

Preface

This manual is an important component of your machine. It provides security information and safety operation manuals, which will help you operate and maintain the machine in a correct and simple way.

Thank you again for purchasing and using our equipment.

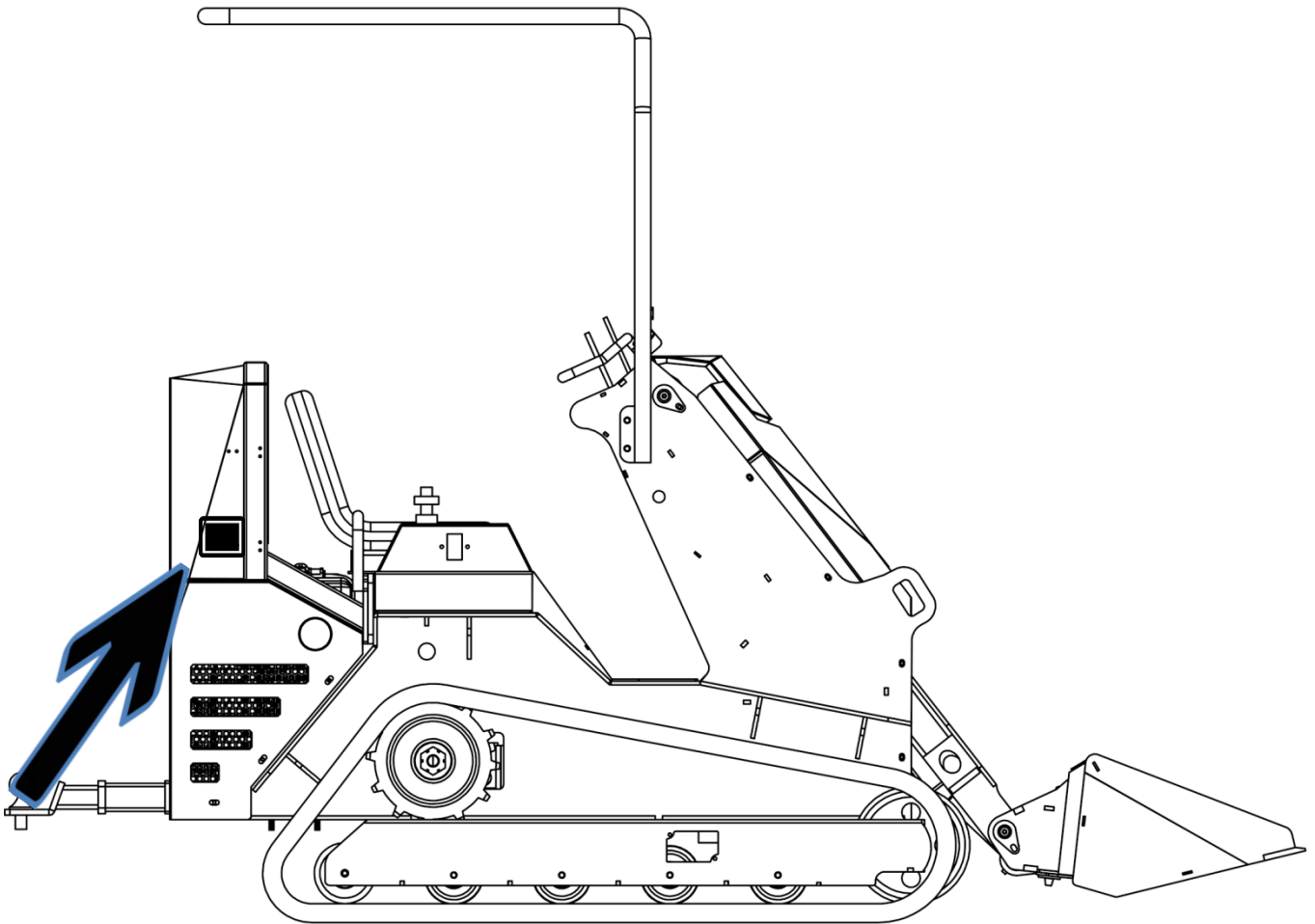
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I、

The machine number is indicated by an arrow in the lower area.

Each machine has its own unique number; Please fill in its information. Go to the form below. Each machine has its own unique number; Please fill in its information. Go to the form below.

