



S35 Skid Steer Loader

S35E

Operator's manual

广西玉柴装备科技有限公司

GUANGXI YUCHAI EQUIPMENT TECHNOLOGY CO., LTD.



Warning

Incorrect operation of the machine can cause casualties. Before using the machine, the following should be done:

- **Keep in mind the safety regulations and correct usage specification.**
- **Read and understand the relevant contents of the manual about the safe operation of the machine.**
- **Understand and get familiar with all the safety signs on the machine.**
- **Ask irrelevant people to leave the worksite.**
- **Before officially operating this machine at the worksite, you should have been trained on the safe operation of the machine in advance.**

You are responsible for complying with relevant laws and regulations and complying with Yuchai Heavy Industry's instructions on machine operation and maintenance.

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Preface

To users

Dear respected users:

Welcome to use Yuchai skid loaders and thank you for your vigorous cooperation in Yuchai's business.

This manual is mainly for the driver and maintenance personnel of this skid loaders. Please read this instruction carefully before operating and maintaining the machine, and strictly follow the safety regulations, use methods, lubrication and regular maintenance hereafter. Correctly mastering the use method and regular maintenance are the necessary guarantee for the reliable operation of the machine, prolonging its service life and maximizing its operation efficiency.

Please entrust our maintenance station or agency to overhaul and adjust the machine, and the original accessories and spare parts from Yuchai shall be used. If non original accessories or parts are used, it may exert no obvious impact on the machine at that time, but it is likely to cause a series of adverse consequences in the future. If the machine fails due to the use of non-genuine accessories, components or maintenance at an organization not authorized by us, Yuchai will not be responsible for the warranty service even during the warranty period.

Based on the principle of "customer first", Yuchai continuously improves the products to provide the best to customers as much as possible. For this purpose, improvements may be implemented at any time. For the products being sold at that time, information change or the prior notice will not be provided.

We sincerely hope that this machine can serve you better and create greater value under your correct use and careful care.

Guangxi Yuchai Heavy Industry Co., Ltd.

1. Warning signs



In this manual, this warning sign points out important information about safety. When you see this sign, you should carefully read the information and advice behind the sign to avoid possible casualties.

2. Safety reminders

This instruction provides precautions, signs and descriptions of potential hazards for the safe use of the machine. Before operating, maintaining or repairing the machine, please read this manual and the safety signs affixed carefully, and work in accordance with the relevant procedures.

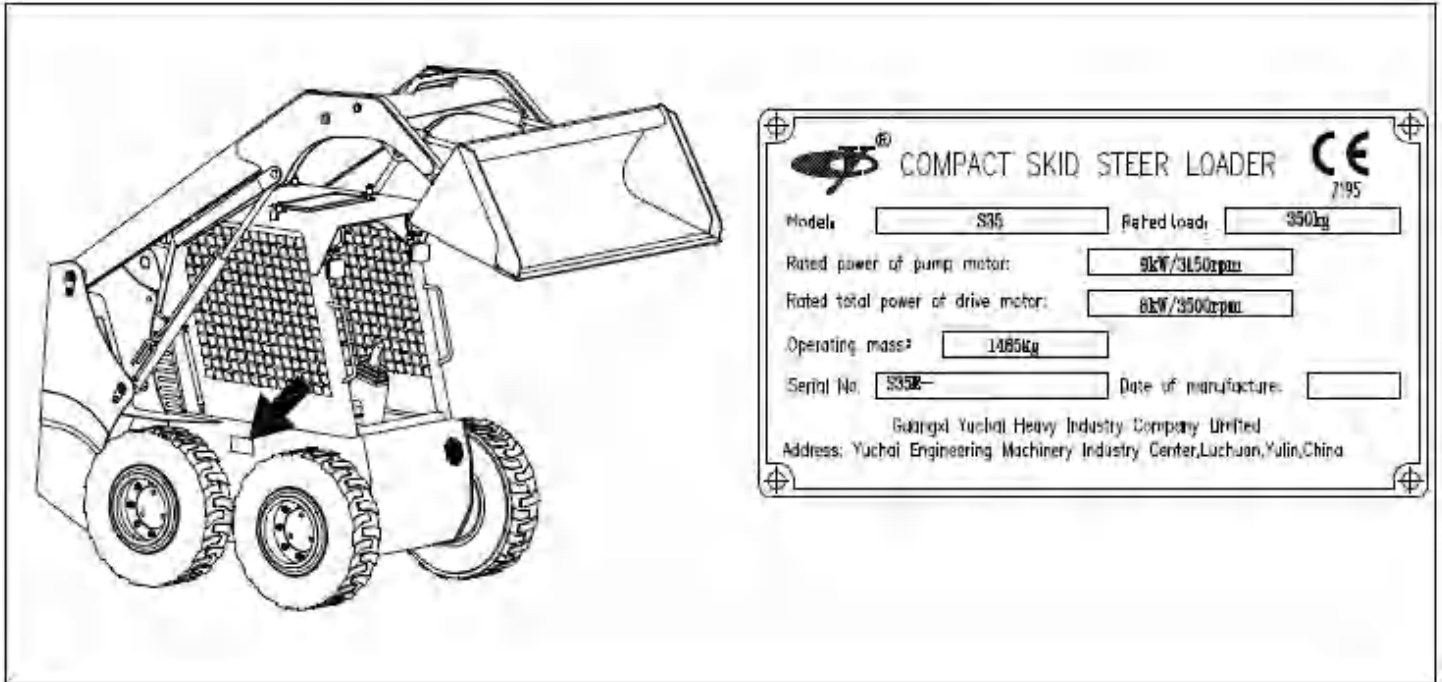
The safety reminders of this machine are indicated with words such as "**Danger**", "**Warning**" or "**Caution**". The corresponding explanations are as follows:

-  **Danger:** It indicates that the consequences of danger will lead to death or serious injury if not avoided. It is only applicable to a few occasions with the most serious danger.
-  **Warning:** It indicates the potentially dangerous consequences may lead to death or serious injury if not avoided.
-  **Note:** It indicates that the consequences of potential hazards may lead to low or medium injury if not avoided, and it can also be used to prompt unsafe operations that may lead to personal injury.

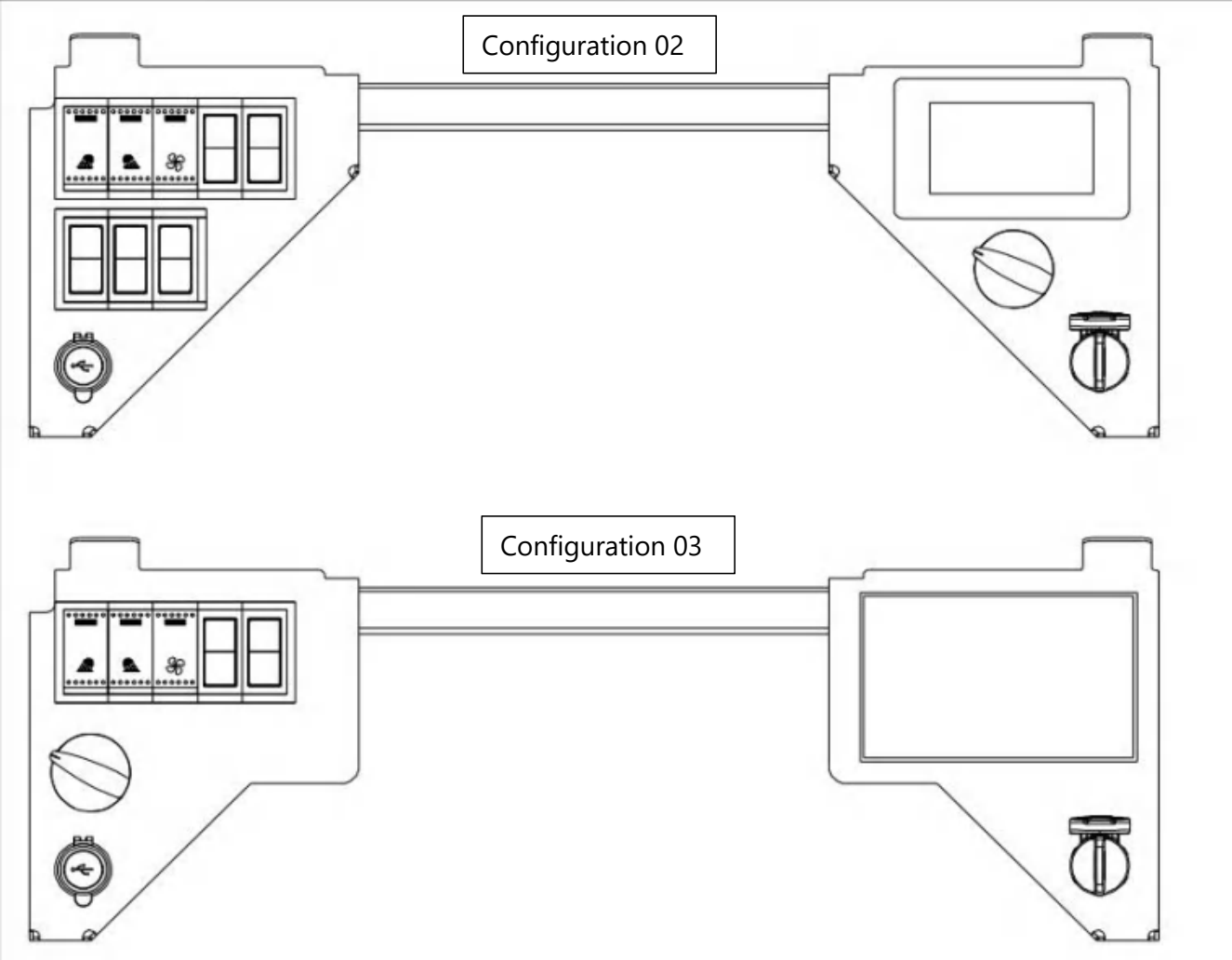
Product Information

When you need to know the basic information of the machine, you can check it according to the position shown in the figure.

- **Machine information (the nameplate of the machine is in the middle of the platform)**



- **Machine operation information (the timer is located on the instrument panel in the cab)**



Machine archive

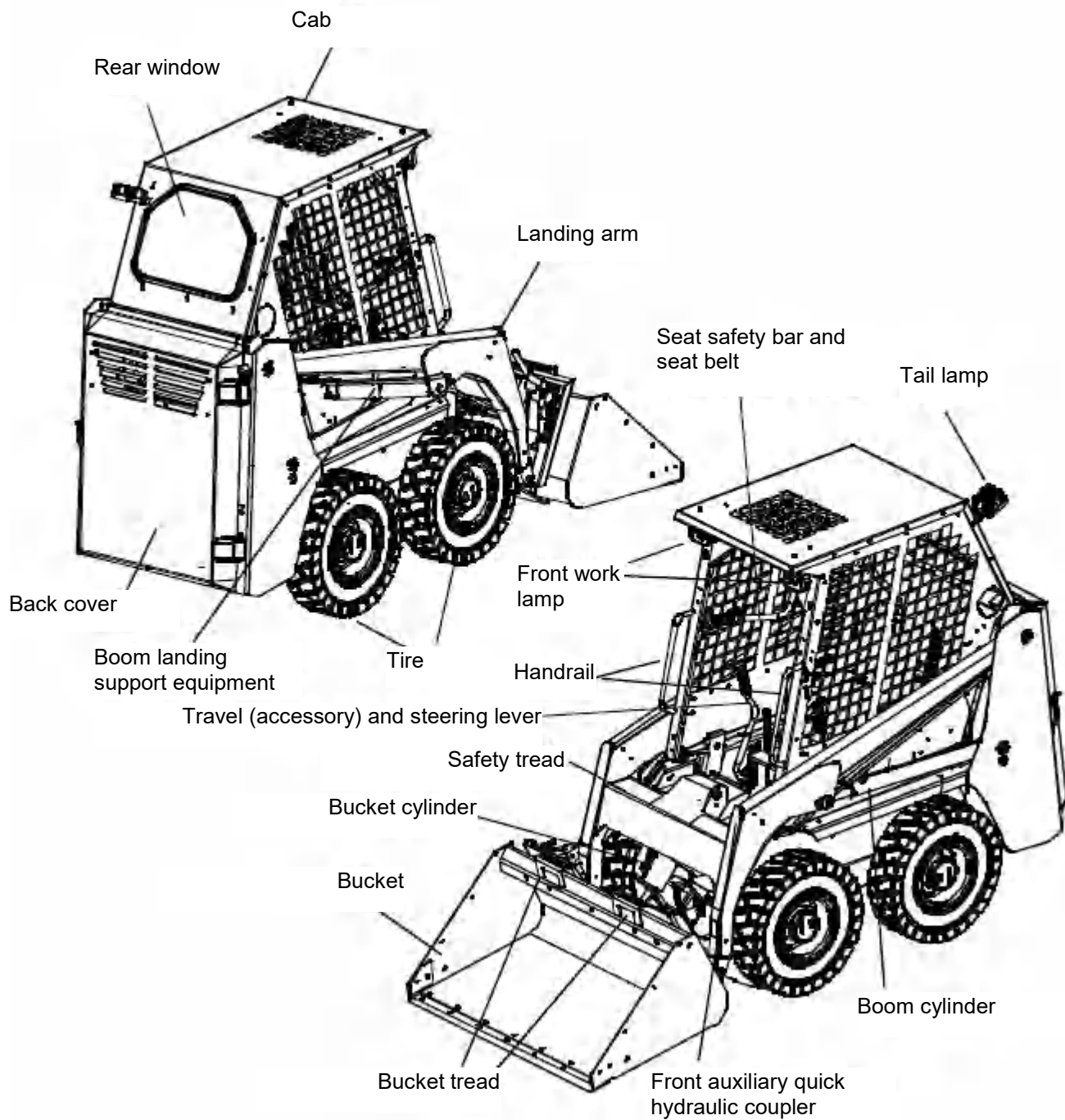
Fill the machine serial number of your machine in the below table. When you need to purchase machine parts or want to obtain relevant information, you can inform Yuchai of these codes.

Please record these numbers and keep them together with the product certificate. If your machine has been stolen accidentally, you can submit the information to the local public security agency.



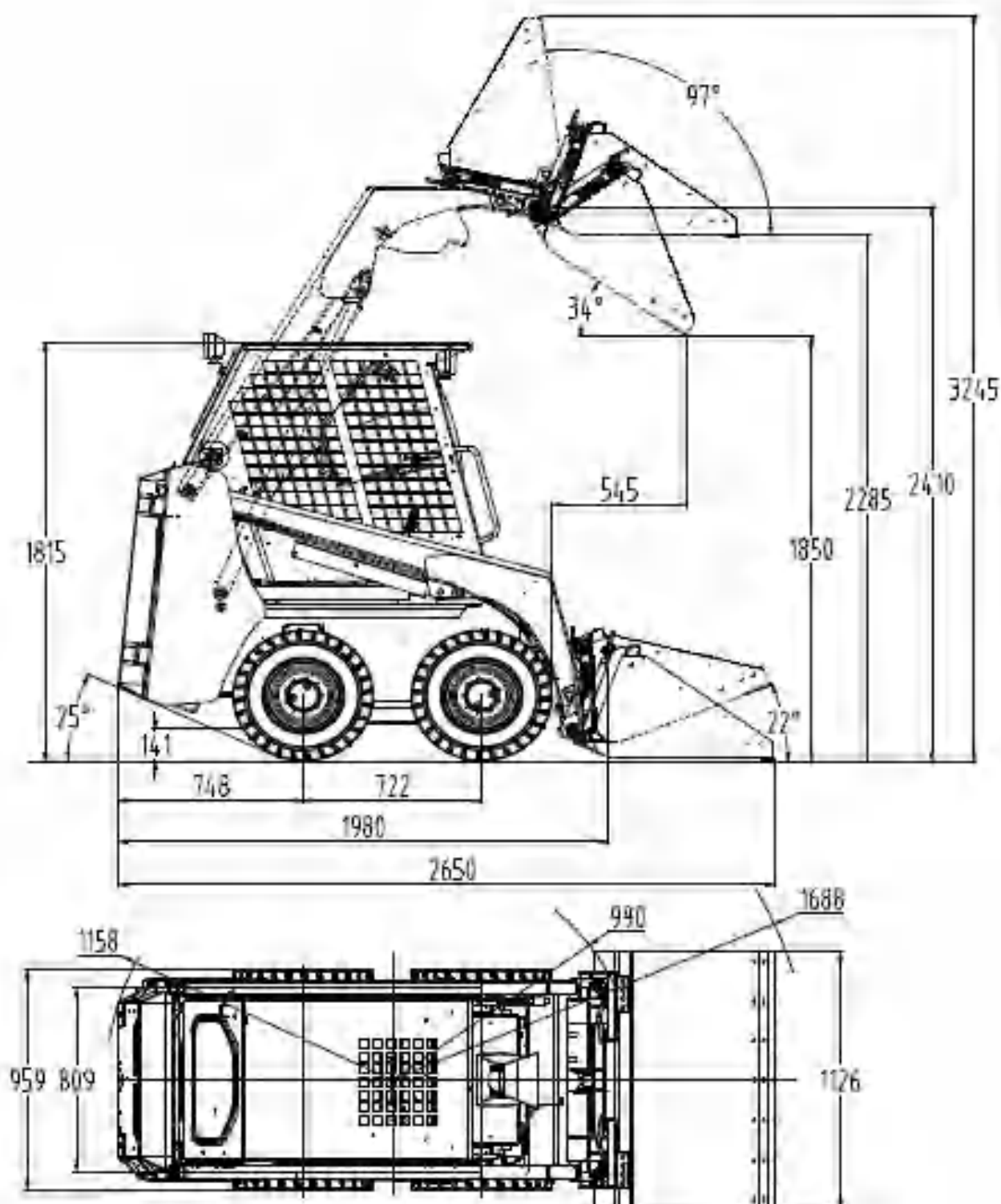
- Machine model _____
- Machine serial number _____
- Motor power information _____
- Distributor information

The composition of the machine



Technical specifications

S35 skid loader parameters



Performance

Rated load	350kg
Tipping load	680kg
Machine weight	1540\1620kg
Bucket capacity	0.29m ³
Endurance	8/10h
Travel speed	11km/h

Battery system

Nominal power 21.29/29.17kwh

Nominal voltage DC 93.38V/96V

Motor

Rated and peak power/speed of oil pump motor

9/3150, 15/4500kW/rpm

Rated and peak power/speed of 4x drive motor

4x2/3500, 5/5000kW/rpm

Slow charging

Power 3.3kW/6.6kW, input voltage, current AC 220V, 15A

output Voltage and Current: DC 96V, 33 A / 66 A

Quick charging

Power 20 kW, input voltage, current AC 380V, 33A

Hydraulic system

Rated pressure 20.5Mpa

Rated flow 33.7L/min

Hydraulic oil tank capacity 7L

Tire

Solid tire

23X5.7-12

Safety regulations

Safety general principles

Following the relevant safety regulations in this manual can avoid most accidents that endanger the operation and maintenance of the machine. Before you operate or repair the machine, you should read and understand all the safety information in this manual and the safety diagrams of the machine.

