

# Telescopic Wheel Loader

## User Manual



## Foreword

The TYPHON SKOOP telescopic boom loader is a product of development.

1 One of the new multi-functional mini loaders under 1 ton This type of loader is ideal for loading and unloading materials and for short-distance transportation, and can be equipped with multiple auxiliary... It can handle a wider range of applications, such as lifting, pulling, squeezing, digging, weeding, feeding , etc.

These loaders can be widely used in farms, road construction, railway stations , shipyards, and other industrial applications. Workplace; This machine offers optimal cost-effectiveness, safety, and driving comfort. Depending on your needs, these positive characteristics of the loader and the operator's maintenance of it during use... It is very important in USA

This manual contains all the important information on getting started, driving, operating, and maintaining the TYPHON SKOOP loader. Need information. Follow the loader's instructions. Regularly check and perform the tasks shown in the table .And adhere to health and safety regulations.

This manual applies to the TYPHON SKOOP model.

Please contact your TYPHON SKOOP Distributors should be aware that specialized tools are required and are not listed in this manual. More information on maintenance and repair.

The maintenance and repair of loaders can only be performed by qualified personnel authorized by our company.

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## Precautions before use

### Section 1: Checking Records

The policy of continuous product improvement may lead to changes in some models, and these changes may not include... Included in this publication. Each publication is reviewed and revised to update its content, and changes will be introduced in subsequent editions. We reserve the right to modify or change specific model groups. Profits are subject to change without notice, and the seller assumes no responsibility for versions of user manuals already shipped. For maintenance services not covered in this publication, please contact your local dealer.

### Section 2: General Warnings

This manual is intended for all users of this machine: company managers, administrators, and drivers. And all personnel working on or near the equipment.

#### General Warning

1. Please read this manual and follow all operating instructions before using the equipment.
2. At the same time, carefully read all instructions on the equipment label and keep the label clear and legible.
3. Ensure that all operators can access this manual at any time.
4. All equipment operators must possess qualifications that meet relevant safety requirements.
5. When the equipment is idle, unattended operation should be avoided.
6. If the equipment malfunctions, please stop using it immediately.
7. It is strictly forbidden to apply loads or tensions exceeding the equipment's maximum operating load.

8. Do not use the equipment for purposes other than its intended use.
9. It is essential to fully understand and strictly adhere to equipment safety regulations.
10. The manufacturer is not responsible for the consequences of unsupervised disassembly or modification.

<p>You are obligated to read the user manual.</p>	
 	<p>The company manager needs to briefly explain the instructions in the user manual to the operators. in principle.</p> <p>Before starting the loader,Please read this section in its entirety.</p> <p>The manager is responsible for implementing all the provisions in this manual.</p> <p>Users must read and understand this manual to ensure proper equipment commissioning and use. During the process, you can follow its operational recommendations.</p> <p>Please keep this manual safe throughout the entire ownership period of the equipment, including resale and use. Records must also be kept when there are changes in account holders or management personnel. This manual is not intended as a training manual. Materials will be provided, but the circumstances under which training is required will be clearly indicated.</p>
<p>General Instructions</p>	
 	<p>The company manager must ensure that the machine is delivered with a user manual and EU certification. Member country conformity certification.</p> <ul style="list-style-type: none"> <li>* The location of the manual can be found on the factory shipment slip;</li> <li>* The certificate of conformity and the shipping invoice should be placed together;</li> <li>* Only those who have received training, possess the relevant qualifications, and have been certified by the company manager are eligible. Only authorized personnel may operate the vehicle within the scope of the equipment's design and application.</li> <li>* The loader must be used strictly in accordance with the conditions specified in this manufacturer's manual. Perform the operation;</li> <li>* Any operation that violates the provisions of this manual may result in personal injury , property damage, and</li> </ul>

	<p>Environmental damage risk. The manufacturer's liability is limited to the amount stated in the conformity certification. The equipment configuration is installed. Operators should confirm this before each use. The machine is in good condition.</p>
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Normal use of the machine
<p>The maximum permissible load and general operating conditions specified in this document are as follows: Loaders must not be in -30°C to It can bear any other load outside the permitted temperature range of 45°C. In such cases, operation... The consequences of the actions TYPHON Company assumes no responsibility.</p>

### Loader modification

The manufacturer assumes no responsibility for any modifications, additions, or combinations with non-originating accessories. The manufacturer is not liable for any consequences arising from any changes or modifications made without its written consent.

Responsible for all changes or modifications, regardless of whether they involve mechanical, electrical, hydraulic, or welded structures.

Disturbances. If the customer wishes to make any modifications, they must consult the manufacturer beforehand. For safety reasons.

Considering this, and in order to enjoy the full warranty service provided by the manufacturer, only genuine parts can be used.

### Please note

Safety takes precedence over design and construction. The proper functioning and maintenance of the equipment are equally crucial.

Each component is made of TYPHON, The company specially designs and safely assembles these components to ensure the safest possible delivery. equipment.

Working safely is your responsibility.

Operators must fully understand the following instructions, as this is crucial for the safe use of the loader .

## Security Information

This manual contains important information about the safe operation and maintenance procedures for this loader, which must be carefully read. Read carefully. Although you may have encountered similar equipment before, you should still read this before starting the loader. Read and understand the contents of this manual. Safety is a shared concern and must be at the core. Considerations. Understanding the guidelines provided in this manual will help protect yourself and others. The safety of personnel and the proper operation of equipment are paramount. Safety is a key factor affecting the lifespan of a loader. Key factors. Please read this document carefully before operating, maintaining, or using the product in any way. Learn the manual, study the safe operating procedures, and master the necessary maintenance points. If you have any questions about safe use or maintenance, please consult your supervisor immediately—do not make subjective assumptions— Verification is mandatory! Please note: Careful operation not only protects the driver's own safety, but also... Ensuring the safety of collaborative workers while preventing potential equipment or cargo damage. The situation is dangerous and could be destroyed.

# Front-end loader operation safety and health guidelines

## Conditions for employees to work

- Employees must be alert and free from symptoms of psychotropic drug use disorder when on duty.
- When operating mechanical equipment with moving parts, Do not wear clothing that is loose (draping). The work involves the wearing of garment components, such as loose cuffs, ties, scarves, and hems; and these must be worn. Hair-covering protective cap
- Employees must possess the psychological qualities and physical fitness required for the corresponding position before starting work.
- Employees' health status must be certified by a qualified physician to confirm their suitability for the work they are engaged in.
- Employees must receive job training, occupational health and safety training, and fire prevention training before starting work, and be familiar with the procedures. Familiar with operating procedures
- Employees must possess a vocational education qualification in a relevant field or other qualifications required for the profession.
- Employees must be at least 18 years old (Minors receiving practical vocational training must be within the designated area) (Under the supervision of the counselor)

## \*\*Pre-job preparation\*\*

- Carefully review the loader's operating documents and manuals.
- Test run the loader and check its working condition.
- Testing the parking brake system

Equipment start-up personnel should conduct a thorough inspection beforehand to ensure there is no risk of accidents during startup.

- Fill the fuel tank to full.
- Ensure there are no bystanders within the work area.
- Start the engine only from the operator station
- When testing wheel steering, turn the steering wheel fully to the left or right.

- Adjust the wheels to a straight line

Safe operating procedures and guidelines Strictly prohibited:

- Allowing unauthorized personnel to operate the loader
- Extend the key using other keys or pipes
- Operating equipment without proper permission and training
- Remove protective devices from operating machines.
- Perform maintenance, cleaning, and lubrication on operating machinery ( except as specified in the maintenance and operation documentation ).
- Start with ether
- Transporting goods above the cab or above the personnel
- Carry additional personnel in the driver's cab
- straddle the tow rope
- Using the control lever as a handle to climb the machine
- Exceeding the specified maximum load
- Remaining in the cab to tow the loader when steering and braking systems fail.
- Add coolant to a high-temperature engine
- Before relevant personnel have read and understood the relevant matters, any actions involving operation, lubrication, etc., should be carried out. Activities of maintaining or repairing machines
- Use worn rope

Must comply with:

- Remove loaders that are out of service, damaged, or under repair from the work area , and communicate via information. The signs are clearly marked, and measures are taken to prevent these loaders from starting.

Tightening and maintenance of the drive belt and cable should only be performed when the loader is completely stationary. Repair, connection, shortening and lubrication operations.

- Use appropriate personal protective equipment.
- Maintain a safe distance from slope edges, overhangs, and slippery terrain.

Always wear your seatbelt.

- Use the brake pedal lock lever correctly.
- Always lock the bucket before replacing the fork teeth.
- After the equipment has been running at high intensity, you need to wait... 5 Turn off the engine after 1 minute .

- Equipment and wiring must be kept at least 3 The minimum distance in meters.
- Use a load capacity of at least [value missing] 10A transport vehicle weighing tons.

- When inflating a tire, stand in a safe area behind the tire.
- Use a coolant with low silicate content and containing corrosion inhibitors (ethylene glycol is the most...) . High concentration 50%.
- Keep signs clearly legible.
- Respond to warning instructions and alert signs on the device.
- Do not smoke if the air conditioning cooling system is leaking.
- Secure any loose parts.
- Keep the steps clean.

#### Post-work activities

- Remove the workstation, accessories, and protective equipment. Maintain its orderly state.
- Secure the equipment to its transport location after the work is completed.

#### Emergency Operating Procedures

- First aid must be administered to the injured.
- If any defects and/or damage are found in the loader, the supervisor should be notified immediately.
- Any loader found to be damaged during operation should be stopped immediately and properly marked.
- When a loader experiences a malfunction that could harm the environment, clearly identifiable warning signs must be used. Display and alarm signals.
- Every workplace accident must be reported to the supervisor, and the workstation where the accident occurred must be kept in its original condition. shape.
- If the purpose is to rescue people or property, or to prevent imminent danger, permission may be granted to conduct an investigation at the accident site. The venue will be modified as necessary.
- In the event of a fatal, major, or mass incident, it is necessary to coordinate with the labor inspector and prosecutor. Work can only be carried out at the accident site after consultation.
- Before starting machinery and other technical equipment or altering the accident scene, approval from the social labor supervision department is required. Inspectors should consult with relevant personnel and, if necessary, inspect the accident scene and draw up a diagram or take photographic evidence. according to.

- Before the cause and circumstances of the accident are determined, the following measures should be taken to protect the accident scene:
  - Unauthorized personnel are prohibited from entering the accident site.
  - Do not start machines and other technical equipment that have stopped due to an accident unless absolutely necessary.

- Do not move the machinery, technical equipment, or other objects that could cause an accident, to prevent... It affects the reconstruction after the accident.

Remark:

- Equipment posing specific hazards must undergo technical inspection.
- When performing work at heights, inside tanks, or in large pits, relevant operating procedures must be followed. Operating procedures.
- Seat belts must be replaced every three years

## Section 3: Information and Operations

### A. Standard configuration

1. diesel engine
2. hydrostatic drive system
3. Multifunctional taillights
4. Mechanically controlled parking brake
5. Multi-function joystick
6. Quick attachment change system
7. Adjustable seat (including seat belt)
8. Anti-slip flooring
9. Multi-functional headlights
10. Dashboard
11. Adjustable steering wheel
12. Double ball hinge system

### B. Operator Responsibilities

Before using this equipment or performing any maintenance operations, please be sure to carefully read and understand this document.

Chapter content.



warn!