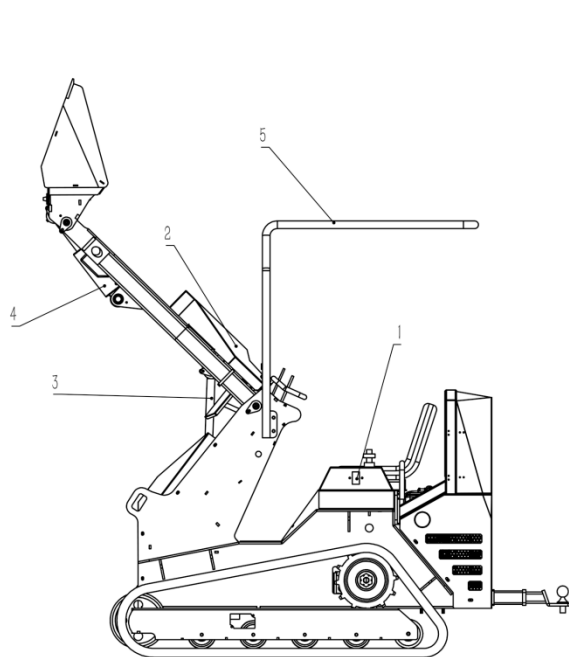


II、

The VS650 is designed for compact construction work, with a powerful diesel engine and quick couplings, making it easy to connect to various accessories. Under normal circumstances, from small-scale construction projects, ground care, home decoration, landscape beautification, agriculture to small-scale relocation projects; It is proficient in any compact road or low space work. If necessary, such as working in extreme areas, please contact our company or local distributors, otherwise it will conflict with the application.

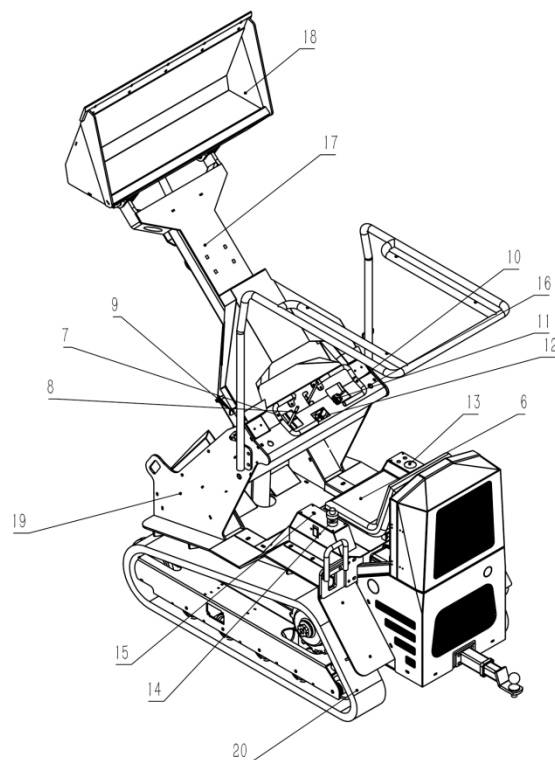
VS650 should only be operated, repaired, and serviced by trained operators who are familiar with its special characteristics and safe operations

III、



- 1: 电源总闸
- 2: 大臂护板
- 3: 动臂油缸
- 4: 铲斗油缸
- 5: 顶棚
- 6: 座椅

- 7: 左操纵扶手
- 8: 左操纵杆
- 9: 照明灯
- 10: 右操纵扶手
- 11: 右操纵杆
- 12: 三联开关: 喇叭、照明、风扇



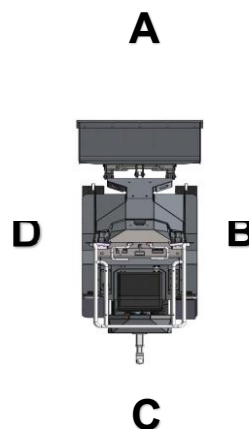
- 13: 仪表盒
- 14: 油门线
- 15: 发动机减压开关
- 16: 启动钥匙
- 17: 动臂
- 18: 铲斗

- 19: 车身
- 20: 行走履带

IV、

- A、Front of the machine
- B、On the right side of the machine
- C、Rear of the machine
- D、On the left side of the machine

V、



Safety is the responsibility of the operator.

Most accidents involving machine operation and maintenance can be avoided by following basic safety rules and preventive measures. Before operating or maintaining the machine, please read and understand all safety information, safety operations, and safety stickers in this manual.

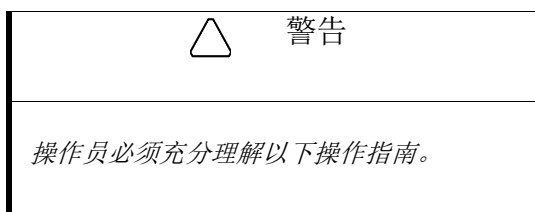


Before using and maintaining the machine, please follow the safety operating instructions. Please read the operation manual and mark it on the machine.

