

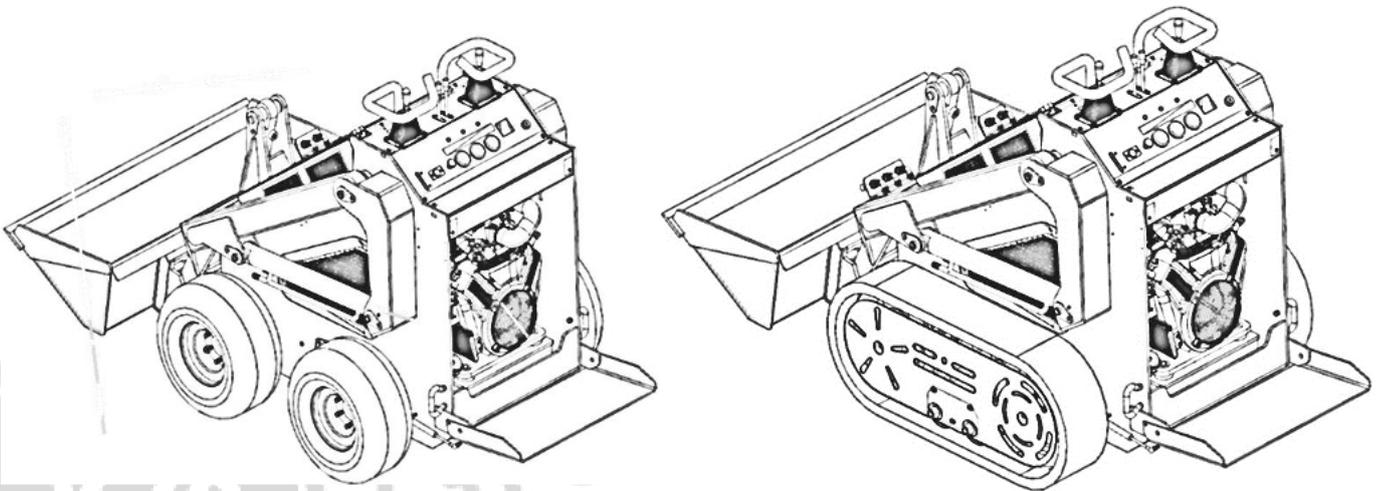


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EN

SKID STEER LOADER

GG04



INSTRUCTION MANUAL

Preface

Thank you very much for choosing your company's products. Please read the product instructions carefully before using this product. This manual will provide you with the performance, technical parameters, maintenance and general precautions of the product, which can help you to use the equipment smoothly, safely and effectively.

In order to make the user correctly grasp the knowledge of the use, adjustment, maintenance and maintenance of the machine, and give full play to the effect of the excavator, please read this operation and maintenance manual carefully, and earnestly implement the provisions in this operation and maintenance manual. For the use and maintenance of the supporting engine, refer to the Engine use instructions prepared by the supporting engine plant.

The operation part is the technical reference for the driver to use the machine, during which the graphic control method is used to guide the driver to use the correct program to check, start, operate and stop the machine. The operation technology outlined in the manual is a basis for the driver to acquire the machine and its functional knowledge, so that they can improve their own technology and skills.

The maintenance part is the user's maintenance of the whole machine maintenance instructions. The specific maintenance measures of

the machine are detailed in the Excavator Maintenance Catalogue. Users shall maintain the maintenance items according to the requirements and the different mechanical working time.

In extremely harsh, dusty or wet working conditions, according to the number of the operation of the machine.

If the actual product is different from the pictures in this manual, the actual object shall prevail.



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Catalog

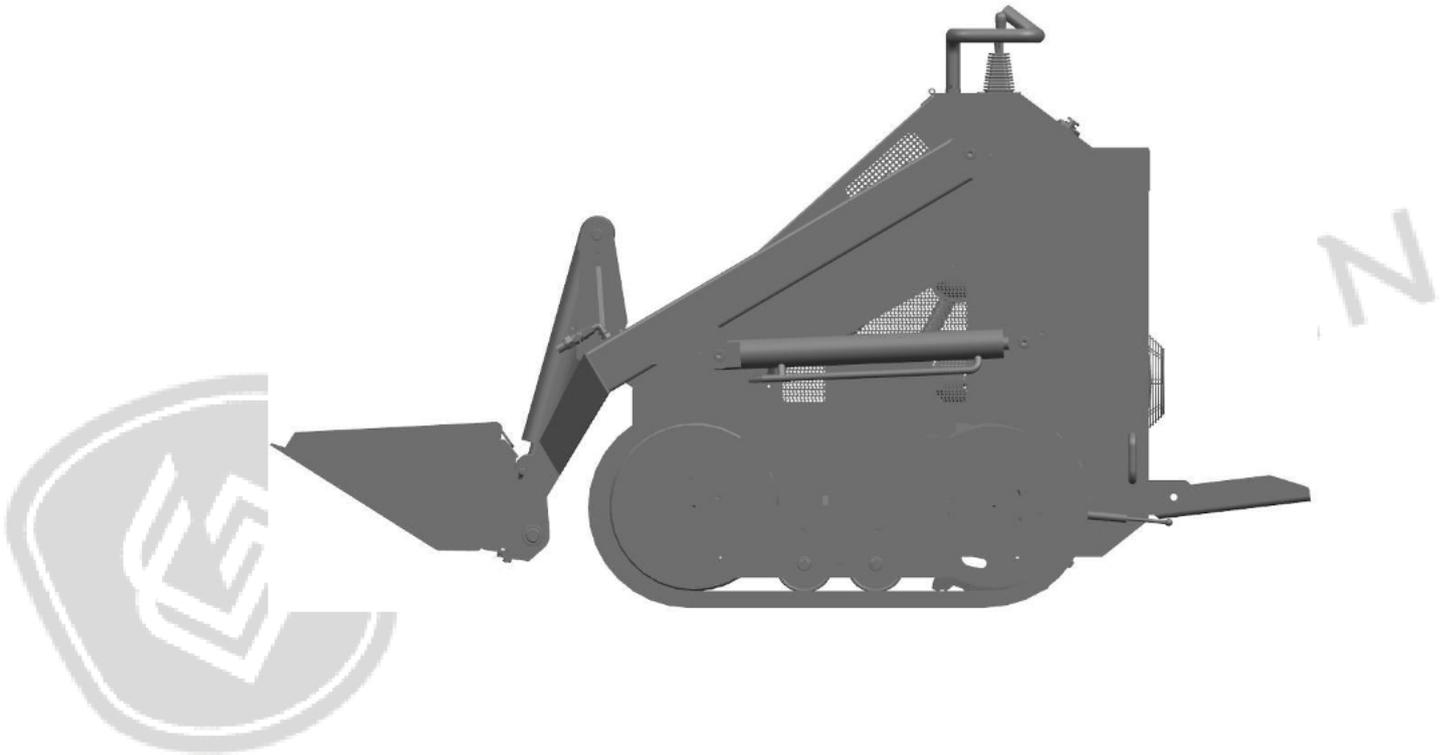
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1、 Identification number

Machine numbers are numbered in the lower area, indicated by arrows. Each machine has its own unique number; please provide its information. To the following forms.



2、 Application Area

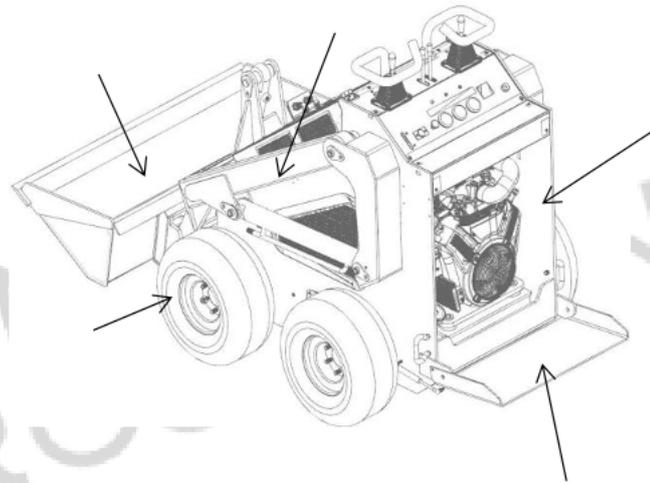
The slip loader GG 04 is designed for compact building work in both crawler and wheel forms. With a powerful gasoline engine, with fast couplers, it can easily connect to various accessories. Under normal circumstances, from small construction works, ground care, home decoration, landscaping, agriculture to small handling works; it is skilled in any compact road or low space work. If necessary, if working in extreme areas, please contact our company or your local dealer, or it will conflict with the application. GG 04 .Operation, repair and repair shall be carried out only by trained operators familiar with their special characteristics and safe operations.

3、 mechanical part

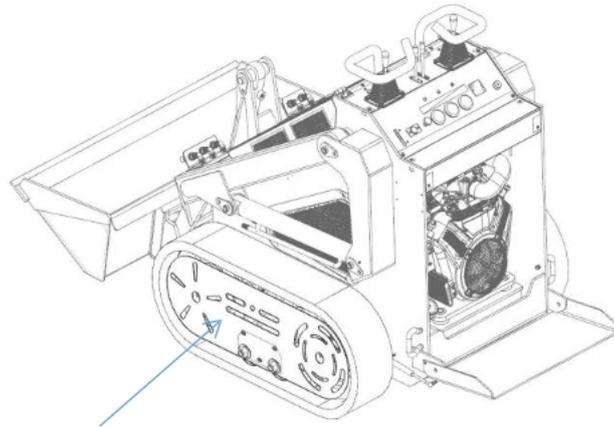
The machine is divided into two ways: crawler and wheel. The crawler can be applied to the muddy road, the wheel can be applied to the relatively smooth road, and different walking methods can be selected according to the different application environment.

wheel type :

