide Track Shoes on Rough Ground. ....	5-25	Change Engine Oil .....	7-35
Hydraulic Breaker, Hydraulic Crusher and Quick Coupler .....	5-26	Replace Engine Oil Filter.....	7-35
Pipings for Breaker and Crusher (Optional) .....	5-27	Check and Clean Around the Engine.....	7-37
Secondary Relief Pressure Adjustment .....	5-28	C. TRANSMISSION .....	7-38
Precautions for Breaker Operation.....	5-29	Pump Transmission (Except ZX130-5N) .....	7-38
Do Not Use Breaker for Lifting Operation .....	5-30	Swing Reduction Gear .....	7-39
Change Hydraulic Oil and Replace Full-Flow Filter Element .....	5-33	Travel Reduction Gear .....	7-40
Precautions for Crusher Operation .....	5-34	D. Hydraulic System.....	7-42
Attachment.....	5-37	Inspection and Maintenance of Hydraulic Equipment... ..	7-42
Attachments.....	5-39	Breaker Maintenance .....	7-44

# CONTENTS

Check Hydraulic Oil Level .....	7-46	Check Gas Damper .....	7-111
Change Hydraulic Oil.....	7-47	Check Tightening Torque of Bolts and Nuts.....	7-112
Suction Filter Cleaning.....	7-47	J. Muffler Filter .....	7-130
Air Bleeding Procedures .....	7-49	Check and Clean Filter Element of Muffler Filter .....	7-130
Replace Hydraulic Oil Tank Filter .....	7-50	Check and Clean Muffler Filter .....	7-130
Replace Pilot Oil Filter.....	7-53	<b>MAINTENANCE UNDER SPECIAL ENVIRONMENTAL</b>	
Replace Air Breather Element.....	7-54	<b>CONDITIONS .....</b>	<b>9-1</b>
Replacement Procedures .....	7-54	<b>STORAGE .....</b>	<b>10-1</b>
Check Hoses and Lines .....	7-55	<b>TROUBLESHOOTING .....</b>	<b>11-1</b>
E. Fuel System .....	7-60	Troubleshooting .....	11-1
Recommended Fuel.....	7-60	<b>SPECIFICATIONS .....</b>	<b>12-1</b>
Refueling.....	7-60	Specifications.....	12-1
Drain Fuel Tank Sump.....	7-62	ZX130-5N.....	12-1
Drain Fuel Filter.....	7-63	Working Ranges (Grouser shoe).....	12-2
Draining Procedures (Main Filter) .....	7-63	ZX130-5N.....	12-2
Replace Fuel Main Filter Element .....	7-67	Shoe Types and Applications .....	12-3
Replace Fuel Pre-Filter Element .....	7-69	ZX130-5N.....	12-3
Clean Fuel Solenoid Pump Strainer.....	7-71	Bucket Types and Applications .....	12-4
Check Water Separator (Optional) .....	7-73	ZX130-5N.....	12-4
Check Fuel Hoses .....	7-75	Specifications.....	12-5
F. Air Cleaner.....	7-76	ZX160LC-5N .....	12-5
Clean Air Cleaner Outer Element .....	7-76	Working Ranges (Grouser shoe).....	12-6
Replace Air Cleaner Outer and Inner Elements.....	7-76	ZX160LC-5N .....	12-6
G. Cooling System .....	7-78	Shoe Types and Applications .....	12-7
Check Coolant Level .....	7-79	ZX160LC-5N .....	12-7
Check and Adjust Fan Belt Tension (ZX130-5N, 160LC-5N, 180LC-5N) .....	7-80	Bucket Types and Applications .....	12-8
Check and Adjust Fan Belt Tension (ZX210-5N, 210LC-5N, 250LC-5N, 290LC-5N, 350LC-5N, 380LC-5N) .....	7-81	Specifications.....	12-9
Change Coolant.....	7-82	ZX180LC-5N .....	12-9
Clean Radiator/Oil Cooler/Inter Cooler Core.....	7-84	Working Ranges (Grouser shoe).....	12-10
Clean Oil Cooler, Radiator and Inter Cooler Front Screen .....	7-86	ZX180LC-5N .....	12-10
Clean Air Conditioner Condenser .....	7-86	Shoe Types and Applications .....	12-11
Clean Fuel Oil Cooler .....	7-86	ZX180LC-5N .....	12-11
H. Electrical System.....	7-87	Bucket Types and Applications .....	12-12
Battery.....	7-88	ZX180LC-5N .....	12-12
Replacing Fuses.....	7-93	Specifications.....	12-13
I. Miscellaneous.....	7-95	ZX210-5N, 210LC-5N.....	12-13
Check Bucket Teeth .....	7-95	Working Ranges (Grouser shoe).....	12-14
Change Bucket.....	7-99	ZX210-5N, 210LC-5N.....	12-14
Convert Bucket Connection Into Face Shovel .....	7-100	Shoe Types and Applications .....	12-15
Adjust Bucket Linkage .....	7-101	ZX210-5N .....	12-15
Remove Travel Levers .....	7-102	ZX210LC-5N .....	12-15
Check and Replace Seat Belt.....	7-102	Bucket Types and Applications .....	12-16
Check Windshield Washer Fluid Level .....	7-103	ZX210-5N, 210LC-5N.....	12-16
Check Track Sag.....	7-104	Specifications.....	12-17
Clean and Replace Air Conditioner Filter .....	7-106	ZX250LC-5N .....	12-17
Check Air Conditioner .....	7-108	Working Ranges (Grouser shoe).....	12-18
Clean Cab Floor.....	7-109	ZX250LC-5N .....	12-18
Retighten Cylinder Head Bolt.....	7-110	Shoe Types and Applications .....	12-19
Inspect and Adjust Valve Clearance .....	7-110	ZX250LC-5N .....	12-19
Measure Engine Compression Pressure.....	7-110	Bucket Types and Applications .....	12-20
Check Starter and Alternator .....	7-110	ZX250LC-5N .....	12-20
Check and Replace EGR Device .....	7-110	Specifications.....	12-21
		ZX290LC-5N .....	12-21