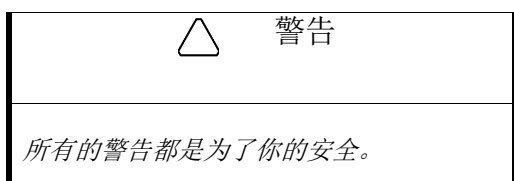
Repair, adjust, and maintain according to the markings in the manual and instruction manual, and then check for normal operation. Failure to follow the instructions may result in death or injury.



This symbol indicates caution, pay attention to safety before operation



*每一个操作指南和规则和操作指南
应理解并遵守维护方面的规定。



*When operating the machine, make sure to refill hydraulic oil and fuel in the correct way, otherwise it may cause danger or serious injury.

*Please read this manual completely and ensure that you understand the control, maintenance, and refilling of fuel and oil.

This symbol indicates that you need to be careful; Otherwise, it may result in the death of the operator or bystanders. This sticker has been attached to the machine.

The safety stickers on the machine and the warnings in the manual are specifically marked to make you aware of the danger and prevent accidents from happening.

Before delivery to the user, each loader undergoes thorough testing and inspection. You should carefully operate within the first 100 hours to keep all components in good condition. Rough operation can shorten the service life or reduce the efficiency of use. For new devices, you should pay attention to the following:

Run the machine idle for 5 minutes after startup.

Avoid operating the loader at full speed.

Read to avoid quick starts, rapid acceleration, unnecessary emergency stops, or turns.

When replacing the filter element, clean the dust and scratches.

If working in a harsh environment, please check all potential hazards.


Please check the working hours on the schedule.

小时数	负载
10小时内	约60%
100小时内	约80%
100小时后	100%

VI、

装载机需要
运行 100 小时，
这将充分发挥它
们的能力，并

延长它们有用的升力。应使用新的加载器来执行 这三
个步骤，避免在前100小时内过度使用。


Warn

Overuse of machines can worsen their condition and reduce their lifespan.



Operating the machine without reading the operation manual or training can result in injury to the machine or personnel.

在前100小时内小心使用它。

Preparation before starting the loader

Any loose or damaged components

dashboard

Please read this manual
before using the machine.

-Check engine oil,hydraulic oil

Daily check

Ensure that the engine is
working properly and
check the following
daily:

Engine cooling system

Crawler and its tightness

Check the fuel level for
any leaks

- Regularly check the lubricating oil and replenish it.
- During operation, check the instruments and indicator lights.
- Check if the machine is working properly during operation.
- Add lubricating oil to the lubrication point every day.
- Tighten bolts

Attention: Try to maintain low-speed operation to achieve maximum stability.

Warn

To avoid injury when operating the machine, always keep both feet on the pedals.

Warn

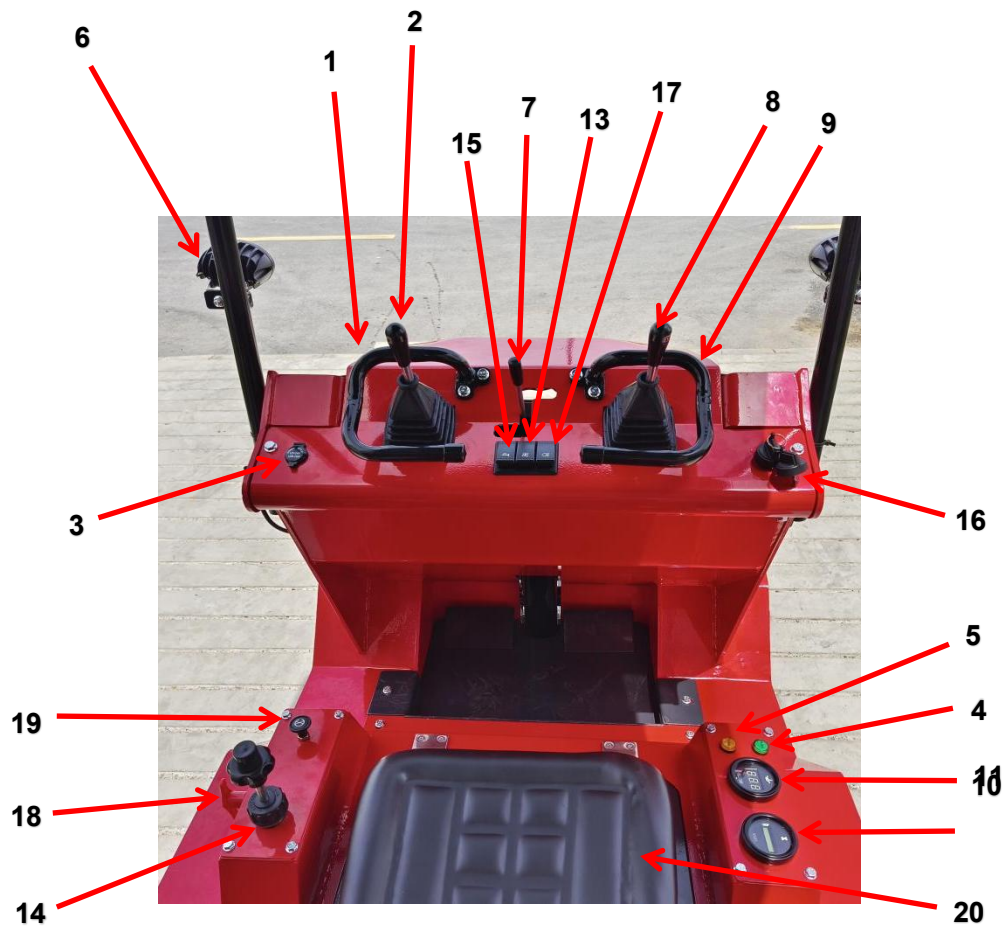
When the boom is in a high position, high-speed and rapid movement or rotation of the machine may cause tipping or injury, requiring low-speed operation.