- A、 bucket
- B、 wheel
- C、 swing arm
- D、 body of car
- E、 foot plate

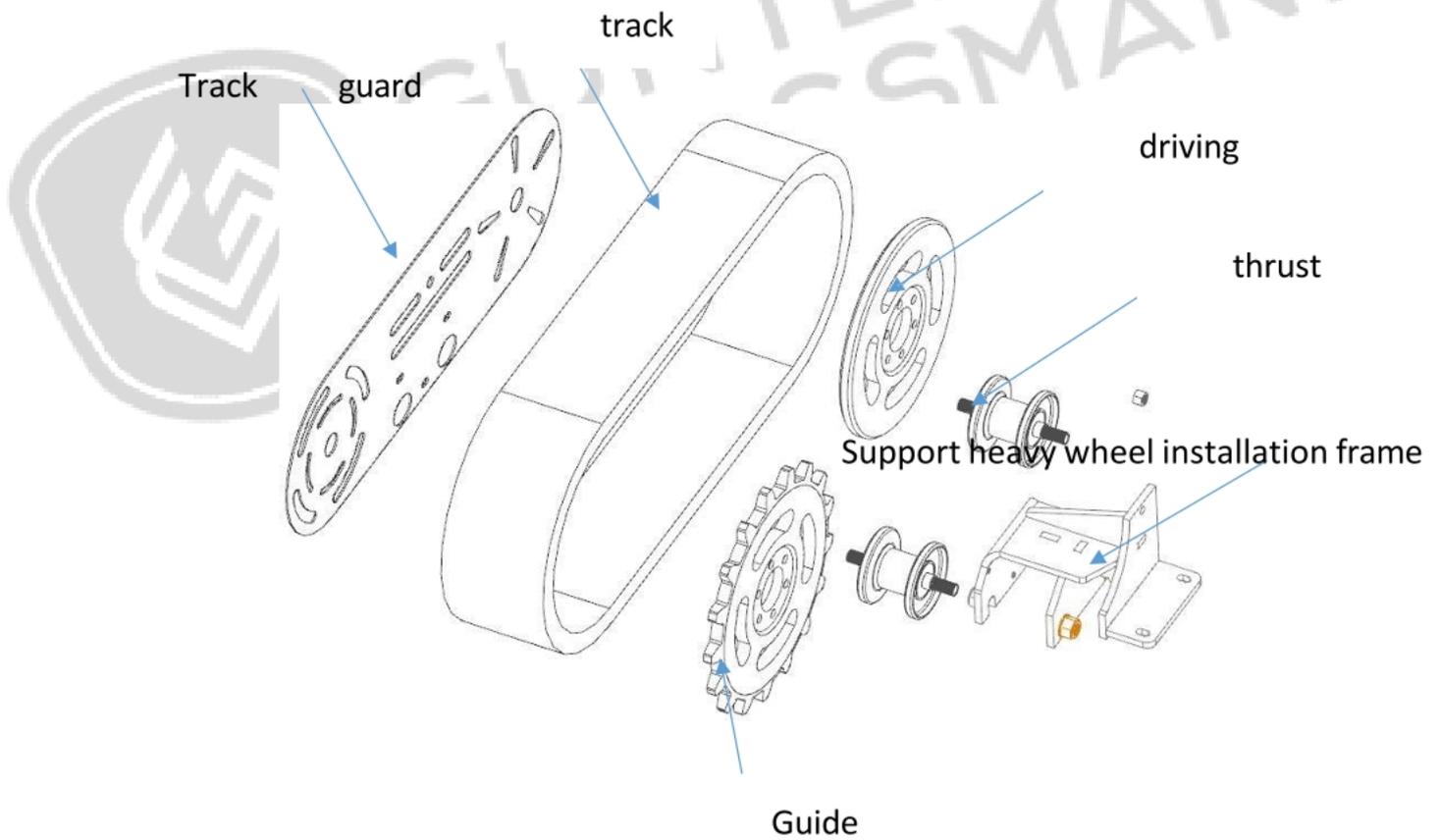


crawler-type :



Track part part assembly

Crawler mounting part (left example)



Crawle type and wheel type replacement mode:

Take the original machine wheel type as an example:

Step 1: Remove the six nuts fixing the hub in turn and remove the four wheels .

Step2: the guide wheel, drive wheel, support wheel installation frame, support wheel installed on the frame, and then the tightening bolt loose, the guide wheel and drive wheel to move.

Step 3: Install the tracks on both sides, and then tighten the tightening bolts to tighten the tracks.

Step 4: Install the crawler guards on both sides and tighten the bolts.

The installation is complete.

Take the original machine track type as an example:

Step 1: remove the crawler guard plate and loosen the tightening bolt.

Step 2: Remove the crawler, and then remove the guide wheel, drive wheel and supporting wheel mounting frame in turn.

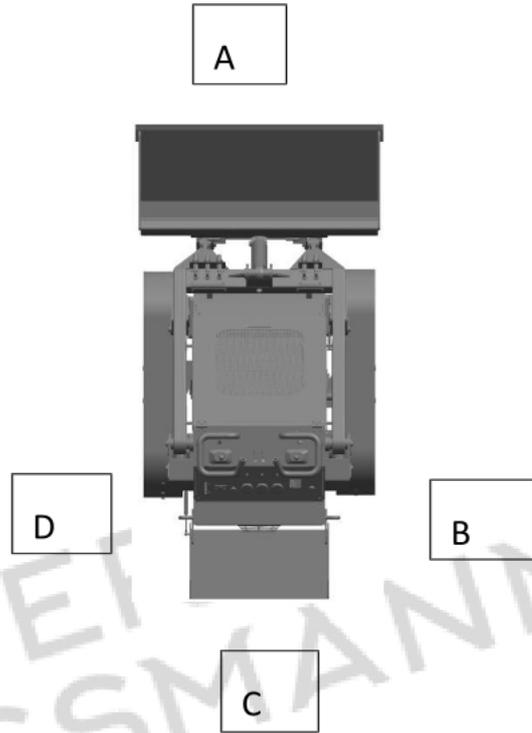
Step 3: tighten the tightening bolt, install the wheel on the transmission shaft assembly, and tighten the nut in turn.

The installation is complete.

Operation signal

Operation direction

- A、 Front
- B、 Right
- C、 Back
- D、 Left

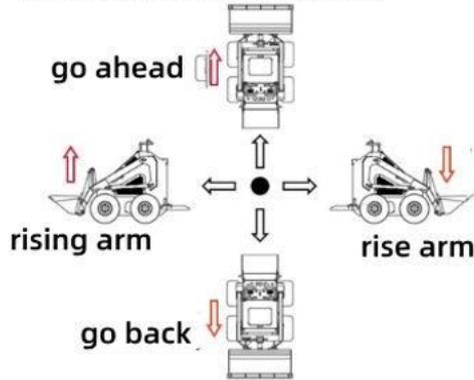


Operation signal of the working device

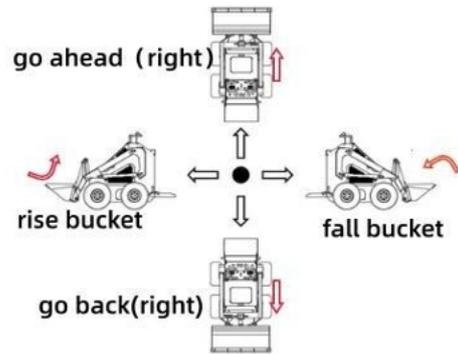
The identification is located on the control panel to check that the machine control mode is consistent with the label. If different, replace the label before operating the machine to make it match with the mechanical control mode.

△ Don't do this !

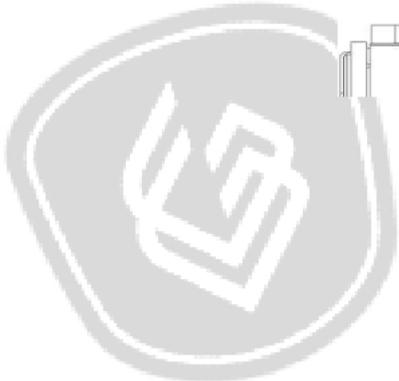
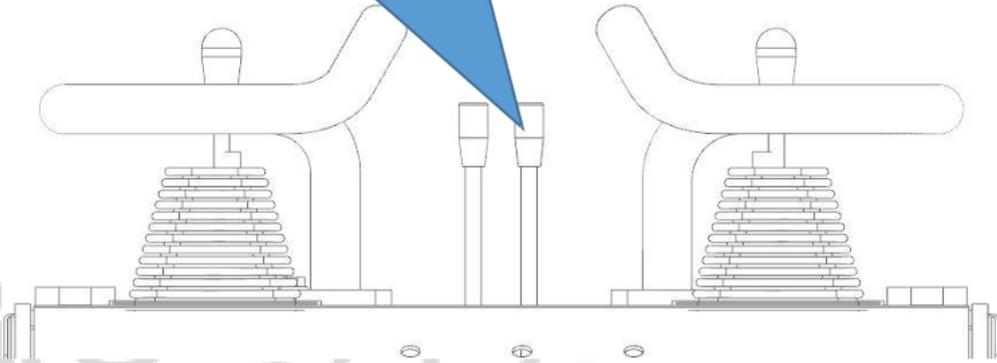
Left handle function



Right handle function



It is an operating rod



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4、 Safety precautions and safety signs



Follow the safe operation instructions before using and maintaining the machine. Please read the operation manual and mark it on the machine. Repair, adjust and maintain according to the marks in the manual and instructions, and then check for correctness. Failure to obey orders may cause death or injury.

Safety is the responsibility of the operator. Most accidents involving machine operation and maintenance can be avoided by following basic safety rules and precautions. Read and understand all safety information, safety operations, and safety stickers in this manual before operating or maintaining the machine.

 This symbol indicates careful safety before operating the slide loader.

 warning
The operator must fully understand the following operating guidelines.

	 CAUTION
	<ul style="list-style-type: none"> • Read the operation manual before use. • Otherwise the injury accident may happen

Each guide and rule for operation and maintenance should be understood and followed.



All the warnings are all for your safety.

-
- When operating the machine, ensure that the amount and type of hydraulic oil is used. It can also cause dangerous or serious harm.
 - Please read this manual carefully. Make sure you understand fuel oil maintenance and refueling.
 -  This symbol indicates that you should be careful; otherwise the operator or bystander may die. The stickers were affixed to the machine
 -  Safety stickers on the machine and warnings on the manual especially for you aware of the danger to avoid accidents.
 - Each loader was thoroughly tested and inspected before delivery to the user. You should be careful within 100 hours to keep all parts in good condition. Rough operation can reduce the service life or reduce the use efficiency. For the new equipment, you should note the following items:
 - Run the machine idle for 5 minutes after startup.
 - Avoid operating the loader at full speed.
 - Avoid quick start, quick acceleration, and unnecessary emergency stop or rotation.
 - Clean the dust and impurities when replacing the fixtures.
 - If working in harsh conditions, check for all potential risk factors.

-
- Please check the working hours of the working chronograph.
 - When operating the machine, hold your hands to avoid injury at the start or emergency stop.