## CONTENTS

---

Working Ranges.....	12-22
ZX290LC-5N .....	12-22
Shoe Types and Applications .....	12-23
ZX290LC-5N .....	12-23
Bucket Types and Applications .....	12-24
ZX290LC-5N .....	12-24
Specifications .....	12-25
ZX350LC-5N .....	12-25
Working Ranges (Grouser Shoe) .....	12-26
ZX350LC-5N .....	12-26
Shoe Types and Applications .....	12-27
ZX350LC-5N .....	12-27
Bucket Types and Applications .....	12-28
ZX350LC-5N .....	12-28
Specifications .....	12-29
ZX380LC-5N .....	12-29
Working Ranges (Grouser Shoe) .....	12-30
ZX380LC-5N .....	12-30
Shoe Types and Applications .....	12-31
ZX380LC-5N .....	12-31
Bucket Types and Applications .....	12-32
ZX380LC-5N .....	12-32
<b>INDEX.....</b>	<b>14-1</b>

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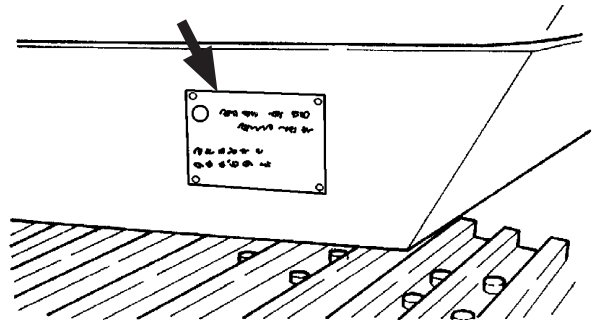