Failure to follow the safety rules below may result in serious injury or death, as well as equipment damage.

1. Always adhere to industry-standard safety guidelines.
2. Before using the loader, the lights, braking system, steering mechanism, and transmission must be checked. Are the brake pads, parking brake, and tires functioning properly?
3. Do not use a malfunctioning loader; refer to the Operation and Maintenance Manual for details. Maintenance Chapter
4. Wear appropriate footwear when operating the equipment to prevent loose clothing from being caught in moving parts.
5. Before starting the loader, be sure to fasten your seatbelt and confirm that the buckle is properly secured.
6. Before leaving the machine, it must be stopped, put in neutral, and the parking brake engaged.
7. The equipment must be completely stopped when switching between forward and reverse gears.
8. Before reversing, you must confirm the driving path.
9. Loading speed should be reduced to a minimum during loading operations. 5 km/h
10. The bucket should be raised to the transport position (approximately [distance missing] from the ground). 20 centimeter
11. Exercise extra caution in crowded areas, blind spots, and near queues of vehicles; be aware of other factors. Equipment and personnel dynamics
12. Do not operate the machine if the speed does not meet operating conditions. Always operate at an appropriate speed. Drive to ensure there is enough time for emergency braking.
13. Loaders are prohibited from being used to transport hazardous materials.
14. Loaders are prohibited from being used to transport personnel.

15. Do not use a loader on soft surfaces if you are unsure of the road conditions .
16. Before starting the loader, the reinforcing cage must be raised, and the pins must be confirmed to be in the locked position. Place.
17. Except when using hook-and-tow traction, no additional power source may be connected to the loader.
18. Do not remove the radiator cap when the engine is hot, as this may cause severe burns.

Unscrew the radiator cap after it has cooled down.

19. Never touch the exhaust pipe and muffler of a running machine, as this may cause [damage/casualties]. Severe burns.
20. It is strictly forbidden to start the engine with the engine cover open. If it is absolutely necessary to do so, please ensure... Keep your hands away from the fan area.
21. Adding fuel is prohibited while the engine is running.
22. Refueling can be stopped when the fuel nozzle automatically stops. Do not overfill fuel. When refueling... Smoking is strictly prohibited. Storing or using fuel in areas with open flames is also prohibited.
23. Do not check the engine oil level while the engine is running.
24. It is forbidden to use the battery installed in this equipment to start other vehicles.

	Before operating the loader,Please ensure your seatbelt is fastened.
	The maximum noise level of this loader is: 88 decibels; to protect your health, check Please wear personal protective equipment (such as earplugs ) when inspecting the machine to reduce machine noise. Negative effects of sound on the body

	<p>Always remain vigilant and use common sense. Be aware of the surroundings of the loader at all times.</p> <p>When a loader rolls over or overturns, the roll cage can completely protect the driver's safety. Do not jump out of the vehicle. In this situation, grip the steering wheel firmly with both hands. Will Brace your legs firmly against the steering column mounting bracket.</p> <p>Damaged roll cages may not be reused after repair without written permission or approval .</p>
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The rated capacity described in this manual is based on the machine's operating condition when it is stably standing on solid ground. Furthermore, if working on non-standard ground (such as soft, uneven terrain or slopes). At this time, all factors affecting the machine's load-bearing capacity need to be fully considered.

## C.Mechanical duties

Before performing any maintenance work on this equipment, please be sure to read and understand the contents of this chapter carefully.



warn!

Failure to comply with the following safety rules may result in serious injury or death, as well as equipment damage.

1. Always adhere to equipment safety procedures. If the machine does not come with a written safety checklist , please... Obtain this list before starting the loader.
2. Be sure to read the user liability terms before starting the work.
3. Keep your hands and feet away from rotating parts and tires at all times. Wear protective clothing.
4. Wear specialized protective footwear when operating and maintaining equipment. Avoid wearing clothing that could be caught in the machine. Loose clothing with moving parts.
5. The engine must be shut down when adjusting the fan and generator belts.
6. Do not place your hands near a running fan.
7. Do not remove the radiator cap when the engine is hot, as this may cause severe burns.
8. Wait for the radiator to cool down completely before removing the radiator cover.
9. Engines must not be operated for extended periods in confined spaces.
10. It is strictly forbidden to start the engine in an explosive environment.
11. Do not check the engine oil level while the engine is running.
12. When inspecting the engine or engine compartment, the battery must be disconnected first.
13. If electrolyte is splashed, wash the skin immediately and change clothes.
14. High temperatures can cause severe burns to the engine, exhaust system, or hydraulic components. Do not use if exposed to excessive heat. Stop touching

15. Smoking is strictly prohibited near the battery. The electrolyte vapor produced during charging is explosive and must be kept at a safe distance. Keep away from sparks, open flames and flammable materials.
16. Metal bracelets, watches, and other similar items must be removed before installing/removing/replacing the battery.
17. Short-circuiting the battery terminals is strictly prohibited.

18. When connecting the battery, the positive terminal must be connected first to prevent accidental grounding and sparks. Do not use... Replace the throttle return spring with a spring of insufficient strength or a different type.
19. Inspect all lighting fixtures.
20. Test the speaker's working status
21. Check if the idle speed switch is properly adjusted and functioning correctly.
22. Check the condition of the tires and rims, and ensure the tire pressure is correct. Overinflation can cause a tire blowout.
23. All nuts must be tightened to the specified tightness. 130 pound-feet torque, running 5 The tightness needs to be checked again after 1 hour.
24. Specialized hoisting equipment must be used when disassembling or assembling heavy components.
25. When working under a loader, a special support device must be used for securing the machine. It is forbidden to rely solely on... Hydraulic jack support equipment
26. If the loader is placed on a hydraulic/pneumatic jack, the support must be confirmed to be locked before bottom operations. Device in place
27. A special lifting device must be used and proper securing measures must be taken when disassembling or assembling the gearbox.
28. When troubleshooting a transmission system fault, the drive wheels must be lifted off the ground.
29. Refueling is prohibited while the engine is running.
30. Smoking is strictly prohibited during refueling.
31. It is prohibited to store, spill, or use fuel near open flames.
32. Do not use the battery of this device to start other vehicles.
33. It is prohibited to install or adjust control cables while the engine is running.
34. If the control cable is found to be disconnected, rubbing, or experiencing a gradual/sudden increase in resistance, the pitch can be used. If the corners are reduced, or if the interior is damp or frozen, it must be replaced immediately.
35. It is forbidden to use heating methods to dry or thaw control cables.

36. Do not disassemble the control cable seals or attempt to add lubricant. Control cables with lubrication issues... The cables must be replaced.
37. Do not attempt to repair or modify control cables. All damaged control cables should be replaced immediately.
38. Always avoid contact between control cables and fuel, engine oil, paint, chemicals, water, or dirt. Some substances can cause damage.
39. The arrangement of each control cable should ensure the use of the center conductor from the available conductors inside the cable.
40. Tires must be deflated before they are removed for maintenance or disassembly .

41. Do not use wheel hub components that are cracked, bent, or corroded . Ensure all wheel hub components are properly sealed. All models and specifications are standardized, and the wheel rims and tires are matched. All parts should be carefully inspected before use. part.
42. It is prohibited to use explosive materials to install tires.
43. It is strictly forbidden to strike, pry or weld near inflated or partially inflated tires.
44. For no reason whatsoever, wheel hub components must not be modified, welded, heated, or... Brazing.
45. When inflating tires, a safety cage, a clamp-type inflator with a remote valve and pressure gauge must be used. Inflation device. Before inflating, ensure the tire is correctly mounted on the rim and removed from the protective cage. Visual confirmation is required to ensure accurate fetal lip positioning.
46. For work pressure below the standard value 80% of tires were not fully deflated, disassembled, or damaged. During the injury examination, direct administration of qi is prohibited.
47. The canopy scaffolding is a core component for preventing injuries from falling objects and ensuring operator safety. Loosening, Disassembling or modifying this device is extremely dangerous and could lead to serious accidents.

## General Information and User Manual

### Section 1: Main Components

This four-wheel drive mini loader has the following features:

- Three-cylinder diesel engine
- Hydrostatic drive system
- Multi-function joystick
- 12 Volt electrical system

#### A. Engine and pump

The loader is powered by an industrial-grade direct-injection four-stroke engine. The engine is manufactured by ... The certification meets more advanced emission standards. The loader is equipped with an automatic variable displacement piston pump.

#### B.axle

The front and rear drive axles of this model consist of 2 Tai hydraulic motor drive

#### C. Braking System

The hydrostatic drive unit can be used as a main brake and can also be installed as a parking brake . Driver bridge input terminal.

#### D.Wheels and tires

The tires are secured to the drive wheels using five bolts. The loader's tires are pneumatic. To ensure a smooth ride and maximum traction, remember to check your tire pressure regularly. Uneven tire pressure not only accelerates tire wear but can also reduce traction. The standard tire pressure is...300 kPa.

#### E.Electrical system

Loader adopts 12V A car electrical system with the negative terminal grounded.

#### F. Hydraulic quick connector

The installation and removal of attachments are controlled by a multi-functional valve.

#### G.Driver's seat

The seatbelt position can be adjusted by sliding it forward and backward. The loader can be equipped with a suspension system. The system's comfortable seating was delivered.

	<p>When adjusting the driver's seat, ensure that the loader is stationary. The engine must be turned off!</p> <p>The standard driver's seat can be accessed by pulling up a lever under the seat. Seats can Move it back and forth. After adjusting it to a suitable position, press down the control lever to lock it in place. Seating position</p>
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## H. Multi-function joystick

The control handle is located on the right side of the driver's position, and the switches on this equipment provide standard control functionality. Loader gears; the loader has three gears: Forward, neutral, and reverse . (Operator) The longitudinal rod can control a two-way multi-way valve, thereby enabling synchronous or independent lifting and tilting movements. operate.

## I. knife switch

This switch is used to disconnect the entire electrical system from the battery. If the loader is to be out of service for an extended period ( e.g., overnight )the battery connection should be disconnected via the grounding switch to prevent accidental battery discharge.



## J. Steering Gear

The steering gear can be adjusted longitudinally. To adjust the steering gear, first depress the control lever. At this time... The steering gear can be tilted within a longitudinal range. Releasing the tilt adjustment then locks the steering gear in place. Correct position.



Adjusting the steering gear should only be done when the loader is stationary!

## K. Parking brake handle

is connected to the parking brake drum mounted on the drive shaft via a connecting rod .

Always use the parking brake during pairing; release the brake before driving. (Towards the operator)

Pulling the lever applies the brake. Pushing the lever away from the operator (downwards)It can be resolved brake.



If the parking brake is used as an auxiliary braking device in an emergency... When using this device, be extremely careful when pulling the control lever to avoid damaging the brake lines !

## L.accelerator

The accelerator pedal on the driver's right is connected to the engine via a cable, thereby controlling the engine. Rotational speed. This throttle pedal is used to operate the loader's movement.



Never brake suddenly while lifting a load, as the loader may tip over!

## M. Attachments

We offer a variety of attachments with different functions. (The following illustrations are for reference only.)

1. shovel

This equipment can be used for digging and unloading bulk materials and is suitable for short-distance operations. We offer... Multiple bucket sizes are available to enable the most efficient loading and unloading of different materials.



