



Eurotrac



Operation and Maintenance Manual

WL18

Eurotrac WL18 Wheel Loader

**Warning****General rules for safety operation and maintenance of loaders****Security**

- Please pay attention to and be familiar with various warning signs.
- Before each operation, irrelevant staff shall stay away from the loader.
- The loader shall be parked on a level ground. If the loader must be parked on a slope, the loader tyre shall be padded with wedges.
- After the engine is started, the brake accumulator pressure does not alarm before it can be exercised, otherwise the brake system will not work.

Operation

- The loader operation is mainly based on shoveling and loading bulk materials (powders that are explosive and gravel that is easy to slip, etc. cannot be shoveled), long-term excavation and bulldozing operation are prohibited, and overloaded operation is prohibited.
- Before starting the loader each time, check whether the engine water tank water level, oil level of oil tank, waterway, pneumatic circuit, tightness of oil circuit, instruments and lights are normal.
- Before starting the engine, the shift control lever and control handle of work equipment shall be placed in the median, and the parking brake handle shall not be released before starting.
- After the engine is started, idle running until the water temperature is higher than 55°C and the brake accumulator pressure does not alarm before starting to drive.
- Full load operation can only be carried out when the water temperature is higher than 60°C and the oil temperature is higher than 50°C. The water temperature shall not exceed 100 °C during operation, and the oil temperature shall not exceed 105 °C. When the oil temperature exceeds the allowed value, the vehicle shall be stopped for cooling or corresponding inspection.
- Do not lift the bucket to the highest position to transport materials, and keep the lower hinge point of boom 400-500 m above the ground.
- It is strictly forbidden to engage the engine in neutral gear and slide downhill.
- It is strictly forbidden to idle the engine too low. Under any circumstances, the engine cannot be naturally flameout when the foot leaves the accelerator pedal. The idle speed of the engine must be set according to the requirements of the Operation and Maintenance Manual of Diesel Engine.
- Special attention shall be paid to safety when the loader is driving or operating on the cross slope.

Maintenance

- Diesel oil must be selected according to the grade specified in this manual to ensure purity and sedimentation for not less than 72 hours.
- The lubrication and maintenance of the loader must be carried out according to the time, position and content specified in this manual.
- The hydraulic oil, engine oil, gear oil and brake fluid must be selected according to the grades specified in this manual. It is strictly forbidden to mix different grades of oil.
- The power of diesel engine decreases with the increase of altitude, ambient temperature and relative humidity. When using the loader, attention must be paid to the local environmental conditions, and the actual power of diesel engine under local conditions shall be obtained according to the requirements of the power correction table in the *Operation and Maintenance Manual of Diesel Engine*.
- When the temperature of the engine coolant is high, the pressure is high. The water tank can only be opened after the temperature is lowered and the pressure is released.

- When performing maintenance and maintenance, the loader must be parked on a level ground, the engine must be shut down, the hand operated brake valve must be placed in the brake position, and other various operating lever must be placed in the neutral position.
- The qualified antifreeze must be used to avoid freezing and damaging the relevant components; The fuel oil added shall correspond to the ambient temperature.

A SAFETY	8
A1 SAFETY SIGNAGE	9
A1.1 LOCATION OF SAFETY SIGNAGES	9
A1.2 CONTENT OF SAFETY SIGNAGE	12
A2 GENERAL PRECAUTIONS FOR OPERATION AND MAINTENANCE	16
A2.1 PRECAUTIONS BEFORE OPERATION	16
A2.2 PRECAUTIONS FOR SAFE OPERATION	17
A2.3 PREVENTION OF FIRE	19
A2.4 PREVENTING PRICKING AND CUTTING OFF	20
A2.5 SAFETY MEASURES FOR OPERATION AT HIGH TEMPERATURE	21
A2.6 PRECAUTIONS FOR PROTECTIVE DEVICE (ROPS OR FOPS)	21
A2.7 UNAPPROVED MODIFICATIONS	21
A2.8 ATTACHMENTS AND OPTIONS PRECAUTIONS	21
A2.9 PRECAUTIONS FOR WORK IN CONFINED SPACES	22
A2.10 DUST	22
A3 PRECAUTIONS FOR OPERATION	23
A3.1 PRECAUTIONS FOR CONSTRUCTION SITE	23
A3.2 START THE ENGINE	24
A3.3 OPERATION	25
A3.3.1 PRECAUTIONS FOR LOADER TRAVELING	25
A3.3.2 SHUTDOWN	27
A3.3.3 OPERATION PRECAUTIONS	28
A3.4 TRANSPORT	30
A3.5 TOWING	33
A4 PRECAUTIONS FOR MAINTENANCE	34
A4.1 PRECAUTIONS BEFORE INSPECTION AND MAINTENANCE	34
A4.2 PRECAUTIONS FOR INSPECTION AND MAINTENANCE	35
A4.3 TREATMENT OF PIPELINES, TUBES AND HOSES	36
A4.4 DISPOSAL OF WASTE	36
A4.5 TIRE	36
A4.5.1 TREATMENT OF TYRES	37
A4.5.2 PRECAUTIONS FOR STORAGE OF TIRES	37
A4.6 WELDING OPERATIONS	37
A5 EMISSION RELATED REQUIREMENTS	38
A5.1 EMISSION REGULATORY REQUIREMENTS	38

B OPERATION.....	39
B1 GENERAL DRAWING	40
B1.1 GENERAL DRAWING OF MACHINE.....	40
B1.2 OVERALL DIAGRAM OF CONTROLS AND INSTRUMENTS	41
B2 DESCRIPTION OF COMPONENTS.....	42
B2.1 INSTRUMENT AND LIGHT SWITCHES	42
B2.2 OPERATING LEVERS, PEDALS AND OTHERS	71
B2.3 FIRE EXTINGUISHER.....	76
B3 OPERATION.....	77
B3.1 NEW VEHICLE RUNNING-IN.....	77
B3.2 INSPECTION AND ADJUSTMENT BEFORE STARTING THE ENGINE.....	77
B3.3 START THE ENGINE	86
B3.4 DRIVING OF LOADER	88
B3.5 WORK THAT CAN BE CARRIED OUT WITH WHEEL LOADERS	91
B3.6 SHUTDOWN.....	95
B3.7 COLD WEATHER OPERATION.....	97
B3.8 USE OF TYRES	97
B3.9 OPERATION ESSENTIALS.....	98
B4 LONG-TERM STORAGE.....	100
B5 FAULT ANALYSIS AND TROUBLESHOOTING.....	101
C MAINTENANCE	107
C1 PREPARATION BEFORE MAINTENANCE	108
C2 GENERAL RULES FOR REPAIR AND MAINTENANCE	109
C2.1 FUEL	110
C2.2 ENGINE OIL	111
C2.3 ANTIFREEZE	112
C2.4 GREASE.....	112
C2.5 TRANSFER CASE OIL, GEAR OIL, BRAKE FLUID, HYDRAULIC OIL	113
C2.6 AIR FILTER	114
C2.7 TIRE	115
C2.8 RECOMMENDED DOMESTIC AND FOREIGN OIL REFERENCE TABLE.....	116
C3 SPECIAL REPAIR AND MAINTENANCE.....	118
C3.1 REPLACEMENT OF AIR FILTER ELEMENT.....	118
C3.2 CLEANING THE A/C FILTER ELEMENT	118
C3.3 REPLACEMENT OF TRANSMISSION OIL AND FILTER ELEMENT	119
C3.4 REPLACE HYDRAULIC OIL AND FILTER ELEMENT.....	119
C3.5 REPLACE FRONT AND REAR AXLE OIL	121
C3.6 REPLACEMENT OF ENGINE OIL AND FILTER ELEMENT.....	122
C3.7 REPLACEMENT OF DIESEL FILTER ELEMENT	123

C3.8 REPLACEMENT OF BUCKET TOOTH.....	124
C3.9 REPLACEMENT OF PIN SHAFT AND SHAFT SLEEVE	125
C3.10 SERVICE BRAKE AND INSPECTION OF PARKING BRAKE	126
C4 STANDARD TIGHTENING TORQUES FOR BOLTS AND NUTS.....	126
C5 DUSTY ENVIRONMENT	128
C6 WADING OPERATION.....	128
C7 RUNNING-IN PERIOD MAINTENANCE	129
C8 REGULAR MAINTENANCE	129
D STRUCTURAL CHARACTERISTICS AND PERFORMANCE PARAMETERS	133
D1 APPEARANCE AND NAME OF EACH COMPONENT	134
D2 OVERALL DIMENSION DRAWING (BASIC TYPE)	135
D3 SIGNAGE	136
D4 REQUIREMENTS FOR WORKING ENVIRONMENT	136
D5 TECHNICAL PARAMETERS.....	137
D6 SCHEMATIC DIAGRAM OF SYSTEM	142
E VARIANT AND OPTIONS	147
E1 OPTIONAL CONFIGURATION RESOURCES	148
E1.1 OPTIONAL BUCKET TYPES	148
E1.2 OTHER	148

A Safety



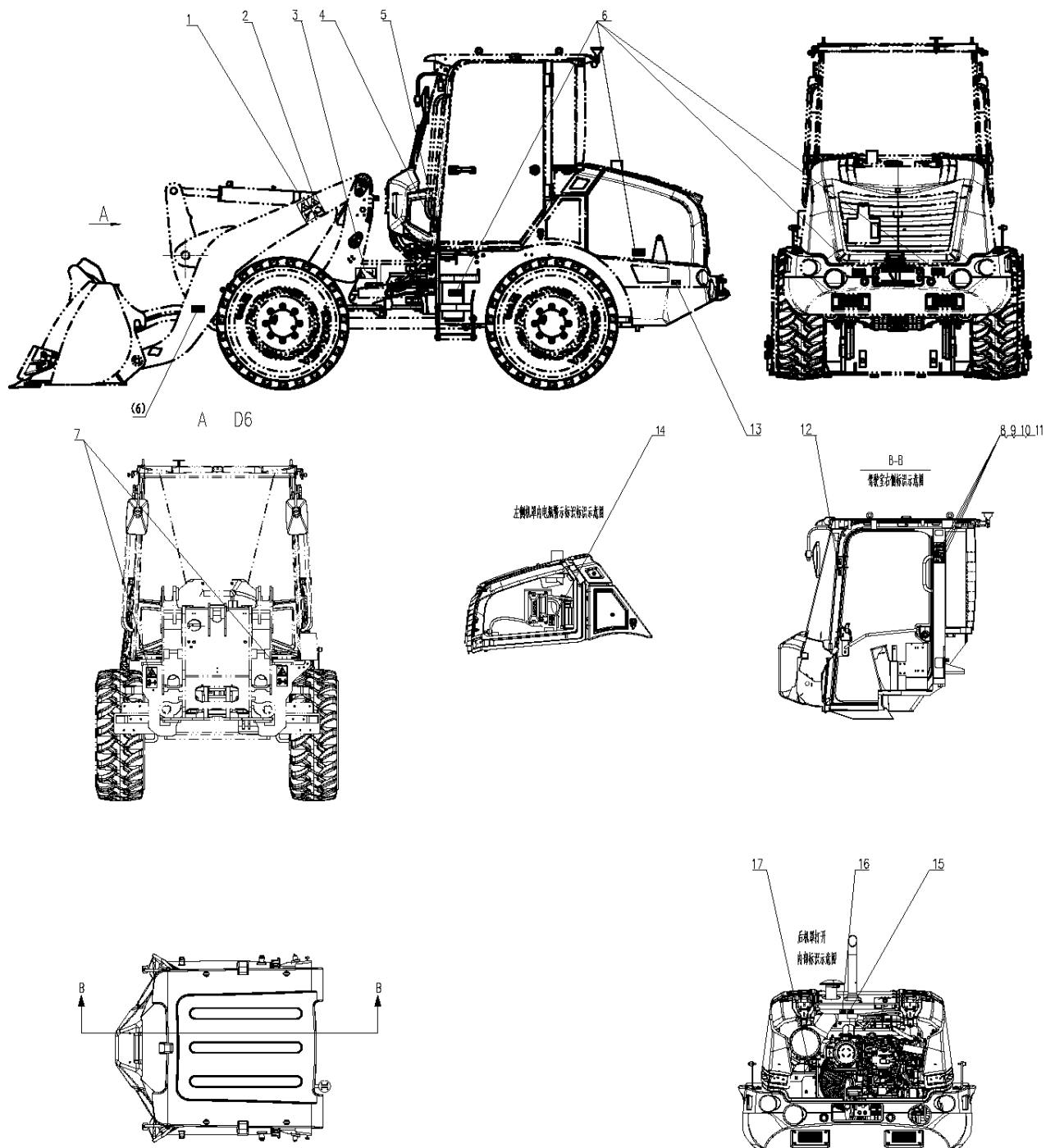
A1 Safety signage

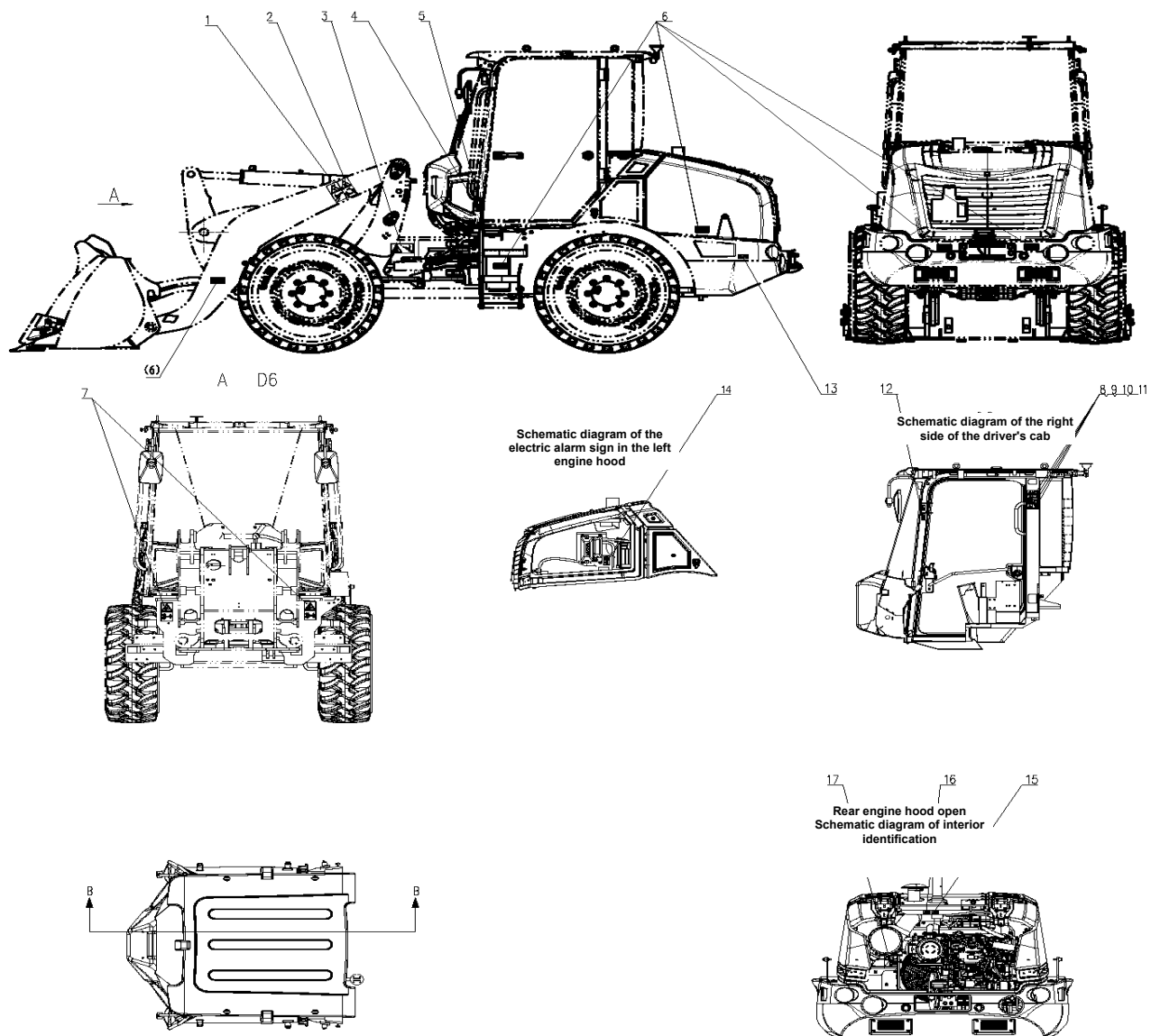
There are fifteen safety markings on the product. This section introduces the placement of these safety markings and descriptions of potential hazards. Please familiarize yourself with these safety markings.

To ensure that you can read all security markings, if you cannot clearly read the text or graphics of these security markings, please replace them or scrub them with cloth and soapy water, and do not scrub them with cleaning agent, gasoline, etc.

If the parts with safety signs are to be replaced, it shall be ensured that the new replacement parts have corresponding safety signs.

A1.1 Location of safety signages





A1.2 Content of safety signage

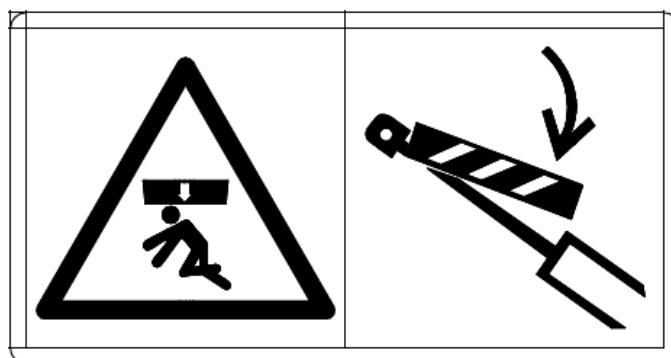
(1) Signage of "Boom warning sign (I)"



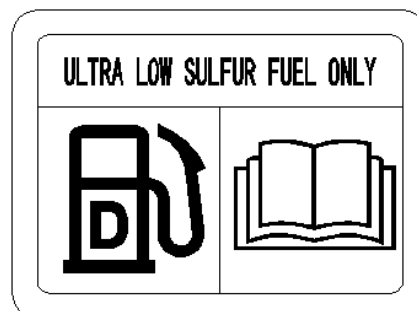
(2) Signage of "Boom warning sign (II)"



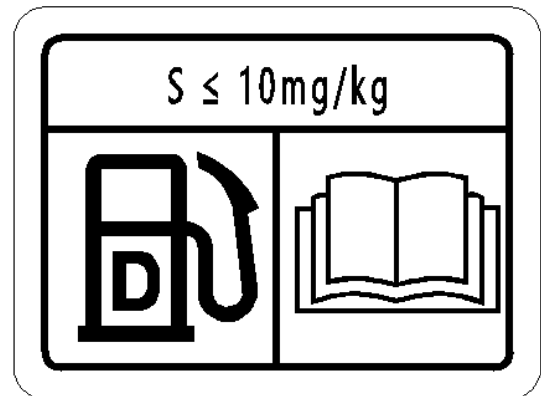
(3) Signage of "Locking warning sign"



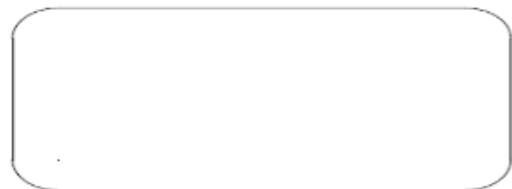
(4) "Fuel tank caution sign" signage 1



(5) "Fuel tank caution sign" signage 2



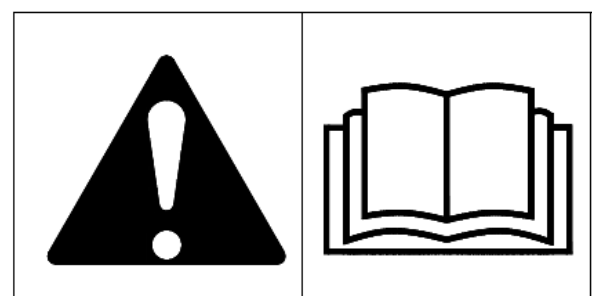
(6) "Reflective body logo" label



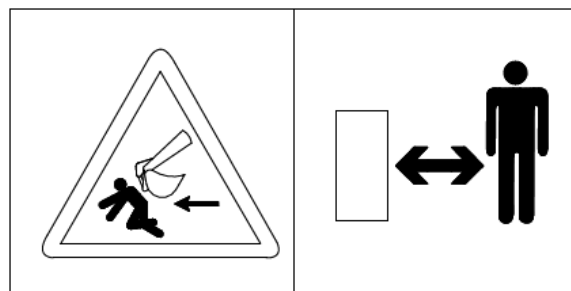
(7) Signage of "Hinged warning sign"



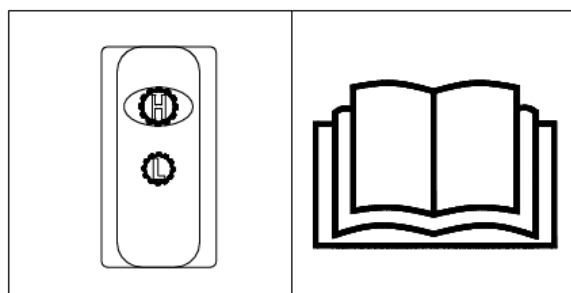
(8) Signage of "Safety sign" (read the instructions)



(9) Signage of "Cab warning sign 1"

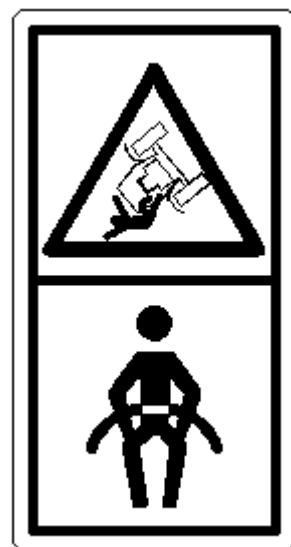


(10) Signage of "Cab speed warning sign"



(11) Signage of "Wear earplug warning sign type"

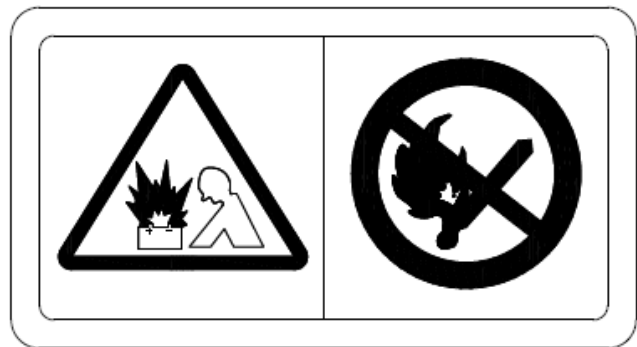
(12) Signage of "Seat belt identification"



(13) Signage of "Hood warning sign (I)"



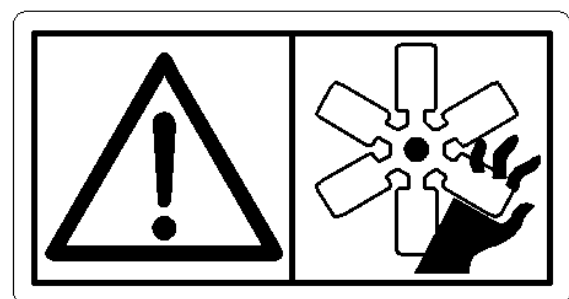
(14) Signage of "Battery warning label"



(15) Signage of "Anti-scald caution sign"



(16) Signage of "Fan attention sign"



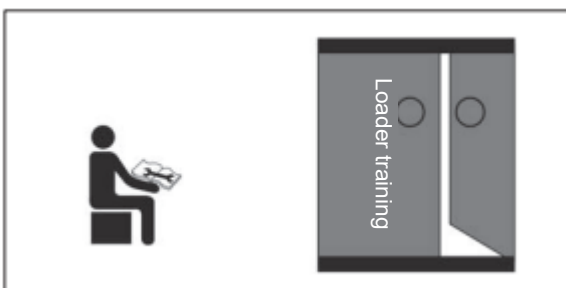
(17) Signage of "Hydraulic oil tank caution signage"



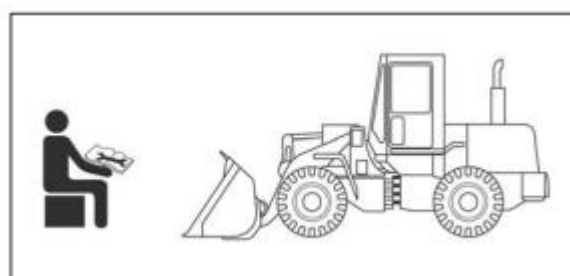
A2 General precautions for operation and maintenance

A2.1 Precautions before operation

- Only specially trained and qualified staff can operate and maintain the machines.



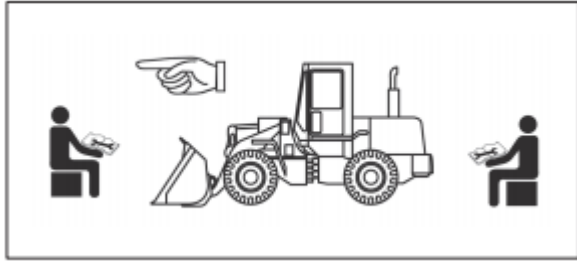
- All regulations must be read and observed during operation and maintenance of the loader.



- Do not operate the machines if you are not feeling well, or if you feel drowsy after taking medicine or drinking alcohol.

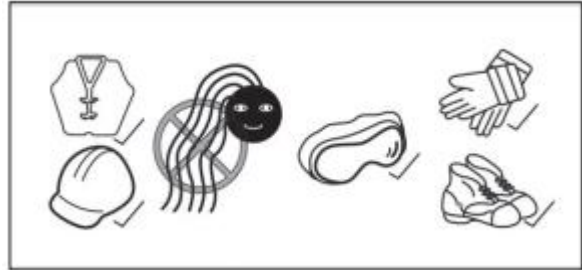


- When working with another operator or traffic controller on site, it must be ensured that all staff understand the sign language signals used.

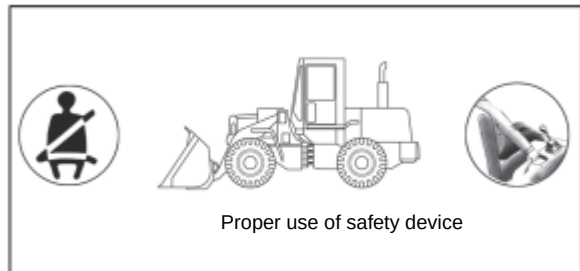


A2.2 Precautions for safe operation

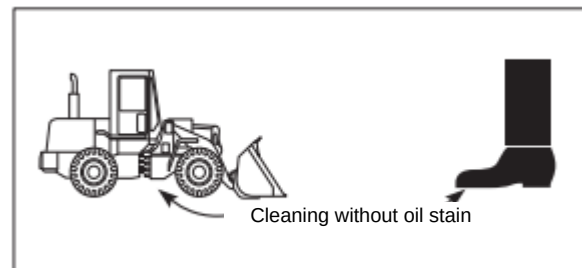
- The operator shall not wear long hair, work clothes, helmet, protective goggles and gloves, and wear safety shoes. Exhaust gas and noise pollution are invisible, but can cause disability or permanent injury. Wear a mask and earplugs if necessary.



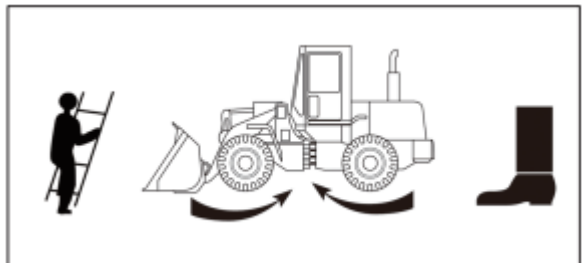
- Use the safety device correctly (such as parking brake, safety belt (when installed), etc.) to ensure that all protective devices are in the correct position and always in good working condition.



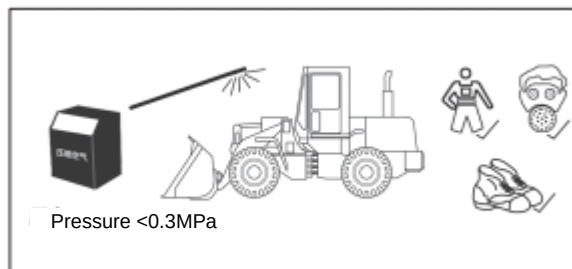
- Keep the sole of shoe clean and the ladder of loader free of oil.



- The upper and lower loader shall use the ladder of loader, and shall not climb up and jump down. When getting on and off the machines, face the machines, pull the handrail by hand, and step on the ladder, and keep at least three points of contact (two hands and one foot or two feet and one hand).

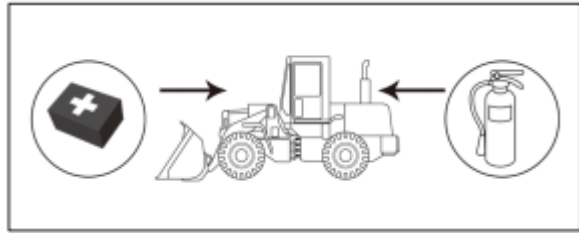


- Compressed air may cause personal injury. When using compressed air for cleaning, wear masks, protective clothing and safety shoes. The maximum pressure of compressed air for cleaning should be lower than 0.3 MPa.

