

2 - SAFETY INFORMATION

Signal word definitions


Personal safety





This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

Throughout this manual you will find the signal words DANGER, WARNING, and CAUTION followed by special instructions. These precautions are intended for the personal safety of you and those working with you.

Read and understand all the safety messages in this manual before you operate or service the machine.

 DANGER indicates a hazardous situation that, if not avoided, will result in death or serious injury.

 WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury.

 CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

FAILURE TO FOLLOW DANGER, WARNING, AND CAUTION MESSAGES COULD RESULT IN DEATH OR SERIOUS INJURY.

Machine safety

NOTICE: Notice indicates a situation that, if not avoided, could result in machine or property damage.

Throughout this manual you will find the signal word Notice followed by special instructions to prevent machine or property damage. The word Notice is used to address practices not related to personal safety.

Information

NOTE: Note indicates additional information that clarifies steps, procedures, or other information in this manual.

Throughout this manual you will find the word Note followed by additional information about a step, procedure, or other information in the manual. The word Note is not intended to address personal safety or property damage.

Ecology and the environment

Soil, air, and water quality is important for all industries and life in general. When legislation does not yet rule the treatment of some of the substances that advanced technology requires, sound judgment should govern the use and disposal of products of a chemical and petrochemical nature.

Familiarize yourself with the relative legislation applicable to your country, and make sure that you understand this legislation. Where no legislation exists, obtain information from suppliers of oils, filters, batteries, fuels, anti-freeze, cleaning agents, etc., with regard to the effect of these substances on man and nature and how to safely store, use, and dispose of these substances. Your CASE CONSTRUCTION dealer can also provide assistance.

Helpful hints

- Avoid the use of cans or other inappropriate pressurized fuel delivery systems to fill tanks. Such delivery systems may cause considerable spillage.
- In general, avoid skin contact with all fuels, oils, acids, solvents, etc. Most of these products contain substances that may be harmful to your health.
- Modern oils contain additives. Do not burn contaminated fuels and or waste oils in ordinary heating systems.
- Avoid spillage when you drain fluids such as used engine coolant mixtures, engine oil, hydraulic fluid, brake fluid, etc. Do not mix drained brake fluids or fuels with lubricants. Store all drained fluids safely until you can dispose of the fluids in a proper way that complies with all local legislation and available resources.
- Do not allow coolant mixtures to get into the soil. Collect and dispose of coolant mixtures properly.
- Do not open the air-conditioning system yourself. It contains gases that should not be released into the atmosphere. Your CASE CONSTRUCTION dealer or air-conditioning specialist has a special extractor for this purpose and can recharge the system properly.
- Repair any leaks or defects in the engine cooling system or hydraulic system immediately.
- Do not increase the pressure in a pressurized circuit as this may lead to a component failure.
- Protect hoses during welding. Penetrating weld splatter may burn a hole or weaken hoses, allowing the loss of oils, coolant, etc.

Battery recycling

Batteries and electric accumulators contain several substances that can have a harmful effect on the environment if the batteries are not properly recycled after use. Improper disposal of batteries can contaminate the soil, groundwater, and waterways. CASE CONSTRUCTION strongly recommends that you return all used batteries to a CASE CONSTRUCTION dealer, who will dispose of the used batteries or recycle the used batteries properly. In some countries, this is a legal requirement.



NHIL14GEN0038AA 1

Hand signals

When operating the machine, never attempt to carry out tasks calling for fine control or working in areas where visibility is poor or impaired without seeking the assistance of a signalman. Make perfectly sure that you and the signalman understand the signals to be used.

Start the engine



PDE0002ATBP1 1

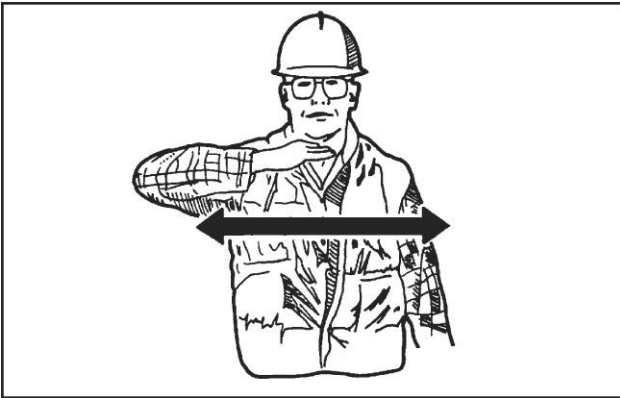
Move away from me

Wave hands back and forth (palms outwards).



PDE0003TBP1 4

Shut down the engine



PDE0002TBP1 2

Go this far



PDE0004ATBP1 5

Come to me

Wave hands back and forth (palms inwards).



PDE0003ATBP1 3

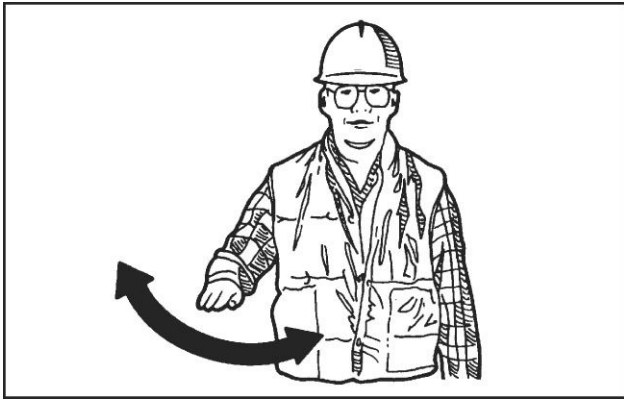
All stop and hold



PDE0004TBP1 6

Stop

Wave one hand back and forth.



PDE0005ATBP1 7

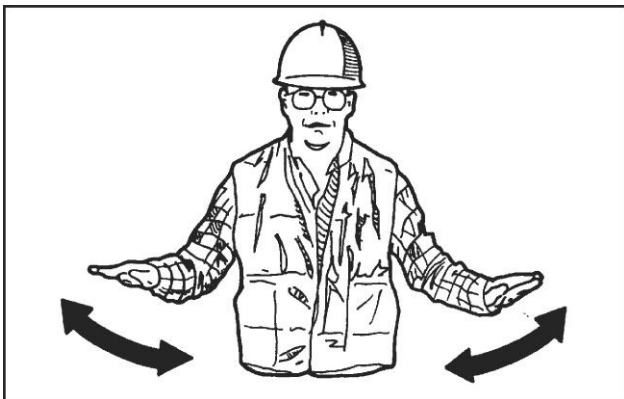
Lower load or tool



PDE0006TBP1 10

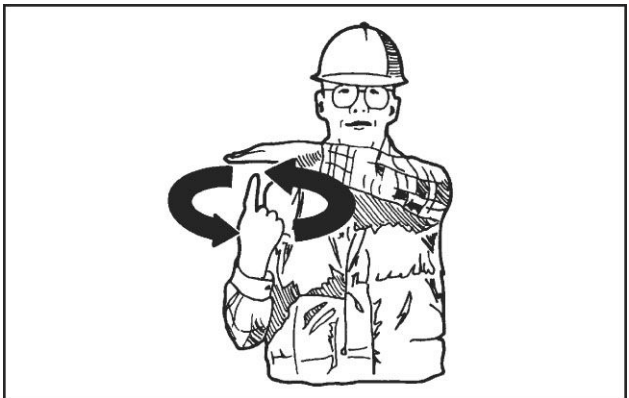
Emergency stop

Wave hands back and forth.



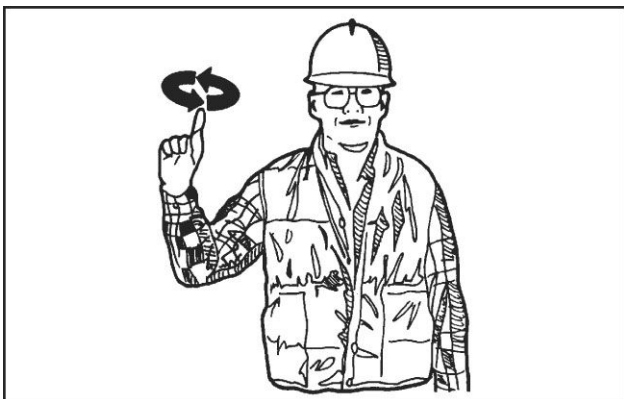
PDE0005TBP1 8

Slowly raise the load or tool



PDE0007ATBP1 11

Raise load or tool



PDE0006ATBP1 9

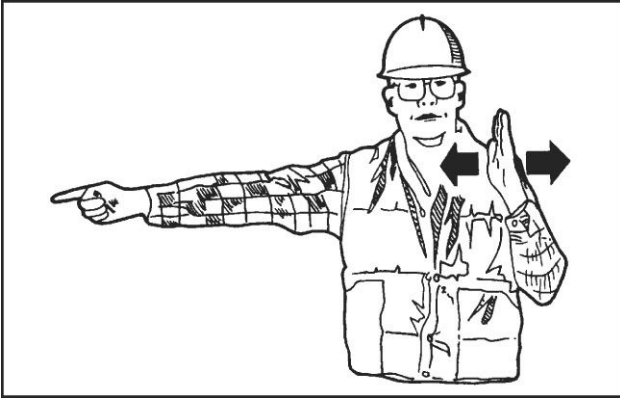
Slowly lower the load or tool



PDE0007TBP1 12

Turn machine left (swing load left)

To stop movement, stop moving hand and clench fist.