The safety-related content in this manual points out the situations that may occur during the normal operation and maintenance of the machine, and gives possible solutions to these situations.

The content of the relevant safety aspects can be found in the chapters of this manual and that together with the content of this chapter constitutes a comprehensive guide on safety in this manual.

The safety information in this manual and on the machine will not include all potential hazards and all possible countermeasures. If you use the methods or actions that are not recommended or permitted in this manual or on the machine, you are responsible for taking necessary measures to ensure safety.

Under no circumstances should you engage in the purposes or operations prohibited by the instructions in this manual. It is forbidden to use this machine to transport or lift people. During the start-up and operation of the machine, no one except the driver is allowed to be in the cab, no one else is allowed to enter the working radius of the machine.

The machine shall be operated and maintained by trained and qualified personnel.

Before starting work, check the various functions of the machine. If you find that it is not working properly, you should stop the machine immediately to find the cause, and you can work only after troubleshooting.

The inspection and maintenance should be carried out in strict accordance with the provisions of this manual, and the operator should work and operate in accordance with the operating methods, safety regulations and the working range of the machine specified in this manual.

If you are under the influence of alcohol or drugs, please do not operate or maintain the machine, it will make you and the people around you very dangerous.

You must understand the content expressed by relevant signals and gestures.

When driving on the road, you must be familiar with the relevant laws and regulations of the country or region and strictly abide by it.

This machine is only used for normal working conditions on the ground, please do not use it under dangerous conditions such as underwater, culverts, explosive places and toxic environments.

The related personnel shall not take narcotic drugs or alcoholic beverages at work, which will weaken the sensitivity and coordination of human actions. The operator must accept the advice of the doctor when taking prescription drugs to determine whether the machine can be operated safely.

1. Warning markings



In this manual, this warning sign points out important information about safety. When you see this sign, you should carefully read the information and advice behind the sign to avoid possible casualties.

2. Safety reminders

This instruction provides precautions, signs and descriptions of potential hazards for the safe use of the machine. Before operating, maintaining or repairing the machine, please read this manual and the safety signs affixed carefully, and work in accordance with the relevant procedures.

The safety reminders of this machine are indicated with words such as "**Danger**", "**Warning**" or "**Caution**". The corresponding explanations are as follows:

-  **Danger:** It indicates that the consequences of danger will lead to death or serious injury if not avoided. It is only applicable to a few occasions with the most serious danger.
-  **Warning:** It indicates the potentially dangerous consequences may lead to death or serious injury if not avoided.
-  **Note:** It indicates that the consequences of potential hazards may lead to low or medium injury if not avoided, and it can also be used to prompt unsafe operations that may lead to personal injury.

Safety equipment

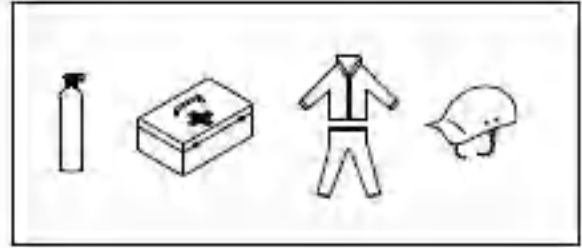
1. Protective equipment for operators

1) The operator must wear tight-fitting and suitable work clothes, safety helmets, working leather shoes and other related safety protection equipment (such as: protective earplugs, gloves, protective glasses, seat belts, etc.) before operation or maintenance.

2) If the operator's hair is too long, please tie it up and cover it with a safety cap, which will protect your hair from being entangled by the machine.

3) The user must provide emergency medicines in the machine, conduct regular inspections, and add medicines when necessary, so that they can be used when they are urgently needed.

4) Before operation or overhauling, please be sure to check whether all protective equipment functions normally.



2. Emergency exit

The escape hammer is installed on the rear wall panel of the cab.

When someone is trapped in the cab and cannot get on or off normally, and it is necessary to escape from the cab, please smash the glass by aiming the pointed cone of emergency hammer to the glass until the glass is broken. Please pay attention to the protection of eyes and face when smashing the glass.

Safety signs



Warning: Failure to understand the safety signs or loss of safety signs may result in injury or death. Please replace the missing or damaged signs in time, and keep the surfaces of all safety signs clean and easy to distinguish.

Before operating, maintaining, and repairing the machine, you must carefully read the operating instructions and the warning signs affixed to the machine to ensure that you fully understand its contents and follow the relevant procedures.

Check the signs before starting the machine every day. If you can't see clearly, please clean it.

When cleaning the signs, only cotton cloth, water and soap can be used. Do not use organic solvents, gasoline, etc., as that will easily cause the signs to fall off.

If the signs are damaged, lost or illegible, please replace them. If the label is on the part that needs to be replaced, make sure that the new part is equipped with a sign.

Please contact Yuchai agent to obtain a new safety mark.

1. Classification of safety signs

The safety marks in this manual and on the machine adopt "graphical safety sign" and "text safety sign".

A. Graphical safety signs

This kind of safety sign uses graphics to show safety warning information, which is easy to understand and clear at a glance.

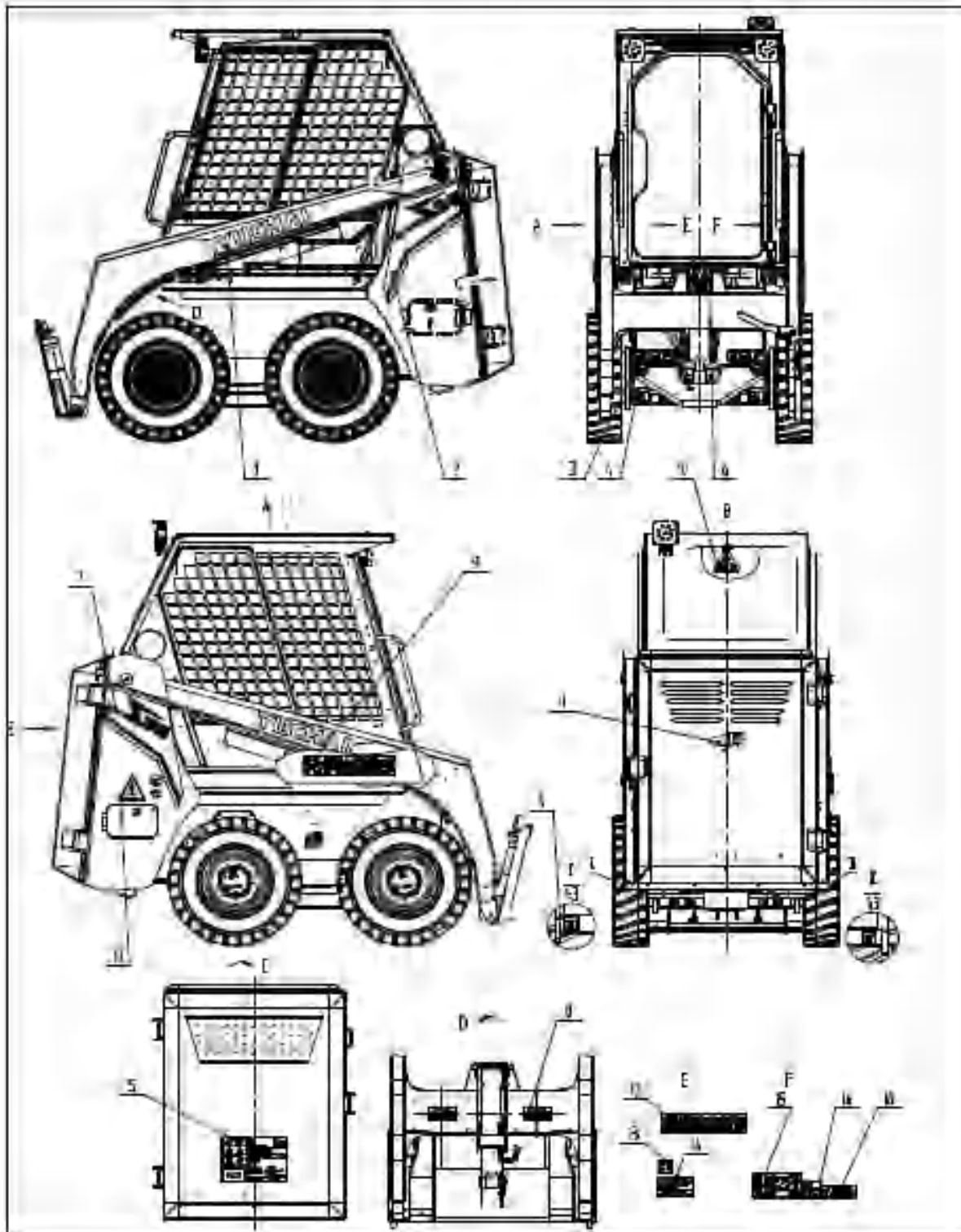


B. Text safety signs

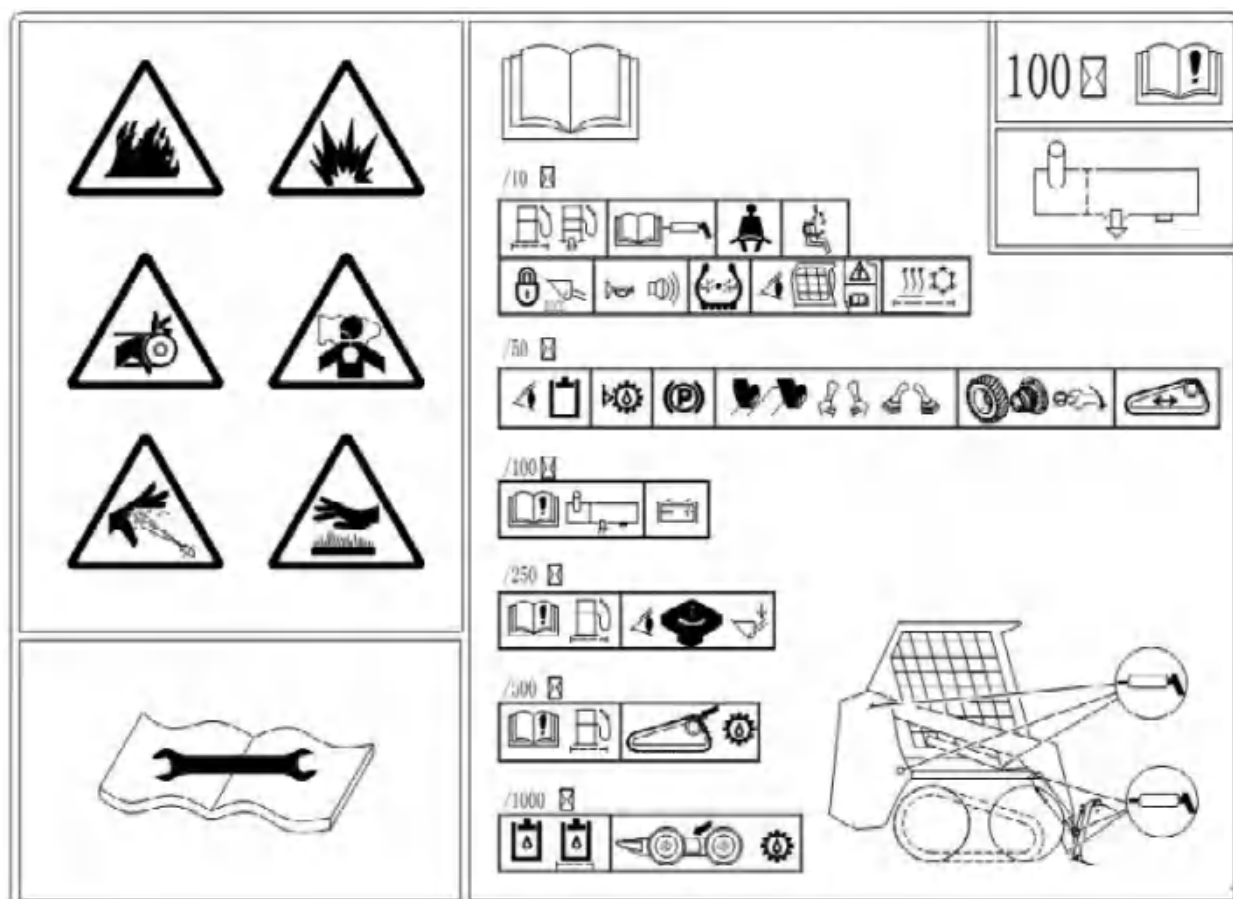
This kind of safety sign directly uses the corresponding text to explain the matters that must be paid attention to, which is more intuitive.

2. Safety sign pasting location

The sign shown in the graphics is only the "safety sign" part of all signs, and the rest of the function signs will be introduced in the following chapters.

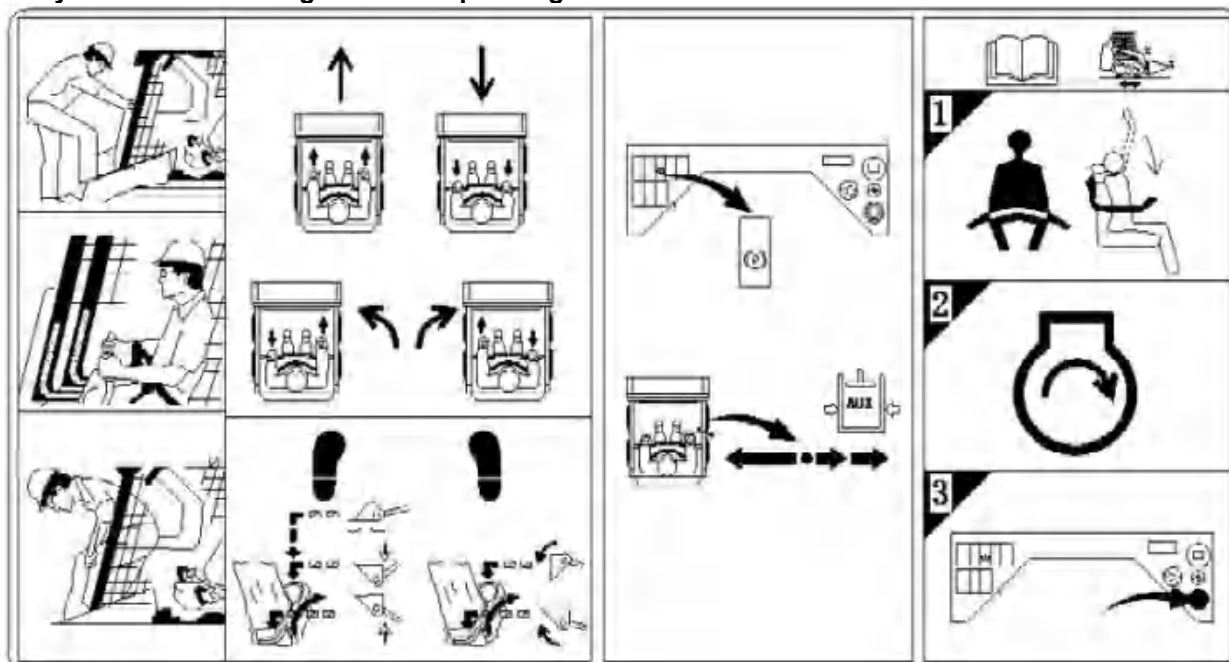


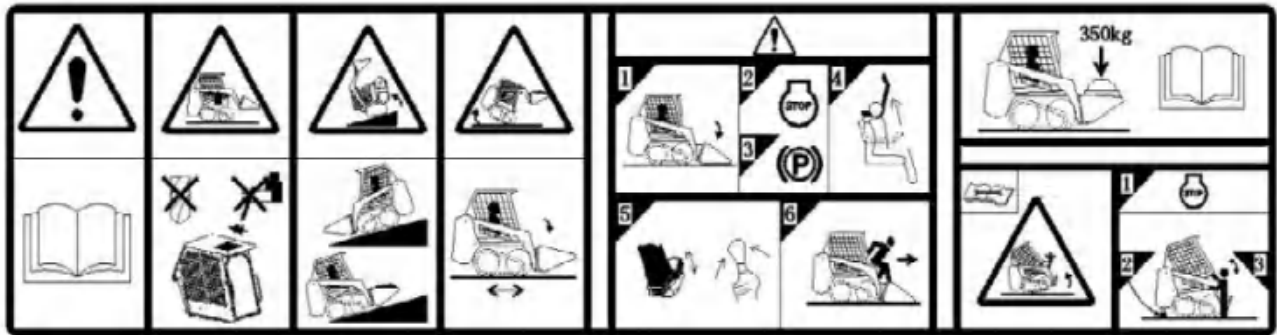
1. Safety information for attention during operation and maintenance



Please carefully read the Instruction Manual before starting the maintenance work.

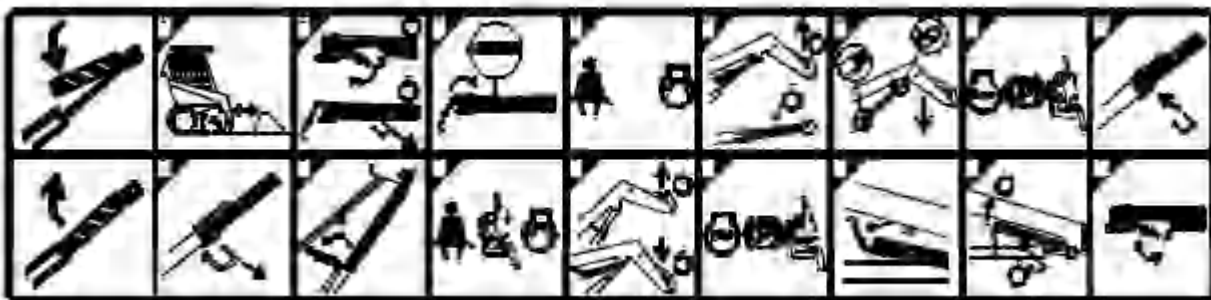
2. Pay attention to the signs before operating the machine



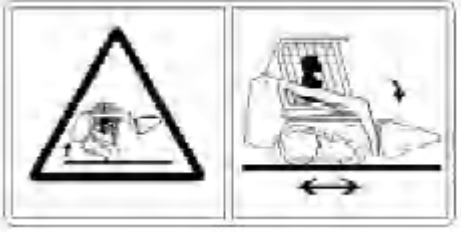


Before operating, maintaining, disassembling, assembling, and transporting the machine, please always read the instruction manual.