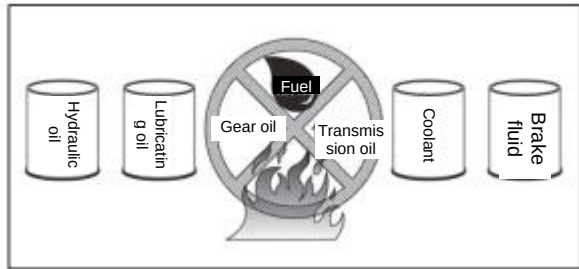


A2.3 Prevention of fire

- The user must have a fire extinguisher and a first aid kit, read the instructions carefully, and know how to use it.



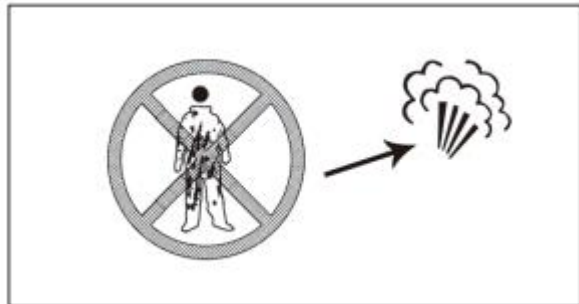
- Fuel oil, hydraulic oil, gear oil, transmission oil and lubricating oil, coolant and brake fluid are flammable liquids.



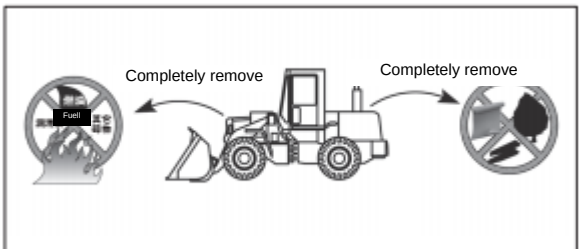
- When filling flammable liquids, the engine shall be shut down, and smoking and close to the open flame are prohibited.



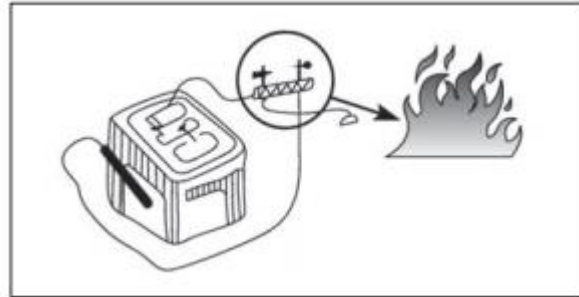
- Do not wear greasy clothes to prevent ignition.



- Thoroughly remove the wood chips, leaves, paper and other flammable materials accumulated on the engine and brake caliper, and clean up the fuel oil, lubricating oil or other debris on the machines to ensure that there is no oilcloth or other flammable materials. Special attention should be paid if the exhaust port of silencer is close to flammable materials such as dry grass and paper.

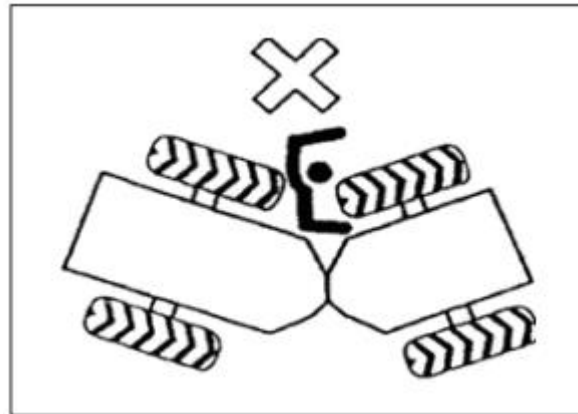


- Incorrect connection of the battery may cause fire.

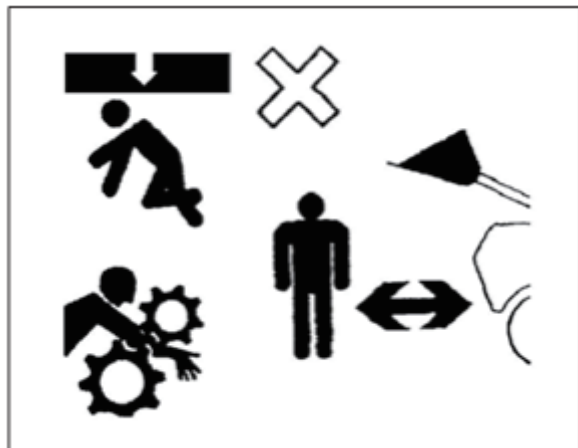


A2.4 Preventing pricking and cutting off

- Do not enter, or place hands, arms, or any other parts of the body between movable components such as between the working device and cylinder, between the frame and working device, or at the hinge point between the front and rear frames. The space at the linkage mechanism may increase or decrease with the movement of the working device, and getting close could lead to serious accidents or personal injury. If it is necessary to enter between the moving parts of the machine, be sure to shut down the engine and lock the working device in place. A running engine can cause serious accidents or personal injury if approached, so always make sure to shut off the engine before opening the engine hood.



- Support the equipment or attachment properly when working under the machine. Do not rely on the hydraulic cylinder for support. If the control mechanism moves or the hydraulic pipeline leaks, it will cause the attachment to fall and cause danger. Unless otherwise specified, no adjustment can be made while the machines are running or the engine is started. Keep away from all rotating and moving parts and components.



A2.5 Safety measures for operation at high temperature

- When the engine has just stopped working, the engine coolant, engine oil and hydraulic oil are in a high temperature and high voltage state. At this time, if the cover is removed, oil, water or replacement filter may cause serious scalding. Be sure to wait for the temperature to drop and follow the prescribed steps. Before removing the radiator cap, shut down the engine, wait for the radiator to cool down, slowly unscrew the cap to release the internal high voltage gas, and then remove the cap.



A2.6 Precautions for protective device (ROPS or FOPS)

The driver's cab is equipped with a device (ROPS or FOPS) to protect the operation staff by absorbing the energy of impact. If the weight of the machines exceeds the (overall) certified value, the ROPS will not function. Do not increase the weight of the machines by modification of the machines or by installing attachments to the machines to exceed the certified value. Similarly, if the function of the protective device is impeded, it can no longer protect the operator, leading to potential personal injury or fatality. Regular inspections should be conducted as follows.

• If the machine is equipped with protective device, do not remove it and do not operate without protective device.

- If the welding protection device or the hole drilled on it or altered in any way, its strength will be reduced. Please contact Eurotrac Dealer before making any changes.
- If the protective device is damaged or deformed due to falling objects or tilting, its strength will be reduced and it will not be able to properly function. In this case, be sure to contact the Eurotrac Dealer to consult the repair method.

Even with protective devices installed, operators must properly fasten their seat belts when operating the machine; failure to do so will render the protective devices ineffective.

A2.7 Unapproved modifications

- Eurotrac shall not be liable for personal injury, accident, fault, other improper damage or property loss caused by modification without the approval of Eurotrac.
- Any modification without the approval of Eurotrac will be dangerous, so before any modification, the written consent of Eurotrac Dealer or Eurotrac Manufacturer must be obtained.

A2.8 Attachments and Options Precautions

- Any injury, accident, product fault or other improper damage caused by the use of unauthorized accessory device or parts is not related to Eurotrac.
- When installing optional or replaceable resources, there may be security or legal restrictions, so it is recommended that you contact the Eurotrac Dealer.
- When installing optional or replaceable resources, read the appropriate operating manual for the optional or replaceable resource.

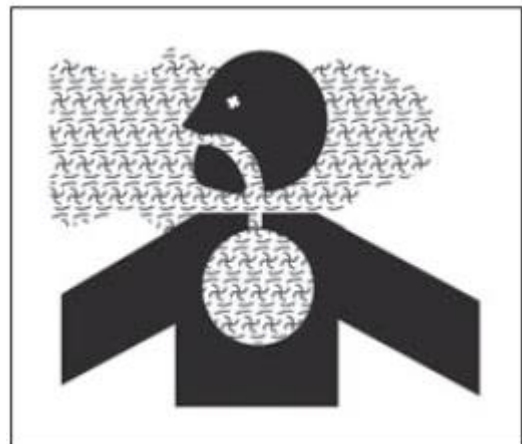
A2.9 Precautions for work in confined spaces

- If it is necessary to start the engine or handle fuel oil, cleaning parts or paint in a closed or poorly ventilated place, it is necessary to open the doors and windows to ensure sufficient ventilation to prevent gas poisoning.
- If opening doors and windows still cannot provide sufficient ventilation, install a fan.



A2.10 Dust

- When operating the loader shovel to load dusty bulk material, close the driver's cab doors and windows, and wear protective cover if necessary.
- After the operation, face away from the wind, clean the loader with water, and do not use high pressure air to clean. Anti-toxic measures shall be taken when working in areas with toxic smoke or toxic gas.



Pay attention to the following points to ensure good visibility (the illumination of the working environment of the loader is at least 500 Lux):

When working in a dark place, turn on the working lamp and headlamp, and install lighting equipment on the construction site if necessary. Do not operate in foggy, hazy, snowy, heavy rain or other conditions with poor visibility. Wait until the sky is bright and there is sufficient visibility before working.

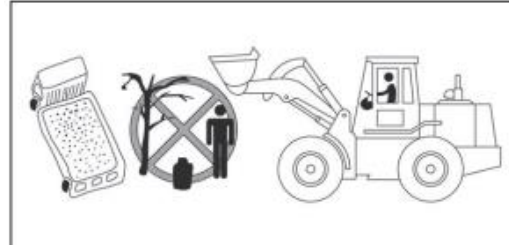
A3 Precautions for operation



Caution The machine must only be operated from the operator's seat, with the seatbelt fastened.

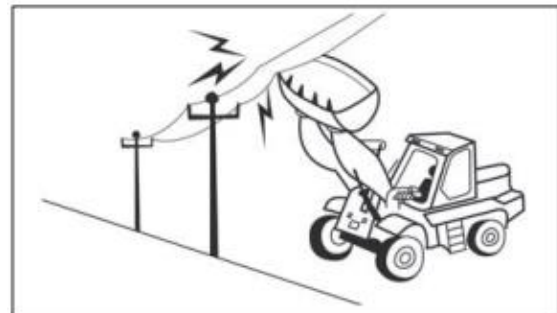
A3.1 Precautions for construction site

- Before the loader operation, carefully check the environment in the operation area, including people, obstacles, roads, etc. When operating in a site with complex terrain or a relatively high operation height, it is necessary to purchase and install a safety frame from the manufacturer.

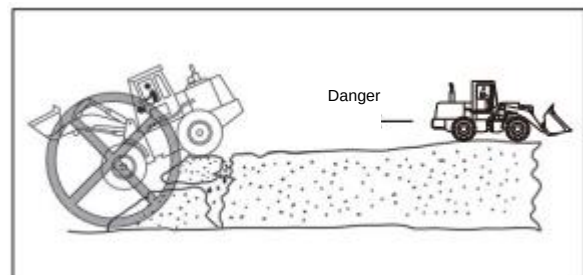


- Keep a safety distance when working near high-voltage wire.

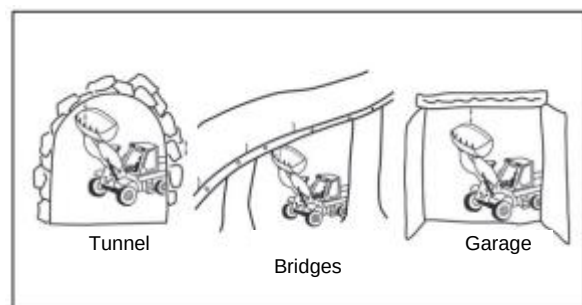
Voltage of cable	Safety distance
10-200V	More than 2m (7ft)
6600V	More than 2m (7ft)
22000V	More than 3m (10ft)
66000V	More than 4m (14ft)
154000V	More than 5m (17ft)
187000V	More than 6m (20ft)
275000V	More than 7m (23ft)
500000V	More than 11m (36ft)



- Avoid entering soft ground, or operating machines too close to cliffs and protrusions and deep canal.

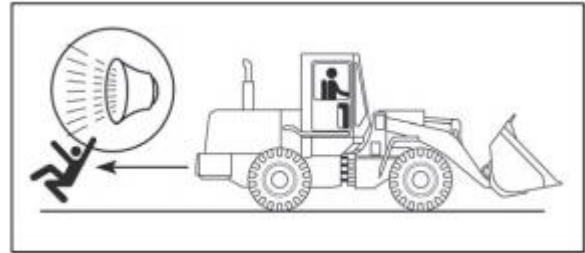


- Pay attention to the height of the tunnel, bridges, garage access, operation.

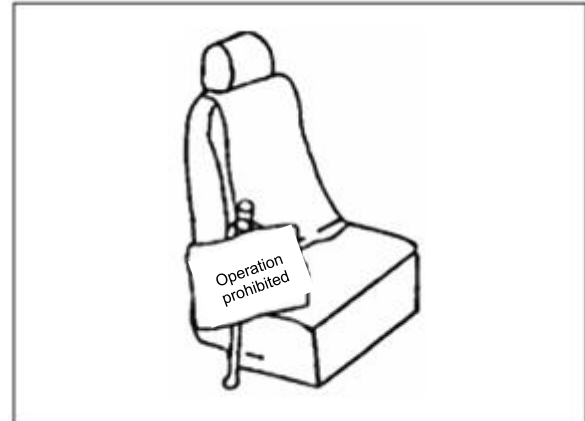


A3.2 Start the engine

- Sound the horn for warning.



- The warning decal is hung on the joystick of loader, and the engine shall not be started.



- The loader cab glass, vehicle lamp, rearview mirror, etc. shall be complete and clean.



- Electronic handle FNR reversing switch is placed in N position



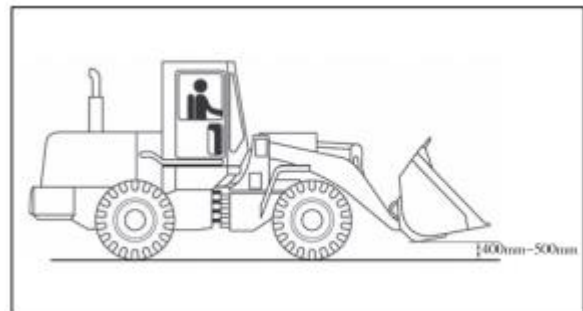
- The parking brake switch is in the pull-up status.



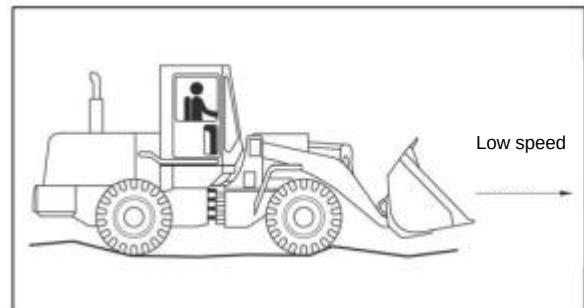
A3.3 Operation

A3.3.1 Precautions for loader traveling

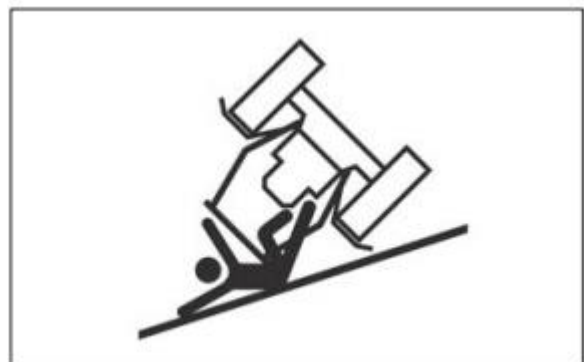
- The bucket is 400mm-500mm (16in-20in) above the ground



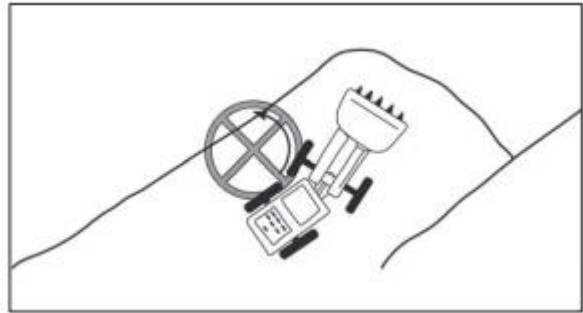
- Driving at low speed when driving on uneven roads.



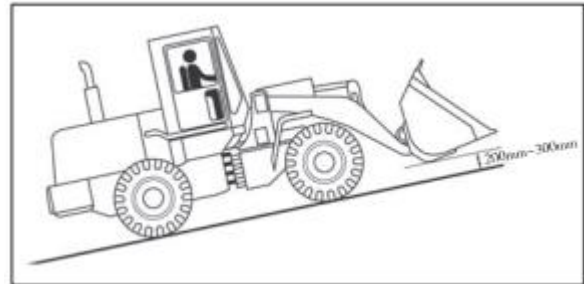
- Do not drive laterally on the ramp.



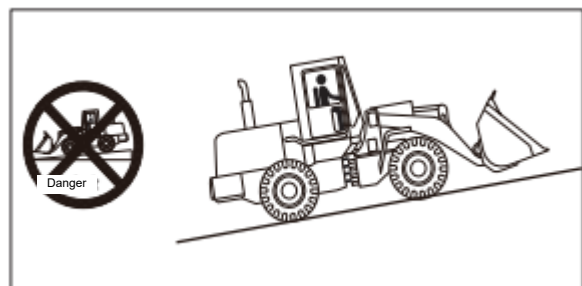
- Do not turn the steering wheel on the ramp.



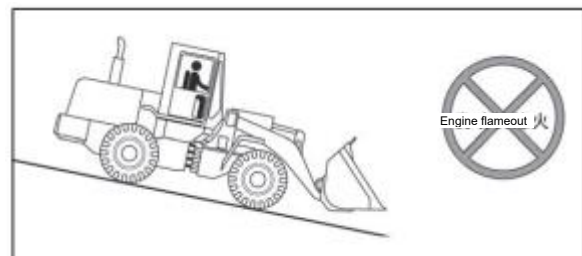
- Keep the bucket distance from the ramp by 200 mm~300 mm (8 in~12 in) when going up and down ramps.



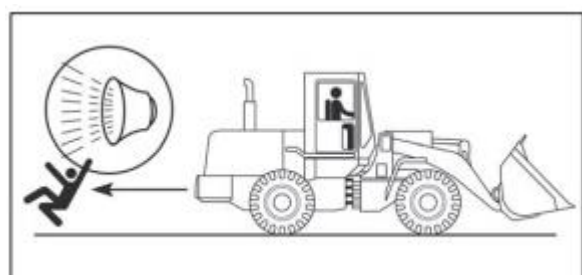
- When the bucket of the machines is loaded and walking on a slope, the bucket should be facing uphill. If the bucket is facing downhill, the machines is in danger of tipping.



- It is strictly prohibited to turn off the engine when going downhill.



- Sound the horn when reversing.



A3.3.2 Shutdown

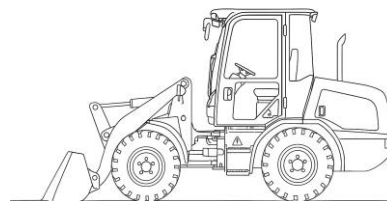
- The electronic handle FNR reversing switch is set to the N position.



- The parking brake switch is in the pull-up status.



- Lower the bucket to the ground and lay flat.



- Shut down the engine.

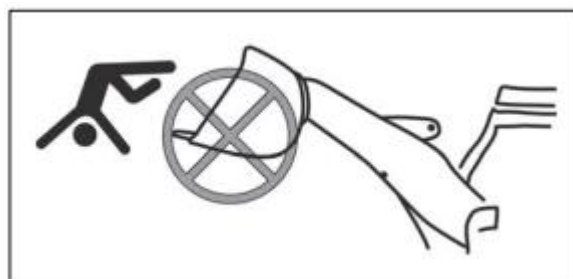


A3.3.3 Operation precautions

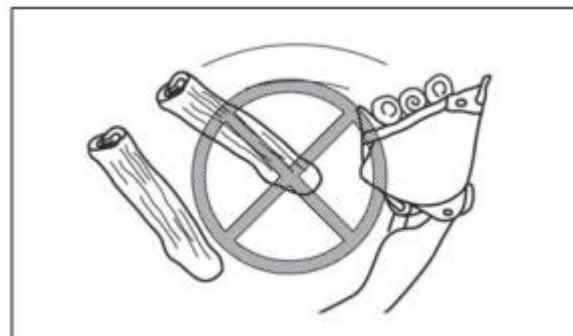
- When using the machines, do not exceed the maximum allowable load or machine performance consistent with the structure of the machines to prevent personal injury caused by damage to the working device or overturning of the machines due to overload. The rated load of the machines is based on the machines being placed horizontally on a solid ground. When the machines are running on other road conditions such as soft or uneven ground, the operation staff shall pay attention to the adjustment of the load to avoid dangerous situations.



- Personnels are not allowed to stand in the bucket.



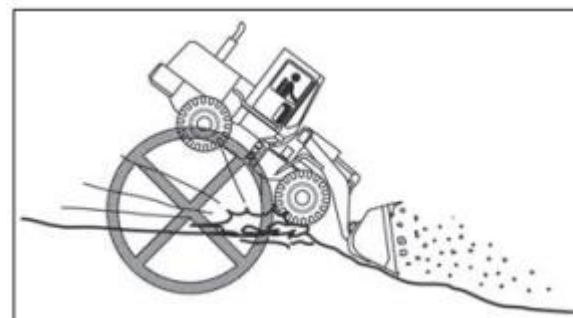
- For loading and unloading wood, replace the special gripper. When shipping unstable loads, such as round or deformed objects or piled plates, if the working device is raised, there is a risk that the load may fall to the top of the driver's cab and cause serious casualties.



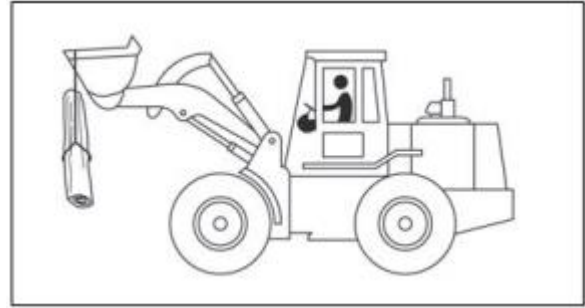
- During the loader operation, no one is allowed to stay on the machine.



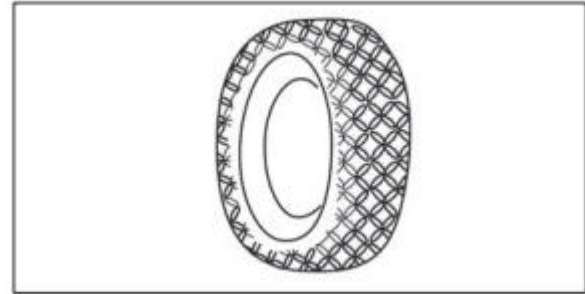
- During loader operation, avoid steps or obstacles at the slope.



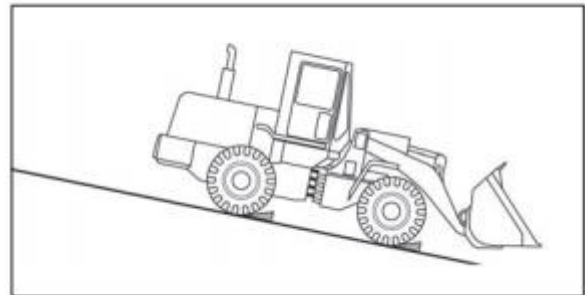
- Do not use the bucket or boom as a crane for operation, which may cause the risk of machine roll-over and fall of load.



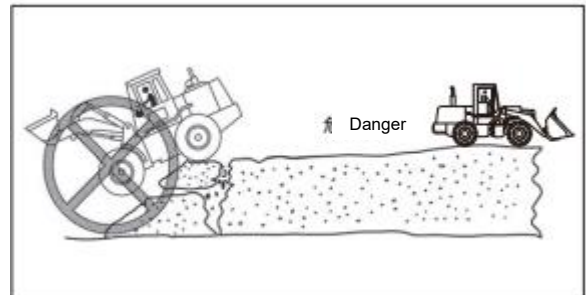
- Add anti-skid chain when driving in snow



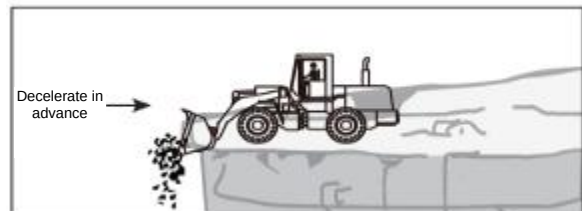
- Set wooden wedge when parking on the ramp.



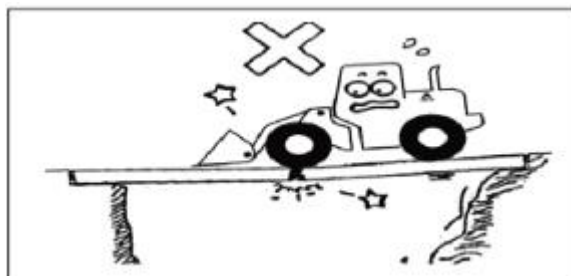
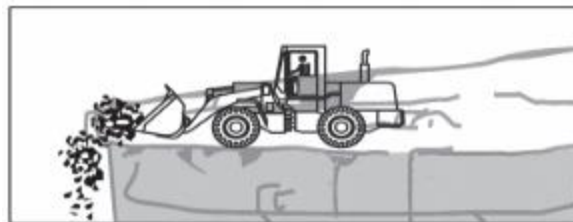
- Avoid entering soft ground or operating machines too close to cliffs and protrusions and deep canal.



- When the load of goods is pushed out of the cliff or the vehicle reaches the top of the slope, the load will suddenly decrease and the vehicle speed will suddenly increase. Be sure to decelerate in advance.



- When building embankments or bulldozing, or when pouring earth on a cliff, first pour a pile, and then use the second pile to push the first pile.
- Before crossing bridges or other structures, ensure that they are strong enough to allow the passage of vehicles.



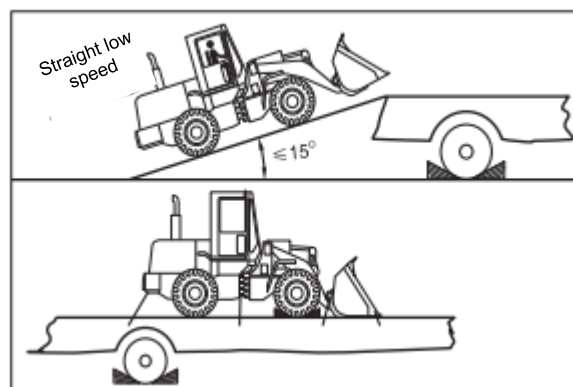
A3.4 Transport

A3.4.1 Loading and unloading of loaders



Warning

- The angle of slope shall not exceed 15°.
- The inclined plate shall be wide enough and thick enough to ensure loading and unloading security.
- When loading and unloading wagon, park the trailer on a flat and solid road.
- Remove the mud clumps stuck to the tire to prevent the loader from sliding on the inclined plate.
- It is forbidden to turn the steering wheel on the inclined plate. If it is necessary to turn, it should be returned, and the inclined plate should be opened again after adjusting the direction.



A3.4.2 When loading and unloading wagon, use the inclined plane or flat plate, please operate as follows

- Keep the trailer in the brake state and place wedges under the wheels to prevent unnecessary damage caused by moving and hurting people and objects.
- The installation position of the inclined plate shall be aligned with the center of the trailer and the loader.
- There must be a special person on site to command and load and unload slowly.
- The loader is correctly parked in the designated part of the trailer (or parking lot).

A3.4.3 Handling by crane



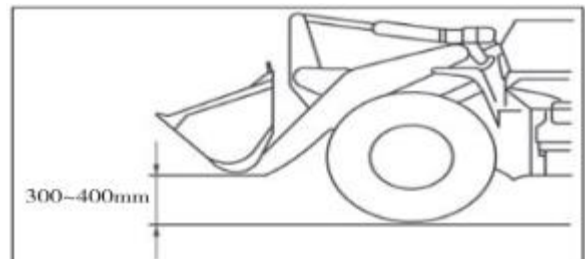
Danger

A3.4.3.1 Precautions

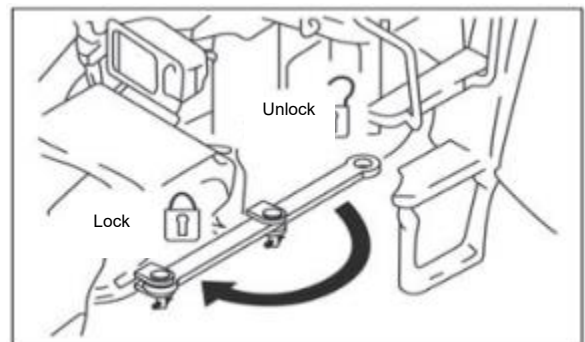
- Before hoisting, be sure to ensure that the engine is shut down, the locked brake is applied, and the front and rear frames are locked with the safety lock lever.
- During the hoisting process, hoist the loader by 10~20 cm, check whether the body is level and whether the rope is loose, and continue the hoisting after confirming the security.
- During hoisting, no one is allowed in the loader.
- Do not place scattered items on the loader, as they may cause accidental injury if they fall off.
- If the rope is not fixed correctly, the loader will slip and cause a very serious accident.

A3.4.3.2 Lifting procedure

- Start the engine, keep the body posture, and then move the working device to the transport position (retract the bucket, and the boom and the bucket hinge pin are 300~400 mm above the ground).