PDE0008ATBP1 13

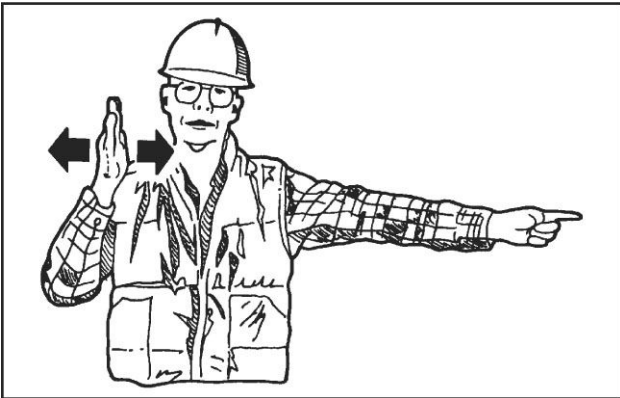
Lower tool



PDE0009TBP1 16

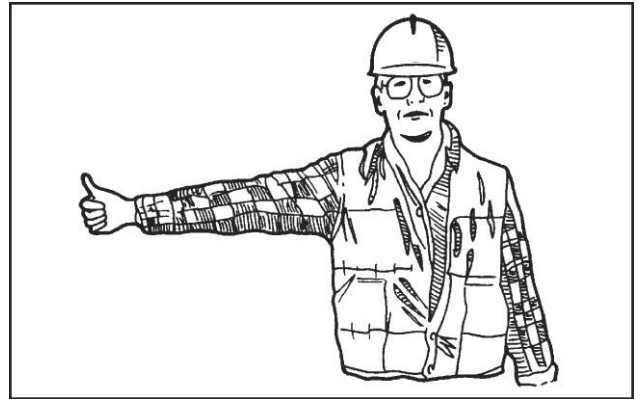
Turn machine right (swing load right)

To stop movement, stop moving hand and clench fist.



PDE0008TBP1 14

Lift boom



PDE0010ATBP1 17

Raise tool



PDE0009ATBP1 15

Lower boom



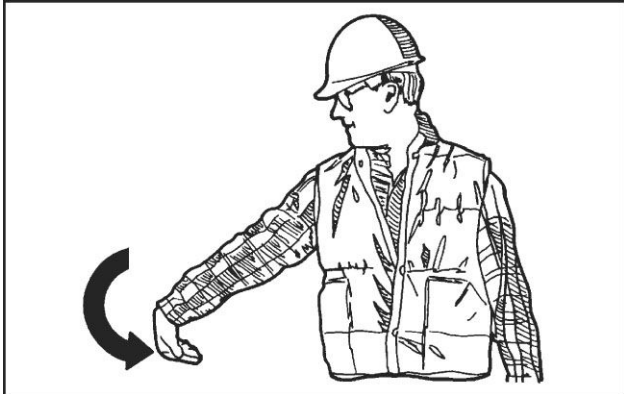
PDE0010TBP1 18

Retract arm



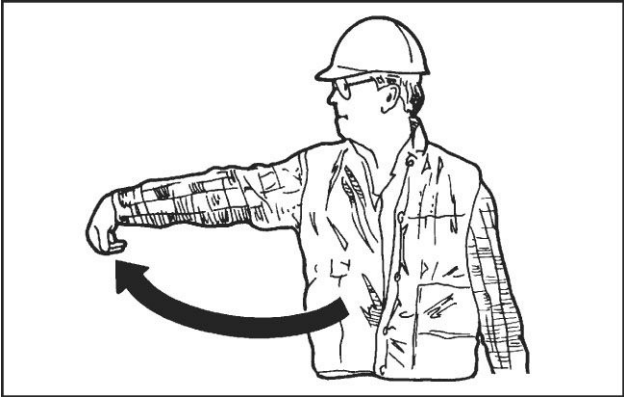
PDE0011ATBP1 19

Fill tool



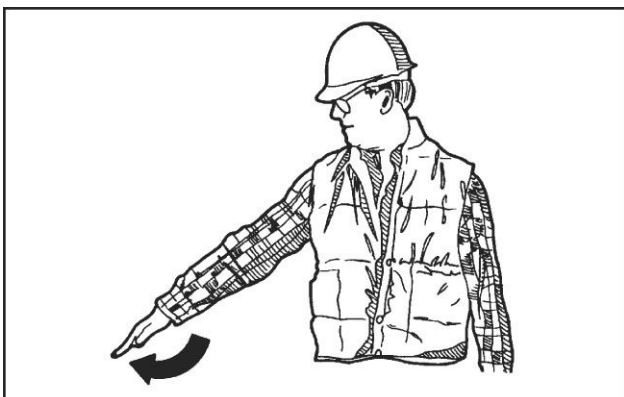
PDE0012ATBP1 21

Extend arm



PDE0011TBP1 20

Empty tool



PDE0012TBP1 22

Safety signs

⚠ WARNING

Avoid injury!

Make sure decals are perfectly legible. Clean decals regularly. Replace all damaged, missing, painted over, or illegible decals. See your dealer for replacement decals. When replacing parts bearing decals, be sure to put new decals on each new part.

Failure to comply could result in death or serious injury.

W0229A

⚠ WARNING

Avoid injury!

An illegible or missing decal can have far-reaching consequences. Inspect decals daily.

Failure to comply could result in death or serious injury.

W0228A

The following safety signs are on your machine as a guide for your safety and for the safety of those working with you. Walk around the machine and note the content and the location of all safety signs before you operate your machine.

Keep all safety signs clean and legible. Clean safety signs with a soft cloth, water, and gentle detergent.

NOTICE: *do not use solvent, gasoline, or other harsh chemicals. Solvents, gasoline, and other harsh chemicals may damage or remove safety signs.*

Replace all safety signs that are damaged, missing, painted over, or illegible. If a safety sign is on a part you or your CASE CONSTRUCTION dealer replaces, make sure that you or your CASE CONSTRUCTION dealer install the safety sign on the new part. See your CASE CONSTRUCTION dealer for replacement safety signs.

Safety signs that display the "Read operator's manual" symbol direct you to the operator's manual for further information regarding maintenance, adjustments, or procedures for particular areas of the machine. When a safety sign displays this symbol, consult the appropriate page of the operator's manual.

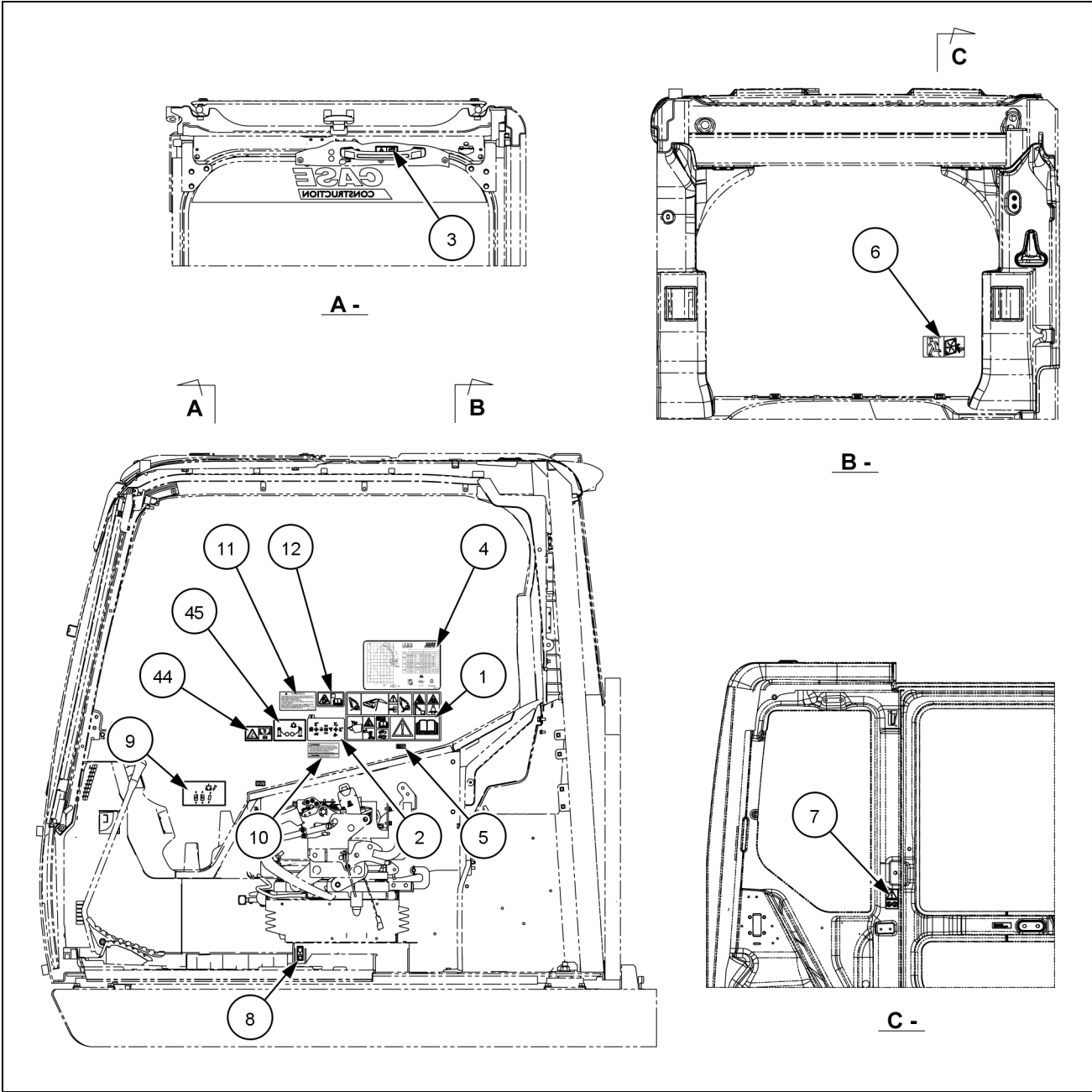


Safety signs that display the "Read service manual" symbol direct you to the service manual. If you doubt your ability to perform service operations, contact your CASE CONSTRUCTION dealer.