When machine abnormalities is found:

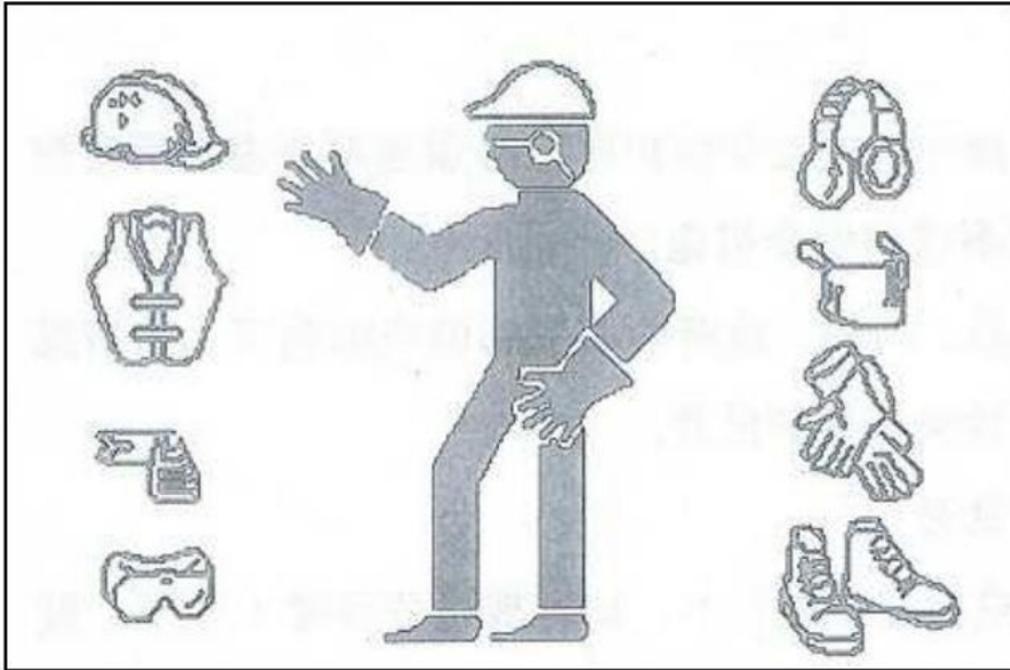
In machine operation or inspection and maintenance, if any machine abnormality is found (noise, vibration, peculiar smell, oil leakage, error alarm, etc.), the sales or service agent shall be notified immediately and take appropriate measures. Do not operate the machine until the exceptions are excluded.

operating temperature range:

To maintain machine performance and avoid premature wear, observe the following operating conditions. Do not operate the machine if the outdoor temperature exceeds + 45°C or below -15°C. If the outdoor temperature exceeds + 45°C, the engine may overheat, causing the engine oil performance. Also, the hydraulic oil can become very hot, causing damage to the hydraulic equipment.

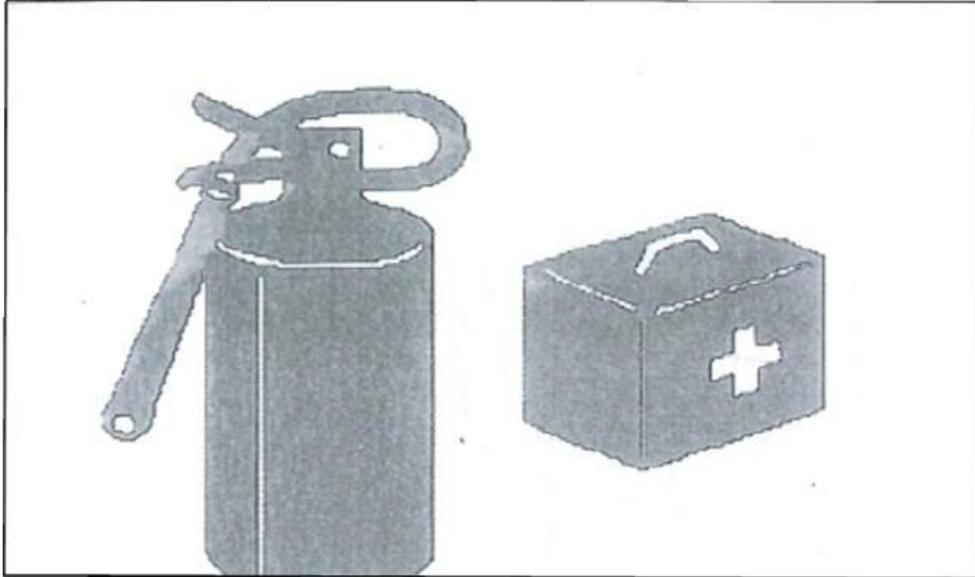
If operated at an outdoor temperature below -15°C, rubber parts such as gaskets may harden, causing premature wear or damage to the machine.

If you need to operate the machine outside the outdoor temperature range, consult your sales or service agent.

Wear appropriate clothing and protective equipment:

Do not wear loose clothing or wear accessories that may have a control lever or sports parts. Do not wear clothes with oil or fuel dirt that are prone to fire. According to the work environment requirements, wear safety shoes, safety hats, safety glasses, filter masks, thick gloves, ear guards and other protective equipment, such as safety glasses and filter masks, because metal debris or other objects may cause serious injury. Use the hearing protection device when operating the machine. Being in high noise for a long time can damage your hearing or even lose it completely.

Install the fire extinguisher and first aid kit:



Make good preparations for fires and accidents.

Safety fire extinguishers and first aid kits and learn if used.

Learn how to put out fires and deal with accidents.

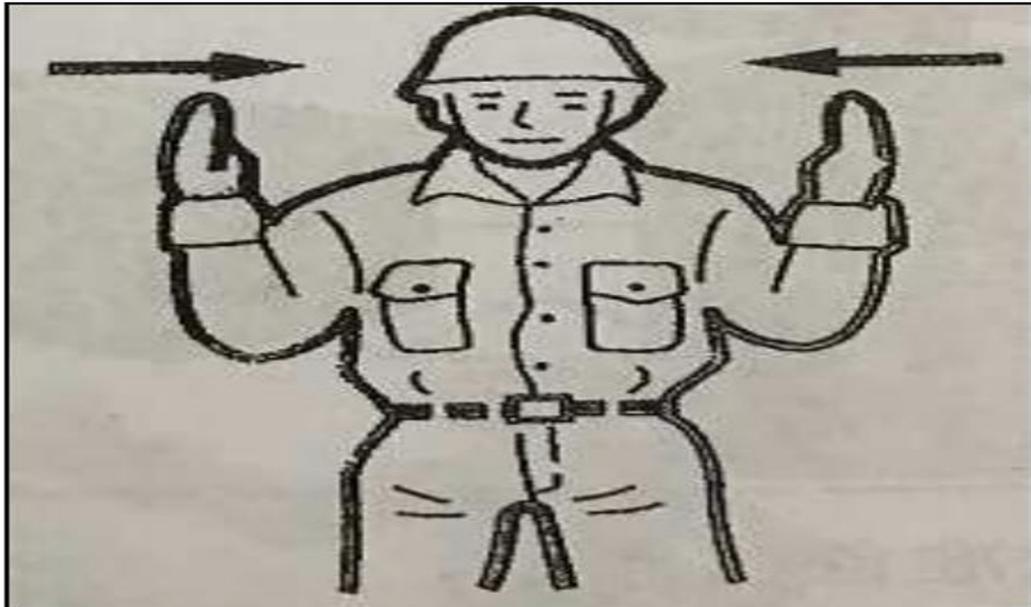
Know how to contact emergency assistance and make an emergency contact list.

Do not remove the safety devices:

Please ensure that all guard barriers are installed in place and secure.

Repair or replace the damaged parts before operating the machine.

Do not remove any safety devices other than maintenance. Keep all the safety devices in good working condition at all times.



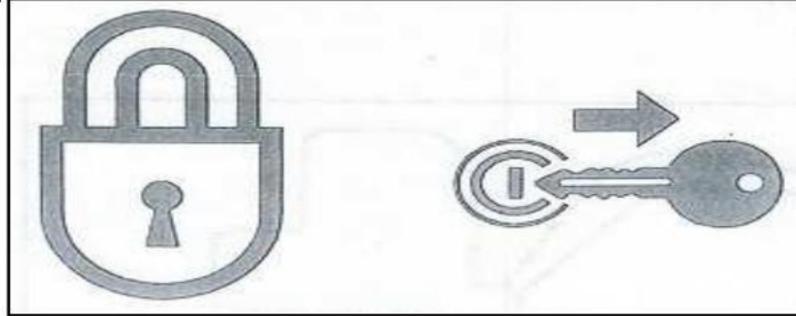
Learn how to use gestures with specific homework requirements and identify the people responsible for the gesture. All personnel must fully understand all the gestures.

The operator must only to the assigned gesture, but must obey the stop gesture from anyone at any time.

The signaler must stand in clearly visible places when transmitting signals.

Stand from or from the driver's seat:

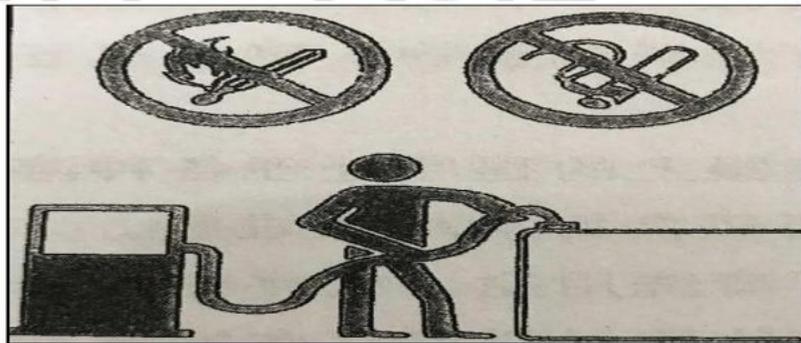
While leaving the driver's position, bring the worker down to the ground and stop the engine. Accidentally touching any control handle can cause the machine to move and result in serious injury or death.



For Your Attention:

Bucket, boom and auxiliary hydraulic controls. Do not touch these controls. Before leaving the driver's position, lower the working device to the ground and stall the engine. Close the headlight, key switch and main power switch.

Avoid fire and explosion hazards



Keep fuel, oil, grease and antifreeze away from flame. Fuel oil is particularly flammable and very dangerous.

When dealing with these combustible materials, stay away from lit cigarettes, matches, lighters, and other flames or ignition sources, while avoiding static electricity.

When dealing with fuel oil or conducting fuel system operations, do

not smoke or appear open fire, do anti-static treatment.

Do not leave the operation site when replenishing the fuel or lubricating oil. Do not remove the tank cap or refueling when the engine is running or cooling. Also, do not fly the fuel onto the machine's thermal surface or electronic system components. Clean up the spilled fuel or lubricating oil immediately.

Check the fuel and lubricating oil for leaks. Remove the leakage and clean the machine before the operation.

During polishing or welding.

Do not cut or weld pipes or pipes that contain flammable liquid inside. Wash thoroughly with a non-combustible solvent before cutting or welding.

Remove all garbage or debris from the machine. Ensure that no greasy rags or other flammable materials remain on the machine.

Handle various solvents or dry chemicals (foam fire extinguishers) according to the procedure on the manufacturer's container. Conduct it in a well-ventilated place.

Do not use the fuel oil for cleaning purposes. Always use non-combustible solvents.

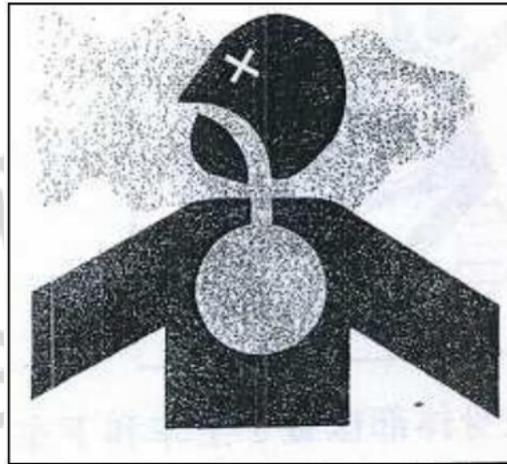
Keep all combustible liquids and materials in a safe and well-ventilated place.

A short circuit in the electronic system may cause a fire. Check the

wiring daily for loose or damage. Re-tighten the loose connector and the attachment buckle. Repair or replace damaged wires.