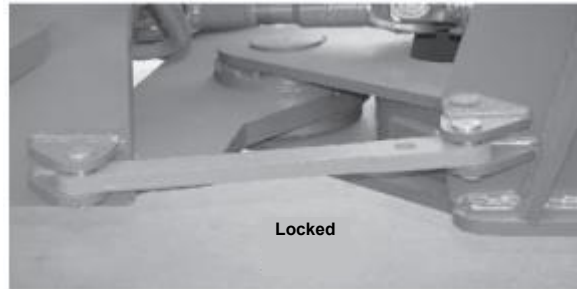
- Engine flameout, check whether the driver's cab is safe, lock the safety lock lever, and lock the driver's cab.



- Install the lifting device to the hooks at the front of the front frame and the rear of the rear frame (with lifting marks).
- After the car body is off the ground, stop for a moment and press “ Danger” to check the content and continue after confirming that it is correct.
- The maximum speed of lifting and lowering shall not exceed 8m/min.
- The loader is correctly placed in the designated area of the trailer (or parking lot).

- The safety of the lifting equipment must meet the local standards.
- The lifting site must be in order and have a unified command.
- Select the lifting rope reasonably according to the vehicle weight, and it is recommended to use the qualified synthetic fiber lifting belt that meets the local standard requirements.
- Failure to operate in accordance with the operation procedures shall be borne by the person responsible for the accident.
- The hoisting site must be flat. Hoisting operation shall not be carried out in severe weather such as strong wind or heavy fog, heavy snow, thunderstorm with wind speed greater than 10.8 m/s.

Lock the frame lock.



- ◦
- Hoist the loader according to the specified position of hook.



Caution

Select a suitable spreader during hoisting to avoid the steel wire rope and engine hood from being squeezed and damaging the engine hood.

A3.4.3.2 Work to be done before transport

- Slowly lower the working device.
- Turn off the engine, turn off the power supply, and remove the key.
- Lock the frame safety lock rod.
- Each wheel of the loader is covered with triangular wedges before and after, and each pair of triangular wedges takes necessary anti-looseness measures.
- Use 16 strands (or steel wire rope) of gauge 8 galvanized iron wire to reinforce the front and rear axle or corresponding bolted point and the trailer side stud or strut trough in a "eight shaped" manner, with a total of 4 " eight shaped" on each side.
- The included angle of projection between the traction iron wire and the car floor platform shall not be greater than 45 degrees. The hinged rod shall be tightened moderately and anti-looseness measures shall be taken (the hinged rod shall be tightened with the pulling iron wire, and the hinged rod shall

not be pulled out and shall be fixed). Anti-wear measures shall be taken at the edges and corners of the wagon and the vehicle, and necessary measures shall be taken to protect the appearance to prevent bumping, paint falling and deformation.

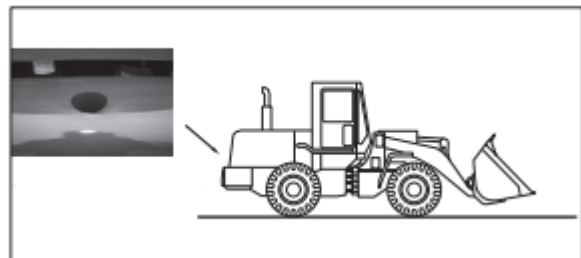


Caution

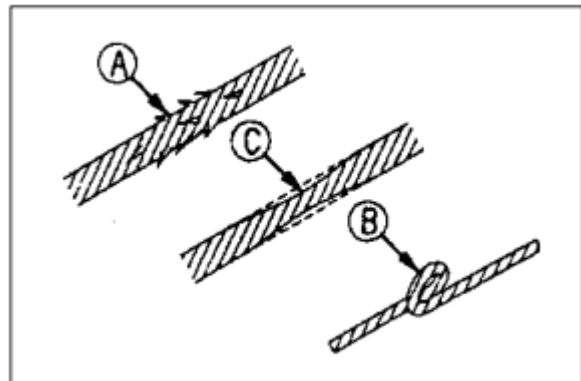
- The Carrier must be qualified.
- The gravity center projection of loader must fall on the central axis of the transport vehicle.
- When transporting, it is strictly forbidden to leave people in the loader.
- Determine the route of the transport vehicle according to the height, width and weight of the vehicle.
- Comply with all local transport laws regarding weight of load, width and length.

A3.5 Towing

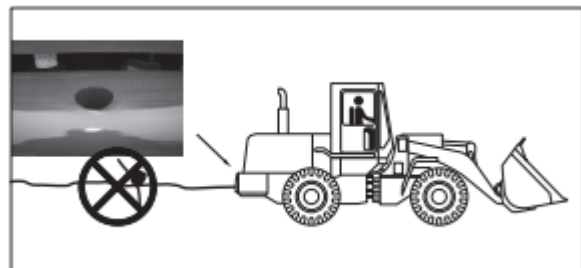
- Traction resistance ≤ 44 KN.



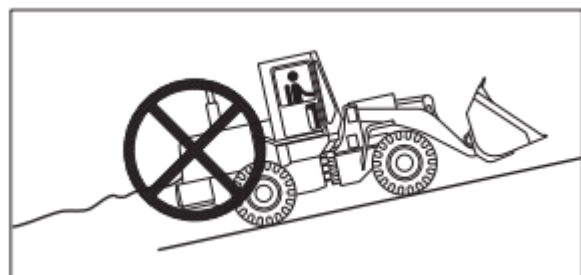
- It is forbidden to use rope trailer with burrs, bends or uneven thickness.



- The towing rope cannot be folded.



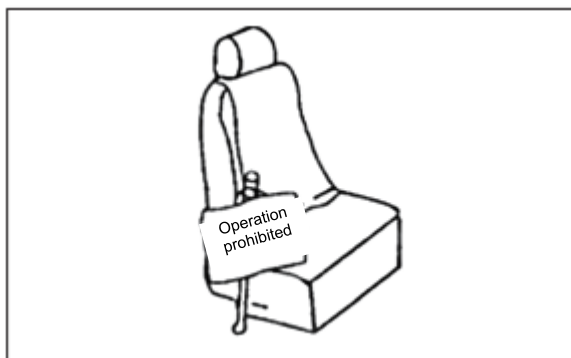
- Operation on ramp cannot be traction.



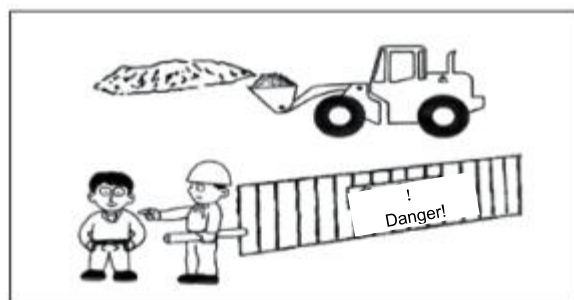
A4 Precautions for maintenance

A4.1 Precautions before inspection and maintenance

- Hang out the warning signs during inspection and maintenance



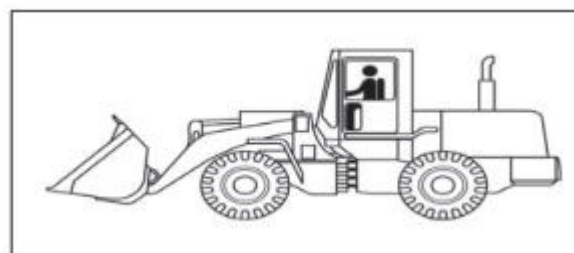
- The operation and maintenance staff shall be trained and qualified. Personnel unrelated to the ongoing maintenance and repair work are not allowed to enter the work area, and special personnel shall be designated to guard if necessary.



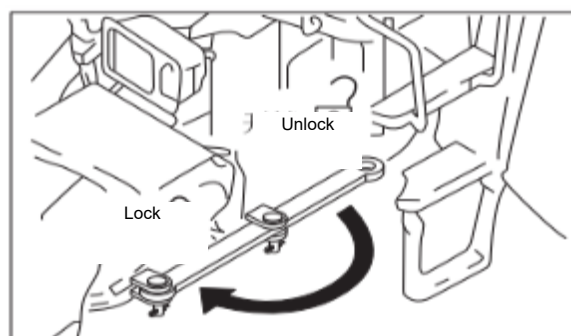
- Shut down the engine before inspection and maintenance.



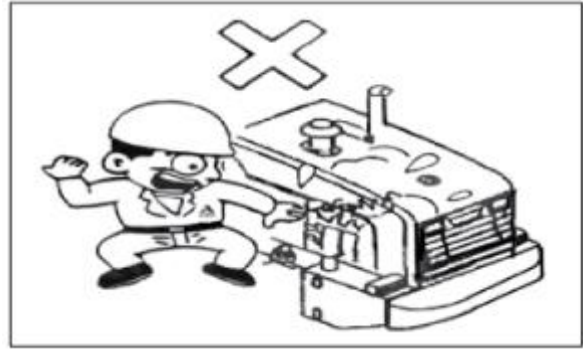
- After shutting down the engine, power on the complete machine, fully operate the control lever of work equipment upward and to the left to release the residual pressure in the hydraulic circuit, so that the bucket is placed flat on the ground, and fully step on the foot brake valve to release the pressure in the brake system.



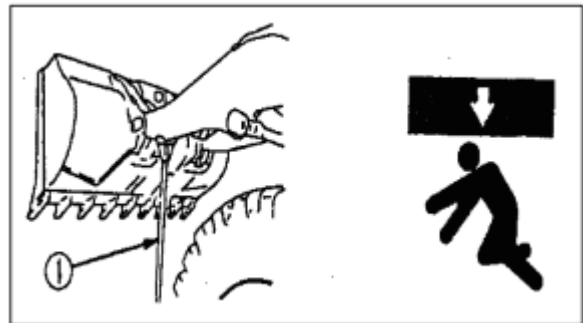
- Place the frame locking lever in the "locked" position to lock the front and rear frames.



- If maintenance must be performed while Engine is running, at least two people must perform Operation. To prevent injury, one worker should always sit in the driver's seat and be ready Shut down the engine at any time.

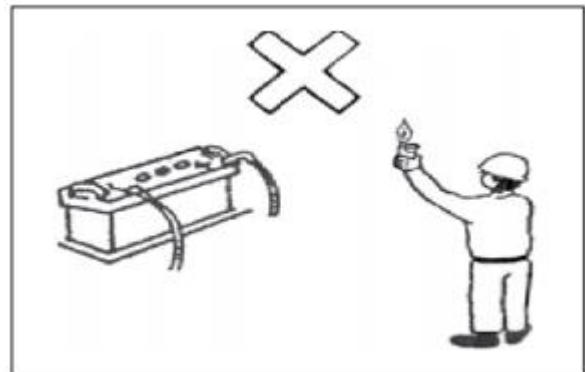


- When lifting the bucket for inspection and maintenance, use the bracket to support the boom to prevent the working device from falling.



A4.2 Precautions for inspection and maintenance

- Explosive gas will be generated near the battery. Do not put fireworks near it. Maintain it strictly according to the product manual.



- To prevent being burned by splashed boiling water or steam during inspection or draining of coolant, wait for the coolant to cool down to the temperature at which the radiator cap can be touched by hand before starting the operation, then slowly loosen the cap to release the internal pressure, and finally remove the cap.



- There is usually pressure inside the hydraulic system, and the internal pressure shall be fully released when inspecting or replacing tubes.



A4.3 Treatment of pipelines, tubes and hoses

- Do not bend or hammer the high pressure pipeline, and do not install abnormal bending or damaged rigid tube or hose on the machines.
- Repair any loose or damaged fuel or lubricating oil circuit, rigid tube and hose of the hydraulic system. Leaks may cause fire. Please contact the designated dealer of Eurotrac for repair or replacement.
- Carefully check the pipeline, rigid tube and hose, tighten all joints according to the specified torque, do not use bare hands to check for leaks, use plates or cardboard to check for leaks, even if the pressure liquid leaks in the size of a pinhole may penetrate the muscle and cause staff death, if the solution is shot on the skin, it should be handled by a surgeon familiar with this damage within a few hours. If the following problems are found, they shall be replaced:
 - 1) Joints are damaged or leaking;
 - 2) The outer layer of hose is worn or cut and the reinforcing steel wire is exposed;
 - 3) Local bulge of hose.
 - 4) The hose is obviously twisted or flattened;
 - 5) Steel wire of hose reinforcement layer is embedded in the outer layer;
 - 6) End joint misalignment.
- Ensure that all pipe clamps, guard plate and preheating cover are installed correctly to avoid overheating due to vibration or friction with other parts.
- When removing the connecting pipeline of the A/C compressor, it is strictly forbidden to approach the open flame, otherwise toxic gas will be generated and lead to poisoning.
- When checking or replacing the hydraulic pipeline, the internal pressure shall be fully released.

A4.4 Disposal of waste

To prevent contamination, the following procedures must be followed:

- Never pour waste oil into sewers, rivers, etc.
- Keep the oil discharged from the machines in a container, and do not discharge the oil directly on the ground.
- When handling hazardous substances such as lubricating oil, fuel oil, coolant, solvent, filters, battery and other substances, comply with relevant laws and regulations.

A4.5 Tire

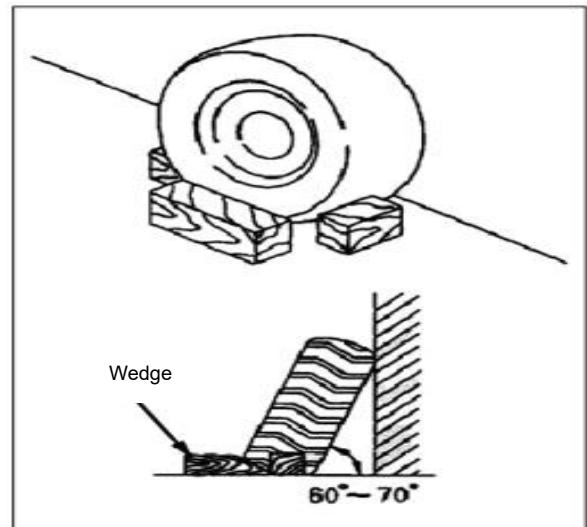
A4.5.1 Treatment of tyres

- If the tyre is handled incorrectly, there is a risk of burst tyre. The maintenance, disassembly, repair and assembly of tyres and wheel rim require special equipment and expertise, so please ask Eurotrac Dealer to carry out these tasks.
- When inflating the tyre, check that no other staff are standing near the tyre. In order to prevent the inflation pressure from being too high, measure the pressure with a barometer from time to time while inflating the tyre.



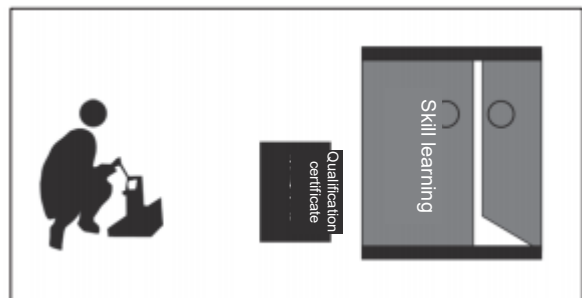
A4.5.2 Precautions for storage of tires

- In general, the tires shall be stored in the warehouse and cannot be entered without permission. If the tires must be stored outdoors, the fence must be installed and the signage "No Entry" must be hung.
- Place the tire on the flat ground at an angle of 60-70 degrees, and firmly pad it with a stopper.



A4.6 Welding operations

- Electric welding operations must be performed by a welder with the corresponding qualifications and skills.



**Caution**

- Before repairing the electrical system or performing electric welding, disconnect any cable from the battery.
- Choose a grounding point nearby, but ensure there is no circuit between the welded part and the grounding point.
- During welding, pay attention to the protection of electrical appliances, hydraulic pressure and other components.

A5 Emission related requirements**A5.1 Emission Regulatory Requirements**

In accordance with national laws and regulations, the user must comply with the following provisions:

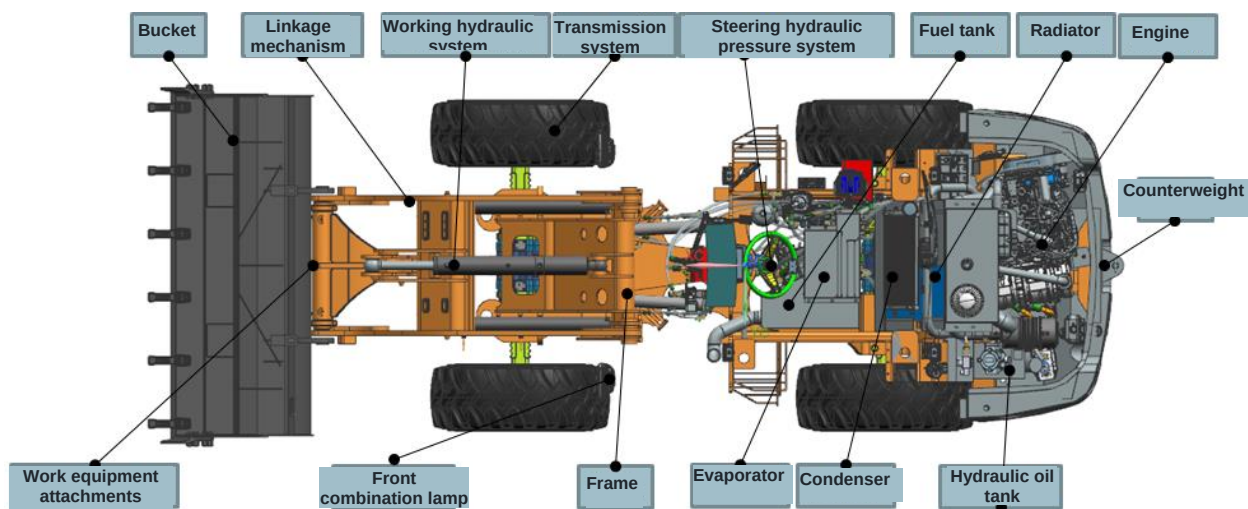
- The user must normally use and maintain the machine in accordance with the requirements of the normal use and maintenance guide (manual).
- The user shall not intentionally tamper with or abuse the emission control system, including: ECU and related emission control components (EGR, urea injection system, sensors, carriers, etc.).
- When an alarm occurs, measures shall be taken in time to prohibit incorrect operation, use or maintenance.
- The user shall timely add and use fuel oil and reactive agent, lubricating oil and coolant that meet the standard requirements.
- The user shall not change the position of the diagnostic interface of emission control system at will.

B Operation



B1 General drawing

B1.1 General drawing of machine



B1.2 Overall diagram of controls and instruments



B2 Description of components

B2.1 Instrument and light switches

B2.1.1 Instrumentation

B2.1.1.1 Boot interface

Upon startup, the Eurotrac logo is displayed for 5 seconds, after which the display switches to the main interface.



Instrument power-off diagram



Instrument power-on diagram

B2.1.1.2 Main interface information

When the instrument enters the main interface, the main interface includes indicator lamps and other display information.



B2.1.1.2.1 Information area

The display information of the basic information area is the basic information of the complete machine. The information contained is shown in the following table.

Interface display	Mode of expression	Unit
Working gear	Characters	-
Vehicle speed	Numbers	km/h
Engine speed	Numbers	rpm
Battery voltage	Numbers	v
Date and time display	Numbers	-
Cumulative working hours	Icon, number	h
Fuel level	Icon, dial	%
Coolant temperature	Icon, dial	°C
Hydraulic oil temperature	Icon, dial	°C
Brake accumulator pressure	Icon, dial	Mpa
Asdload	Icon	%
Fault alarm information prompt	Icon, DTC	

1 Working gear

- ❖Function description: used to indicate the gear information status of the machines
- ❖Data range: F1, F2, H, N, R.

2 Vehicle speed

- ❖Function description: used to indicate the vehicle speed status of the machines.
- ❖Data range: 0-50km/h

3 Rotational speed

- ❖Function description: used to indicate the status of engine speed.
- ❖Data range: 0-3000rpm

4 Battery voltage

- ❖Function description: used to indicate the battery voltage status.
- ❖Data range: 8-18V
- ❖Rated voltage: 12 V

5 Date and time display

- ❖Function description: used to indicate the current date and time.
- ❖Input signal: Internal clock timing

6 Accumulated working hour meter

- ❖Function description: it is used to indicate the accumulated working time of the engine.
- ❖Data range: 0~99999.9h
- ❖Activation condition: timing when the vehicle is in startup status.

7 Fuel level

- ❖Function description: Display the current remaining fuel level of the vehicle in real time.
- ❖Data range: 0~100%. The default display is the lowest point of the dial.
- ❖Test point:

Input resistance value (Ω)	Fuel indication position (%)	Error ($^{\circ}$)
10	0	± 3
33.4	3/26	± 3
91.9	13/26	± 3
143.7	20/26	± 4
182.3	26/26	± 4

- ❖Activation conditions: when the analog input is activated, the input resistance of the connector pin 8 is between 10~183 Ω . When the fuel level is lower than 1/8, the low fuel level warning lamp flashes in yellow
- ❖Release condition: when the fuel level is higher than 1/8, the alarm will be released and the alarm will be off

8 Coolant temperature

Function description: display the engine coolant temperature data in real time.

Data range: 0~120°C. The default display is the lowest point of the dial.

Activation conditions: when the water temperature value is higher than 105 °C, the engine water temperature warning lamp will flash in red.

Release condition: when the water temperature value is lower than 100 °C, the warning lamp is extinguished.

Buzzer: Yes

9 Hydraulic oil temperature

❖ Function description: display the current vehicle hydraulic oil temperature data in real time.

❖ Data range: 0~120°C. The default display is the lowest point of the dial.

❖ Activation conditions: amount of offset: when the hydraulic oil temperature value of -50 °C is higher than or equal to 105 °C, the indicator lamp flashes red at 1 Hz frequency.

❖ Release condition: when the oil temperature value is lower than 105°C, the warning lamp will be extinguished.

❖ Buzzer: None

10 Brake accumulator pressure

❖ Function description: display the current brake accumulator pressure of the vehicle in real time.

~Data range: 0~15Mpa. The default display is the lowest point of the dial.

❖ Activation conditions: when the brake accumulator pressure is lower than or equal to 9 mpa (minimum two grids), the brake accumulator pressure warning lamp will flash, and the buzzer will buzz at 1 Hz frequency.

❖ Release condition: when the brake accumulator pressure is higher than 9 mpa, the warning lamp will be extinguished and the buzzer will stop buzzing.

❖ Buzzer: None

11 AshLoad

❖ Function description: display the value of ashload in real time.

❖ Data range: 0~100%.

❖ Activation condition: Ash is greater than or equal to 50%

❖ Buzzer: None

12 Fault alarm information prompt

❖ Function description: used to display the current vehicle fault information

❖ Data range: ECU fault, TCU fault

❖ Activation conditions: ECU and TCU fault

❖ Buzzer: Yes

The alarm information prompt is as follows:

Alarm Index	Alarm conditions	Alarm text
1	Fault information of engine speed/water temperature/fault cannot be received within 10 seconds	Communication failure with engine ECU
2	Quantity of fuel <1/8	Low fuel level
3	Engine water temperature $\geq 105^{\circ}\text{C}$	Cooling water temperature of engine is too high
4	The engine is in warm-up state	Engine preheating
5	Parking regeneration signal is required to be valid	Parking regeneration required
6	Active regeneration is effective	Active regeneration in progress
7	Regeneration prohibition is valid	Regeneration is prohibited
8	When the vehicle is powered on, the oil pressure value is lower than 200 kpa or When the vehicle is started, the oil pressure value is higher than or equal to 200 kpa	Low engine oil pressure
9	Vehicle emergency stop is valid	Emergency stop state of vehicle
10	When the oil temperature value is $\geq 105^{\circ}\text{C}$	Hydraulic oil temperature is too high
11	Differential lock is valid	Differential lock status
12	Not wearing safety belt	Not wearing safety belt
13	Seat heating	Seat heating in
14	Clogging of travel oil replenishment filter	Clogging of travel oil replenishment filter
15	The voltage value is less than 11.2 V	Power supply voltage too low
16	The voltage value is greater than 14.5 V	Power supply voltage too high
17	Fault received from ECU/TCU	DTC + fault information

B2.1.1.2.2 Indicator lamp

Serial number	Icon	Name of signal	Display color	Display mode
1		High cooling water temperature alarm	Red	Flashing
2		Low fuel level	Yellow	Flashing
3		Engine fault indication	Red	Flashing
4		Blockage alarm lamp of fuel filter	Red	Reserved
5		Preheating indicator lamp	Yellow	Always on
6		Regeneration request indicator lamp	Yellow	/ Always on/flashing
7		Exhaust high temperature indicator lamp	Yellow	Always on
8		Regeneration is prohibited	Red	Always on
9		Low engine oil pressure	Red	Flashing
10		Emergency stop indicator lamp	Red	Always on
11		High hydraulic oil temperature	Red	Flashing
12		Parking brake indicator lamp	Red	Always on
13		Hydraulic oil filter clogging alarm lamp	Red	Reserved
14		Transmission fault indicator lamp	Red	Flashing
15		Charging indicator lamp	Red	Always on
16		Left turn signal lamp	Green	Flashing
17		Right turn signal lamp	Green	Flashing

18		High beam	Blue	Always on
19		Hazard warning lamp	Red	Always on
20		Silent light	Yellow	Always on
21		Warning lamp	Yellow	Always on
22		Differential lock indicator lamp	Yellow	Always on
23		Safety belt	Red	Always on/flashing
24		Seat heating	Yellow	Always on
25	/	Clogging of travel oil replenishment filter alarm	/	Text alarm



1 Cooling water temperature alarm indicator

- ❖ Function description: used to indicate the high cooling water temperature of the engine.
- ❖ Activation conditions: the cooling water temperature value is higher than or equal to 105 °C, and the warning lamp flashes in red.
- ❖ Release condition: the cooling water temperature is lower than 100°C, and the warning lamp is extinguished. Buzzer: Yes



2 Low fuel level warning lamp

- ❖ Function description: used to indicate the low fuel level status.
- ❖ Input signal: sensors
- ❖ Activation conditions: when the input resistance value of the connector pin 8 is lower than or equal to 1/8, the warning lamp will flash yellow.
- ❖ Release condition: when the fuel level is higher than 1/8, the warning lamp will be extinguished.
- ❖ Buzzer: None



3 Engine fault warning lamp

- ❖ Function description: used to indicate the engine fault status.
- ❖ Activation conditions: when the ECU DTC is received, the warning lamp will flash in red.
- ❖ Release condition: when the ECU DTC is not received, the warning lamp goes out.
- ❖ Buzzer: None



4 Fuel filter indicator lamp

- ❖ Function description: used to indicate the status of the fuel filter.
- ❖ Activation conditions: when the fuel filter is blocked, the indicator lamp is always on.
- ❖ Release condition: when the fuel filter is normal, the indicator lamp is off.



5 Preheating indicator lamp

- ❖ Function description: used to indicate the warm-up state of the engine.
- ❖ Activation conditions: the indicator lamp is always on when the engine is preheating.
- ❖ Release condition: the indicator lamp is off when the engine is not in the warm-up state.



6 Regeneration request indicator lamp

- ❖ Function description: it is used to indicate the parking regeneration state of the engine.
- ❖ Activation conditions: when the regeneration request is valid, the warning lamp will flash at a frequency of 1 Hz in yellow.
- ❖ Release condition: the warning lamp is extinguished when the regeneration request is invalid.
- ❖ Buzzer: None



7 Exhaust high temperature lamp

- ❖ Function description: used to indicate the exhaust high temperature state of the engine.
- ❖ Activation conditions: the yellow indicator lamp is always on when the exhaust high temperature is valid.
- ❖ Release condition: the indicator lamp is off when the exhaust high temperature is invalid.
- ❖ Buzzer: None



8 Regeneration inhibit indicator lamp

- ❖ Function description: used to indicate the engine regeneration inhibit indication status.
- ❖ Input signal: CAN
- ❖ Activation conditions: the red indicator lamp is always on when the regeneration prohibition is valid.
- ❖ Release condition: the indicator lamp is off when the regeneration prohibition is invalid.
- ❖ Buzzer: None



9 Engine oil pressure indicator

- ❖ Function description: used to indicate the low status of engine oil pressure.
- ❖ Activation conditions: when the vehicle is powered on and the oil pressure value is higher than or equal to 200 kpa, the indicator lamp will flash at a frequency of 1 Hz; When the vehicle is started, when the oil pressure value is lower than 200 kpa, the indicator lamp flashes at a frequency of 1 Hz;
- ❖ Release conditions: when the vehicle is powered on, the oil pressure value is lower than 200 kpa, or when the vehicle is startup, the oil pressure value is higher than or equal to 200 kpa.

10 Emergency stop indication



- ❖ Function description: used to indicate the emergency stop state of vehicle.
- ❖ Activation conditions: when the emergency stop state of vehicle, the red indicator lamp is always on.
- ❖ Release condition: when the vehicle is not in the emergency stop state, the indicator lamp is off.
- ❖ Buzzer: None

11 High hydraulic oil temperature warning lamp



- ❖ Function description: used to indicate the high hydraulic oil temperature.
- ❖ Activation conditions: when the oil temperature value is higher than or equal to 105°C, the indicator lamp flashes red at 1 Hz frequency
- ❖ Release condition: when the oil temperature value is lower than 105°C, the indicator lamp is off.
- ❖ Buzzer: None

12 Parking brake indicator lamp



- ❖ Function description: used to indicate the parking brake status.
- ❖ Activation conditions: when the vehicle is in parking state, the red indicator lamp is always on.
- ❖ Release condition: when the vehicle is in driving status, the indicator lamp is off.
- ❖ Buzzer: None

13 Hydraulic oil filter clogging alarm lamp



- ❖ Function description: used to indicate the blockage of hydraulic oil filter.
- ❖ Activation conditions: when the hydraulic oil filter is blocked, the indicator lamp is always on.
- ❖ Release condition: when the hydraulic oil filter is normal, the indicator lamp is off.