3. Operation signs for the boom landing support equipment



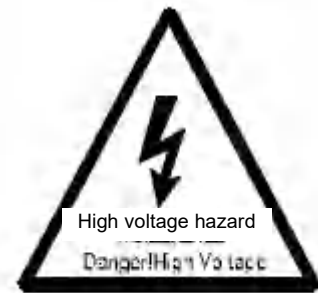
5. Pay attention to load balance



6. Lifting hook identification



7. Pay attention to electric shock

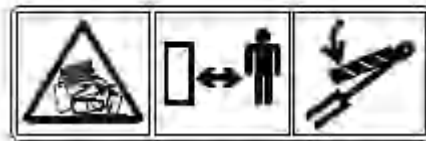


Only professionals are allowed for electrical maintenance work.

8. No climbing



9. Pay attention to and stay away from the attachment

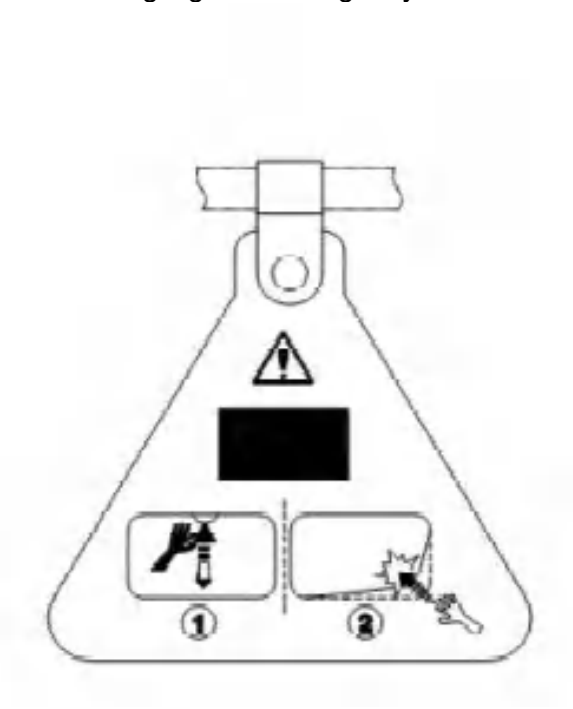


Movement of the attachment can cause personal injury.
Keep a safety distance away from the attachment area

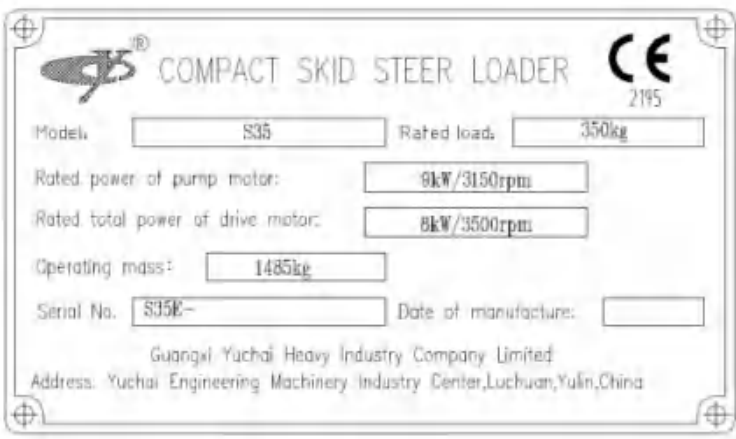
10. CE Certification Mark



12. Warning sign for emergency exit



11. Nameplate of the machine



Safety in the workplace

Know the area where you will work as much as possible in advance. Please check:

1. Positions of slopes, open ditches, falling objects or hanging objects.
2. Soil conditions (soft or hard), standing water and swampy areas.
3. Rocks and stumps, boundaries of buried foundations, root pillars or walls, boundaries of buried garbage or filled soil.
4. Holes, obstacles, mud or ice.
5. Traffic volume.
6. Heavy dust, thick smoke, dense fog.
7. Exact locations of buried or suspended electrical, gas, telephone, water, sewage or other public pipelines. If necessary, ask the utility company to mark, shut down or relocate these facilities before you start work.



Warning: Before starting the project, please contact the local utility service system and department.

8. When working indoors or inside buildings, verify the clearance height of overhead spaces, porches, passageways, etc., as well as the load-bearing capacity of floors and ramps. Ensure adequate ventilation during indoor operations. What you don't know can harm you.

9. Ascertain the exact distances between power lines/telephone lines and the machine, as well as between the machine and the ground. If possible, it is best to cut off the power supply. If power cannot be cut off, request a signal person to direct the operation.



Warning: Touching or approaching the power supply or the machine connected to the power supply can cause electric shock. Do not let any part of the machine get close to the power cord in the air. Unless necessary safety precautions have been taken. Please be very cautious.

10. It is mandatory to maintain the statutory minimum distance from underground gas pipelines, power cables, telephone lines and water pipes.



Warning: if you look in from the damaged cable end, the cut optical fiber will seriously hurt your eyes.

11. It is prohibited to operate this machine in culverts or underground areas.
12. It is prohibited to operate in mud, mires or swamps.
13. Wading operations are prohibited. Do not pass through areas or roads with standing water exceeding 110mm.
14. It is prohibited to operate in locations with chemical hazardous substances.
15. Use of this machine is prohibited in explosive or flammable and explosive environments.
16. Operating on high platforms without guardrails is prohibited. If operation is necessary, sturdy guardrails with a height not less than the tire radius must be installed, which shall also comply with the requirements of relevant national standards.

Consult your local dealer before using the machine in the following environments:

1. Environments containing explosive substances such as ammunition.
2. Extremely dusty environments.
3. Harbors or waterfront areas with salt corrosion risks.
4. Chemical plants that may be exposed to acid or other chemicals.
5. Environments containing combustible dust or flammable gas.
6. Environments with certain toxic substances.

Safe operation



Warning: before operating the machine, you must wear a seat belt, honking the horn, and confirm that there is no one around the working area before starting work. It is forbidden to use this machine in culverts/underground operations, to operate in places with chemical hazardous substances, and to use in explosive places.

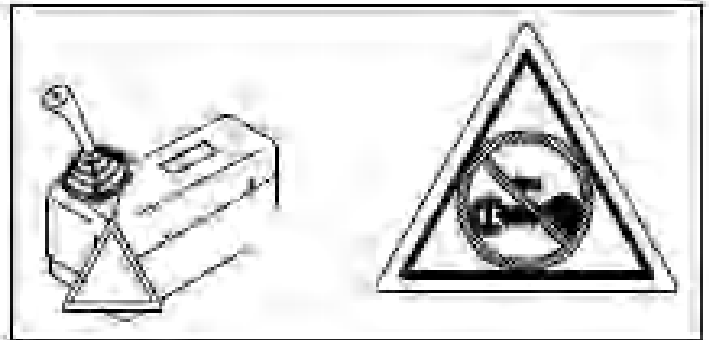
Please consult your local distributor before use under the following environments:

1. Environments with explosive substances such as ammunition.
2. Environments with excessive dust.
3. Harbors or waterfront areas with salt corrosion risks.
4. Chemical plants that may be exposed to acids or other chemicals.
5. Environments containing combustible dust or flammable gas.
6. Environments with certain toxic substances.

1. Start the machine

A. Safety rules for starting the machine

- 1) The horn warning must be sounded before starting the machine
- 2) Except for the operator, no other people are allowed
- 3) Only allowed to sit on the seat to operate the machine



Warning: Do not start the machine when there is a warning sign on the joystick.

B. After starting the machine

The following must be checked after the machine is started:

- 1) Whether the seat belt is fastened.
- 2) Whether the attachment, traveling and other moving parts are normal.
- 3) Whether the sound, vibration, smell or instrument of the machine is abnormal.
- 4) Any leakage with the oil line.

2. Before work

Learn the weight of the object before operation to avoid exceeding the rated lifting capacity of the machine. High-density load weigh more than that of lower density of the same volume. Reduce the size of the high-density load before handling it.

3. Maintenance safety

Support the machine properly when any maintenance work is carried out under the machine. Do not support with the hydraulic cylinder. Otherwise, the machine will fall down if the joystick moves or the hydraulic pipeline breaks.

Do not work under the cab unless the cab is properly supported.

Unless otherwise instructed, do not adjust the machine while it is in motion or running.

Hot oil and hot parts can cause personal injury. Do not contact the hot oil or hot parts with your skin.

The hydraulic oil filter can be removed only after the machine is stopped. The hydraulic filter must be cooled to the point where it can be touched with bare hands. Remove the hydraulic tank filter by following the steps in the manual.

When knocking on an object, debris may fly out. Make sure that no one will be injured by flying debris before knocking on the object.

4. Inflated tires

Thermal gas mixed into the tire can cause the explosion of gas inside the tire.

Tire explosion can be caused by the heat generated by welding, heating the wheel rim components, external fire sources, and excessive use of the brake.

Tire explosion is much more violent than general explosions. It can eject the tire, rim and axle to a distance of 500 meters from the machine. All explosive impact and flying debris can cause severe hazards, personal injury and even death.

Do not approach hot tires, keep the minimum distance as shown in the figure and stay outside the shadow as illustrated.

It is recommended to use dry nitrogen to cool the inflated tire. If the tire was originally filled with air, nitrogen can still be used to correct the pressure.

Filling nitrogen can reduce the risk of explosion because nitrogen does not support combustion. Nitrogen can prevent the oxidation and aging of rubber and the corrosion of the wheel rim.

In order to avoid excessive inflation of the tires, it is better to equip corresponding nitrogen inflation equipment. The corresponding equipment must be used and the use method of the equipment must be trained. Tire burst or rim failure may be caused by improper equipment or incorrect use method.

When inflating the tire, stand behind the tire tread and protect with the thick block provided with the machine.

Tire maintenance is a dangerous job. Only personnel who have been trained in the use of relevant tools and the corresponding process can repair the tire, otherwise, the impact of the explosion can make the parts eject, and the impact of the explosion can also cause serious personal injury and death. Be sure to follow the professional guidance of your tire dealer.

5. Prevent thunderstorm injury

If lightning strikes the area near the machine, the operator should not attempt to take the following steps:

Get on the machine

Get off the machine

If you are operating the machine when the thunderstorm comes, stay at the driver's position. If you are standing on the ground when the thunderstorm comes, stay away from the machine.

6. Operate the machine

Only operate the machine while sitting on the seat. Fasten the seat belt during operation, and operate the joystick only when the engine is running.

Before the machine moves, make sure it does not endanger others.

When slowly operating the machine and attachment in an open area, check whether all protective devices and operating rods can work properly.

During the operation of the machine, record all the items that need to be repaired. Record all the repair work.

Refer to the information on bucket and lift restrictions in the Operation Manual.

During transportation, lower the bucket and lower the boom to the minimum, tilt the bucket to keep it off the ground. Never close the machine to the edge of cliff, caves or protrusions.

If the machine slips on a slope, immediately dump the load and turn the machine downhill.

Avoid any conditions that may cause the machine to roll over. The machine may roll over when driving on the mountain and river bank mud; when crossing ditches, ridges or other unpredictable obstacles, the machine may also roll over.

Avoid operating the machine on the mud. If possible, operate the machine to bypass the mud.

Maintain the operating parts of the machine and do not exceed the rated load capacity of the machine.

No one should connect the cable by jumping.

Learn the maximum width of your machine.

When operating the machine, install the anti-roll device.

The protective device must be checked daily to check whether the structure is bent, cracked or loose. Do not operate the machine with dangerous structures.

Improper use of the machine or lack of operating skills will put the operator in danger, even if the machine is equipped with corresponding safety protection devices. Operate by following the manual.

Downtime for maintenance



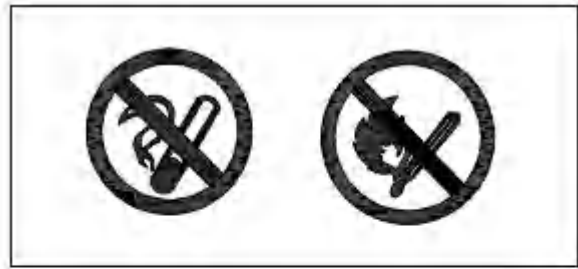
Warning: Without the presence and guidance of professional personnel, it is forbidden to turn up the cab, install and remove the battery and high-voltage wire harness of the motor, install or remove the battery box. When carrying out any maintenance work on the machine, the warning sign “No Operation” must be hung on the joystick.

- The machine must be parked on solid and flat ground.
- After the machine stops stably, the bucket must be lowered to the ground, and the machine must be shut down to turn off the manual power switch of the machine.
- When the machine is forced to stop on a slope, the sufficient obstacles should be set up in the downward direction of the tire or crawler tracks on both sides.
- Be sure to keep a certain distance from other machines when parking.
- The emergency exit can only be opened during the maintenance period, and the emergency exit should be closed at ordinary times.
- The painted parts shall be welded or polished under the condition of good ventilation environment. Wear the corresponding type of goggles when welding, and wear gas mask when polishing the painted parts.
- Before servicing the machine, if you need to support the machine or accessories to work, support the machine or accessories firmly, and do not work with only one jack supporting the machine.
- The removal or loosening of any hydraulic pipeline, connector and component, or the failure of some components will cause the boom to fall; never work under the raised boom without effective support.
- The high pressure liquid will splash the eyes or skin, so it should be avoided during maintenance.
- Properly dispose the waste liquid. Do not pour oil into the ground, drainage ditch, stream, pond or lake. The disposal of other hazardous wastes and plastics should comply with environmental protection regulations.
- Do not maintain or correct the machine while it is running.
- Do not place heavy objects or conductors on the battery pack. Keep the battery away from electric arc, spark, flame and cigarette end.
- Clean up all the sundries inside the machine to prevent possible wrong operation, causing injury to personnel or damage to the machine.
- To carry out maintenance work while it is running, the machine must be supervised by someone.
- After the machine is started, do not lubricate or repair, and do not let your hands, feet or clothing contact the power rotating parts or hot parts.
- When the machine is running or attachment is in use, the relevant personnel should wear goggles to prevent spring, high-pressure liquid and debris ejection.

Note: when the machine fails to work or cannot operate, please lift the machine onto the truck and remove it from the fault site before repairing it. For the lifting steps, please refer to the section "Hoisting the machine".

Fire, explosion and poisoning prevention

- Avoid contact with wires when the machine is transported, walked, or excavated, otherwise it will cause serious casualties.
- The electrical appliances and wiring of the machine should be checked frequently. If they are found to be damaged, or aging, they must be replaced in time to prevent a short circuit of electrical wiring and causing fire.
- Keep the wire connectors clean and securely fixed. Check whether the wires are loose or damaged every day, tighten loose joints or wire clamps, and repair the damaged wires.
- Do not place flammable and explosive materials inside the machine to prevent fires.
- Timely remove the leaves, wood chips, paper chips and other inflammable materials accumulated or stuck inside the compartment.
- Do not place oil-soaked rags in the machine to avoid spontaneous fire and burning.
- The user should configure a fire extinguisher in the machine and put it in a place where it is easily accessible.
- When welding the machine, it is strictly forbidden to do without isolating the hydraulic oil pipeline and the fuel pipeline.
- To prevent fires caused by hydraulic pipelines: check whether the clamps, guards, and cushions of all hoses and pipes are firmly fixed in place. If it is loose, it will vibrate and rub against other parts during operation, causing hose damage, high pressure oil spraying, and fire hazards or serious injuries.
- Keep the machine away from fire and avoid high temperature, otherwise, it will cause an explosion.
- It is strictly forbidden to work in poorly ventilated areas to prevent the driver from suffocating.
- In the event of a fire, do not use water to extinguish the fire. Use a powder fire extinguisher or sand to extinguish the fire. You can also use a cover or tarp to extinguish the fire.



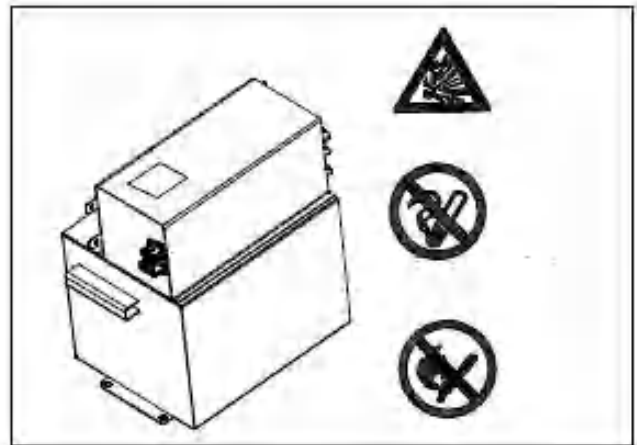
- The machine and some accessories are at high temperature under normal working conditions. The main sources of high temperature are the motor and reducer. The electrical system may become the source of arc or spark in case of damage or improper maintenance.
- Flammable debris (such as leaves, straw, etc.) must be removed regularly, otherwise, they will accumulate and cause fire hazard.
- Do not use the machine when arc sparks or high-temperature parts can come into contact with flammable materials, explosive dust or gases. If necessary, check and clean the cab, battery box heat shield, etc. every day to prevent fire and overheating.
- Check all electrical circuits and connectors, keep battery connectors clean and tight, repair and replace damaged parts.
- Check the damage and leakage of all hydraulic steel pipes, hoses and components; tighten or replace any leaking parts, clean the spilled liquid frequently, and do not use gasoline or diesel but commercial non-flammable solvent to clean the components.
- Always clean the machine, turn off the manual switch before welding, cover the rubber hose, battery and other flammable parts, remove the grounding wire of the machine; place a fire extinguisher nearby when welding, and have good ventilation conditions when grinding or welding paint parts. When grinding paint parts, toxic dust or gas may be generated, so wear a protective mask.
- Get familiar with the location of fire extinguishers, which can be obtained from your dealer.
- Do not smoke when maintaining the air conditioner and where the refrigerant gas may leak. If contacting the gaseous air conditioner refrigerant is possible when injecting liquid in a spark environment, it will cause serious physical injury or death. Burning cigarette when injecting refrigerant into the air conditioner will cause serious physical injury or death.