# MACHINE NUMBERS

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

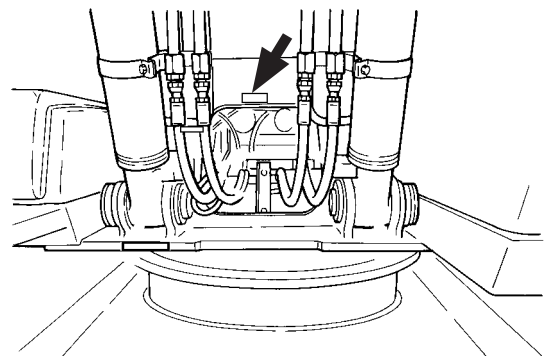
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 PRODUCT IDENTIFICATION NUMBER: \_\_\_\_\_



M157-00-001

## Product Identification Number

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

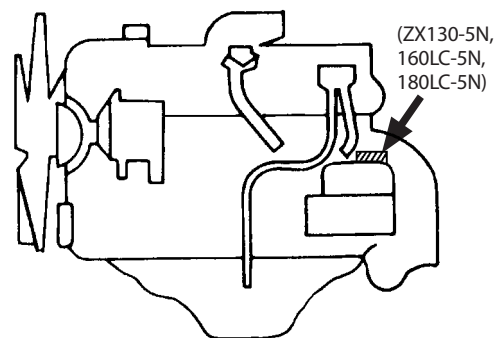


M157-12-008

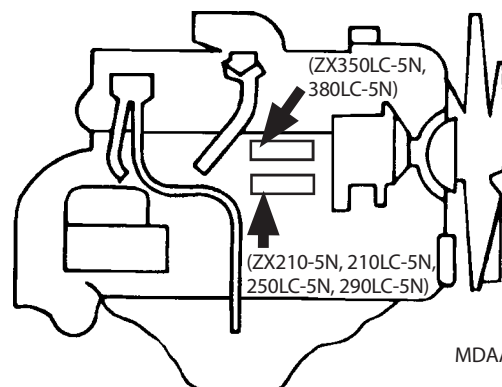
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 \*HCMDCAA0000100001\*  
 PRODUCT IDENTIFICATION NUMBER (PIN)

## Engine

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



M178-00-002

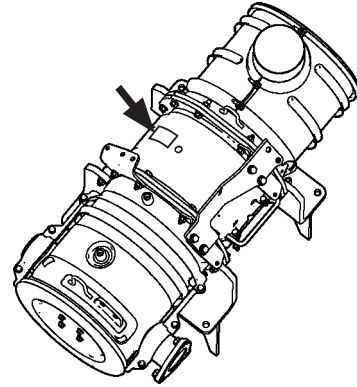


MDAA-00-001

# MACHINE NUMBERS

## Muffler Filter

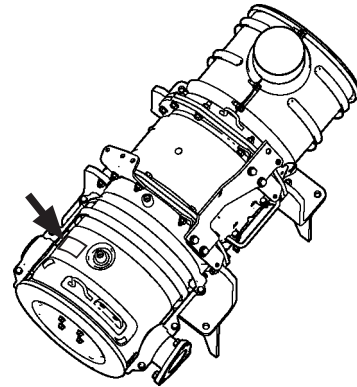
TYPE: \_\_\_\_\_  
MFG. NO.: \_\_\_\_\_



MDAA-00-002

## DOC (Diesel Oxidation Catalyst)

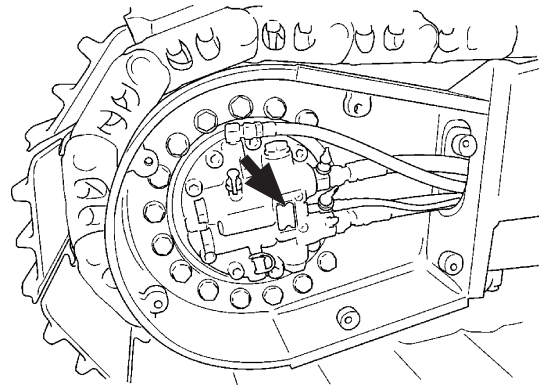
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MDAA-00-002