14 Drive system fault indicator lamp



- ❖ Function description: used to indicate the transmission system fault status.
- ❖ Activation conditions: when the TCU fault signal is received, the indicator lamp flashes red at 1 Hz frequency
- ❖ Release condition: the TCU fault signal is not received, and the indicator lamp is off.
- ❖ Buzzer: Yes

15 Charging indicator lamp



- ❖ Function description: it is used to indicate the charging state of the generator.
- ❖ Activation condition: when the voltage value is less than 13.1 V, the red indicator lamp is always on. After startup, if the voltage is less than 13.1 V, the red indicator lamp will be always on after a delay of 5 s.
- ❖ Release condition: when the voltage value is greater than or equal to 13.1 V, the indicator lamp is off
- ❖ Buzzer: None



16 Left turn signal lamp

- ❖ Function description: used to indicate the left steering state.
- ❖ Activation condition: when the left turn is valid, the indicator lamp will flash green.
- ❖ Release condition: when the left turn is invalid, the indicator lamp is off.
- ❖ Buzzer: None



17 Right turn signal lamp

- ❖ Function description: used to indicate the right steering state.
- ❖ Activation conditions: when the right turn is valid, the indicator lamp will flash green.
- ❖ Release condition: when the right turn is invalid, the indicator lamp is off.
- ❖ Buzzer: None



18 High beam

- ❖ Function description: used to indicate the high beam status.
- ❖ Activation conditions: when the high beam is effective, the indicator lamp is always on in blue
- ❖ Release condition: when the high beam is invalid, the indicator lamp is off.
- ❖ Buzzer: None



19 Hazard warning lamp

- ❖ Function description: used to indicate the double flashing state.
- ❖ Activation conditions: when the double flashing is valid, the red indicator lamp is always on
- ❖ Release condition: when the double flashing is invalid, the indicator lamp is off.
- ❖ Buzzer: None



20 Mute indicator lamp

- ❖ Function description: used to indicate the manual mute state after buzzer.
- ❖ Activation conditions: the yellow indicator lamp is always on when there is a fault
- ❖ Release condition: 1. When the bit0 of the CAN1 message 0x18FFC828Byte3 is not received and is 1, the signal, the indicator lamp is off
- 2. All alarm signals that need to be buzzer are released, and the indicator lamp is off.
- 3. When the key switch power supply is disconnected and then turned on again, the indicator lamp is off and the mute state is deactivated by default.
- 4. After this mute within power-on, if it is not manually released, the buzzer will no longer buzz.
- ❖ Buzzer: shield the buzzer



21 Warning lamp

- ❖ Function description: used to indicate the status of the warning lamp.
- ❖ Activation conditions: when the warning lamp is valid, the yellow indicator lamp is always on
- ❖ Release condition: when the warning lamp is invalid, the indicator lamp is off.
- ❖ Buzzer: None



22 Differential lock indicator lamp

- ❖ Function description: used to indicate the differential lock status.
- ❖ Activation conditions: when the differential lock is valid, the yellow indicator lamp is always on
- ❖ Release condition: when the differential lock is invalid, the indicator lamp is off.
- ❖ Buzzer: None



23 Seat belt indication

- ❖ Function description: used to indicate the status of the safety belt.
- ❖ Activation conditions: when the vehicle is powered on, the safety belt is not fastened, and the red indicator lamp is always on; When the vehicle is started, the indicator lamp flashes red at 1HZ frequency when the safety is not fastened;
- ❖ Release condition: the indicator lamp is off when the safety belt is connected.
- ❖ Buzzer: when the vehicle is started



24 Seat heating indicator lamp

- ❖ Function description: used to indicate the seat heating status.
- ❖ Input signal: CAN
- ❖ Activation conditions: when the seat heating is on, the yellow indicator lamp is always on;
- ❖ Release condition: when the seat is not heated, the indicator lamp is off.
- ❖ Buzzer: None

25 Clogging of travel oil replenishment filter (text alarm)

- ❖ Function description: it is used to indicate the status of the clogging of travel oil replenishment filter.
- ❖ Activation conditions: text prompt when the travel oil replenishment filter is clogged;
- ❖ Release condition: when the travel oil replenishment filter is normal, the text prompt disappears.
- ❖ Buzzer: None

B2.1.2.3 Instrument settings

Instrument settings include brightness, language, and clock.

1 Brightness

- ❖ Function description: current instruments brightness adjustment.
- ❖ Operation method: right instrument settings - instrument settings - brightness adjustment.

2 Language

- ❖ Function description: the current instrument language is displayed.
- ❖ Operation method: right instrument settings - instrument settings - voice settings.

B2.1.2.4 Other logic of instrument

1 Voltage alarm

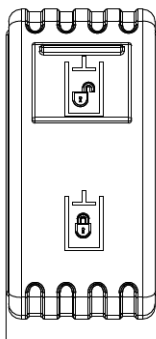
- ❖ Function description: the current voltage is too high or too low.
- ❖ Activation conditions: (1). When the voltage is $<11.2\text{ V}$, after 15 s of accumulation, the instrument display "Power supply voltage too low!";
(2). When the voltage is $>14.5\text{ V}$ and the voltage is accumulated for 15 s, the instrument will display "Power supply voltage too high!".
- ❖ Release condition: $11.2\text{ V} \leq \text{voltage value} \leq 14.5\text{ V}$, the alarm will be released immediately.

2 Judgment of engine communication status

- ❖ Function description: Indicates the current communication status.
- ❖ Activation conditions: if any of the following signals cannot be received for 10 s, the instrument alarm will display "Abnormal engine communication".
 1. Engine speed
 2. Engine cooling water temperature
 3. Engine fault
- ❖ Release condition: any of the above messages is received within 10 s.

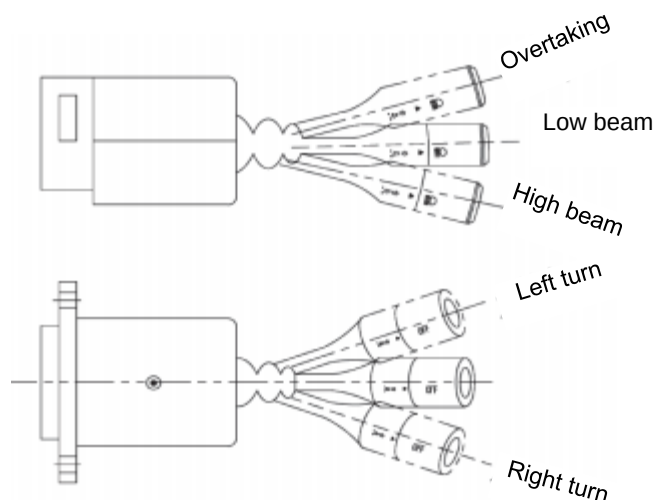
B2.1.3 Switches

B2.1.3.1 Hydraulic lockout switch



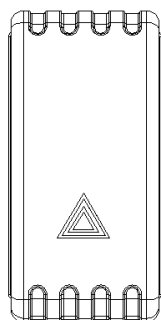
The hydraulic lockout switch is located on the right side of the right pilot box. When the switch is in the locking state, the handle cannot control the hydraulic device.

B2.1.3.2 Direction switch



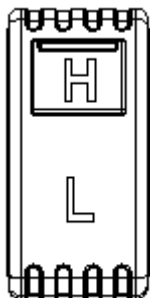
The direction switch is located on the right side under the steering wheel. The left and right steering switching is performed at the front and rear, and the up and down operation is for overtaking and low and high beam switching.

B2.1.3.3 Hazard alarm switch



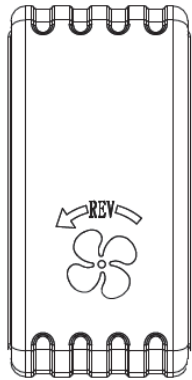
The switch is located on the right pilot box, and the switch can be pressed for early warning in case of emergency.

B2.1.3.4 Vehicle speed selector switch



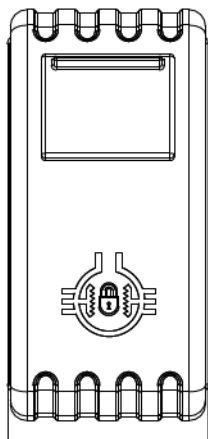
The vehicle speed selector switch is located on the right pilot box, with 2 gears for high/low speed selection. When the switch is in the L status, the speed selection button on the multifunctional handle can be used to select the 1st and 2nd gear speeds. When the switch is in the H status, the vehicle speed gear is 3rd gear.

B2.1.3.5 Hydraulic fan reverse switch



This switch can be used to operate the hydraulic fan for reversal.

B2.1.3.6 Differential lock switch



When this switch is pressed, the differential lock is in the locking state.

B2.1.3.7 Electric lock



The electric lock is located on the right pilot box and is used to turn on or off the power system and start the engine. There are three positions of the electric lock:

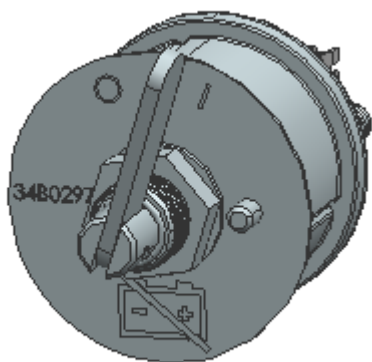
- Position "O": startup power supply is disconnected, and the key can be inserted or pulled out.
- Position "I": startup power on.
- Startup position: Start the engine, release the hand after the engine is started, and the key will automatically return to the "I" position.

B2.1.3.8 Horn



It is located in the center of the steering wheel. When this button is pressed, the horn will sound.

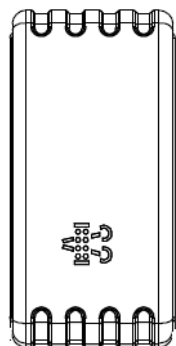
B2.1.3.9 Master power switch



Position "1": turn on the power of the whole vehicle.

Position "0": power off of the whole vehicle.

B2.1.3.10 DPF regeneration switch



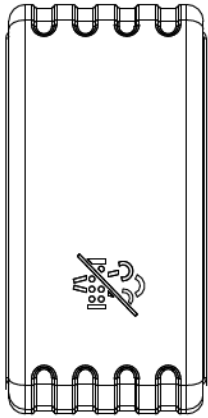
Press this switch to perform parking regeneration

Yellow is always on: during regeneration

Yellow flashing: parking regeneration prompt, prompt the driver to stop the vehicle and press the regeneration switch for regeneration

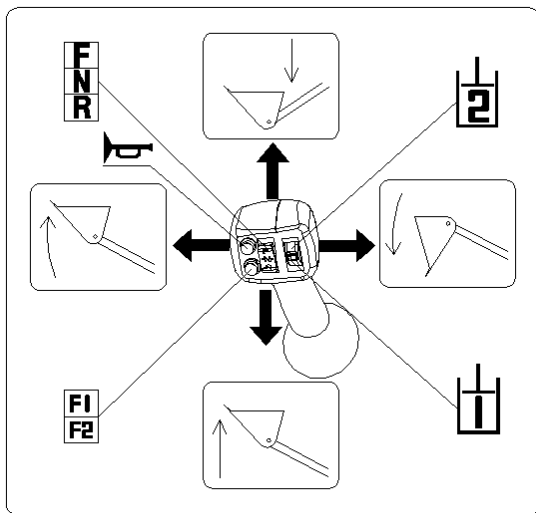
Always on red: service regeneration is required, prompting the driver to go to the service station for DPF service regeneration operation

B2.1.3.10 DPF regeneration inhibit switch



Prompt the user that the DPF regeneration will not be carried out temporarily due to the inhibit switch being pressed

B2.1.3.11 Electronic handle



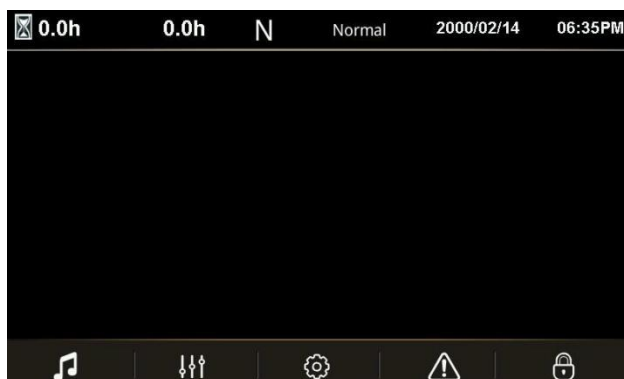
B2.1.4 Display

B2.1.4.1 Boot interface

- The start-up animation will be displayed on the display after power-on.

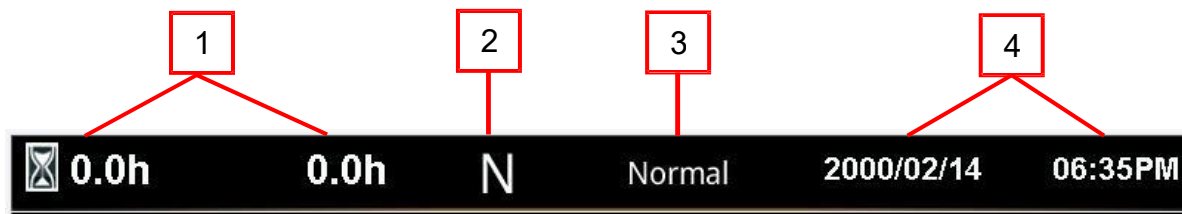
B2.1.4.2 Main interface

The main interface includes basic information area, surround view interface and navigation area by default. The basic information area is also displayed in the menu interface.



Main interface

1 Basic display area



The basic display area includes: 1 hour meter, 2 working gear, 3 working mode, 4 date and time.

1.1 Hour meter

Indicates the cumulative working time of the complete vehicle, and the time is counted   when the vehicle is in startup status.

1.2 Working gear

Display the current working gear of complete vehicle .

1.3 Working mode

Indicates current working mode .

1.4 Date and time/active fault

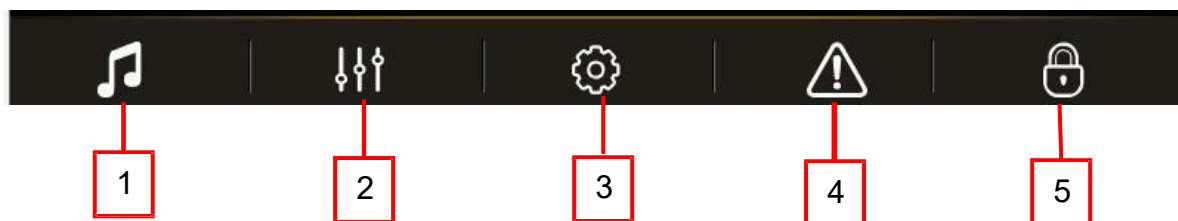
Indicates the current date and time  . The date and time can be set through "Set->Clock".

If the vehicle has a fault, the DTC, description of fault and silencer key will replace the date and time display. Click the silencer button to turn off the buzzer.

2 Surround view interface

The surround view interface surround view + turn on the car around once, the default is surround view plus rear view, enter the setting - video settings to change the display of the surround view interface.

3 Navigation area



Navigation area includes: 1 multimedia interface, 2 parameter interface, 3 setting interface, 4 fault interface, 5 password.

1 Multimedia interface: click , and you can enter multimedia interface.

2 Parameter interface: click  and then enter parameter interface.

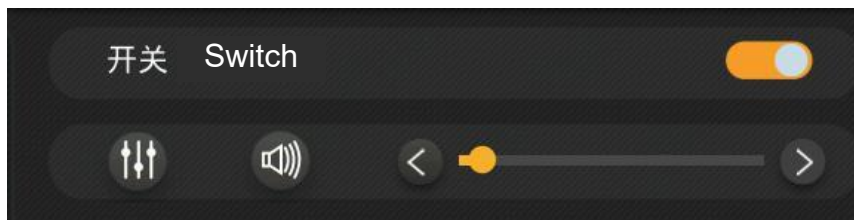
3 Setting interface: click  and then enter the setting interface.

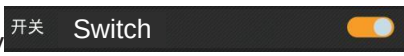
4 Fault Fault interface: click  and then enter fault interface.

5 Password interface: click  and then enter password interface.

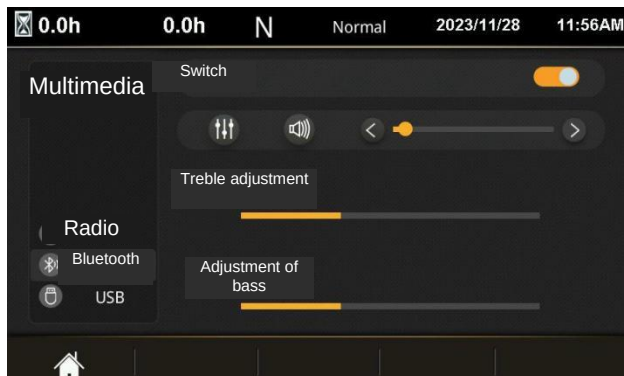
B2.1.4.3 Multimedia interface

Click , enter multimedia interface. The multimedia interface includes radio, bluetooth and USB interface. The fixed button has switch, treble and bass adjustment, silencer key and volume adjustment.



Click On/off key , to turn Multimedia on or off.

Click , you can set treble and bass adjustment.



Click , you can set mute settings. Drag floating point , for volume adjustment.

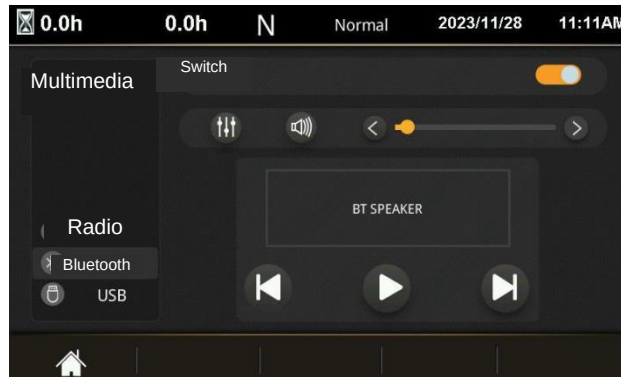
1 Radio



Click  to adjust the radio receiving frequency band,   can be directly adjusted to the previous/next station. The frequency is adjusted by 0.1,  is the current radio receiving frequency band. Click  to automatically search for the station, and store the searched frequency to the right. The stored channel can be directly selected next time.

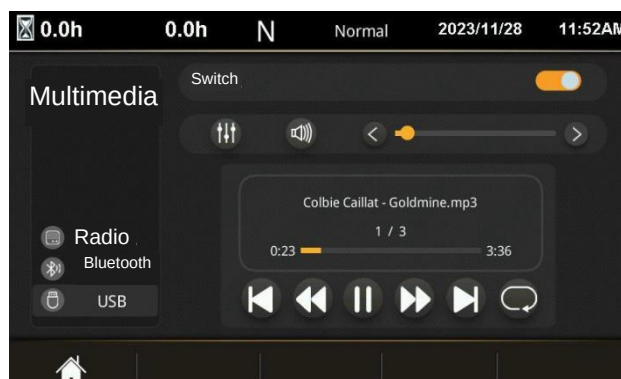
2 Bluetooth





The mobile phone can connect to the bluetooth BTSPEAKER, and  can be adjusted to the previous/next song, and  can pause and play songs.

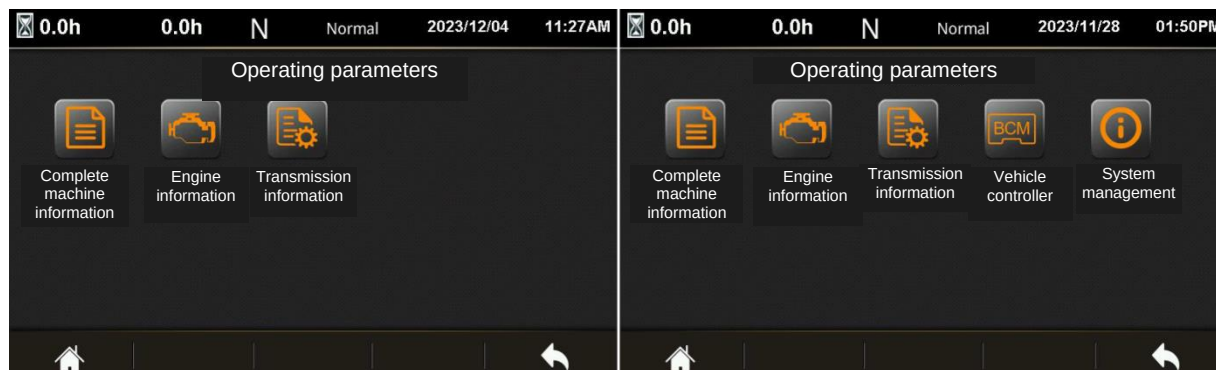
3 USB



External USB can open the interface and  display the name of the currently playing song, the current song's position and total volume, and current song progress bar. Clicking  can adjust to the previous/next song, and can be fast forwarded  or rewind the current song. Click  to play/pause the current song. Clicking  can play songs in a loop.

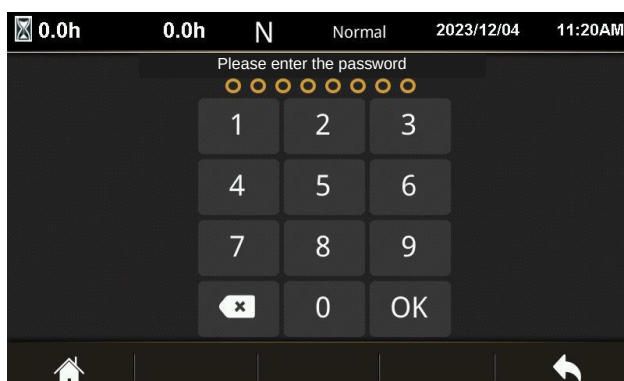
B2.1.4.4 Parameter interface

Click on navigation area , to enter parameter interface.

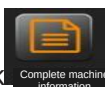


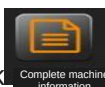
Parameter interface includes: whole machine information, engine information, transmission information, vehicle controller, system management.

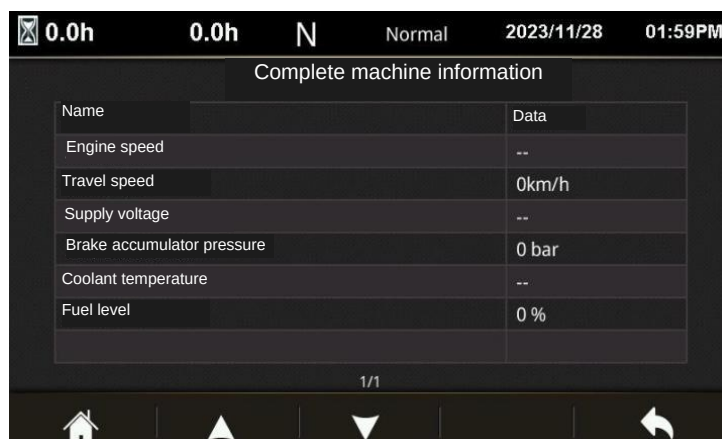
The password is required to display the contents of the parameter interface submenu:



1 Whole machine information



Click  to enter machine information interface.



2 Engine information



Click  to enter engine information interface.

0.0h

0.0h

N

Normal

2023/11/28

02:01PM

Engine information

Name	Data
Pedal position	--
Engine speed	--
Engine torque	--
Intake air temperature	--
Boost pressure	--
Coolant temperature	--
Oil pressure	--

1/1

3 Transmission information



Click  to enter the transmission information interface.

0.0h

0.0h

N

Normal

2023/12/04

11:37AM

Transmission information

Name	Data
Hydraulic oil temperature	0°C
Parking brake pressure signal	0bar
Differential lock oil circuit pressure	0bar
Accumulator pressure	0Mpa
Switching state of differential lock	Disconnect
Switching state of hydraulic lock	Disconnect
Switching state of forced reversal of fan	Disconnect

1/5

0.0h

0.0h

N

Normal

2023/12/04

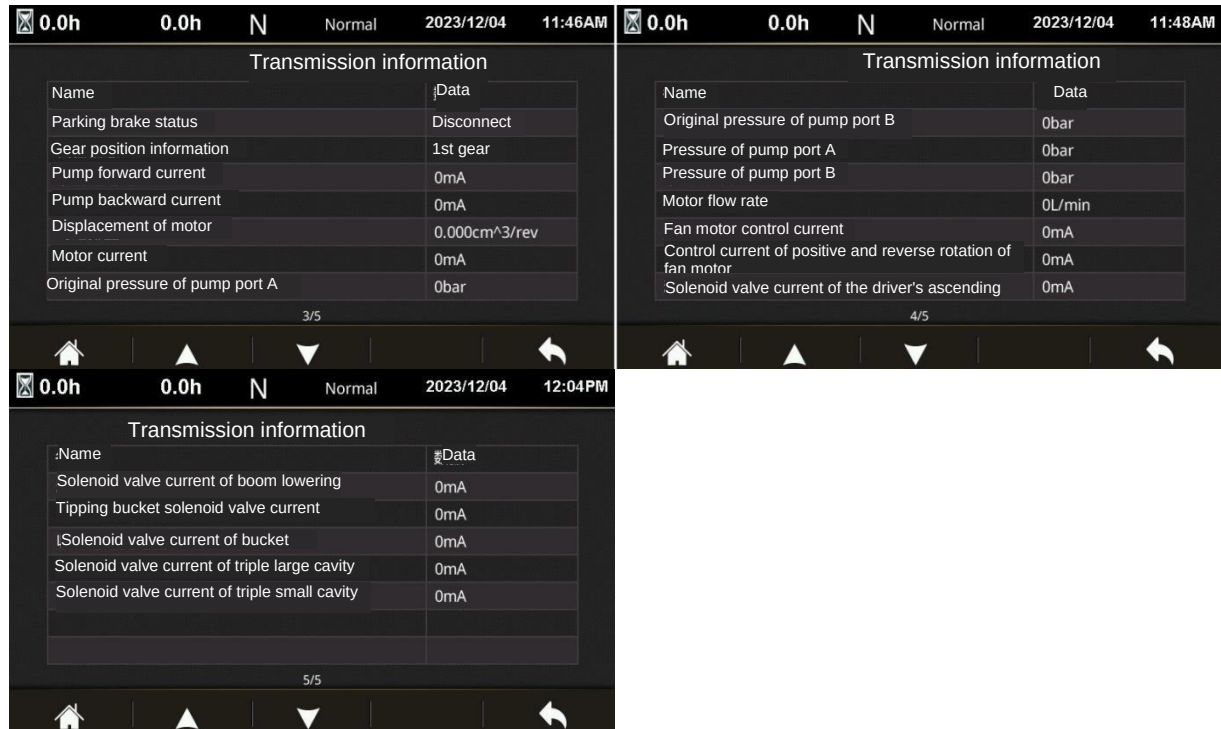
11:41AM

Transmission information

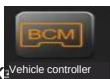
Name	Data
AC Signal Status	Disconnect
Switching state of clogging of travel oil replenishment filter	Disconnect
Make-up oil pressure signal	0mV
Motor speed	0 rpm
Driving vehicle speed	0 km/h
Inching pedal	0.00 %
FNR Status	Median

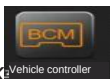
2/5

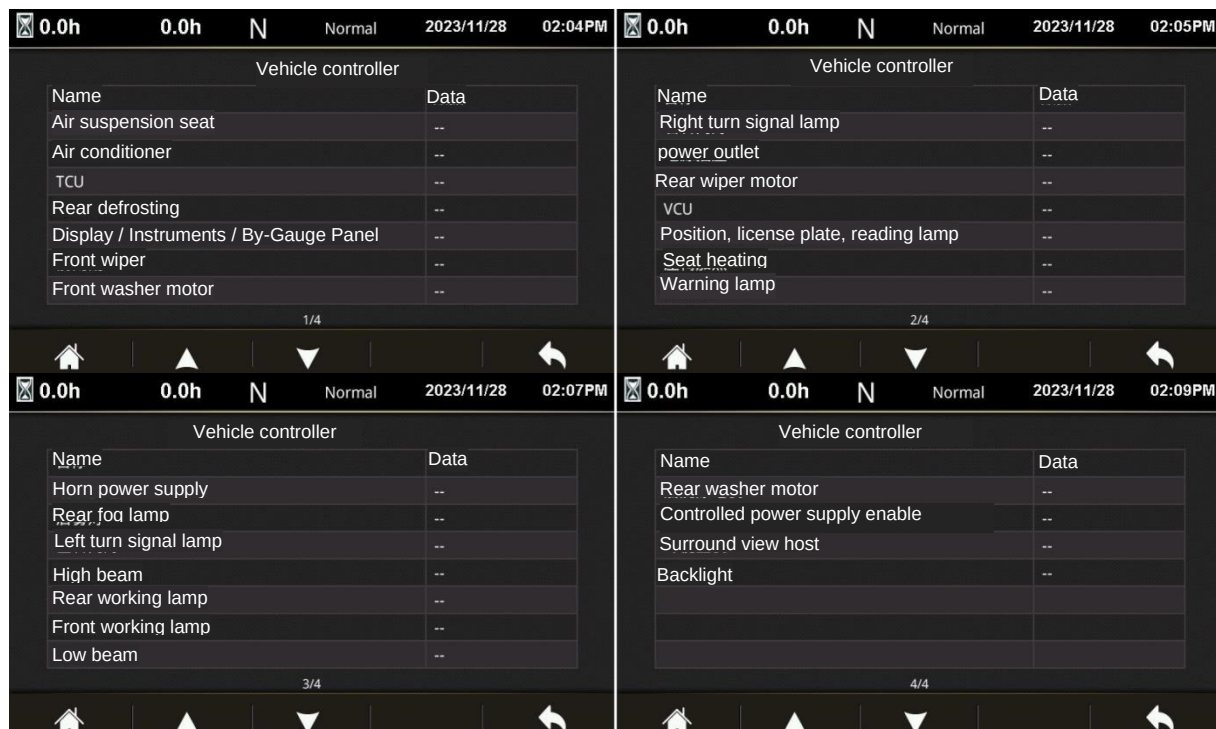
Solenoid
valve
current of
the driver's
ascending



4 Vehicle controller



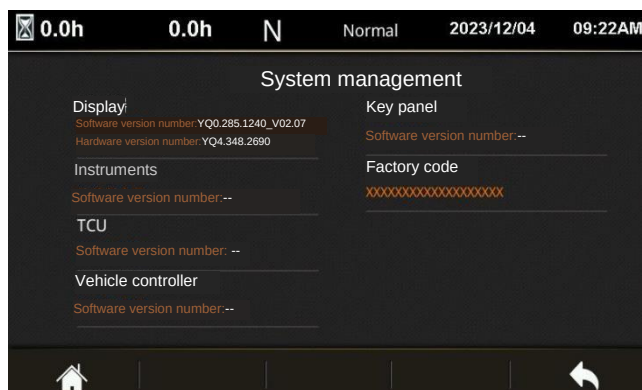
Click  to enter vehicle controller interface.