Lithium battery pack

Notice for use of lithium battery

Lithium battery cells contain chemicals, and incorrect operation will cause serious injury or fire. Therefore, the following precautions must be observed:

- Please use a special charger and charge according to the instructions.
- Please turn off the manual power switch of the machine before charging.
- If it is necessary to stop charging during the charging process, press the charger pause button first, and then pull out the charging gun.
- When the lithium battery power is lower than 20%, please charge it in time.
- It is recommended to fully charge the battery at least once a week during normal use.
- When the battery is not used for more than 3 months, it shall be guaranteed to recharge once a month.



Precautions

Warning: to prevent accidents, please note:

Do not use the lithium battery in environments where the temperature exceeds 55° C or drops below -25° C.

Do not directly rinse the lithium battery case.

Do not place heavy objects or conductors on the surface of the lithium battery case.

Do not over-discharge, over-charge, or charge the battery at an over-voltage.

Do not strike or impact the lithium battery case with external force.

Keep children and other animals away from the lithium battery case.

Only authorized personnel from the battery pack manufacturer are allowed to disassemble the lithium battery pack. Unauthorized disassembly may damage the internal components of the battery pack.

In case of a lithium battery fire, move away immediately. You may try to control the fire with water from a safe distance and notify firefighters for professional handling.

Note: When repairing the electrical system or carrying out welding operation, turn off the manual power switch of the whole machine to prevent electric shock.

Hydraulic system

1. Safety rules for high pressure oil

There is always pressure inside the hydraulic system. When inspecting or replacing pipes or hoses, be sure to check whether the pressure in the hydraulic oil circuit has been released. If the oil circuit is still under pressure, serious injury or damage will be caused, so follow these regulations:

- 1) Do not check or replace when there is pressure in the hydraulic system.
- 2) If there is any leakage in the pipe or hose, the surrounding area is wet, so check if the pipe or hose is broken and the hose is swollen. Wear goggles and leather gloves when performing an inspection.
- 3) The high-pressure oil leaking from the small holes will penetrate into the skin, and there will be a risk of blindness if it directly touches the eyes. If you are injured by high pressure oil hitting your skin or eyes, rinse with clean water and contact your doctor for treatment immediately.



2. Safe operation of high pressure hoses

If the high pressure hose leaks oil or fuel, it may cause a fire or operation failure, resulting in serious injury or damage. If the bolts are found to be loose, stop the work and tighten the bolts to the specified torque. When welding the machine, it is strictly forbidden to do it without isolating the hydraulic oil pipeline (hose). If any damage to the hose is found, stop the operation immediately and get in touch with the Yuchai agent.

If the following problems are found, replace the hose:

- 1) Damaged or leaking hydraulic pipe joints;
- 2) The cladding is worn or broken, or the steel wire of the reinforcing layer is exposed;
- 3) The cladding swells in some places;
- 4) The movable part is twisted or crushed;
- 5) There are impurities in the cladding.

3. Safety rules for hydraulic oil

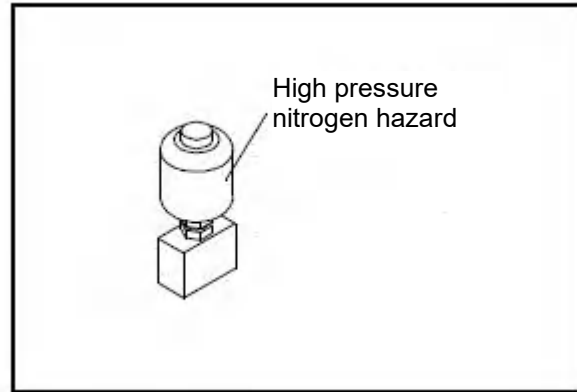
The hydraulic oil that is not cooled during or after work is at high temperature and high pressure. When checking or draining the oil, in order to prevent burns caused by sprayed oil or contact with hot parts, before starting the operation, wait until the oil has cooled to a temperature that can touch the cover or screw plug. Even if the oil has cooled, unload it. Before lowering the cover or screw plug, slowly loosen the cover or screw plug to drain the pressure inside the hydraulic oil tank.

4. Operation safety of accumulator



Warning: The accumulator is a component filled with high pressure nitrogen, which may cause explosion and other hazards if used incorrectly. The accumulator cannot be disassembled, and the operation such as drilling and welding also cannot be carried out on it. Avoid the accumulator from being close to the fire source, and avoid collision and impact on the accumulator. Professional personnel shall be invited to dispose the accumulator.

The machine is equipped with accumulators in the control pipeline. The accumulators in the control pipeline are the pressure storage devices. When these devices are installed, the control pipeline can be operated for a short time even after the machine stops.

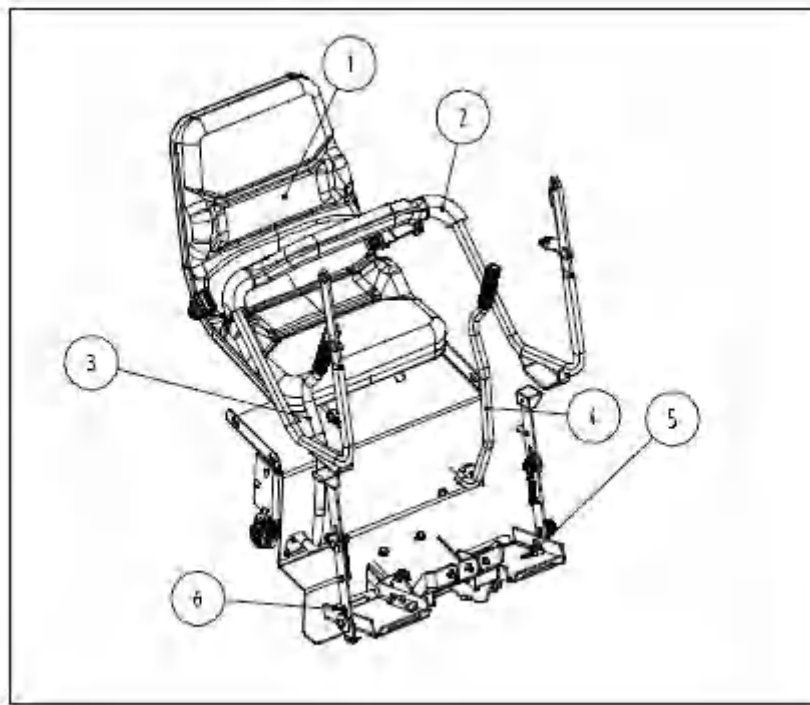


Pressure relief method for the control pipeline of the machine equipped with accumulators

- 1) Lower the attachment to the ground, and then close other accessories.
- 2) Press the parking brake switch.
- 3) Push the start switch and turn left to OFF.

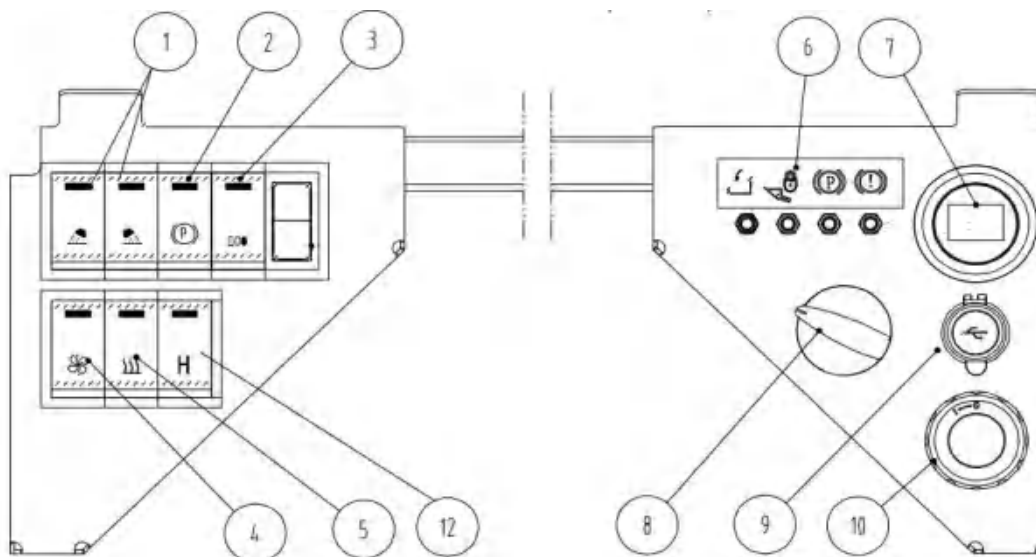
Parts introduction

Overview of controls



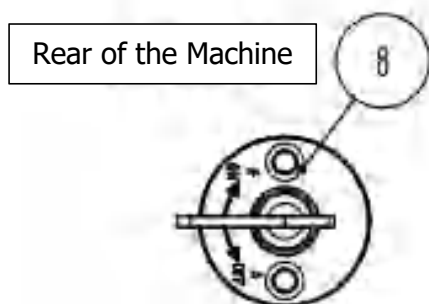
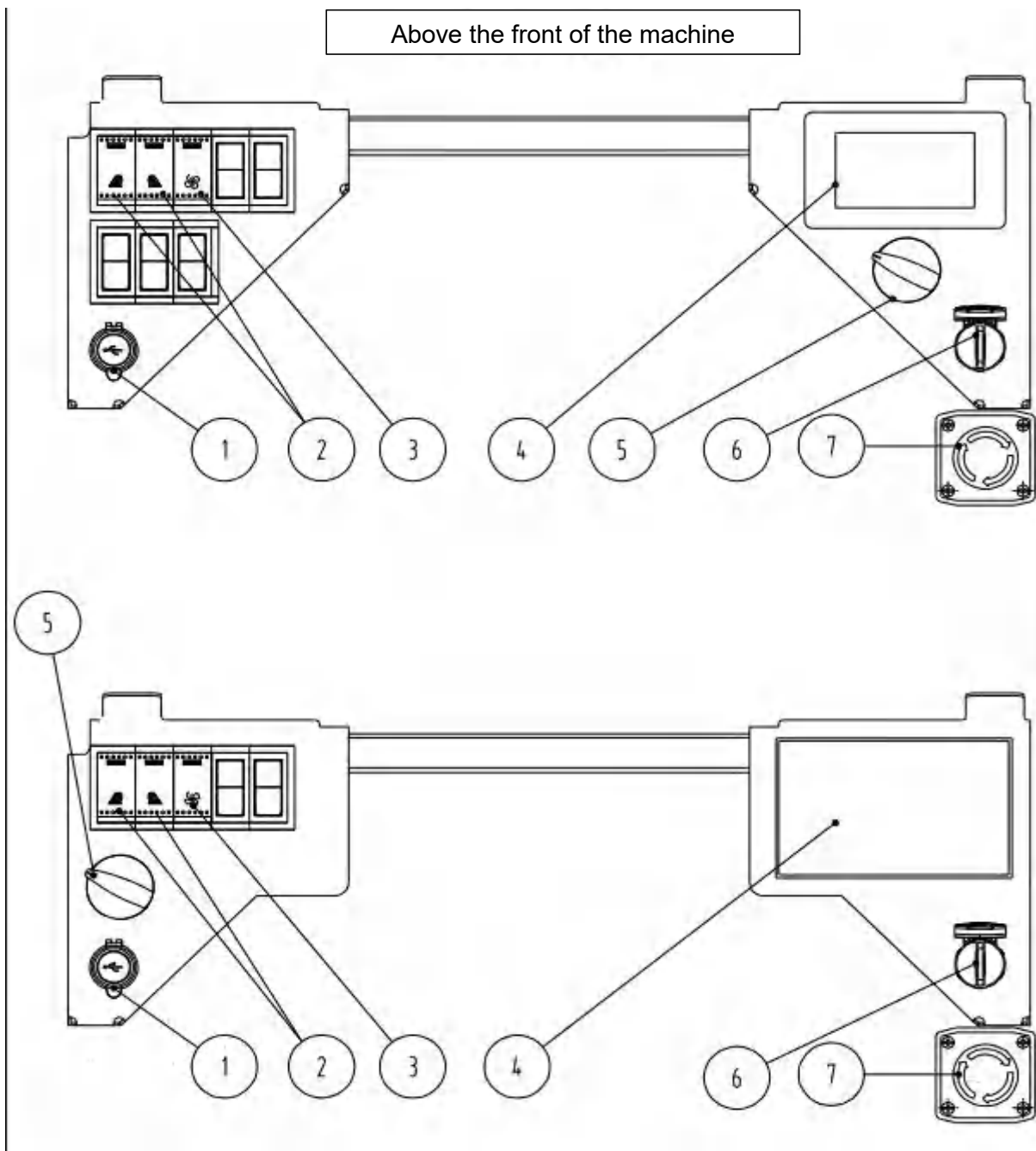
- | | | |
|-------------------------|--------------------------------|--|
| 1. Driver seat | 2. Safety handrail | 3. Travel right + auxiliary joystick |
| 4. Travel left joystick | 5. Boom lifting/lowering pedal | 6. Bucket retraction and tilting pedal |

Instrument Panel



- | | | | |
|---------------------------------------|---|----------------------------------|---------------|
| 1. Front and Rear Work Lights | 2. Parking Brake Switch | 3. Power-saving Mode Switch | 4. Fan Switch |
| 5. Heater Switch (Optional) | 6. Instrument | 7. Battery Level and Timer Gauge | |
| 8. Oil Pump Motor Speed Control Panel | 9. USB Interface | 10. One-button Start Button | |
| 11. Manual Power Switch | 12. Hill-climbing Power Boost Switch (Optional) | | |

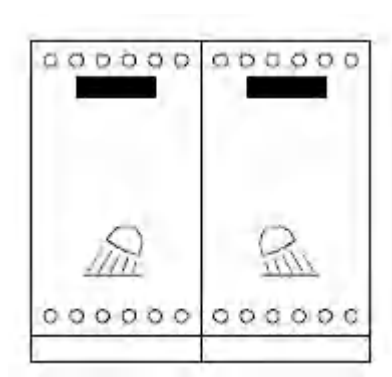
Instrument panel and manual power switch



- | | | |
|--------------------------|-------------------------------|---------------|
| 1. USB Power Outlet | 2. Front and Rear Work Lights | 3. Fan Switch |
| 4. Instrument Panel | 5. Oil Pump Motor Speed Knob | 6. Key Switch |
| 7. Emergency Stop Switch | 8. Manual Power Switch | |

Instrument panel display

1. Front and rear work lamp switch

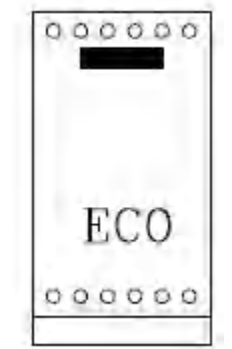


2. Parking brake switch (old)



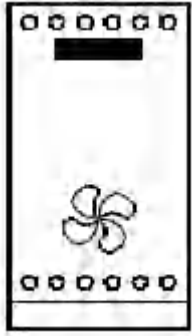
Press the key, the parking light gets up, and the traveling system is in parking lock state. Press the key again, the parking light will not light up, and the parking lock will be released. When parking for a long time, please turn on the switch.

3. Power saving mode switch

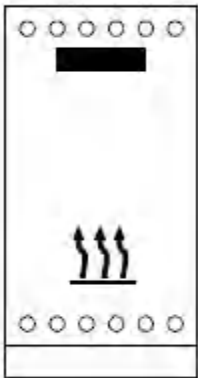


Press the key switch to change to power-saving mode of the oil pump motor, and then press the key switch to reset. In the power-saving mode, the equipment automatically controls the start and stop of the oil pump motor according to the working conditions.

4. Cab fan switch

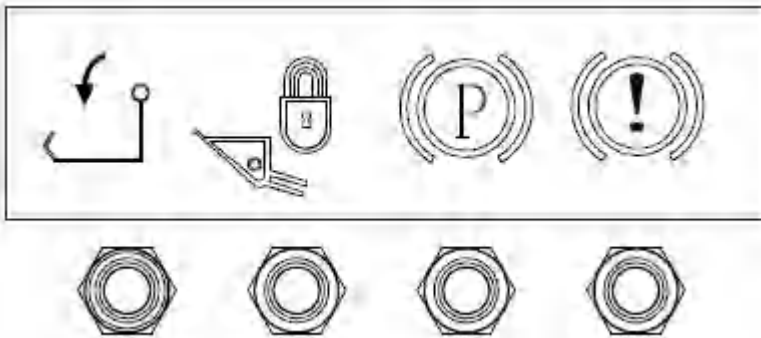


5. Heater switch (optional)



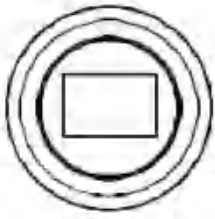
Controlling the PTC heater in the cab.

6. Indicator



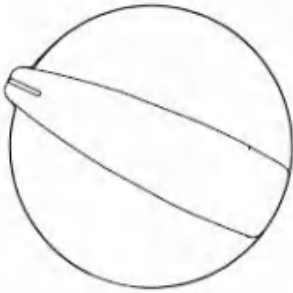
In power-on state, the leftmost side is the safety bar status indicator. When it is on, it means that the safety bar is lifted, and the motor cannot be started at this time. On the contrary, it means that the safety bar has been locked in place, and the motor can be started. When the middle indicator light is on, it means that the multiway valve boom and bucket valve core are locked, and the attachment boom and bucket cannot move, otherwise, it is in the unlocked state. When the rightmost indicator light P is on, it means that the parking brake is locked, and the machine is in parking state. Now the machine cannot travel, and vice versa, it means that it is unlocked. The rightmost indicator light is for parking pressure alarm. Flash of this light indicates that the parking pressure is insufficient, which needs to be supplemented by arm lifting and bucket retraction.

7. Power display meter



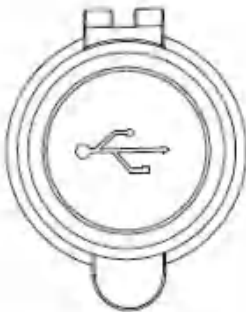
The current battery power and the working time of the machine are displayed; the power is displayed with SOC value. When it is lower than 20%, there is an alarm icon. The working time of the machine is 0.1h.