Fire caused by the pipeline:

Ensure that clips, guards, and cushions for hoses and tubes are secured. In case of loosening, the hose or pipe will be damaged due to vibration or contact with other parts during the operation. This may cause high-pressure oil to shoot out, causing a fire or injury.

Engine exhaust gas is toxic:

Do not operate the engine in poorly ventilated closures.

If natural ventilation is not possible, a ventilation fan, fan, extended exhaust pipe or other ventilation device shall be installed.

Treatment of asbestos dust:

Lung cancer may occur after inhalation of asbestos dust. When handling materials that may contain asbestos:

Do not clean up with compressed air.

Avoid polishing or polishing parts containing asbestos.

For cleaning, use a vacuum setting equipped with a HEPA air filter.

If there is no other way to control the dust, please wear the specified respirator. When working indoors, please install a ventilation system with a polymer filter.

Do not allow unauthorized personnel to enter the work area during the operation.

Please strictly observe the rules and environmental standards applicable to the operating area.

Be care to avoid injury:



Never place your hands, feet or other body parts between the car frame and the car rack or between the body and the working device, or between the cylinder and the moving parts. These voids may change in size as the machine moves and may cause serious injury or death.

Use option products:

Please review before installing the option. Depending on the type of accessory or a combination thereof, the accessory may contact the cab or other parts of the machine. Before use, make sure that the installed option does not contact other parts. Do not use unapproved attachments. Doing so may endanger safety or adversely affect the operation or service life of the machine.

The Company is not responsible for any injury, accident or product damage caused from the use of unlicensed attachments.

Do not modify the machine:

Unauthorized modification of the machine can cause injury or death.

Never unauthorized modify any part of the machine.



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5、 Check before work

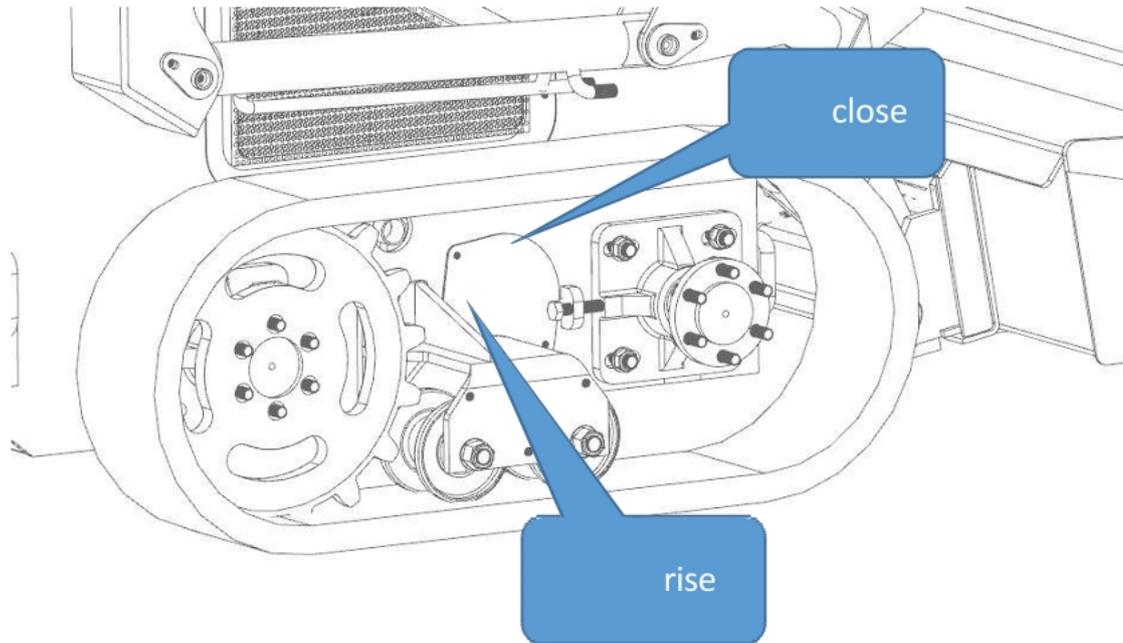
Before operation, the vehicle condition and the operation area should be fully understood to ensure safety.

5.1 Fuel oil quantity inspection

Before operation, the fuel capacity of the vehicle should be checked. When the fuel is insufficient, the fuel should be replenished in time to avoid entering the air because the fuel is exhausted, and the machine may be unable to catch fire after refueling again. See section for handling no fire.

5.2 Check the track and chain tightening conditions

Check the tightening of the track and chain before operation. If the track or chain is loose, it needs to be tightened, otherwise the track and chain will appear jumping teeth and cannot walk. The track is turning when too loose and turning around. The track is easy to fall off when walking unilaterally. Once the track falls off, it is difficult to install.



When tightening, tighten the tightening bolts first, and then tighten the tightening bolts (the crawler tightening mode is the same)

5.3 Hydraulic oil and oil quantity check

Check the hydraulic oil level before operation, the hydraulic oil in the tank to one side, will cause the oil pump suction and the vehicle without any action (the action should be immediately stalled, the oil pump will continue to work when the oil pump will lead to severe wear or even damage) need to supplement the hydraulic oil or the body, if no hydraulic oil or unable to pad the body, for part of the mechanical operating system machine can try to operate the machine to flat state, or drive the car to the smooth road, and then supplement the hydraulic oil. To ensure that the hydraulic oil in the hydraulic oil tank is sufficient.

Oil inspection:

The hydraulic oil used by the sliding loader is 46 # anti-wear hydraulic oil. Due to the large differences in different climate in the use areas, the low or high temperature will affect the viscosity of the hydraulic oil, resulting in insufficient pressure or abnormal system pressure, and even accelerating the wear of the oil pump. Areas with special climate (too cold or overheating) should have the local climate conditions to choose the hydraulic oil suitable for the local temperature.

5.4 Oil oil quantity inspection

Check the engine oil before operation, check whether the oil is sufficient (because the machine work climbing, downhill, tilt, such as various situations, so the oil should be close to the oil ruler limit position, prevent the pump oil), insufficient to timely supplement, (oil as the engine work slowly, so regularly check the oil quantity is necessary) otherwise will lead to engine transition wear or pull cylinder, due to the lack of oil pull cylinder or other problems, the engine manufacturer shall not be warranty.



5.5 Lubrication point inspection

Each lubrication point of the sliding loader shall be checked before operation. Generally, grease shall be added to each lubrication point every 8 hours (see Chapter 10-10.2 for the number of refueling points and refueling positions). The refueling quantity should be sufficient, and the refueling frequency should be increased when the working conditions are bad.

5.6 Check the tightness of the fixing bolts for the important components

Important components include the walking motor, the drive shaft assembly, and the engine. Before operation, check the fixing bolts of these parts for loosening phenomenon. If there are loose bolts, they must be tightened immediately. If necessary, you can consult the manufacturer.

If there is no check or loose bolt tightened, it may cause serious problems such as chain loss or breaking and sprocket teeth and engine loss.

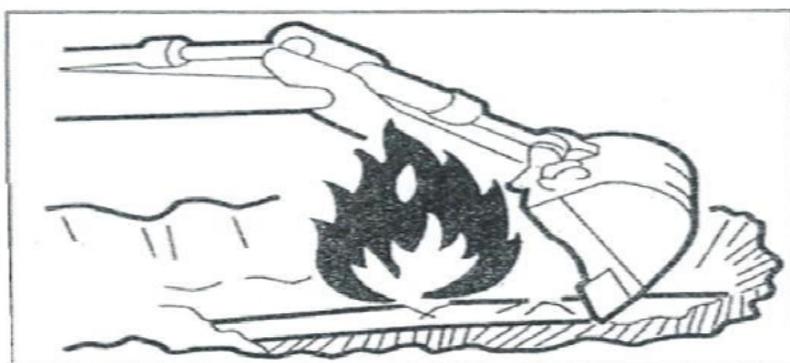
5.7 leak check

Before operation, observe around the car and check the chassis to check whether the sliding loader has oil leakage. If so, it should be tightened or repaired in time.

5.8 Operation area inspection

Check the terrain and ground conditions of the operation area, and check the building structure during indoor operation, and take safety measures when necessary.

Always avoid such dangers and obstacles as ditches, underground pipelines, trees, cliffs, overhead wires or dangerous areas with falling rocks or landslides.



Check with the administrator for the location of the buried gas pipes, water pipes, and power cables. If necessary, consult with the

administrator and determine specific safety measures that must be adopted to ensure safety.

When working on the road, always consider the safety of pedestrians and vehicles, and use signalmen and / or signals.

Unauthorized personnel shall not enter the isolated operation area.

When working in water or crossing a shallow stream, the water depth, the firmness of the ground and the water speed should be checked in advance.



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6、 Notes for the work

Before and after the engine start-up

Turn on the main power switch before starting the engine, turn the start switch, press the decompression switch after the engine speed reaches, press the start key immediately after the engine fire, and confirm whether the key plays back.

It is strictly prohibited to turn the key again after the engine starts. This operation will damage the starter motor and the engine flywheel gear, or even destroy the starter shell and burn the starter coil. In addition, excessive turning of the fire key will cause the key to not rebound. After the engine starts, the starter gear cannot be separated from the engine. Under the case of high speed driving of the engine, the current in the starter will rise rapidly, leading to the burning of the coil.

Start the key itself with dust, can effectively avoid dust water and other substances into the key, once impurities such as water into the key, can lead to lock core stuck not back or internal short circuit, damage the starter, so on rainy days or wet, outside dust more environment to avoid long time out the key parking, parking must be the key port protective measures.

Special note: the gasoline engine still fails to start after 10 seconds, please wait for 15 seconds to start again (continuous operation for a long

time leads to a large amount of battery power consumption, and the starter may be burned out).

The damage of the starter caused by the above reasons.

Winter start method: the model has the start preheating function.

When the weather is too cold, the key switch must be turned in reverse, keep it for 8~10 seconds (not preheating for a long time, otherwise the battery will lose power), and then start the engine normally. After starting the machine, the power master switch and key 1 gear are turned on, otherwise the battery cannot be charged.

After starting the engine, perform the following operations and inspections in places where there are no personnel or obstruction.

If any fault is found, shut down according to the program and report the fault.

Preheat the engine and the hydraulic oil for 5-10 minutes.

Check whether the instruments and alarm devices are working properly.

Check for any noise.

Test for the engine speed control.

Do not use either ether or starter fluid on the engine.

The starting fluid can cause an explosion and serious injury or death.

Preheat the engine and the hydraulic oil. If the control lever is operated without preheating, the machine will not react or move quickly or appropriately, causing an accident.

Check the following items in this program before starting the engine each day

Check the working device, oil cylinder, connecting rod and hose for damage, wear or gaps.

Check the working unit, cylinders, connecting rods, hoses without cracks, excessive wear or gaps. If any abnormality is found, repair it.

Remove stolen goods and debris around the engine, battery and radiator. Check for goods accumulates around the engine or radiator. Also check if there is any flammable material (dead leaves, twigs, grass, etc.) accumulated around the battery or high-temperature parts, such as the engine muffler. To remove all stolen goods and inflammable materials.