5 System management



Click  to enter system management interface.



If there is a component version that needs to be upgraded, the button of software update will be displayed after the corresponding component version. When upgrading, click the button and wait.

B2.1.4.5 Setting interface

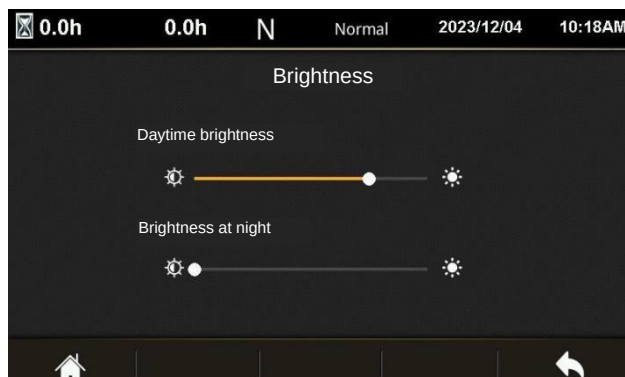
Click , enter the setting interface.



The setting interface includes brightness, language, clock, hour meter, maintenance and maintenance, instrument settings, video settings, number of complete machine, restore factory settings.

1 Brightness setting

Click , enter Brightness setting.



Adjust the screen brightness of the display by sliding the progress bar. When the working lamp of the complete vehicle is turned on, the screen will automatically switch to the brightness at night.

2 Language setting

Click , enter Language settings.

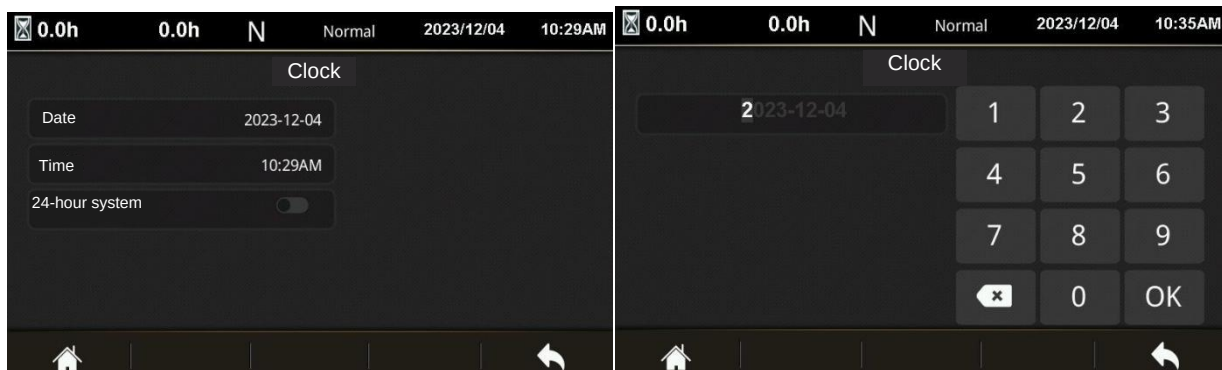


Select different options to switch to different language.

3 Clock setting



Click , enter Clock setting.



12/24 hour clock can be set.

4-hour meter setting



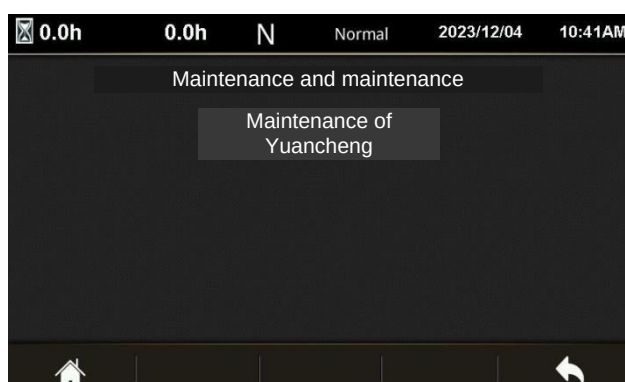
Click  to enter Hour meter setting interface.



5 Maintenance and maintenance



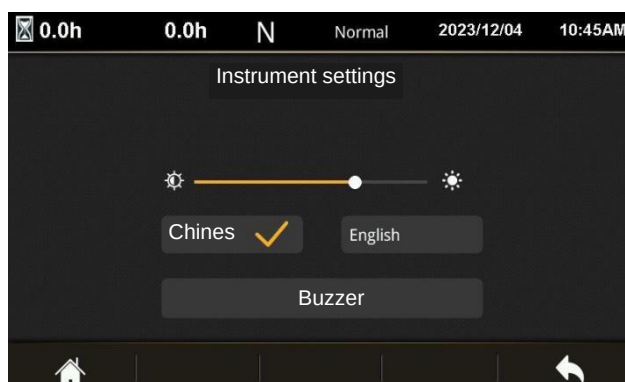
Click  to enter the maintenance interface.



6 Instrument settings



Click  to enter Working mode setting.

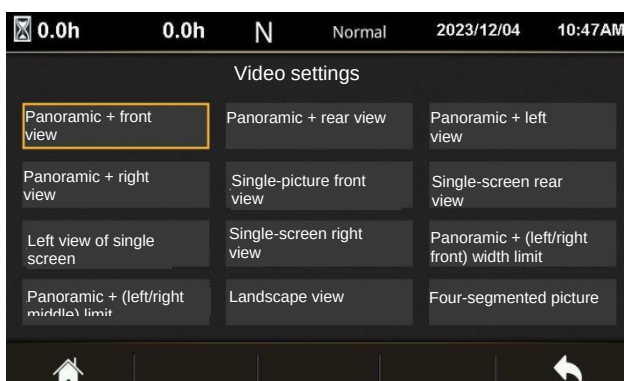


Front instrument brightness, language and buzzer can be set.

7 Video settings



Click  to enter Video setting interface

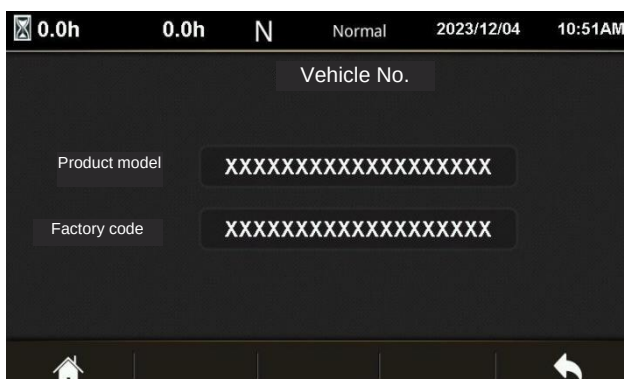


The surround view interface display can be adjusted according to the needs.

8 Vehicle number setting



Click  You can enter vehicle number setting interface.



9 Restore factory settings



Click  enter Restore factory settings interface.



After clicking Restore factory settings, a confirmation box will pop up. After clicking "Confirm", the display will automatically restart. After the restart is completed, the brightness, language and failure record of the display will be restored to the default status.

B2.1.4.6 Fault interface



Click , enter fault interface. Fault interface includes ECU and TCU fault.



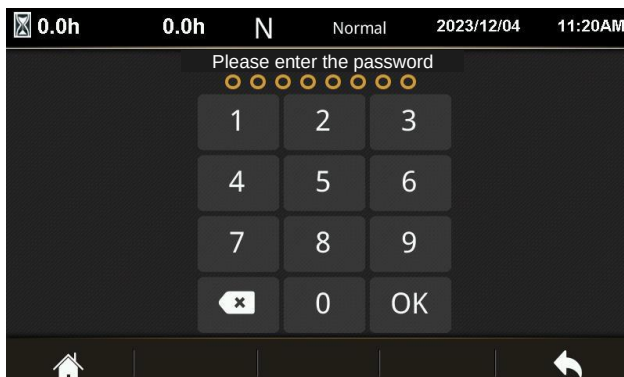
Enter different menus to view the active fault and historical fault corresponding to different components. The historical fault needs to be displayed after the primary password is entered. In the historical fault interface, click "Clear the fault" to clear the historical fault currently recorded.



B2.1.4.7 Password interface



Click , enter Video interface.



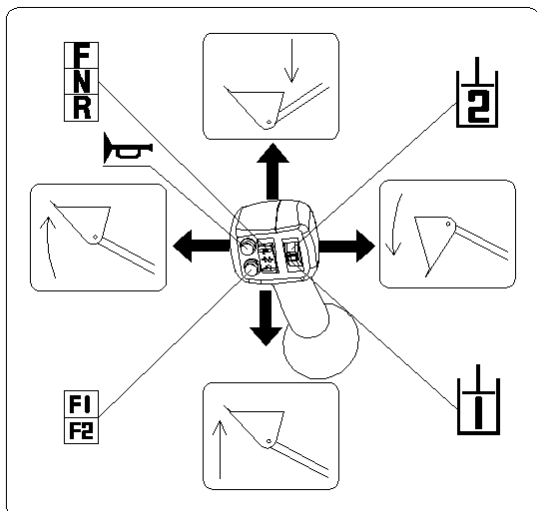
B2.2 Operating levers, pedals and others



Caution

Do not lower the bucket in the floating position.

B2.2.1 Bucket control lever and boom control lever



Lifting: boom lifting.

Median: the boom is kept in a certain position

Lowering: boom lowering

Floating: the boom moves freely under external force

Retraction of bucket: bucket retracted

Tipping bucket: bucket unloading

B2.2.2 Parking brake lever



The parking brake switch is located behind the electronic handle of armrest box and is used to operate the parking brake.

Pull up: apply brake

Press down: release the brake

B2.2.3 Accelerator pedal and brake pedal



Foot brake pedal:

Inching function: after stepping on the inching pedal, first increase the displacement of motor, and then reduce the displacement of pump to the minimum after the displacement of motor increases to the maximum;

Brake function: depressing the foot brake pedal will make the travel brake work and realize the braking

Brake pedal

Accelerator pedal

B2.2.4 Other

B2.2.4.1 Cab Ceiling Light



The cab ceiling lamp is located above the cab seat.

"ON" position: the ceiling lamp is on.

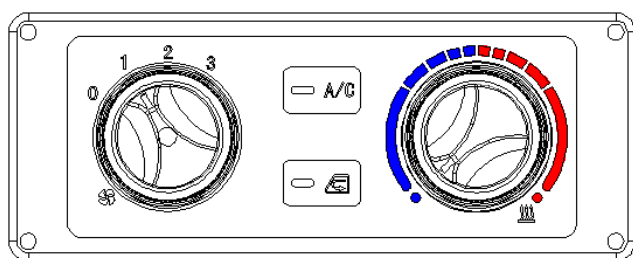
"OFF" position: ceiling lamp off.

B2.2.4.2 Power outlet



The power outlet is located on the right rear side of the driver's cab.

B2.2.4.3 Control panel of air conditioner (heater)



The A/C control panel is located on the upper right of the driver's cab: it includes a wind speed switch, a temperature control knob and two buttons, which are the internal and external circulation and heating buttons respectively. The wind speed switch is divided into 1, 2 and 3 gears, which represent the wind speed from weak to strong in turn.

The air conditioner switch is in the "0" position, the air conditioner is off, in other positions, the air conditioner is on, and the indoor temperature can be adjusted.

The windshield switch is in the 0 position and the fan is in the off status.

The specific direction of the air outlet shall be set before the fan is turned on:

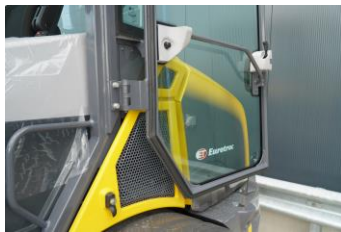
Face blowing: (one air outlet on the left and one on the right)



Defrosting: (one air outlet on the left and one on the right)

Note: in order to ensure good air outlet effect, it is recommended not to open more than two tuyere at the same time when heating air operation.

B2-2.4-4 Door lock



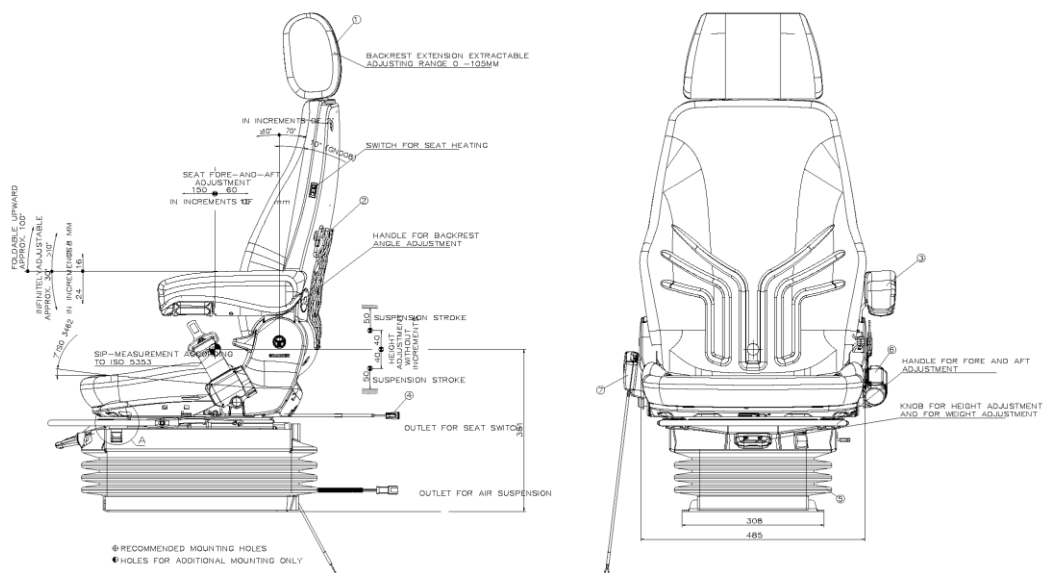
The door lock is located on the left and right doors of the driver's cab.

B2.2.4.5 Rearview mirror



The rearview mirror is located in the left front of the driver's cab.

B2.2.4.6 Driver's seat



The driver's seat can be adjusted in degree of hardness (stiffness), front and rear direction, height direction and angle of backrest to meet the needs of different drivers and different working places. Please adjust it according to the height and weight of the operator to adapt to the seat.

Note: In order to ensure the safety of the operator, the driver should sit on the seat and fasten the safety belt when performing any loader operation.

B2.2.4.7360 Surround view camera





B2.3 Fire extinguisher

Please install fire extinguisher that meet national laws and local requirements.

B3 Operation



Caution The machine must only be operated from the operator's seat, with the seatbelt fastened.

B3.1 New vehicle running-in

- The running-in period of the new loader is 60 hours.
- After each engine startup, run at low speed neutral gear for 5 minutes to fully preheat the engine.
- During running-in, loose materials should be loaded, the load carrying capacity should not exceed 70% of the rated load capacity, and the driving speed should not exceed 70% of the maximum vehicle speed.
- Avoid sudden start, sudden acceleration, turn abruptly and sudden braking; Steering and braking shall be smooth during driving.
- During running-in, the running-in of each forward gear and reverse gear shall be evenly arranged.

B3.2 Inspection and adjustment before starting the engine

- Before each startup, check the following items.

B3.2.1 Whether the relevant parts are loose or worn

- The battery terminal shall not be loose.



- The bucket and bucket teeth shall not be excessively worn.
- The bucket tooth bolt shall not be loose.



- Each hose joint shall not be loose.



- Pedal weld cannot crack



- The hydraulic cylinder connection shall not be loose
- The connection of the linkage mechanism shall not be loose.



- -
- The instrument panel bolt shall not be loose.



- The air filter mounting bolts shall not be loose.



- The generator terminal shall not be loose.



- The starter terminal shall not be loose.



- The wheel rim bolt shall not be loose.
Rim bolt torque: 500~585 N•m,
At the same time, it should be checked and tightened regularly.



- The gearbox fixing bolt shall not be loose.



- The drive shaft fixing bolt shall be free from looseness and wear.



- The muffler fixing bolt shall not be loose.



- The front axle fixing bolt shall not be loose.



- The rear axle fixing bolt shall not be loose.



B3.2.2 Whether there is leakage at relevant parts

- Radiator.



- Engine oil pan.



- Drive axle.



- Brake pipeline.



- Pipeline.



B3.2.3 Checking the fluid level

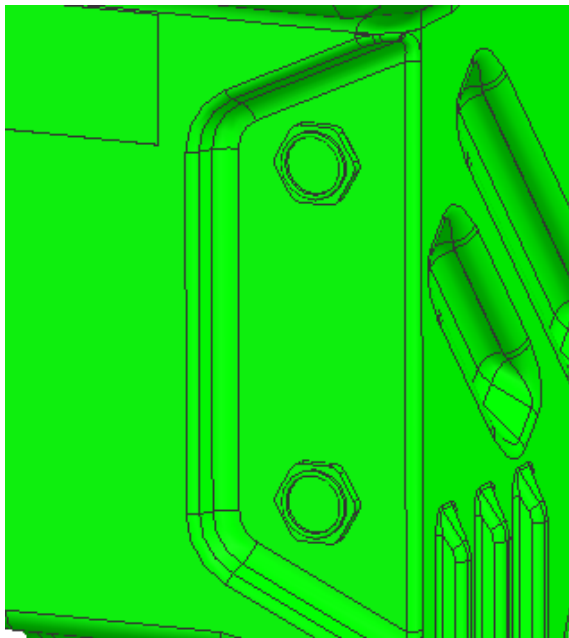
- Coolant.



- Engine oil.



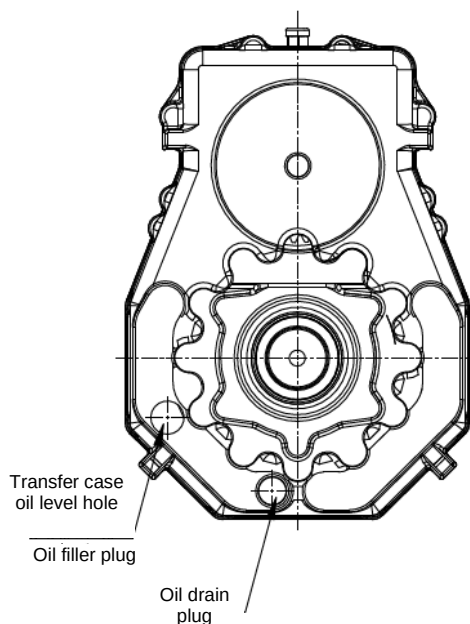
- Hydraulic oil.



- Check the transmission oil level

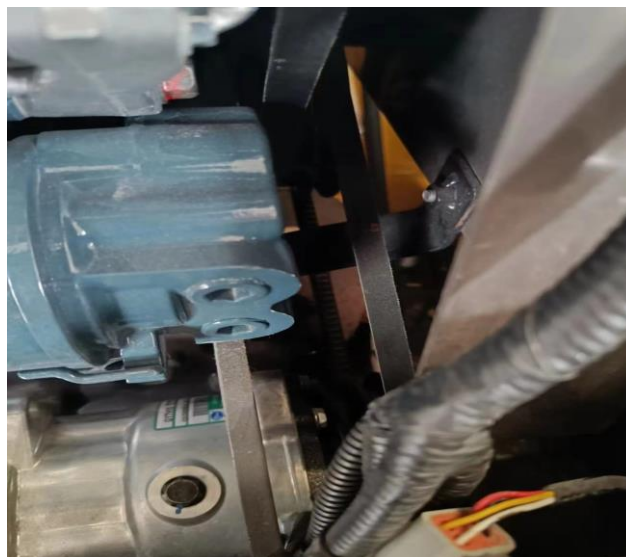
The gearbox comes with an oil inspection hole. Stop the vehicle on a flat ground and check whether the oil level is within the normal range. If there is any loss of oil, increase the engine oil; If the supplement is too much, reduce it appropriately.

Note: security measures shall be taken when checking the oil level to prevent the vehicle from rolling or moving to ensure security.



B3.2.4 Check the tightness of fan and generator belts

In the middle of the two belt pulleys, when a force of about 6 kg is applied with the fingers, the amount of deformation of the belt shall not be greater than 7.5 mm (0.3 in).



B3.2.5 Position of control lever

- The parking brake switch is in the brake position.



- The FNR switch is in the N position.



B3.3 Start the engine

- Turn on the master power switch.



- Insert the key into the electric lock and turn it to the "I" position, and the dashboard indicator lamp will be on.



- Turn the key to the "Startup" position, and the starter will rotate.



Caution

- Do not allow the starter to rotate continuously for more than 15 seconds.
- If the engine startup is not successful, repeat the startup after 3 minutes. If the engine still does not start for three consecutive times, please stop the vehicle for inspection.

It is forbidden to start the engine by shorting the starter motor without electric lock.

- After the engine is started, release the key, and the key will automatically return to the "I" position.

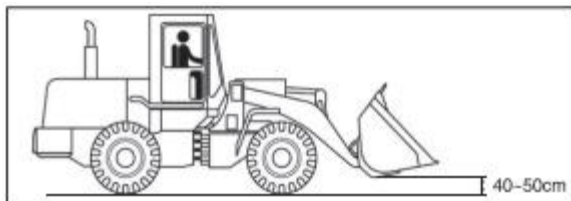


- Gently step on the accelerator pedal and let the engine run for 5 minutes under no-load condition.



B3.4 Driving of loader

- The bucket is placed in the walking position.



- Depress the brake pedal.



- Release the parking brake.



- The gear switch is in "2" position.



- Release the brake pedal and depress the accelerator pedal.



-
- Steering
Use the steering wheel to steer while driving.

 Caution

- Do not turn sharply during high speed driving.
- Ramp driving, no steering.
- Engine flameout, no steering.
- Stop the vehicle

Release the accelerator pedal and depress the brake pedal.



The electronic handle FNR reversing switch is in the F or R position.



Press the parking brake switch to release the brake



B3.5 Work that can be carried out with wheel loaders

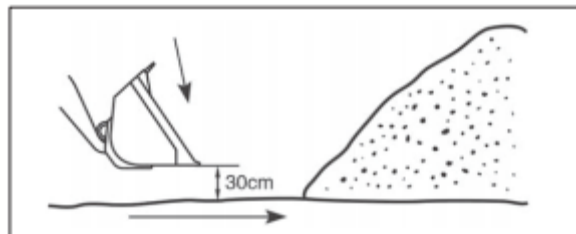


Caution The machine must only be operated from the operator's seat, with the seatbelt fastened.

B3.5.1 Shoveling and loading operations

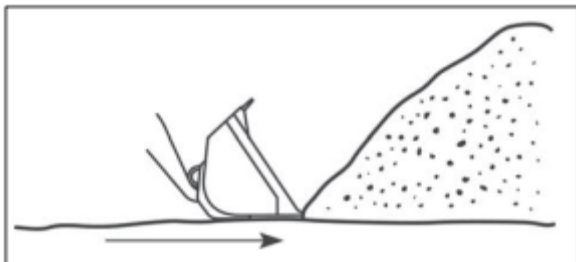
- Shoveling and loading of stockpile, the loader is facing the stockpile, the bucket stops 30 cm (12 in) from the ground, and then slowly lower the bucket.

Note: If the bucket is lowered too low, the front wheel will be off the ground and the tire will slip.



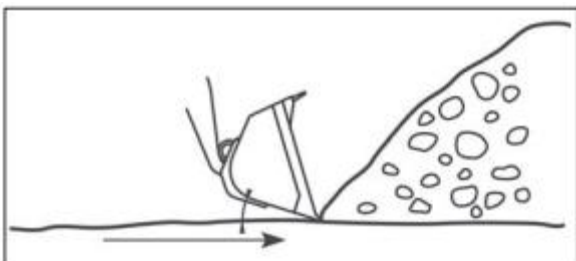
- Shoveling and loading the crushed stone stockpile, keep the bucket horizontal and keep the gear I.

Note: Stone cannot enter the lower part of the bucket, which will make the front wheel off the ground and slip.

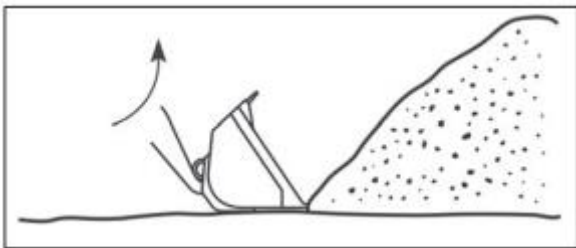


- Shoveling and loading stone block, turn the bucket downward by an inclination angle, and keep the gear I.

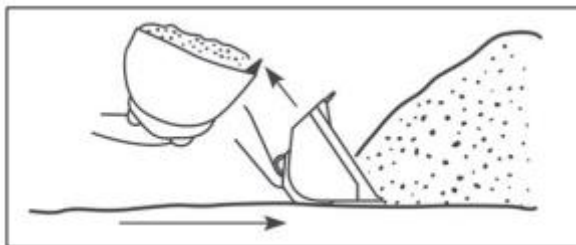
Note: The bucket cannot be inserted too deep.



- Insert the bucket into the stockpile of material, slowly lift the boom after the material is full, and retract the bucket at the same time.

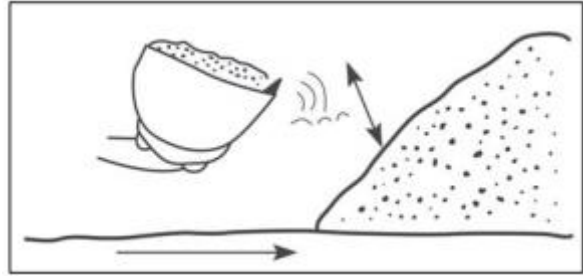


- When the material is full, tilt-up bucket.



- If the material is too full, shake the bucket (tip up and tip down buckets) quickly.

Note: Remove any loose material.



B3.5.2 Excavation Operations

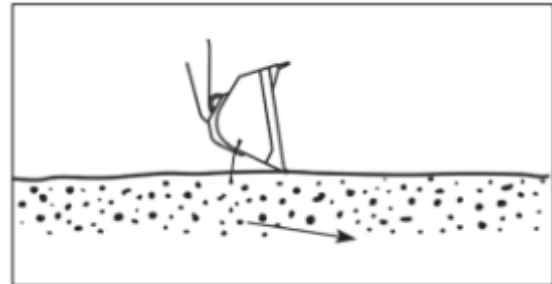


Caution: It is forbidden to excavate operations for a long time, otherwise the transmission oil temperature will be too high and deteriorate.

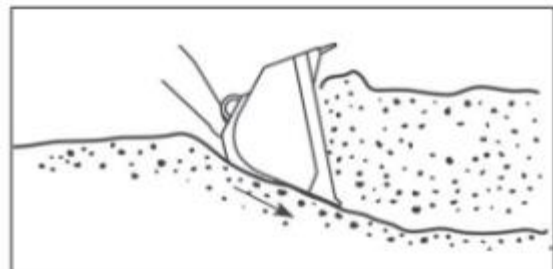
- The gear switch is set to the "1" position



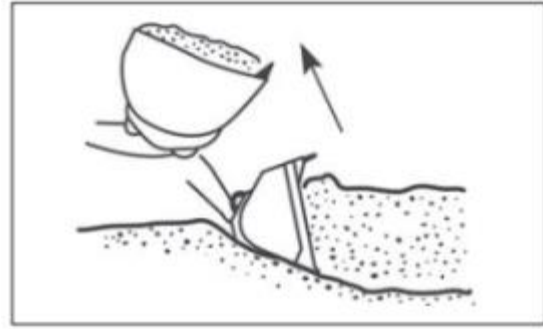
- The bucket is turned down a certain angle.



- Lower the boom and insert the bucket.



- When the material is full, raise Boom and slowly Tilt-up bucket.

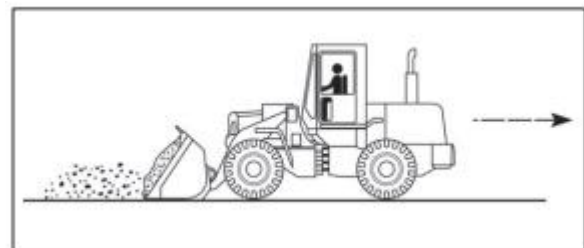


B3.5.3 Leveling operations

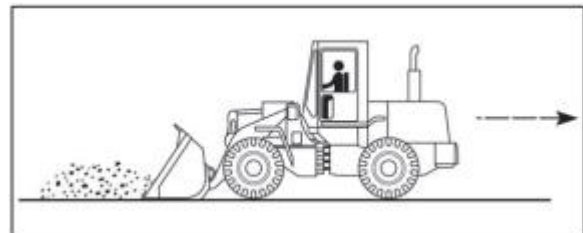
- The electronic handle FNR (Forward-Neutral-Reverse) switch is in the R position.