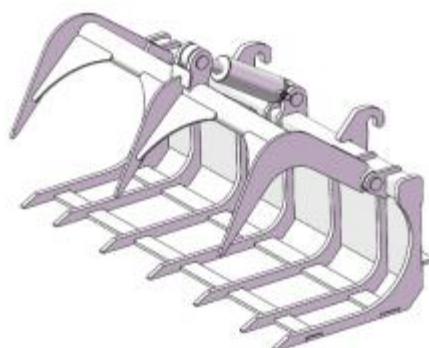
2. Drag fork

This equipment can be used for unloading large materials and performing short-distance operations.



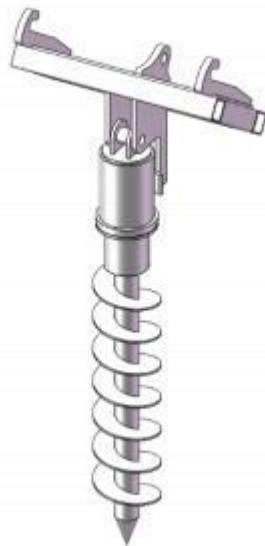
3. straw clip

This equipment can be used for loading and unloading hay or fodder.



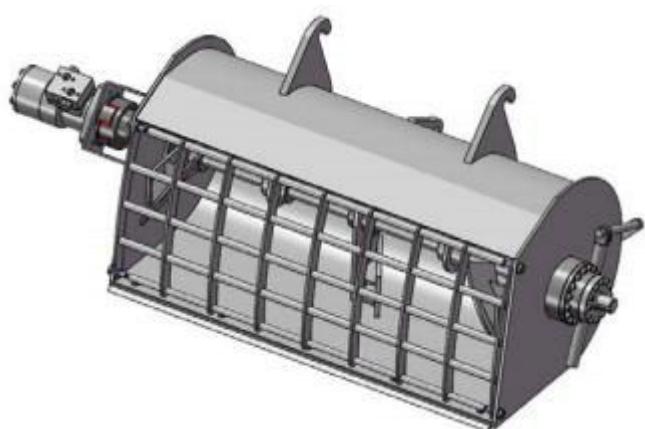
#### 4. Spiral drill

It is used for drilling holes in the ground.



#### 5. Stirring bucket

Used for mixing materials such as sand.



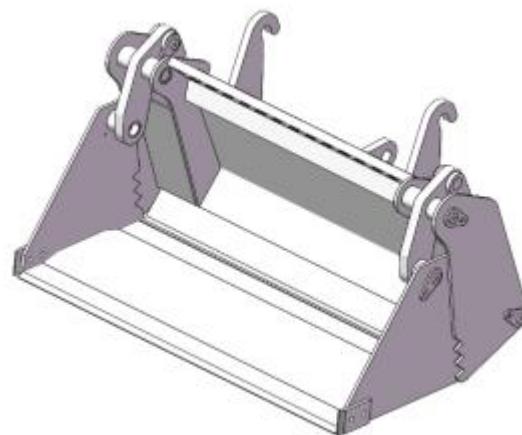
#### 6. Bundling clamps

It can be used to grab and transport various items.



## 7. Four-in-one shovel

It can be used to scoop and transport various materials, and also to separate materials of different diameters. kind



## 8. grappling hook

This device can be used to grab and efficiently transport bundles.



## N. Dashboard

The control system is designed to perfectly combine ultimate driving comfort with superior performance.



## System voltage

### 1. Voltage

Signal type: Analog signal System power supply voltage	Display method: LCD screen displaying numerical values Show.	Unit: Volt Symbol: V
Remark:		

### 1. Working hours

Signal type: System timing	Display method: LCD screen displaying numerical values (0.0 ~ 99999.9h)	Unit: hour Symbol: H
Remark:		

### 2. Engine speed

Signal type: Pulse	Display method: Dashboard pointer indication ( 0 ~ 3000rpm)	Unit: revolutions per minute Symbol: rpm
Remark:		

### 3. preheating

Signal type: Level signal	Display method: Icon display	icon: 
Note: The preheating icon is displayed when the preheating signal is high.		

### 4. Low beam

Signal type: Level signal	Display method: Icon display	icon: 
Note: Low beam signal is high.	When the level is low, the low beam icon is displayed.	

## 5. High speed (optional)

Signal type: Level signal	Display method: Icon display	icon: 
Note: When the high-speed signal line is high, the high-speed icon indicates...		

## 6. go ahead

Signal type: Level signal	Display method: Icon display	icon: individual
Note: Indicates when the forward signal line is high.		

## 7. Back

Signal type: Level signal	Display method: Icon display	icon: 
Note: The back signal line indicates this when it is high.		

## 8. gap

Signal type:	Display method: Icon display	icon: N
Note: Indicates when there is no forward or reverse signal.		

## 9. Parking (not displayed on this model)

Signal type: Level signal	Display method: Icon display	icon: 
Note: This indicator is triggered when the parking signal line is at a low level.		

## 10. Engine coolant temperature (water temperature)

Signal type: Resistive	Display method: LCD screen numerical indicator The water temperature gauge pointer is pointing.	icon: 
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	Related alarms: Short circuit alarm, disconnection Road alarm, temperature too high ( $\geq 102^{\circ}\text{C}$ alarm)	
Alarm method: When the engine is not running, only an icon is displayed when a fault message is detected. engine		
After startup, if a fault message is detected continuously for 3 seconds, an intermittent buzzer alarm will sound. The icon is flashing.		
Remark:		

## 11. Fuel level

Signal type: Resistive	Display method: LCD screen display 8 Oil level indicator.	icon: 
	Related alarms: Short circuit alarm, disconnection Low fuel level alarm ( $\leq 1/8$ )	
Alarm method: The icon on the LCD screen flashes and the buzzer sounds intermittently.		
Remark:		

## 12. Hydraulic oil temperature

Signal type: Level signal	Display method: Icon display	icon: 
	Related alarm: Hydraulic oil temperature too high Call the police	
Alarm method: When the engine is not running, only an icon is displayed when a fault message is detected. engine		

After startup, if a fault is detected, the fault icon will flash and the buzzer will emit intermittent sounds. Call the police

Note: An alarm will sound when the hydraulic oil temperature signal line is at a low level.

### 13. Oil pressure

Signal type: Level signal	Display method: Icon display	icon: 
	Related alarm: Low oil pressure Call the police	

Alarm method: When the engine is not running, only an icon is displayed when a fault message is detected. If a fault message is detected for 3 consecutive seconds after engine start, the fault icon will flash and output a message. The buzzer sounds intermittently.

Call the police

Note: Alarm occurs when the oil pressure signal line is low.

### 14. Charging alarm

Signal type: Level signal	Display method: Icon display	icon: 
	Related alarms: When not charging, [image] The label is displayed.	

Alarm method: When the charging alarm signal line is at a low level, the alarm light on the instrument panel will be displayed.



## Section 2: Operating Procedures



Please read this section in its entirety before starting the loader. This loader must not be operated by unauthorized personnel.

Before starting the loader, please check all indicator lights and their functions.

Before operation, it is necessary to check to ensure that the equipment is in normal condition.

Control the maximum weight of goods to be loaded or unloaded

Perform loader maintenance according to the manufacturer's instructions.

Damaged or missing parts must be repaired or replaced before use. Ensure that comprehensive maintenance has been completed.

Check that all safety instruction labels are intact and legible. These labels are just as important as other parts of the loader.

Before sending a loader for repair, the following items must be checked and completed.

## Before starting to drive

At the start of each team operation, check the battery status, pneumatic system, and hose insulation. And ensure the tire pressure is correct.

Confirm that all drive components are in good working order, if necessary. Replenish all fluids immediately. Any defects should be reported immediately. Check braking distance.

1 Apply parking brake

- 1 A thorough inspection of the loader's exterior is conducted to check for any damage or missing parts, with particular emphasis on the following:
  - Tire pressure and condition
  - Sidewall cuts and cracks, and whether there are foreign objects in the tread.
  - Wheel nut clearance
  - Damage to vehicle lights
  - Fire extinguishers are fully equipped and accurately positioned (e.g., configuration).
- 1 Check the bottom of the loader for leaks of coolant, hydraulic oil, transmission fluid, or grease. If a leak is detected, it must be rectified immediately and the engine oil level must be checked.

- 1 Check the engine coolant level. Add coolant if necessary, but do not exceed the allowable level. Limit. Visually inspect for leaks.
- 1 Check if the hydraulic oil level is sufficient by removing the hydraulic system oil tank cap.
- 1 A low oil level indicates a serious leak in the system and requires immediate repair.
- 1 Check the engine compartment for loose parts, detached wiring harnesses, and leaking hoses/connectors.
- 1 After completing all mechanical checks, test the taillights, control devices , and instrument panel functions while the loader is stationary.
- 1 Check the fuel gauge reading. Ensure the fuel tank is fully loaded.
- 1 Confirm that the protective frame has been raised and installed.
- 1 Inspect the driver's seat for damage (replace if damaged ) and adjust its position as needed.
- 1 Verify that all operating devices are functioning properly.



Please note: Do not unscrew or remove the radiator cap when the coolant is hot, as this may cause severe burns due to the high pressure and temperature of the coolant.



Fuel contamination caused by moisture condensation on the inner surface of the fuel tank can be mitigated or eliminated by keeping the tank as full as possible. It is recommended to [do something - likely related to fuel tank maintenance]. After finishing work (as part of routine post-work maintenance), refill the fuel tank promptly. tank.

## Driving rules



- 1 Move the gear lever to the parking position.
- 1 Adjust the driver's seat and steering wheel to a comfortable position. Fasten your seatbelt
- 1 Confirm that the parking brake has been engaged.
- 1 Before starting a wheel loader, ensure there are no people or obstacles in front of it; also check the following: Is the driver's seat position comfortable? Is the parking brake lever in the locked position? (Front) Is the forward/reverse shift lever in neutral?
- 1 Turn the ignition switch key to start the engine
- 1 Lightly press the micro-motion pedal (left pedal).
- 1 Release the parking brake
- 1 Push the gear lever to the desired forward or reverse gear.
- 1 Release the micro pedal and lightly press the accelerator pedal, continuing to press until the desired speed is reached. The pedals on this type of loader allow for precise control of minute movements.
- 1 When deceleration is required, slowly release the accelerator pedal and depress the micro-pedal. In case of emergency braking, Immediately release the accelerator pedal and depress the micro pedal. Release the accelerator pedal quickly or slowly. The brake pedal allows for both emergency and smooth braking of wheel loaders. In case of emergency braking, be sure to depress the brake pedal .
- 1 When parking, engage the handbrake, turn the ignition switch to the off position, and shift the gear lever to the parking position.