4, check the hydraulic device, hydraulic oil tank, hose, joint for oil leakage. Check that it shall be free of oil leakage. If anything unusual is found, repair the oil leak.

5. Check the lower car body (track, sprocket, guide wheel, supporting heavy wheel guard plate and wheel) for damage, wear, loose bolts or oil leakage from the wheel. If a problem is found, repair it.

6. Check whether the handrail and foot pedal are damaged, and whether the bolts are loose. If a problem is found, repair him and tighten the loose bolts.

7. Check whether the instrument is damaged. If any abnormality is found, replace the parts. To remove the surface of the stolen goods.

8. Check whether the bucket is damaged. Check whether the hook is damaged. If any damage is found, please contact the after-sale personnel for repair. Check the oil level and refueling in the engine oil pan.

warning

After the engine is closed, the parts and the oil are still in the heat, which can cause serious burns. Wait for the oil temperature to come down before starting the operation.

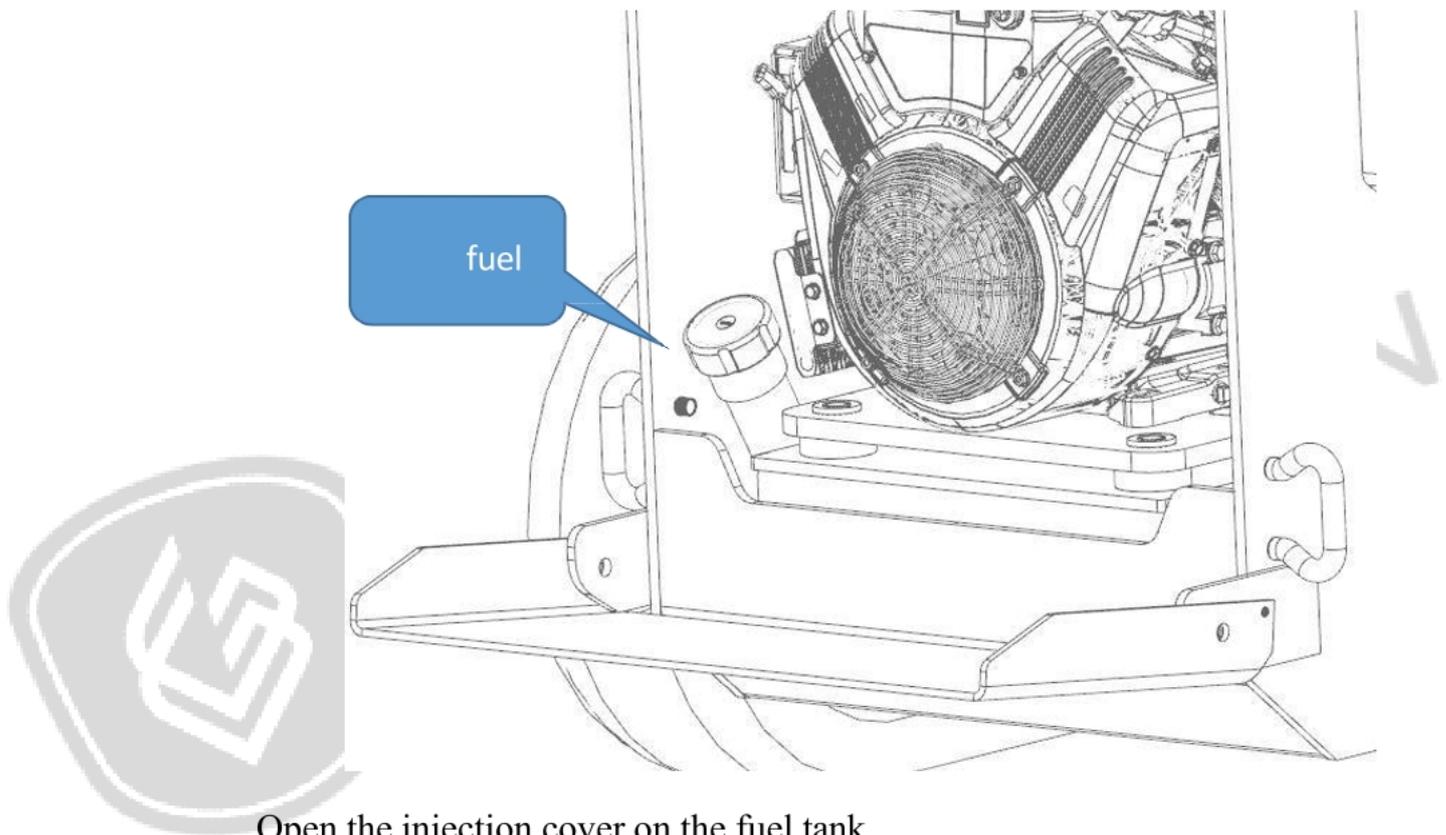
remarks:

When checking the oil level after the engine runs, turn off the engine and wait at least 15 minutes before checking.

If the machine is oblique, keep the machine level before the inspection.

Check the fuel level and add the fuel.

When adding fuel, do not let the fuel overflow, otherwise it will cause a fire. If the fuel overflows, wipe it off thoroughly. Because fuel oil is very flammable and dangerous, fireworks are strictly prohibited near fuel oil.



Open the injection cover on the fuel tank.

When the oil injection mouth cover is opened, check whether the fuel tank is full, by looking into the tank and through the oil level gauge.

If the tank is dissatisfied, refuel through the injection port until the oil level gauge pointer rises to the highest position.

Fuel tank capacity: 20 liters When the fuel tank is full, the floating ruler rises to the highest level

1. After refueling, cover the fuel tank cap. Discharge the water and sediment in the fuel tank.
2. Lift the car to remove the oil wire plug.
3. Use an inner hexagon wrench to plug the oil drain at the bottom of the tank and drain the sediment accumulated at the bottom of the tank together with the water.
4. When the outflow of clean fuel, screw on the oil wire plug, the car down.

Warning

Check electrical lines

If the fuse is frequently burned out or there is a sign of a short circuit, immediately find out the reason and repair it, or contact the after-sales personnel to repair it.

The upper surface of the battery should be kept clean. Check the vent on the battery cover. If the vent is blocked by stolen goods or dust, wash the battery cover and clean the vent.

Check the fuse for damage; use of specified capacity; electrical wiring, and cladding for loose terminals. If any tighten them tight.

In addition, when checking the battery, the engine starting motor, and the AC power generation, special attention should be paid to the electrical wiring.

Be sure to check for flammable accumulation around the battery. If flammable is accumulates, it should be removed as soon as possible.

radiator

The fan of the radiator does not work when it is just started. After a period of time after starting the car, when the hydraulic oil temperature rises to 60°C ~70°C, the fan starts to power up. When the temperature drops, it will automatically cut off to save electricity.

Check the function of the horn

Turn the start switch right.

Confirm that the horn rings immediately when the horn button is pressed. If not, check the connector or contact the after-sales personnel.

Check after closing the transmitter

Check the hydraulic oil cooling temperature, oil pressure, and fuel oil level on the machine monitor.

Machine inspection after routine work

Patrol the machine and check the working device, the appearance of the machine and the lower body, and check for oil leakage. If any problems are found, fix them.

Fuel up the fuel tank.

Check the engine compartment for paper and debris. To avoid fire hazards, any paper and debris should be removed.

Remove the soil attached to the lower walking body.

Lock

fuel tank lock

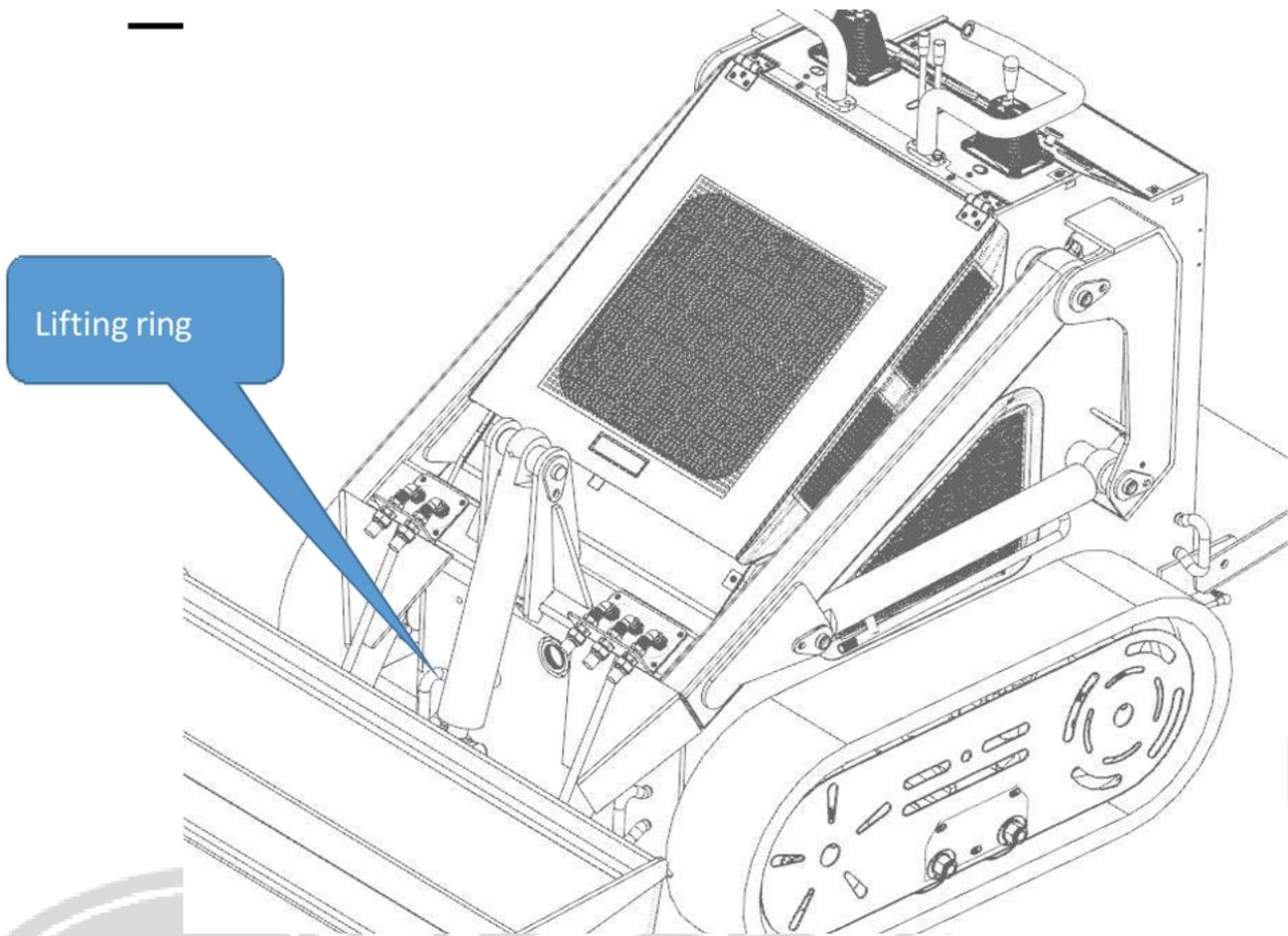
Engine hood

Transport

When transporting the machine, comply with all relevant laws and regulations and pay attention to ensure safety.

