

Operation & Service Manual

Skid Steer Loader



WARNING

**FAILURE TO FOLLOW SAFE OPERATING PRACTICES MAY RESULT
IN SERIOUS INJURY OR DEATH.**

- Read this manual completely as well as other manuals that came with your track loader.
- DO NOT operate on steep slopes.
- Under no circumstances should the machine be operated on slopes greater than 10 degrees. ALWAYS FOLLOW OSHA APPROVED OPERATION.
- Before performing any maintenance or service, stop the machine and remove the ignition key.
- Keep hands, feet and clothing away from moving parts.
- Keep others off the track loader (only one person at a time)

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SECTION1:RECORD OF REVISIONS

Continuing improvement and advancement of product design may cause changes to the model group which may not be included in this publication.

Each publication is reviewed and revised, as required, to update and include the changes in later additions.

We reserves the right to modify or make changes within a specific model group without notice and without incurring any liability to retrofit tractors previously shipped from the factory.

Contact your Shang qi Heavy Industry Technology dealer for maintenance that is not covered in this publication.

	ISSUE DATE		
UPDATE NUMBER	DISASSEMBLY	INSERTED	DESCRIPTION OF CHANGE

SECTION2:GENERAL WARRANTY CONDITIONS

This document presents the warranty conditions offered to any customer for all the pieces of equipment's manufactured in the Shang qi Heavy Industry Technology facilities and sold to him through the authorized Sales and Service network.

The general warranty conditions hereunder described do govern the relationship between final customer of a Shang qi Heavy Industry Technology product, hereunder called "the buyer" and Shang qi Heavy Industry Technology factory, called "the manufacturer".

The fact that the buyer places an order of a Shang qi Heavy Industry Technology product means that he has read the present policy and does accept its provision. Any other general or particular provision, that differs from or contradicts one of the general or particular conditions described hereafter which may appear in any document from the buyer and especially in its general purchasing conditions, cannot be used against the manufacturer unless accepted by Shang qi Heavy Industry Technology in a written agreement.

ARTICLE 1:

Shang qi Heavy Industry Technology warrants that each new item of equipment is of good workmanship and is free from mechanical defects provided that:

1) The product is installed and operated in accordance with printed Shang qi Heavy Industry Technology Equipment's instructions.

2) The product is used under normal operating conditions, for which it is designed,

3) The product is not subject to misuse, negligence or accident,

4)The product receives proper care, lubrication, protection and maintenance under the supervision of trained personnel,

5) The product is normally protected from exterior aggressions whatever their origin.

ARTICLE 2:

This warranty expires, unless otherwise agreed by Shang qi Heavy Industry Technology in a special provision, 24 months after shipment by the manufacturer.

ARTICLE 3:

The Shang qi Heavy Industry Technology Warranty is strictly limited to the replacement of defective parts and if the repair does justify it, to the assistance of a technician. Parts shipping expenses, traveling and housing expenses of personnel are to be paid by customer.

ARTICLE 4:

The Shang qi Heavy Industry Technology Warranty does not apply to fluids, oils, fuses, bulbs, accumulators, paint, seals, tires, bumpers, pads and other consumables or normally wearing type items unless found to be defective prior to use.

ARTICLE 5:

All warranty claims from the Buyer must be sent by written to Seller who will be in charge of dealing with the Manufacturer to address the problem in a timely manner.

ARTICLE 6:

All the expenses related to a warranty claim will be invoiced to the buyer until Shang qi Heavy Industry Technology employees have evaluated the claim. Whatever the circumstances, the buyer should not refuse or delay the payment. If the evaluation concludes to Shang qi Heavy Industry Technology' s full responsibility, a credit memo will be issued in favor of the buyer.

Under no circumstance other than those accepted by Shang qi Heavy Industry Technology, the buyer of the defective parts at the manufacturer address can accept without a formal letter from the buyer and without the effective return no warranty claim.

ARTICLE 7:

This warranty is extended by Shang qi Heavy Industry Technology only to the buyer of new products from Shang qi Heavy Industry Technology or of its authorized distributors. The products purchased under this warranty are intended for use exclusively by the buyer and his employees and by no other person. Therefore, there shall be no third-party beneficiary of this warranty.

ARTICLE 8:

This warranty does only apply to the primeval reason. In other words, the consequences on the product linked to its use after first problem are not covered by this warranty.

ARTICLE 9:

Under no circumstances whatever shall Shang qi Heavy Industry Technology and the seller be liable for any special or consequential damages, whether based on lost goodwill, lost resale profits, work stoppage, impairment of other goods or otherwise, and whether arising out of breach of any express or implied warranty, breach of contract, negligence or otherwise, except only in the case of personal injury as may be required by applicable law

ARTICLE 10:

The warranty is automatically void in the following cases:

- 1) The product has received some modification, not advised by Shang qi Heavy Industry Technology or not done following Shang qi Heavy Industry Technology requirements
- 2) Some original parts have been replaced by parts not provided by Shang qi Heavy Industry Technology.

ARTICLE 11:

This warranty and all undertaking of Shang qi Heavy Industry Technology shall be governed by the laws of manufacturer's country and discussed in front of nearest court from the manufacturer's facility even in case of multiple of defenders.

SECTION3: GENERAL WARNING

FOREWORD

This instruction manual is intended for all users of the machine: the company manager, the Department Head, the driver, as well as the whole personnel who works with or near to the equipment

Look for the safety alert symbol



This symbol means “**Attention! Become Alert! Your Safety is involved!**” The symbol is used with the following signal words to attract your attention to safety messages found on the decals on the machine and throughout this manual. The message that follows the symbol contains important information about safety. To avoid injury and possible death, carefully read the message! Be sure to fully understand the causes of possible injury or death.

Be Aware of Signal Words

A Signal word designates a degree or level of hazard seriousness, They are:



DANGER indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.



WARNING indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.



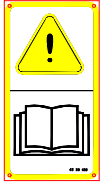
CAUTION indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.



GENERAL WARNING:

1. Before using the machine, go through this manual and comply with all its instructions
2. Also carefully read the instructions that appear on the plates fixed onto the machine and keep them readable
3. Keep this instruction manual at the disposal of all operators
4. Make sure that any person to whom you entrust the machine is qualified to fulfill the safety requirements linked to its use
5. Avoid unsupervised interventions on your equipment when not being used
6. Never use a machine which does not look to be in good condition
7. Never apply a load or a stress exceeding the maximum operating load of the machine
8. Never use the machine for an operation it is not designed to perform
9. Become thoroughly familiar with the safety regulations applicable to the machine and enforce them scrupulously
10. The manufacturer declines his responsibility for the consequences of a disassembly of the machine or any modification made without his supervision

OBLIGATION TO GO THROUGH THE USER'S MANUAL



The company manager is compelled to make the operators fully acquainted with the regulations of the instruction manual.

Read this entire chapter BEFORE attempting to operate this loader

The company manager is responsible for the enforcement of the applicable "user's regulation"

The user must imperatively read and assimilate this instruction manual in order to be able to comply with it during start-up and use

The instruction manual must be kept during the life-span of the machine, including in the event of a resale, of a change of user or manager

The instruction manual is not a training manual, but it specifies, when required, if a training is necessary.

GENERAL INSTRUCTION



The company manager must make sure that the machine is delivered with the instruction manual

* The location of the instruction manual is specified on the dispatch note when leaving the factory

The certificate of conformity is placed with the dispatch note

Only trained and qualified operators with appropriate driving license and accredited by the company manager may operate the vehicle within the scope of the use for which it has been designed

The loader may only be used in accordance with the conditions established by the manufacturer in this instruction manual and declines the manufacturer his responsibility. Any use that does not comply with the regulations of this instruction manual might cause risks of injury to people, property and the environment

The manufacturer's responsibility is limited to the assembly configuration of the equipment as described in the certificate of conformity. Before each use, the driver should check that the machine is in good condition

The certificate of conformity is placed with the dispatch note

MACHINE NORMAL USING DOMAIN

THE ALLOWED MAXIMAL LOAD AND THE GENERAL USING CONDITIONS ARE INCLUDED IN THIS DOCUMENTATION

PROHIBIT THE USE OF LOADERS TO LOAD ANYTHING OTHER THAN THE SCOPE

THE ADAPT TEMPERATURE RANGE OF THIS LOADER IS - 30°C-45°C

MAKE IN THESE CIRCUMSTANCES CAN'T BE HELD TO RESPONSIBILITY OF Shang qi Heavy Industry Technology.

MODIFICATION OF THE LOADER

The manufacturer is not responsible in case of any modification, addition or combination with equipment from another origin.

The manufacturer declines any responsibility for consequences resulting from changes in the characteristics or modifications made without his written consent, and concerning either the mechanical, electrical, hydraulic part or the mechanically welded structure.

If the client wants a modification to be made, he must imperatively consult the manufacturer.

For your safety and in order to benefit from the total guarantee of the manufacturer, you must only use guaranteed genuine spare parts.

NOTE

Safety is more than quality design and construction. It also requires proper operation and maintenance practices.

Every component is specifically designed and carefully built by Shang qi Heavy Industry Technology to produce the safest equipment available

Your responsibility is operating safely.

Good understanding of the instructions mentioned below will enable operators to use the loader in safe

SAFETY INFORMATION

This manual provides important information to familiarize you with safe operating and maintenance procedures for Shang qi Heavy Industry Technology loader.

Even though you may be familiar with similar equipment, you must read and understand this manual before operating this loader.

Safety is everyone's business and must be one of your primary concerns.

Knowing the guidelines covered in this manual will help provide for your safety, for the safety of those around you, and for the machine's proper operation

Safety is a very important aspect which affects the life of your loader. Before you operate, maintain or in any other way, use this loader, READ and STUDY this manual, KNOW how to safely use the loader's controls and what you must do for safe maintenance. If you have ANY QUESTION about the safe use or maintenance of this tractor, ASK YOU SUPERVISOR -NEVER GUESS - ALWAYS CHECK!

REMEMBER that a careful driver not only protects himself, but also other people with whom he works; at the same time, he avoids dangers which could damage the loader and the goods.

SECTION 4: INFORMATION AND OPERATION

A. STANDARD CONFIGURATION

The following features are standard equipment on the Loader series:

1. Diesel engine
2. Hydrostatic traveling drive system
3. Parking brake
4. Fast change and lock attachment system
5. Anti-skid floor
6. Working lights
7. Combination meter

B. OPERATOR RESPONSIBILITIES

This chapter must be read and thoroughly understood prior to operating or performing any maintenance on this equipment.



WARNING:

FAILURE TO COMPLY WITH THE FOLLOWING SAFETY PRECAUTIONS CAN RESULT IN SERIOUS INJURY OR DEATH AS WELL AS EQUIPMENT DAMAGE.

1. Always follow the global safety rules applicable in your field.
2. Before using this loader, always check for proper operation and condition of the lights, steering, parking brake and tracks.
3. Do not operate a loader with defective features; refer to the maintenance section of the Operation and Service Manual.
4. Always wear suitable footwear when operating this equipment and avoid loose fitting clothing that might get caught in moving parts.
5. Always bring the unit to a complete stop, check the park brake before quitting the unit.
6. Always check the path clear prior to backing.
7. Lift the bucket up to the transport position (about 20cm from the ground)
8. In crowded areas and when close to the Blind corners and a row of car, be more careful. be vigilant to other equipment and personnel.
9. Do not operate when the speed does not meet the operational conditions. Always limit a good speed in order to ensure sufficient time for emergency braking.
10. Do not allow to use loaders to transport hazardous materials.
11. Do not allow to carry person by this loader.

12. Before operating this loader, the roll cage must be raised, and make sure the pin in the locking position.
13. In addition to the dragging hole, any form of traction is not allowed in loaders.
14. Do not remove the radiator cap when the engine is hot, otherwise, can cause severe burns. Allow to remove the radiator cap after cooling.
15. Do not try to touch the just being run or down engine exhaust pipe and muffler, otherwise it will cause serious burns.
16. After open the engine cover, do not try to start the engine, if must start, take care the hurt from the fan to hand.
17. Never refuel the unit while the engine is running.
18. When injecting the fuel, it can stop when the refueling gun automatic cut off, don't inject too much. When refueling, no smoking, don't storage or use the fuel at fireplace.
19. Do not check the engine oil while the engine is running.
20. Do not use the battery in this unit to start other vehicles.



The maximum ear noise measured value of this loader is 88dB, for your good health, please wear personal protective equipment (such like the earplug isolated the noise) when controlling the machine, to reduce the hurt of the machine noise to your body.



Always exercise good common sense, stay alert and be aware of what is happening around the loader all times.



The rated capacity of this manual mentioned is based on the machine located in the solid level ground, when operating on non-standard ground (such as the soft, uneven ground, or on slopes), should consider fully about those factors impact on the load capacity.

C.MECHANICAL RESPONSIBILITIES

This chapter must be read and thoroughly understood prior to performing any maintenance on this equipment.



WARNING: FAILURE TO COMPLY WITH THE FOLLOWING SAFETY PRECAUTIONS CAN RESULT IN SERIOUS INJURY OR DEATH AS WELL AS EQUIPMENT DAMAGE.

1. Always follow the Station Safety Rules. If a written list of safety rules is not posted at the station, obtain one prior to operating this loader.

2. Always review the Operator Responsibilities Section prior to operating this equipment.
3. Always keep hands and feet away from rotating parts and tracks. Wear secured clothing.
4. Always wear suitable footwear when operating or servicing this equipment. Avoid wearing loose-fitting clothing that might get caught in moving parts.
5. Always stop the engine when adjusting fan and alternator belts.
6. Always keep hands clear of the cooling fan.
7. Do not remove radiator cap when the engine is hot, as serious burns may result. Allow the radiator to cool before removing the cap.
8. Do not run the engine long time in the closed room.
9. Do not start the engine in the easy explosion environment.
10. Do not check the engine oil while the engine is running.
11. Always disconnect the battery positive cable when working on the engine or under the hood.
12. if electrolyte is spilled, always wash hands or clothing immediately.
13. Do not touch the engine, exhaust or hydraulic components when they are hot as serious burns may result.
14. Do not smoke near the battery. Fumes from charging electrolyte are explosive. Always keep the battery away from sparks, flame and smoking materials.
15. Always remove metal bracelets, watch bands, etc. prior to installing, removing or servicing the battery.
16. Do not short circuit the battery terminals.
17. When connecting the battery, the positive terminal must always be connected first prevent sparks from accidental grounding.
18. Check all lights.
19. Check the horn operation.
20. Always use proper lifting equipment safely when removing or replacing heavy components.
21. When working underneath the loader, be sure it is supported properly on secure jack stands. Do not rely on hydraulic jacks to support the loader.
22. If the loader is on a hydraulic or air operated lift, always be sure the safety support or lock is in position prior to working under the loader.
23. Always use a proper transmission jack and secure the transmission when removing or replacing it.
24. Never refuel the unit when the engine is running.
25. Do not smoke while refueling.
26. Do not store, spill or use fuel near an open flame.

27. Do not use the battery in this unit to start other vehicles.
28. Do not attempt to install or adjust control cables with the engine running.
29. Always replace a control cable which exhibits any gradual or sudden increase in no-load friction or resistance or decrease in usable stroke, or which have moisture inside or have been frozen.
30. Do not use heat to attempt to dry or thaw a control cable.
31. Do not remove the seals from a control cable or attempt to lubricate it. Any control cable which exhibits possible lubrication problems should be replaced.
32. Do not attempt to repair or modify a control cable. Any damaged control cable should be replaced immediately.
33. Always avoid exposing control cables to fuels, oils, chemicals, paint, water or dirt as damage may result.
34. Always adjust each control cable so that the utilized stroke of the cable is centered within the cable's available stroke.

CHAPTER 1

GENERAL INFORMATION & OPERATING INSTRUCTIONS

SECTION 1: GENERAL INFORMATION

1.1 INTRODUCTION

Your skid steer loader was built to the highest standards in the industry. However, the prolonged life and maximum efficiency of your skid steer loader depend on you following the operating, maintenance, and adjustment instructions in this manual.

If additional information or service is needed, contact your Authorized Shang qi Heavy Industry Technology Dealer.

We encourage you to contact your dealer for repairs, All Shang qi Heavy Industry Technology dealers are informed of the latest methods to service this equipment and provide prompt and efficient service in the field or at their service shop. They carry a full line of Shang qi service parts.

- IMPORTANT -

The replacement of any part on this product by other than the manufacturer's authorized replacement part may adversely affect the performance, durability or safety of this product.

Use of other than original Shang qi replacement parts will void the warranty.

When ordering parts, always give the model and serial number of your track loader. The serial number plate is located on the right side of the machine shown in Figure1-1.