When lifting, the load center changes. Do not make quick turns or move on slopes during lifting.

Maintain a level surface during operation and turning.

When moving, fully lower the boom and lift the bucket to an appropriate height to avoid obstacles.

VII、



1. Left operation armrest	2. Left joystick	3. Cigarette lighter
4. Power indicator light	5. Oil temperature indicator light	6. Lighting fixtures
7. Control rod for intermediate attachments	8. Right operation armrest	9. Right joystick
10. Oil temperature gauge	11. Timetable	12. Wind door switch
13. Manual radiator	14. Throttle switch	15. Speaker
16. Start switch	17. Lighting switch	18. Power main switch
19. Throttle cable	20. Seat	

1、Handle

Ensure that the operator's hands
do not leave the armrest.



2、Front and rear operating handles

- To move forward, please push the left and right control levers forward at the same time.
- To move backwards, please pull back the left and right control levers at the same time.
- To stop walking, please slowly release the left and right control levers at the same time.
- Turn left, please push the right control lever forward.
- Turn right, please push the left control lever forward.
- Turn around in place, please push and pull the left and right control levers forward and backward respectively.

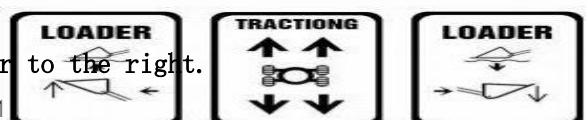
3、Intermediate auxiliary handle

- To start the accessory drive device in reverse, push the auxiliary handle forward.
- To move the accessory drive forward, pull back the auxiliary handle.



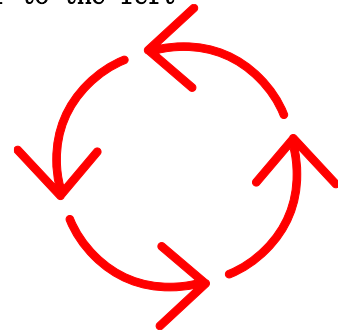
4、Left and right operation handles

- To lift the boom, push the left control lever to the left.
- To lower the boom, push the left control lever to the right.



-To move up the assistive device, push the right operating lever to the right.

-To lower the assistive device, push the right control lever to the left



5. Engine throttle valve

-Rotate the throttle counterclockwise to decrease

the engine speed, and vice versa to increase the throttle

The engine speed increases.

-Press the red button, pull up the accelerator, and the engine speed will increase;

-Press the red button, press the accelerator, and the engine speed will decrease;

-Release the lock button to automatically lock the throttle.



6. Hydraulic oil temperature.

Please check the temperature of the hydraulic oil

7. Hydraulic oil quantity observation window.

Please check that the fuel level remains above 60%.



8. Lighting switch button

Turn on the light: Press the head of the switch to turn it on.

Turn off the lights: Press the top of the switch to turn it off.



9、 engine start switch



OFF: Engine stopped

Connect: Connect the power supply

Start: Turn the key clockwise to start the engine, and release it to the "on" position after starting. If the engine cannot be started, turn the key to the "off" position, wait for a while (10-15 seconds), and then restart.