 **Warning****Lift the machine**

- The operator using the crane must be a qualified crane operator. Do not lift the machine when someone is on it.
- Ensure that the wire rope has sufficient strength to withstand the weight of the machine.
- When lifting, maintain the machine level.
- Do not enter the areas under or around the lifting machine.
- During hoisting, there is a special lifting ring on the machine, which can hook the lifting ring for lifting (there are four on each machine to ensure the stability of lifting)



Warning

After the routine work is completed

The track idling is dangerous, so stay away from the track. In order to prevent the soil and water on the lower car body from freezing, so that the machine cannot move in the next morning, the following precautions should be observed.

- Remove the mud and water from the machine itself. In particular, to clean the hydraulic cylinder piston rod, in order to prevent the damage

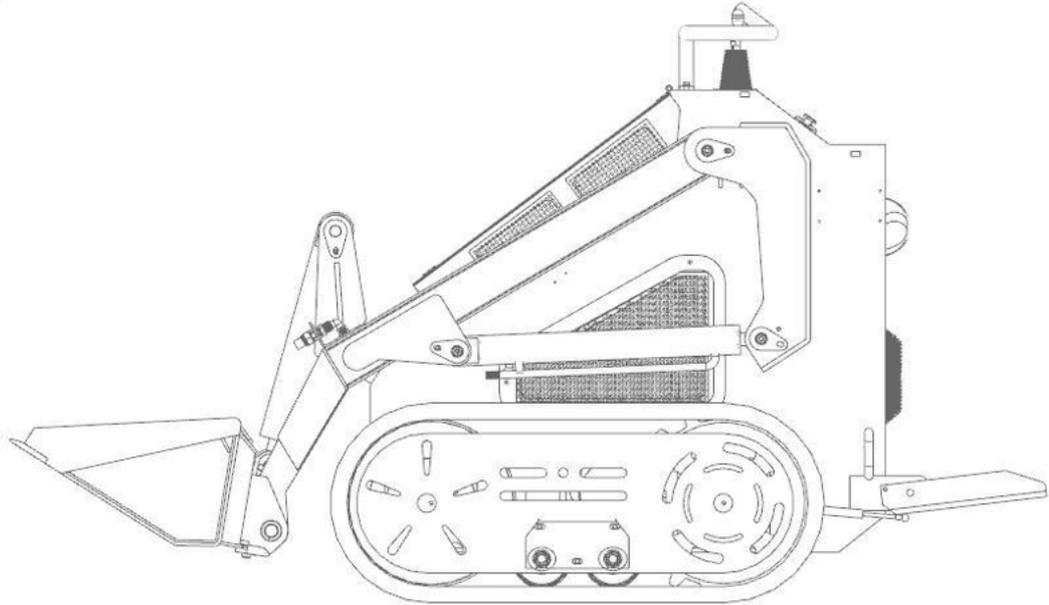
to the seal caused by the soil, stolen goods or water droplets on the piston rod from entering the seal interior, Park the machine on the hard, dry ground.

- If possible, park the machine on the board.
- The planks prevented the tracks or wheels from freezing to the ground, allowing the machine to move the next morning.
- Open the wire plug of the oil drain and drain the accumulated water in the fuel system to prevent freezing.
- Fill up the fuel tank. This maximizes the moisture condensation in the tank when the temperature drops.

Long-term storage

Before storage

When storing the machine (a month or more), press the machine in the position shown below to protect the cylinder piston rod. (Prevent cylinder piston rod)



When the machine is placed in a warehouse for a long time (more than a month), do the following.

- Clean and rinse all the parts and put the machine inside.
- If you have to store the machine outside, choose a flat ground and cover the machine with a cover cloth.
- Fill the fuel tank so that moisture accumulates, Before storage, lubricate and change the oil.
- Apply a layer of grease to the metal surface of the hydraulic cylinder piston rod.
- Disconnect the negative terminal of the battery and cover or remove the battery from the machine separately.

 Warning

During the storage period

When the machine is indoors, if rust operation, open doors and Windows to promote air circulation to prevent gas poisoning.

- During storage, the machine shall be operated and moved over a short distance to attach a new oil film to the surface of the moving parts. At the same time, but also to charge the battery.

After storage

If the machine has not been stored under the rust prevention operation every month, please contact the after-sales personnel before using the machine.

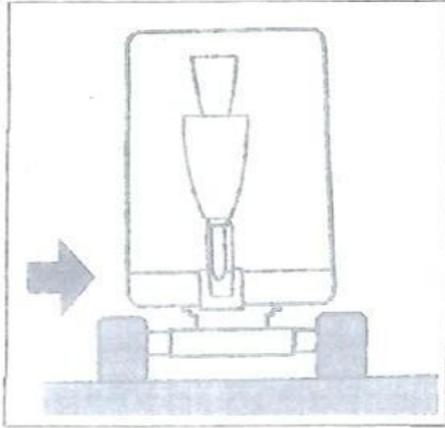
When using a long-stored machine, follow the following steps before use:

- Apply grease on the surface of the cylinder.
- Fill the machine oil and grease to all parts.
- When the machine is stored for a long time, the water in the atmosphere will enter into the oil. Before or after starting the engine, check the oil of all parts, if there is water in the oil, replace all the oil.

Start the engine after long-term storage

When the engine is stored for a long time, the preheating operation.

Ensure good sight



When working in a dark place, turn on the machine's working lights and headlights and install additional lighting if necessary.

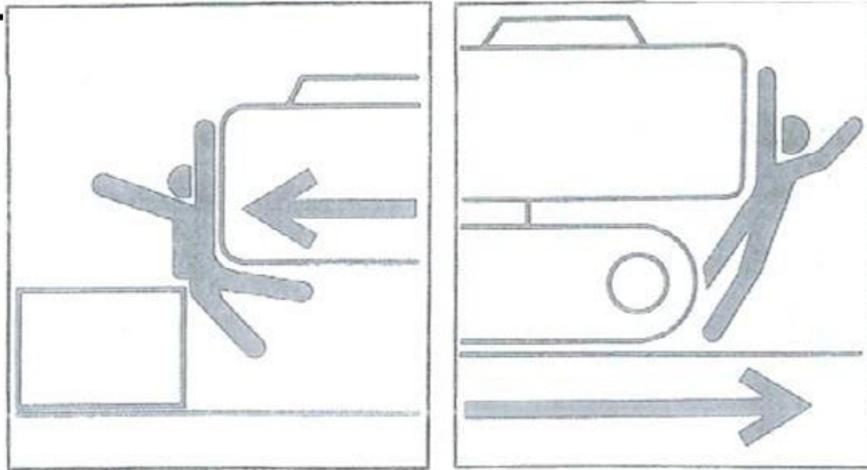
If the vision is poor due to bad weather (fog, snow, rain or haze), stop operating the machine until the sight is improved.

Do not carry people on the machine

No one is allowed to ride on any part of the machine.



Check whether the work area is safe and reliable before the operation



Confirm the performance limits of the machine.

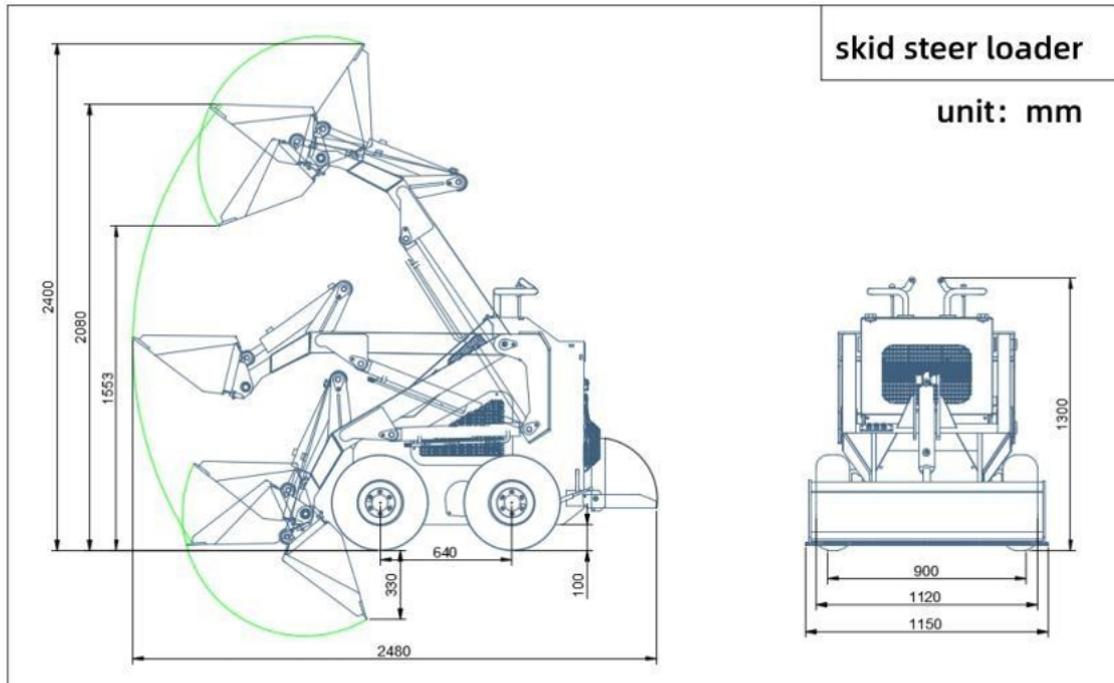
On the shoulder, narrow place, or where the sight is blocked.

Do not allow anyone to enter the rotation radius and path of the machine.

Honk indicates your intention to move. There is a perspective blind spot behind the machine.

Before walking backward, please check the safety of the rear, and confirm that there is no one behind.