- The boom is placed in the "floating" position.
- Unloading and leveling.



- Leveling.



B3.5.4 Bulldozing operations

 **Caution:** It is forbidden to bulldozing operation for a long time, otherwise the transmission oil temperature will be too high and deteriorate.

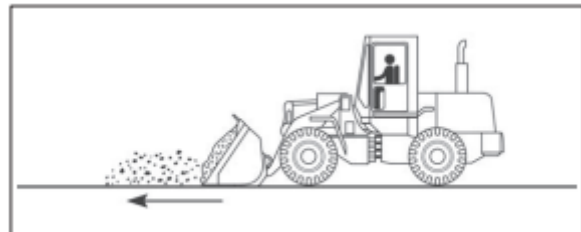
- The gear switch is set to the "1" position



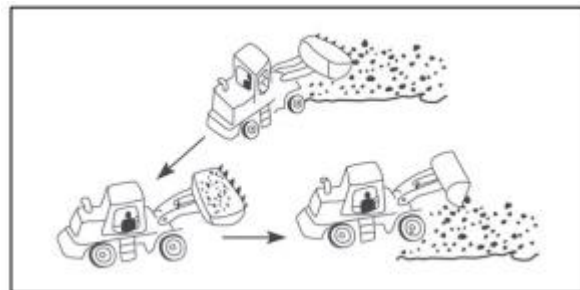
- The boom is placed in the "floating" position.



- Bulldozing.

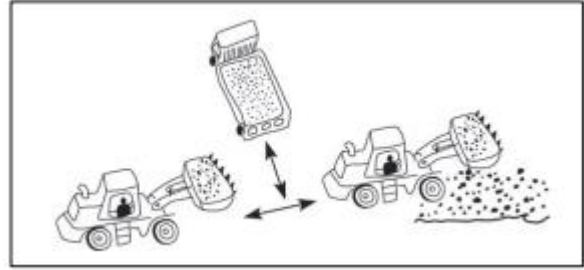


B3.5.5 Hauling

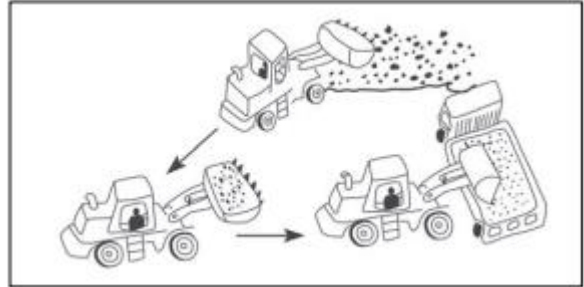


B3.5.6 Loading operations

- Cross-loading operation.

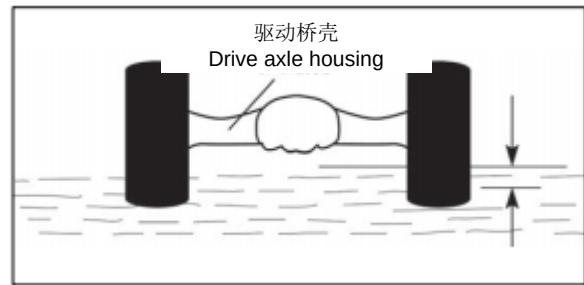


- V-shaped charging operation.



B3.5.7 Driving in water and swampy areas

- The bottom of the drive axle housing shall be higher than the horizontal plane.



B3.6 Shutdown

- The electronic handle FNR reversing switch is set to N neutral position.



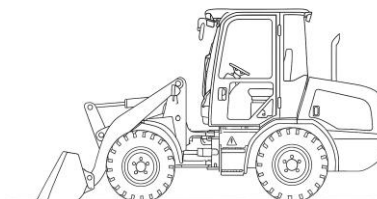
- Depress the brake pedal.



- The parking brake switch is in the brake position.



- The bucket is placed flat.



- After the engine is operated at low speed for 5 minutes to cool all parts evenly, shut down the engine.



- Take out the key.



- Turn off the main power switch.



B3.7 Cold weather operation

If the temperature becomes low, it will be difficult to start the engine, and the coolant will freeze, so do the following.

B3.7.1 Fuel and lubricants

All components shall be replaced with fuel oil and engine oil of specified grades. Refer to the maintenance chapter for the grades of fuel oil and lubricating oil.

B3.7.2 Antifreeze

Antifreeze must be used, and it is recommended to use Eurotrac special antifreeze.

B3.7.3 Battery

When the ambient temperature decreases, the capacity of the battery will also decrease. If the battery charging rate is low, the battery electrolyte will freeze. Keep the battery charging as close to 100% as possible and keep it warm to ensure that the machines can be started easily the next morning.

B3.7.4 Engine startup and shutdown

After the engine is started, the engine must be idle speed for 5 minutes under no-load condition. It is forbidden to operate with a large throttle directly after startup. Before the engine flameout, run the engine at idle speed for 5 minutes, cool all parts evenly, and then shut down the engine.

B3.8 Use of tyres

B3.8.1 Precautions when using tyres

When the tire reaches the following limit of use, there is a risk of burst tyre or causing an accident. Therefore, in order to ensure security, it is necessary to replace with new tires.

- Limit of wear

When the depth of the tire groove of construction machinery is 15% of the depth of the new groove.

When the tire has obvious uneven wear, stepped wear or other abnormal wear, or when the interlayer of cord is exposed.

- Use limit of damage

When there is external damage extending to the cord fabric or when the cord fabric is disconnected.

When the cord fabric is scratched or obstructed.

When the tire peels off (separates).

For tubeless tyre, when air leakage or repair is incorrect.

When replacing the tire, please contact the Eurotrac Dealer.

B3.9 Operation essentials

B3.9.1 Startup

Operation, process of startup

1. Power on the complete vehicle

Check around the complete vehicle and confirm that there is no potential safety hazard around the complete vehicle, and then turn on the master power switch at the battery.

2. Self-inspection of instrument

Ensure that the parking operation switch is in the parking state (the pull-up is the parking state, and the press is the parking release), then turn the key switch to the I position, power on the complete vehicle, and the instruments starts self-inspection. During the self-inspection of instruments, the driver needs to confirm the instrument status to ensure that the instruments works normally.

3. Vehicle status inspection

After the self-inspection of instruments is completed, the instruments will display the real-time status of the complete vehicle. The driver needs to confirm whether the status of the complete vehicle is normal, and make sure that the status of the complete vehicle is normal before departure.

4. Vehicle start

After the horn warning is operated according to the complete vehicle operation specification and there is no potential safety hazard near the complete vehicle, turn on the key switch to the startup position and the engine starts.

5. Operation specification of rear accelerator after vehicle start

When the accelerator pedal is depressed for the first time after the engine is started, please depress the accelerator pedal slowly to make the engine accelerate slowly. Depress the accelerator pedal from idle speed to maximum speed evenly. The accelerator pedal depressing process is more than 10 seconds, so that the engine has enough time to preheat and lubricate. In winter, the operation can have a 1-2 minute idle running process after the vehicle start.

Prohibited matters

1. It is forbidden to start the engine directly without checking the surrounding conditions of the complete vehicle.
2. Direct start operation without inhibit parking switch in the parking position.
3. It is forbidden to direct start operation that the self-inspection of instrument is not completed.
4. It is forbidden to directly start the operation without confirming the current status of the complete vehicle.
5. It is forbidden to step on the accelerator pedal too violently after the startup of the complete vehicle.

B3.9.2 Normal operation

Operation and process of normal operation

1. Complete vehicle walking and operation

- (1) After the engine is started and warmed up, press the parking brake switch to release the parking;
- (2) After the parking function is released, toggle the shift switch to the F or R position through the shift lever;
- (3) Accelerate gently, when the engine speed is greater than 1250 rpm, the complete vehicle starts to move.



2. Downhill slope of the vehicle

When the complete vehicle is going down the ramp, brake shall be taken if necessary to prevent the vehicle speed from being too high according to the complete vehicle conditions.

3. Working condition of stacking

Under the working condition of stacking, adjust the tractor effort first, and adjust the tractor effort of the complete vehicle to the tractor effort suitable for the working condition of stacking through the instrument settings, so that the operation process is smoother when the complete vehicle is in the stockpiling operation; Restore the tractor effort to the conventional status after the operation is completed.

Prohibited matters

1. It is forbidden to engage gear and then release the parking operation.
2. It is forbidden to drive at the maximum throttle immediately after engaging gear.
3. It is forbidden to frequently switch between high speed driving and low speed driving in a short period of time.
4. It is forbidden to continue to open the throttle when driving downhill on the ramp.

B3.9.3 Shutdown

Operation, process of shutdown

1. Shutdown of complete vehicle

After the completion of the operation of the complete vehicle, special attention shall be paid to the shutdown. First, turn the gear switch to the N (neutral) position, and keep the complete vehicle in the parking state (unplug the parking brake switch), then turn the key switch to the OFF position, the engine flameout, and the complete vehicle shutdown.

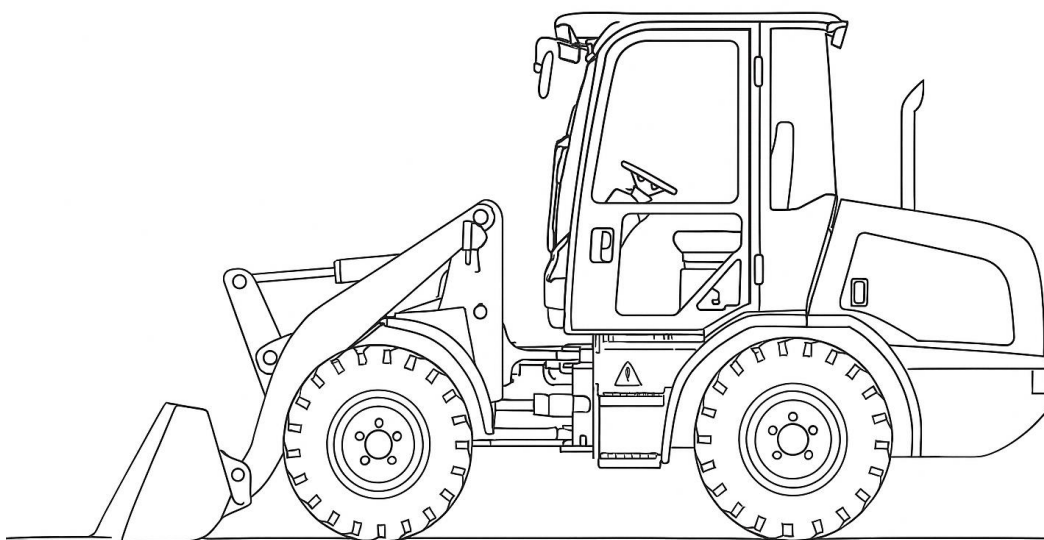
2. Power off the vehicle

After shutdown of complete vehicle, it is necessary to disconnect the master power switch at the battery to ensure power off the vehicle.

Prohibited matters

1. It is forbidden to shutdown when vehicle gear is not in neutral.
2. It is forbidden to operate the vehicle to flameout before parking state.
3. It is forbidden to shutdown for a long time but keep the master power switch on.

B4 Long-term storage



- Store in the garage, cover with canvas if stored in the open air.
- Fill the fuel tank with fuel oil.
- The exposed piston rod shall be coated with lubricating grease.
- Remove the battery negative and stop the vehicle. A supplementary charging shall be carried out once a month to keep the battery in a fully charged state, and the maintenance interval in winter shall be shortened to 20 days.
- Antifreeze shall be added in winter.
- Lock the frame lock.
- When the complete vehicle is parked for a long time, the pressure release must be carried out. After the bucket is placed flat on the ground, the control mechanism must be moved back and forth to ensure the pressure release.

Caution: The storage of earth-moving machinery shall comply with the requirements in (ISO 6749:1984).

B5 Fault analysis and troubleshooting

Most of the reasons for the failure of the loader depend on the use and management of fuel oil, engine oil, water, air, electricity, etc. Don't be anxious. Please follow the prompts first. If the problem still cannot be solved, please contact the dealer.

B5.1 Common faults and troubleshooting of transmission system

No.	Characteristic of failure	Reason	Exclusion method
I	No driving after startup	1. The gear is not engaged	1. Vehicle type protection, according to the instructions starting process
		2. The oil level of the oil pan is too low	1. Supplement the oil and fluid to the specified bit
II	Transmission overheating	1. Low transmission oil level	1. Refuel as required
		2. Slip of clutch plate	2. Check the clutch actuating oil pressure
		3. Deterioration of transmission line oil	3. Replacement of transmission oil
		4. The clutch plate cannot be disengaged	4. Check the clutch control part, which is required to be operated flexibly
III	Insufficient driving force	1. Slipping of transmission clutch	1. Check the clutch actuating oil pressure
		2. Oil temperature is too high	2. Refer to the second related content
		3. Insufficient pump power output	3. Overhaul the pump
		4. Insufficient output power of diesel engine	4. Overhaul the diesel engine
		5. Insufficient motor power output	5. Overhaul motor
		6. The hand brake is not released	6. Release the hand brake
		7. Hydraulic pipeline leakage	7. Overhaul the pipeline

B5.2 Common faults and troubleshooting of brake system

No.	Characteristic of failure	Reason	Exclusion method
I.	Insufficient foot brake force	1. Leakage of brake hydraulic pipeline	1. Replacement of pipeline
		2. Oil leakage of clamp	2. Replacement of clamp upper sealing element
		3. Low brake pressure	3. Check the tightness of brake pump, filling valve, accumulator and pipeline
		4. Wear of booster seal	4. Replacement of sealing element
		5. Oil leakage from the wheel hub to the brake pads	5. Check or replacement of wheel hub oil seal
		6. The brake pads have reached the limit of wear	6. Replacement of brake pads
		7. Filling valve does not work	7. Replacement of filling valve
		8. Accumulator damage	8. Check the accumulator
		9. Brake pump fault	9. Check the pressure and displacement of the pump
II	The brake cannot be released normally	1. Brake valve is faulty	1. Inspection of brake valve
		2. Filling valve does not work	2. Check the filling valve
		3. Leakage of brake pipeline	3. Check the brake pipeline and joint for leaks
		4. Solenoid valve or pressure switch fault	4. Check the solenoid valve or pressure switch
III	Parking brake cannot be released normally	1. Leakage of parking brake circuit	1. Check the brake pipeline and joint
		2. Filling valve does not work	2. Replacement of filling valve
		3. Accumulator damage	3. Check the accumulator
		4. Solenoid valve or pressure switch fault	4. Check the solenoid valve or pressure switch
IV	Filling failure of accumulator	1. Brake pump is faulty	1. Pressure and flow rate of tightening pump
		2. Filling valve does not work	2. Replacement of filling valve
		3. Accumulator fault	3. Check or replacement of accumulator
V	Insufficient parking brake force	1. The clearance between the brake drum and the brake pads is too large	1. Re-adjust or replace the brake pads according to the use requirements
		2. There is oil on the brake pads	2. Cleaning brake pads
VI	Low brake pressure alarm	1. Insufficient oil pressure occurs in a short time after the loader is started	1. Please wait for a while, the alarm will be automatically released after the system oil pressure is sufficient.
		2. System failure occurs during operation, and the oil pressure decreases.	2. Shutdown inspection.

B5.3 Common faults and troubleshooting of hydraulic system of work equipment

No.	Characteristic of failure	Reason	Exclusion method
I.	Slow boom lifting and insufficient bucket turning force	1. Cylinder oil seal is worn or damaged	1. Replace the oil seal
		2. Excessive wear of the distributing valve, and the fit clearance of valve stem and valve body exceeds the specified value	2. Disassemble, inspect and repair to make the clearance reach the specified value or replace the distributing valve
		3. Oil leakage of pipeline system	3. Find out the oil leakage area and drain it
		4. Serious internal leakage of working pump	4. Replacement of working pump
		5. Improper adjustment of safety valve, low system pressure	5. Adjust the system pressure to the specified value
		6. Blockage of oil suction pipe and oil filter	6. Clean the oil filter and change the oil
II	Weakness of bucket	1. Damage of bucket cylinder piston oil seal	1. Replacement of cylinder oil seal
		2. Excessive wear of multi-way valve, and excessive fit clearance of valve stem and valve body	2. Replacement of multi-way valve
III	Hydraulic oil enters the gearbox	Aging and rupture of working (steering) pump oil seal cause hydraulic oil to flow into gearbox	Replacement of oil pump oil seal or replacement of oil pump
IV	A large amount of foam and harsh noise in the hydraulic oil	1. Air leakage or breakage of oil suction pipeline, and the system sucks air	1. Check the oil suction pipeline, eliminate the air leakage, and replace the pipeline if necessary
		2. The oil tank level is too low, and a large amount of air is sucked into the oil circuit system	2. Add hydraulic oil to the required height
V	Low or no pressure of system	1. The safety valve has low voltage regulation	1. Adjust the voltage to the specified value
		2. Oil pump or internal leakage of system	2. Replacement of oil pump or elimination of internal leakage of system
		3. Air suction of oil pump	3. Add hydraulic oil to the required height
VI	Cylinder crawling	1. There is air in the oil cylinder	1. Repeat the reciprocating full stroke of the oil cylinder several times, and exhaust
		2. Low oil level	2. Add hydraulic oil to the required height
		3. Leakage at suction pipe joint	3. After repair, exhaust

		4. Looseness of oil pipe joint	4. Tighten the oil pipe
		5. Large clearance between cylinder wall and piston	5. Replacement of non-conforming parts
		6. Lubrication difference of connecting pin shaft	6. Ensure the effect of lubrication

B5.4 Common faults and troubleshooting of steering system

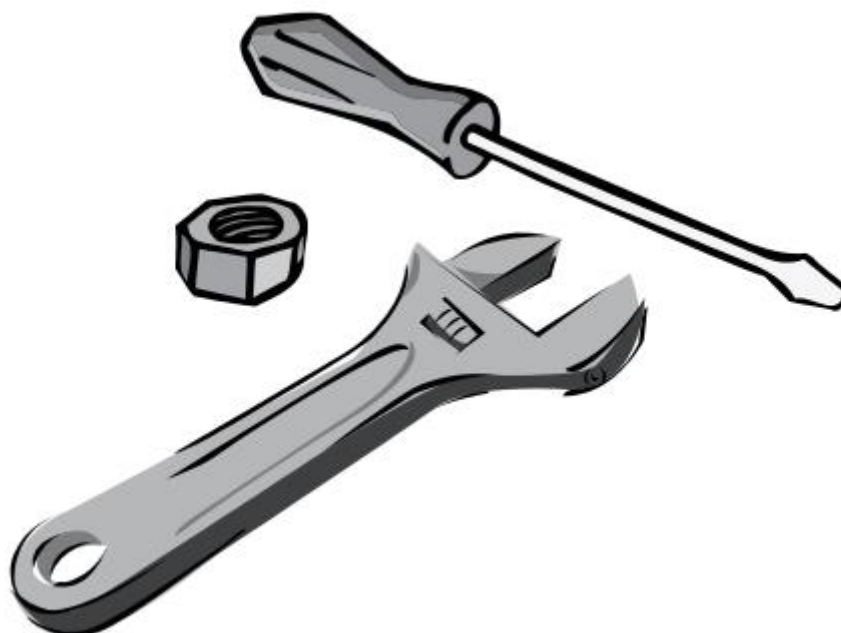
No.	Characteristic of failure	Reason	Exclusion method
I.	The steering wheel cannot be automatically return to center	Breakage of spring leaf in steering gear	Replacement of broken spring leaf
II	The steering wheel shimmy is obvious and does not even turn	Breakage or deformation of the inner pin of the steering gear	Replacement of dropping pin
III	Turn the steering wheel slowly, fast steering wheel is heavy	Insufficient oil supply of oil pump	Overhaul or replacement of oil pump
IV	The oil cylinder moves when the steering wheel rotates	Air in oil circuit system	Remove air from the system and check whether the oil suction pipe is loose or air leakage
V	Fast turn and turn the steering wheel slowly are heavy, and there is no pressure in steering	Failure of steel ball check valve in steering gear	If there is dirt stuck in the steel ball, cleaning shall be carried out. If the valve body sealing tape is in poor contact with the steel ball, it shall be impacted with the steel ball. In addition, overhaul flow amplifying valve
VI	Light load steering is light, and load steering sink is increased	The relief valve pressure is lower than the working pressure, the overflow valve is stuck by dirt or fails, and the sealing ring is damaged.	Adjust the relief valve pressure, or clean the valve and replace the spring or sealing ring
VII	Both left and right steering are slow	1. Oil leakage of pressure regulating valve	1. Repair or replace the pressure regulating valve
		2. Insufficient flow rate of steering pump	2. Overhaul or replacement of steering pump

B5.5 Common faults and troubleshooting of electrical system

No.	Characteristic of failure	Reason	Exclusion method
I.	The generator does not generate electricity or the voltage is low	1. Internal fault of generator	1. Replace with a new generator
		2. Alternator belt is too loose	2. Readjustment
II	Battery not charging or charging Low current	1. Fall-off of positive connecting wire of generator	1. When the electric lock is turned on and the engine is not started, the "+" pole of the generator shall have 12 V voltage
		2. The battery connection is too loose or fall off	2. Visually inspect and sturdy
		3. 发电机传动皮带过松 3. The alternator drive belt is too loose	3. 目测观察并坚固 3. Visually inspect and sturdy
		4. 发电机内部故障 4. Internal fault of generator	4. 更换发电机 4. Replacement of generator
III	Excessive charging current of battery for a long time	1. Serious battery power loss 2. Battery damage 3. Looseness of generator negative grounding wire	After starting the generator, check the battery voltage with a multimeter. If the charging current is too large and the voltage is below 12 V, it is a battery problem. If the "+" pole voltage of generator is above 12 V, check whether the "-" pole grounding of generator is normal, ground the negative pole of voltmeter, and connect the positive pole to the negative pole of generator. If the voltmeter shows voltage, it is an open circuit of ground wire. Otherwise, it is the internal problems of generator
四 IV	No indication of electrical sensing instrument	1. The instrument is damaged	1. Replacement of instruments
		2. The sensor is damaged	2. Replacement of sensors
		3. Generator or battery problem	3. Check whether the terminal voltage of the generator or battery is normal
V	Engine start failure or difficulty	1. Battery damage or lack of electricity	1. Replace with a new battery or charging
		2. 电锁损坏 2. The electric lock is damaged	2. 更换电锁 2. Replacement of electric lock
		3. Poor contact or open circuit of the circuit	3. Check and repair
		4. The electromagnetic switch of the starter motor is damaged or the contact is faulty	4. Replace with a new electromagnetic switch, or polish the contact with emery cloth
		5. Mechanical failure of starter motor	5. Repair or replace with a new starter motor

No.	Characteristic of failure	Reason	Exclusion method
		6. Power switch is damaged	6. Replacement of power supply switch
VI	Lamp does not light up	Line fault	Check the switch, fuse, bulb and circuit, etc. and replace or repair them
VII	Engine does not flameout	1. Poor contact or open circuit of the line	1. Inspection and repair
		2. The flameout relay is damaged	2. Replacement of flameout relay
		3. The flameout electromagnet is damaged	3. Replacement of shutdown electromagnet

C Maintenance

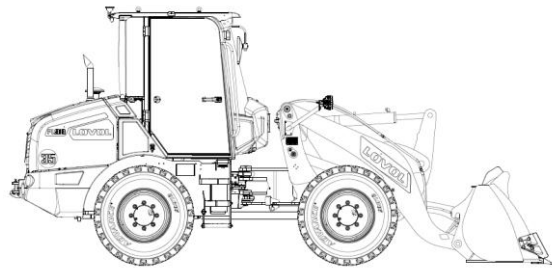


C1 Preparation before maintenance

- Check the hour meter.



- Park the loader on a solid ground, ensure that the four wheels are on the ground, and lay the bucket flat on the ground.



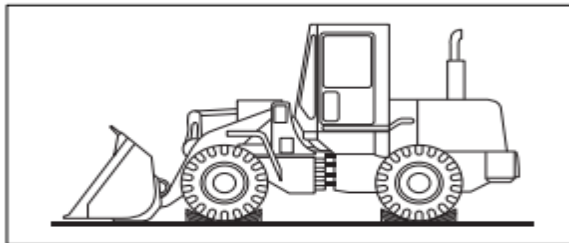
- The electronic handle FNR reversing switch is set to the N position.



- The parking brake switch is in the pull-up status.



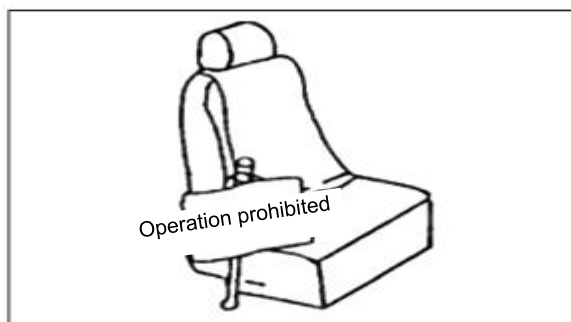
- Place stoppers in front of and behind the tire.



- Locking of frame lock.



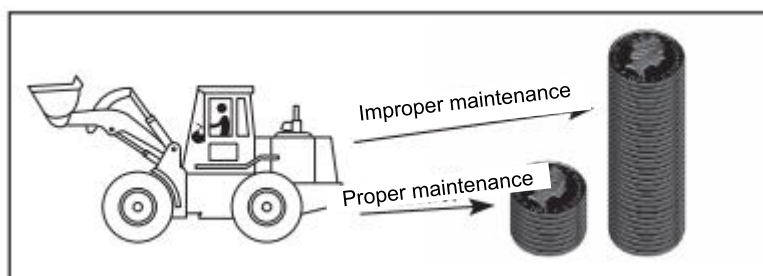
- Hang the warning mark.



- Accompanied tools

The tools required for maintenance are shown in the accompanied tools in the Product Packing List.

C2 General rules for repair and maintenance



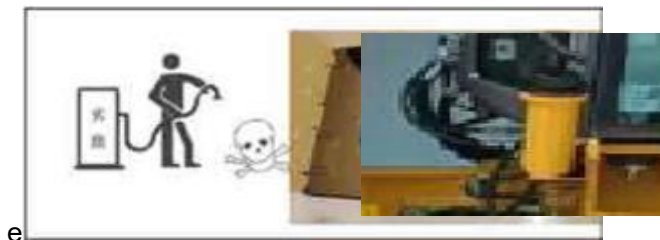
- Most of the faults of the loader are caused by improper use and management of oil, water, gas, etc.
- Correct maintenance is to maintain the loader on time, in quantity and in parts, with high quality and genuine materials, and according to the manual.
- Please read the Operation Manual of Diesel Engine for details of diesel engine maintenance.

C2.1 Fuel

- Select high quality diesel oil according to the ambient temperature.

Serial number	Ambient temperature	Grade of ordinary diesel oil	Application Products	Position of application
1	The minimum temperature is above 4°C	No. 0	Loader	Engine
2	The minimum temperature is above -5°C	- No. 10.		
3	The minimum temperature is above -14°C	- No. 20.		
4	The minimum temperature is above -29°C	- Number 35.		
5	The minimum temperature is above -44°C	- No. 50.		

- Poor quality diesel will damage the engine.



- Fill the oil with tanker to keep it clean and fireproof.



- Select high quality fuel filter element and replace it as required.

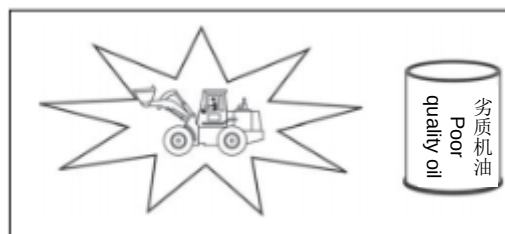


C2.2 Engine oil

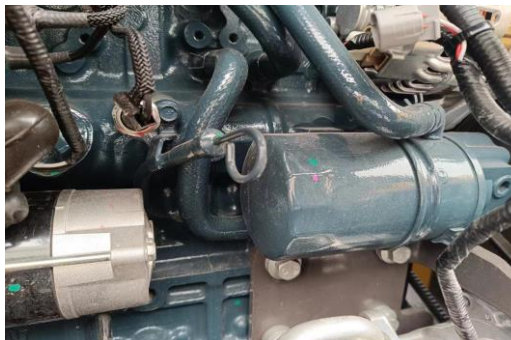
- Select high quality oil according to the ambient temperature and the engine operating instructions.

Serial number	Ambient temperature	Diesel engine oil code and name			Application Products	Position of application
		Quality level	Viscosity grade	Product name		
1	The minimum temperature is above -15°C	CK-4	15W-40	Diesel engine oil	Euro V products	Engine
	The minimum temperature is above -20°C		10W-30			
	The minimum temperature is above -30°C		5W-40			

- Poor quality oil will damage the engine.



- Select high quality oil filter element and replace it as required.