10. Horn button

-Press the horn button to turn on the horn

-Release the button to stop.



11、 power supply



power-off



turn on power



Warning: Turn off the power when the machine stops

working!

Warning: Please turn on the power before starting the machine!

VIII、

1、 Overview

A successful assignment has already started before the assignment begins. The first step is to check all information about the work and construction site

2. All assignments

2.1 Review Work Plan

Review blueprints or other work plans; Check for any possibilities in the current or planned process.

2.2 Arrange traffic control

When working on roads or other traffic areas, please contact the local safety or regulatory authorities.

2.3 Emergency Service Plan

Check the phone number of the local emergency department and save it.

2.4 Grounding work

Notification Call Service

Call area for a call or similar service, with existing line positioning and labeling. Call any utility company in your area that does not subscribe to a single call.

2.5 Ground homework

Positioning of overhead power lines

Pay attention to the position and height of all overhead power lines on the construction site, and ensure that fully elevated attachments and/or loads do not come into contact with the lines.

2.6 Inspection Site

Before transporting equipment, the work site should be inspected. Check for changes in altitude, obstacles such as hills or other open channels such as buildings, railway crossings or streams, public facility signs, traffic congestion intersections, soil types and conditions

2.7 识别危险

如果地面开挖钻探工作，请识别安全隐患并对工地进行分类。请参阅“分类作业现场”



工地上的危险可能会导致死亡或严重的伤害。使用正确的设备和工作方法。使用和维护适当的安全设备

通知：

佩戴个人防护设备，包括安全帽、安全眼佩戴和听力保护。

不要戴珠宝或宽松的衣服。

在挖掘或钻探前，应遵守所有公用事业通知规定。

确认先前标记的地下危险物的位置。

清楚地标记工地，让观众远离现场。

工地是根据危险分类的，而不是根据安装的线路

3、分类作业现场

3.1 检查作业现场

检查工地和周边是否有地下危险，例如： - “埋地公用设施”通知

-没有架空线路的公用设施

-煤气表或水表

-网线盒

-邮箱

-灯杆

-井盖、消防栓

-下沉的地面

遵守开挖、挖沟的劳动规定等类似规定。

在工作路径两侧6米范围内有经验丰富的定位设备操作人员清扫区域。确认先前标记过的线路和电缆的位置。

标记所有地下公用设施和障碍物的位置。

对作业现场进行分类。

3.2 选择分类

工地根据存在的地下危险进行分类。

如果工作...	地下危险类型
在埋地电线的10英寸（3米）范围内	用电的
在一条天然气管道的10英寸（3米）范围内	天然气
在能产生结晶硅（石英）粉尘的砂、花岗岩或混凝土中	结晶二氧化硅（石英）粉尘
其他危险10英寸（3米）内	其他的

注意：如果您对工地分类有任何疑问，或者如果工地可能包含未标记的危险，请在工作前采取前面概述的步骤来识别危险 并对工地进行分类。

3.3 应用注意事项

一旦分类了，就必须采取适合于工地的预防措施。

3.3.1 电气动工地注意事项

使用其中一种或两种方法。

小心手工挖掘或软挖掘暴露线。

3.3.2 天然气作业现场注意事项

除了将设备定位在天然气管道的上风处外，还可以使用以下一种或两种方法：

通过小心的人工挖掘或软挖掘来暴露线路，工作时关闭煤气。

3.3.3 扬尘预防措施

在挖沟、锯切或钻穿可能产生扬尘时，请洒水除尘。

3.3.4 其他工地注意事项

你可能需要使用不同的方法来安全地避免其他地下危险。与那些了解每个现场存在的危害的工作人员交流沟通，以确定应该采取哪些预防措施或是否应该尝试工作。

4、检查消耗品和设备

4.1 消耗品

燃料、机油、润滑油、个人安全设备，如安全帽、护目镜等。

4.2 液位

燃料

液压油 电池

发动机机油

4.3 条件和标志

过滤器（空气、燃油和油） 疲劳

泵和电机

软管和阀门

标记、警告和屏蔽

4.4 附件

尽可能配备灭火器，应远离火灾；灭火器应适用于油火和电火。它应符合法律和监管方面的要求。

IX、

Important Notice:

Before connecting accessories,
ensure that there is no dirt.