7、 technical specifications



Body data	Vehicle mass (kg)	800
	Dimensions (mm) (L*W*H)	2230*1150*1300
	Bucket width (mm)	1150
	Wheelbase (mm)	640
	Wheel base (mm)	900
	Ground clearance (mm)	100
	Gradeability(%)	25
	Maximum loading height (mm)	2080
	Maximum unloading height (mm)	1950
	Maximum height (mm)	2400
	Minimum height (mm)	1270
Parameters for loading parts	Bucket capacity (m ³)	0.15
	Loading weight of bucket (kg) (only the cargo is unmanned)	220

	Rated pressure (MPa)	18MPa
Hydraulic system	Hydraulic pump displacement (ml/r)	Parker 050505
	Hydraulic pump flow (L/min)	15+15+15
	Walking motor displacement (ml)	BM5-375
	Multi-way valve	Italy M45
	engine model	Briggs & Stratton double cylinder 3864
Engine	Rated speed (r/min)	3200
	Rated power (kw)	17
	Displacement (CC)	627
	Number of cylinders	double cylinder
	cooling method	air cooled
	Engine oil replacement volume (L)	1.7
	fuel form	gasoline
Tire	Tire specifications	18*8.50-8
Tank	Hydraulic oil tank capacity (L)	25
	Fuel tank capacity (L)	20

8、 Faults and solutions

Common malfunctions	cause of issue	solution
The machine is weak and moves slowly	Relief valve blocked or too loose	Disassemble and clean or tighten the relief valve
	pump damage	Replace the hydraulic pump
	Oil pump inlet pipe blocked	Clean or replace the oil inlet pipe
	engine failure	Contact the manufacturer to overhaul the engine
The machine does nothing	pump damage	Replace the hydraulic pump
	Coupling spline damaged	Replace Coupling Splines
	The tilt of the fuselage causes the hydraulic oil to deflect to one side	Add hydraulic oil or level the machine
machine cannot rotate	Travel motor sprocket falls off	Install the sprockets in place
	Damaged travel motor	Replace travel motor
blue smoke from engine	Overfilling of engine oil	Adjust the oil quantity according to the upper and lower limits of the oil gauge
	engine failure	Contact the manufacturer to overhaul the engine
Black smoke from the	air filter clogged	Clean or replace air filter

engine	engine failure	Contact the manufacturer to overhaul the engine
white smoke from engine	Diesel mixed with moisture	Drain the oil and refill
Engine stalled	Relief valve stuck	Remove the relief valve and reinstall it after cleaning it with gasoline
	Relief valve adjustment too tight	Loose relief valve
engine does not fire	Low battery voltage	Charging or charging with an external battery fire
	Diesel is refueled only when it is dry, causing air in the pipeline	Unplug the diesel pipe on the engine to drain the air and then install it or press the hand oil pump to drain the air
	low gasoline	Fill gasoline according to the situation
	engine failure	Contact the manufacturer to overhaul the engine
	Injector clogged	Replace fuel injectors
	air filter clogged	Replace the air filter
	Damaged high pressure oil pump	Replace the high pressure oil pump
	fuse blown	Check and replace fuse
	fuel filter clogged	Replace fuel filter
	Damaged high pressure oil pump	Replace the high pressure oil pump
	The temperature is too low and the oil is too	Replace the appropriate brand of oil

	thick	
Engine throttle fluctuates	Gasoline cut off leads to poor fuel supply	Check the gasoline oil pipe, adjust the direction to ensure smooth oil supply
The throttle continues to increase	Engine throttle retainer locked	Loosen the engine throttle retainer
The throttle cannot be increased	Throttle cable ferrule loose	Tighten the throttle cable ferrule

Common malfunctions	cause of issue	solution
Headlights do not come on, computer or display does not work	Line plug comes off	Check whether the line plug is disconnected or loose
	damaged parts	replacement parts
battery not charging	generator wire break	Check the engine wiring and reconnect
	broken fuse	replace fuse
	Damaged regulator	replace regulator
	battery damage	Replace the battery
engine high temperature	Plateau climate impact	Replacing the High Pressure Tank Cap
	engine failure	Contact the manufacturer to overhaul the engine
Oil pressure alarm	lack of oil	add oil
	engine overheating	check coolant
	sensor damage	replace sensor

9、 Maintenance and maintenance

engine maintenance

As the main power system of the excavator, the engine needs to be maintained in accordance with the "engine operation manual" carried by the vehicle.

The maintenance in strict accordance with the provisions in the engine operation manual can effectively improve the engine life and reduce the occurrence of faults. The main maintenance content mainly includes the following parts:

1. Engine run-in period care.
2. Oil replacement cycle, and supplement.(The oil will be consumed slowly with the use of the machine, so it is necessary to check the oil amount regularly, it is not a filling until the next replacement, the need to timely supplement when the oil is insufficient, otherwise it will cause serious consequences such as pulling cylinder, the engine damage caused by the manufacturer will not warranty)
2. Replacement cycle of oil filter and diesel filter element
4. Air filter element replacement cycle

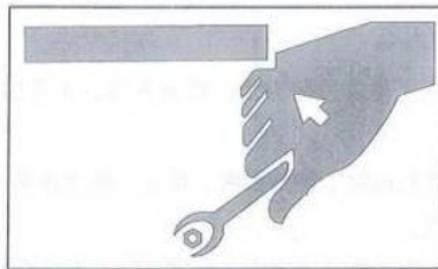
Mark the "Do not operate" warning message

When inspecting or maintaining the machine, an unauthorized person starts the engine or touches the control handle.

Before maintenance, please turn off the engine, remove the key and take it with you.

Mark the "Do not operate" warning message in prominent places such as the starting switch or control lever.

Use the right tool



Do not use damaged or deteriorated tools or tools designed for other purposes. Use tools suitable for related jobs.

Replace the safety-key components regularly

To ensure that the machine can be used safely and for a longer time, regularly refueling and check and maintain regularly.

To improve safety, replace safety key components such as hoses and seat belts regularly.

"Regular replacement of safety key parts" means the aging, wear, and the performance of such parts will change over time, these characteristics of these parts can cause serious mechanical damage or

personal injury, and only by appearance inspection or operation feel, it is difficult to determine the rest of the service life.

For any damage, replace the "safety critical parts replaced regularly", even if the specified replacement interval has not been reached.

Change the fuel hose regularly, the fuel hose will wear over time, even if no wear symptoms. Replace occurs when wear symptoms are found, regardless of the replacement schedule.

To use the machine safely, regularly inspect and maintain the following safety-critical components, which may cause serious injury or fire.

Safety critical parts list

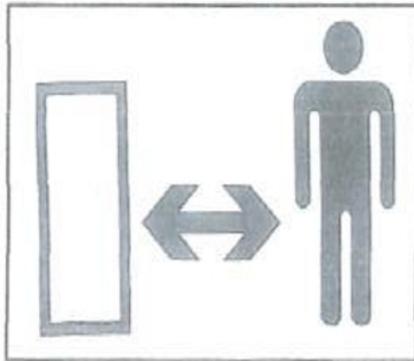
body	Regularly replaced safety key parts	Replacement time	
fuel system	fuel pipe	every 2 years	
	Filling on fuel tank cap		
Hydraulic system	main engine	Hydraulic pipe (pump outlet)	every 2 years
		Hydraulic pipe (pump suction port)	
		Hydraulic pipe (swing motor)	
		Hydraulic pipe (walking motor)	
	working equipment	Hydraulic pipe (boom cylinder pipe)	
		Hydraulic pipe (stick cylinder pipe)	
		Hydraulic pipe (bucket cylinder pipe)	
		Hydraulic pipe (deflection cylinder pipe)	
		Hydraulic pipe (bulldozer cylinder pipe)	
		Hydraulic pipe (pilot valve)	
Hydraulic pipe (auxiliary pipe)			

Explosion proof luminaire



When checking fuel, lubricating oil, coolant or battery electrolyte, use explosion-proof lamp to prevent fire or explosion. Otherwise, an explosion may occur, causing serious casualties.

Unauthorized personnel are strictly prohibited to enter



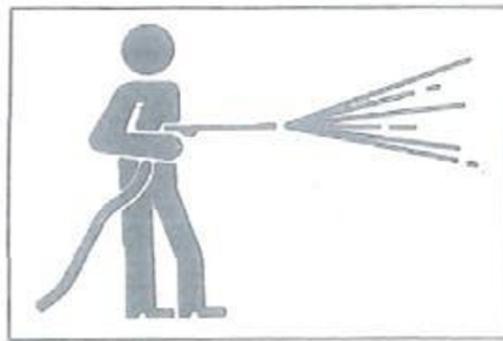
When operation, do not allow unauthorized personnel to enter the operation area. Be careful when grinding, welding, or using a hammer. You may be hurt by the debris flying out of the machine.

Operation area preparation

Choose a stable and smooth operation area. Ensure that there are suitable lighting conditions, such as in the indoor work, should ensure ventilation.

Remove the obstacles and dangerous goods. Excluding the slippery areas.

Keep the machine clean at all times



The machine shall be cleaned before maintenance

Turn off the engine before cleaning the machine. Cover the electrical components to prevent water intake.

Electrical components may cause a short circuit or failure after water intake. Do not clean the battery, electronic control components, sensors, connectors, or the cab with water or steam.

Turn off the engine before maintenance

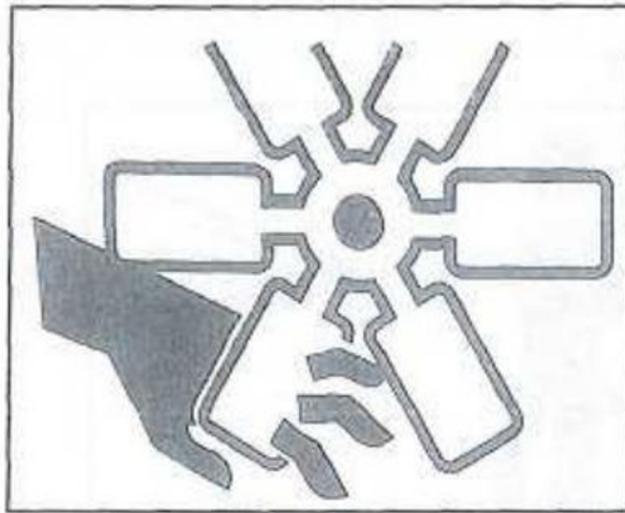
Avoid lubrication or mechanical adjustment when the machine is running, or when the machine is not running but the engine is running.

If maintenance must be performed while the engine operates, arrange two people to work and maintain communication with each other.

A person must sit in the driver's seat so that the engine can be turned immediately, if necessary, the person must pay special attention not to touch the lever and pedal, except when necessary.

Another person performing maintenance shall ensure that his body or clothing is away from the machine moving parts.

Stay away from moving parts



Keep away from all rotating and moving parts, and if the hand or tool is stuck in the rotating or moving parts, it may lead to serious injury or even death.

If a tool or other object is thrown or inserted into the fan or fan belt, these items will be blown or chopped, do not throw anything into or inserted into the fan or fan belt.

Secure the machine or any parts that may fall off



All moving work equipment shall be lowered to the ground or in a minimum position before maintenance or repair under the machine.

Fixed track

If it must work under a lifted machine or equipment, it must be secured with wooden pads, jacks, or other solid and stable support, or without the machine or working device.

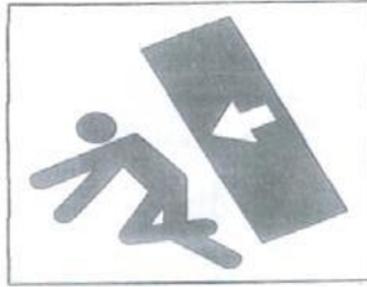
Stabilize the working device

When repairing or replacing bucket or side teeth, fix the working device in order to prevent accidental movement of the machine.

Open the engine cover or lid. Attach the engine cover or cover before working in the machine.

Keep the engine cover or cover closed in windy weather or when the machine is parked on the slope.

Place the weight in a stable position



During disassembly or installation, temporarily place the weight or accessory in a stable place. Do not allow unauthorized access to the place where such items are stored.

Refueling Notes



Do not smoke or have an open fire when refueling at or near the refueling point.