C2.3 Antifreeze

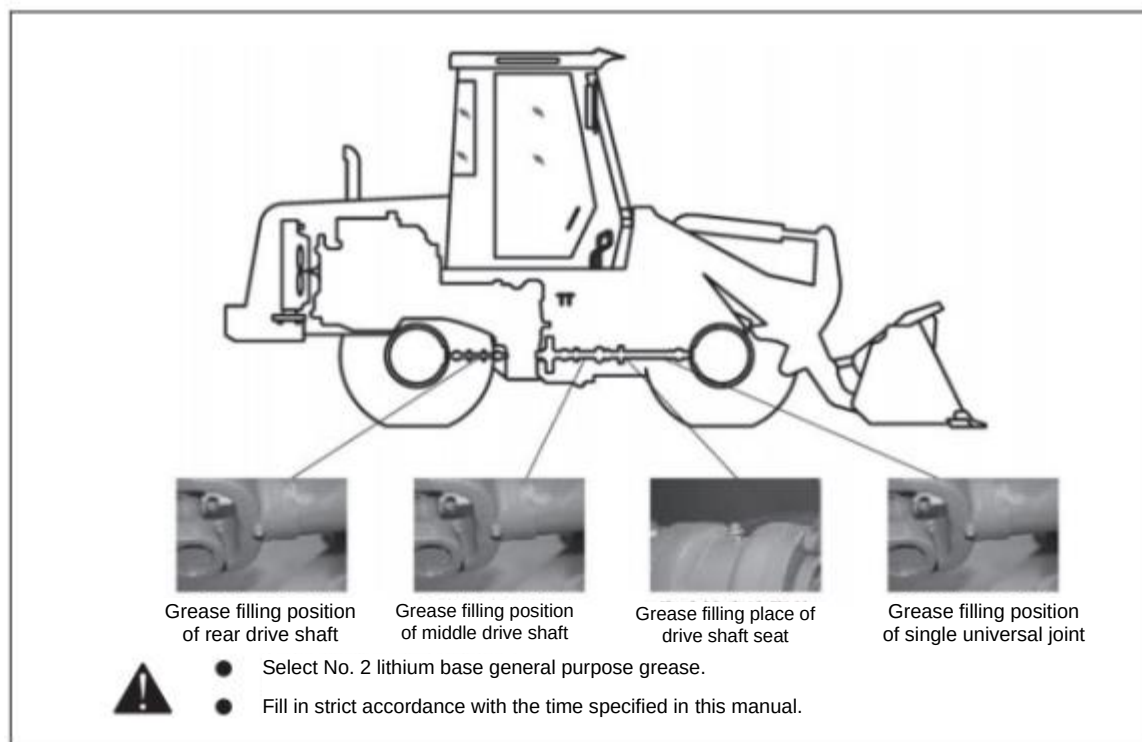
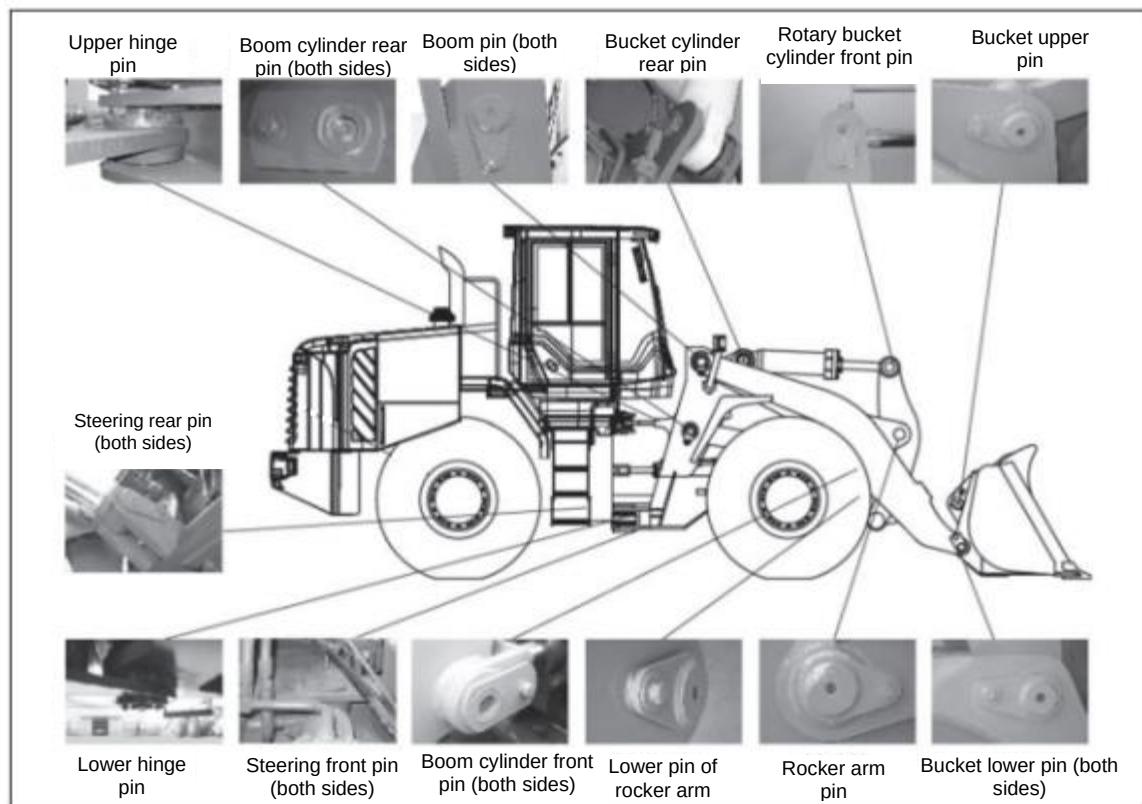
- After every year of operation, the antifreeze should be drained, the cooling system should be cleaned in time, and then new antifreeze should be added. When working in a dusty environment, after the operation is completed, the wind should be turned away, and the debris between the radiator tube and the sheet should be cleaned with water to prevent the efficiency of the heat dissipation system from being reduced or failed.
- Fill the whole machine with ethylene glycol type high quality antifreeze throughout the year, and the quality index of antifreeze must comply with Q/LWZG 127 Technical Conditions for Eurotrac Loader and Backhoe Loader Antifreeze of Eurotrac.
- Antifreeze must be used, and it is recommended to use Eurotrac special antifreeze.

C2.4 Grease

- Select high quality grease and No. 2 lithium base general purpose grease.
- Inferior quality lubricating grease will cause damage to the loader.
- Clean the dust and debris around the grease nipple, and fill it with special tools.
- Extrude the residual old lubricating grease.



- Filling lubricating grease parts of the loader.



C2.5 Transfer case oil, gear oil, brake fluid, hydraulic oil

种类	代号及名称	适应温度	应用部位
----	-------	------	------

Type	Code and name	Adaptation to temperature	Position of application
Automatic transmission oil	Texlon III transmission oil	$t \geq -20^{\circ} \text{C}$	Transfer case
Hydraulic oil	L-HM 46 (High voltage) anti-wear hydraulic oil	$t \geq -5^{\circ} \text{C}$	Hydraulic system of work equipment steering hydraulic system
	L-HV 46 Low temperature hydraulic oil	$-30^{\circ} \text{C} \leq t < -5^{\circ} \text{C}$	
	L-HS 46 Ultra-low temperature hydraulic oil	$t < -30^{\circ} \text{C}$	
Gear oil	Mobil vehicle limited-slip gear oil LS 85W-90 (MOBilube LS 85W-90)	----	Drive axle (except ZF axle)
Brake fluid	HZY4 Motor vehicle brake fluid	----	Brake system booster (except ZF axle)
	Mobil 424 hydraulic transmission oil	----	Brake system booster (ZF axle)

Caution: 1. Different grades of oil products shall not be mixed.

2. The HZY4 brake fluid must meet the requirements. The petroleum-based feedstock-based brake fluid cannot be selected, which is easy to cause damage to the seal of brake system. Eurotrac will not bear any responsibility for the various losses caused by the selection of brake fluid that does not meet the standard requirements.

C2.6 Air filter

- Check daily Check to see if Dust indicator lamp is on.



- Select high quality air filter element and replace it as required.



C2.7 Tire

- Check the air pressure

Front wheel air pressure: 0.35 MPa-0.375 MPa

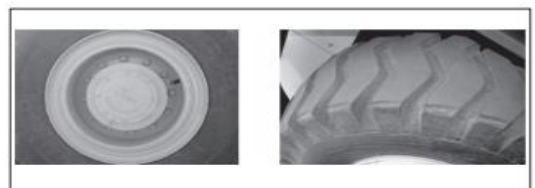
Rear wheel air pressure: 0.325 MPa-0.35 MPa



- Check the rim bolt and tread.

Rim bolt torque: 500 Nm ~ 585 Nm,

At the same time, it should be checked and tightened regularly.



C2.8 Recommended domestic and foreign oil reference table

- Engine oil.

Name and grade of oil	Similar foreign brands and grades (by United States SAE grading)			
	MOBIL	SHELL	CALTEX	ESSO
Engine oil	Black Overlord 15W-40 (t $\geq$ -15°C) 10W-30 Black Overlord 10W-30 (t $\geq$ -20°C)	RoteUaSX40; RoteUaTX 40; 20W/40; RoteUaDX 40; RoteUaSX 30; 10W/30; RoteUaTX 30; RoteUaDX 30;	Custom five star Moter Oil 40,20W/40 RPM delo 100,200 Oil 40; Custom five star Moter Oil 30; RPM delo 100,200 Oil 30,10w/30	Essolube XT-3; Essolube XT-2; Essolube XT-5;

Note: It is recommended to use Eurotrac loader special oil.

- Hydraulic oil.

Brand of domestic oil	(40°C) Kinematic viscosity (40 °C) mm ² /s	Similar foreign brands and grades				
		MOBIL	SHELL	CALTEX	CASTROL	ESSO
High-grade anti-wear hydraulic oil L-HM46 (t $\geq$ -5°C)	41.4-50.6	DTE25 (-10-40°C)	TeUus27; TeUus29;	Rando Oil HD32; Rando Oil HD46;	Hyspin AWS32; Hyspin AWS46;	Nuto H46
Low temperature hydraulic oil L-HV46 (-30°C $\leq$ t $\leq$ 5°C)	41.4-50.6	DTE15M (-26-40°C)	Hydro-kinetic Tellus T27 46	Rando Oil HDAZ	Hyspin AWH46; Nuto	Univis N46

Note: It is recommended to use Eurotrac loader special oil.

- Transfer case oil (automatic transmission oil).

Automatic transmission oil grade
Texlon III transmission oil

Note: It is recommended to use Eurotrac loader special oil.

- Gear oil (drive axle oil).

Brand of domestic oil	Kinematic viscosity (100。 C) mm/ s	Similar foreign brands and grades (according to the United States API grading, GL-5)			
		MOBIL	ESSO	CALTEX	SHELL
85W-90 GL-5	13.5-24.0	Mobil Delvac Gear Oil 80W-90(-20° C-40° C) 85W-140(-10° C-50° C)	Gear oil GX 85 W-90	Multi Purpose ThubanEP	Spirax EP Heavyduty HD90 HD80W-90

Note: It is recommended to use Eurotrac loader special oil.

- ZF驱动桥AP410/DK和AP412/HK
- AP410/DK and AP412/HK oil for ZF drive axle

Requirement	API GL-5 SAE90+LS
Recommended oil products	Mobilube LS 85W-90

- Brake fluid.

Brand of domestic oil	Grading	Similar foreign brands and grades			
		MOBIL	ESSO	British Petroleum Company BP	SHELL
HZY4 synthetic brake fluid	SAE1703 C	Super Brake Fluid DOT4	Brake Fluid	Brake Fluid Disc-Brake Fluid	Donax B

Note: It is recommended to use the special brake fluid for Eurotrac loader.

- Lubricating grease.

Brand of domestic oil	Similar foreign brands and grades					
	MOBIL	CALTEX	GASTROL	ESSO	British Petroleum Company BP	SHELL
No. 2 lithium base grease	Mobil grease XHP222	Marfak multi Purpose	LM grease	Longlex MP Beacon EP2	Energrease 1	Retinax A; Alvania

C3 Special repair and maintenance

C3.1 Replacement of air filter element

- Turn on the key switch and check whether the dust indicator lamp is on.
- When the dust indicator lamp is on, please clean or replace the air filter element. When the engine is working, the air filter is required to provide clean and clean air. Correct maintenance will reduce the wear of engine-related parts and components. The air filter also has the function of reducing the intake noise.



- Open the air filter clip, open the end cover of the air cleaner housing, take out the outer filter element and blow it with compressed air (≤ 700 KPa or 7 kg/cm²).
- After 6 times of outer core blowing, it shall be replaced together with the inner core.
- After the outer core is blown, the dust indicator lamp is still on, and the inner and outer cores shall be replaced immediately.
- Dust is harmful to human health.
- Install the filter element and clip.



C3.2 Cleaning the A/C filter element

- Maintenance interval and maintenance specifications of loader air conditioner filter element:
 1. The cab ventilation filter element (external circulation filter element) shall be inspected every 100 hours to determine whether cleaning or replacement is required.
 2. The cleaning cycle of the filter element is 250 hours. When the working environment is relatively harsh or the air conditioner or air heater is often used, it is recommended to clean it once at the 100th hour.
 3. Before cleaning, the filters shall be removed from the evaporator assembly. When removing the dust on the paper filter element, use a soft bristle brush to brush the surface ash of filter paper along the folding direction, and strike it alternately to make the dust fall off. Or use compressed air (air pressure shall not exceed 0.2-0.3 MPA) to blow air in the same direction for several times along the crease of filter paper to blow off the dust adhered to the outer surface of the filter paper.
 4. If the blockage cannot be removed with compressed air, or the pre-filter element has been used for 1000 hours, the main filter element has been used for 2000 hours, or the filter element has been damaged, it is necessary to replace the new filter element.
 5. Increase or decrease the replacement cycle of the filter element according to the amount of dust in the working environment.
 6. The filter element is only used to separate the dust in the air and cannot block any harmful gas.

C3.3 Replacement of transmission oil and filter element

C3.3.1 Transmission oil filling

C3.3.1.1 Oil level inspection

- Park the vehicle in a flat place, place the shift control lever in the neutral position, pull up the parking brake lever, and place stoppers in front of and behind the tire.
- Check the transmission oil sight glass, check the oil level and increase or decrease the engine oil accordingly.



C3.3.1.2 Replace with new oil

- Park the vehicle in a flat place, place the shift control lever in the neutral position, pull up the parking brake lever, and place stoppers in front of and behind the tire.
- Unscrew the oil drain plug to drain the oil and collect it in a container.
- Drain the old oil, clean up the iron filings attached to the oil drain plug and the oil stain on the gearbox body, rewind the new raw meal belt on the screw plug and install it.

Fill the transmission oil filler with the specified transmission oil, and screw on the fuel filler cap.

- Start the engine, idle running for about 5 minutes, and recheck the transmission oil level.

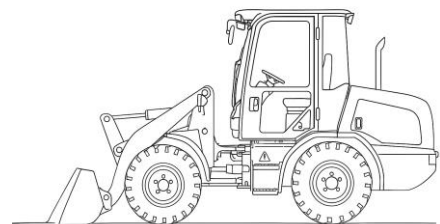


Caution

- When checking the oil level, take security measures to prevent the vehicle from rolling or moving to ensure security!
- When the hydraulic transmission oil is at a high temperature, wear protective equipment and operate carefully to avoid personal injury.
- If the old oil is found to be dirty, it should not be directly refueled. The side primary filter should also be taken out and each part should be cleaned. If a large amount of metallic powder or debris is found, please contact the maintenance staff.

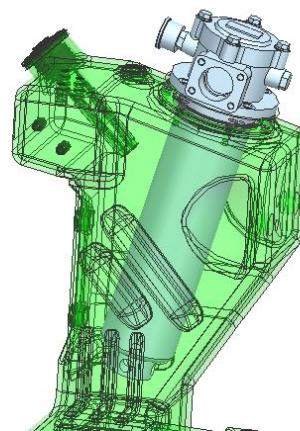
C3.4 Replace hydraulic oil and filter element

- Place the bucket horizontally on the ground, and then place blocks at the front and rear tires.

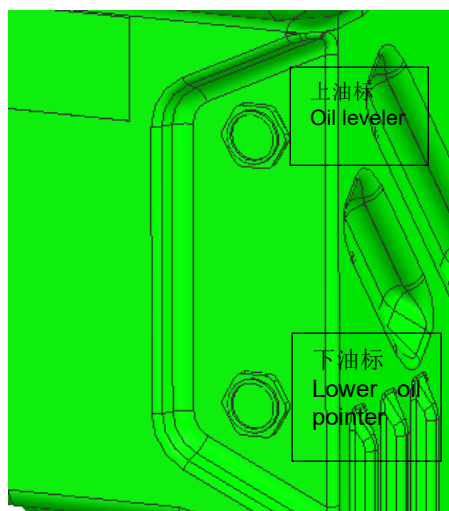


- Open the cover and oil drain plug of the oil filling port and put the oil into the special purpose container

- Replacement of the filter element.



- Place the bucket flat, add new oil until the lower oil pointer is full, and do not exceed the upper oil pointer.



 **Caution** After the engine is shut down and the temperature has decreased, and then the above operation can be carried out.

C3.5 Replace front and rear axle oil

- Bridge refueling hole



- Bridge oil drain hole



- Wheel-side oil filler/drain hole and observation hole.



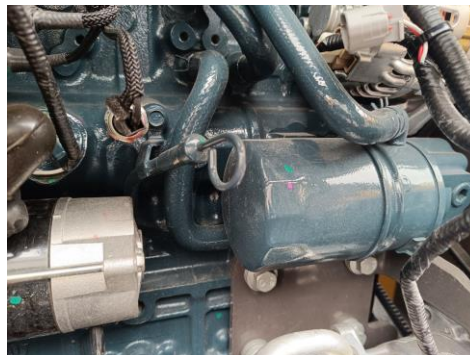
Refueling method:

Drive the loader to a flat field, idle running for about 10 minutes, and slowly move the loader with a small throttle to make the oil drain hole on the end face of the front drive axle wheel in the lowest position.

- Engine flameout, shift control lever in neutral position, pull up the parking brake lever, and place stopper on the front and rear tires.
- Unscrew the oil drain plug on the end face of the two wheel sides of the front drive axle and the oil drain plug at the central bottom of the axle housing, drain the oil, and collect it with a container.
- Drain the old oil and screw on the oil drain plug at the bottom of the central part of the axle housing.
- Start the engine, press the parking brake lever, and slowly move the loader with a small throttle to make the observation hole on the end face of the wheel be in the horizontal direction. Then the engine is shut down, the shift control lever is placed in the neutral position, the parking brake lever is pulled up, and the front and rear tires are placed in the stopper.
- Add the specified gear oil from the oil filler plug in the center of the axle housing, refuel to the lower busbar of the oil level hole, allow a small amount of oil to overflow, check the oil level, and tighten the oil filler plug of the front axle housing.
- Unscrew the screw plug of the wheel-side observation hole, add the specified gear oil from the oil filling port on the end face of the two wheel sides, refuel to the lower busbar of observation hole, allow a small amount of oil to overflow, check the oil level, and tighten the screw plug of the wheel axle housing.
- Replacement of rear drive axle gear oil according to the above process.

C3.6 Replacement of engine oil and filter element

- Open the oil filler cap.
- Unscrew the oil drain plug and place the waste oil in the special purpose container.
- Remove the filter with a special tool and turn it counterclockwise, and then replace it with a new one.
- Before installing the new filter, apply engine oil or thin coat grease to the interface.
- Fill new engine oil from the oil filling port.



- The level of liquid is within the specified range of the oil level dipstick.
- Start the engine and check for leaks.



C3.7 Replacement of diesel filter element

- Remove the filter by turning it counterclockwise with a special tool.
- Clean the filter holder.
- Do not pollute the operation environment.



- Replace the new filter. Before installing the new filter, apply engine oil or thin coat grease to the interface.

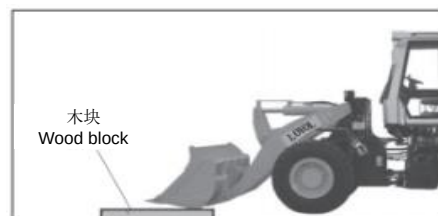
- Loosen the hand oil pump bleeder plug, and pump oil and exhaust.



- Start the engine and check for leaks.

C3.8 Replacement of bucket tooth

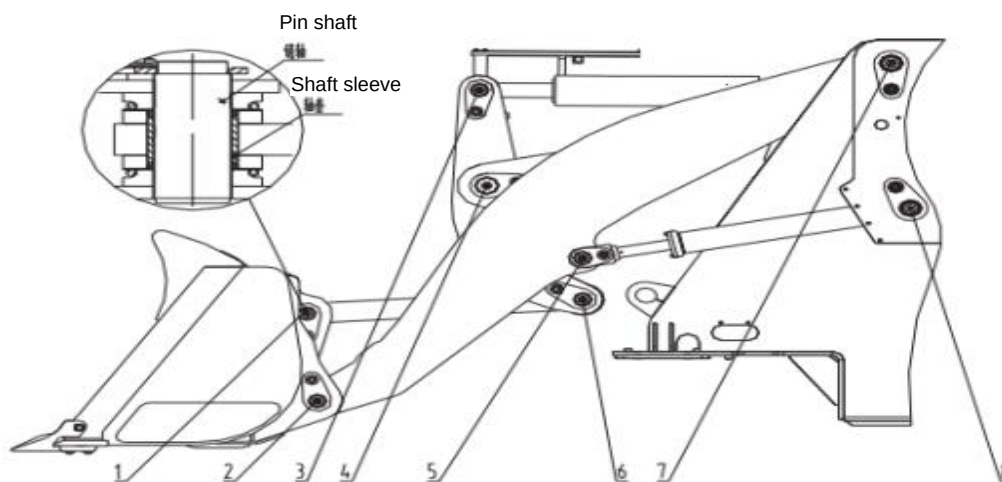
- Use a block of wood to cushion the bucket.



- Engine flameout, replace with a new bucket tooth.
- Tightening torque of new bucket tooth bolt: 902±39 Nm (92±4 kgm).
- After the new bucket tooth has been working for 4 hours, the bucket tooth bolt shall be re-tightened to the specified tightening torque.



C3.9 Replacement of pin shaft and shaft sleeve



S/N	Position	Limit clearance (mm)	Measures to be taken after exceeding the allowed value
1	Bucket and pull rod hinge	1.0	Replacement of pin shaft or shaft sleeve
2	Boom hinge between bucket and boom	1.0	Replacement of pin shaft or shaft sleeve
3	Rocker arm and oil cylinder hinge	1.0	Replacement of pin shaft or shaft sleeve
4	Boom hinge with rocker arm	1.0	Replacement of pin shaft or shaft sleeve
5	Hinge between the boom and the oil cylinder	1.0	Replacement of pin shaft or shaft sleeve
6	Hinge between pull rod and rocker arm	1.0	Replacement of pin shaft or shaft sleeve
7	Boom and frame articulation	1.0	Replacement of pin shaft or shaft sleeve
8	Oil cylinder (lifting cylinder/tipping cylinder) and frame articulation	1.0	Replacement of pin shaft or shaft sleeve

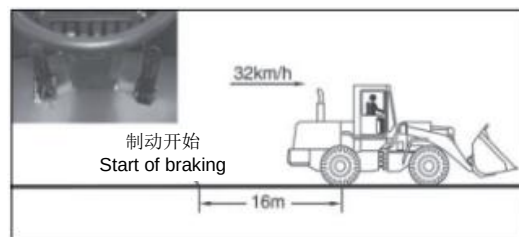


Caution

- If the limit clearance of pin shaft and shaft sleeve is exceeded or the pin shaft sleeve is damaged, it must be replaced. In this case, contact Eurotrac authorized service station or Eurotrac Manufacturer for maintenance in time.
- Eurotrac shall not be liable for any fault or loss caused by untimely replacement.

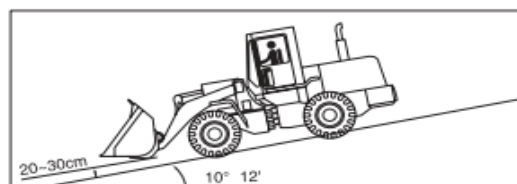
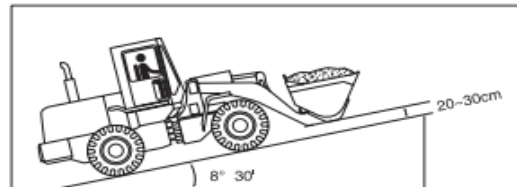
C3.10 Service brake and Inspection of parking brake

- Inspection of service brake.



- Inspection of parking brake

Depress the brake pedal and place the gearshift lever in "N" position. The parking brake lever is in the "Brake" position. Release the brake pedal and the loader should remain in place on the ramp.



C4 Standard tightening torques for bolts and nuts

- Rigid coupling: After tightening, the connected materials have no obvious compression or the materials will not flow out after tightening. This kind of coupling is called rigid coupling.
- Flexible coupling: the coupling material continues to compress after tightening or the material continues to flow out after tightening. This coupling is called flexible coupling.

C4.1 Tightening torque of ordinary hexagon head bolt

Thread specification		Standard torque (grade 8.8)		High torque (Grade 10.9)		Low torque (Grade 4.8)	
Metric system (mm)	Imperial (in)	Rigid coupling	Flexible coupling	Rigid coupling	Flexible coupling	Rigid coupling	Flexible coupling
M4		1.7 ± 0.4	1±0.3	3.7 ± 0.8	2.4 ±0.5	1.7 ± 0.4	1±0.3
M5、 M6		10.5 ± 1.5	6 ± 1	14 ±1.5	9±1	6 ± 1	4±1
M8		26 ±4	17 ±3	33 ±3	22 ±2	15 ±3	10 ±3
M10		52 ±7	34 ±5	72 ±6	48 ±4	30±7	20 ±7
M12		90 ±12	58 ±8	120 ±10	80 ±10	50 ± 10	32 ±10
M14		145 ± 20	95 ±13	195 ± 15	123 ±9	80 ± 15	52 ±15
M16		225 ±35	140 ±22	305 ± 25	198 ± 16	125 ±20	80 ±20
M18		310 ±45	200 ±29	415 ± 35	269 ±23	170 ±30	110±30

Thread specification		Standard torque (grade 8.8)		High torque (Grade 10.9)		Low torque (Grade 4.8)	
M20		430 ±50	271 ± 32	600 ±55	385 ± 35	250 ±40	160 ± 40
M22		585 ± 80	380 ±52	800 ±70	514 ±45	300 ±45	195 ± 45
M24		760 ±100	494 ±65	1020 ± 90	657 ± 58	425 ± 50	270 ±50
M27		1100 ±140	715 ± 98	1500 ±130	975 ± 85	540 ± 100	350±100
M30		1470 ±200	919± 125	1850±170	1202 ±110	850 ±100	550 ±100
M33		2050 ±300	1300 ±190	2500 ±230	1652±150	1150 ±150	750±150
M36		2580± 350	1624 ± 189	3100 ± 280	2015 ± 182	1450 ± 200	940 ±200
	1/4	12 ±3	7 ± 1.5	13 ± 3	8±2	6 ± 1	4 ± 1
	5/16	25 ± 6	16 ±4	28 ±7	19 ±2	13 ± 3	9±2
	3/8	47 ±9	30 ±6	50 ± 10	34±7	25 ± 6	17±4
	7/16	70 ±15	45 ±10	80 ± 15	54 ±10	40 ±8	29 ±5
	1/2	105 ± 20	67 ±13	120 ±20	80 ±13	60± 12	39 ±8
	9/16	160 ±30	105 ± 20	175 ± 30	110±19	80 ± 15	52 ±10
	5/8	215 ± 40	133 ± 25	240 ±40	156 ±26	115 ±20	74 ±13
	3/4	370 ±50	233 ±31	430 ±60	276 ±38	200 ±40	128 ±26
	7/8	620 ±80	403 ±52	700 ± 90	450 ±58	325 ±40	211 ±26
	1	900 ±100	569 ± 65	1050±150	677 ±97	500 ±65	318 ±41
	1-1/8	1300 ± 150	845 ± 63	1450 ±150	943 ± 98	700 ± 90	454 ±58
	1-1/4	1800± 200	1125 ±125	2100± 250	1364 ± 162	1000 ± 125	647 ±81
	1-3/8	2400 ±300	1510 ±190	2700 ±300	1755 ±195	1300 ± 150	843 ±7
	1-1/2	3100± 350	1950 ± 220	3600±400	2340 ± 163	1700 ±200	1101 ±130

C4.2 Tightening torque of hexagon flange bolt

Metric thread size (mm)	Standard torque (grade 8.8)		High torque (Grade 10.9)		Low torque (Grade 4.8)	
	Rigid coupling	Flexible coupling	Rigid coupling	Flexible coupling	Rigid coupling	Flexible coupling
M6	12.5 ± 1.5	7±1	16.5 ±1.5	10±1	8±1	5±1
M8	29 ±4	19 ±3	38 ±3	25 ±2	18 ±3	12±2
M10	58 ±7	38 ±5	80 ±6	53±4	36 ±7	24 ±5
M12	105±13	68 ±8	140 ± 10	93 ±7	64± 10	41±4
M14	165 ±20	108 ±13	225 ±15	141 ±9	101 ±15	66 ±13
M16	259 ±32	162 ±20	348 ± 20	226 ± 13	159 ± 20	102 ± 13
M20	507 ± 62	320 ±39	692± 55	444 ±35	319 ±40	204 ±26

C5 Dusty environment

When working in dusty environment, pay attention to the following points:

- Check and clean the air filter frequently to avoid blockage.
- Clean the radiator frequently to prevent blockage.
- Clean and replace the fuel filter frequently.
- Clean electrical devices, especially the starter motor and generator, to prevent dust from accumulating and affecting heat dissipation.

C6 Wading operation

When working in water or in marshy areas, pay attention to the following points:

- Check the ground conditions, water depth and velocity of flow.
- The water depth shall not exceed the bottom of the drive axle housing.
- After the operation is completed, the lubricating oil filling position shall be cleaned and inspected.