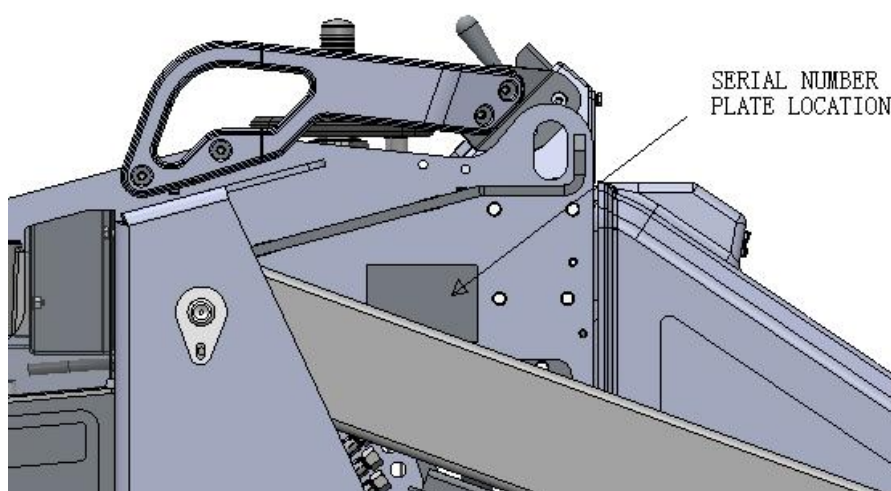


Figure1-1 Skid Steer Loader Serial Number Plate Location

USE ONLY SHANG QI APPROVED ATTACHMENTS AND ACCESSORIES.

Attachments and accessories manufactured by companies other than Shang qi Heavy Industry Technology must be approved by Shang qi Heavy Industry Technology for use on this

machine. Any alterations or modifications to the machine, changing performance or durability, or allowing the use of improper or unapproved attachments or accessories will not be covered by warranty.



WARNING

For pictorial clarity, some illustrations and figures in this manual may show shields, guards or plates open or removed. Under no circumstances should your track loader be operated without these devices in place.

All information is based upon product information available at the time of approval for printing. Shang qi Heavy Industry Technology reserves the right to make changes at any time without notice and without incurring any obligation.

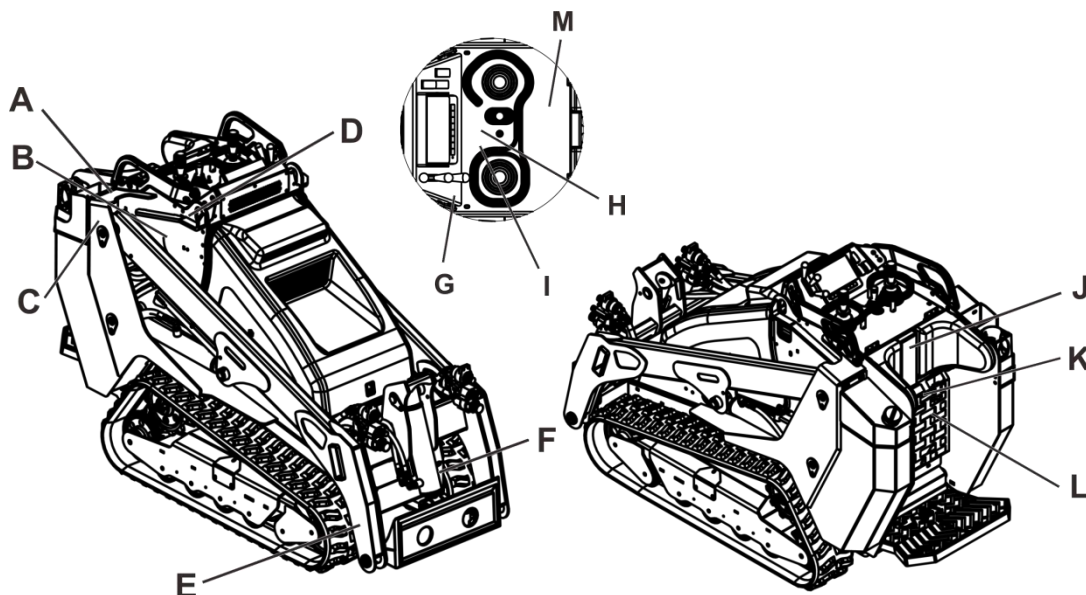
1.2 DIRECTION REFERENCE

The “Right” and “Left”, “Front” and “Rear” of the machine are referenced from the operator’s right and left when standing in the normal operating position and facing the forward travel direction.

1.3 SERVICING THE ENGINE AND DRIVE TRAIN COMPONENTS

The detailed servicing and repair of the engine, hydraulic pumps and valves are not covered in this manual; only routine maintenance and general service instructions are provided. For service of these components during the limited warranty period, it is important to contact your Authorized Shang qi Heavy Industry Technology Dealer or find a local authorized servicing agent of the component manufacturer. Any unauthorized work done on these components during the warranty period may void your warranty.

1.4 SYMBOLS

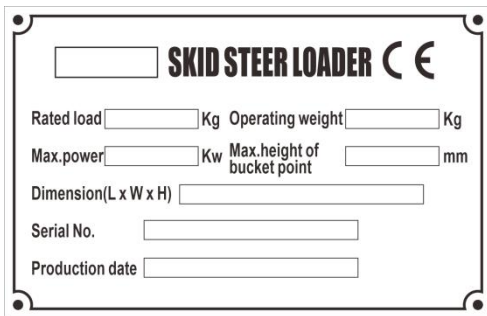




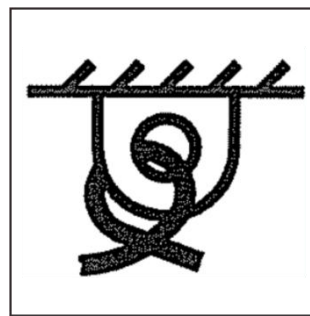
A:Crushing hazard –keep away from pinch points and actuating parts.



E:Pay attention to the force applied from above.



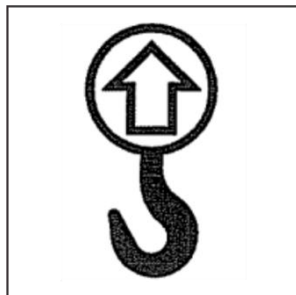
B:Name Plate



F: tie down point



C: Grease lubrication point,lubricate with grease.



D: Lift point



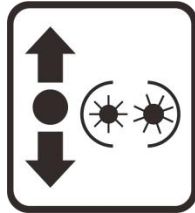
G: Throttle sticker



H: Labeling for accessory oil cylinders



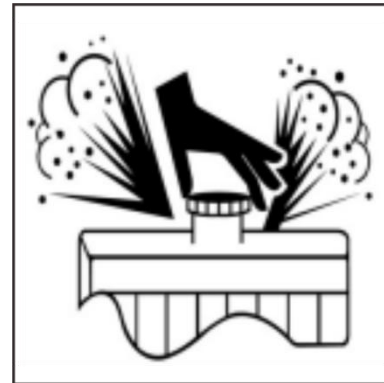
K: Hot surface — Burn to finger or hand



I: Rotating accessory label



J : Read technical manual for proper service procedures



L: Hot fluid under pressure



M: Operation attention label

SECTION 2: MAIN COMPONENTS

This is a tracked compact skid steer loader that contains:

- 1.3-cylinder diesel engine
- 2.Hydrastatic travel drive system
- 3.12 Volt electrical system

A. ENGINE AND PUMP

The loader is powered with industrial engines, with four stroke cycle and direct injection. The engines are certified by the manufacturer to meet the more advanced emissions standards.

B. Crawler travelling system

The travelling mechanism consists of right and left track frame, roller assembly, guide wheel assembly, drive wheel, tensioner, hydraulic motor and so on.

The left and right track frames are the load-bearing skeleton of the skid steer loader when it is travelling.

C. FUEL CELL

The fuel is at the rear of the vehicle on the left and right sides, the batteries are inside the vehicle and need to be lifted off the tailgate to be seen, and are fitted with a refuelling cap and the fuel gauge is shown in the display.

D. ELECTRICAL SYSTEM

This skid steer loader has a 12V electrical system. The system includes a 60Ah battery, switches, a 36W work light, horn, gauges and more.

E. QUICK REMOVAL DEVICE

The demolition equipment of the accessories is locked by pin, which can realize a quick assembly and disassembly.

F. INSTRUMENT PANEL

The control layout is designed to combine maximum driving comfort with maximum efficiency.



It is essential that the operator becomes accustomed to both the location and operation of the controls, before attempting
To drive the loader for safe operation.

Display Functions

The following is a detailed description of the monitor functions and operating instructions.
Turn on the main power cock switch and the meter enters the self-test procedure.

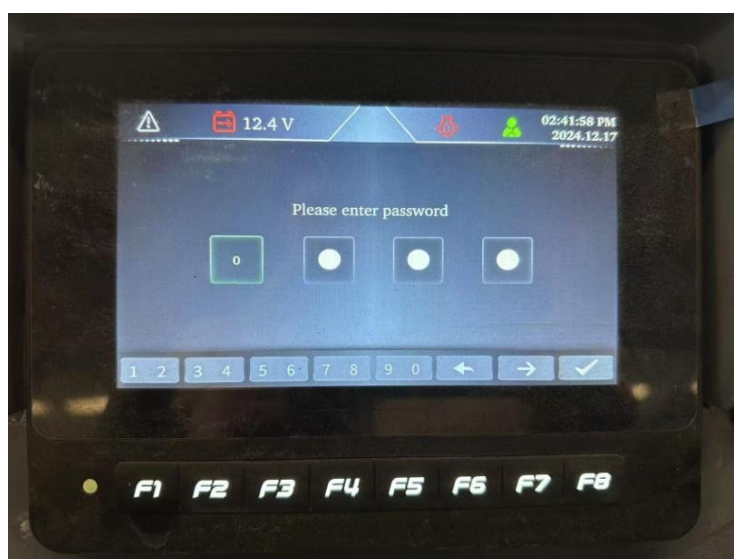
After the self-test is completed, it will automatically jump to the input password interface or the main interface, depending on the password authority enabled inside the meter.

Startup Password

After the display has completed its self-test, if a password is set to start, the operator must enter a four-digit password to access the main interface, which can be accessed by both the user password and the dealer password.

Password Input Instructions

Referring to the instructions in the eight boxes at the bottom of the screen, enter your password through the eight buttons (F1-F8) at the bottom of the screen, as shown in Figure 1-1 below.



1-1

Key F1(1,2)

Key F2(3,4)

Key F3(5,6)

Key F4(7,8)

Key F5(9,0)

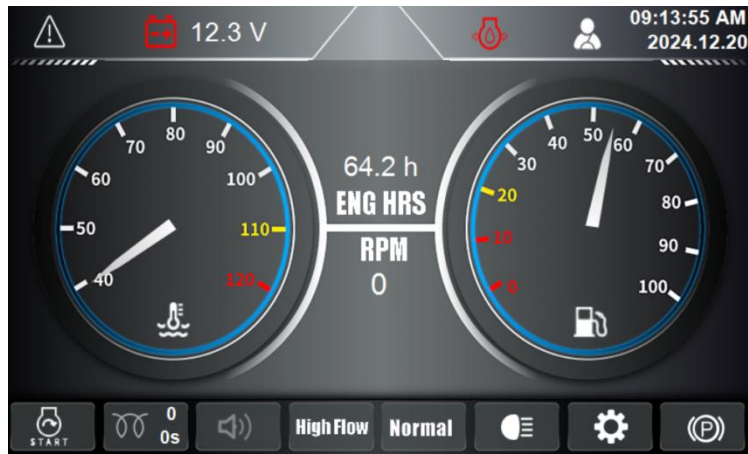
Key F6 (backspace to return to previous frame)

Key F7 (next frame)

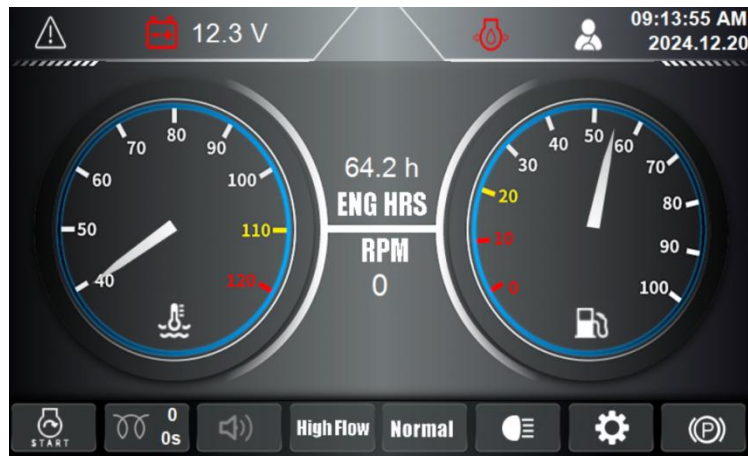
Key F8 (Confirmation key)

For example, the user password is 1234, the operator only needs to press the corresponding key according to the prompt, the number pressed will be prompted in the password box, when entering the password, the selected box will display the number, the unselected box displays '•', after the completion of the input of the number in the box, the password shifting operation is carried out through F7, and after the completion of the input of the 4-digit password, press F8 for confirmation. Press F8 to confirm.

When the password is entered correctly, you will enter the main interface.



Instruments and Indicators




-  **Charging Indicator**

The indicator light functions as an indication of the charging status of the generator, which lights up when the vehicle is switched off and goes out when the vehicle is started. If it does not light up when the vehicle is switched off or remains lit after starting, the generator should be switched off immediately at this point to look for the cause (circuit, alternator belt, alternator, etc.).



- **Fuel gauge**

The dial functions as a fuel level indicator, when the fuel gauge needle enters the yellow and red areas, indicating that the measurement is below 20%, the low fuel level sign  will light up, indicating that the vehicle will run out of fuel and needs to be refueled in a timely manner, your operating time is limited.

-  **voltage indication**

The current real-time voltage of the whole car, when the engine is off, the voltage displayed at this time is the voltage of the storage battery, if the voltage is lower than 11.5V at this time, it is

necessary to make up the power in time, when the engine is started the voltage displayed is the voltage issued by the generator, if the voltage is lower than 12.5V at this time, it is necessary to timely check the generator as well as the whole car line.



engine start/shutdown

The icon is engine start/switch off, if there is no warm-up demand, when you need to start, you only need to press the F1 button below the icon and keep it, when the start is completed, you can release it, each start can not be greater than 10S, otherwise it will damage the starter motor, at this time the START icon turns from white to green; users who want to shut down the engine, just press the F1 button below again, the engine switches off, and the icon turns from green to white. The icon will change from green to white.

-  **working hours**

This icon displays the current vehicle operating hours.

-  **Preheat indicator, preheat time**

The icon is for engine preheating, each time you press the F2 button below the icon, the engine preheating time increases by 5s, within 30 seconds, up to a maximum of 6 counts, if you need to preheat for a longer period of time, wait until the preheating countdown is 0, you can repeat the operation of the preheating function again; when preheating, the green icon is lit up (and at the same time displaying the remaining preheating time).

-  **Oil pressure warning indicator**

This icon is the oil pressure warning light, if this symbol comes on when the vehicle is running, it means that the engine oil pressure is insufficient, stop the engine immediately and look for the cause (engine oil level, etc.).

-  **Buzzer alarm/silence**


When there is a malfunction, the buzzer will be alarmed and the light will turn red. After identifying the cause of the malfunction, if you need to stop the buzzer temporarily, just press the F3 button to stop the buzzer temporarily.

-  **Operator presence indicator**

This icon indicates that the operator light turns green when the operator is on the platform and white if not.

-  **high flow valve on/off**

This icon functions as a high-flow solenoid valve mode, press the F4 button under the icon, the heavy traffic mode is enabled, at this time, the output is based on the parameters set by the user.

-  **Clock, date**

This icon displays the current time and date.

-  **Working Mode Selection**

This icon is for switching between working modes, three modes can be switched by pressing the button (F5), the default mode is Normal, In this mode, the walking power is 100%; Switch to work mode using F5, The word “work” appears on the icon, The walking power is 60%. When you switch to the Custom mode, the icon displays the word “Custom”. In this case, you can set the walking power ratio by yourself.

- **coolant temperature gauge**



The dial shows the engine water temperature .

Temperature area: 40°C~110°C is the normal temperature range;

Above 110°C the vehicle should be stopped immediately and the cause of overheating should be searched for.

NOTE: When the vehicle is in motion, if the water temperature pointer exceeds >110°C, stop the engine immediately and look for the cause of the cooling system malfunction.

-  **Work light on/off**

The indicator light functions as front work light on/off, press the F6 button the indicator light changes from white to green, at this time the work light is lit.

-  **RPM Display**

Displays the current engine RPM, which ranges from 1200-3200.

-  **Parking brake indicator**

The indicator functions as a parking brake, when the user wants to brake the vehicle, press the button F8, the icon on the screen changes from white to red, and the banner on the instrument displays Parking brake in progress at this time the vehicle is in the braking state.

-  **Instrument settings**

This icon functions as a setting, press the F7 button. The vehicle's power assignment, password, vehicle information, and user-defined settings can be set or viewed in this setting.

Change password

Press the F7 button to enter the setting screen, select the third row-Password management.