	<p>Depress the micro pedal (left side) during emergency braking.</p>
	<p>Please note: The operator's maximum daily working hours must not exceed [a certain number]. 6 Hour</p>
	<p>Please note: Adjust your driving speed according to the weight of the cargo and weather conditions. When carrying a heavy load, you should slow down. You should also reduce your speed when the road surface is wet or icy.</p>
	<p>Please note: When loading cargo, the speed should be reduced to [a lower speed]. 5 km/h, and will The bucket is positioned in the transport location (approximately [distance] from the ground). 20 centimeter).</p>
	<p>Please note: If you need to stop temporarily while driving uphill, the driver must not leave the vehicle . When driving and shifting gears, the right foot should lightly press the pedal to eliminate any technical issues that may cause this. The driver experienced slippage and simultaneously engaged the handbrake. This occurred when temporarily stopping downhill. Drivers must not leave the driver's seat or engage reverse gear. The right foot should lightly press the pedal and slowly stop. The car was started, and the handbrake was engaged at the same time.</p>
	<p>Please note: Parking is prohibited on the ramp. If you must stop due to a breakdown , you should... The loader is parked on the slope, the handbrake is engaged, and wheel chocks are placed under the wheels.</p>
	<p>Please note: Ensure the safety barrier is installed and securely fixed in place before starting the system. Otherwise, the safety of the operators cannot be protected.</p>

## Loading instructions

- 1 Lifting equipment and accessories (standard bucket) are for specific purposes only.
- 1 Ensure the wheel loader is in a safe condition and does not exceed its rated load capacity.
- 1 Before loading, ensure the quick connector is in the locked position.
- 1 When driving with a heavy load, the vehicle speed should be reduced to [a lower limit]. 5 km/h
- 1 When traveling under load, the bucket should be raised to the transport position (approximately [height] off the ground). 20 centimeter)
- 1 When driving on a slope, the cargo should be oriented in the direction of the ascent. Turning or veering across a slope is strictly prohibited. Towards driving
- 1 When visibility is obstructed, auxiliary personnel are required to assist in the work.

1 During unloading, raise the bucket to a suitable height and drive the loader as carefully as possible to approach the material. Use the truck or cargo stacking position control lever to unload and reset. Ensure the truck (rack) is secure. After complete separation, the loader slowly reversed away from the shelf.

1 When you reach the parking space, shift to neutral. Pull the handbrake and turn off the ignition switch.

Safe and efficient loading operations depend entirely on the operator. If you are an experienced operator... For drivers, these rules will help you review the key points; if you are in the learning phase, they will be helpful. You will grow into a professional driver.



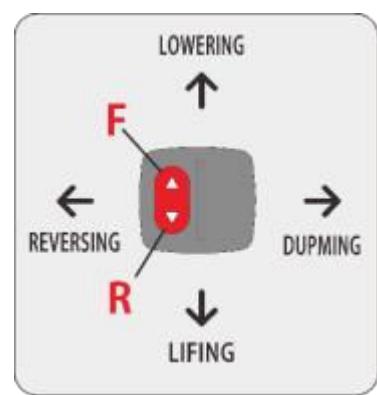
Please note: Only qualified drivers are permitted to operate the loader.

Please note: Before loading, ensure that the quick-change locking pin is in the locked position.

Please note: When driving on a ramp (forward or backward), the cargo should face upwards. Upward direction. Avoid turning or moving horizontally on ramps.

Please note: If the cargo is in a high position, the loader must not turn or operate at high speed. Operating.

Multi-way valve control for lifting equipment and tools

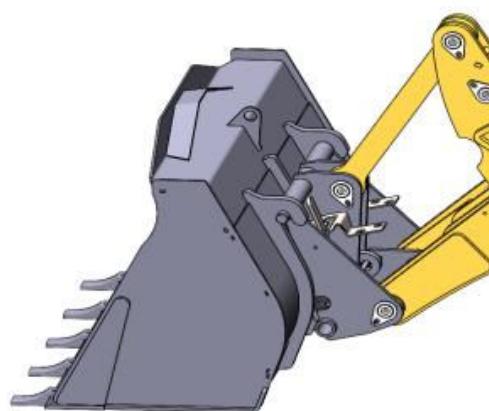
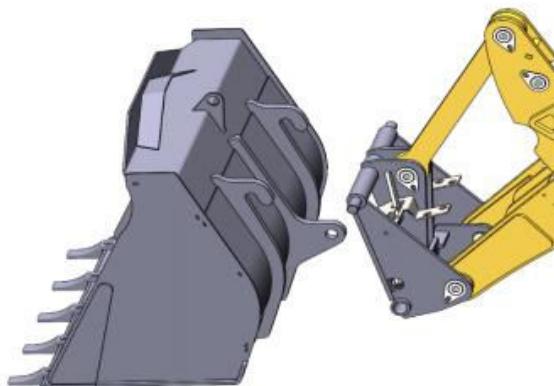


## Replacement of attachments

1. Tilt the loader's quick-change mechanism. 45 Start the loader and move it forward slowly. This allows the loader's quick-change head to engage with the lugs on the flatbed chassis.
2. Reset the loader's quick-change mechanism to its original position. 45 The degree is adjusted so that the device is perpendicular to the ground.
3. Get off the vehicle and operate the manual locking lever to lock the attachment.

## Disassembly attachments

Perform the steps in reverse order, just like when changing attachments.



	<p>Please note: Lifting equipment and tools are for specific purposes only. Operators The "Proper Use of Lifting Equipment" must be followed. Entry into the boom and machine area is strictly prohibited.</p>
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	<p>The space between the shelves.</p>
	<p>Please note: Before operating the hydraulic system, ensure that all hydraulic parameters of the control lever are within acceptable limits. All functions are in normal working order.</p>
	<p>Please note: Check if the direction of the movement is indicated by an arrow symbol.</p>
	<p>Please note: Before removing the accessory pin, first reduce its pressure, then break it. Open the quick connector; the specific pressure reduction method is as follows: repeatedly extend the left side of the multi-way valve. The first lever (small lever) of the valves on both sides of the right.</p>
	<p>Please note: If the accessories are not delivered with the loader, they must be obtained through the dealer. Its stability and load-bearing capacity must be confirmed before it can be used.</p>

## General safety measures

- 1 If anyone is in an area where machine movement could cause injury, do not use any joysticks or... pedal.
- 1 Extra caution is required when working in narrow, crowded areas or moving in areas with limited visibility.
- 1 Always look around before changing direction.
- 1 Always follow all safety procedures during operations.
- 1 Maintain an appropriate driving speed based on load and terrain conditions.
- 1 Slow down in advance when turning
- 1 Pay close attention to pedestrians and maintain a safe distance from the vehicle in front.
- 1 To avoid sudden braking, shift to neutral only after the loader has come to a complete stop.

- 1 Maintain a safe distance from the edge of the loading and unloading platform.
- 1 Pay special attention to the trajectory when turning.
- 1 Confirm that the bridge and ramp can withstand the total weight of the loader and cargo.
- 1 Vehicles entering and exiting (cars, trailers, etc.) Beforehand, measures must be taken to prevent movement and falls.
- 1 Stop and observe when approaching the tracks, and slowly pass through the designated level crossing.
- 1 The parking position should be at least a distance from the railway tracks.

2.5 rice

- 1 Keep both hands on the steering wheel during operation

- 1 When loading bulk cargo, More space needs to be reserved to pass over parked vehicles , objects or pedestrians.
- 1 Overtaking is prohibited at intersections, junctions, or when visibility is obstructed.
- 1 Entering the elevator without prior authorization and confirmation of its load-bearing capacity is strictly prohibited.
- 1 Pay attention to your speed, and be wary of pedestrians and other vehicles as you approach the [blurred area].
- 1 Slippery roads, uneven terrain, and slowing down when turning.
- 1 Clear all obstacles from the road.
- 1 Slow down when approaching intersections, pedestrian crossings, and walkways. You need to honk your horn if you drive on the right.
- 1 Beware of pedestrians appearing suddenly
- 1 If crossing a highway bridge is necessary, confirm that it can safely support the loader and the total weight of the cargo.
- 1 Slow down in advance as you approach your destination, and ensure a smooth stop at a safe distance. Sudden stops may cause... Cargo relocation
- 1 Parking that obstructs the use of fire-fighting equipment is prohibited.
- 1 Report any mechanical or electrical abnormalities immediately.
- 1 Always be vigilant
- 1 Watch out for pedestrians and keep a safe distance from the vehicle in front.
- 1 Adjust vehicle speed according to load and road conditions.
- 1 No part of the body may extend out of the driver's cab during operation.
- 1 It is strictly forbidden to leave the driver's seat while the loader is running.
- 1 The equipment must be shut down properly before leaving the machine.
- 1 It must be parked on a firm, level surface.
- 1 When parking on a slope, park vertically to prevent slippage.
- 1 Warning flags/signs/barriers must be set up when parking in traffic areas.

- 1 Parking is prohibited in locations that obstruct fire lanes.
- 1 When parking: Use the parking brake and turn the key to the left. STOP Position, unattended when not in use. Ignition key
- 1 Parking on slopes is strictly prohibited. If you must park the loader on a slope, please secure it with wheel chocks. Loader wheels.



If problems or equipment malfunctions occur while using the loader, they must be properly corrected and... The problem was resolved after troubleshooting and shutting down the loader. Continuing to use the faulty equipment is not advisable. It poses a danger only to the operator and other staff.

It could also cause further damage to the loader.

In the event of any accident, please report it to your supervisor immediately. Never ignore any injury. Even if it seems minor, please contact your doctor immediately to avoid complications .

area	risk	Safety measures
Cause of the fault	If not comply Safety rules What consequences will there be?	How to avoid malfunctions
The whole machine	Moving machines may crush Or it may compress parts of the human body, causing [damage] between the machine and another object. Permanent injury or death.	Keep all personnel away from loader operation. The area, and before leaving the control room. The engine must be turned off.
drive unit	Body parts (arms, legs) (etc.) or personnel if in the driving position Outdoors, May lead to personal injury harm.	Always keep your head, shoulders, arms, Hands, legs and feet are in the operation Inside the cabin

During equipment operation Maintain position during the period Below the equipment	If the equipment put into use experiences an accident. It may cause casualties to people in the surrounding area.	If the loader must be raised to perform dimension. If it needs repair, it must be securely locked. Ensure all 4 Each wheel can be safe Rotate.
engine	Engines operating at high temperatures will cause Severe burns. Its operating parts. The piece or belt may also cause it to be Hit or Involved Suffering hurt.	During the repair period: The engine must be shut off. If maintenance is required... Process requirements: The engine must remain running. Special attention should be paid to avoiding contact with the vehicle. Components in transit. If conditions permit.

		<p>Should be disconnected</p> <p>Battery connection to prevent engine</p> <p>Unexpected start-up. Please take precautions to avoid [the area]. High temperature surface.</p>
Battery	<p>Battery will Generate flammable gas The substance may cause combustion and explosion. Explosion. Batteries contain strong acid; if... Leakage or contact with body parts and It can cause severe burns to the eyes. Without protection (or protective devices) Removed) Contact in the case Battery plug or other electrical components This item may pose a risk of electric shock.</p>	<p>Ensure good ventilation before using the battery. Okay, especially when welding operations are required in the vicinity. Protective clothing, gloves, and goggles must be worn when handling the battery . Do not remove the plastic protective layer. And avoid touching electrical components that may conduct electricity .</p>
Loader rollover or overturn	<p>If the loader rolls over or tilts cover, Do not jump off the vehicle. This loader is equipped with... Available Safety cage, jumping from the vehicle It may even lead to operators die.</p>	<p>At this point, your hands should grip the steering wheel. When turning, both feet should be under the steering column. On the mounting bracket .</p>

tire	<p>Welding operations were performed near the tire.</p> <p>It may damage the tire or cause a blowout. fry, This could result in injury or danger to personnel. risk.</p>	<p>If welding work is required on or near the wheel , the tire must be removed first.</p>
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- 1 To prevent the loader from moving unexpectedly, wedge-shaped blocks should be placed under the wheels when repairing the vehicle . The engine must be turned off when operating the wheels.
- 1 Do not attempt to repair the equipment without our company's approval.