## Travel Motor

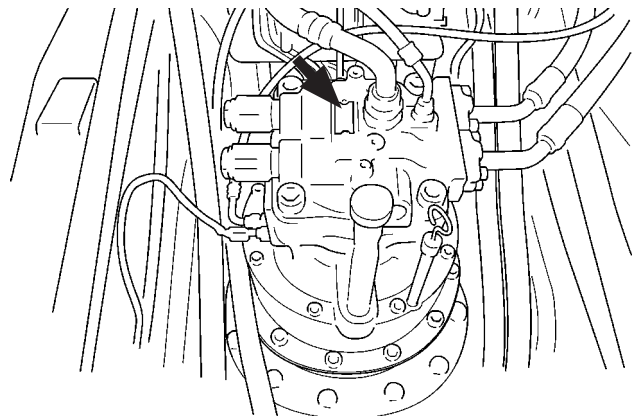
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MFG. NO.: \_\_\_\_\_



M178-07-047

## Swing Motor

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



M178-07-086

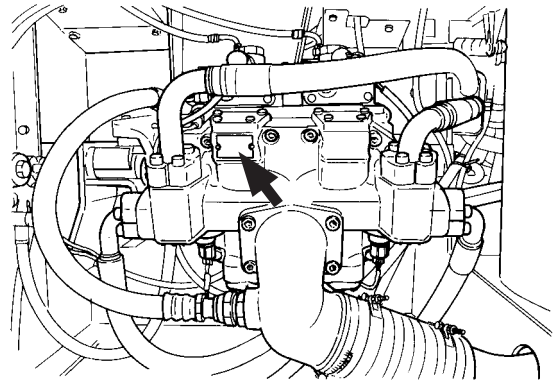
## MACHINE NUMBERS

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### Hydraulic Pump

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

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



M157-00-004

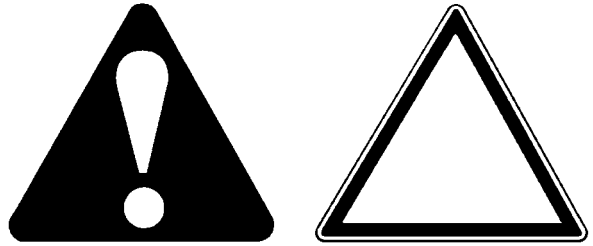


## SAFETY

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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.

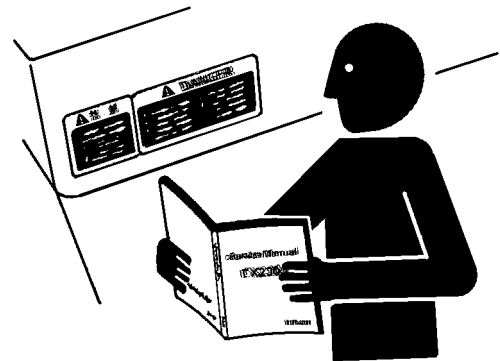
SA-1223

# 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.
  - 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 inlet and exhaust parts. 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

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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

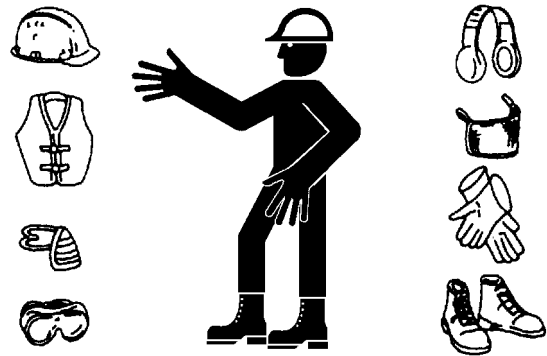
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### Wear Protective Clothing

- 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.



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

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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" section in the operator's manual.