8. Oil pump motor switch knob



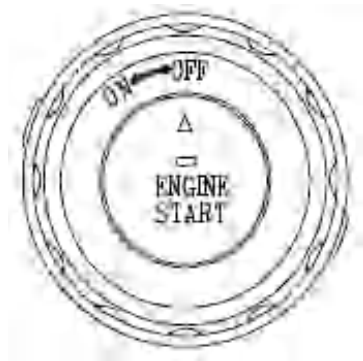
Turn left to slow down and right to accelerate.

9. USB power socket



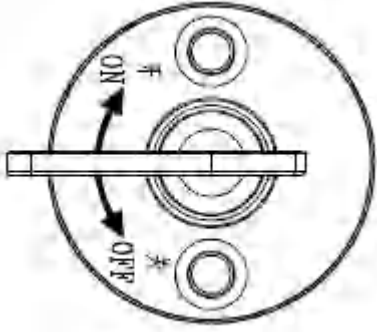
5V output for 2.1A+1A

10. Start button



OFF: power off and stop gear of the machine; ON: power-on gear of the machine; START: start gear. Turn right to position ON to power on the overall machine ->press the START key to start the motor ->turn left to OFF to power off the overall machine.

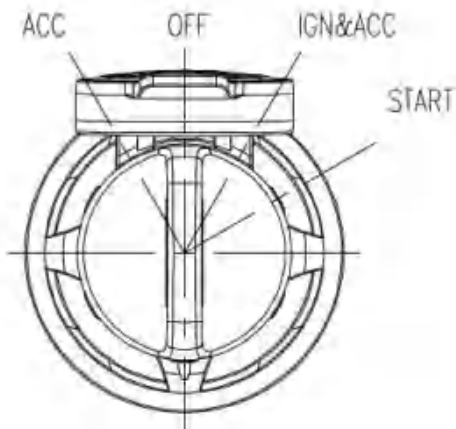
11. Manual power switch



Manual power switch (note: open the rear cover of the vehicle battery compartment to see the manual power switch)

- Turn the manual switch to ON: please turn the manual switch on before the machine is powered on.
- Turn the manual switch to OFF: please turn off the manual power switch when the machine is stopped for more than 8h or charged.

12. Key Switch



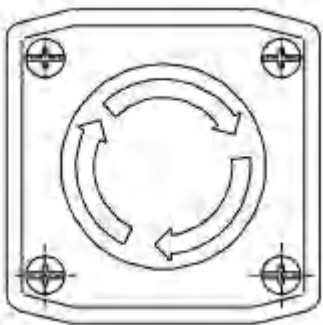
ACC: Vehicle power-on gear

OFF: Vehicle power off and parking gear

START: Start gear

Turn right to ACC for vehicle power-on, turn to START to start, turn left to OFF for vehicle power-off.

13. Emergency Stop Switch



In an emergency, press the switch to cut off the vehicle's power supply.

14.Instrument panel display



15..Safety Bar Status Icon



When it turns into “ ” it indicates that the safety bar has been lowered, and the motor can be started at this time.

16.Hydraulic Lock Icon

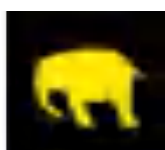


When the “ ” is displayed, it indicates that the hydraulics have been unlocked, and hydraulic operations can be performed at this time.

17.Working Mode Status Icon



When it is displayed, it indicates that the machine's oil pump motor is in normal mode.



When it is displayed, it indicates that the machine's oil pump motor is in heavy-duty mode.

The switching operation between normal mode and heavy-duty mode is set through the instrument's "Main Menu -- User Settings -- Function Settings -- Heavy-Duty Mode Settings". The initial state is defaulted to normal mode.

18. Energy-Saving Mode Status Icon



When “ECO” is displayed, it indicates that the machine is in energy-saving mode, and the entire vehicle will automatically control the start and stop of the main pump motor according to working conditions.



The switching operation of the energy-saving mode state is performed through the “ECO” in the instrument button area. The initial state is defaulted to non-energy-saving mode.

19. Parking and Braking Status Icon



When the icon is displayed, it indicates that the machine is in parking and braking state.

20. H Operation Mode Status Icon



When “[Icon]” is displayed, it indicates that the machine's travel is in non-power-boosting mode.

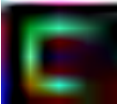


When “[Icon]” is displayed, it indicates that the machine's travel is in power-boosting mode, and the travel output torque is increased by 17% compared to the original.

21. Override Mode Status Icon

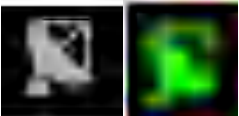


When “[Icon]” is displayed, it indicates that the machine is in normal travel mode. When the parking unlock pressure is insufficient, the machine cannot travel.



When “[Icon]” is displayed, it indicates that the machine is in override mode. When the parking unlock pressure is insufficient, the machine can travel in emergency situations, and this state will cause brake disc wear.

22. Anti-Disassembly Enable Status Icon



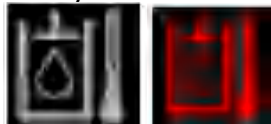
When the GPS is in the anti-disassembly protection state, the “[Green Satellite Icon]” is displayed as a prompt.

22. Voltage Alarm Icon



When the machine's high voltage is too low or too high, the “[Red Battery Icon]” is displayed as a prompt.

24. Hydraulic Oil Temperature Alarm Icon



When the machine's hydraulic oil temperature is too high, the "[Red Hydraulic Oil Temperature Icon]" is displayed as a prompt.

25. Parking Unlock Pressure Alarm Icon



When the parking pressure is insufficient, the "[Red Parking Pressure Icon]" is displayed as a prompt.

26. Hydraulic Oil Level Alarm Icon



When the oil level is too high or too low, the "[Red Hydraulic Oil Level Icon]" and corresponding text are displayed as a prompt.

27. Travel Speed Gear Icon



The default gear when powered on is S3. There are a total of 6 gears: S1, S2, S3, S4, S5, and S6.



When the left and right travel control levers are in the neutral position, long-press the [Travel Speed Gear Icon] or the top button of the right travel control lever for 1 second to switch one gear. The 6 gears cycle in sequence.

28.H Mode Switching Instructions

- The vehicle is initially in the H mode off state by default. Once a mode is selected, the current selection will be remembered, and the previous selection will be executed even after restart.
- H mode on: Indicates that the machine's travel is in power-boosting mode, and the travel output torque is increased by 17% compared to the original.
- H mode off: Indicates that the machine's travel is in non-power-boosting mode.

Mode Switching Process



29.Travel Override Mode

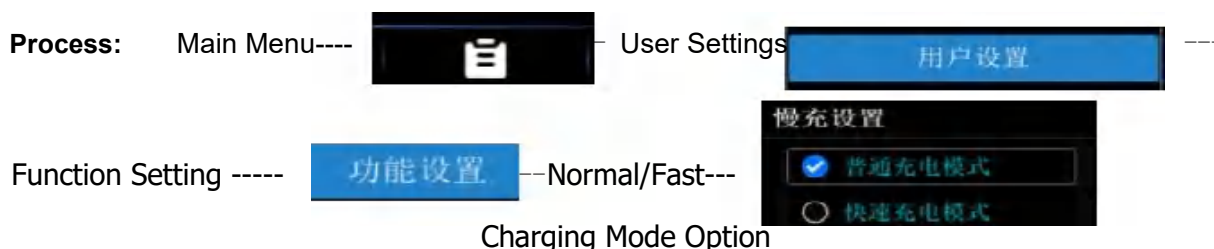
- The vehicle defaults to travel normal mode every time it is powered on. The mode selection is only valid for the current power-on cycle and will return to default after restart.
- Travel normal mode: When the parking unlock pressure is insufficient, the machine will be restricted from traveling to protect the brake discs.
- Travel override mode: When the parking unlock pressure is insufficient, the machine can travel, but this state will cause brake disc wear. Note: Use only in emergency situations!

Mode Switching Process



30.Slow Charging Setting Function Description

- The vehicle defaults to "Normal Charging Mode" (3.3KW) every time it is powered on.
- Normal Charging Mode: The AC charging power is 3.3KW at this time.
- Fast Charging Mode: The AC charging power is 6.6KW at this time. Special note: This mode is only valid for the current power-on cycle. The vehicle will default to "Normal Charging Mode" after being powered on again.
- Function Operation Process:
Insert the slow charging gun into the vehicle's slow charging port.



31. Heavy-Duty Mode Setting Instructions

- The vehicle defaults to normal mode every time it is powered on. The mode selection is only valid for the current power-on cycle and will return to default after the machine restarts.
- Normal mode: Indicates that the machine's pump motor is in normal mode, and the maximum pump motor speed regulation can reach 1800rpm.
- Heavy-duty mode: Indicates that the machine's pump motor is in heavy-duty mode, and the maximum pump motor speed regulation can reach 3000rpm.

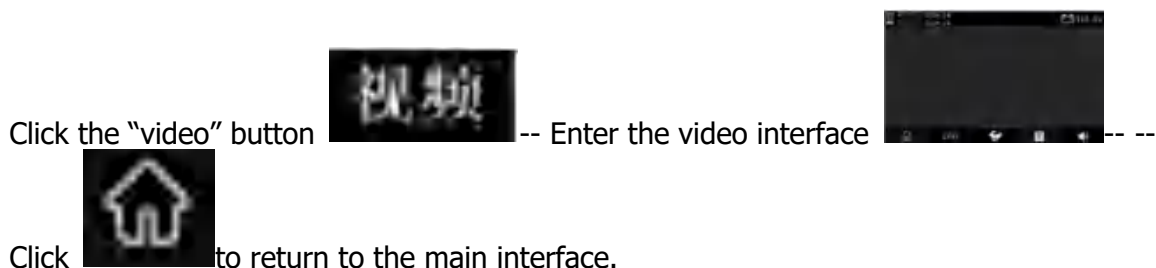
Mode Switching Process



Video Camera Switching Operation

The vehicle defaults to entering the main interface every time it is powered on.

Video Camera Switching Process

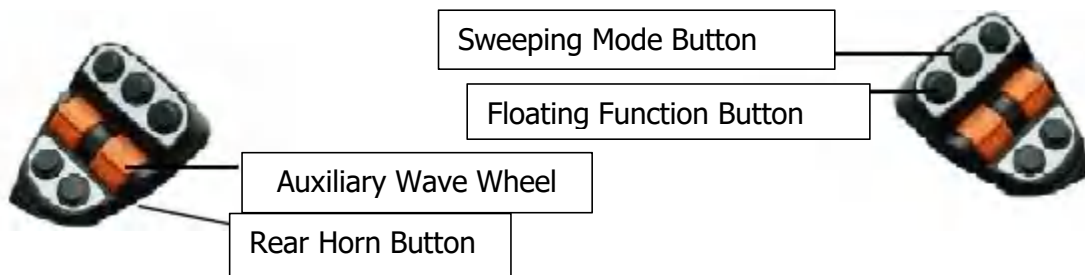


Working Device and Travel Control (Electronic Control Version)

Schematic Diagram of Left and Right
Handle Control Buttons

Left joystick

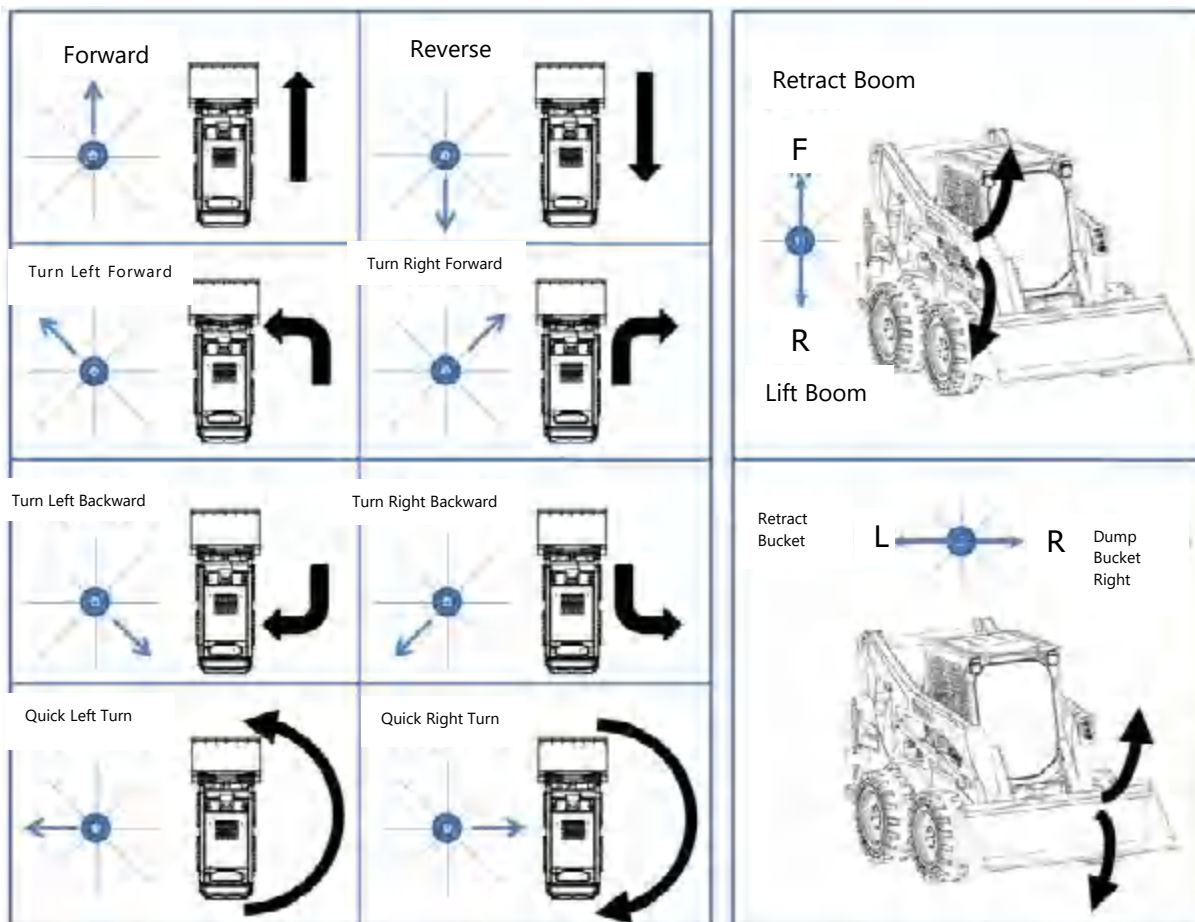
Right joystick



Honk the horn before operating the machine and confirm that there is no one around the work area before starting the operation. Schematic diagram of left and right handle operation in ISO mode is as follows:

LEFT

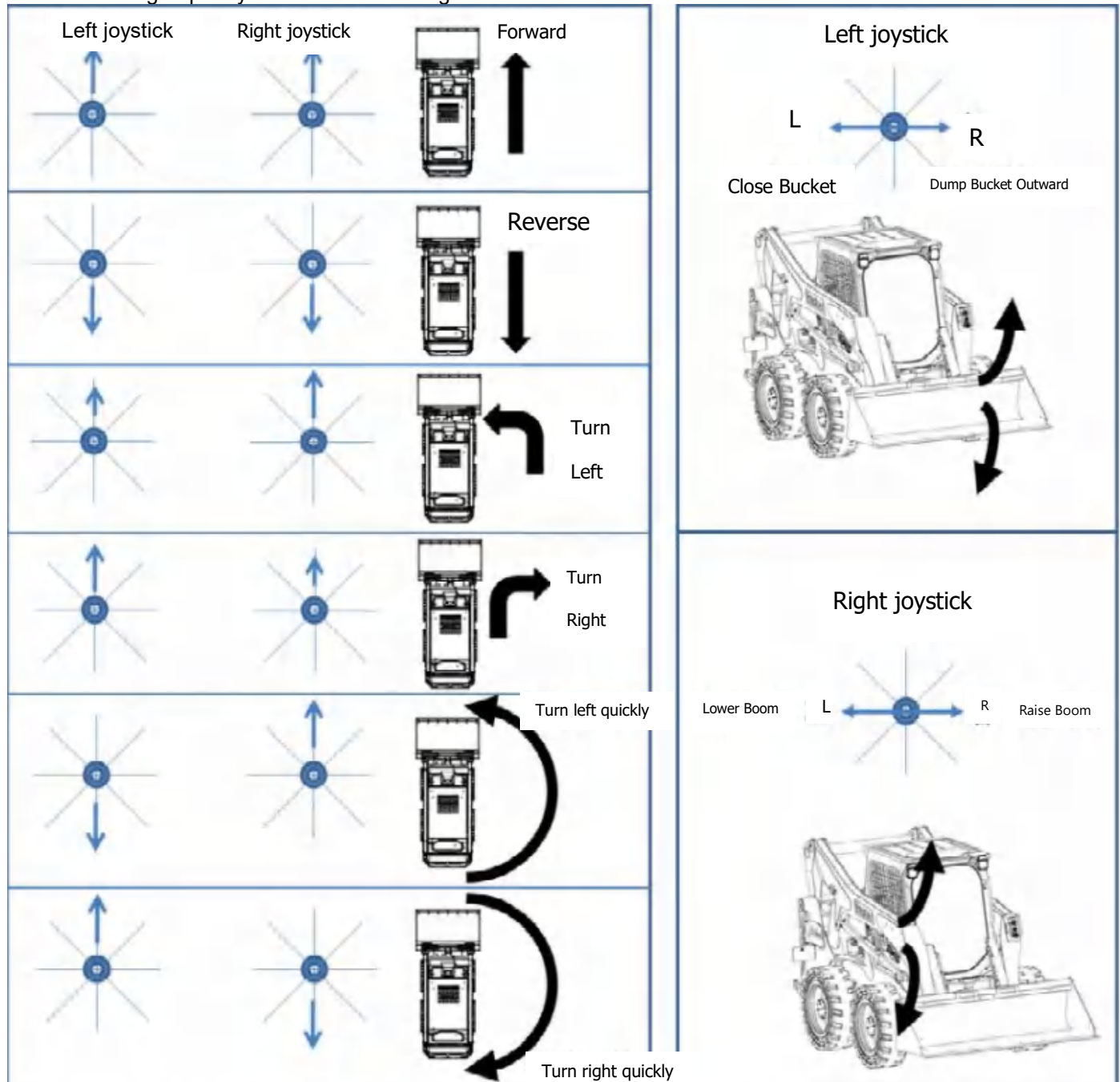
RIGHT



Working Device and Travel Control (Electronic Control Version)

The joystick operation buttons in D mode are as shown in the diagram below:

1. Left joystick: - Push left – Close the bucket - Push right – Dump the bucket outward
2. Right joystick: - Push left – Lower the boom - Push right – Raise the boom
3. Both joysticks: - Push forward simultaneously – Move forward
- Push backward simultaneously – Move backward
- Push forward with different strokes – Turn left or right
- Push in opposite front-rear directions
- Turn left or right quickly As shown in the diagram below:



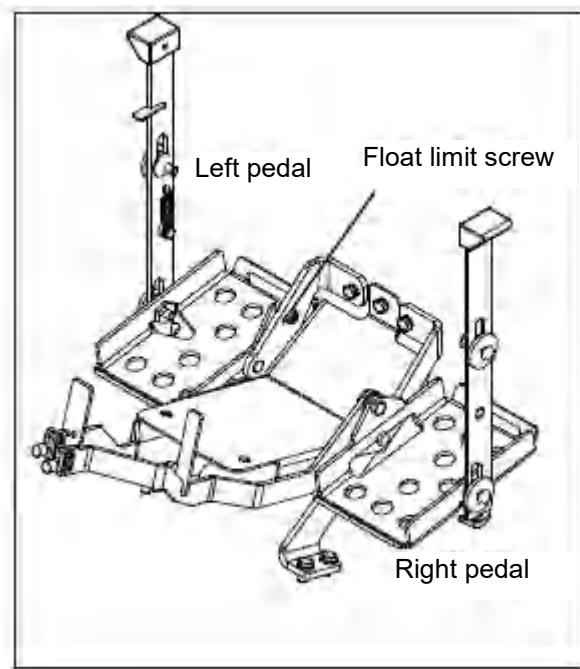
Operation of the attachment

The operating direction of the attachment joystick is shown in the right figure.