1 No maintenance work may be performed that is not included in the service description. If the work is performed due to modification, addition, or... Our company is not responsible for any hazards caused by combining equipment with other sources .

1 No changes to the vehicle's structure or performance may be made without prior notice to the company .  
electrical equipment

1 To avoid short circuits during electrical system operation, The battery connection needs to be disconnected. Ensure the battery is properly connected. The battery storage area should be well-ventilated, as the vapors generated during charging are explosive. It is imperative to ensure that the battery... Keep the battery away from sparks, flames, and sources of smoke. Never inspect the battery near an open flame. Not while it's charging.

1 Smoking is prohibited near charging batteries.

welding

Before performing any welding work on the loader, please do the following:

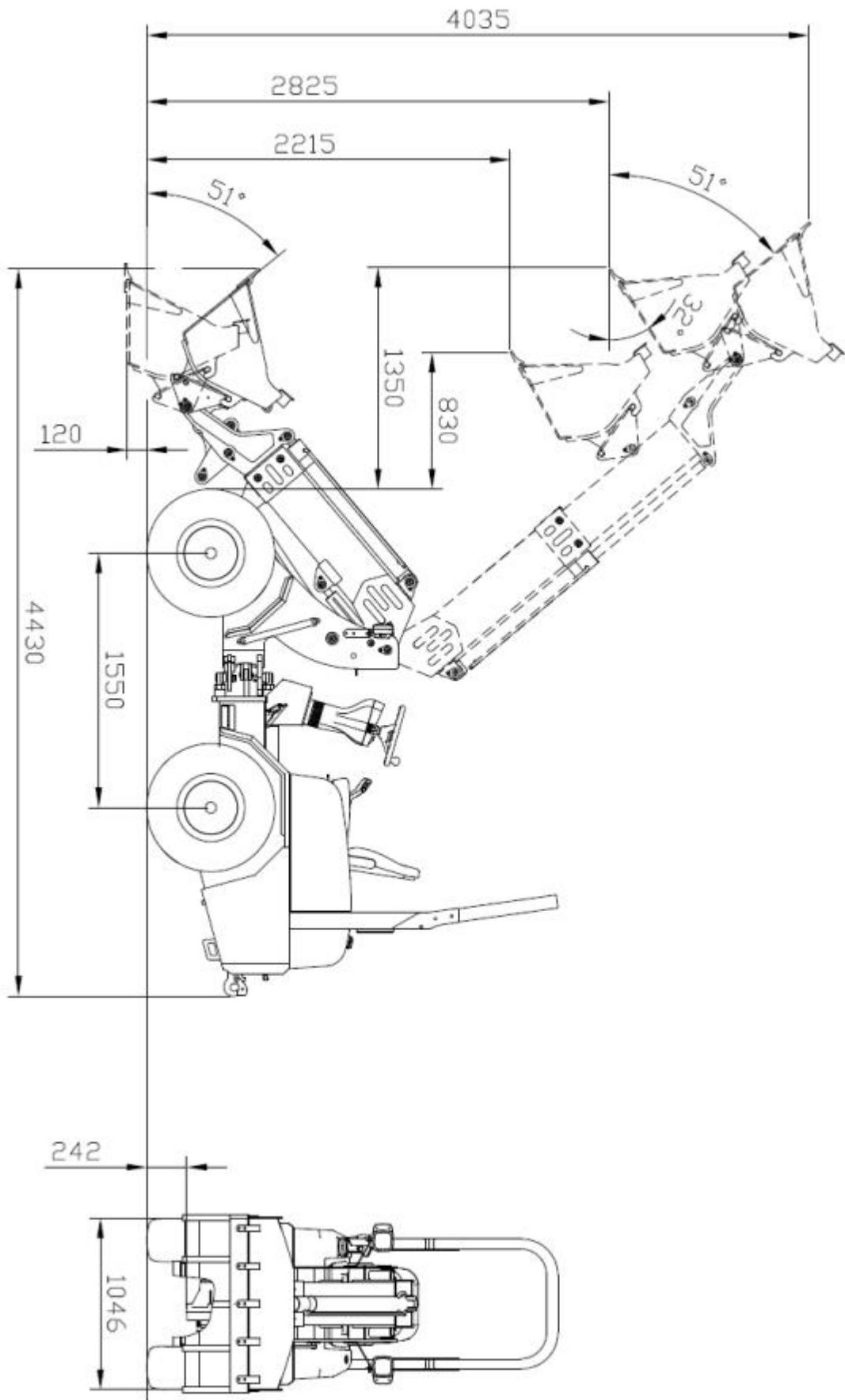
1 Disconnect the battery.

1 Disconnect the electrical control system and electrical equipment.

1 A grounding device is installed at the welding site to connect to the earth.

## Component specifications and performance

performance	Maximum load of main boom (kg)	800
	Net weight ( kg )	1800
	External dimensions l×w× h mm	4430×1046×2470
	Rated tank capacity ( m <sup>3</sup> )	0.3
	Maximum slope capacity	30%
	Maximum lifting height ( mm )	4035
	Maximum unloading height ( mm )	2825
engine	Minimum inner turning radius ( mm )	1365
	model	KUBOTA D 1105
	Displacement	1.123
transmission	Rated power	18.2
	type	Closed-loop piston pump
	Shift	Electric continuously variable transmission
drive axle	Maximum speed	12 km /h
	Main deceleration mode	L-stage reducer
	wheelbase (mm)	1550
Hydraulic system	Ground clearance ( mm )	242.5
	System operating pressure ( MPa )	16
	Improvement time s	4
	Total time s	7.5
	fuel tank capacity L	30
	Maximum flow rate (liters/minute)	42
	Maximum flow rate (liters/minute)	84
Braking system	Automatic leveling function	yes
	service brake	Hydrostatic Braking
tire	parking brake	Manual drum brake
	Model Specifications	10.0×75-15.3



## Chapter Four Partial shipping procedures



There are serious dangers when refueling and emptying the fuel tank—smoking, open flames, and other open flames are strictly prohibited. Electrical appliances

### 1 hoisting operation

Use sturdy ropes to lift the loader at the marked lifting point.

### 1 storage battery

Disconnect the battery cable.

Keep the battery installed in its original position.

### 1 heat sink

Drain the coolant from the radiator and engine cylinder block.

### 1 fuel tank

Fuel is discharged into a dedicated container.

Disconnect the fuel line at the lowest point and drain the line.

Reconnect the fuel lines.

Keep the fuel tank cap loose (do not tighten it).

### 1 Inspection items

Confirm that the fuel line connection is intact.

Ensure the radiator shut-off valve is closed.

Confirm that the fuel tank drain valve is closed.

### 1 Protective measures

Secure the front and rear frames with locking plates.

When using strong ropes to secure the loader,  
be careful to avoid... Scratched the paint.

Use wooden blocks to wedge the front and rear tires to prevent them from moving.

## Traction Operation Procedure

When the loader requires assistance, towing is permitted only for short distances, but the following must be followed before towing. step



The brakes and steering wheel of the towed loader will fail; the towing vehicle must be kept in place. It has sufficient traction to tow and control this load without a braking system .  
Machine. Only rigid components (traction bars) are permitted. Connect to a trailer.

### Traction steps

1. Install anti-slip mats (wheel guards)It is placed behind the sliding edge of the wheel.
2. During the operation, the cargo is lowered until the cargo hold touches the ground.
3. Remove the goods and accessories.
4. Start the tractor
5. Use a rigid drawbar to connect the tractor (which must have sufficient traction and braking force) to... The towing pin at the rear of the loader.
6. Release the handbrake
7. Manually open the bypass valve on the plunger pump
8. After traction is completed
9. Use wheel chocks to prevent wheel slippage.
10. Engage the handbrake.
11. Restore braking power
12. Tighten the manual bypass valve
13. Install the seat mounting plate

After maintenance, check the operating condition of the brake.

 	<p>The stress concentration point of the rescue machinery can be selected from the vehicle's hoisting point (see attached table).3 ) The traction point during towing is located behind the counterweight. Maximum permissible force: 20. Qianniu</p> <p>This machine can only tow for short distances:      The traction position is located on the back of the counterweight;</p> <p>The machine's maximum traction value is: 7.5. Qianniu;      Maximum traction speed <math>\leq 5</math> km/h;</p> <p>Only rigid traction is permitted;</p> <p>Long-distance towing is prohibited;</p> <p>During traction, attention must be paid to the hydraulic oil temperature, which must not exceed the piston pump's maximum allowable temperature. temperature</p>
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#### Supplemental storage program

	Once a month	Unspecified time period
Transmission system	No special attention required	Drain the hydraulic oil from the tank...refill it.
Drive bridge	No special attention required	By disassembling the bottom of the dispenser housing Remove the drain plug to drain the drive axle fluid. After draining, reinstall the drain plug.

tire	<p>The loader should be raised and locked. To prevent tire contact ground</p> <p>Tire pressure should be reduced to 15 pound / square inch</p>	<p>The loader should be raised and the axles locked. Prevent the tires from contacting the ground.</p> <p>The tire pressure needs to be reduced to... 15 pounds per square inch 1 inch, and spray tire protectant.</p>
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lubricating	Ensure all locations use Lubricate with the correct lubricating oil slip.	Ensure that the correct lubricant is used at all locations. Lubricating oil for lubrication
liquid level	Check all liquid levels and as needed Replenish	Drain all fluids (engine oil).
wheel bearings	The wheel bearings should be replaced.	The wheel hub bearing should be re-lubricated.
Battery	Disconnect the battery terminals	<p>Remove the battery and store it separately.</p> <p>Batteries should be stored in a cool, dry place and not exposed to light. It must not be exposed to direct sunlight. If the battery... When stored outdoors, dust and other protective measures must be taken. Moisture protection.</p> <p>The battery needs to be inspected every two months.</p> <p>One slow charge</p>



warn!

1. Machine storage temperature range: -30°C to 50°C
2. Prolonged storage may damage the seals in the hydraulic system.

## Chapter Seven noise level

Noise intensity level [2000/14/EG] (A)	LWA = 101 DB
Sound pressure level without a cabin [German Industrial Standard EN]ISO 11201]	LPA=84DB(A)
In-cabin sound pressure level [German Industrial Standard EN]ISO 11201]	LPA = 85 dB(A)

## Maintenance

## Service Schedule

Tasks to be completed (please mark with ( 0 ))	First service
Check the transmission, engine, and hydraulic system for leaks.	
Check that the hydraulic oil and engine oil coolers and radiators are clean.	
Check coolant and antifreeze levels.	
examine V The tension and condition of the belt	
Check that the piping and conduit are installed correctly.	
Inspect the positioning rod of the hydraulic cylinder	
Tighten all screws and carefully inspect the engine, axle brackets, and universal joints.	
Check instruments and audible alarm devices	
Inspect the electrical system	
Inspect the hydraulic steering system	
Check the lighting equipment (if any).	
Check idle speed	
Check and adjust tappet clearance (if necessary) – Perkins only 1004-4 engine	
Check the locking functions of the car doors and engine hood.	
Check tire condition	
Change the engine oil and oil filter.	
Clean the air filter and replace it as needed.	
Replace hydraulic return oil filter	
Ensure all lubrication nozzles are lubricated.	
Lubricate the universal joint drive shaft.	
Lubricate all levers, Bowden lines, and hinges.	
Check all oil levels, including those in the gears and axles!	