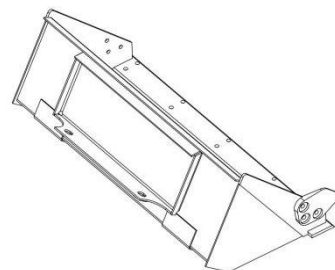
1. Ensure that the locking pin
handle on the mounting plate (as
shown in the figure) is securely
locked

2. Start the engine

3. Forward tilting mounting plate

4. Place the installation plate
into the accessory installation
port.

5. Lift the lifting arm when
installing the board after
tilting. The attachment should be
sufficiently clean and the



mounting plate should be
completely tilted backwards.

6. Ensure that all control devices
are in neutral position

7. Turn off the switch and remove
the key

8. Rotate the locking pin handle
towards the center of the mounting
plate to secure the accessory to
the quick release plate.

hydraulic hose

If the attachment requires hydraulic power for operation, please connect the hydraulic hose



Warning: Liquid or air pressure may penetrate the skin, causing injury or death. keep away from

1. The leaked pressurized fluid may cause injury or puncture of the skin and poisoning.
2. Before disconnecting the hydraulic pipeline, turn off the engine and operate all control devices to release pressure. Use a crane to lower, block, or support any raised components. Gently loosen the connector nut with a thick cloth to release residual pressure when connecting the lid.
3. Before using the system, please check if all connections are tight and if the wiring is not damaged.
4. Liquid leakage may be difficult to detect. Use a piece of cardboard or wood instead of your hands to search for loopholes.
5. Wear protective clothing, including gloves and eye protection.
6. If you are injured, seek medical attention immediately from a doctor familiar with such injuries.

Pay attention to the high temperature parts that may cause burns, and do not touch them until they have cooled down.

Be aware that hydraulic quick couplings, hoses, and fluids may become hot. When connecting and disconnecting hydraulic hoses, please wear gloves and wait until the unit has cooled down before touching hydraulic components.

1. Loop accessory drive control to release residual pressure on the hydraulic coupling.
2. Ensure that all control devices are in neutral position.
3. Remove dirt and debris from the hydraulic quick connector.
4. Connect the male connector on the attachment to the female connector on the unit.
5. Connect the connector on the attachment to the male connector on the unit.
6. Ensure the connection is secure by pulling the hose.

X、 DRIVE

1. Start the engine

1.1 Ensure that all control devices are in neutral. 1.2 If necessary, the throttle ring can be the engine.

1.3 Move the throttle to the half open position.

1.4 Turn the ignition switch to the start position and release it when the engine starts. Push in the throttle ring after the engine has warmed up.

Emergency stop, turn the ignition switch to the stop state.

2. Drive general operation

2.1 Pull the lifting arm control device to lift the mounting plate (and accessories) off the ground.

2.2 Move the two wheel drive controllers forward or backward. 2.3 Adjust the throttle as needed.

3. Slope operation

3.1 Attention: When operating on a slope, maintain attachments/low load. Drive slowly and cautiously.

3.2 Working on slopes up and down. The weight distribution varies depending on the auxiliary equipment and load. For example, an empty bucket makes the rear of the machine the heavy end, while a fully loaded bucket makes the front of the unit the heavy end. The attachments approved by most countries make the front of the unit a heavy end.

-Avoid starting, stopping, or turning on slopes. If you have to turn, keep the heavy end unit uphill.

-Do not park the device on a slope, turn it to neutral, turn the ignition switch to park, and apply the parking brake without lowering the accessory to the ground and returning all control devices.

4. Close

4.1 Lower the lifting arm to the ground.

4.2 Move all control devices to the neutral position.

4.3 Run the engine at low idle for 3 minutes to cool down. 4.4 Turn the ignition switch to the stop state.

4.5 Remove the key.

prudent

The unit shall not park on a slope unless the parking brake is activated. When stopping, move all control devices to the neutral position.

△

The inclination angle on the slope should not exceed 20 ° , otherwise fuel leakage may occur.

XI、

1. Washing equipment

1.1 Spray water onto the equipment to remove dirt and mud, especially at the landing gear.

Warning: Do not spray water onto the operator console. Electrical components may be damaged. It can be changed to wiping.

1.2 Open the engine hood and clean the debris inside the unit.

1.3 Remove the mud from the wheels.

2. Disconnected auxiliary equipment

2.1 Lower the connector to the ground.

2.2 Ensure that all control devices are in a neutral state. 2.3 Turn off the engine.

2.4 Release the locking pin by moving the handle away from the center of the accessory.

If used, please cycle the accessory drive control device and disconnect the hydraulic hose. 2.6 Release the parking brake.

2.7 Start the engine.

2.8 Tilt the front and rear units of the installation plate away from the accessories.

3. Storage tools

Ensure that all tools and accessories are loaded onto the trailer.