Boom control: in the unlocked state, when the left foot pedal is pushed forward, the boom is lowered, and then step forward the floating state, and the boom will rise when the middle position is stepped backward.

The float stop screw can be adjusted as needed to limit the float function and the boom lowering speed.

Bucket control: in the unlocked state, step forward the right pedal, the bucket turns outward; step backward the right foot pedal, the bucket retracts inward.



Travel and manipulation of the accessories

Travel and manipulation of the accessories:

The left and right joysticks forward, the machine moves forward;

The left and right joysticks backward, the machine reverses;

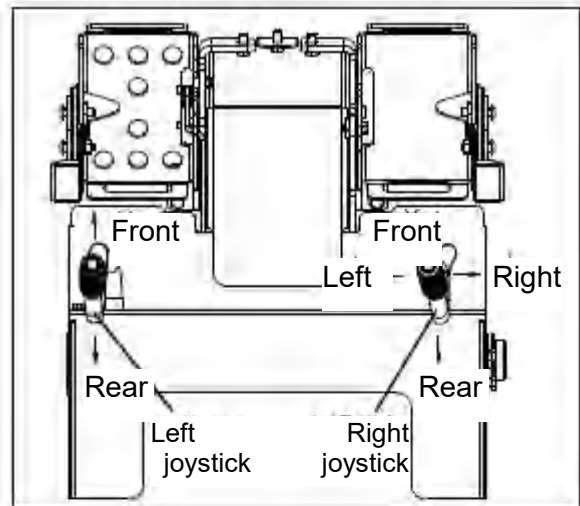
The left joystick backward and the right joystick forward, the machine turns left;

The left joystick forward and the right joystick backward, the machine turns right.

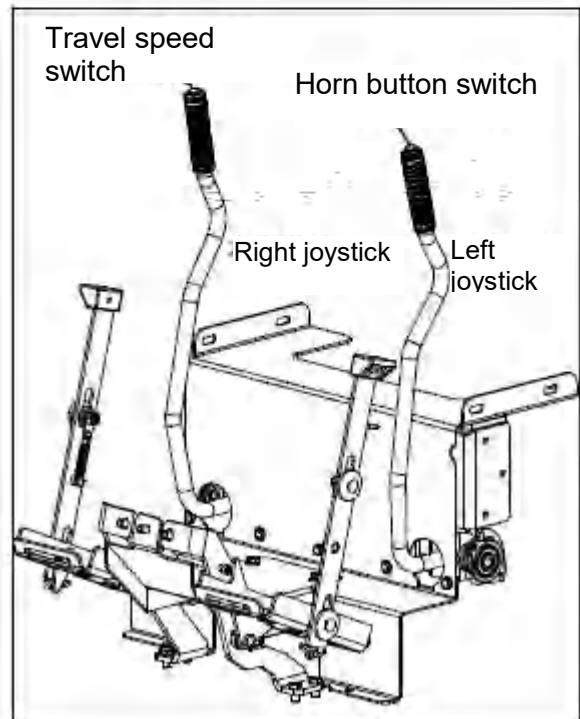
The right joystick pushed to the right, the auxiliary interlock reversed, the machine is in self-locking state;

The right joystick pushed to the left, the auxiliary interlock is reversed;

Note: right push has self-locking function, which requires manual reset.

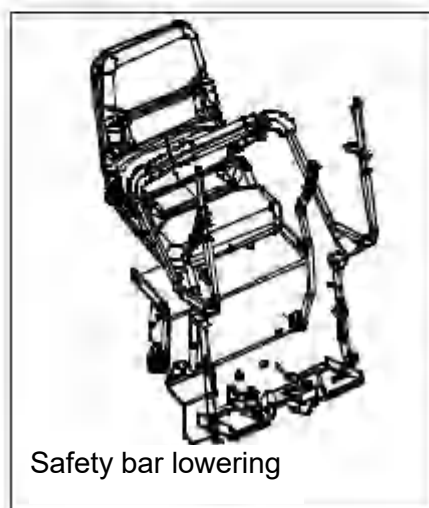
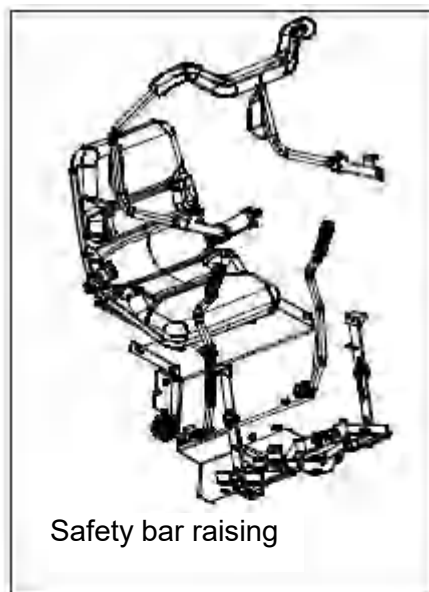


Press the travel speed switch on the right joystick to switch between fast and slow travel.



Safety bar

When the safety lever is raised, the hydraulic oil line is cut off and the left and right joystick cannot be used.
When the safety lever is lowered, the hydraulic oil line is connected and the left and right joystick can be used normally.



Seat belt



Warning: the seat belt is an important part of the machine safety system. Before operation, you must wear a seat belt. If you do not wear a seat belt, the cab or the machine may press on your body and cause injury when the machine tipped over.



Warning: before using the seat belt, check the installation of the seat belt for abnormalities. If the seat belt is worn or damaged, replace it.

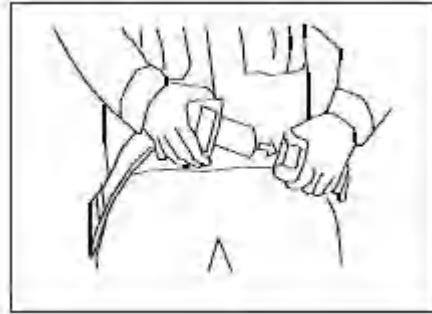
- Even if you do not see any abnormality in the seat belt, you must replace the seat belt every 3 years. The production date of the seat belt is displayed on the manufacture date label of the seat belt.
- During operation, be sure to wear a seat belt.
- When wearing a seat belt, do not twist the seat belt.

1. Secure the seat belt

Hold the seat belt clip, check whether it is twisted, adjust the length of the seat belt, and then insert the tongue firmly into the buckle. Pull the seat belt slightly to check whether the seat belt is properly locked.

2. Remove the seat belt

Press the red button on the buckle and remove the tongue from the buckle to remove the seat belt.



Operation guide

Preparation before operating the machine

- 1) The loader should be operated by trained drivers who meet the specific requirements for drivers in each region before independent operation.
- 2) Drivers are strictly forbidden to manipulate before reading the instruction manual.
- 3) Drivers must wear tight-fitting and suitable clothing and relevant safety protection equipment adapted to the work before operation, such as safety helmets, leather shoes, gloves, protective glasses, seat belts, etc.
- 4) Check the machine carefully according to the usage requirements before starting every day.
- 5) Check whether the attachment, oil cylinder and hose are damaged.
- 6) Remove the foreign matters on the battery pack and cylinder piston rod.
- 7) Check the hydraulic device, fuel tank, hose and joints for oil leakage (you can check whether there are obvious oil traces on the parking floor).
- 8) Check whether the tires, reducer and motor of each component of the lower frame are damaged and whether the bolts are loose.
- 9) Check that all meters and monitors are not damaged.
- 10) Clean the rearview mirror, check for damage, and adjust the angle so that you can see the correct field of view.
- 11) Check that the seat belt is not damaged.
- 12) Make sure that the correct maintenance has been carried out in accordance with the specified requirements.



Warning: Before operating the machine, you should ensure that you have understood and memorized the contents of the safe operation of the machine in the "Safety Regulations" of this manual.

Start operation



Warning: Before starting the machine, please refer to the safety details in this manual. Read all safety signs on the machine. There must be no other people in the workplace. Before operation, learn and practice safe operation. When operating the machine, you must be clear about and follow the relevant operation and maintenance sections of the manual, and comply with the corresponding laws and regulations.

1. Check before starting the machine

- 1) Check whether the seat belt is fastened, honking the horn, and confirm whether there are people around the working area and on or under the machine.
- 2) Check whether each window glass and rearview mirror can provide a good field of vision.
- 3) Check whether there are foreign matters adhering to the surface of the battery pack and the piston rod of the oil cylinder, and remove if any.
- 4) Check the attachment, cylinder and hydraulic hose for cracks, excessive wear or clearance. If an abnormality is found, it must be replaced and repaired.
- 5) Check the hydraulic device, hydraulic oil tank, hoses, and joints for oil leakage.
- 6) Check the tire hub and reducer for damage, wear, loose bolts or oil leakage.
- 7) Check whether the display of the meter is normal, whether the work lamps can work normally, and whether there is an open circuit in the electrical circuit.
- 8) Check whether the hydraulic oil level is between the upper and lower limits.
- 9) In cold weather, it is necessary to check whether the hydraulic oil and lubricating oil are frozen. If so, the machine shall be started only after thawing.
- 10) Check whether the control is locked.
- 11) Check the working condition, direction, and position of the machine in order to provide relevant information for the operation.
- 12) When entering and exiting the cab, step on the bucket pedal, grasp the cab handrail, and do not jump into or out of the cab.
- 13) Read the operation manual carefully before operation.
- 14) Fasten the seat belt.

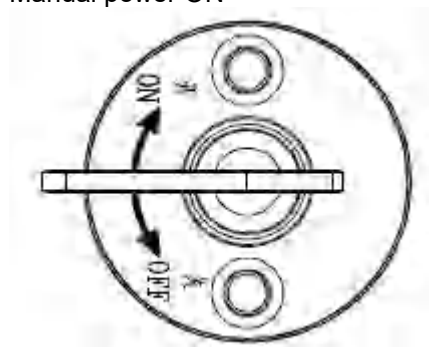
2. Start the machine

Warning: When a warning sign prohibiting starting is hung on the joystick, it is not allowed to start the machine.

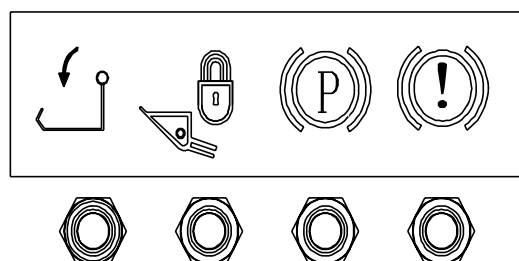
Start operation

- 1) Turn the manual power switch of the machine battery compartment to ON.
- 2) Turn the start button and turn right to ON, the machine is then powered on.
- 3) Lower the safety bar to the locked position, and then the safety bar status indicator goes out.
- 4) Press the START button, the pump motor starts, and the locking status indicator of the attachment goes out. Now, the action of the attachment can be controlled by the left and right pedals.
- 5) The parking indicator light goes on, and the traveling system is in the parking lock state and it cannot travel.
- 6) Press the parking button on the left panel, the parking light P goes out, which means that the parking status is released. To ensure safety and the parking is completely released, lift the arm or retract the bucket first and then operate to travel. If the parking warning light on the right panel flashes after parking is released, it means that the parking pressure is insufficient, and the pressure needs to be supplemented by operating to lift the arm and retract the bucket.
- 7) When parking for a long time, please turn on the switch.

Manual power ON

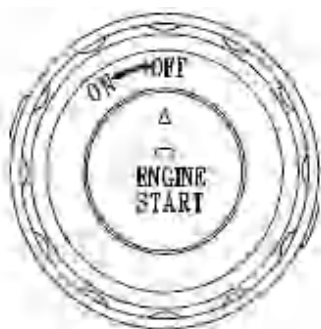
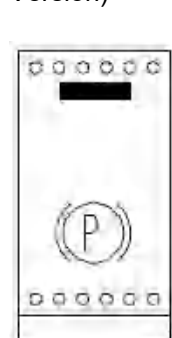


Below ((P)) is the parking warning light (old version).



Parking key Version)

Push - Button Start Switch (Old Version)



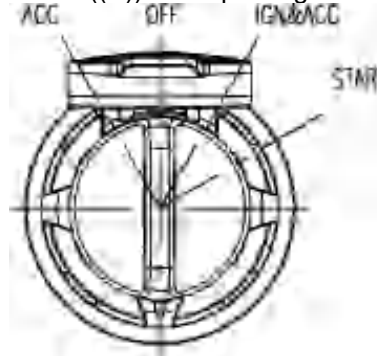
OFF: Vehicle power-off and parking gear

ON: Vehicle power-on gear

START: Start gear

Rotate right to ON to power on the vehicle -> Press the START button to start the motor -> Rotate left to OFF to power off the vehicle.

Below ((P)) is the parking warning light



OFF: Vehicle power-off and parking gear

ACC: Vehicle power-on gear

START: Start gear

Rotate right to ACC to power on the vehicle, rotate to START to start the equipment, and rotate left to OFF to power off the vehicle.

Note: After releasing the parking, before operating the machine to travel, lift the boom to ensure safety device and the parking have been completely released. If the warning light flashes after parking is released, it indicates that the parking pressure is insufficient. It is necessary to supplement the pressure of the parking line by operating to lift the arm or retracting the bucket.

Installation and removal of bucket and other accessories

Please use the loader according to the rated load. If the rated load is exceeded, the following problems will occur:

- 1) It's difficult to operate the machine
- 2) Tires wear faster
- 3) Loss of balance
- 4) The service life of the machine will be reduced

1. Install the bucket

- 1) Lift the handle on the quick-change device.
- 2) Align the quick-change device with the installation position on the bucket.
- 3) Press down the left and right handles on the quick-change device, and confirm that the pins at both ends have been inserted into the bucket hole, then the bucket is installed.

2. Remove the bucket

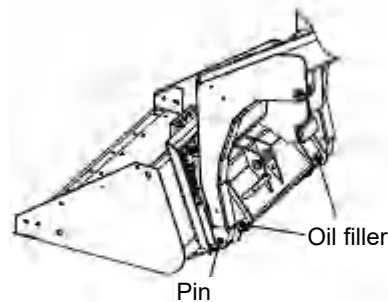
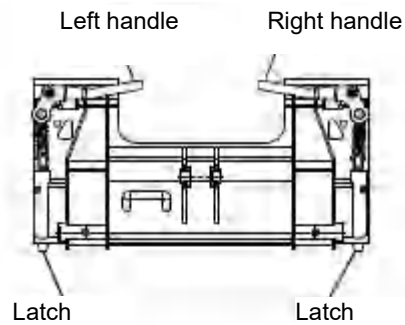
- 1) Place the bucket flat on the ground.
- 2) Lift the handle on the quick-change device and to remove the bucket.

3. Remove and install the quick-change device

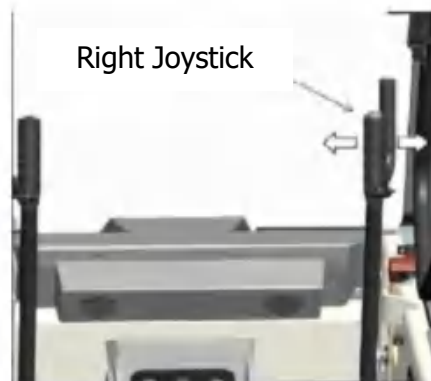
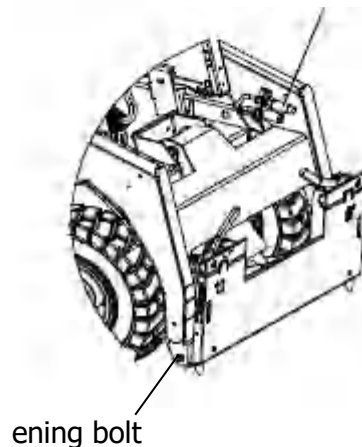
- 1) Place the quick-change device flat on the ground.
- 2) Remove the oil injection nozzle at both ends and the fastening bolts of the pin shaft, and drive the pin shaft in to remove the quick-change device.
- 3) During installation, reinstall the oil injection nozzle and push the pin shaft into the hole of the quick-change device, align the hole on the boom, inject grease until the pin shaft extends to the end face of the boom, and then install the fastening bolts.

4. Auxiliary hydraulic connection

- 1) Rotate the key switch left to OFF to power off the entire vehicle. For the electronic control handle version, after rotating the key switch left to OFF, rotate it right to ACC to power on the entire vehicle, but do not start the machine.
- 2) Move the right joystick left and right. For the electronic control handle version, toggle the auxiliary wave wheel button and repeat the action to completely release the hydraulic pressure in the auxiliary circuit.
- 3) Connect the male coupler of the attachment to the female coupler of the loader, and connect the female coupler of the attachment to the male coupler of the loader.



Auxiliary quick hydraulic coupler



Operation of the bucket

A. Operation when the bucket is full

When working on the highway or highway, please follow the local laws and regulations.