Enter the four-digit code



Select-Second level password modification.



Make changes to the startup password.

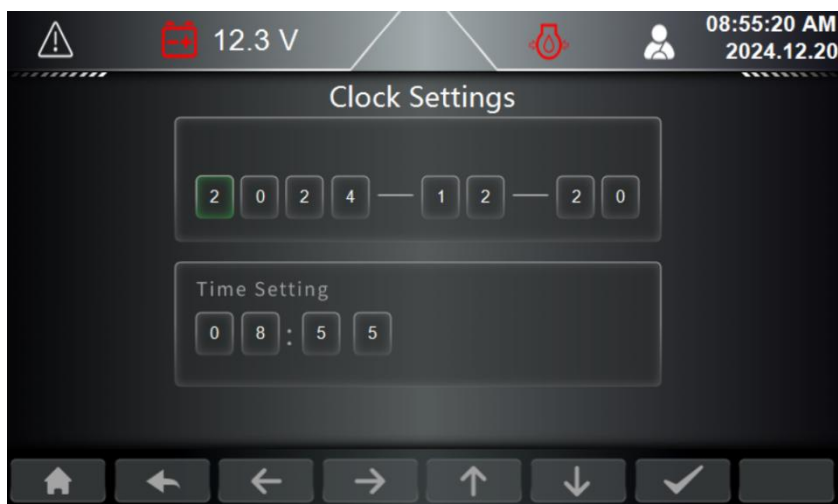


User settings

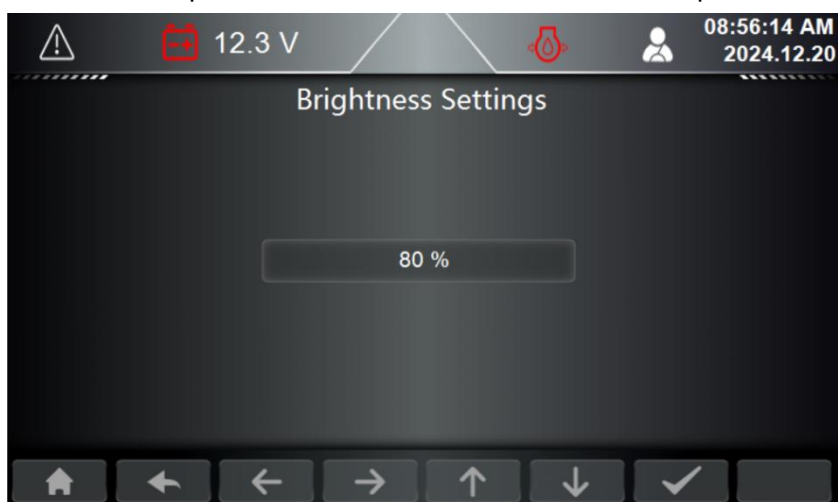
Press the F7 button to enter the setting screen, select second row-User Settings.



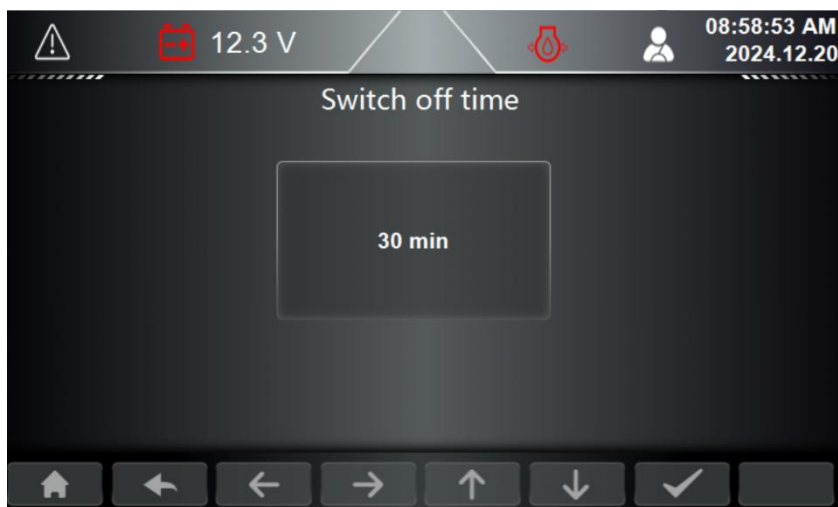
This interface allows the operator to set clock Settings, brightness, shutdown time, and language Settings.



Clock setting (By default, the first box of Clock Settings is selected. The operator only needs to press the corresponding button according to the prompt, and the pressed number will be prompted in the password box. When entering, the selected box will display the addition or subtraction of numbers, F3 up one box, F4 down one box, F5 number plus 1, F6 number minus 1)



Brightness adjustment (On this interface, the operator can adjust the screen brightness. Press F4 once to increase the value by 10%, and the screen will become brighter. Conversely, press F3 once to decrease the value by 10%, and the screen will become darker)



Power off time (The operator can set the power off time in this interface, the time can be set in the range of 1~60 minutes, press F5 value plus 1 minute, the power off time will increase by 1 minute, press F6 value minus 1 minute, the power off time will decrease by 1 minute, when the operator leaves the operating platform, the machine will according to the set power off time,the power will be turned off when the time is up. When the operator stands on the operating platform again, the power is turned on again)



Language (The operator can choose Chinese or English in this interface)

SECTION 3: OPERATION PROCEDURE

3.1 Preparation For Use

Operator must be properly trained and understand operator's manual before using equipment. Do not allow untrained or unqualified people to operate this equipment.

It is your responsibility to operate this equipment safely. You must be familiar with the equipment and all safety practices before use.

Have underground utilities located before working. In countries that do not have a One-Call service, contact all local utility companies to have underground utilities located.

Inspect equipment before operating. Repair or replace any worn or damaged parts. Replace missing or damaged safety shields and safety signs.

Keep bystanders away from work area.

Always wear protective equipment appropriate for the job.

Do not operate, work on or around this machine while under the influence of alcohol, drugs or if feeling ill.

Keep clear of moving equipment at all times.

Stop engine before leaving operator's station.

3.2 Utility Locating

Electrical Line

Have underground utilities located before beginning work. In countries that do not have a one call service, contact all local utility companies to have underground utilities located.



WARNING

Prevent electrocution.

Skid steer loader and/or attachment coming near or contacting electrical lines can cause electrocution.

Electrocution can occur without contact.

Keep away from electrical lines.

The following requirements shall be adhered to when working around electrical lines.

1.Any electrical line or overhead line shall be considered to be an energized line unless and until the person owning the line or the electrical utility authority indicates that the line is not an energized electrical line.

2.If any part of the skid steer loader or the attachment contacts an energized electric line, the operator must not attempt to get off the skid steer loader. Contact utility company to de-energize the line. The operator shall remain at the controls until utility company informs that it is safe to exit the machine.

3.If any part of the skid steer loader or the attachment contacts an energized electrical line, warn others to leave the area. Do not return to job site or allow anyone into area until utility company informs that it is safe to do so.

Gas Line

Have underground utilities located before beginning work. In countries that do not have a one call service, contact all local utility companies to have underground utilities located.



WARNING

Prevent explosion.

Skid steer loader and/or attachment contacting a gas line can result in an explosion.

If you suspect a gas line has been damaged, take the following actions.

- 1.Immediately shut off engine.
- 2.Remove any ignition sources.
- 3.Warn others that a gas line has been cut and that they should leave the area.
4. Leave the area as quickly as possible.
- 5.Immediately call the local emergency phone number and the utility company.
- 6.Do not return to area until given permission by emergency personnel and utility company.

3.3 Before Operation

Before operating, check fuel level, engine oil level, engine coolant level and hydraulic fluid level. Test operation of operator on board switch.



WARNING

Prevent explosion.

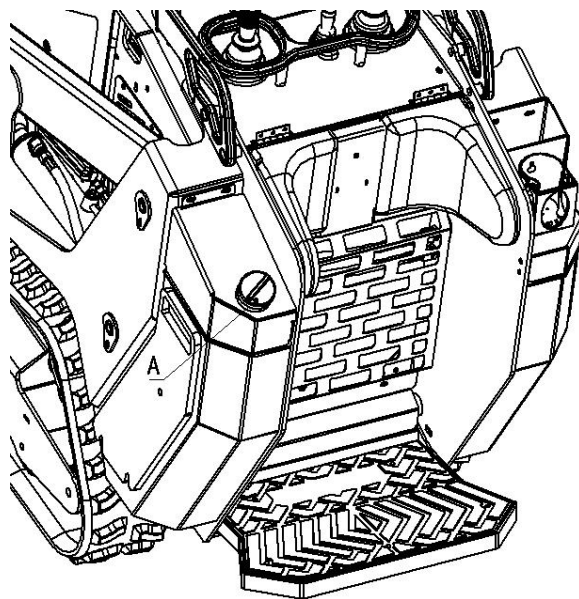
Diesel fuel can cause an explosion or fire. Do not refuel with engine running or near open fire.

Never allow fuel, engine oil or hydraulic fluid to spill on hot machine components.

Clean up spilled fuel or oils immediately.

3.3.1 Fill Fuel Tank

1. Skid steer loader must be parked on a level surface, lift arms fully lowered, engine stopped,



and key removed.

2. Press the main power cock switch, turn on the display and check the fuel level shown on the gauge;

3. Clean the area around the perimeter neck of the tank home;

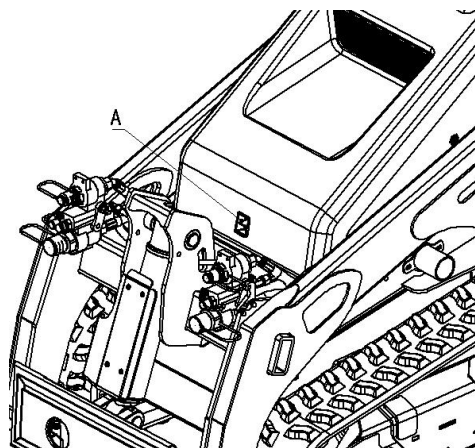
4. Remove cap (A) from filler neck and add diesel fuel as required;

5. Install cap (A) on filler neck.

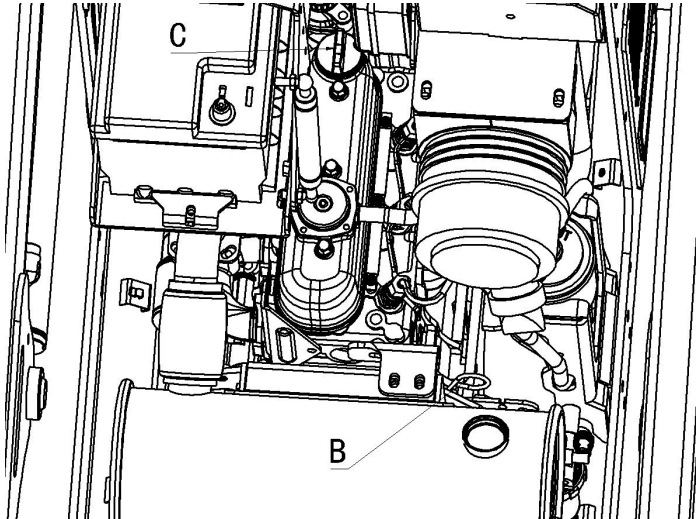
3.3.2 Check Engine Oil Level

1. Skid steer loader must be parked on a level surface, lift arms fully lowered, engine stopped and key removed.

2. Unlock the hood lock (A) and lift the tailgate upwards to secure the tailgate in the open position by means of the gas spring;



3. Clean around oil dipstick(B).



4. Pull out dipstick and wipe metal and clean.

5. Slide dipstick fully into dipstick tube

6. Pull dipstick out and look at metal end.

7. If oil level is low, clean around oil filler cap and remove cap(C).

Engine oil should be MIL-L2104C or have properties of API classification C For higher. Change the type of engine oil according to the ambient temperature.

Above 77°F (25°C)	10W-30 or 15W-40
14°F to 77°F (-10°C to 25°C)	10W-30 or 15W-40
Below 14°F (-10°C)	10W-30 or 15W-40

8. Slowly pour oil into the valve cover to raise oil level to the F(full) mark.

NOTICE

Prevent engine damage.

Do not overfill crankcase.

9. Replace filler cap and dipstick.

10. Unlock the hood lock (A) and lift the tailgate upwards to secure the tailgate in the open position by means of the gas spring;.

3.3.3 Check Hydraulic Fluid Level

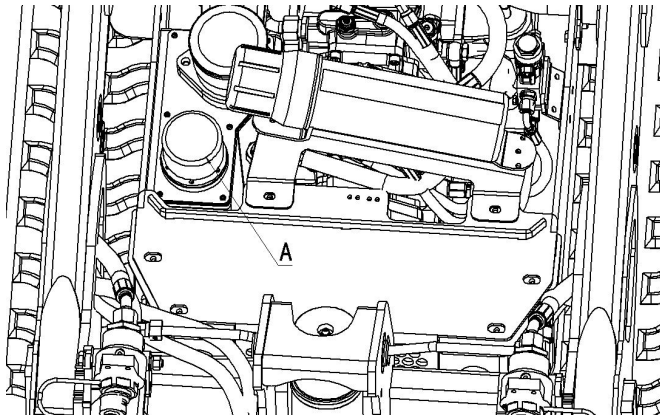
Check hydraulic fluid level before the engine is first started and every 10 hours. Refill Caltex HDZ32# or Chevron MV32#

Attachments can raise or lower the hydraulic fluid level. If a new attachment is connected, hydraulic fluid needed to fill the lines, cylinders or motor will lower the hydraulic tank fluid level. Check fluid level each time a different attachment is connected.

1. Skid steer loader must be parked on a level surface, lift arms fully lowered, engine stopped and key removed.

2. Clean the area around the wing neck of the hydraulic tank;

3. Turn the valve cover (A) counterclockwise and remove it, and add hydraulic fluid as needed, the hydraulic fluid should be added to 1/2 or 3/4 scale of the dipstick on the valve cover;

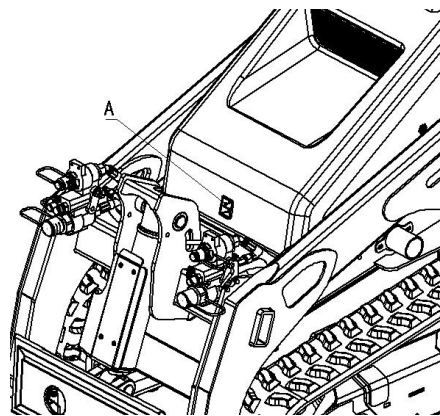


4. Install the cap (A) on filler neck.

3.3.4 Check Engine Coolant Level

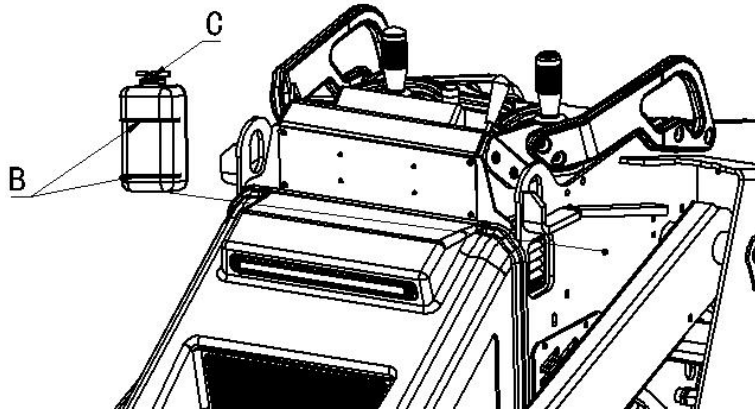
1. Skid steer loader must be parked on a level surface, lift arms fully lowered, engine stopped and key removed.

2. Unlock the hood lock (A) and lift the tailgate upwards to secure the tailgate in the open position by means of the gas spring;



Note: Expansion tank is mounted above the engine radiator.

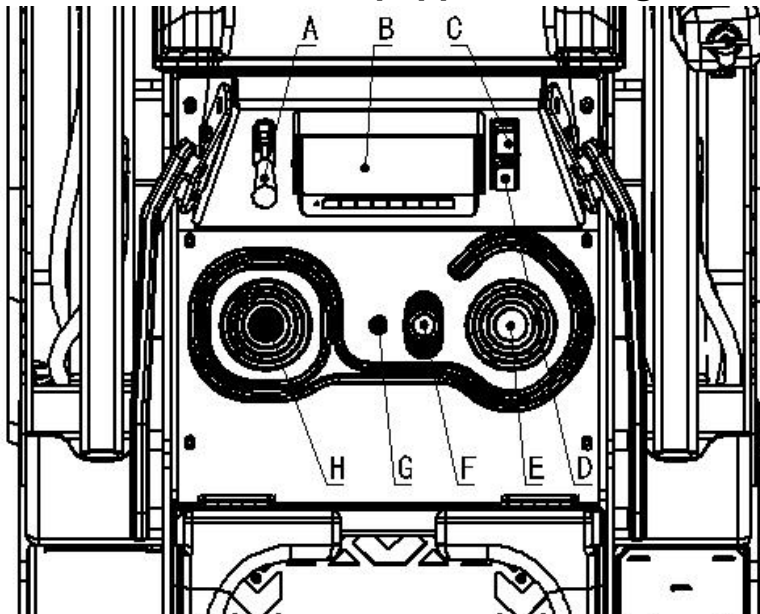
3. Check coolant level in expansion tank. Coolant should be between indicator marks(B).
4. If coolant level is low, remove expansion tank cap(C).
5. If expansion tank is empty, check coolant level in radiator.
6. Lift tank approximately 1 in.(25mm) and remove from Skid steer loader.