XII、

(1) Precautions for Security Services

1. Incorrect programs may result in death, injury, or property damage. Learn to use equipment correctly.

Warning:

Unless otherwise instructed, all maintenance work should be carried out with the engine turned off. Before opening the engine hood for inspection or maintenance, stop the engine and tighten the parking brake. Before performing any maintenance, please allow the engine to cool down. For engine maintenance instructions, please refer to the engine manufacturer's manual. Before maintaining the equipment, place the unsecured accessories on the ground.

2. Working under the lifting arm

Squeezing weight may result in death or serious injury. Use appropriate programs and equipment, or stay away from the equipment.

Pay attention to supporting two lifting arms before working under them.

An explosion may occur. Serious injury or equipment damage may occur. Carefully follow the instructions.

Warning: 1. Sparks can cause battery explosions. 2. Electronic components are easily damaged.

(2) Maintenance

1. Lubricant

Proper lubrication and maintenance can protect equipment from damage and malfunction. The service intervals listed are for minimum requirements. In extreme cases, machine maintenance is more frequent. Use only recommended lubricants.

Warning:

1. Only use genuine parts, filters, and approved lubricants to maintain the warranty period.
2. Use 'Service Records' to record all required services on your machine.

Lubrication area

Lubricating oil under the lubrication area before work

Clean before lubrication to avoid any dust or dirt. If the parts are lost or damaged, please replace them.

Avoid improper lubrication and minimize dust accumulation as much as possible.

Engine oil and engine coolant (antifreeze)

Engine oil is compatible with the sulfur content of the fuel used. The engine coolant meets the requirement of -40°C

For more information on engine lubrication and maintenance, please refer to your engine manual.

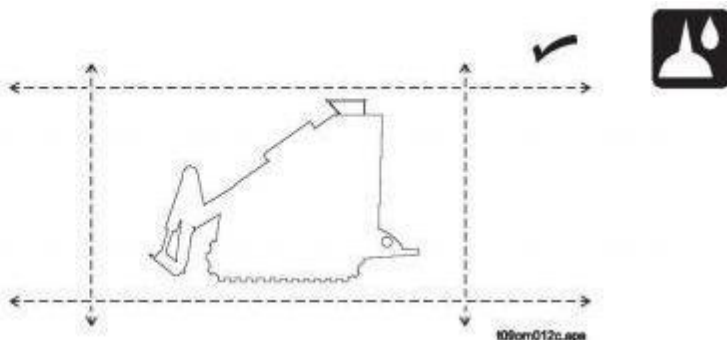
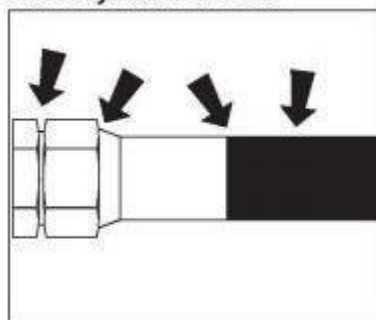
2. Maintenance

Check hydraulic fluid level photo 1

Check the hydraulic fluid level and work every 10 hours. Maintain the liquid level at the midpoint of the instrument,

When the engine is turned off and the liquid is cooled down. If it is low, add hydraulic oil L-HM46 from the hydraulic device

Check Hydraulic Hoses



Check the hydraulic hose for leaks every 10 hours.

1. Escaping pressurized liquids can cause damage or puncture to the skin and poison.
2. Before disconnecting the hydraulic pipeline, please turn off the engine and operate all control devices to release pressure. Reduce, block, or support any raised components. Wrap with thick cloth and slightly loosen the joint nut to release residual pressure. Catch all liquids in a container.
3. Before using the system, please check if all connections are tight and if all circuits are not damaged.
4. Liquid leakage may be difficult to detect. Use a piece of cardboard or wood instead of your hands to search for loopholes.
5. Wear protective clothing, including gloves and eye protection.
6. If you are injured, seek medical attention immediately from a doctor familiar with such injuries.



Check the torque of the ear nut on the track

Check the torque of the lug nut at 10 hours,

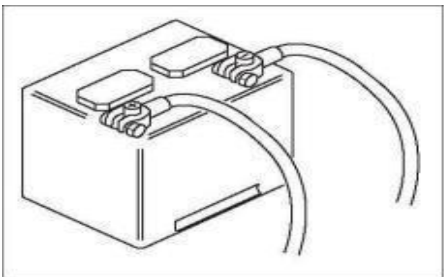
Every 50 hours of work, then every 200 hours thereafter.