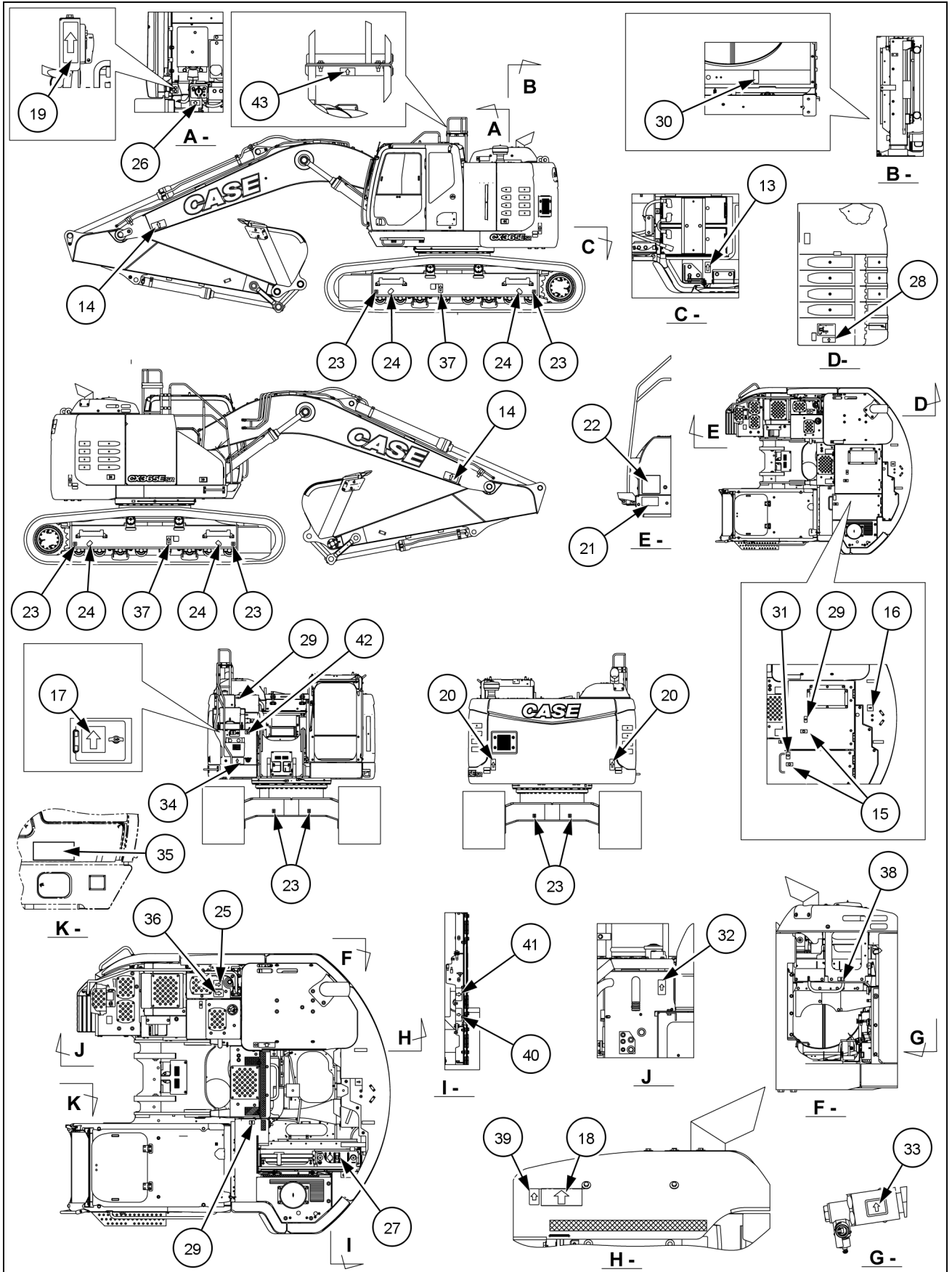
Decal positions

When replacing a decal, make sure it is located as shown below.



SMIL22CEX3223GA 1

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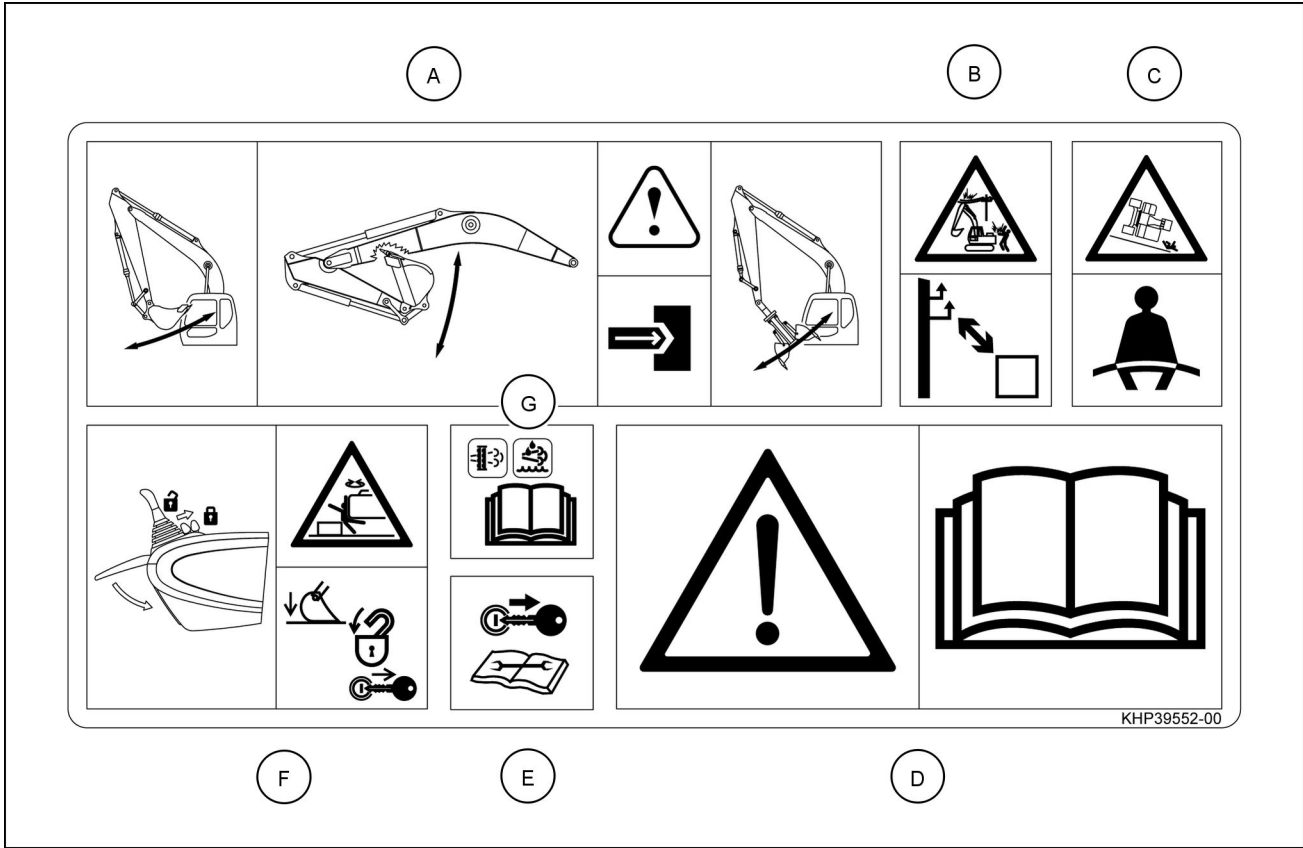


SML22CEX3224HA 2

Decal placement diagrams

(1) Table of safety precautions

Part number: KHP39552



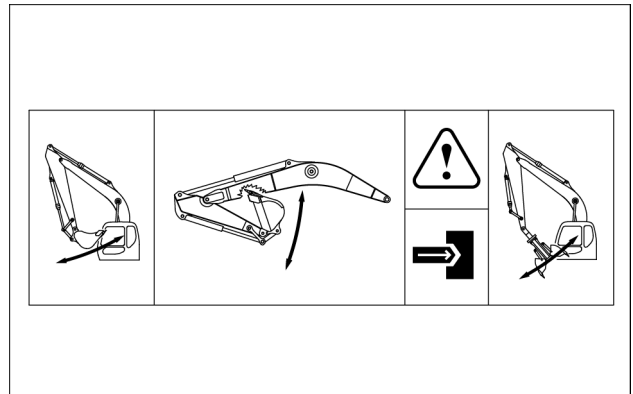
KHP39552-00 3

(1A) Interference with attachments

The end attachment used for machine operation (e.g. bucket, hydraulic breaker, clamshell..) may hit the cab and/or the boom depending upon the length of the arm, the size of the bucket or the installation of a quick coupler.

Always check the operating range of the machine with the specific attachment in use. Avoid abrupt operation in order to keep proper clearance between the attachment and the cab or boom or other significant parts of the machine.

Collisions between attachment and cab or boom or other significant parts of the machine can cause serious damages.

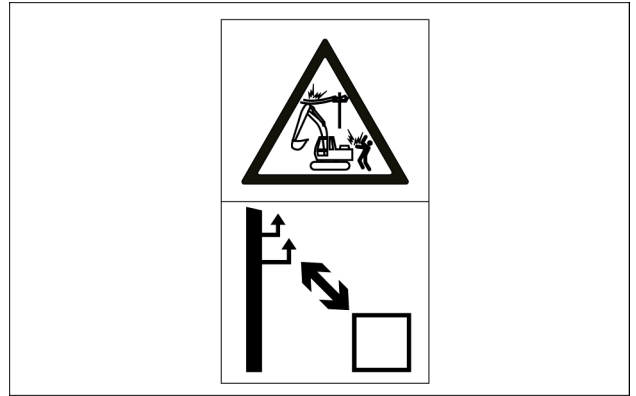


KHP35790_A 4

(1B) Danger electric line

When working near overhead high-voltage electric lines, there is a high risk of electric shocks.

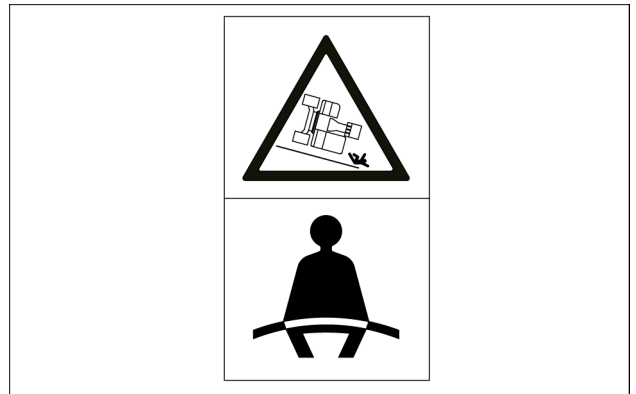
Always keep minimum distances to the electric lines in order to avoid serious damages to the machine, and to avoid serious injuries to the bystanders.