7. Add a premixed coolant or a 50/50 mix of water and anti-freeze to proper level.
8. Install tank and cap.
9. Close hydraulic cooler.

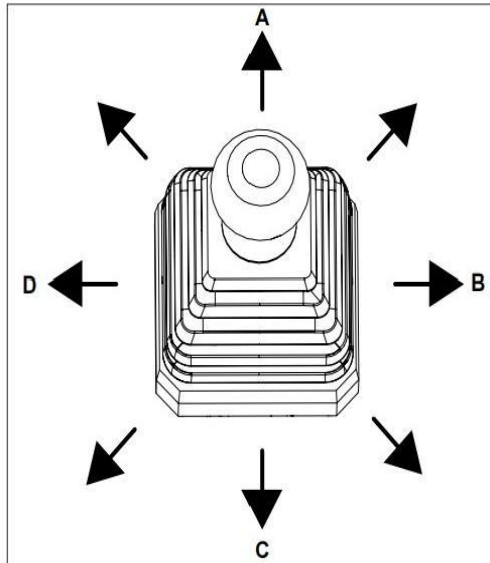
3.4 Machine Controls

3.4.1 Skid steer loaders Equipped with Digital Control Panel



- A. Throttle lever
- B. 7-inch digital control panel
- C. Main power switch
- D. USB switch
- E. Movable arm joystick
- F. Attachment Joystick
- G. Attachment Forward and Reverse Joystick
- H. Drive Joystick

3.4.2 Drive Joystick



It is recommended to make gradual sweeping turns.

Push joystick forward(A)to move Skid steer loader forward.

Pull joystick rearward(C)to move Skid steer loader rearward.

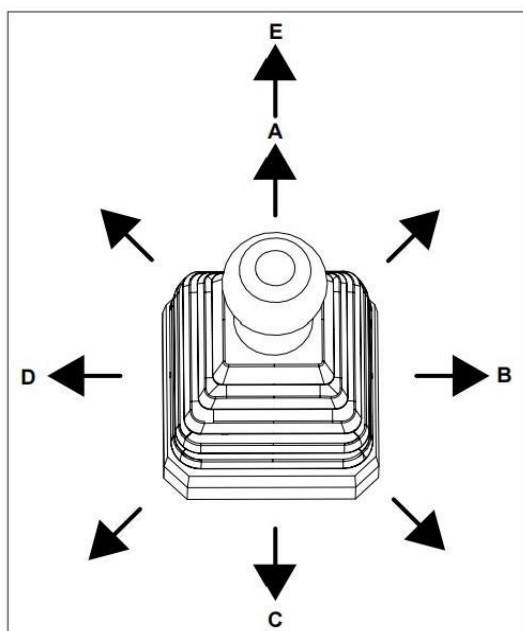
For gradual turns, push joystick forward/left or forward/right and Skid steer loader will slowly turn left or right. Pull rearward for reverse.

For tight turns, move joystick closer to right(B)or left (D)but never straight to(B) or (D)as there is a neutral zone to protect the engine from stalling on a surface with excessive traction.

Full throttle may be desired for experienced operators; inexperienced operators should not try to make tight turns.

The further you move the joystick in any direction, the faster the Skid steer loader will move in that direction. Release joystick or move to the center neutral position to stop movement.

3.4.3 Boom Joystick



Move joystick forward(A) power lifters.

Move joystick to the right(B) to tilt attachment forward.

Move joystick rearward (C)to raise lift arms.

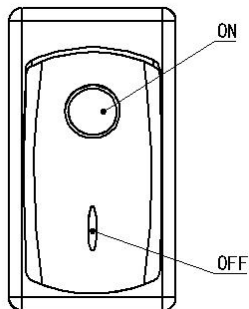
Move joystick to the left(D)to tilt attachment back.

Push joystick fully forward into detent position (E)to allow a bucket or blade to follow the contour of the ground.

3.4.4 Main power warping switch

The main power switch has two positions: ON and OF

When the ON end is pressed down, the whole vehicle is powered up.

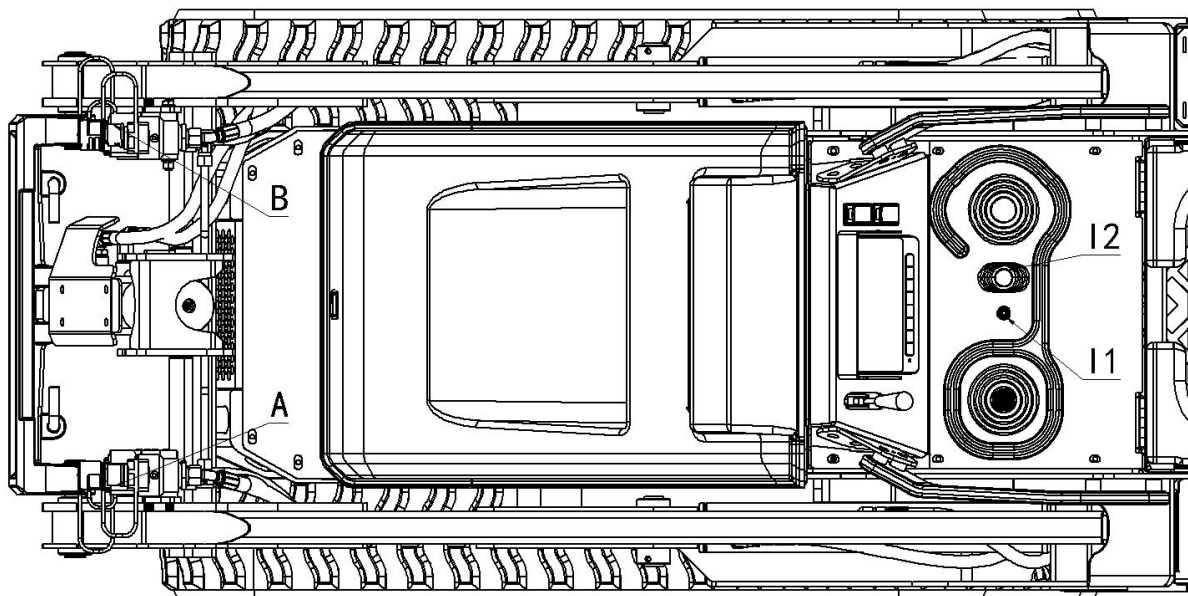


When the OFF end is pressed, the whole vehicle is powered off.

3.4.5 Auxiliary hydraulic control

The auxiliary hydraulic control switch (I1) provides automatic and continuous hydraulic flow with the centre position closed/locked. Forward movement controls the flow of the left side (A) in one direction and backward movement controls the flow of the left side (A) in the other direction.

The Attachment Joystick (I2) provides manual and continuous hydraulic flow with the centre position closed/locked. Forward movement controls the flow of the left side (B) in one direction and backward movement controls the flow of the left side (B) in the other direction.



3.4.6 preheat

This model preheat through the button preheat, press the main power warping switch, the whole car on the power, and then press the preheat button F2 on the instrument for the engine preheat, press the button once the engine preheat 5s, two preheat 10s, and so on, preheat the upper limit of time 30s.

3.5 Start And Stop Engine

Refer to engine manual for detailed instructions.



WARNING

Carbon monoxide hazard.

Always start and operate the engine in a well-ventilated area.

If in an enclosed area, vent the exhaust to the outside.

Start Engine-Above 40°F(4°C)

1. Verify all controls are in neutral.
2. Move throttle lever to low-medium position.
3. With the main power switch ON, press the engine start button F1 and start immediately. If the engine does not start within 5 seconds, you need to press the F1 start button again.
4. Allow engine to run for 5 minutes to warm up.
5. Increase engine speed to desired setting.

Start Engine-Below 40°F(4°C)

1. Verify all controls are in neutral.
2. Move throttle lever superimposition.

Note: Attempting to start a cold engine while standing on operators platform will draw more battery power since the drive and boom functions are enabled.

3. Press the preheat button F2 twice to preheat the engine for 10s.
4. When the preheat light goes out, press button F1 to start the engine. Never press start button F1 to ignite the engine for more than 8-10s. Generally, the engine starts to run 3s after pressing the start button F1.
5. Once the engine starts running, release the F1 button. If the engine stalls, repeat step 4.

Stopping the engine from working

1. Lower the lift arm to the ground.
2. The throttle manoeuvre is in low to medium gear.

Press button F1 to stop the engine, and the operator comes down from the operating platform. This model will automatically cut off the power if there is no action within 30min when you press the

stop button F1 and do not turn off the main power cocking switch, and the instrumentation will automatically light up when you step on the operating pedal again.

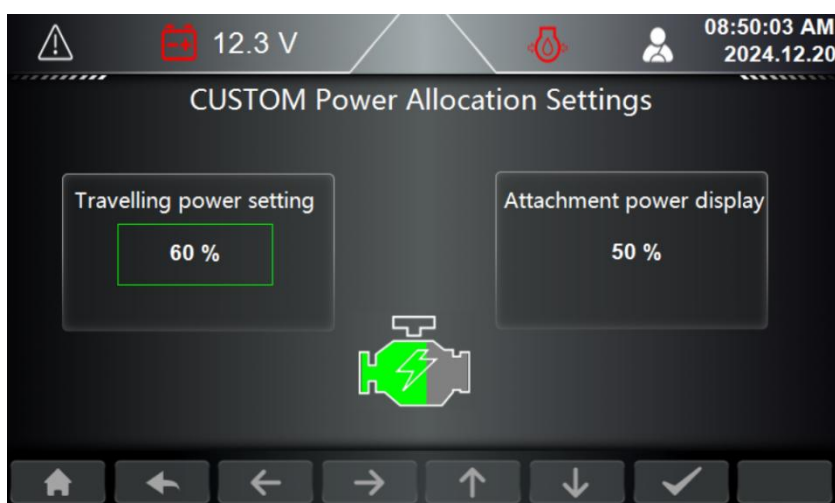
Traffic proportional allocation Settings

Press the F7 button to enter the Settings screen and select the options — USTOM Power Allocation Setting,



The walking power has five Settings of 20%, 40%, 60%, 80% and 100%, and the operator can reduce or increase the power allocated to the walking part. Set the proportion of the working part, through the opening and closing of the large flow mode, there are two states of confluence and non-confluence, the confluence output power is 100%, and the non-confluence is 50%. The confluence can increase the flow rate of the left rotating oil circuit, which will increase the power consumption of the working part.

Switch to work mode through F5, the icon shows the word "work", if highflow is not turned on, the walking power is 60%, the accessory power is 50%, if highflow is turned on, the walking power is 60%, the accessory power is 100%. When switching to Custom mode, the icon displays the words "Custom", at this time, the user can set the walking power ratio, the accessory power display is also related to highflow on and off.



3.6 Attachments

NOTICE

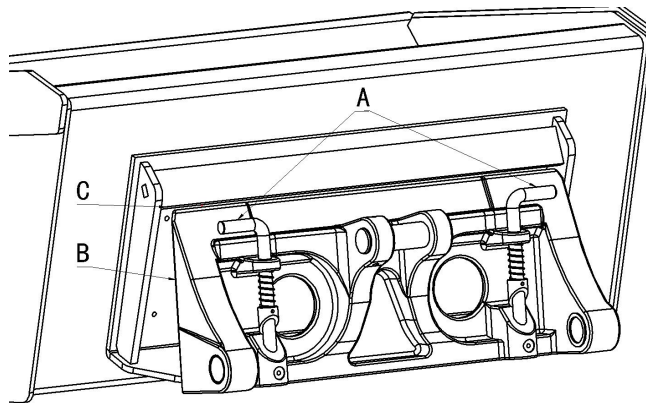
Only for approved attachments

Attachments can change the stability and the operating characteristics of the Skid steer loader.

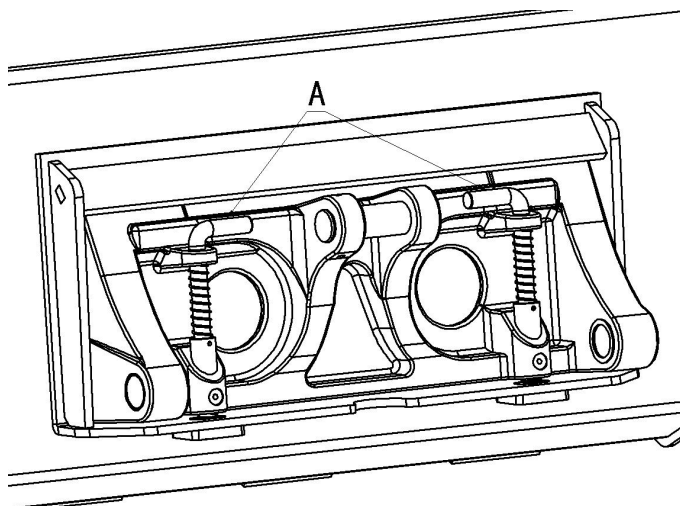
The warranty of the Skid steer loader may be voided if used with unapproved attachments.

3.6.1 Connect Attachment

1. Before connecting the attachment, verify that the mount plates are free of any dirt or debris and that quick attach pins(A) rotate freely and are in the disengaged position as shown.
2. Start engine.
3. Tilt the mount plate(B) forward.



4. Position mount plate into the upper lip (C) of the attachment receiver plate.
5. Raise the lift arms while tilting back the mount plate at the same time. The attachment should be raised enough to clear the ground, and the mount plate should be tilted all the way back.
6. Engage Park brake and stop engine.
7. Engage the quick attach pins(A). Verify that pins are fully seated in the attachment receiver plate(D). If the pins do not rotate to the engaged position, the mount plate is not fully aligned with the holes in the attachment receiver plate. Check the receiver plate and clean it if necessary.





WARNING

Prevent death or serious injury.

Attachment could fall off of the Skid steer loader if pins are not fully seated through attachment mount plate.

Verify quick attach pins are fully seated in the attachment mount plate.

3.6.2 Connect Hydraulics



WARNING

Pressurized fluids can penetrate the skin.

Hydraulic hoses can fail from age, damage and exposure.

Use body and face protection while searching for leaks. A tiny, almost invisible leak can penetrate the skin, thereby requiring immediate medical attention.

Use wood or cardboard to detect hydraulic leaks, never use your hands.



WARNING

Burn hazard.

Hot and high pressure hydraulic oil.

Allow oil to cool before touching components.

If the attachment requires hydraulics for operation, connect hydraulic hoses as follows:

1. Engage Park brake and stop engine.
2. Remove protective covers from hydraulic couplers. Verify that hydraulic connectors are clean.
3. Move auxiliary hydraulic lever into forward detent position and connect male connector into female connector on the Skid steer loader.
4. Move auxiliary hydraulic lever into rear ward detent position and connect female connector onto male connector on the Skid steer loader.
5. Confirm that connections are secure by pulling on the hoses.

3.6.3 Disconnect Attachment

1. Lower attachment to the ground.
2. Engage Park brake and stop engine.
3. Disengage quick attach pins by turning them to the outside.
4. Move the auxiliary hydraulics lever forward, back and forth, and back to neutral to relieve pressure at hydraulic couplers.
5. Install protective covers on hydraulic couplers.

6.Start engine, tilt the mount plate forward, and back Skid steer loader away from the attachment.

3.7 Transporting



WARNING

Prevent serious injury or death.

Do not operate or drive the Skid steer loader on roadways.



WARNING

Tip over hazard.

When loading onto a trailer, back onto trailer for better weight balance to avoid tip over.

- 1.Raise attachment slightly off ground.
- 2.Travel at a reasonable and safe speed.

When transporting the Skid steer loader on a trailer, use the following procedure:

- 1.Lower lift as low as possible.
- 2.Back Skid steer loader onto trailer.
- 3.Lower lift arms to trailer deck.
- 4.Engage Park brake and stop engine.
- 5.Secure Skid steer loader to trailer with the proper size and load rated tie downs.