Refer to the engine operation manual

Additional notes:

## Section 1: General Provisions

### A. Vehicle fixed

Before performing any maintenance or repairs The vehicle must be secured in the following manner:

1. Park the vehicle on a flat, load-bearing surface.
2. Place the tools and accessories on the ground.
3. Lock the central pivot steering system
4. Turn off the engine
5. Remove the key from the ignition switch.
6. Prevent the vehicle from sliding by blocking the wheels.
7. Disconnect the battery connection before electrical system work or welding.

### B. Safety support for load arm



warn!

A raised load arm could suddenly fall and cause serious injury. During maintenance... Before repair, Please use appropriate supports to secure the load arm!

### C. General security check

1. Inspect steel components for damage and document any damage to the enamel coating for future reference. repair.
2. Ensure that all pivot pins are in the correct position and securely locked in place by the locking device.
3. Check the condition and correct position of the steps and straps.
4. Check the car windows for cracks and replace any damaged windows.
5. Check the condition and correct position of the shovel teeth.
6. Check if the brake discs are damaged.
7. Check the tires for damage or punctures from sharp objects .
8. Ensure all warning signs are installed correctly. If necessary, install additional warning signs.

## Section 2: Maintenance

1 Proper and regular maintenance is a prerequisite for maintaining the vehicle's optimal performance.

1 Use only APS Genuine parts.

1 Improperly maintained vehicles can pose a safety hazard to your employer.

1 Regular maintenance and lubrication keep vehicles in efficient operation. Maintenance intervals depend on... The number of working hours and the intensity of daily work should be checked regularly to determine the maintenance interval.

1 Vehicles that have not undergone their due maintenance are prohibited from use. All malfunctions must be thoroughly repaired immediately. The first maintenance after 30 hours of operation should be performed by an authorized dealer or our authorized service point.



Maintenance work must be performed by professionally trained personnel. Before starting maintenance, please... Ensure the vehicle is securely fastened. Lower the load arm and park the vehicle on level ground. (If maintenance...) If the load arm needs to be raised during the protection process, a safety support device must be installed.

### A. Maintenance cycle

The intervals shown apply to average operating conditions and loads. Different maintenance intervals must be followed. (First come, first served) (Can be calculated monthly). The intervals shown are based on the operations specified in this manual. Material quality.

## 1. Daily maintenance



Routine maintenance (daily or at least every 10 (Execute once per running hour

1 Cleaning vehicles

1 Clean air filter

1 Check the overall damage.

1 Check the coolant level and condition.

1 Check the cleanliness of the hydraulic oil cooler, radiator, and engine oil cooler.

1 Check engine oil level and condition

1 Check the engine for leaks.

1 Check hydraulic oil level

1 Check the hydraulic system

1 Check tire condition and tire pressure

1 Confirm all screws are tightened.

1 Check wheel nuts

1 Check the braking system function

1 Check seat belts

1 Check the dashboard, control lights, and audible alarms.

1 Inspect the electrical system

1 Check the foot brake

1 Inspect the hydraulic steering system

1 Check the function of the hydraulic system

1 Inspection auxiliary equipment

1 Check the exhaust system for defects or excessive smoke.

1 Check the lubrication of all pivot pins.

1 Lubricate according to the lubrication chart.

1 Lubrication tool accessories

1 Lubrication of central joint

1 Lubricate steering cylinder pivot pin

1 confirm ROPS All screws in the structure have been tightened.

## 2. Weekly maintenance

Notice:

When checking the hydraulic oil level, The vehicle must be parked on level ground with the loading arm lowered.



warn!

Weekly maintenance (weekly or at least every run) 30-50 (Execute once per hour)

- 1 Clean fuel filter and oil-water separator
- 1 Check for oil leaks on the front and rear axles and check the oil levels.
- 1 Inspect the condition of the radiator and its piping.
- 1 Check the tension and condition of the fan belt.
- 1 Inspection auxiliary equipment
- 1 Inspect the hydraulic cylinder piston rod
- 1 Check the location of pipes and hoses
- 1 Check the air filter duct
- 1 Check the cable location
- 1 Lubricate the universal joint shaft (universal joint).
- 1 Lubricate all levers
- 1 Lubricate all Bowden lines and hinges
- 1 Tighten all screws
- 1 Carefully inspect the engine and axle brackets.

## 3. run500Check after hours (or first run)6(One month later)

Inspection and maintenance personnel must have a full understanding of the inspections required on this vehicle or similar vehicles. Inspection and maintenance tasks.

Maintenance (running hours) or latest 12 One month later: Maintenance tasks to be performed:	500Hour
Check the shift mechanism, engine, and hydraulic system for leaks.	×
Check that the hydraulic system, hydraulic oil cooler, and radiator are clean.	×
Check coolant and antifreeze levels.	×
Check the location of pipes and tubes.	×
Inspect the piston rod of the hydraulic cylinder	×
Check the air filter duct	×
Inspect Bowden cables and cable laying conditions.	×
Tighten all screws. Carefully inspect the engine, axle brackets, and universal joints.	×
Check the rubber pads on the engine mount.	×
Check the battery's acid level.	×
Inspect instruments, control lights, and audible alarm devices.	×
Inspect the electrical system	×
Check and adjust the foot brake and parking brake (if necessary).	×
Inspect the hydraulic steering system	×
Check the lighting equipment (if it is installed).	×
Check the exhaust system	×
Inspect drive shaft pivot pins and bushings	×
Inspect the bolts and bearings of the center joint.	×
Check idle speed	×
Inspect and adjust the hood and door latches (if necessary).	×
Check tire condition and tire pressure	×
Check engine oil and replace filter	×
Replace fuel filter - Clean primary filter	×
Clean or replace the air filter (if necessary).	×
Change hydraulic oil	×
Replace hydraulic return oil filter	×
Change the oil in the transmission gearbox	×
Change axle lubricant	×
Check that all lubrication nozzles are lubricated.	×
Lubricate all levers, cables, and hinges.	×
Check all oil levels	×

**Notice!**

Follow the engine operation manual

## 4. Further maintenance intervals

Inspection and maintenance personnel must have a full understanding of the inspections required on this vehicle or similar vehicles.

Maintenance task	Maintenance working hours	At least per month 200 -250 Check once every hour	At least every year 1000 once every hour
Check the shift gears, engine, and hydraulic system for any issues. Leakage exists		×	×
Check that the hydraulic cooler and radiator are clean.		×	×
Check coolant and antifreeze levels.		×	×
examineV The tension and condition of the belt		×	×
Check the location of pipes and tubes.			×
Check the air filter duct			×
Inspect Bowden cables and cable laying conditions.		×	×
Tighten all screws. Carefully inspect the engine and axles. Bracket and universal joint.			×
Check the battery's acid level.		×	×
Clean the battery terminals and check the acid density.		×	×
Check: Instruments, control lights, and audible alarm devices		×	×
Inspect the electrical system		×	×
Check and adjust the foot brake and parking brake as needed.		×	×
Inspect the hydraulic steering system		×	×
Check the lighting equipment (if it is installed).		×	×
Check the exhaust system		×	×
Inspect drive shaft pivot pins and bushings			×
Inspect the bolts and bearings of the center joint.			×

Check the pressure control valve of the hydraulic system		×
Check idle speed	×	×
Check the speed under maximum load/no-load conditions		×
Check the starter and alternator (refer to the engine manual).		×

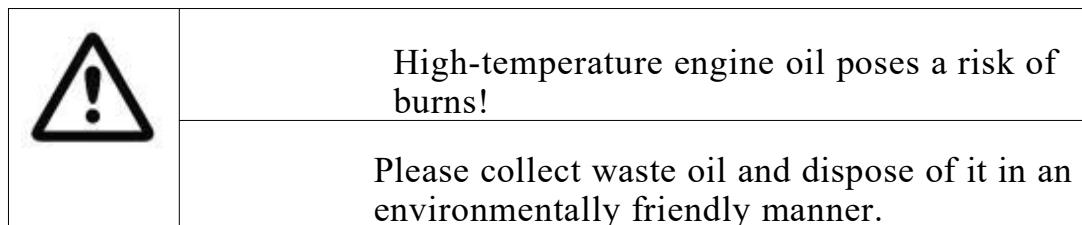
Maintenance working hours	At least per month 200 -250 Check once every hour	At least every year 1000 once every hour
Check the heater plug and fuel injectors (see Engine)  User Manual		×
Check and adjust valve clearance (if necessary).		×
Tighten cylinder head bolts		×
Check and adjust the hood locking mechanism, if any necessary	×	×
Check roll cage/cab		×
Check tire condition and tire pressure	×	×
Change the engine oil and oil filter.	×	×
Replace fuel filter - Clean primary filter		×
Clean or replace the air filter (if necessary).	×	×
Change hydraulic oil		×
Replace hydraulic return oil filter		×
Pressure filter (operating) 500Replace after hours 1 (1-inch filter element, to be replaced as needed)		
Change the oil in the transmission		×
Change axle lubricant		×
Every2Replace the coolant once a year.		×
Check that all lubrication nozzles have been lubricated.	×	×
Lubricate all universal joints (universal joints and sliding joints).	×	×
Lubricate all levers, Bowden cables, and hinges.	×	×
Check all oil levels	×	×
Inspections were conducted in accordance with accident prevention rules.		×

If weekly running time exceeds 30 Hours and use high-quality mineral oil (specifications)CF(or CG ) The maintenance interval can be extended to 200 Operating hours.

## B. Engine maintenance

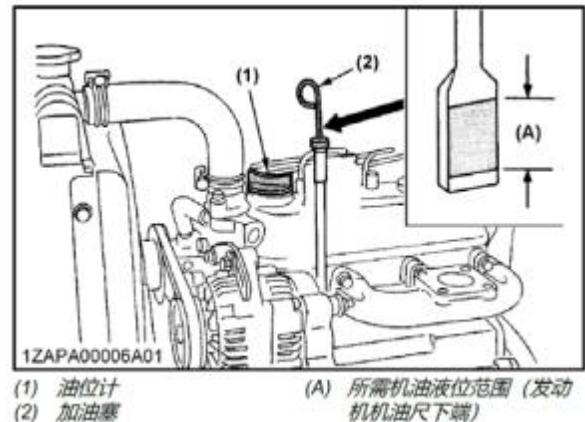
Perform engine maintenance and upkeep according to the specifications in the owner's manual and engine manual, especially... Pay attention to the maintenance schedule .

### 1. Change engine oil



High-temperature engine oil poses a risk of burns!

Please collect waste oil and dispose of it in an environmentally friendly manner.



1 Start the engine until it reaches operating temperature.

1 Park the vehicle on a level surface and prevent it from rolling.

1 Turn off the engine.

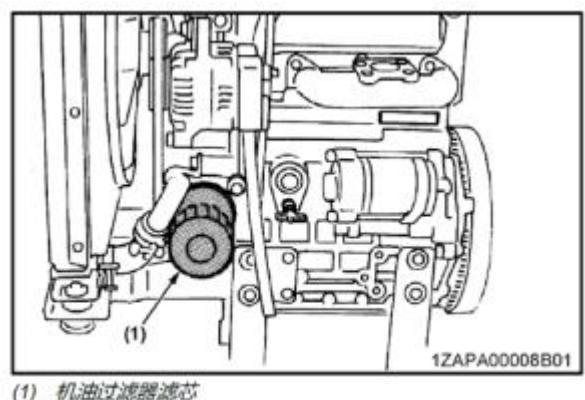
1 Place an oil receiving container below the oil drain port. Please refer to the capacity chart in this operation manual to determine the required container capacity.