SA-435



## SAFETY

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### General Precautions for Cab

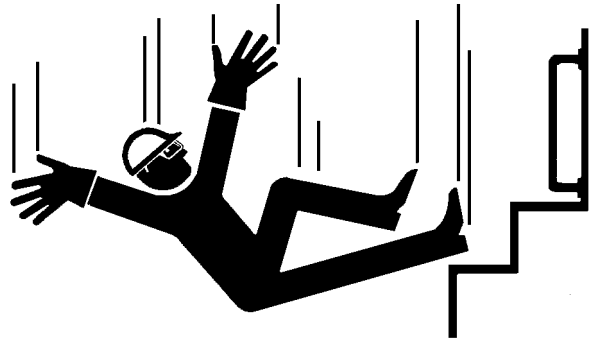
- Before entering the cab, thoroughly remove all dirt and/or oil such as mud, grease, soil or stones that may mess up the cab from the soles of your work boots. If any controls such as a pedal is operated while with dirt and/or oil on the soles of the operator's work boots, the operator's foot may slip 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 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

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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 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

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### 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

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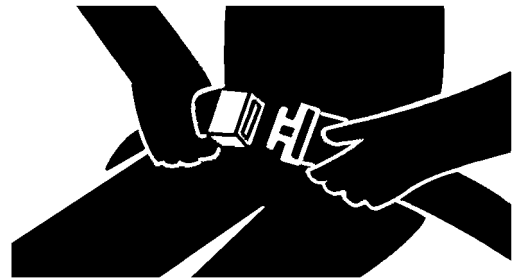
### Ensure Safety Before Rising from or Leaving Operator's Seat

- 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, 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.

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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 be replaced every three years regardless of its apparent condition.



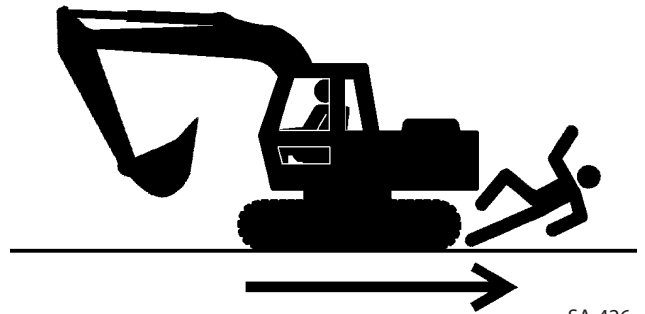
SA-237

## 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, 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

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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 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

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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 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.

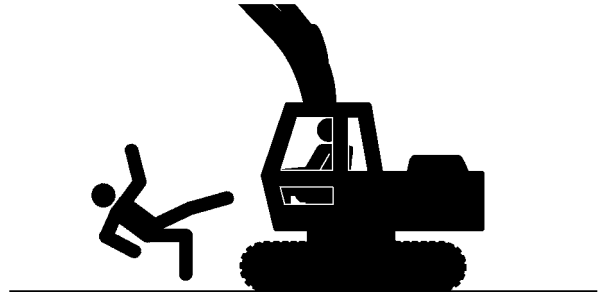


SA-032

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### 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

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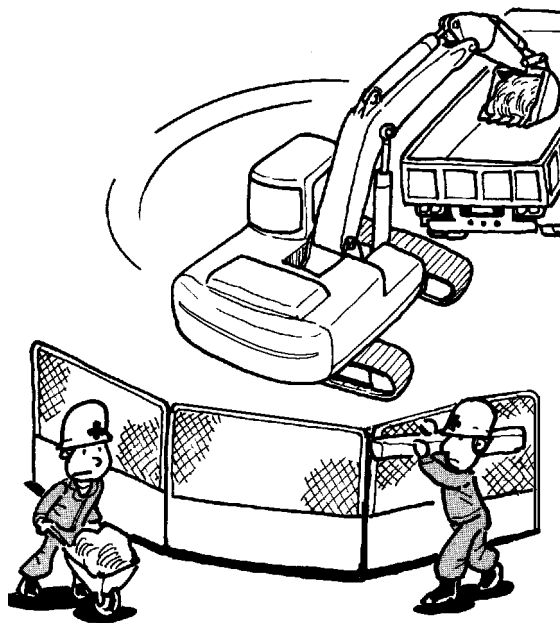
### Precautions for Operations

- 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.



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