3.8 Lift Arm Lock



WARNING

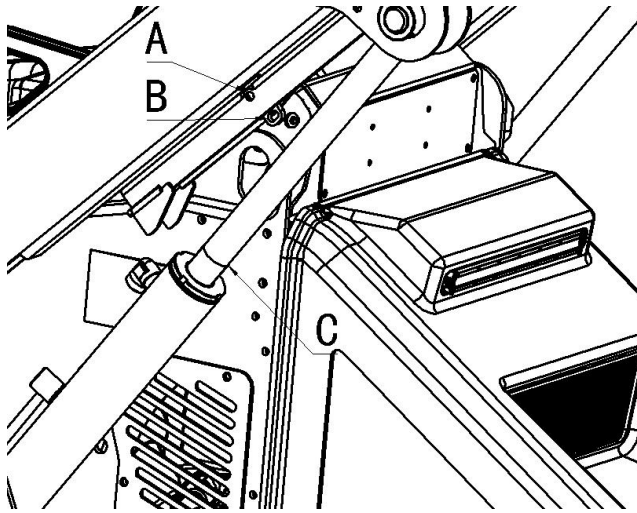
Crushing hazard.

Raised unsupported lift arms can fall, resulting in death or serious injury.

Never enter the area under raised lift arms.

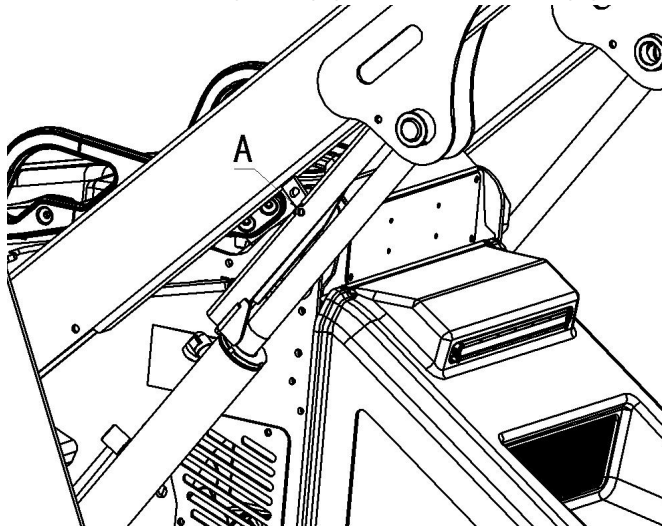
3.8.1 Engage Lift Arm Lock

- 1.Start engine.
- 2.Verify the area is clear of bystanders and obstructions, and fully raise lift arms.
- 3.Engage park brake, shut off engine and remove key.
- 4.Remove the fixing bolt (A) so that the positioner is locked to the cylinder block (C).



Lift Arm Lock Disengaged

5. Install the retaining bolt (A) in the lower hole (B) to engage the lift arm lock as shown.



Lift Arm Lock Engaged

6. Stop engine and remove key.

3.8.2 Disengage Lift Arm Lock

1. Start engine.
2. Verify the area is clear of bystanders and obstructions.
3. Fully raise lift arms.
4. Shut off engine and remove key.
5. Pivot lift arm lock up and attach to lift arm with fixing bolt (A) in upper hole as shown in Lift Arm Lock Disengaged illustration.
6. Lower lift arms to ground.
7. Shut off engine and remove key.

3.9 First Time User Tips

First, operate all functions in a clear area with throttle at low idle to get a good feel for the controls.

Move the Skid steer loader slowly until you have a better feel how much the unit can take.

Each operator must experiment to find a technique that works for them in their application.

3.10 Operation

3.10.1 Slope Operation

Operate up and down slopes with the heavy end of the Skid steer loader uphill. Some attachments, no attachment or an empty bucket will make the rear of the Skid steer loader the heavy end. A full bucket will make the front of the Skid steer loader the heavy end.

Most attachments will make the front of Skid steer loader the heavy end.

Raising lift arms on a slope will affect stability. Keep lift arms in the lowered position when on slopes.

Remove rocks, tree limbs etc. from the work area. Watch for holes, ruts or bumps.

Attachments will change the stability and the operating characteristics of the Skid steer loader. Contact your dealer to verify attachment is compatible with your Skid steer loader.

Do not make sudden changes in speed or direction.

Avoid starting or stopping on a slope. If the Skid steer loader loses traction, slowly move straight down the slope. Avoid turning on slopes. If turning is necessary, turn slowly and keep the heavy end of the Skid steer loader uphill.

Do not operate near drop off or ditches.

When parking on a hillside or slope, lower attachment to the ground and engage park brake.

3.10.2 General Operation

- 1.Start engine.
- 2.Disengage Park brake.
- 3.Pull joystick to raise attachment slightly off the ground.
- 4.Move throttle to desired position.
- 5.Operate drive control to move Skid steer loader.
6. When operation is completed, lower lift arms to place attachment on the ground
- 7.Move throttle to low idle position.
- 8.Engage Park brake.
- 9.Move all controls to neutral position.
- 10.Allow engine to run for five minutes to cool down.
- 11.Turn ignition to stop position and remove key.



WARNING

Crush hazard.

Operation on a slope can result in machine tip over.

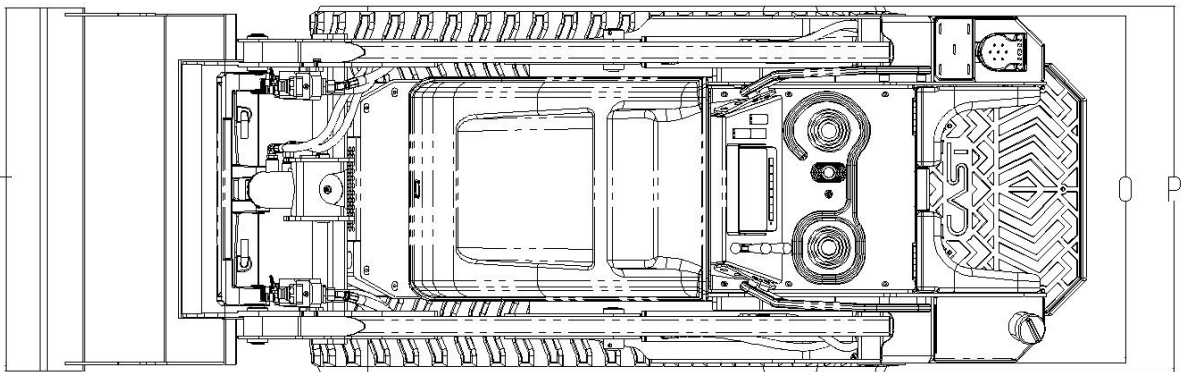
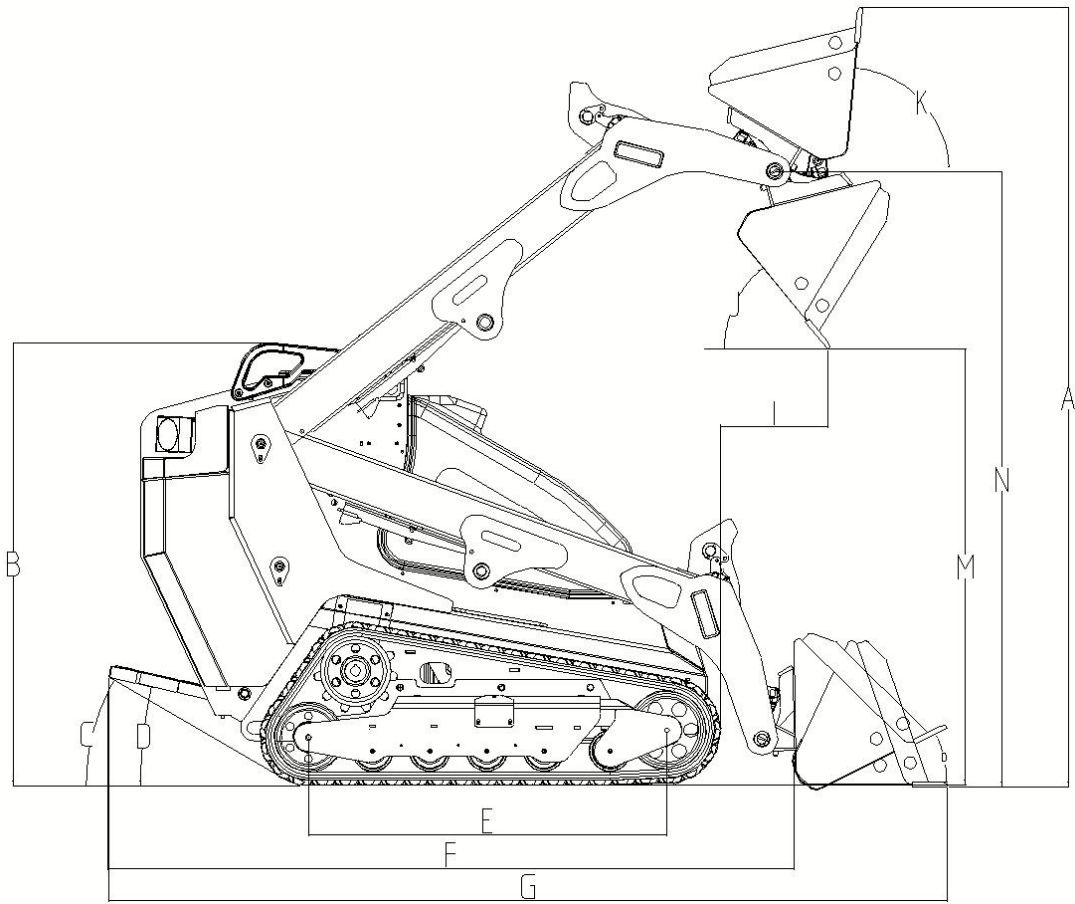
Carry attachments low and operate with the heavy end uphill.

See Slope Operation in this section.

SECTION 4: SPECIFICATIONS AND PERFORMANCE

Technical Data		
Model	SSL100	
Engine data		
Manufacturer	KUBOTA	
Engine type	D1105	
Cylinder	3	
Power (kW/rpm)	18.2/3000	
Max. torque(N • m/rpm)	70.4/2200	
Cooling	water-cooled	
Engine emission	Tier 4/E5	
Displacement(ml)	1123	
Electrical system		
Operating voltage (Volt)	12	
SAE reserve capacity rating (Ah)	60	
Weights		
Machine weight(standard) (kg)	1400	
Tipping loads (kg)	1300	
Rated load (kg)	455	
Vehicle data		
Drive type	Track	
Track(mm)	200/230	
Ground Pressure(kPa)	31.5/27.4	
Driving speed (km/h)	5	
Traction force(daN)	1200	
Capacity of fuel tank (l)	50	
Hydraulic oil (l)	30	
Hydraulic driving		
Working pressure (bar)	230	
Output (l/min)	2*40	
Working hydraulic components		
Working pressure (bar)	200	
Output (l/min)	2*33	

Outline Dimensions		
	Model	SSL100
	Dimensions (mm)	standard
A	Operating height (mm)	2870
B	Overall height (mm)	1420
C	Rear departure angle (°)	30
D	Ground clearance (mm)	200
E	Wheelbase (mm)	1130
F	Length(w/out Bucket) (mm)	2160
G	Length (w/Bucket)(mm)	2640
I	Dump reach (mm)	335
J	Dump angle (°)	50.5
K	Maximum rollback at full height (°)	84.5
L	Maximum rollback at ground (°)	30
M	Dump height (mm)	1650
N	Hinge pin height (mm)	2110
O	Overrall width (w/out Bucket)(mm)	900
P	Track gauge (mm)	860
T	Bucket width (mm)	900



SECTION 5: SHIPPING PROCEDURE



WARNING: EXTREME HAZARD EXISTS WHEN REFUELING AND DE-FUELING THE LOADER - NO SMOKING, NO OPEN FLAMES, NO ELECTRICAL DEVICES.

LIFTING

Using a reliable cable to lift the loader on the label location which marked lifting.

BATTERY

Disconnect battery terminals from battery plugs.

Leave battery in battery box.

RADIATOR

Drain engine coolant from radiator and engine block.

FUEL TANK

Drain fuel from fuel tank into appropriate container.

Disconnect fuel line at lowest readily accessible connection and drain fuel from fuel line.

Reconnect fuel lines.

Leave fuel cap on tank but loosened.

CHECKS

Make certain fuel line is connected.

Make certain shut-off valve on radiator is closed.

Make certain fuel cell drain valve is closed.

FIXATION

Turn the brake system on to stop the movement of the track

Using the sturdy rope package on the loader banding point, be careful not to damage the paint surface

SECTION 6: TRAILER PROCEDURE

When the Skid Steer Loader needs help, only allow the Skid Steer Loader to lift off the ground and pan the method, perform the following steps before moving the Skid Steer Loader:



Warning: This dragged loader has been unable to implement the brake and steering, have enough lifting force to lift the skid steer loader off the ground.

Trailer Steps

Turn the skid steer loader braking system ON;

Remove the skid steer loader from the ground using a forklift or lifting device;

Pan the skid steer loader to a designated position after it is off the ground;

Slowly lower the skid steer and switch off the braking system.

SECTION 7: STORAGE PROCEDURE

	FOR ONE MONTH	FOR INDEFINITE PERIOD
Transmission	No special attention needed	Drain transmission fluid. Refill transmission.
Lubrication	Ensure that all points are lubricated with specified grease oil.	Ensure that all points are lubricated with specified grease oil.
Fluid levels	All fluid levels should be checked and topped up as necessary.	Release all fluid (oil)
Battery	Disconnect battery terminals	The battery should be removed and stored separately. The battery must be stored in a cool dry place and must not be exposed to direct sunlight. If the battery is stored in the open, it must be covered for protection against dirt and moisture. A slow charge should be given to the battery every one and two months.

Note:

1. The environment weather storage scope of this machine: -30°C-50°C
2. Long-term storage may damage the seals within the hydraulic system

CHAPTER 2

MAINTENANCE SECTION

1.MAINTENANCE SECTION

1.1 Safety



WARNING

Prevent death or serious injury.

- 1.Park machine on firm, level surface.
- 2.Engage Park brake.
- 3.Verify all controls are in neutral.
- 4.Stop engine and remove key.



WARNING

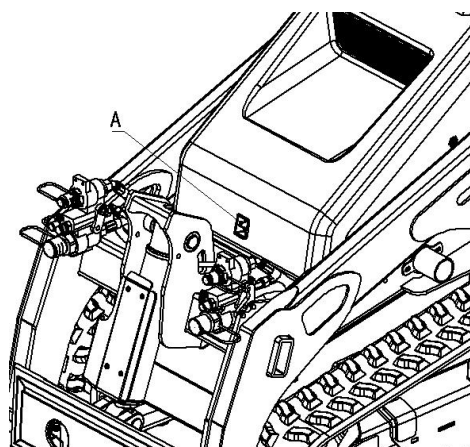
Prevent death or serious injury.

- Raised unsupported lift arms can fall, resulting in death or serious injury.
Never enter the area under raised lift arms.

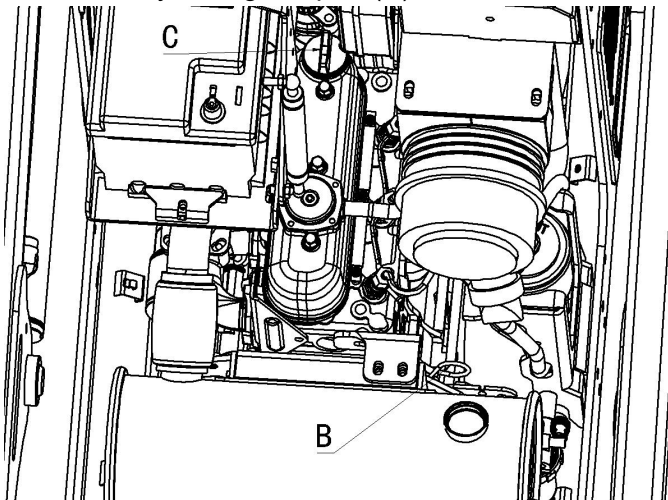
1.2 Daily or Every 10 Hours

Check Engine Oil Level

- 1.Skid steer loader must be parked on a level surface, park brake engaged, lift arms fully lowered, engine stopped, and key removed.
- 2.Unlock the engine cover lock (A), then lift the tail cover upward and secure the tail cover in the open position by the gas spring;

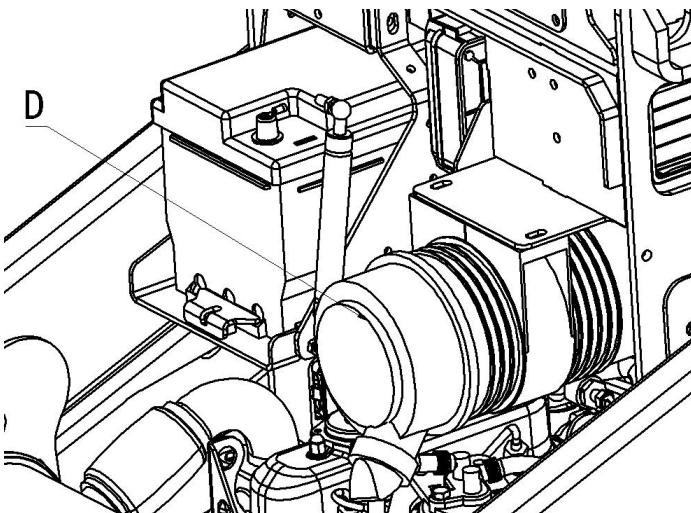


3. Check oil level on dipstick (B). Oil level should be at full mark on dipstick. Add specified engine oil as necessary through fill port (C) on valve cover.