Tighten to 88-95 foot pounds (108-130 NM) as needed.



50hours

Location	task	notes:
drive	检查电池	
	检查传动皮带	
	检查空气过滤器	
	检查机油冷却器	
	检查液压滤清器	



check the battery

(1) Maintenance free batteries should be checked every 50 hours to keep the battery and terminals clean and free of corrosion. :

Regularly check the hydrometer, as it will change color with changes in electrolyte capacity and display battery level and electrolyte level height. When it displays green, the battery is fully charged and working well; If there is a lack of green or dark color display, the battery needs to be charged; When it displays a light yellow color, it indicates that the battery has an internal fault and should be repaired or replaced.

(2) Battery storage and service: Keep the battery in a cool and shady place, avoid direct exposure to sunlight, and avoid moisture.

During installation, do not use metal tools to strike the battery, nor place metal tools on the battery.

(3) Install and remove the battery, turn off the engine, and remove the key.

First disconnect the negative wire, then disconnect the positive wire. Loosen the bolt and remove the battery. Confirm the electrodes on the battery. The installation process of the battery is the opposite of the disassembly process.

Attention: Make sure to connect with the correct wires.

(4) Precautions for battery operation

Check the radiator

Check the radiator every 50 hours. Check for any leakage or blockage.

Be careful not to damage the cooling fins of the cooler.

Replace hydraulic oil filter (insert only)

Replace the hydraulic oil filter within 50 hours, and then replace it every 250 hours.

Change engine oil after 100 hours



Location task notes:

Replace the hydraulic oil filter of the traction device

Replace the air filter and check the internal components

Change the engine oil every 100 hours. Drain the oil at the drain plug and add engine oil to the fuel inlet.

Replace the hydraulic oil filter

Replace the hydraulic oil filter every 250 hours



500 hours

Replace hydraulic oil

Replace the hydraulic oil every 500 hours. Drain at the drain plug and add hydraulic oil at the packing. Then start the engine, idle for 2 minutes, and check the gauge to ensure that the fluid level is in the middle of the gauge.

Please note that before touching any parts or performing any services, please cool down the engine before touching.

1. Stop the engine and wait for it to cool down before attempting repairs. 2. Remove the key from the ignition switch.

Adjust the belt tension.

Moving parts may cut off hands or feet.

Caution: Do not open the engine hood while the engine is running.

Caution: Do not leave the operator station while the engine is running.

Start the engine and check its operation.

Stop the engine hood and recheck the belt alignment. 3. Close the engine hood



WARNING



Incorrect operation may result in death, injury, or property damage. Please use the equipment correctly.

Notes:

1. Parking the machine on flat ground
2. Place all drive control devices in neutral
3. Reduce all unsaved assistive devices
4. Turn off all electrical loads
5. Turn off the engine and remove the key from the ignition switch

Prevent explosions. Serious personal injury or equipment damage may occur. Operate carefully according to the instructions.

Notes:

Lead acid batteries emit explosive hydrogen gas during charging.

2. Do not smoke, generate sparks, or use flames around batteries.
3. Do not rely on batteries when connecting.

Wear eye protection, remove metal jewelry and watch.

VS650W	
Host performance parameters	appearance index parameters

Project name	参数	项目名称	参数
Engine brand	RATO/B&S	Max operating height	2470
Rated power	15HP	To the height the bucket pin	1970
Speed rpm	3600	Vehicle height	1900
Number of cylinders	1	Vehicle width	1000
Air intake method	nature	Total length without attachments	1450
Emission standard	Euro5/EPA	Total length with bucket	2100
Rated load Kg	200	Dumping height	1500
Drive speed km/h	0-6	Wheel base	800
Maximum digging force KN	3.5	Ground clearance	210
Bucket capacity	0.12	Bucket width	970
Operating quality	900kg		
Tire model	23*8.5/12		
Work system pressure bar	17		
Fuel tank capacity	5		

XIV、技术支持

1. 如果您的设备出现任何故障或故障，请立即通知您的经销商。
2. 请务必提供您购买设备 的型号、序列号和大致日期。该信息应在购买时记录并存档。
3. 如果在保修期内，将损坏的零件退回经销商进行检查和保修考虑。
4. 从美洲狮授权经销商处订购真正的美洲狮更换或维修零件。使用其他制造商的零部件可能会使保修无效。
5. 与您的经销商联系，了解有关设备的安全、操作、维护和维修的出版物和视频。
6. 有关网络和操作员培训的其他信息，请与您的经销商联系。
7. 规格如有更改，恕不另行通知。