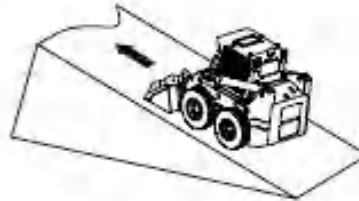
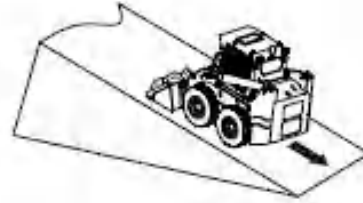
Warm up hydraulic system before working.

Note: Using medium speed warm-up and light load can extend the service life of the machine.

Operate the machine at full speed with maximum power and move the joystick slowly to move the machine.

New operators shall operate the machine in an open and barrier-free field. The operator must be trained repeatedly until he can operate the machine effectively under various working conditions and loads.

When going up and down the slope with full load, the heavier end should face the uphill direction.



B. Operate the empty bucket

Operate the empty bucket

When the machine is going uphill or downhill with an empty bucket, the heavier end should face the uphill direction.

Warning: lower the boom as low as possible.

Do not travel and turn the direction when the boom is raised.

Turning on level ground

Do not drive sideways when going up or down a slope.

The heavier end of the machine should face the uphill direction.

Do not overload



Failure to follow the above warning will cause the machine to roll forward and sideways, and cause serious personal injury and death.

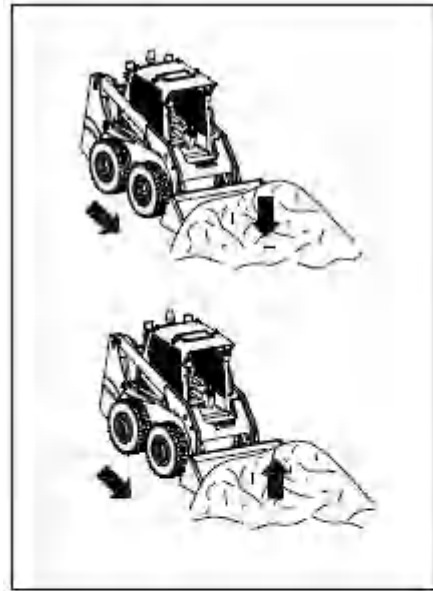
When traveling on rough roads, properly raise the boom to avoid obstacles.

C. Fill the bucket

Lower the boom

Tilt the bucket forward so that the front edge of the bucket touches the ground and moves forward slowly. Insert the bucket into the load and tilt the bucket backward until the bucket is full.

Warning: The loading, unloading and steering should be completed on the level ground. Do not exceed the rated load, otherwise the machine will roll forward and sideways, causing serious personal injury and death.



D. Unload the bucket

Lower the boom

Tilt the bucket forward so that the front edge of the bucket touches the ground and moves forward slowly. Insert the bucket into the load and tilt the bucket backward until the bucket is full.

Warning: The loading, unloading and steering should be completed on the level ground. Do not exceed the rated load, otherwise the machine will roll forward and sideways, causing serious personal injury and death.



Park the machine

Engine operation

- 1) Drive the machine to the level road, and place the attachment completely on the ground.
- 2) Turn the speed control knob of the main pump motor left to the lowest gear.
- 3) Press the parking switch.
- 4) Press the motor stop button, and then the pump motor and travel motor stop working.
- 5) Turn the start switch left to OFF, and then the machine is powered off.
- 6) Lift the safety bar.
- 7) If the machine stops for more than 8h, turn the manual power switch to OFF.
- 8) Regularly check the attachment, machine exterior and chassis, and check whether there is water leakage or oil leakage, and whether the bolts are loose. If an abnormality is found, repair it.
- 9) Check whether there are paper scraps and debris at the rear of the machine. Remove them to avoid fire.



Charge the machine

Charging operation

- 1) Turn the manual power switch to OFF.
- 2) Connect the charging connector to the vehicle's fast charging port.
- 3) Turn on the input power of the charger.
- 4) The charger will automatically charge according to the preset parameters and charging mode.
- 5) After charging, the charger will stop automatically.
- 6) Disconnect the charger input power.
- 7) Unplug the charging connector.
- 8) Other matters shall be carried out according to the Operation Instructions of the charger.

Note:

Use regular and compliant charging products.

For fast charging: adopt 380VAC $\pm 15\%$ (three-phase four-wire system), and the electrical cabinet must meet the power demand of at least 32A.

For slow charging: the wire specification must be 2.5 square millimeters or above, and a grounding line is required.
Do not over-discharge or over-charge the battery.

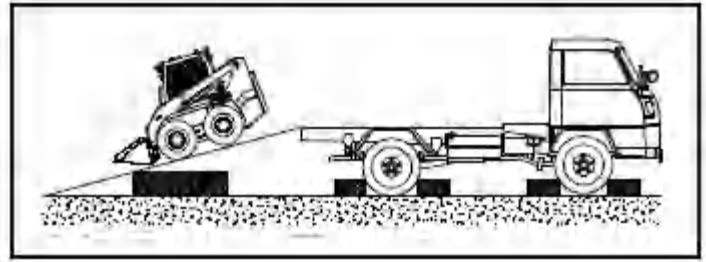


Warning: 1) Do not charge when the machine is running.
2) Do not start the machine while dragging it.

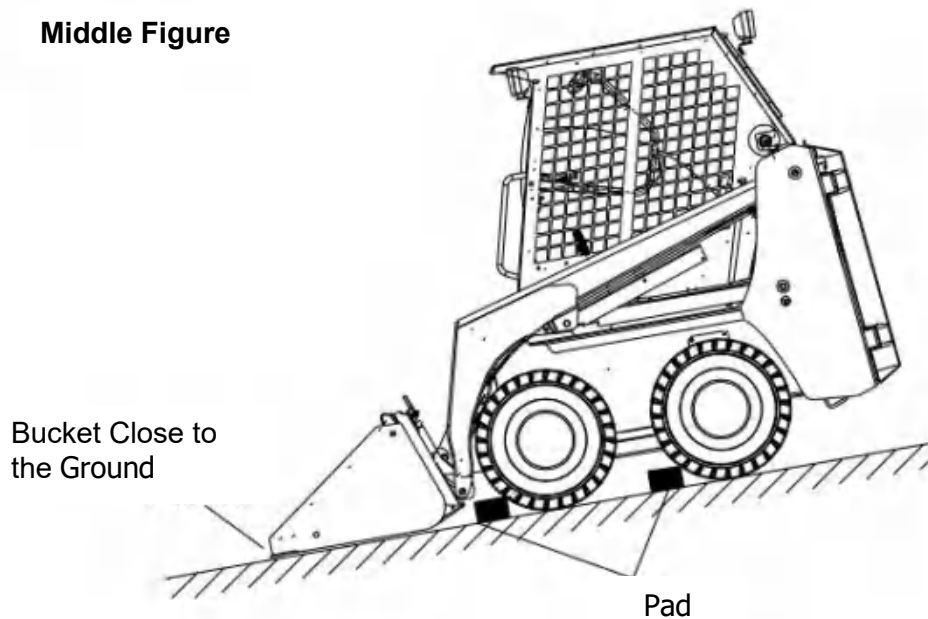
Transport the machine

Warning: When transporting the machine, the machine must be bound with ropes of sufficient strength, otherwise it will break the rope and cause personal injury.

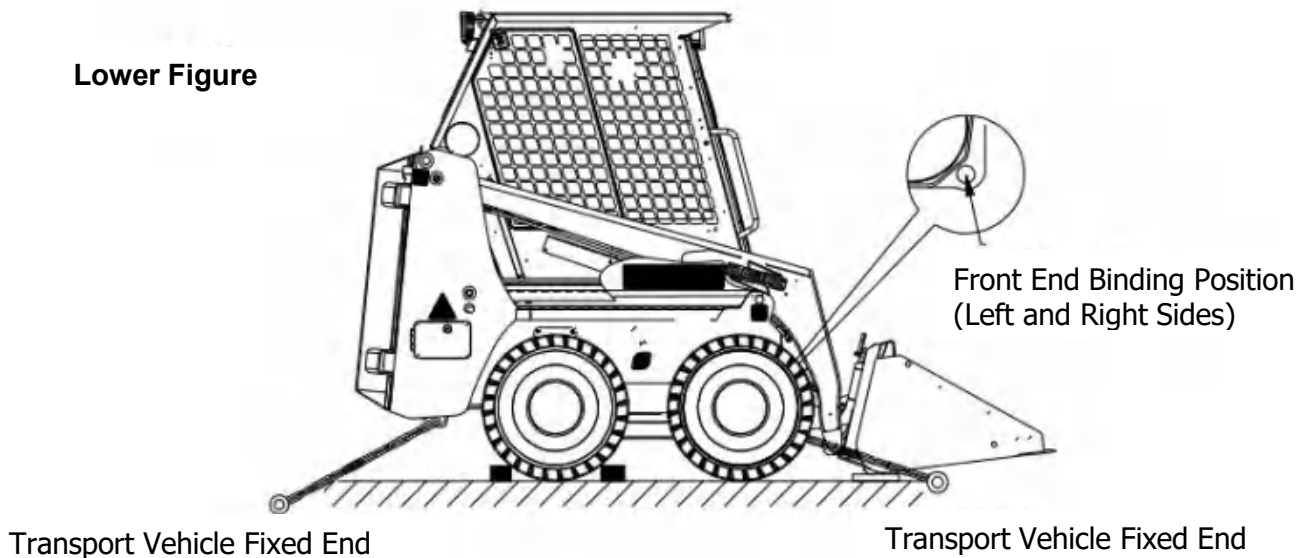
- 1) The machine bucket must be empty.
- 2) The rear of the machine must be upward.
- 3) Appropriately apply brakes to the transport vehicle, and put a pad under the tire to ensure that the transport vehicle does not move.



Middle Figure



Lower Figure



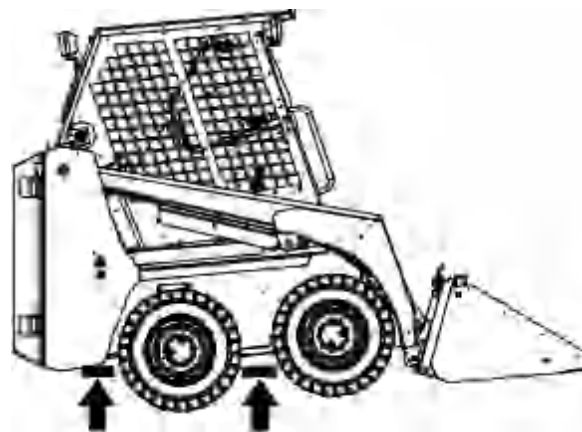
Tow the machine

Traction of the Machine

To prevent damage to the machine's drive, the machine can only be towed a short distance at low speed (e.g., towing the machine onto a transport vehicle) when the parking brake is confirmed to be released or by using a vehicle mover.

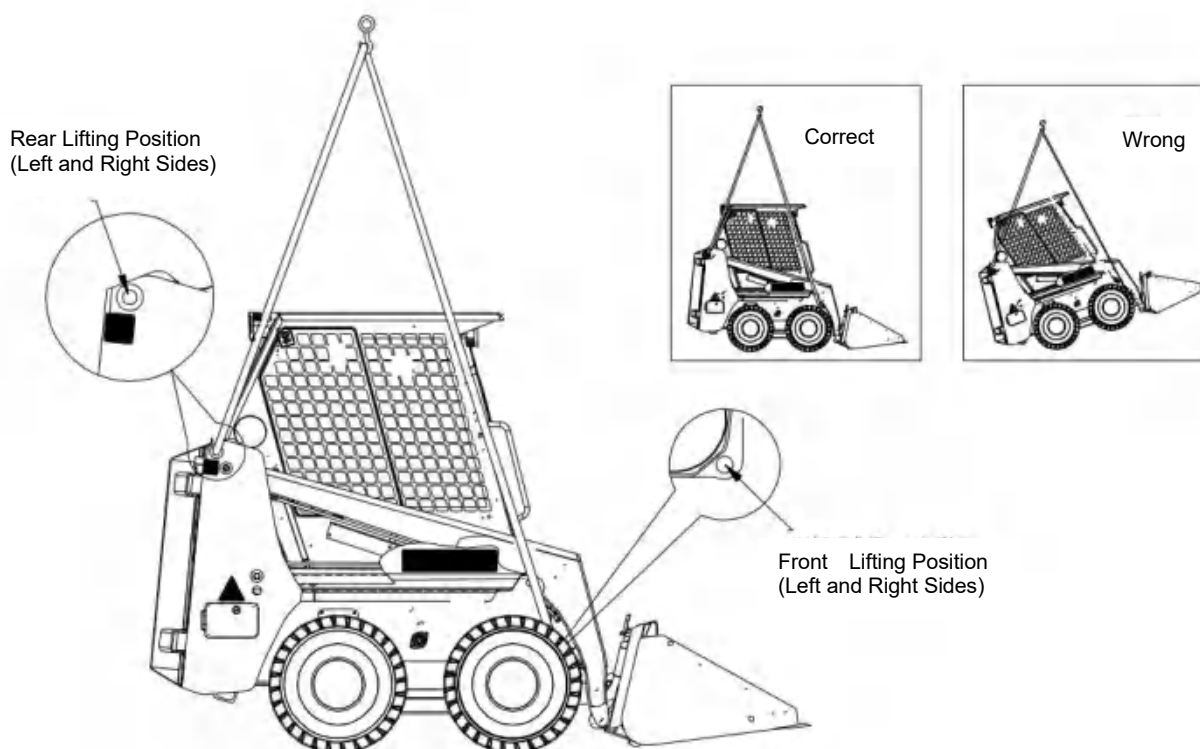
The maximum load-bearing capacity of the traction rope shall be 1.5 times the weight of the machine.

If using a forklift to lift and move the entire machine to the corresponding position, ensure standardized operation. Lift the machine at the positions shown in the right diagram and keep it level.



Lifting the Machine

Adopt four-point lifting. The provided single-point lifting kit can lift and support the loader without affecting the rollover protection and falling object protection functions of the cab. Before lifting, inspect the fasteners on the four-point lifting equipment. Ensure the lifting equipment has sufficient size and capacity to bear the weight of the loader (see Chapter 1 Technical Specifications). The skid steer loader should be as close to a horizontal position as possible during lifting (as shown in the figure below). However, the suspended angle shall not exceed the departure angle specified in the specifications at any time.



Note:

1. Before lifting, inspect the fasteners on the four-point lifting equipment.



2. When lifting the machine, no one is allowed to be in the cab, and there must be no passers-by within a 5-meter radius.

3. The sling brackets should not come into contact with any part of the boom or cab to prevent damage.

5

Maintenance

Common sense for maintenance

- **New machine running-in**

The first 100 hours of the machine is the running-in period, during which the machine should not engage in some operations with excessive load and high work intensity.

- **Construction on a dusty site**

Clean the surface of each component, motor, lithium battery pack and oil cylinder piston rod in time.

During checking or replacing the oil, move the machine to a dust-free place to prevent dust from entering the oil.

- **Oil and filter element**

After replacing the oil or the filter, check the waste oil and filter element for metal chips or impurities. If a large amount of metal chips or impurities are found, report it to the dealer of the machine and take appropriate measures. Do not mix different brands of oil together. Before changing the oil, drain the old oil and add new oil.

- **Timer reading**

Check the timer on the dashboard every day to check if it is time for maintenance according to the number of working hours.

- **Use original accessories**

The use of original accessories is an important factor in ensuring the normal operation of the machine and prolonging the service life of the machine.

- **Hazardous waste disposal**

Put the oil discharged from the machine into a container. Do not discharge the oil directly onto the ground, or pour it into sewers, drains, rivers, oceans or lakes. When dealing with harmful substances, such as oil, plastics and other harmful substances, relevant environmental regulations shall be observed. When the whole machine and its parts lose their functions and need to be scrapped, they shall be disposed according to relevant laws and regulations.

- **Prevent articles from falling into the machine**

When opening the oil tank filler, pay attention not to fall into foreign matters. Otherwise, this will cause damage and malfunction of the machine, and may lead to accidents. If foreign material falls into the machine, take it out immediately. Before and after the inspection, check the tools and parts you carried to make sure that nothing has fallen into the machine.

- **Regular inspection and maintenance**

Regular inspection and maintenance shall be carried out in accordance with the items listed in the "Regular Inspection and Maintenance Table", which is an important prerequisite for ensuring the normal operation of the machine and prolonging its service life. Be sure to observe the inspection and maintenance cycle.

Regularly check and maintain the machine. The loose or damaged parts should be repaired, fastened or replaced, and the entanglement on the wheel hub and tire should be removed, as well as the adhesion of foreign matters on the piston rod. Otherwise, excessive wear and premature failure of the machine will be resulted:

Cab fastening bolts, seat belt.

Routine lubrication and maintenance of each lubrication point.

Check whether the hydraulic pipeline and reducer have leakage and whether the connection and fixation are robust.

Check the hub and tire for any entanglement.

Check the piston rod for any stuck debris.

Are there scratches, breaks or deformations on the elastic connectors and accessories.

Check the working conditions of operating devices, control indicator lights and various indicators.

Check the operation for any abnormal noise.

- **Recheck after inspection and maintenance**

Pay attention to recheck after inspection and maintenance:

Check for that any part to be inspected and maintained have been omitted, whether all inspection and maintenance items have been carried out correctly, and whether there are tools or parts falling into the machine. It is very dangerous for parts to fall into the machine and be stuck in the connecting rod mechanism. Check around the machine to see if there is water leakage. Maintenance must be carried out regularly, otherwise it will lead to excessive wear and premature failure of parts.

Maintenance intervals

Warning: Before operating and maintaining the machine, it is necessary to follow the warnings in the manual to check whether all functions of the machine can be used normally. Untrained operators and incorrect operation will cause personal injury and death.