KHP35790_B 5

(1C) Seat belt

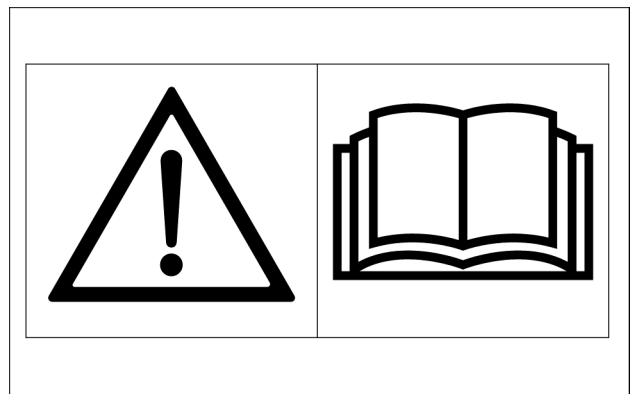
Always fasten the seat belt before starting machine operation.



KHP35790_C 6

(1D) Operator's manual

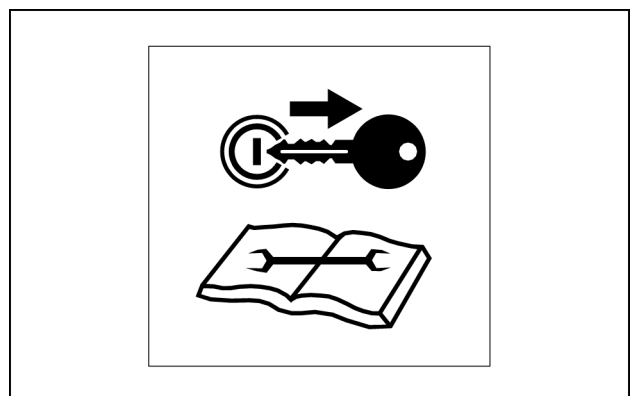
Make sure to read the operator's manual to understand how operate the machine properly and safely.



KHP35790_D 7

(1E) Maintenance or inspection

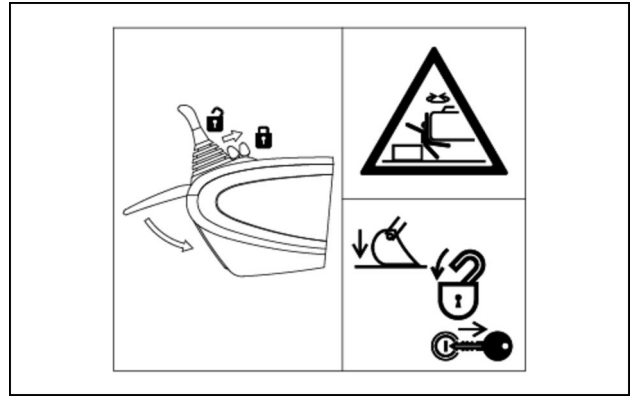
Always stop the engine and remove the starter key before any maintenance operation or inspection of the machine.



2ZZ45 8

(1F) Parking the machine

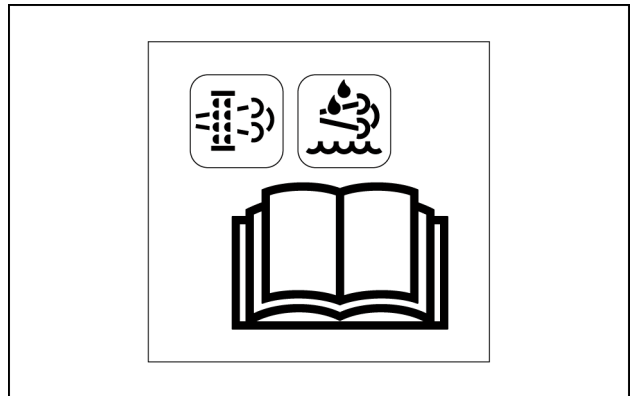
Before leaving the operator's compartment, always lower the bucket to the ground, place the gate lock lever in locked position, stop the engine and remove the starter key in order to prevent any unintended movement of the machine.



KHP36590_F 9

(1G) DEF/AdBlue® Icon, ATS Icon display

This decal means that the operator must take appropriate measures according to the procedures stated in the operator's manual if these icons are displayed.



4ZZ45 10

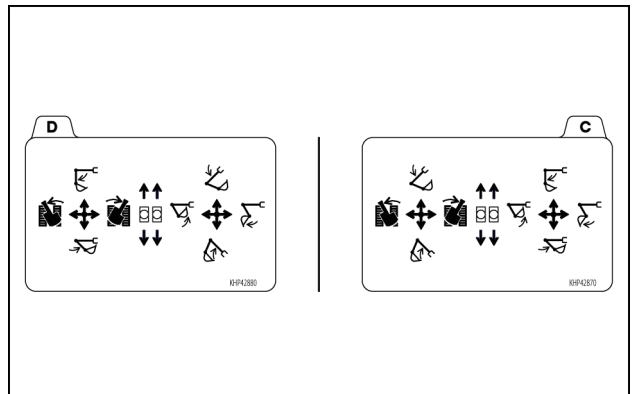
(2) Functions of operation levers

Part number: KHP42870

Part number: KHP42880

Functions of the left control lever and the right control lever.

Always make sure to place the sheet that maps the operating controls to the side corresponding to the selected control pattern.



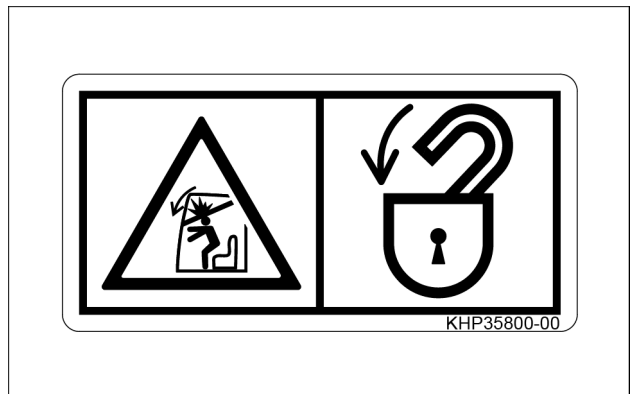
KHP42870 11

(3) Windshield locking

Part number: KHP35800

Always lock the windshield when it is set in open position.

Windshield not locked may fall down and can affect safe and proper operation of the machine, and can even cause injuries.

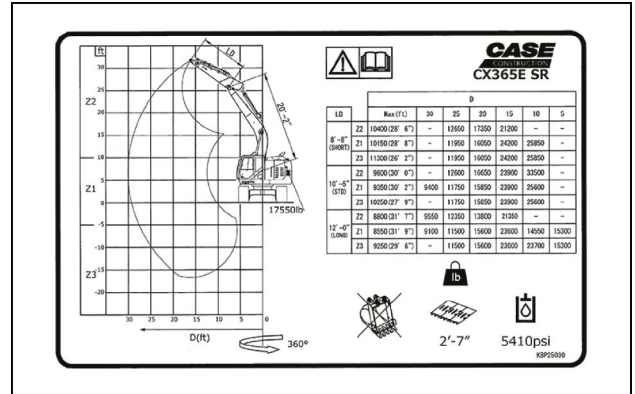


KHP35800-00

KHP35800 12

(4) Rated lift capacity table

Always make sure to lift loads not exceeding the maximum values prescribed by the rated lift capacity table.



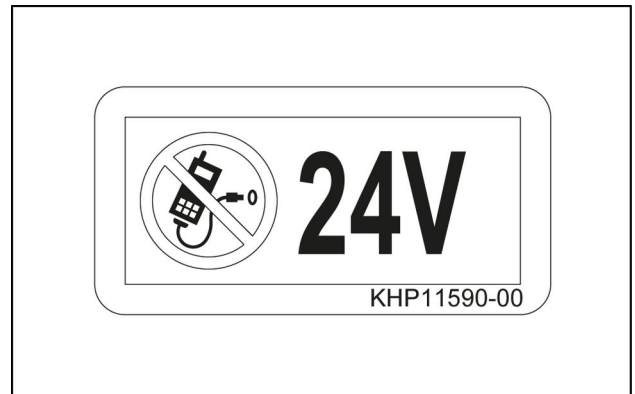
KBP25030 13

(5) Cigarette lighter socket 24 V

Part number: KHP11590

24 V electric socket. Connect only **24 V** devices to this socket.

Connecting devices functioning at different voltage can cause damages to the device itself and to the electrical system of the machine.

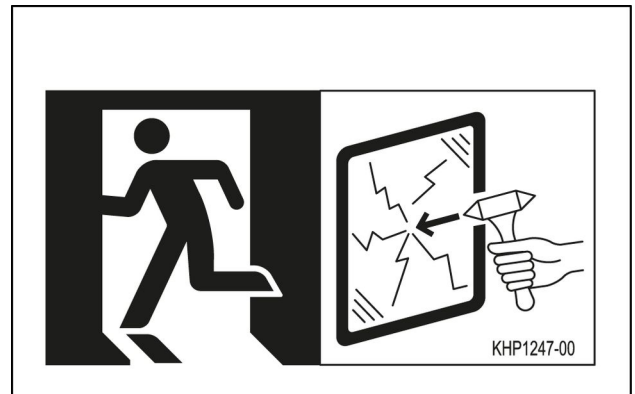


SMIL14CEX1620AB 14

(6) Emergency exit

Part number: KHP1247

In case of emergency, use the emergency hammer to break the rear window and get out from the machine.



SMIL14CEX1621AB 15

(7) Handling precautions in operation compartment

Part number: KHP35810

Welding or modification to the cab structure is strictly forbidden.

Welding or modification to the cab structure affects cab's strength, and compromises operator's protection.