1 Unscrew the oil cap and drain the engine oil.

1 After the engine oil has been completely drained.

1 Replace the engine oil filter.

1 Install the oil pan cap in place, and use the correct... Tighten the screws with torque.



1 Add engine oil through the filler neck  
until... Oil level reached "maximum"  
"mark.

1 Start the engine and let it idle for approximately 2 minute.

1 Check the oil level and, if necessary, add engine oil to the "maximum" mark."mark.

1 Check the engine for leaks.

Notice: This filter element is equipped with a bypass valve. It will open when the filter is clogged.

## 2. Air filter maintenance

The wheel loader is equipped with a dry filtration system consisting of a main filter and a safety filter. Unification warn!

Engine parts may pose a danger of injury!

Make sure to stop the engine before starting work near the air intake.

It is strictly forbidden to start the engine with intake system components removed.

If the engine draws in unfiltered air, it may cause equipment damage.



1 Disassemble the main filter for inspection and cleaning.

- 1) Loosen the spring clamp (Figure 1) Remove the lid (Figure 2).
- 2) Pull out the main filter element (Figure 3). Safety filter element (Figure 4) No disassembly required.
- 3) Clean or replace the filter cartridge.
- 4) Install new or cleaned filter cartridges in reverse order. If the filter paper or seals are damaged... If it's faulty, the filter element needs to be replaced.
- 5) Inspect the intake pipe between the filter and the engine to ensure that the connection is secure and installed correctly.

The exterior of the air intake pipe must be undamaged. The exterior of the hose connector between the filter and the air intake pipe must also be undamaged. There must also be no damage.

#### 1 Check/Replace Safety Filter

If the safety filter needs to be replaced (Figure 4 ), it should be done no later than after the main filter has been cleaned.

When a dry filter element shows obvious maintenance errors or the main filter element is damaged during maintenance work, it is necessary to Replace safety filter

#### 3. Cooling system maintenance

1 The oil cooler is installed at the rear of the diesel engine.

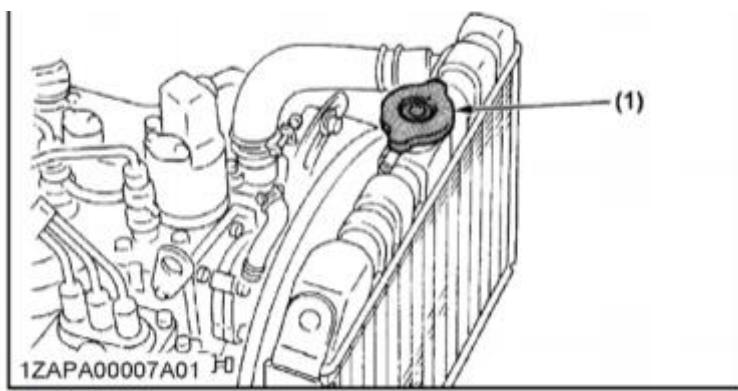
1 You can perform maintenance when you lift the tailgate.

1 If the hydraulic system feels overheated during long-distance driving or in high-temperature environments, please check the cooler.

Cleaning and fan V Check if the belt tension is normal.

1 Coolant level needs to be checked regularly. When viewing the radiator opening from above, the radiator fins... It must be submerged in coolant. When adding coolant,Please ensure that sufficient antifreeze has been added. Antifreeze prevents coolant from freezing at low temperatures. And protect the engine block and radiator. Protected from internal corrosion.

1 The higher the dust content in the air, the more frequently the cooling system needs to be inspected. When you use When shining a handheld light behind the cooler...Light should be able to see through all the openings. Use pressure. Compressed air to clean the cooler. If the cooler is heavily contaminated, it needs to be flushed with high-pressure water. Remove accumulated dirt. Be careful not to bend the cooler fins. Bent fins must be... It needs to be straightened.



(1) Radiator pressure cap

#### 4. Hydraulic system maintenance



warn!

Ensure that maintenance work is performed in an extremely clean environment. Impurities or moisture in the oil may... This can lead to premature system wear or even complete failure. Only special hydraulic oil can be used (see selection table ). It must be taken from a sealed container. Before installation, the inside of the hydraulic lines must be thoroughly cleaned.

A hydraulic variable displacement pump is mounted on a diesel engine via a flange. The pump's displacement can be adjusted... It now features automatic stepless adjustment, but is still subject to speed and load control. Vehicle speed is determined by engine speed. Determined by the load: Forward drive is achieved by pressing the accelerator pedal, and the maximum vehicle speed is determined by the engine. Maximum speed limit of the machine.

The variable displacement pump will automatically adjust to maintain optimal engine torque based on the loader's load. Torque output. The greater the vehicle load (such as during loading operations or uphill driving ), the higher the driving speed. Low. This design ensures maximum efficiency throughout the entire work area. By stepping on the... The inch pedal (left-hand pedal in the driving direction ) allows for progressive control of the loader across the entire speed range. The flow is controlled by a throttling mechanism until the vehicle comes to a complete stop, which further affects the pump's displacement.

The loader's hydraulic system is supplied with oil by a hydraulic gear pump. This gear pump is flange-mounted. The variable displacement pump supplies pressurized hydraulic fluid to the steering system and boom control valves. The hydraulic fluid temperature must not exceed [a certain limit]. Pass 80°C, Please replace the hydraulic oil and filter according to the maintenance schedule.

##### 1 Hydraulic oil level



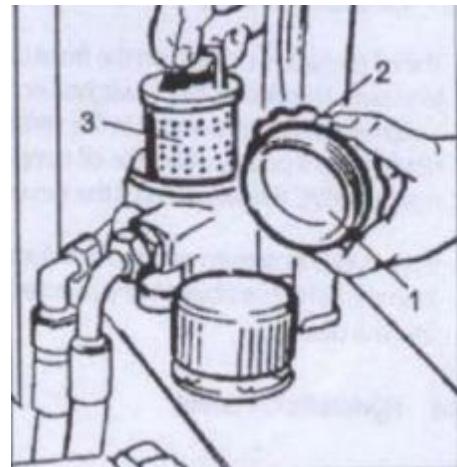
warn!

Park the wheel loader on level ground and lower the working device to the ground. Apply parking brake. Turn off the engine. Operate the control levers of the working devices until all working devices are engaged. The movement stops completely to release pressure in the hydraulic system. (See the "Vehicle Parking" section.) The method described above is used to fix the vehicle.

1 oil return filter

The hydraulic system is equipped with a return oil filter (Figure 3). A built-in bypass valve provides protection. The return oil filter is protected from overpressure. The filter will fail when the bypass valve is open. Therefore, it is essential to... The filter element must be replaced as soon as possible.

- 1) Unscrew the top cover (Figure 1 ) and remove the filter element (Figure 3).
- 2) Install new filter element
- 3) Inspect the seals (Figure 2 ); replace them if damaged .
- 4) Tighten the top cover



1 Change hydraulic oil



warn!

High-temperature hydraulic oil poses a risk of burns. The spilled hydraulic oil should be collected and disposed of in an environmentally friendly manner. Please read and comply with the "Inspection, Maintenance, and Safety" procedures. Do not start the machine if the hydraulic oil tank is not filled with oil. The engine is used to prevent unauthorized use of the vehicle.

- 1) Lower the tools and accessories to the ground.
- 2) Turn off the engine and engage the parking brake.
- 3) Place a container below the hydraulic oil tank (see capacity chart for required capacity).
- 4) Loosen the drain filter
- 5) Unscrew the drain plug at the bottom of the hydraulic oil tank.
- 6) Unscrew the fuel tank cap (Figure 1) Clean the bottom and inside of the oil tank with hydraulic oil or recycled oil. Then tighten the drain plug.
- 7) Add hydraulic oil through the filter screen below the drain filter until the oil level gauge reaches the upper limit mark. Tighten the drain filter and bleed the entire system.

## 5. Axle maintenance

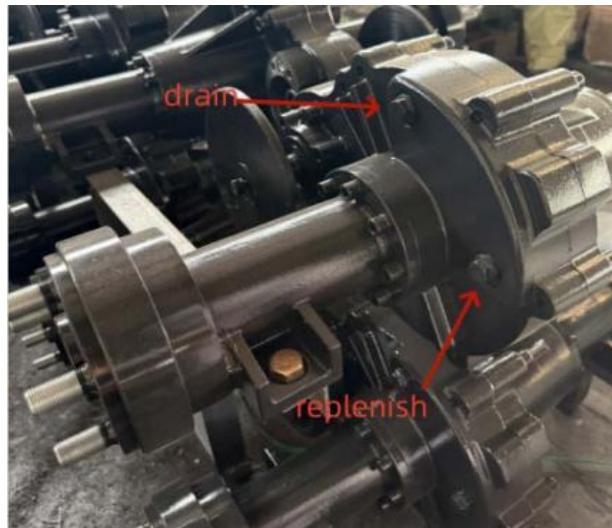


**warn!**

Park the vehicle on level ground and lower the tools and accessories to the ground. Turn off the engine and secure it. Apply the parking brake. Hot fluid poses a risk of burns – collect any spilled fluid and rinse with a ring. The method of handling is to protect.

Perform maintenance on the axles according to the maintenance schedule.

1 Check gear oil level and change engine oil.



- 1) Unscrew the hexagonal plug on the side of the housing. The oil level should reach the bottom edge of the threaded hole.
- 2) Unscrew the hexagonal plug on the lower right side of the differential cover.
- 3) Discharge and collect the lubricating oil.
- 4) Install the hexagonal plug using sealant.
- 5) Add lubricating oil until the oil level reaches the upper edge of the hole.
- 6) Install oil filler neck

## 6. Roll cage structure

The vehicle is equipped with a roll cage structure ( ROPS ). Using a roll cage that is not installed or is faulty... Roll cages can cause fatal accidents or serious injuries. Modified or improperly maintained roll cages have... Dangerous. If the roll cage is damaged in an accident, it must be repaired and inspected by a professional before use. Continue to use the vehicle.

Please contact your APSDistributors or our authorized service centers. Ignoring this instruction may result in... Fatal accident or serious injury.

1 Check the roll cage for damage.

1 Ensure all bolts are tightened.

1 Check the bolt torque value.Torque tightening if necessary

1 If the roll cage needs to be removed...Specialized operating procedures must be followed.

## 7. Vehicle cleaning

For the first three months of use, only use a sponge for cleaning new cars . This is because the surface coating is not yet fully developed. Full curing and high-pressure water jet washing may damage the paint surface.

Pay special attention to the chassis area during cleaning. The engine and transmission areas must be free of mud. Ensure the radiator grille is unobstructed. This vehicle is splash-proof.

High-pressure water guns (pressure washers) are prohibited from being used to directly wash the dashboard, generator, and other surfaces. Compact connectors or heat sinks. Cover the multi-function joystick before cleaning.

## 8. seat belt

1 Seat belts must be replaced after damage, wear, or an accident.

Furthermore, seat belts should be replaced every three years .

1 Check the seat belts for wear and stretching. Ensure the stitching is undamaged and check the buckle function .

1 Ensure the screws are installed correctly and tightened securely.

## 9. Tires and rims



warn!