Do not remove the cap or refuel while the engine is running or cooling or scatter fuel on the hot surface of the machine.

Fuel the fuel tank in a well-ventilated area.

Do not fill the fuel tank, should leave room for oil expansion. The spilled fuel shall be cleaned immediately.

Tighten the fuel tank tightly.

If the tank cap is lost, replace it with the original one.

Using the unlicensed and poorly ventilated tank cap will cause internal pressure on the tank.

Prevent dust from entering

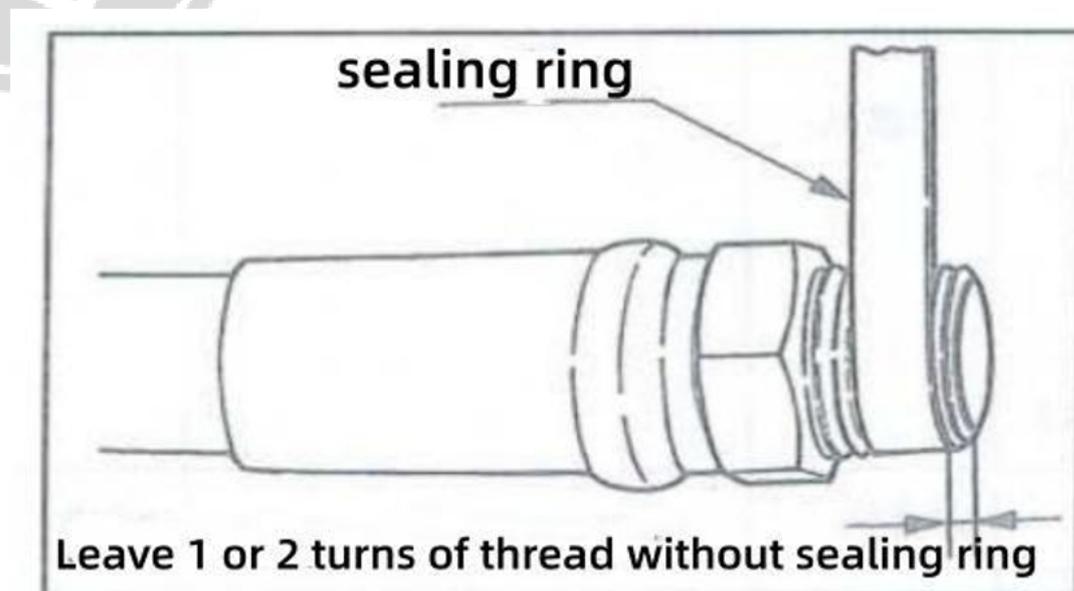
When installing and removing the parts, it should be carried out in no dust place, clean the work area and clean the parts to prevent dust from entering.

Clean the installation surface

When installing and removing the parts, make sure that the contact surfaces of the parts are clean. If the sealing groove on the contact surface is damaged, contact your sales or service agent for repair or replacement.

Sealing rings and open pins

Be sure to replace all removed seals and opening pins with new parts. When installing, be careful not to damage or distort the seal ring.



When packing the screw in the sealing ring tape, clean the old sealing ring glue on the thread and clean the thread. Do not use fuel oil for cleaning.

Tie the thread with the sealing ring and leave the 1 or 2 circles at the screw end.

Fuel and lubricants shall use the correct fuel grade according to the season.

Select the appropriate fuel, lubricating oil and grease according to the temperature. Time, if the oil is too dirty or bad, please replace it.

When refueling, do not mix different brands of oil. If you want to change the brand, please replace all the fuel / lubricating oil.

The handling of the hose

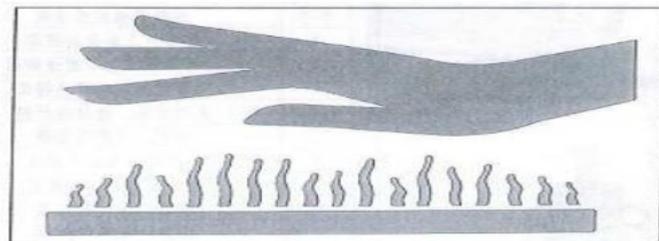
An oil or fuel oil leakage can cause a fire.

Do not twist, bend, or impact the hose.

Do not use twisted, bent or cracked pipes, metal pipes or hoses, or bursting may occur.

Re-tighten the loose connector.

Be careful when operating high temperature and high pressure components



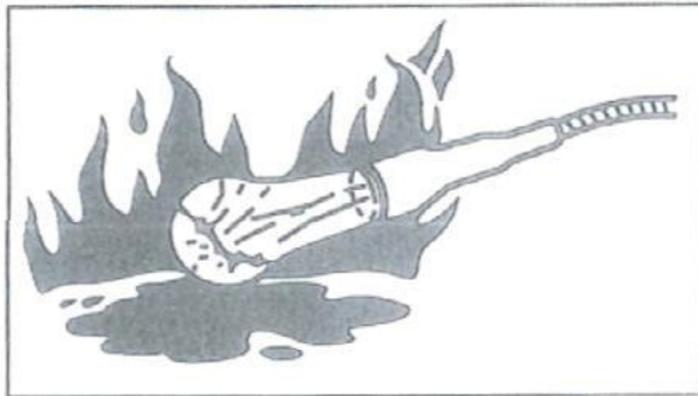
Please stall the engine and wait for the machine to cool down for maintenance.

The engine, exhaust pipe, radiator, hydraulic pipe, sliding parts and many other parts of the machine are very hot when the engine has just stalled, and touching these parts can cause burns.

Engine coolant, hydraulic oil and other oil are also under high temperature and high pressure.

When loosening the cover or plug, be careful not to touch the hydraulic oil. In this case, the machine will cause burns or hurt due to hot oil.

Be careful about internal oil pressure



After the engine stalls, the pressure in the hydraulic oil pipe will last for a long time.

Internal pressure shall be completely removed before maintenance operation.

The high pressure of the hydraulic oil can puncture the skin or eyes, causing serious injury, resulting in blindness to death.

Please remember that the hydraulic oil seeping from the small hole is almost invisible to the naked eye.

When there is no leakage, you should wear sun goggles and thick gloves, and use cardboard or plywood to protect the skin to prevent the hydraulic oil from being injured.

If hydraulic oil invades the skin, it should be removed surgically within a few hours by a doctor familiar with such injuries.

Pressure should be relieved before operating on the hydraulic system

Before the hydraulic system, if you remove the lid or filter or disconnect the pipe.

Slowly release the exhaust plug to release the tank pressure.

When removing the plug or screw or disconnecting the hose, stand on one side and release it slowly to gradually remove the internal pressure, and then remove it again.

The oil or oil plug may be ejected by the pressure in the walking motor tank. Please release the oil plug slowly to release the internal pressure.

Use the hammer

Pins or metal debris can splash around with hammers, which can cause serious injury.

When striking hard metal parts such as pins, bucket teeth, side teeth or bearings, wear protective gear such as goggles and gloves.

When tapping a pin or tooth, make sure no one is around.

Disconnect the battery line

Disconnect the battery line before performing the electronic system operation or electric welding. First, disconnect the negative electrode (I) battery cable. When reconnecting, finally connect the negative electrode (I) battery cable.



Be careful when handling the battery. The battery contains sulfuric acid, accidentally touched can damage the eyes or skin.

If you accidentally enter the eye, you should immediately rinse with clean water and seek medical treatment quickly.

If swallowed carelessly, drink a lot of water or milk and seek medical attention immediately.

If sulfuric acid hits the skin or clothes, it should be washed out with a lot of water immediately.

Wear protective goggles and gloves when operating the battery.

The battery can produce a flammable hydrogen gas, which may cause an explosion.

Keep away from open fires, sparks, or lit cigarettes.

Use a flashlight when checking the electrolyte level.

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Keep away from open fires, sparks, or lit cigarettes.

Use a flashlight when checking the electrolyte level.

Use the battery charging cable across the start

When starting the engine with the battery charging cable, be sure to connect the cable by following the following correct steps.

If the cable is wrong, it will cause discharge and battery explosion.

Don't let the "problem machines" and the "rescue machines" touch each other.

Do not touch or contact the machine between the positive (+) and negative (-) lines of the battery charging cable.

When connecting, first connect the positive electrode of the battery charging line to the positive electrode (+) terminal.

First, disconnect the negative cable from the negative electrode (-) terminal (ground end).

Be sure to hold the cable clip firmly.

Connect the last clip of the battery charging cable as far as possible from the battery.

Always wear goggles and gloves when starting the engine with a battery charging cable.

Use battery charging cable and wire clip suitable for battery capacity.

Do not use damaged or corroded battery charging cable and wire clip.

Make sure that the Rescue Machine battery has the same capacity as the Problem Machine battery.

Please entrust our service agent to repair the welding

When welding work must be performed, it must be carried out by qualified personnel in a fully equipped workplace.

In order to prevent damage to any parts of the machine caused by excessive current or electric spark, please follow the following matters.

The battery wiring shall be disconnected before electric welding. Do not continuously apply a voltage of 200V or greater.

The ground site shall be connected within 1 meter from the welding site.

Do not connect the ground end near the electronic control device / instrument or connector.

Ensure that there is no sealing ring or bearing between the welding part and the ground end.

Do not connect the ground end around the pin or hydraulic cylinder of the worker.

When welding the body, the connector of the electric control device should be disconnected before the operation.

waste disposal



Ensure that the waste oil discharged from the machine is collected into the container. Improper disposal of the waste oil will cause harm to the environment.

Follow the applicable laws and regulations when handling the harmful objects such as lubricating oil, fuel oil, coolant, solvent, filter and battery.

Treatment of hazardous chemicals

Direct exposure to harmful chemicals can cause serious harm.

The hazardous chemicals used in this machine include grease, battery electrolyte, coolant, coatings and adhesives.

Please handle hazardous chemicals carefully and properly.

Maintenance directory

Filter name	for the first time remarks		convention		model	remarks
	Time	Maintenance Method	Time	Maintenance Method		
Oil filter	50H	replace	200H	replace	/	For bad working conditions, the cleaning and replacement

						cycle will be shortened (air blowing, not washing)
air filter	50H	replace	200H	replace	/	
hydraulic oil suction	300H	replace	600H	replace	/	
Hydraulic oil return filter	300H	replace	600H	replace	/	
oils						
Oil name	for the first time		convention		model	remarks
	Time	Maintenance Method	Time	Maintenance Method		
engine oil	50H	replace	200H		CD 15W-40 CF-4 15W-40	Choose the right engine oil according to the local temperature
gasoline	every day	additional	/	/	92	Use gasoline from regular gas stations
Hydraulic oil	300H	replace	600H	replace		
travel motor gear oil	50H	replace	500H	replace		
grease	New	refuel	8H	refuel		

	machine					
hydraulic oil cooler	50H	clean	50H	clean		Air air or high pressure water

Notes for oil change

1. The oil change must be done in heat engine condition.
2. Do not start during the process and before the new oil is added.
3. The oil filling amount is best close to the upper limit of the oil ruler but not above the upper limit.

The engine oil filter element must be replaced while changing the engine oil.



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