Check the engine air filter

Before starting, check the air filter (D) every 10 hours, remove and clean as needed.



Check Hydraulic Hoses

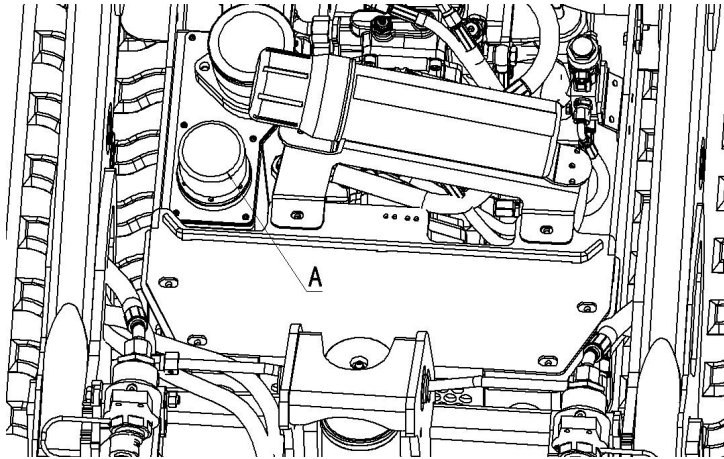
1. Skid steer loader must be parked on a level surface, park brake engaged, lift arms fully lowered, engine stopped, and key removed.
2. Check hydraulic hoses for wear and damage before startup and every 10 hours. Replace worn or damaged hoses.

Check Park Brake Operation

Check Park brake operation before startup and every 10 hours or more often when conditions warrant.

Check Hydraulic Fluid Level

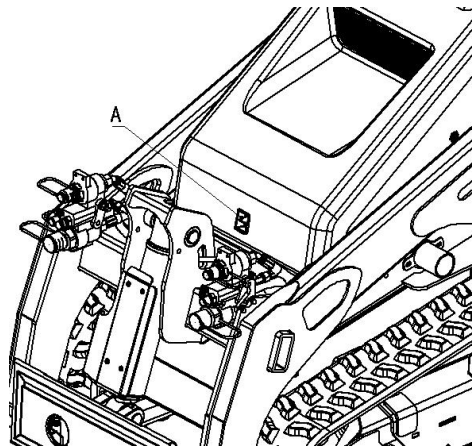
1. Skid steer loader must be parked on a level surface, park brake engaged, lift arms fully lowered, engine stopped and key removed.



2. Turn valve cover (A) counterclockwise and remove, adding hydraulic oil as needed to 1/2 or 3/4 scale of dipstick on valve cover: Add Caltex HDZ32# or Chevron MV32#
3. Clean the area around the wing neck of the hydraulic oil tank.
4. Install Bonnet (A).

Check Coolant Level

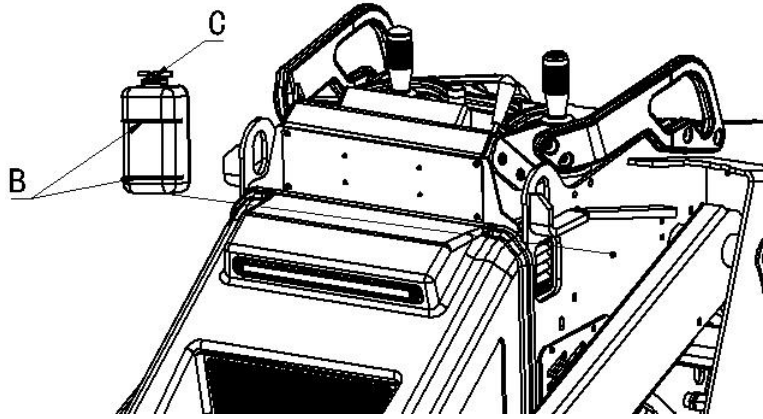
1. Skid steer loader must be parked on a level surface, park brake engaged, lift arms fully lowered, engine stopped and key removed. Allow engine to cool to ambient temperature.
2. Unlock the engine cover lock (A), then lift the tail cover upward and secure the tail cover in the open position by the gas spring;



Note: Expansion tank is mounted above the engine radiator.

3. Check coolant level in expansion tank. Coolant should be between in dictator marks(B).
4. If coolant level is low, remove expansion tank cap (C).
5. Lift tank approximately 1 in.(25mm) and remove from Skid steer loader.

Engine type	Cooling system capacity
D1105-E4B	3.5L

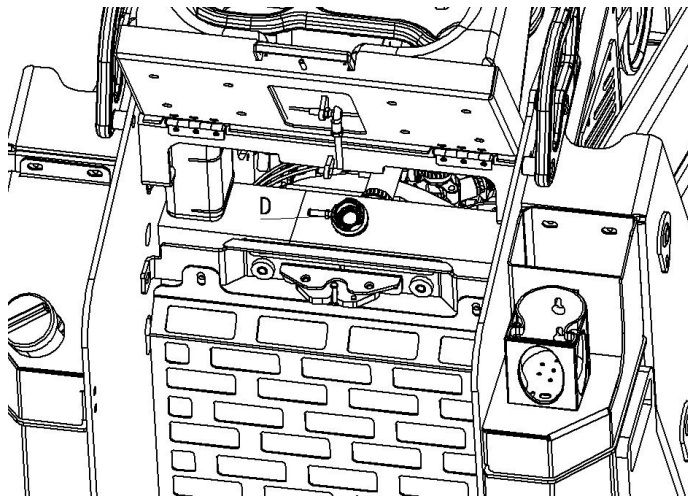


6. Add a premixed coolant or a 50/50 mix of water and anti-freeze to proper level.

7. Install tank and cap.

8. Close hydraulic cooler.

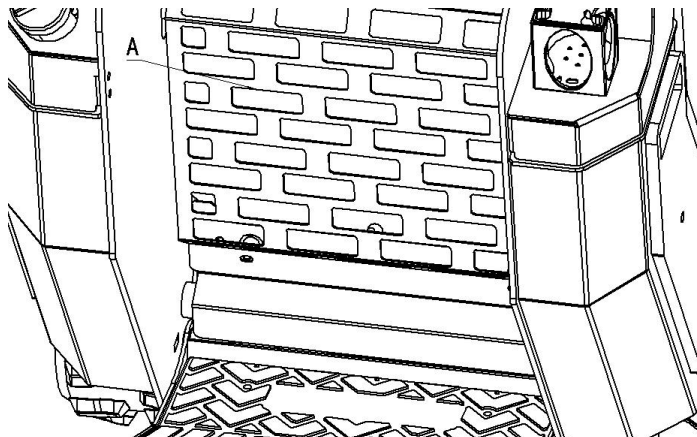
9. If expansion tank is empty, check coolant level in radiator. Remove radiator cap (D) to check coolant level. Maintain coolant level at bottom of filler neck.

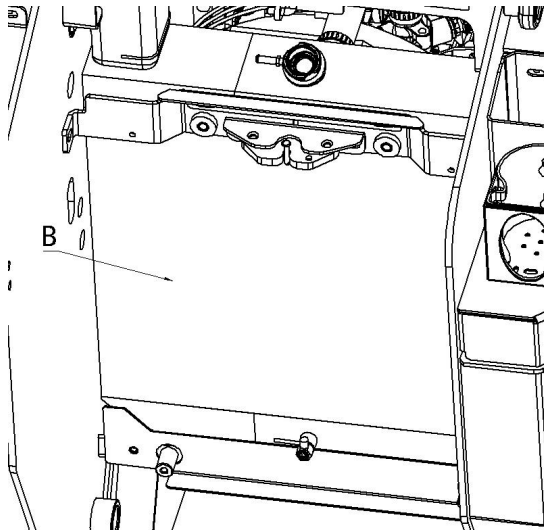


Check Radiator Intake Screen And Radiator

Remove and check engine radiator intake screen (A) and radiator (B) for dirt and debris before startup and every 10 hours.

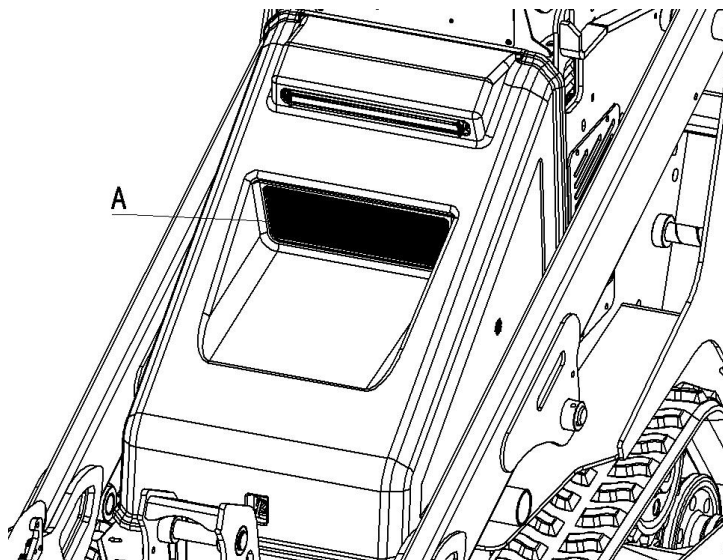
Clean with compressed air or spray wash if required.





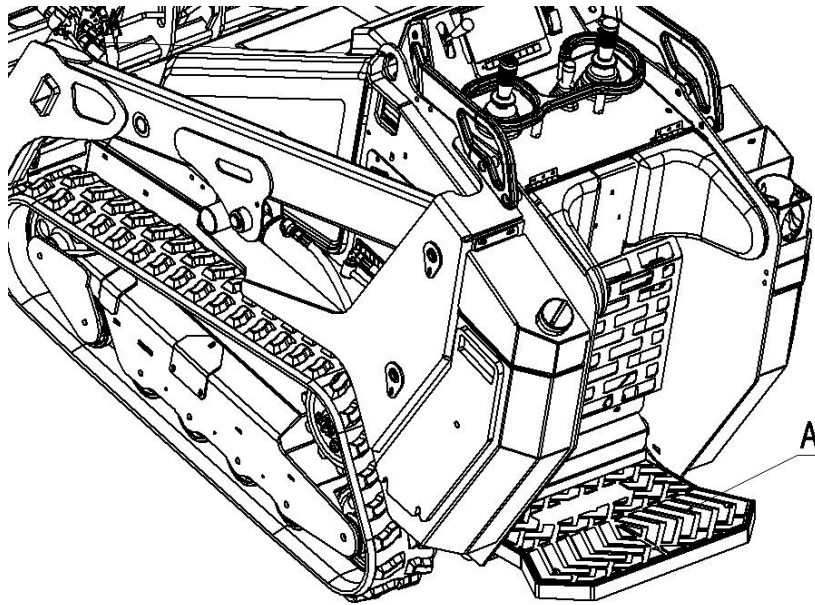
Check hydraulic fluid cooler screen(A) for dirt and debris before startup and every 10 hours.

Clean with compressed air or spray wash if required. Do not damage fins with high pressure air or water.



Check Operator On Board Safety Switch

1. Lower lift arms to ground, stop engine. Test switch operation before startup and every 10 hours.
2. Stand on operators platform (A) and start engine.



3. Step off operators' platform. The drive and boom functions should be disabled if safety switch functioning correctly. If drive and boom functions are not disabled, switch engine off and contact a dealer. Do not operate Skid steer loader if operator on board safety switch is not functioning correctly.

Inspect Tracks

Lower lift arms to ground, stop engine and remove key. Inspect tracks for wear and damage before startup and every 10 hours.

General Inspection

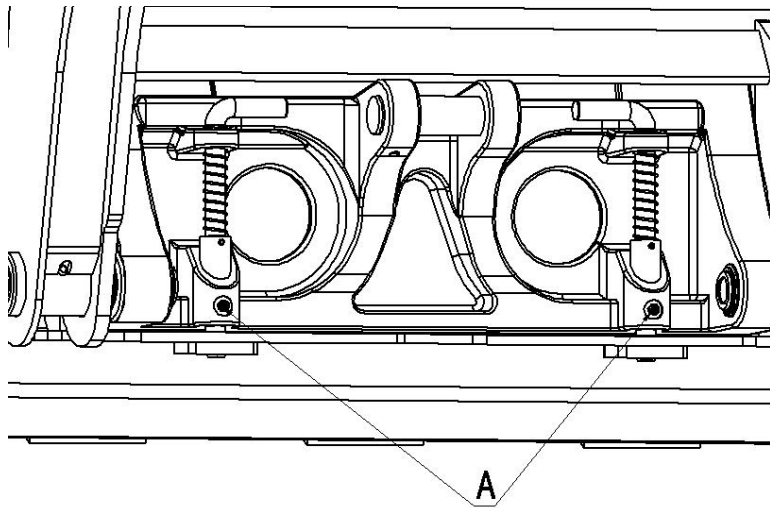
Lower lift arms to ground, stop engine and remove key. Inspect Skid steer loader for damage and worn parts. Repair or replace parts as needed.

1.3 Every 20Hours

Lubrication

Skid steer loader must be parked on a level surface, park brake engaged, lift arms fully lowered, engine stopped and key removed.

Pump the grease into the oil cup on the connecting lock pin every 20 hours.

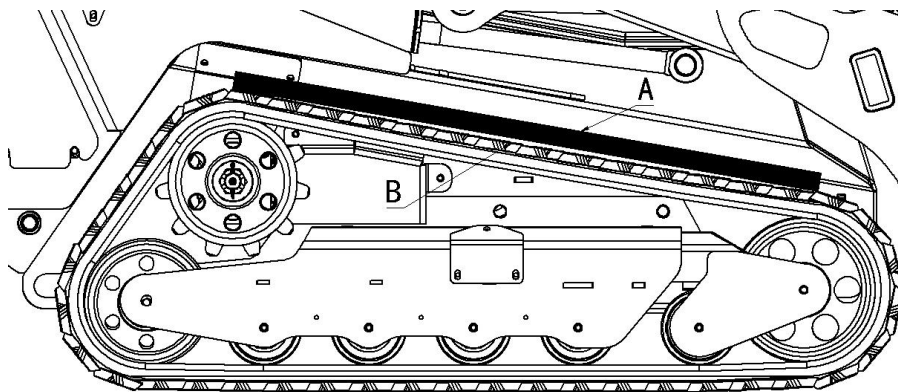


1.4 Every 100 Hours

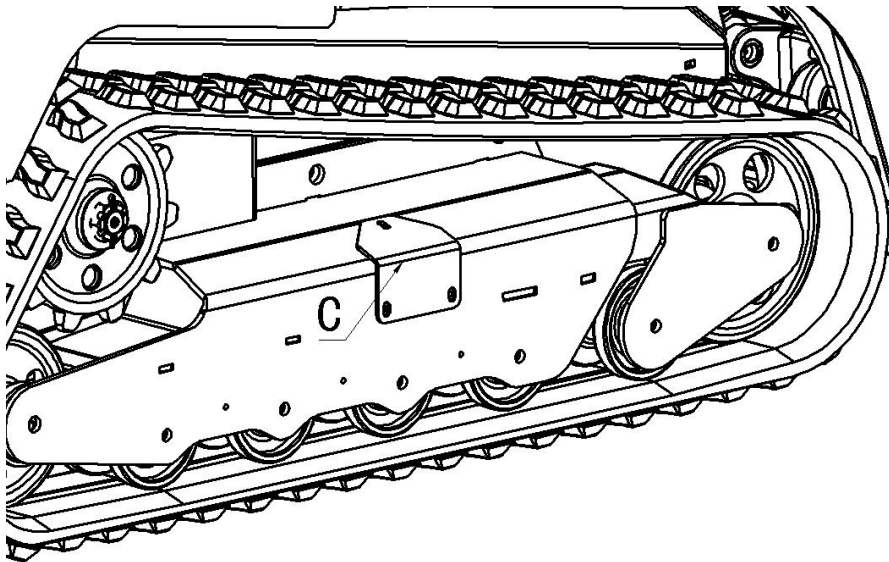
Track Tension

Check track tension every 100 hours and adjust as needed

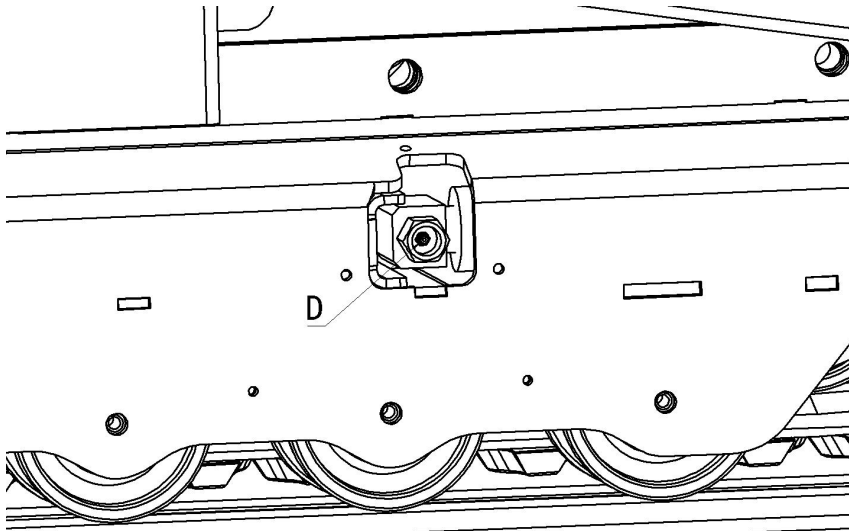
1. Skid steer loader must be parked on a level surface, park brake engaged, lift arms fully lowered, engine stopped and key removed.
2. Place a straight edge (A) across top of track as shown.
3. Measure dimension (B) between bottom of straight edge and top of track. Track tension is properly adjusted when dimension (A) is no more than 1 in. (25mm) when measured near the center of track.