C7 Running-in period maintenance

Running-in time	Maintenance content	Methodology
8 hours	1. Check the fastening of each component, bolt and nut, especially the exhaust pipe screw, front and rear axle fixing bolt, rim fixing nut and drive shaft connecting bolt.	See this manual for details
	2. Check the degree of tightness of the fan belt	See this manual for details
	3. Check the transmission oil level	See this manual for details
	4. Check the connection and fixation of each operating lever	See this manual for details
	5. Check the oil level of the engine	See this manual for details
	6. Check the hydraulic oil level	See this manual for details
	7. The connection of each component of the electrical system is mainly the starter, alternator and other fuses;	See this manual for details
60 hours Expiration of running-in period	1. Clean the transmission oil pan screen and replace it with new oil	See this manual for details
	2. Maintenance of engine	Follow the Engine Instruction Manual
	3. Check the vehicle performance	

C8 Regular maintenance

Period	Contents
Every 10 hours (i.e. daily maintenance)	Check oil level (including hydraulic oil, brake fluid, engine oil, fuel oil)
	Check the radiator fluid level
	Check the lighting instrument
	Check that there is no abnormal phenomenon of oil leakage or water leakage
	Add lubricating grease (each hinge point of work equipment)
	Check the tire pressure, and check the bolts of the wheel rim and important parts
	Clean the air filter (maintenance according to the warning lamp indication)
Every 50 hours (or weekly maintenance)	In addition to completing the maintenance every 10 hours, the following work shall be added:
	Tighten the front and rear connecting bolts of the front and rear drive shaft
	Check the service braking performance and check the parking brake performance
	Add lubricating grease (at the hinge point of front and rear frames and universal joint of propeller shaft)
	Check the transmission oil level, check and cleaning the transmission breather
	Check the clean the drive axle breather
Every 100 hours (or every half-month maintenance)	In addition to completing the maintenance every 10 and 50 hours, the following work shall be added:
	Remove the engine cylinder head oil stain

Period	Contents
	Check the battery observation hole (green: normal, gray: power loss, black: damaged)
	Add lubricating grease (at steering cylinder hinge point and drive shaft spline)
	Cleaning A/C internal/external circulation filter element (the frequency of inspection and cleaning shall be increased in high dust condition)

Maintenance specification of radiator						
Working hours Maintenance items	1000/1 年 1000/1 year	2000	3000	4000	5000	≥6000 (每 1000h) (every 1000h)
Antifreeze	Replacement	Regular inspection/supplement	Replacement	Regular inspection/supplement	Replacement	Replacement
Hydraulic oil	● Refer to the Warranty Manual of Complete Machine					
Transmission oil	● Refer to the Warranty Manual of Complete Machine					
Fan and wind deflector	Regular inspection	Regular inspection	Regular inspection	Regular inspection	Regular inspection	Regular inspection
Windshield rubber plate is intact	Daily inspection	Daily inspection	Daily inspection	Daily inspection	Daily inspection	Daily inspection
Unobstructed around	Daily inspection	Daily inspection	Daily inspection	Daily inspection	Daily inspection	Daily inspection
Water tank cover locking	Daily inspection	Daily inspection	Daily inspection	Daily inspection	Daily inspection	Daily inspection
Looseness of pipe orifice clamp	Regular inspection	Regular inspection	Regular inspection	Regular inspection	Regular inspection	Regular inspection
Aging and seepage of rubber hose	Regular inspection	Regular inspection	Regular inspection	Regular inspection	Regular inspection	Regular inspection
Surface cleaning	The regular inspection and cleaning shall be carried out in combination with the actual working conditions					
Warning	It is forbidden to add tap water, purified water, mineral water, etc.!					
	It is forbidden to mix antifreeze of different brands and specifications!					
	Do not flush with water or corrosive liquid, and use dry compressed air purging!					

Note: The radiator of the loader that has been working for more than 1000 h should be maintained according to the above specifications.

Serial number	Maintenance category	Name	50 hours	150 ±50 hours)	500± 100 hours	700± 100 hours	1000± 100 hours	1500± 100 hours	2000± 100 hours	2500± 100 hours	3000± 100 hours	3500± 100 hours
1	Hydraulic system	Filter element		•		•		•		•		•
2		Anti-wear hydraulic oil								•		
3		Filter element		•		•		•		•		•
4	Transmission system	Heavy duty gear oil				•		•		•		•
5		Transmission oil		•		•		•		•		•
6	Brake system	Brake fluid				•		•		•		•
7	Power system	Oil filter element	•		•		•	•	•	•	•	•
8		Fuel filter element			•		•	•	•	•	•	•
9		Coarse filter element			•		•	•	•	•	•	•
10		Antifreeze						•				•
11		Diesel engine oil	•		•		•	•	•	•	•	•
12		Air filter element	According to the air filter alarm indicator lamp, maintain the filter element for five times and replace the new main filter element at the same time									
13	Air conditioning system	External circulation filter element	Check before use every summer, and replace it if necessary. It is recommended to replace it every three months									

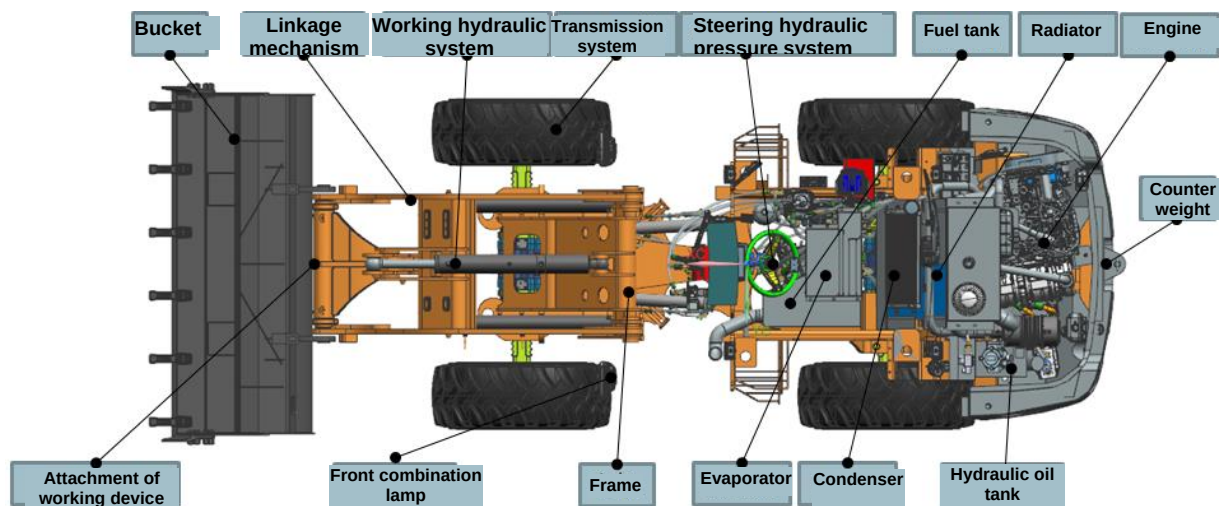
Note

1. Check and replace the center sill frame pin and shaft sleeve every 5000 hours. The inspection standard: radial clearance ≤ 1 mm, axial clearance ≤ 0.5 mm (four mounting surfaces)
2. Replacement of antifreeze for subsequent cycle maintenance every 2000 ± 100 hours;
3. Replacement of hydraulic oil for subsequent cycle maintenance every 2500 ± 100 hours;
4. The ZF box and axle equipped with the engine shall be subject to the maintenance regulations of their manufacturers;
5. For models equipped with air drying tank or pilot filter, maintenance must be carried out according to the maintenance requirements;
6. The A/C filter element shall be replaced according to the actual situation, and shall be checked before use every summer, and replaced if necessary.
7. DPF needs to be ash removal treatment at the designated service station after 5000 hours of operation;

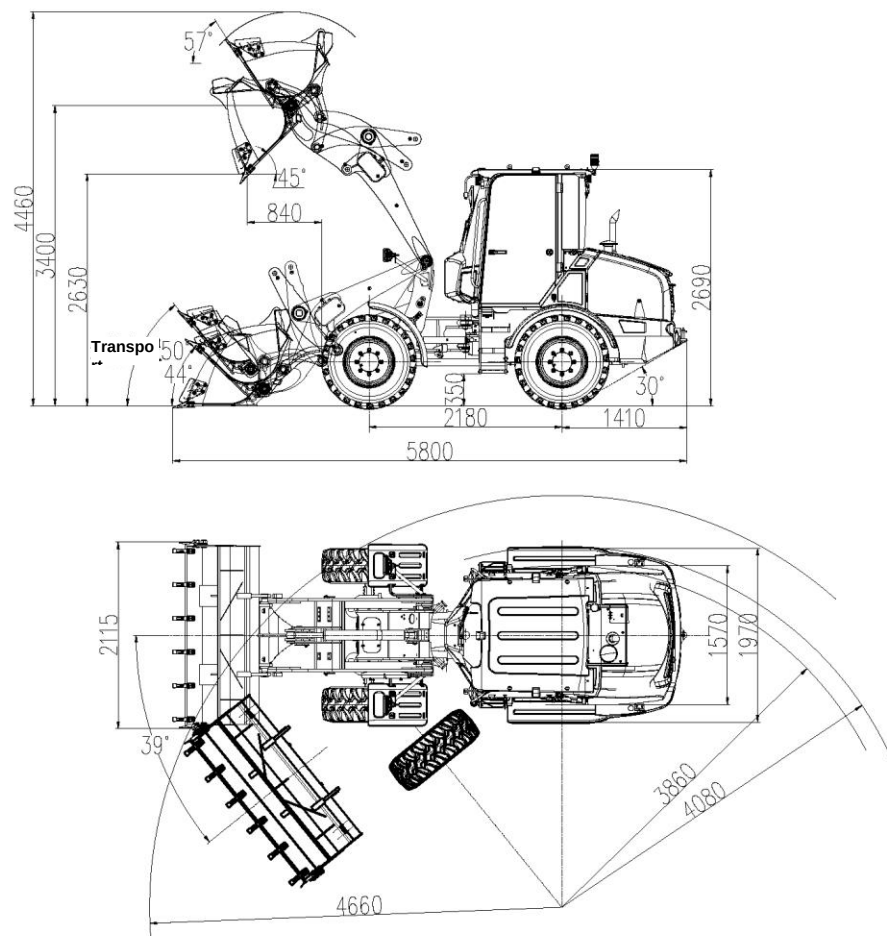
D Structural characteristics and performance parameters



D1 Appearance and name of each component



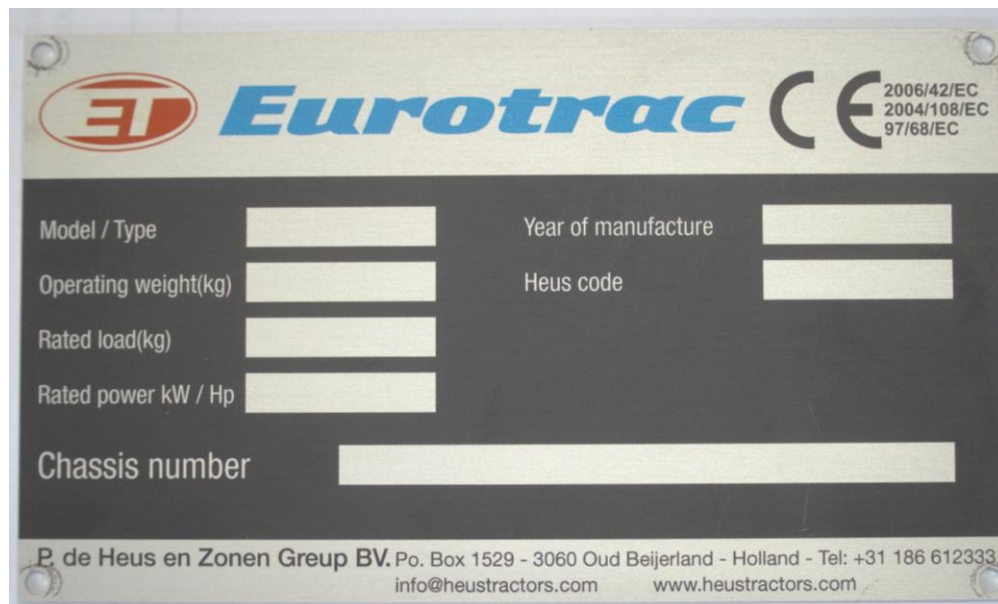
D2 Overall dimension drawing (basic type)



Different sizes may vary without prior notice.

D3 signage

The signage of the complete machine is nailed on the right side of the rear end of the front frame, indicating the type of vehicle, product identification code, year of manufacture and manufacturer, etc.



The image shows a metal signage plate for a Eurotrac machine. At the top left is the Eurotrac logo. To its right is a CE mark followed by the text "2006/42/EC", "2004/108/EC", and "97/68/EC". Below this, the plate is divided into two columns. The left column contains labels for "Model / Type", "Operating weight(kg)", "Rated load(kg)", and "Rated power kW / Hp", each followed by a blank rectangular box. The right column contains labels for "Year of manufacture" and "Heus code", each followed by a blank rectangular box. Below these columns is a single long blank rectangular box labeled "Chassis number". At the bottom of the plate, there is a line of text: "P. de Heus en Zonen Greup BV. Po. Box 1529 - 3060 Oud Beijerland - Holland - Tel: +31 186 612333", followed by "info@heustractors.com" and "www.heustractors.com".

D4 Requirements for working environment

This loader is suitable for the following environments:

- 1, altitude: ≤ 3500 meters;
2. Ambient temperature: $-10^{\circ}\text{C} \sim 30^{\circ}\text{C}$;
3. Wading depth: $\leq 440\text{mm}$

This loader is an ordinary construction machinery that meets the European Union standards and is used for the various applications described in this manual under normal conditions. In case of use for other purposes or in potentially dangerous or contaminated environments, such as flammable, explosive air or areas containing asbestos dust, etc., special security regulations must be observed and the machines must be equipped with corresponding devices.

D5 Technical parameters

D5.1 Basic parameters (standard configuration)

Bucket capacity	1.2m ³
Rated load	2000Kg
Boom lifting time	/
Three and	10.1s
1st gear speed	0-10km/h
2nd gear speed	0-20km/h
3rd gear speed	0-30km/h
Engine model	Kubota V3307
Engine power	55.4 kw
Maximum tractive effort	44KN
Maximum rising power	64KN
Angle of departure	30°
Steering angle	39°
Minimum turning radius outside the bucket	4660mm
Maximum vehicle length	5800mm
Vehicle width	2150mm
Bucket width	见铭牌 See nameplate
Vehicle height	2660mm
Wheelbase	2180mm
Wheel tread	1570mm
Minimum ground clearance	350mm
Height of unloading	2630mm
Unloading distance	840mm
Noise near the ear inside the cab	≤80dB
Vibration value of handrail	≤2.5m/s ²

Curb weight	6650Kg
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D5.2 Power system

See the corresponding Engine Instruction Manual for parameters of power system.

D5.3 Transmission system

D5.3.1 Hydrostatic actuation

Type	One pump and one motor
Displacement of travel pump	75.9
Displacement of travel motor	170

D5.3.2 Transmission

Type	HST Transfer Case
Speed ratio	1.62

D5.3.3 Drive axle

Type	Wet drive axle
Type of main drive	Spiral bevel gear primary reduction
Wheel-side reduction type	Planetary reduction of spur gear
Reduction ratio of main drive	2.235
Wheel-side reduction ratio	6.0

D5.3.4 Wheels

Tire	405/70R20 wide base radial tire
Tire pressure	(Refer to C 2.7)
Front wheel	0.35-0.375 MPa
Rear wheel	0.325-0.35 MPa

D5.4 Brake system

D5.4.1 Service brake

Type	Hydraulic brake
Brake air pressure	6.55±0.35Mpa

D5.4.2 Parking brake

Type	Hand operated type
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D5.5 Steering system

Type	Articulated frame
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Steering cylinder	2-63X35X33 2-63X35X330 (Quantity - Cylinder bore × Diameter of piston rod × Stroke)
Working pressure of system	20MPa
Steering angle	39°

D5.6 Work equipment

Boom cylinder	2x85x50x680x1050 (Quantity - Cylinder bore × Diameter of piston rod × Stroke × Distance of installation)
Bucket rotary cylinder	1x100x55x410x1140 (Quantity - Cylinder bore × Diameter of piston rod × Stroke × Distance of installation)
Distributing valve	Electric proportional control

D5.7 Electrical system

System voltage	12V
Battery capacity	115Ah
Bulb voltage	12V
Illuminance of working light	2400lux
Starting of diesel engine	12 V electric start

D5.8 Refueling capacity

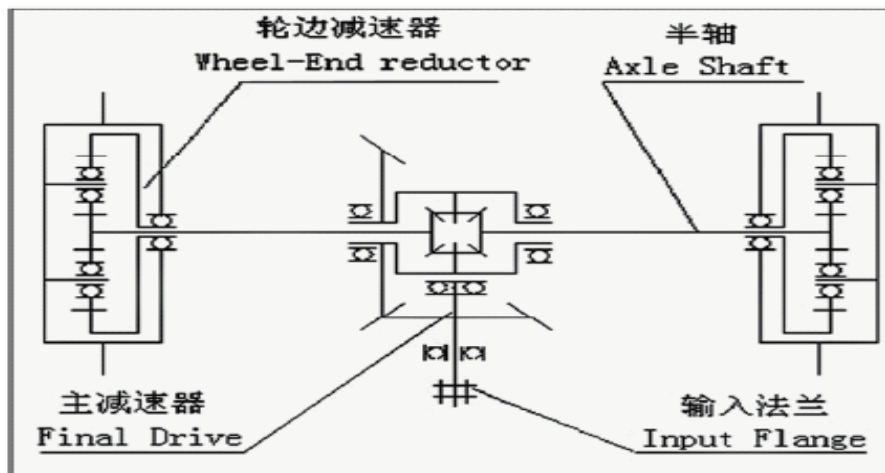
Fuel oil	60L
Hydraulic oil	35L
Engine oil	11.2L
Transfer case	1L
Front axle	7L
Rear axle	7L

D5.9 Air conditioning system

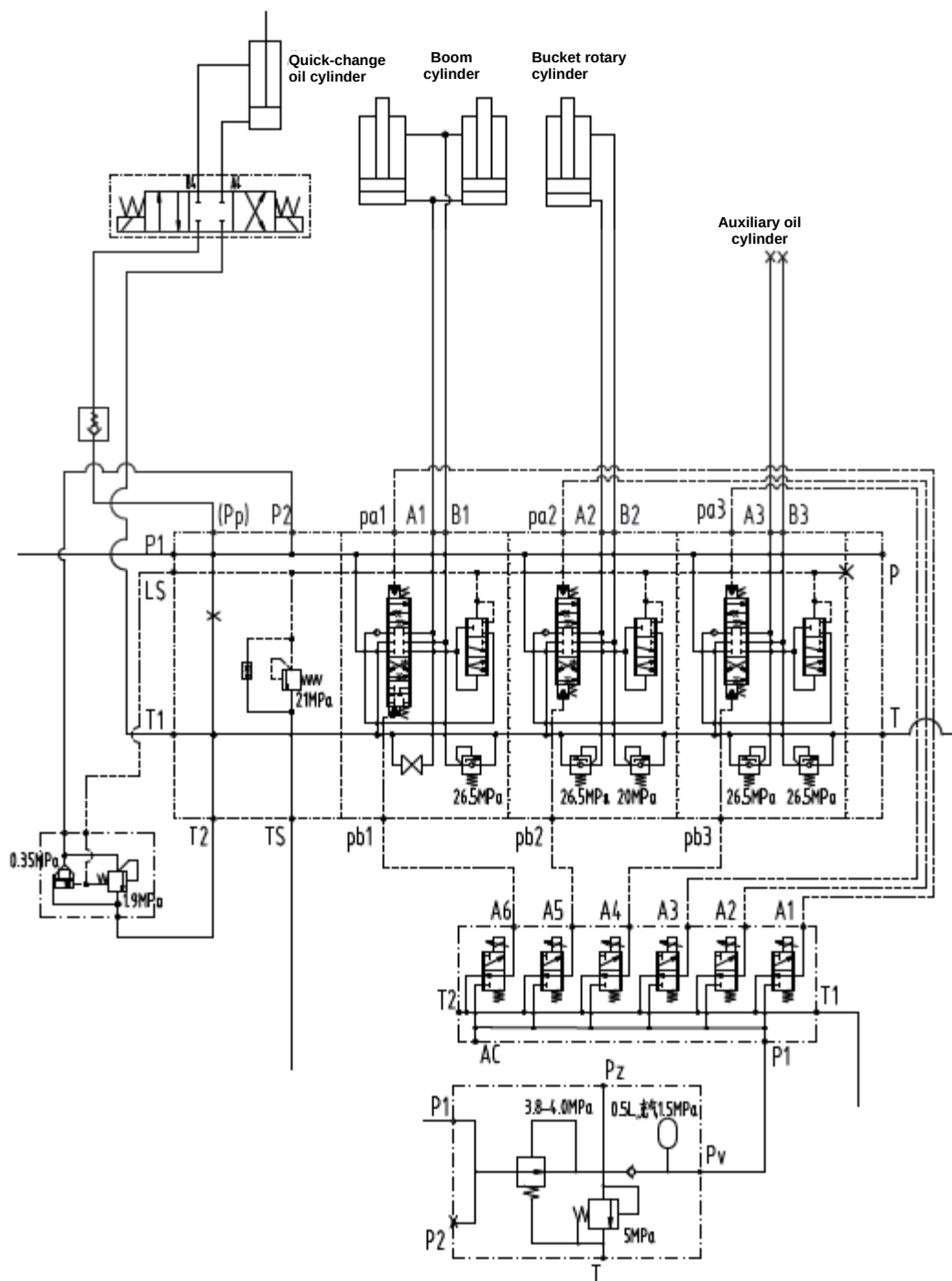
Heater (standard)	/
Working medium	Diesel engine circulating water
Heating capacity	6000W
A/C (optional)	/
Working medium	R134a
Refrigerating capacity	4500W
System voltage	12V. DC

D6 Schematic diagram of system

D6.1 Schematic diagram of drive axle



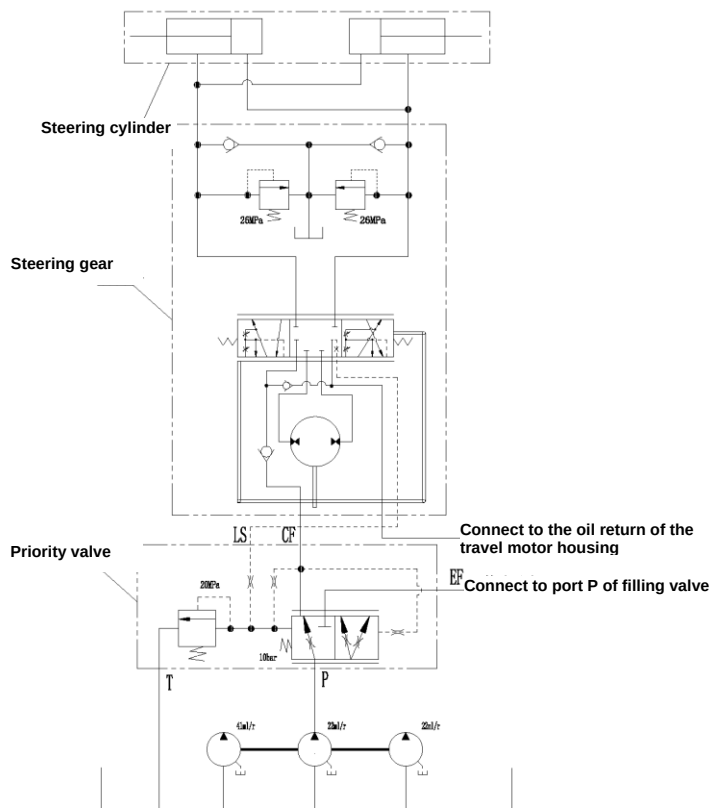
D6.2 Schematic diagram of hydraulic system of work equipment



Warning

The pressure of the hydraulic system shall be adjusted by the manufacturer before delivery, and a special lead seal locking shall be installed on the pressure regulating and the upper part. The user shall not adjust it at will, otherwise the Eurotrac will not bear any responsibility for the losses caused.

D6.3 Schematic diagram of steering system

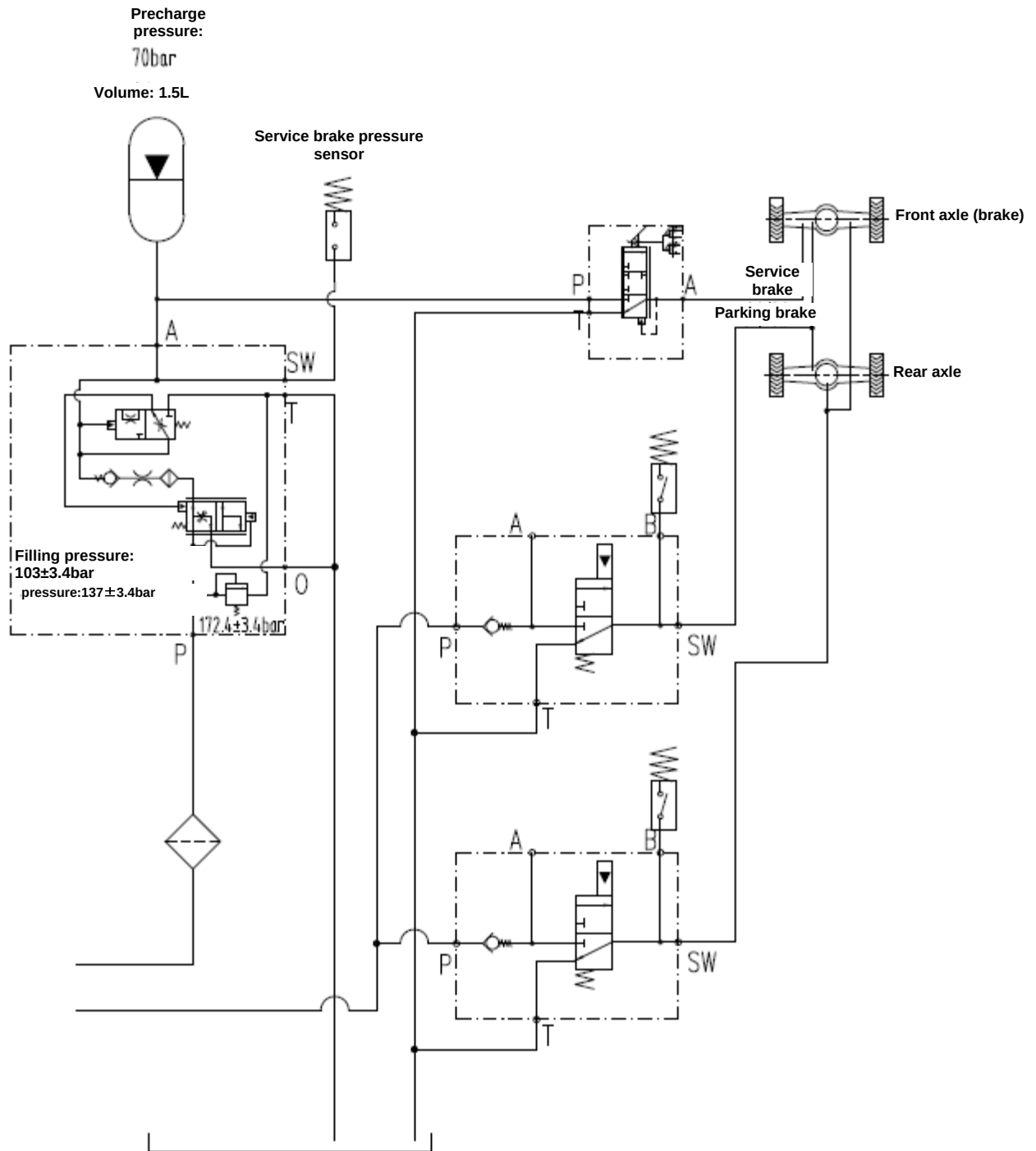


Warning

The pressure of the hydraulic system shall be adjusted by the manufacturer before delivery, and a special lead seal locking shall be installed on the pressure regulating valve. The user shall not adjust it at will, otherwise

Eurotrac will not bear any responsibility for the losses caused thereby.

D6.4 Schematic Diagram of Service Brake System



D6.5 Schematic diagram of electrical system



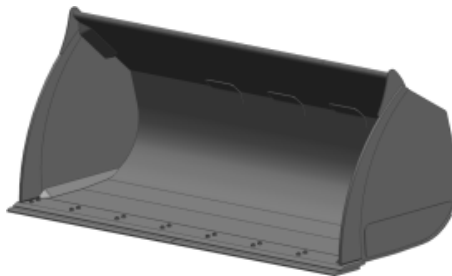
E variant and options



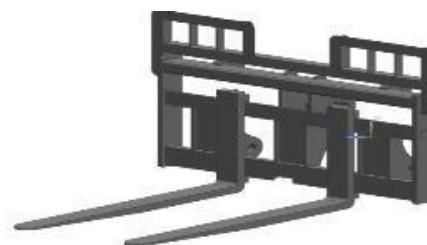
E1 Optional configuration resources

E1.1 Optional bucket types

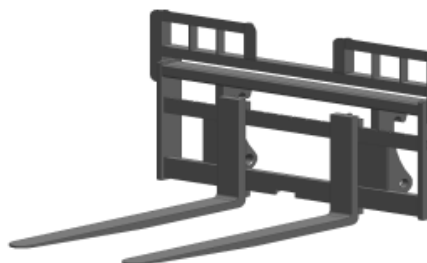
- Grain hopper



- Flat fork



- Quick-change flat fork



E1.2 Other

- Clamping fork (only for triple valve model)



- Pitchfork (only for triple valve model)



Eurotrac WL18 Wheel Loader
Operation and Maintenance Manual