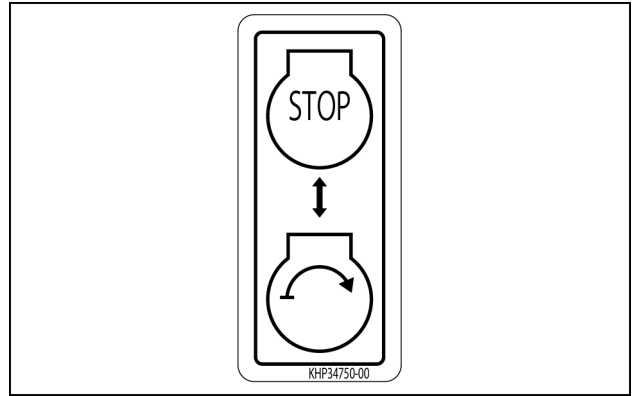


KHP35810 16

(8) Emergency Stop Switch operation

Part number: KHP34750

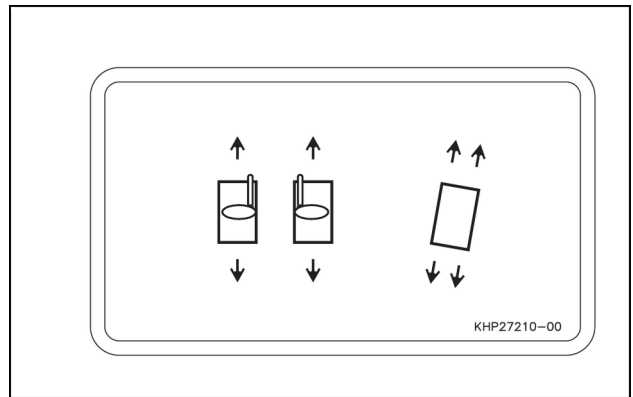
Press the top side of the switch only if an emergency stop of the engine is necessary.



KHP34750 17

(9) Function of the travel levers and pedals

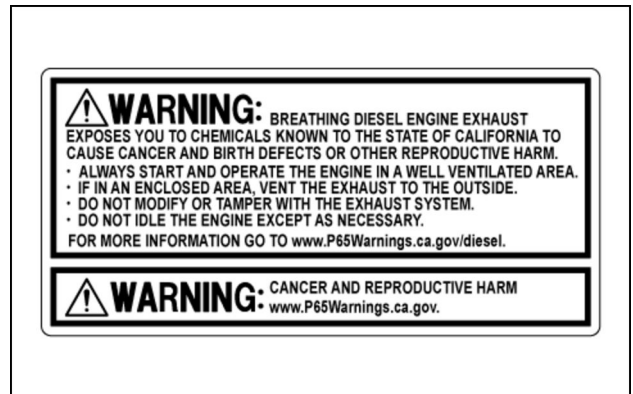
Part number: KHP27210



SMIL14CEX2874AB 18

(10) CALIFORNIA PROPOSITION 65 warning

Part number: KHP38510

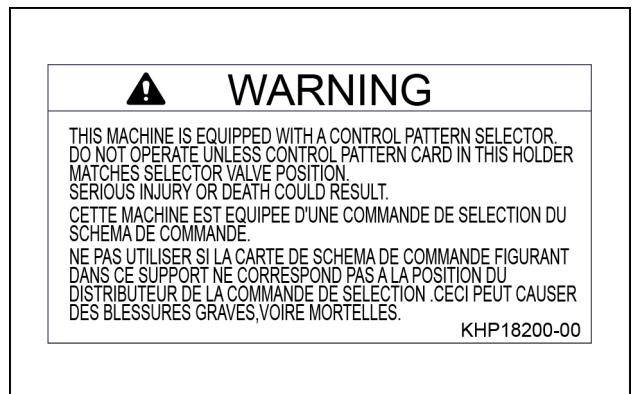


KHP38510 19

(11) Precautions for Operation Pattern

Part number: KHP18200

Before starting machine operation, check that the operating pattern shown on the control pattern card is consistent with the operating pattern of control levers.



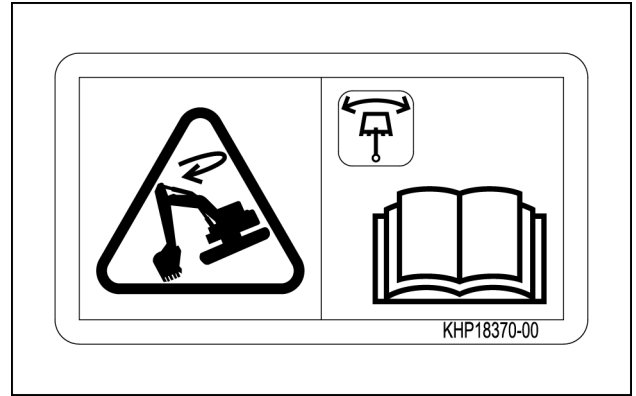
KHP18200 20

(12) Cautions for Operation during Swing Free

Part number: KHP18370

The free swing function delays the swing stop.

Operating on a slope with the free swing function active is dangerous. Make sure to read the Operator's manual to understand how operate the free swing function properly and safely.



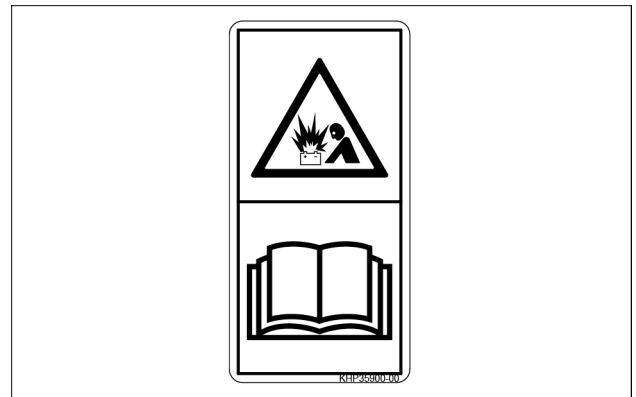
KHP18370 21

(13) Batteries

Part number: KHP35900

Prevent battery explosion by keeping sparks, open flames and cigarettes away from the batteries.

Always make sure to read operator's manual to understand proper practices and precautions to be tackled for maintenance of batteries.



KHP35900 22

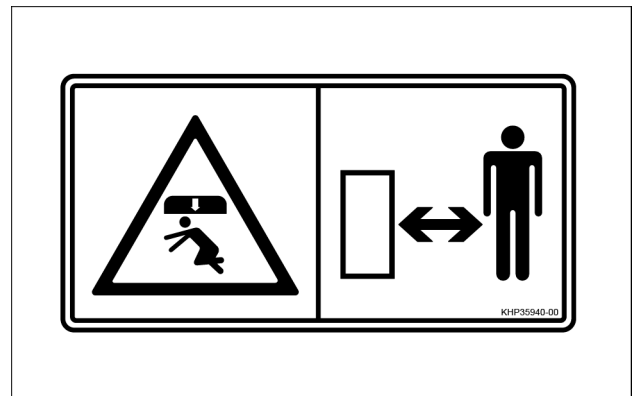
(14) Keep out of work range of attachment

Part number: KHP35940

Always make sure to keep the working range of the machine front equipment clear from obstacles and from bystanders.

Always sound the horn before start operating the machine.

The machine front equipment may hit or crush the bystanders causing serious injuries.



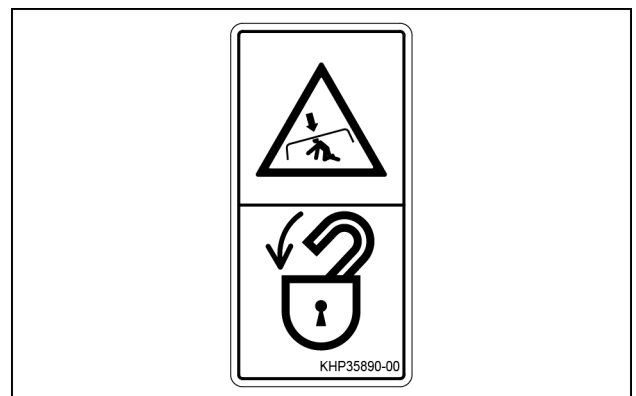
KHP35940 23

(15) Engine hood

Part number: KHP35890

Always lock the engine hood when it is set in open position for maintenance operations.

Engine hood not locked may fall down causing serious injuries.



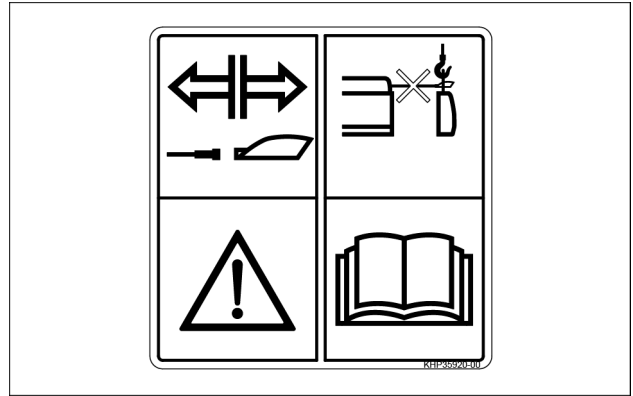
KHP35890 24

(16) Camera wiring precautions

Part number: KHP35920

Always disconnect the wiring of the cameras before removal of the counterweight.

Make sure to read operator's manual to understand proper procedures to be used for removal of the counterweight.



KHP35920 25

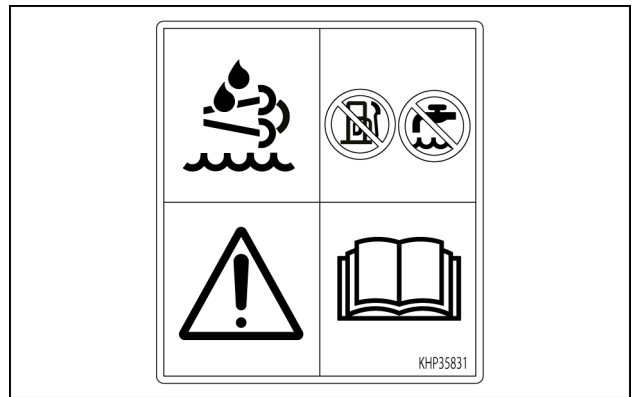
(17) DEF/AdBlue® tank

Part number: KHP35831

Do not fill the DEF/AdBlue® tank with diesel fuel, water or any fluid other than DEF/AdBlue®.