4. If adjustment is necessary follow steps 5-7.
5. Remove cover (C) to assist grease fitting.



6. Pump grease into fitting (D) to adjust track tension so dimension (B) is no more than 1in. (25 mm). Too much tension will stretch the track.



7. Install covers (C).

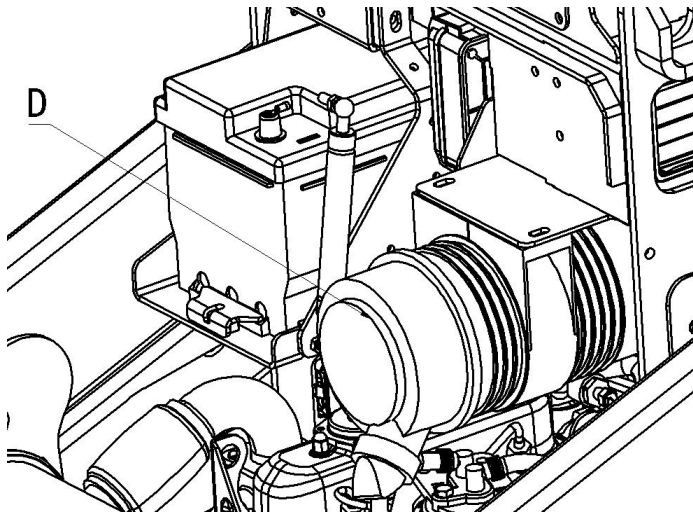
Check Engine Fan Belt

Skid steer loader must be parked on a level surface, park brake engaged, lift arms fully lowered, engine stopped and key removed. Check belt for wear and damage. See engine operator's manual.

Replace Air Filter

Replace air filter every 100 hours if operating in dusty conditions

1. Skid steer loader must be parked on a level surface, park brake engaged, lift arms fully lowered, engine stopped and key removed.
2. Open air filter housing (D) and remove filter element



3. Clean inside of housing and end cap with a damp rag.

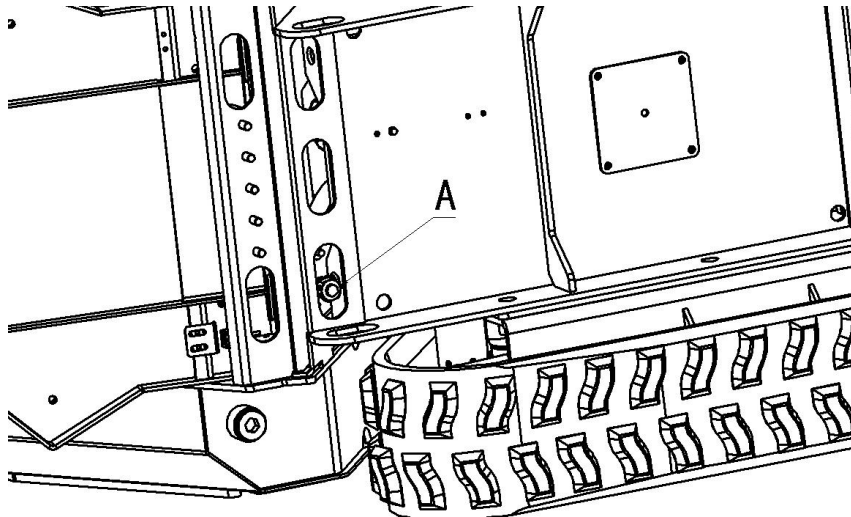
4. Insert new filter element and install end cap.

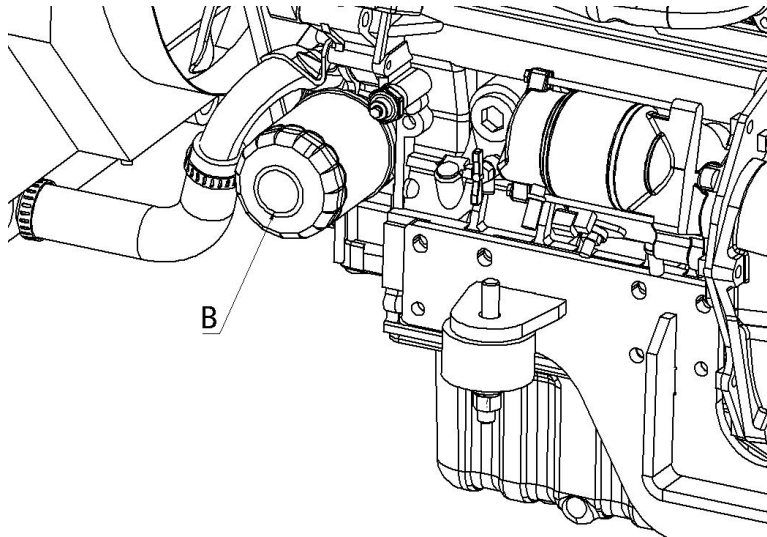
1.5 Every 250 Hours

Change Engine Oil And Filter

Skid steer loader must be parked on a level surface, park brake engaged, lift arms fully lowered, engine stopped and key removed.

Remove oil plug (A), drain engine oil and replace filter (B) every 250 hours. Install plug (A), new filter (B) and proper quantity of engine oil.





Engine oil should be MIL-L2104C or have properties of API classification CF or higher. Change the type of engine oil according to the ambient temperature.

Above 77°F(25°C)	10W-30 or 15W-40
14°F to 77°F (-10°C to 25°C)	10W-30 or 15W-40
Below 14°F(-10°C)	10W-30 or 15W-40

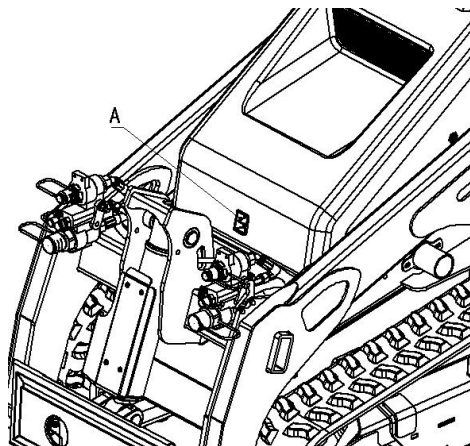
Check Air Intake Hoses

Check air intake hoses for wear and damage. Tighten clamp if loose. Replace worn, damaged or leaking parts.

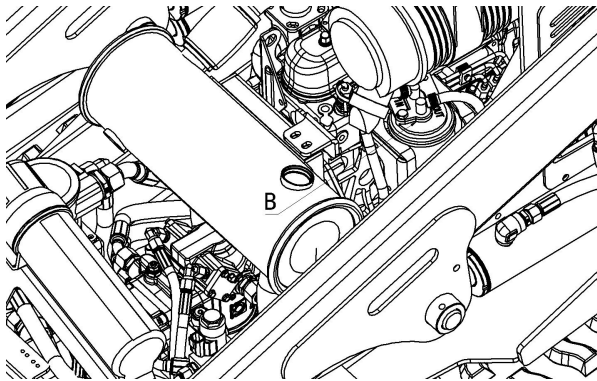
1.6 Every 500 Hours

Replace Fuel Filter

1. Skid steer loader must be parked on a level surface, park brake engaged, lift arms fully lowered, engine stopped and key removed.
2. Unlock the engine cover lock (A), then lift the tail cover upward and secure the tail cover in the open position by the gas spring:



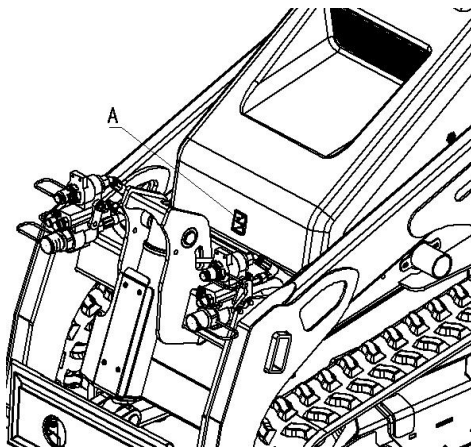
3.The fuel filter (B) is located below the tail hood, Replace filter every 500hours.



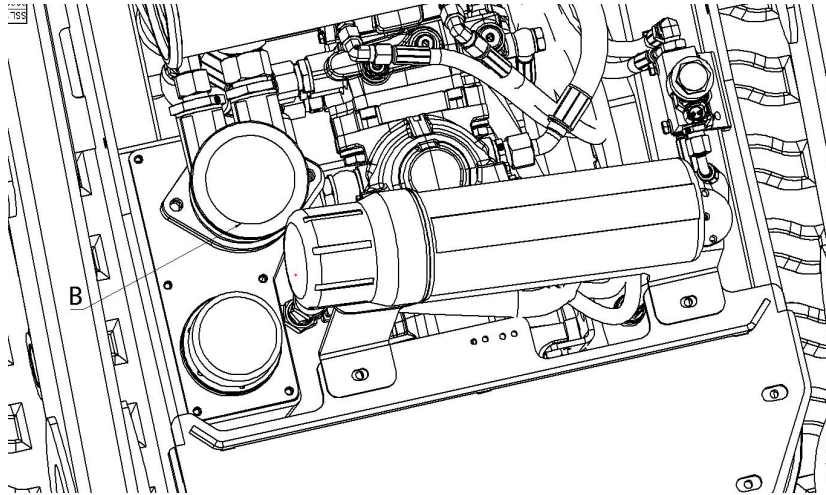
Replace the hydraulic oil tank suction filter element

Replace the hydraulic tank suction oil filter element every 500 hours

- 1.Skid steer loader must be parked on a level surface, park brake engaged, lift arms fully lowered, engine stopped and key removed. Allow hydraulic system to cool to ambient temperature.
- 2.Unlock the engine cover lock (A), then lift the tail cover upward and secure the tail cover in the open position by the gas spring;



3.Remove and replace Hydraulic tank Suction oil filter element (B)



4. Check the hydraulic level and add hydraulic oil if necessary. Add Caltex HDZ32# or Chevron MV32#

1.7 Every 1000 Hours

Replace hydraulic oil and hydraulic tank suction oil filter element.

Under normal conditions of use, replace the hydraulic oil and hydraulic tank suction oil filter element every 1000 hours, and under extreme conditions of use, replace the hydraulic oil and hydraulic tank suction oil filter element every 500 hours.

NOTICE

Dispose of waste properly.

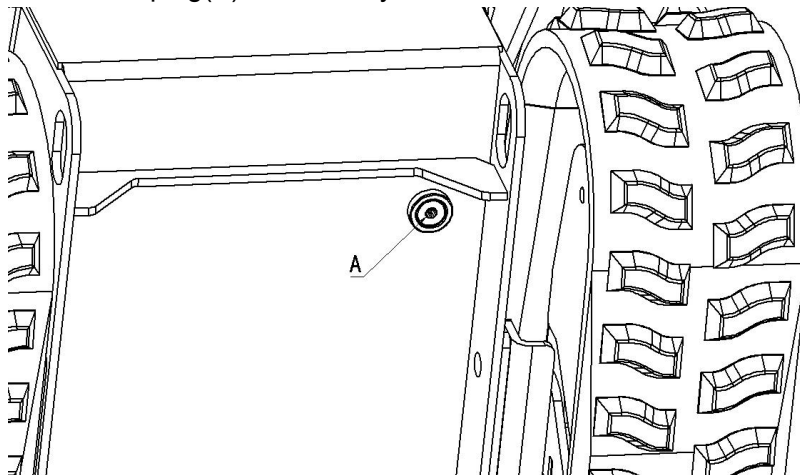
Improper disposal of waste can harm the environment.

Use leak proof container when draining fluids. Do not use food or beverage containers

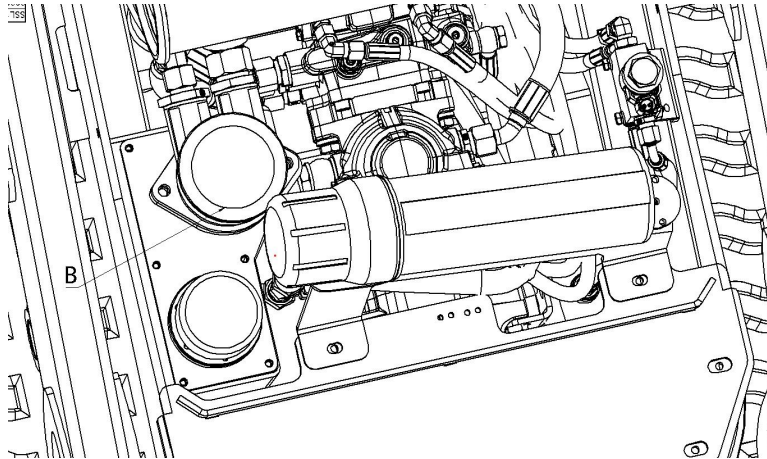
Contact your local environmental or recycling center for the proper way to recycle or dispose of waste.

1. Skid steer loader must be parked on a level surface, park brake engaged, lift arms fully lowered, engine stopped and key removed.

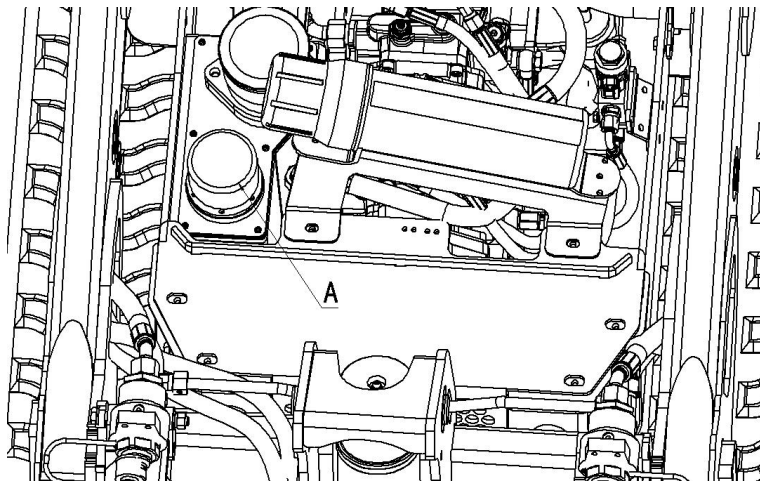
2. Remove drain plug (A) and drain hydraulic fluid into a suitable container. Install plug after draining.



3.Remove and replace Hydraulic tank Suction oil filter element (B)



4. Rotate valve cover (A) counterclockwise and remove, adding hydraulic oil to 1/2 or 3/4 scale of dipstick on valve cover as needed;



1.8 As Required

Check Battery

Check battery as needed. Keep battery clean and terminals free of corrosion.

- 1.Lift boom and install lift lock.
- 2.Open the tail cover and remove the battery platen.
3. Loosen and remove negative (-) battery cable clamp.
4. Loosen and remove positive (+) battery cable clamp.
5. Clean cable clamps and terminals.
6. Check cables for wear, damage or corrosion. Replace cables if necessary.
7. Connect positive (+) battery cable clamp
8. Connect negative (-) battery cable clamp.
9. Verify battery tiedowns are tight.
- 10.Install battery platen and close tail cover.