Pneumatic tires can become extremely hot, explode, and cause fatal accidents. Do not cut or... Welding of wheel rims. Repair work should be performed by tire or wheel rim specialists.

### 1 Inflate tires

The following instructions are for inflating a tire after it has lost pressure. When the tire is completely deflated, This operation must be performed by a trained tire technician using specialized equipment.

#### 1) Tire preparation:

Check and confirm that the tires are in the correct position.

#### 2) Equipment preparation:

Use only tire pressure regulators. Set the regulator to higher than the recommended tire pressure.

Maximum value of 1.38 bar. Equipped with a self-locking pneumatic chuck and remote shut-off valve. trachea.

#### 3) Inflation procedure:

Ensure the inflation hose is correctly connected to the valve. Clear the work area. Stand upright while inflating.

Behind and to the side of the tire, until the recommended tire pressure is reached (see tire pressure chart).

### 1 Wheel hub positioning inspection

For new cars or cars with replaced wheels, the wheel nut torque should be checked every two hours. The value is maintained until it stabilizes. Before using the vehicle each day, ensure all wheel nuts are properly tightened.

The correct torque values are shown in the table below.

Wheel nuts	front wheel	rear wheel
M18×15	310±45 Nm	310±45 Nm



warn!

When replacing wheel bolts, all bolts on that wheel must be replaced at the same time, because the other bolts may... Its capacity has also been damaged.

## 10. Braking system maintenance

Damage to the braking system can lead to fatal accidents. Therefore, please have it checked regularly by your dealer. Your braking system. During maintenance, the braking system function should be checked and braking should be performed as needed. Adjust dynamically. The vehicle can only be operated again after the fault has been resolved.

A hydrostatic drive unit is used as a service brake. The vehicle's service brake is applied via an inching brake pedal. The pedal is operated by releasing hydraulic pressure to brake the rear wheels. Loading. The vehicle is equipped with both a foot brake and a parking brake. Its braking system is powered by the differential on the rear axle input end. Composition of drum brake.

## 11. Electrical system

### 1 Maintenance of electrical systems

- 1) The nominal voltage of this electrical system is 12 The voltage is 10 volts, powered by an AC generator.
- 2) Battery capacity is 60 AH .
- 3) The battery is located in the vehicle's engine compartment and can be operated when the vehicle is tilted.
- 4) The electrical loads and their power supply lines are protected by fuses installed in the fuse box on the right side of the steering column. Silk provides protection.
- 5) This vehicle is splash-proof. Do not use a high-pressure water gun (pressure washer) for cleaning. Instrument panel, generator, or compact connector.
- 6) Electrical systems require maintenance as needed. When inspecting electrical systems, always avoid short circuits; disconnect the circuit first. Connect the battery to the negative terminal or operate the battery power-off switch. To prevent internal short circuits, do not disconnect any... Place any tools on the battery. Keep the electrode

terminals and terminals clean and apply a protective coating. Rust-resistant grease. Never touch the bulbs or headlight reflectors with your fingers. Starter motor and generator. For machine malfunctions, please have them repaired by the dealer. This includes relays, regulators, ignition switches, and turn signals. Small devices such as indicator lights should be replaced immediately if they malfunction. Ensure all wiring and fuses are properly connected. Correct connection. A blown fuse is usually caused by a short circuit; check the cables and confirm the fuse is working properly. The wire contact points are installed in place.



warn!

To avoid damaging the electrical system, please follow these operating procedures:

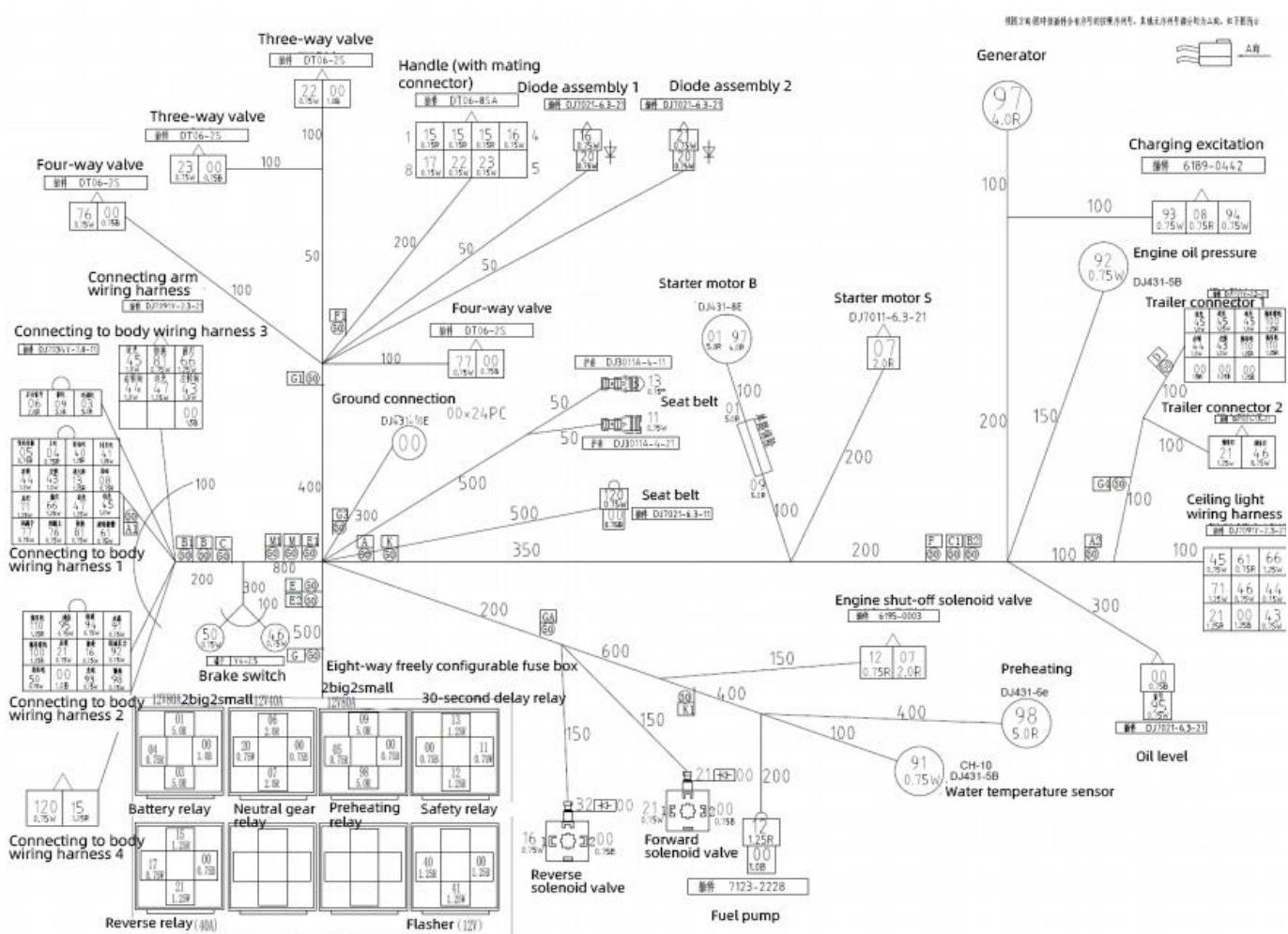
- 1) When performing welding operations, the grounding terminal of the welding equipment must be directly connected to the part to be welded. The generator connection must be disconnected and the battery removed before welding begins.
- 2) It is strictly forbidden to disconnect electrical circuits while the engine is running.
- 3) Do not short-circuit the fuse and the preheating controller. When replacing damaged parts, always use the same type of equipment. Original parts and specifications.

#### 1 Battery

- 1) The battery may release explosive gases. Do not smoke and keep the battery away from sparks and flames.
- 2) The battery electrolyte contains sulfuric acid, which may irritate the skin and eyes. Please wear protective eyewear. Take care to avoid electrolyte splashing. Keep metal parts away from the electrodes to prevent short circuits and burns.
- 3) Before disconnecting or reconnecting the battery, All switches and the battery in the driver's cab need to be disconnected. Switch to "Off" "Status. The grounding wire (-) must be disconnected first ."
- 4) When connecting the battery, connect the positive terminal (+) first. cable.
- 5) Charging should be done in a well-ventilated area, and a certain distance should be maintained from the device. Disconnect or Make sure to turn off the charging circuit before connecting the battery. Wait five minutes after installation before connecting. Battery.

- 6) The battery casing is marked with "Minimum/Maximum""Level mark . The electrolyte level should be at..." Within the marked area, and can be observed through the casing. If it does not meet the requirements, the battery must be removed. Plug and check the liquid level from above (above the battery plates). 10 (At millimeters). Add if necessary. Distilled water.

# 1 Electrical wiring diagram



## 12. Troubleshooting and Correction

Troubleshooting issues	Cause of the fault	Troubleshooting
Engine cannot start	The fuel tank is empty.	Refill the fuel tank and clean the fuel system as needed.
	Fuel filter clog, paraffin wax in winter sediment	Replace the fuel filter and use cold-temperature fuel.
	The fuel solenoid valve did not release.	Check the fuse
	fuel line leak	Tighten all screws and clamps.
	Starting speed too low	Check and charge the battery. Check the fit of the battery terminals.
The vehicle has no engine running driving in accordance with the law	The parking brake has been used.	Release the handbrake
	Parking brake switch damaged	Replace parking brake switch
	Power supply failure of drive pump solenoid valve	Please refer to the multi-function joystick and Electronic systems Workshop maintenance
Engine overheating	radiator / oil cooler	clean
	Low coolant level	Add coolant
	Thermostat stuck	Please replace the temperature controller in the workshop.
	V Loose belt	V tension
	Oil level too high or too low	Correct oil level
Hydraulic system overheating	Dirty hydraulic oil cooler	clean
	Hydraulic oil level too low	Replenish hydraulic oil
	Overload	Reduce vehicle load and stop operation.
Vehicle performance decline	Dirty air filter Dirty fuel filter	replace
	Incorrect fuel type	Change fuel type
	Left foot pedal stuck	Inspection and repair
	Engine speed too low	Adjust speed

Please follow the engine operation manual!

### 13. Capacity and fuel/oil type

project	capacity	lubricating oil	Specification
fuel	30L	diesel fuel	Standard DIN 51601 See engine operation manual
Engine oil	Reference Engine manual	Engine SAE 15w/40 Ambient temperature - 20°C to Above 30°C	APICD-ROM, see reference Engine Operation Manual
axle	1.5L	Gear oil SAE 85W 90 GL 5	Hypoid gears
Hydraulic oil tank	30L	hydraulic oil HLP	ISO VG 46
Lubrication points		Multi-purpose grease	water proof



warn!

To all vehicle users, We recommend

using the following Lubricant type:

Gear oil AFI - GL 5

Fox Renogier LS

lubricating oil 80W90 /

85W90



warn!

When changing to environmentally friendly hydraulic oil,

The hydraulic system must be flushed multiple times. Never mix with mineral oil!

#### 14. Lubrication schedule

Lubricate all lubrication points daily with waterproof multi-purpose grease. Use an oil can to lubricate the grease. There are movable parts that require lubrication, such as the parking brake lever and foot pedal.



**warn!**

Make sure all hydraulic cylinder lubrication nozzles are lubricated !.

TYPHON