Using any other kind of fluid will cause serious damages to the machine.

Make sure to read operator's manual to understand proper procedures to be used for storage and usage of DEF/AdBlue®.



KHP35831 26

(18) Engine compartment

Part number: KHP35850

Always stop and cool down the engine before making any maintenance operation in the engine compartment.

Do not step on the engine as this can cause serious damages to the engine components and serious injuries to the operator.

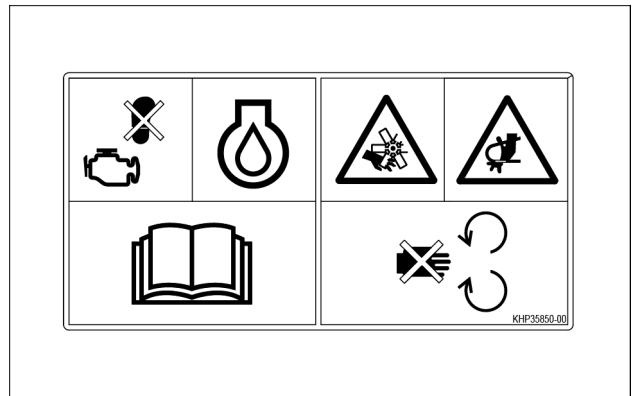
When the engine is running, keep away from the engine cooling fan, from the fan belt and from the other rotating parts of the mechanical fan drive system. Rotating parts can cause serious injuries.

Make sure to read operator's manual to understand proper precautions when working into the engine compartment.

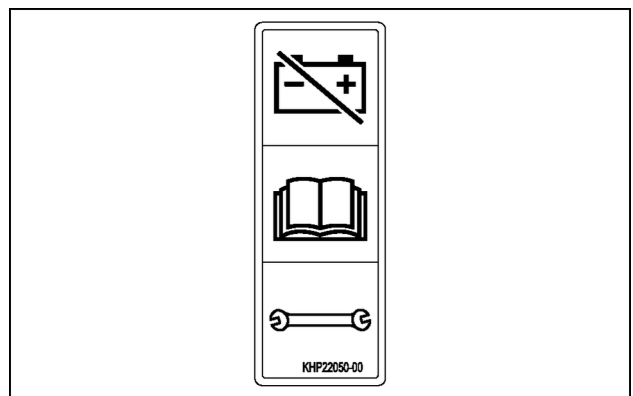
(19) Handling precautions for battery disconnect switch

Part number: KHP22050

Make sure to read operator's manual to understand proper procedures for usage of the battery disconnect switch.



KHP35850 27



SMIL14CEX1645AB 28

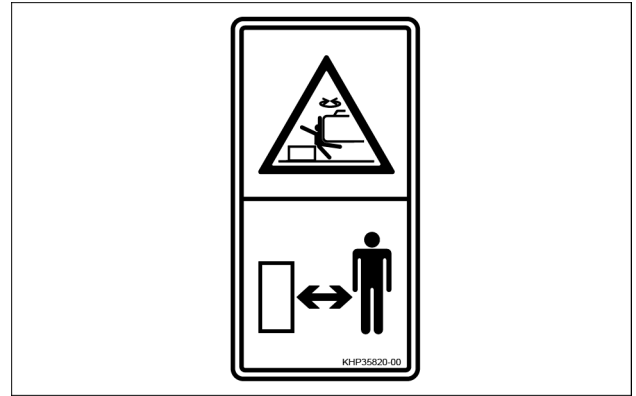
(20) Keep out of work range of upper structure

Part number: KHP35820

Always make sure to keep the working range of the machine upper structure clear from obstacles and from bystanders.

Always sound the horn before start operating the machine.

The machine upper structure may hit or crush the bystanders causing serious injuries.



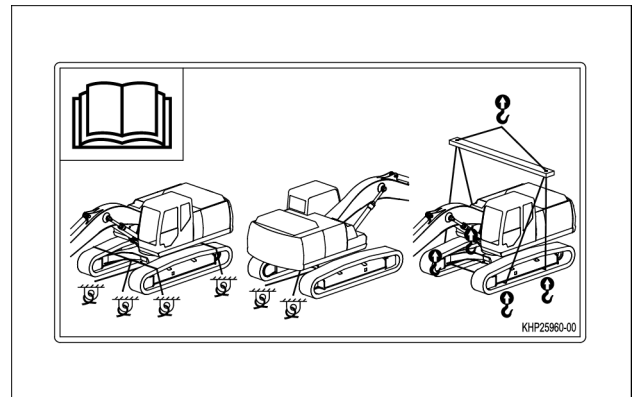
KHP35820 29

(21) Instruction decal for restraint and lifting

Part number: KHP25960

Reference sketches mapping the layout of devices for transport and lifting of the machine.

Make sure to read operator's manual to understand proper procedures for transport and lifting of the machine.



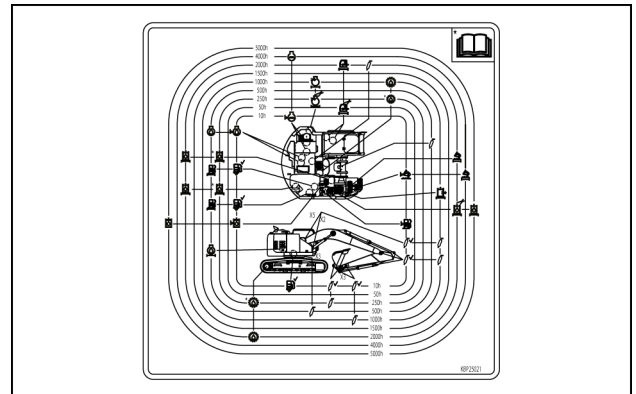
KHP25960 30

(22) Service table

Part number: KBP25021

Reference chart indicating proper timing for machine maintenance.

Make sure to read operator's manual to understand proper procedures for servicing the machine.

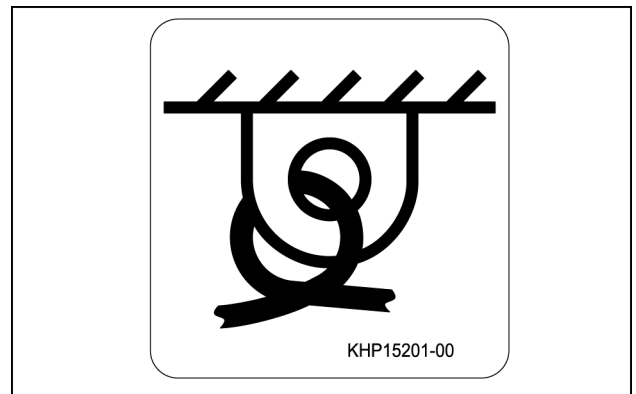


KBP25021 31

(23) Lashing point decal

Part number: KHP15201

Point on machine structure for securing the machine during transport.

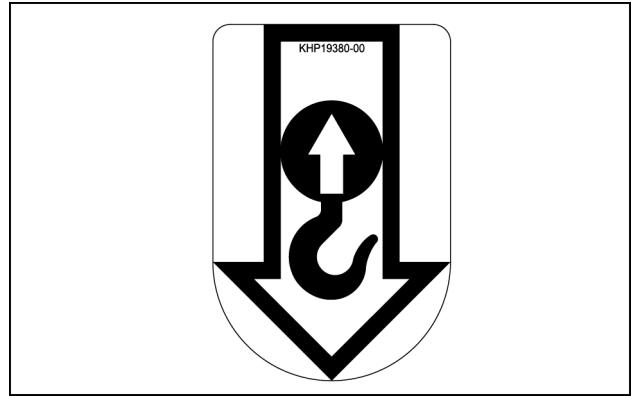


SMIL15CEX0447AA 32

(24) Lifting location

Part number: KHP19380

Machine area where the lifting devices should be routed.



SMIL15CEX0450AA 33

(25) Fuel tank

Part number: KHP35840

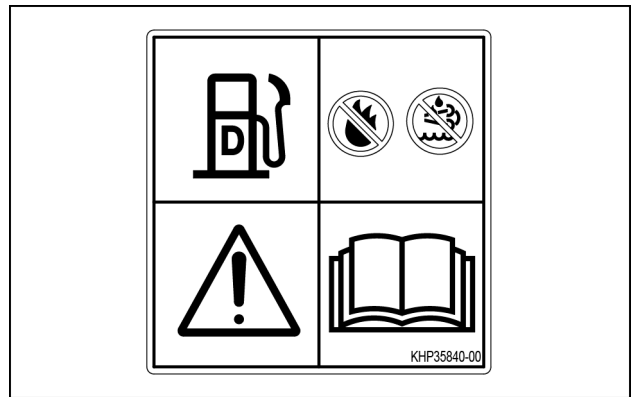
Do not perform welding and avoid any operation generating sparks close to the fuel tank.

Fuel is flammable and flames can cause serious injuries.

Do not fill the fuel tank with water, **DEF/AdBLUE®** or any fluid other than Ultra Low Sulfur diesel fuel.

Using any other kind of fuel will cause serious damages to the machine.

Make sure to read operator's manual to understand proper procedures to be used for storage and usage of Ultra Low Sulfur diesel fuel.



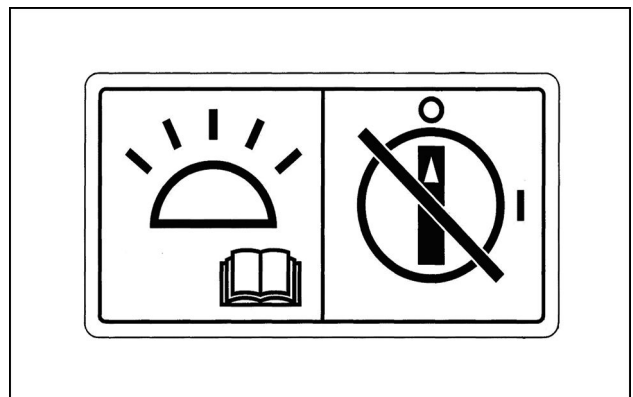
KHP35840 34

(26) Precautions for Battery Disconnect Switch

Part number: KHP32700

Never turn the battery disconnect switch to OFF position when the indicator lamp is lit.