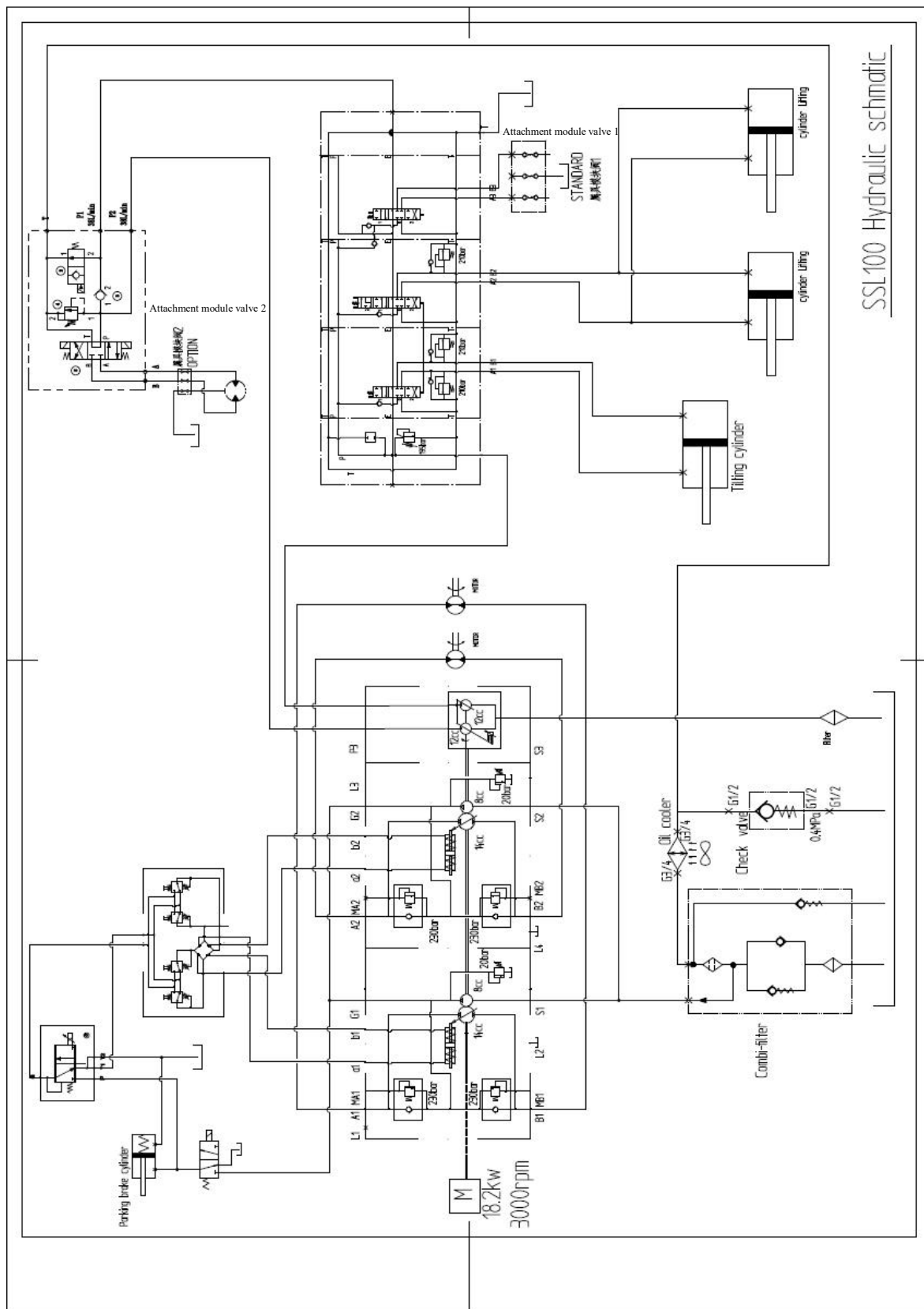
2.TROUBLESHOOTING

Trouble shooting Chart

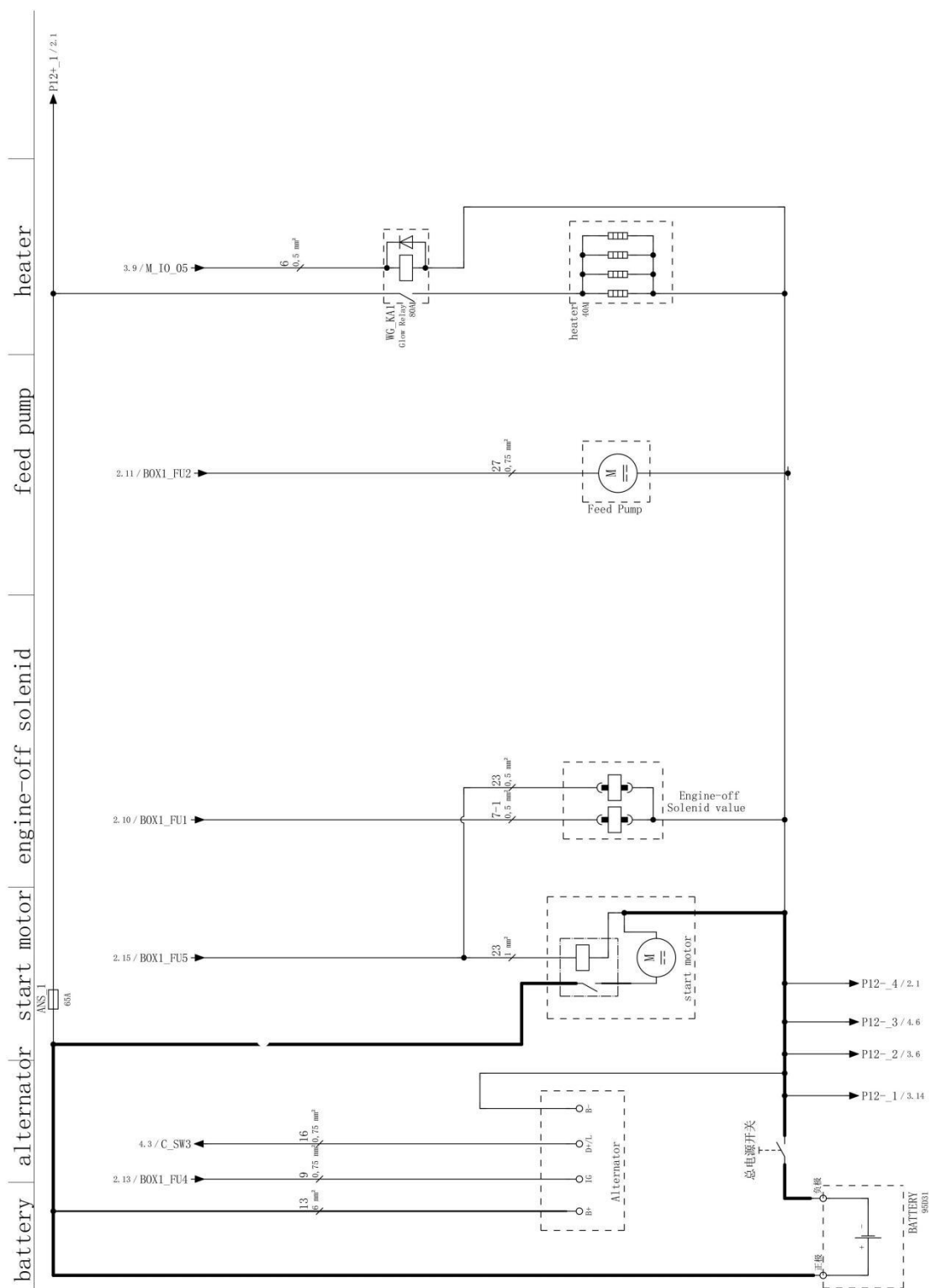
Problem	Cause	Countermeasure
Engine		
Engine start difficulties	Fuel is too viscous	<ul style="list-style-type: none"> ●Check fuel tank & filter. ●Remove impurities water. ●If necessary, replace filter.
	Air or water in the fuel system	<ul style="list-style-type: none"> ● Remove water from the fuel tank. ● Check fuel pipe joint bolts and nuts for looseness. ●Purge the fuel system.
	Fuse is blown out	<ul style="list-style-type: none"> ● Check the fuse and replace it with a same capacity one as required.
	Battery dead or almost dead	<ul style="list-style-type: none"> ●Recharge or replace battery.
Insufficient engine power	Low fuel level	<ul style="list-style-type: none"> ●Check fuel and add if necessary.
	Clogged air cleaner	<ul style="list-style-type: none"> ●Clean the air cleaner element.
Engine suddenly stops	Low fuel level	<ul style="list-style-type: none"> ●Check fuel and add if necessary. ●Purge the fuel system.
Abnormal exhaust smoke color	Poor fuel	<ul style="list-style-type: none"> ●Use high quality fuel.
	Too much engine oil	<ul style="list-style-type: none"> ● Drain engine oil to specified level.
Water temp. in red zone(overheating)	Loose or worn fan belt	<ul style="list-style-type: none"> ●Adjust or replace the belt.
	Thermostat defective	<ul style="list-style-type: none"> ●Replace the thermostat.
	Coolant level too low	<ul style="list-style-type: none"> ●Fill to specified level.
	Radiator grill or fins are clogged	<ul style="list-style-type: none"> ●Clean the radiator grill and fins.
	Coolant is contaminated	<ul style="list-style-type: none"> ●Replace coolant fluid and anti-rust.
	Defective radiator	<ul style="list-style-type: none"> ●Replace the radiator cap.

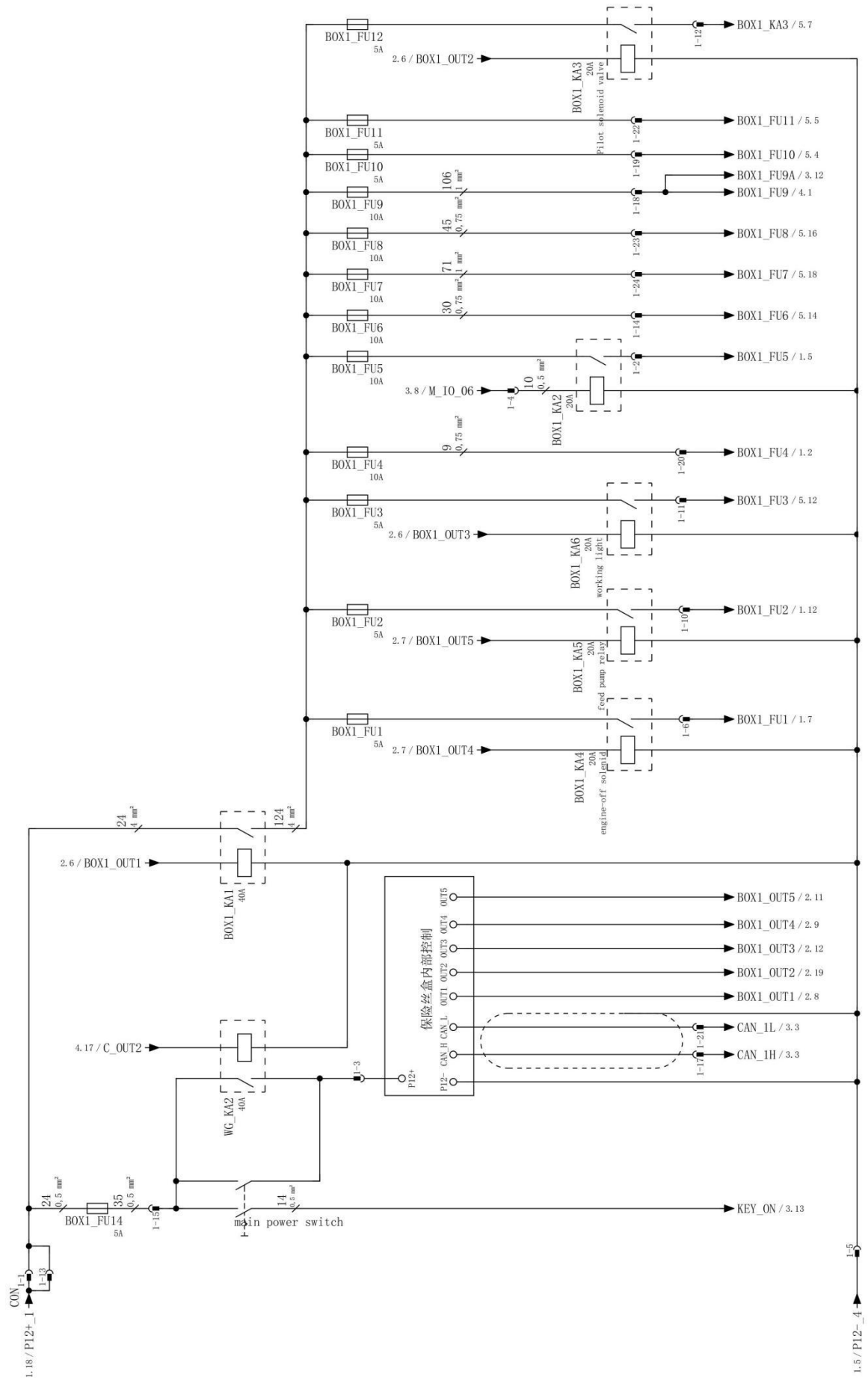
	cap(evaporation)	
	Continuous operation under full load	●Reduce load.
	Engine oil level too low	●Fill to specified level.
	Use of poor fuel	●Use specified fuel.
Hydraulic system		
Low or no power in lift arms,attachment and/or drive unit.	Hydraulic oil level too low	●Add oil.
	Hydraulic oil leaking hoses and/or joints	●Replace hose or joint. ●Tighten connection to correct torque
	Operator is off of the operator platform	● Operate from the operator platform.
Drive system		
Deviation of drive direction	Blocked with debris	●Remove debris
	Track too loose or too tight	●Adjust track tension accordingly.

ANNEX 1: HYDRAULIC DIAGRAM

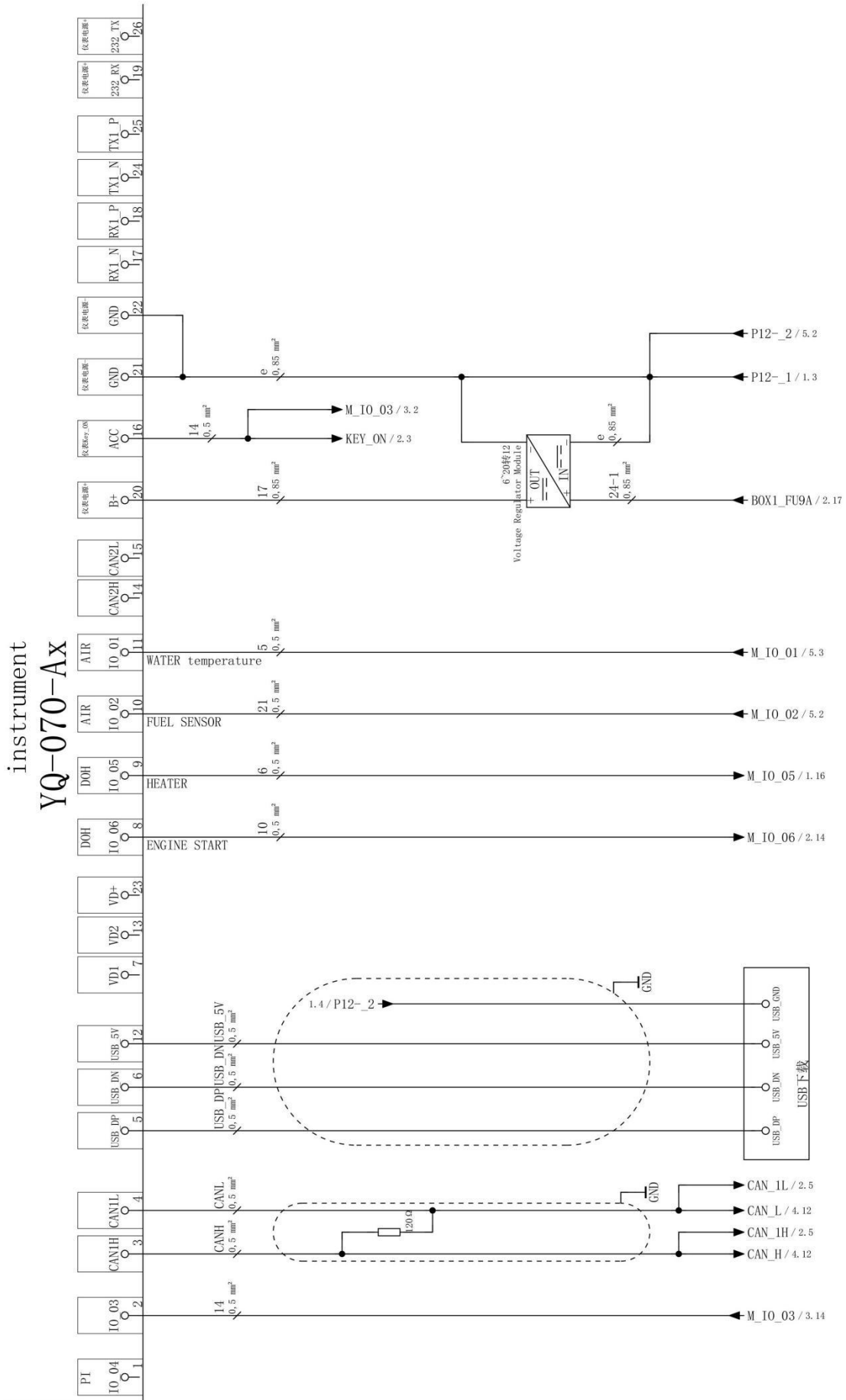


ANNEX 2: ELECTRICAL SCHEMATIC





instrument YQ-070-Ax



Auxiliary control box