Items	Inspection and maintenance details	Maintenance period (total working hours)					
		10	50	100	250	1000	2000
Battery box	Maintenance requirement Check cables, connectors and terminals, and remove dust	▲					
Motor and its controller	Check whether the installation is stable and whether the connectors are fastened	▲					
Boom, cylinder	Lubricate with lithium grease lubricant		▲				
Tire	Check tire wear and tire pressure (except solid tire)	▲					
Seat belt and safety handrail	Check the use of the seat belt and whether the handrail can be used properly. Remove the dust and debris from the parts	▲					
Safety signs	Replace the worn signs	▲					
Cab	Check the fastening of the nuts and gaskets, check the cab.	▲					
Work light	Check that the work lamp can be used properly	▲					
Hydraulic oil hoses and rigid pipes	Check the hydraulic oil level, refill as necessary, check for wear and leakage, and replace as necessary.	▲					
Pedal operation handle	Check for normal operation and repair if necessary	▲					
Tire nut	• Check the tightness of the nuts	▲					
Travel reducer	Check wear and leakage, replace the gear oil	▲			▲		
Hydraulic filter	Replace the filter					▲	
Hydraulic oil tank	Replace the hydraulic oil						▲

Boom landing support equipment

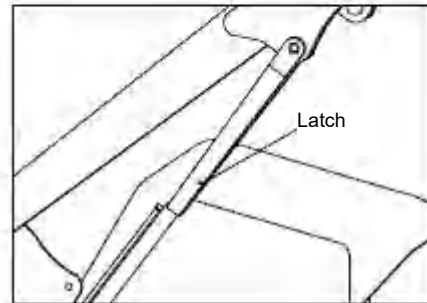
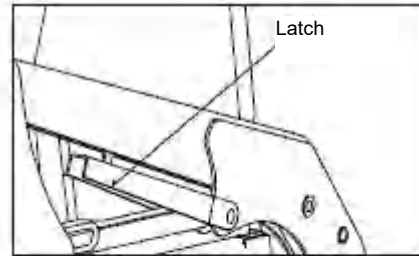
When maintaining and repairing the machine, lower the boom to the lowest point. If it's inevitable to work when the boom is raised, the following steps should be followed to use and remove the safety bar.

Warning: Do not work under the boom unless the boom is held by the boom landing support steadily. Incorrect use of the boom landing support will result in that the boom or attachment falls down, causing personal injury or death.

Warning: damage of the boom landing support or loss of parts shall initiate maintenance of the machine. Use of damaged boom landing support equipment may cause the boom to fall, causing personal injury or death.

Use of the boom landing support equipment shall go with the following steps:

- 1) Remove the securing latch on the land support.
- 2) Lift the boom so that the landing support just fall on the small chamber of the cylinder.
- 3) Lower the boom so that the boom landing support equipment is just against the end of the large cavity of the cylinder.
- 4) Insert the latch and fix the boom landing support equipment.



Seat belt

Inspection and maintenance

Warning: Incorrectly checked and maintained seat belt will that the belt cannot be fastened firmly, and will cause personal injury and death.

Check whether the seat belt can be used normally every day.

Check the seat belt system once a year. If the working condition is bad, the inspection cycle should be more frequent.

Broken, worn, damaged seat belt due to excessive use or aging in the sun needs to be replaced.

1. Check whether the belt is broken, worn, aged and dirty
2. Check the belt buckle to see if it can be used normally and worn.
3. Check whether the belt is exposed to sunlight or dust and oil stains. If the color of the belt is faded or dust and oil stains are accumulated, the strength of the belt will be reduced.

Check the safety handrail

1. Sit on the seat and fasten the seat belt.
2. Operate the hydraulic control button to check whether the tilt and lift functions can be used normally, and lift the boom until the bucket is 600mm above the ground.
3. Raise the safety handrail and operate the hydraulic control lever. Now the boom and bucket shall not move.
4. Lower the safety handrail and the boom. When the boom is lowering, lift the safety handrail, and the boom must stop at this moment.
5. Lower the safety handrail, lower the boom, and place the bucket on the ground; stop the machine, raise the safety handrail, operate the accessory pedal to ensure that the pedal is locked, and then release the seat belt.

Maintain the safety handrail

Clean any dust and debris on the shaft with compressed air, and do not use lubricating oil. Check all fasteners. The tightening torque of bolts is 35Nm.

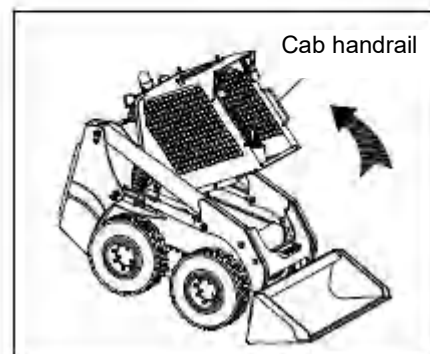
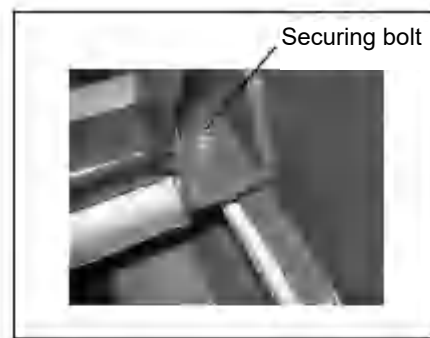
If the safety handrail cannot be used normally, replace the damaged parts with genuine Yuchai parts.

Warning: When the safety handrail is raised, the hydraulic system should be in an inoperable state, and the boom bucket should not work at this time. If it is found that the hydraulic system can still work, the safety handrail should be repaired.

Cab side-turning

The cab can only be overturned or lowered after the machine stops running. When the cab is overturned for maintenance, fix it to prevent it from falling, causing personal injury and death.

- Park the machine on a level surface.
- Lower the boom to the lowest level. If the cab must be overturned when the boom is raised, it's necessary to install safety bar.
- Unscrew the bolts that secure the cab.
- Grasp the cab handrail and slowly roll the cab over.



Hydraulic system

Check the hydraulic oil level

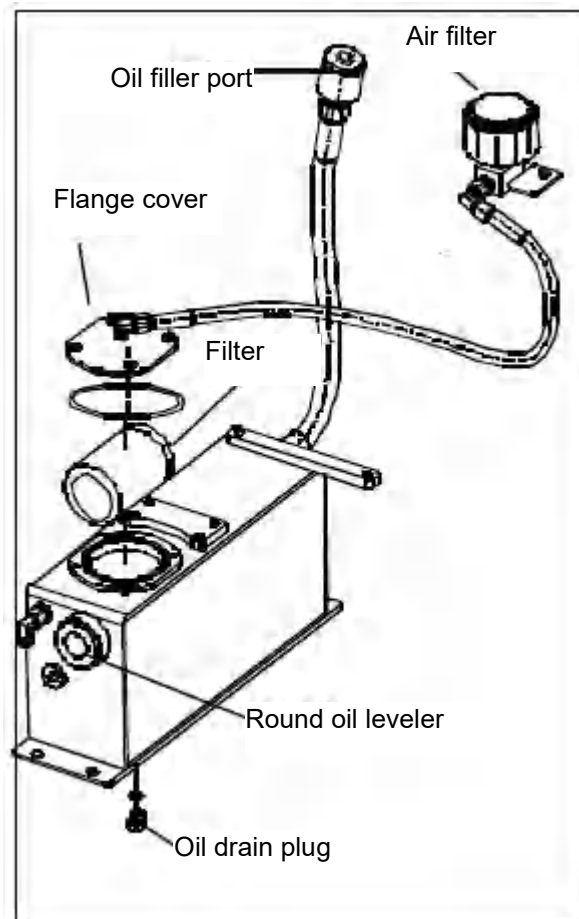
The level of the hydraulic oil shall be observed through the round oil leveler.

The hydraulic oil level shall be clearly seen on the round oil leveler, and the oil shall not be filled over much, otherwise the level can not be seen through the round oil leveler.

Since this may cause damage to the hydraulic oil line or injection of oil. If the refueling is too full, stop the machine and drain the excess oil from the oil drain plug after the oil cools. If the oil gauge shows that the liquid level is too low or the liquid level is not visible, oil shall be refilled in time through the oil filler port on the top of the hydraulic oil tank.

Replace hydraulic oil and filter

- 1) Park the machine on a level surface.
- 2) Slowly loosen the air filter connected to the oil tank and reduce the air pressure stored in the tank.
- 3) Remove the flange cover.
- 4) Loosen the oil drain plug at the bottom of the oil tank and drain the oil to the recovery drum.
- 6) Remove the filter
- 7) Clean the inside of the oil tank thoroughly.
- 8) Clean the drain plug and reinstall it.
- 9) Install a new filter.
- 10) Add the hydraulic oil that meets the requirements (the capacity is about 10L, low temperature area: HS46+, general area: HMP46+), and the oil level should reach the middle of the oil leveler.
- 11) Install the flange cover.



■ Replacement Cycle of Hydraulic Oil and Filters When Using Attachments (e.g., Hydraulic Breaker)

Using a hydraulic breaker increases contamination of the hydraulic system and accelerates corrosion. Compared with the excavating device, the replacement cycle of hydraulic oil and filters should be shortened accordingly to avoid damaging the hydraulic pump and other hydraulic components. The recommended replacement cycles are as follows (Unit: hours)

Hydraulic Breaker Operation Rate	Hydraulic Oil Replacement Cycle	Filter Element Replacement Cycle
50%	1000	Filter750
100%	500	Filter 500

- **Note: When using a hydraulic breaker, the system pressure should be adjusted appropriately according to the requirements of the hydraulic breaker.**

Tire maintenance

Check the tire screws regularly. The correct tightening torque is 142-156Nm

Regularly check the tire wear and tire pressure.

The rear wheels always wear faster than the front wheels. To make the front and rear tires wear the same, exchange the front wheels and the rear wheels for installation.

Be sure to use tires of the same specification, otherwise it will lead to excessive or insufficient steering and excessive tire wear.

The tire tread must face in the same direction.

It is recommended to maintain tire pressure to avoid excessive wear and loss of balance and control.

Installation of the tires

Tires can only be repaired by professional personnel with professional tools according to the correct steps.

Before installation, check whether the tire and rim specifications are correct, and check the damage of the tire and rim flange

The rim flange must be clean and free from rust.

Before tire installation, the tire flange and rim flange must be lubricated with rubber lubricant.

Avoid excessive pressure of the tire (pneumatic tire), otherwise the tire will burst, causing personal injury and death.

When inflating tires, check the pressure frequently to avoid excessive inflation.

Lithium battery pack

Warning:

- The lithium battery pack contains chemicals and is highly corrosive. Do not disassemble or damage it by yourself.
- When charging, it will cause explosion in case of open fire, so keep away from open fire.
- External force impact or shock shall be avoided.

1. Storage requirements

- The lithium battery pack should be stored in a dry, clean and well ventilated environment at 5~25 °C. They should be free from direct sunlight and at least 2 m away from the heat source. If the ambient temperature is too high, the performance of the battery will be greatly affected.
- It shall not be placed upside down or horizontally, and shall not be subjected to any mechanical impact and heavy pressure.
- The storage period at room temperature is 3 months. If the battery will not be used for more than 3 months, it shall be guaranteed to recharge once a month.

2. Charging requirements

- Slow charging input voltage and current AC 220V, 15 A. Fast charging input voltage and current AC 380V, 33 A.
- Please use a special charger and charge according to the instructions.
- Please turn off the manual power switch of the machine before charging.
- If it is necessary to stop charging during the charging process, press the charger pause button first, and then pull out the charging gun.
- When the lithium battery power is lower than 20%, please charge it in time.
- It is recommended to fully charge the battery at least once a week during normal use.
- When the battery is not used for more than 3 months, it shall be guaranteed to recharge once a month.

3. Other matters

- When the vehicle stops for more than 6 hours, the lithium battery will enter the sleep state and need to be restarted, so please turn off the manual power switch of the machine.

Warning: to prevent accidents, please note:

- Do not use lithium batteries in an environment above 55°C or below - 25°C.
- Do not flush the lithium battery box directly.
- Do not place heavy objects or conductors on the surface of the lithium battery box.
- Do not overcharge or charge under over voltage.
- Do not impact the lithium battery pack with external force.
- Keep children or other animals away from the lithium battery pack.
- To prevent damage to the internal components of the battery pack, please do not disassemble the lithium battery pack unless authorized by the battery pack manufacturer.

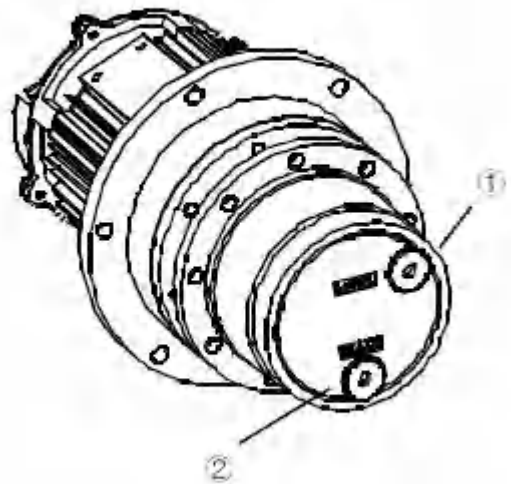
Travel reducer

1. Check the lubricating oil level of the travel reducer and fill oil

Warning: The oil in the reducer will heat up shortly after the machine moves. After stopping the equipment, the travel reducer and oil are still at a high temperature, which can cause severe burns. Before operation, wait for the oil to cool down. Loosen the exhaust screw plug by two to three threads and release the air pressure in the box before removing the screw plug. It is dangerous to remove the plug quickly.

Inspect every 10 hours.

- 1) Prepare an Allen wrench.
- 2) Park the machine on a level ground.
- 3) Rotate the travel reducer to bring the two plugs on its outer end face to the position shown in the figure, then stop the machine.
- 4) After the oil has cooled, slowly open plug ①.
- 5) After releasing the air pressure in the tank, continue to unscrew plug ①.
- 6) Check the oil level, which should reach the lower edge of the plug hole.
- 7) If necessary, replenish gear oil.
- 8) Clean plug ① and reinstall it on the reducer.



2. Replace the lubricating oil (for each reducer)

Replace after 250 hours of operation; oil change interval every 250 hours

(Approx. capacity 0.35L; heavy-duty automotive gear oil GL-5 or SAE 80W/90).

- 1) Park the machine on level ground.
- 2) Rotate the gear reducer to position the drain plug as shown.
- 3) Drain oil while the gear reducer oil is warm.
Caution: Avoid burns from hot oil.
- 4) Loosen plug to drain oil completely.
- 5) Retighten plug securely.
- 6) Fill through oil filler hole with specified lubricant until oil flows from oil level inspection hole.

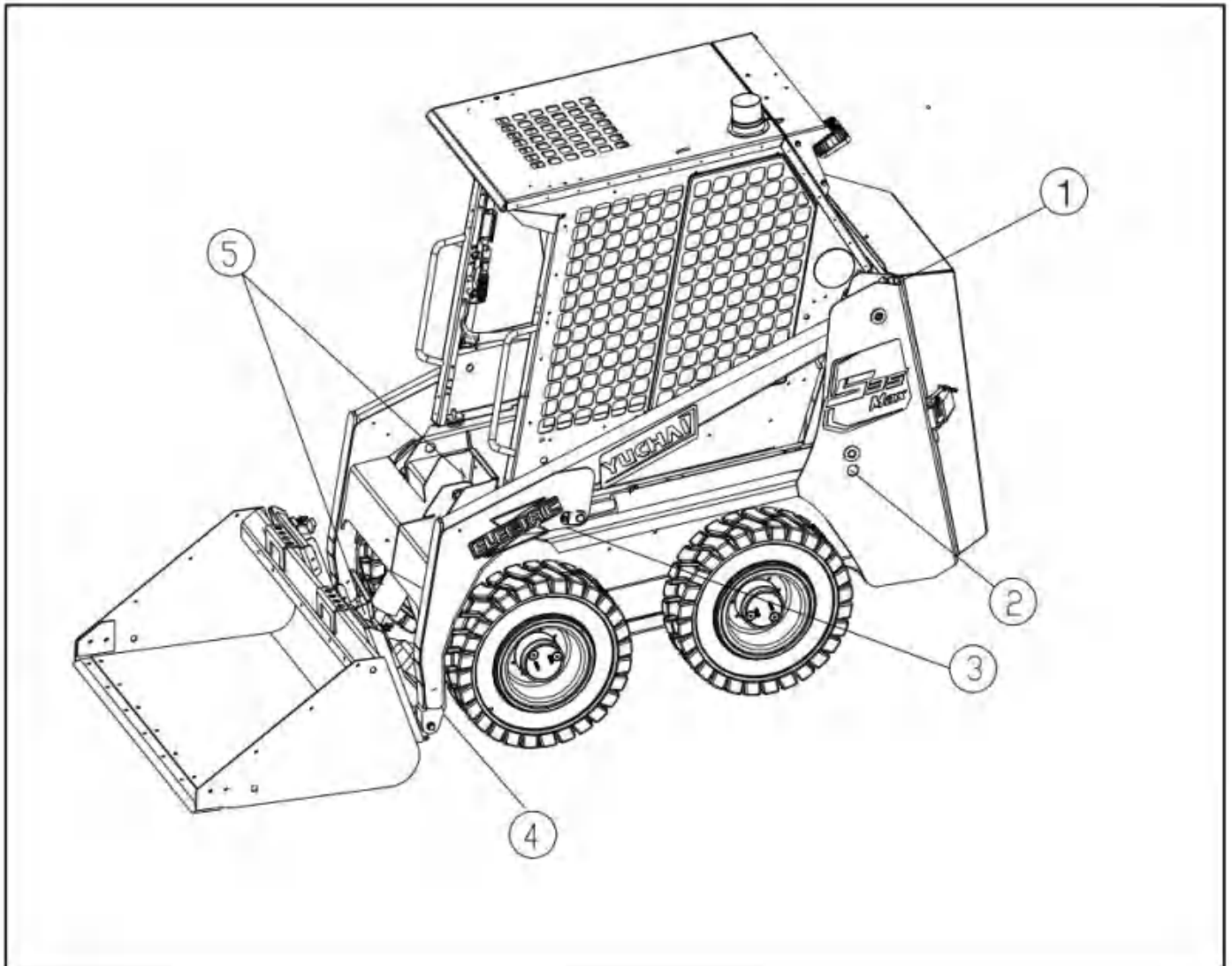
3. Check the tightening torque of the travel reducer connecting bolts

For a new machine, conduct the first inspection after 10 hours of operation, and then inspect every 10 hours thereafter.

Tighten the bolts connecting the reducer to the chassis and wheel hub.

Lubrication

Proper lubrication can keep the machine in good working condition.
Record the time of each lubrication.
Please use the recommended lubricating oil for lubrication.



- ① Boom Tail Lubrication Point
- ② Boom Cylinder Tail Lubrication Point
- ③ Boom Cylinder Head Lubrication Point
- ④ Boom Head Lubrication Point
- ⑤ Bucket Cylinder Lubrication Point

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