Make sure to read the operator's manual to understand warning signs and icons related to the functioning of the battery disconnect switch.



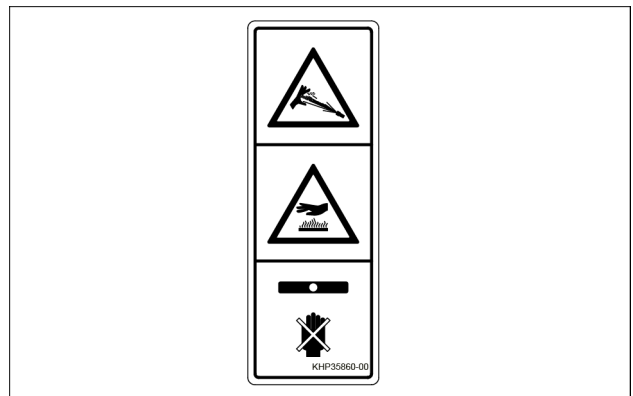
48004715 35

(27) Radiator

Part number: KHP35860

Do not loosen or open the radiator cap when coolant is hot and under pressure, it can cause serious injuries.

Cool down the engine before opening the radiator cap, then loosen the radiator cap slowly to relieve pressure in the coolant circuit.

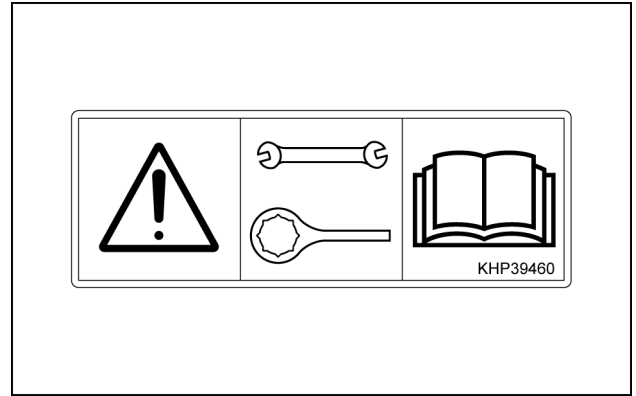


KHP35860 36

(28) Fuel filter replacement

Part number: KHP39460

Always perform the fuel filter replacement after reading the operator's manual.

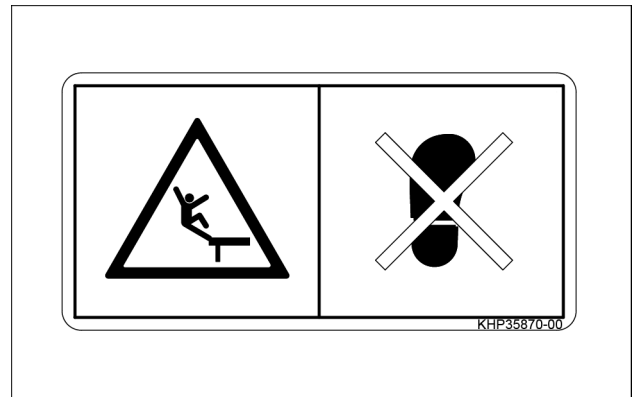


KHP39460 37

(29) Engine hood

Part number: KHP35870

Do not step over platforms that are not guarded by handrails in order to avoid the risk of falling.



KHP35870 38

(30) Global Warming Potential decal

Part number: KHP41660

Greenhouse gas: HFC-134a

Quantity (A/C system charge): **0.90 kg (2.0 lb)**

Global Warming Potential (GWP): 1.29 Ton

Service, repair, or recharging must be performed only by trained service technician. Always contact your local authorized dealer. Failure to comply could result in death or serious injury.



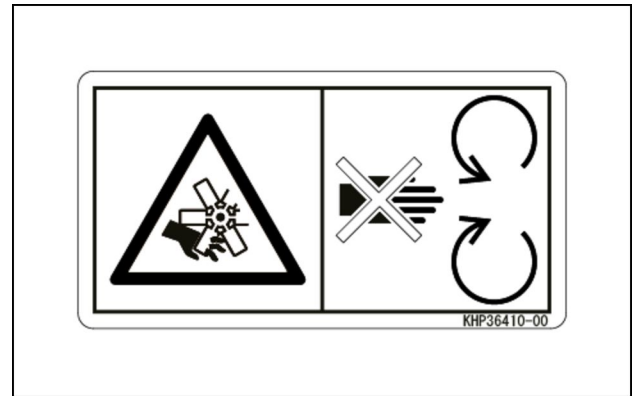
KHP41660 39

(31) Fan

Part number: KHP36410

When the engine is running, keep away from the engine cooling fan, from the fan belt and from the other rotating parts of the mechanical fan drive system.

The engine cooling fan and other rotating parts can cause serious injuries.

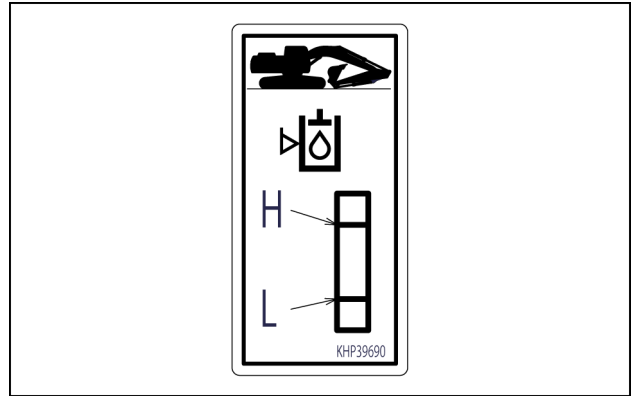


KHP36410 40

(32) Hydraulic oil level inspection

Part number: KHP39690

This decal shows information on hydraulic oil inspection.

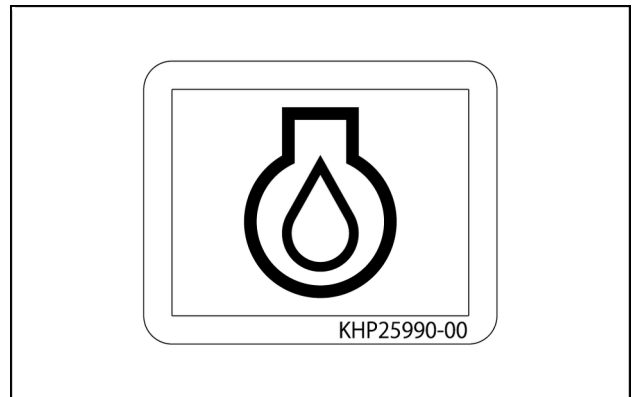


KHP39690 41

(33) Engine oil sampling port

Part number: KHP25990

This decal shows the position of the engine oil sampling port.



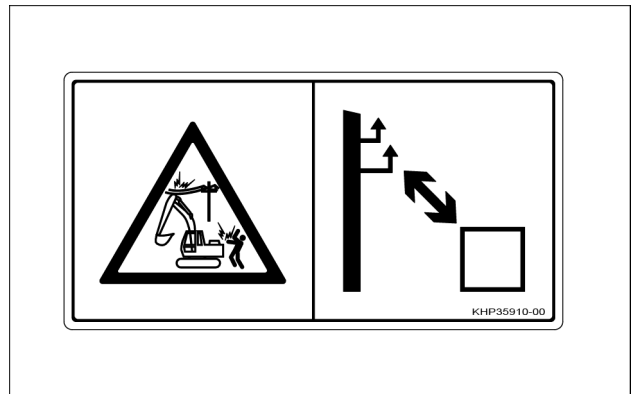
KHP25990 42

(34) Electric shock

Part number: KHP35910

When working near overhead high-voltage electric lines, there is a high risk of electric shocks.

Always keep minimum distances to the electric lines in order to avoid serious damages to the machine, and to avoid serious injuries to the bystanders.

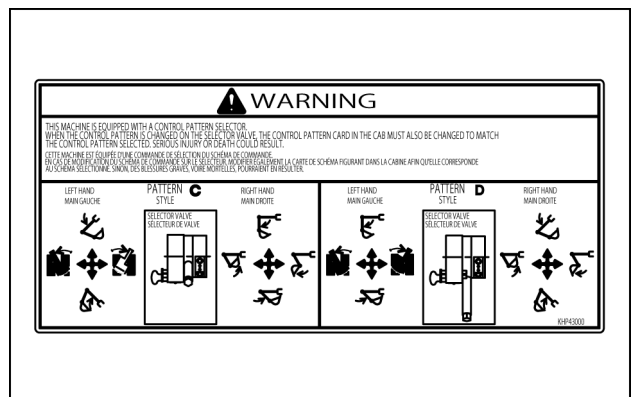


KHP35910 43

(35) Precautions for Operation Pattern

Part number: KHP43000

Before starting machine operation, set the control pattern selector valve to the desired position, and then check that the operating pattern of control levers is consistent with the position selected on the valve.

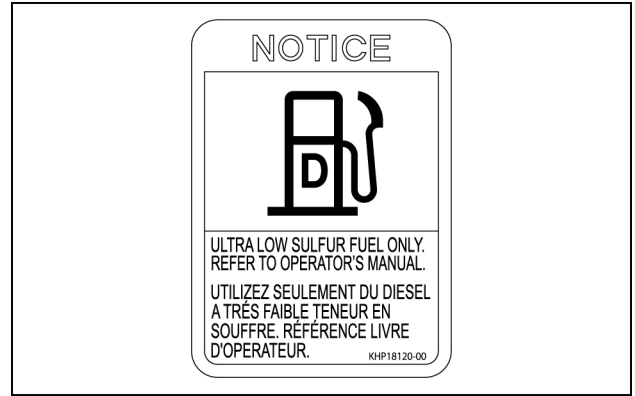


KHP43000 44

(36) Fuel used

Part number: KHP18120

Use only Ultra Low Sulfur diesel fuel. Usage of different kinds of fuel will cause serious damages to the machine.



KHP18120 45

(37) Check valve

Part number: KHP35930

Track tensioning cylinder contains pressurized fluid.

During maintenance of the track tensioning cylinder, fluid may spray out from the check valve on the tensioning cylinder and can cause serious injuries.

Always make sure to read operator's manual to understand proper practices and precautions to be tackled for maintenance of the track tensioning system.



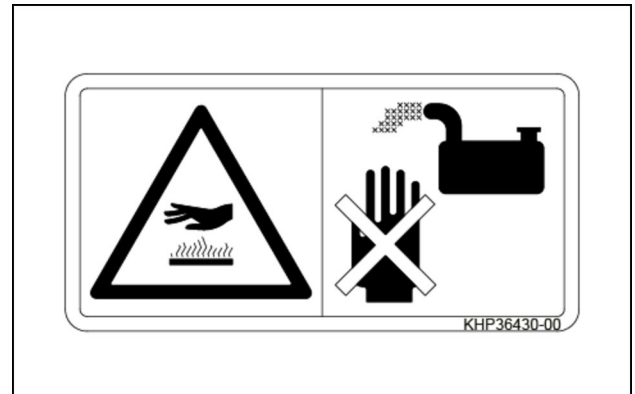
KHP35930 46

(38) Muffler

Part number: KHP36430

Do not touch the muffler right after engine stop.

Muffler surface is hot and touching it can cause serious injuries.



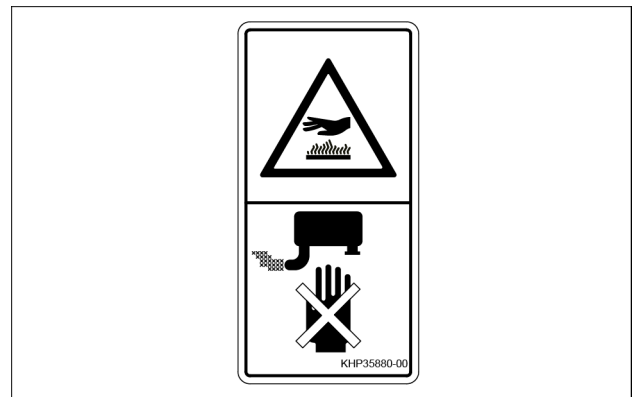
KHP36430 47

(39) Muffler

Part number: KHP35880

Do not touch the muffler right after engine stop.

Muffler surface is hot and touching it can cause serious injuries.



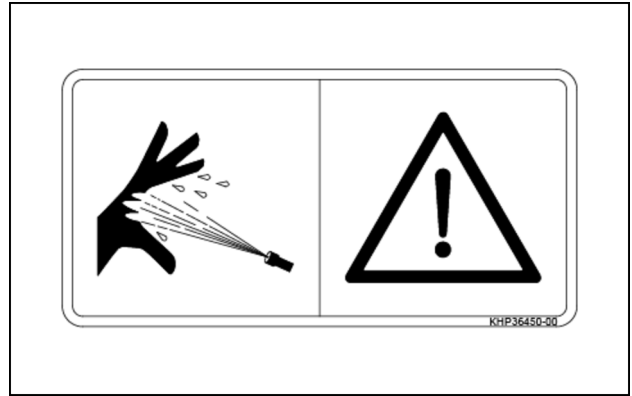
KHP35880 48

(40) Common rail high pressure decal

Part number: KHP36450

Common rail injection system contains fuel under extreme pressure that can cause fatal injuries. Do not open the common rail pump, or loosen the common rail high pressure lines, or touch any other component of the common rail injection system.

Consult the CASE CONSTRUCTION dealer for service.

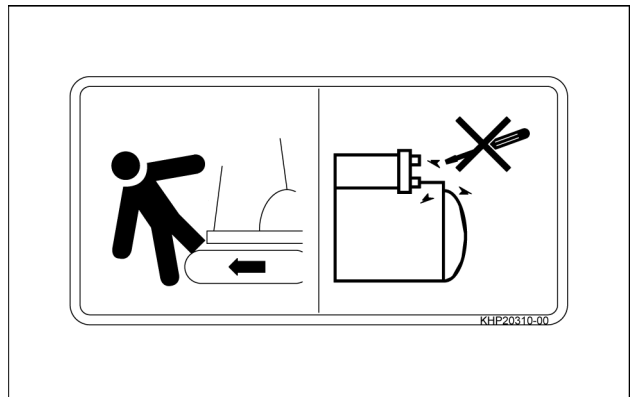


KHP36450 49

(41) Starting the engine

Part number: KHP20310

Do not try to start the engine by auxiliary tools. Machine may start to move suddenly and unintendedly causing serious injuries to the operator and to the bystanders.



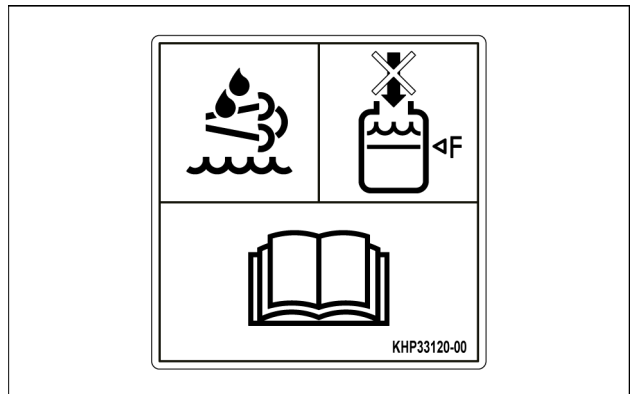
KHP20310 50

(42) DEF/AdBlue® tank level

Part number: KHP33120

Never refill DEF/AdBlue® over the F (upper limit) mark on the level gauge. Adequate air volume must be present in the top of the tank for proper functionality of the after treatment system.

Make sure to read operator's manual to understand proper procedures to be used for refilling of DEF/AdBlue®.



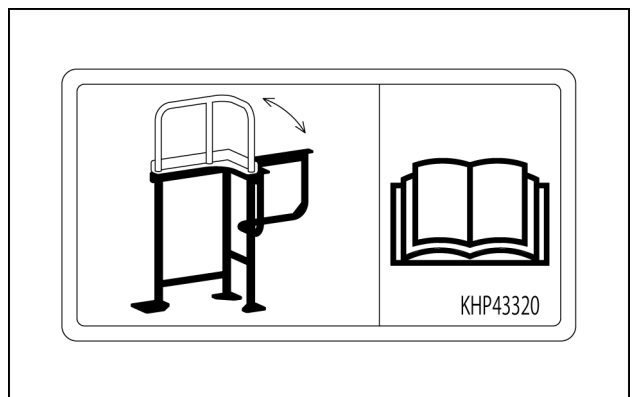
KHP33120 51

(43) Foldable handrail

Part number: KHP43320

The handrail on the top of the fuel tank shall be set and fixed in the horizontal position before a transport operation.

Make sure to read the Operator's manual to understand how to set the handrail according to the operating condition of the machine.



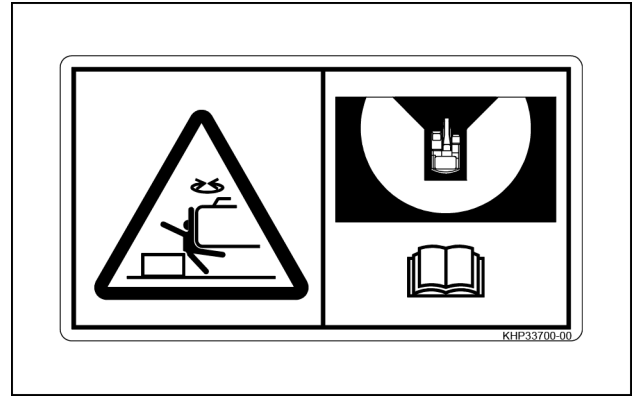
KHP43320 52

(44) Blind spot of Field View Monitor (Optional)

Part number: KHP33700

The Field View Monitor system does not ensure visibility on the closest area around the machine.

Make sure to read the Operator's manual to understand proper practices and precautions to be tackled for machine operation with the Field View Monitor system (Optional).

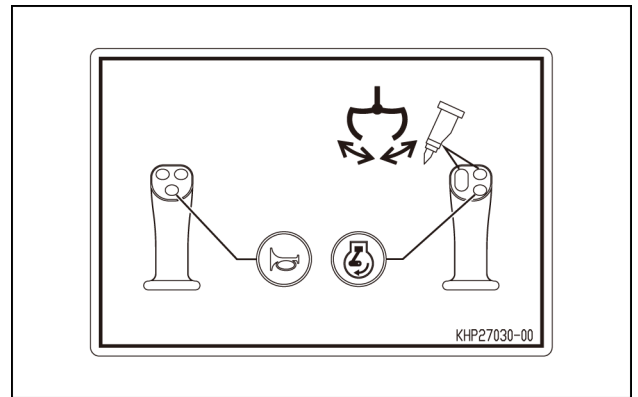


KHP33700 53

(45A) Functions of operation levers (Optional)

Part number: KHP27030

Functions of the right control lever.

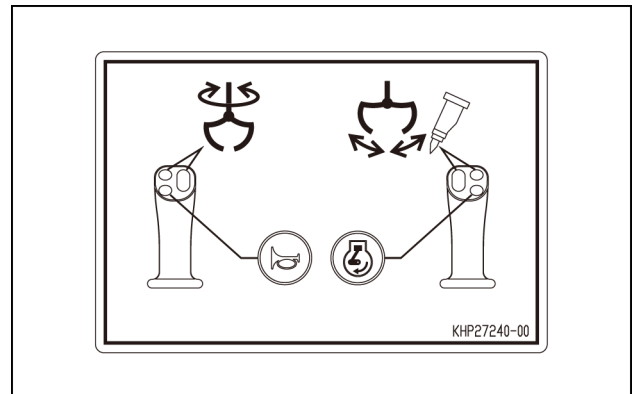


KHP27030 54

(45B) Functions of operation levers (Optional)

Part number: KHP27240

Functions of the left control lever and the right control lever.



KHP27240 55

