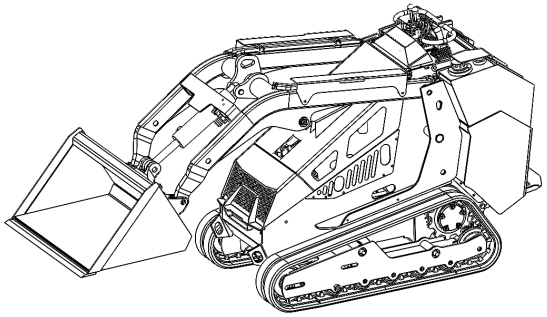
OPERATION AND
MAINTENANCE
MANUAL

SKID STEER LOADER

RH1200



Shandong Ken Stone Heavy Industry Machinery Co., Ltd

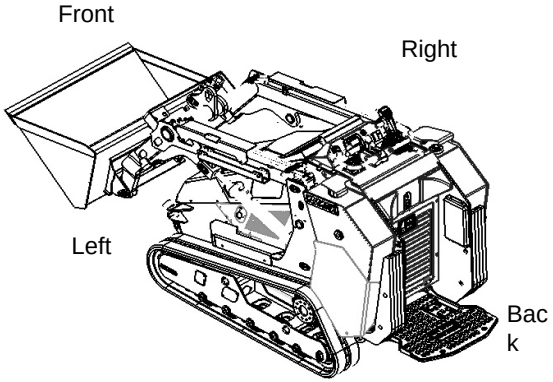
Introduce

The manual introduces the correct operation method of the machine. Before operating and maintaining the machine, please carefully study and understand the instruction manual. Otherwise, it may result in personal injury or equipment damage. If you do not understand the instructions in this manual or have any other suggestions, please consult a Ken Stone dealer. Or additional information may be needed.
The instructions, illustrations, and specifications in the manual are based on the latest information at the time of publication. Your machine may have improved products and features that are not included in this manual. For the convenience of understanding the machine, some photos or illustrations in the chapter may show the machine cover in a disassembled state. Do not operate the machine with the protective cover removed during actual operation. Before operating the machine, be sure to secure all protective covers in place. If it is necessary to remove the protective cover, ensure that the machine is turned off. Before operating the machine, the protective cover should be installed in its original operating position.

Shandong Ken Stone Heavy Industry Machinery Co., Ltd. reserves the right to make changes at any time without prior notice or obligation.
The operating instructions are included in the two operator manuals that come with the machine. The rope (wired) manual must be fixed on the machine for easy reference at any time. Store it in a manual storage box when not in use.
More copies of the manual can be obtained from your distributor. Use the reorder number on the cover to order other manuals.

Member's rights

For inquiries regarding online or printed manuals, please call the nationwide unified service hotline of Ken Stone at 0635-5663999



Direction: The front, back, left, and right sides of the machine are determined by the driver standing in the operating position, facing the power unit.

Shandong Ken Stone Heavy Industry Machinery Co., Ltd. Limited Warranty

Effective from November 1st, 2021 Warranty period: 12 months/1000 hours Shandong Ken Stone Heavy Industry Machinery Co., Ltd. (hereinafter referred to as "Ken Stone") guarantees that each new industrial product produced by Ken Stone will have no defects in materials and workmanship under normal use and service conditions within one (1) year or 1000 working hours (whichever comes first) after the first purchase/sale. This limited warranty only applies to the entire machine manufactured by Ken Stone, and the parts are provided with warranty documents by the supplier. Equipment and accessories not manufactured by Ken Stone are only covered by the original manufacturer's warranty, and Ken Stone only provides warranty when the manufacturer discovers defects.

Optional purchase of extended warranty

During the limited warranty period specified above, any component damage or process defects (excluding the following) in the warranty items of Ken Stone Machinery Equipment shall be repaired or replaced free of charge by authorized Ken Stone dealers. Warranty repairs or replacements must be carried out by authorized Kenstone dealers in the dealer's location. Ken Stone will pay for the replacement parts and labor hours of authorized dealers in accordance with Ken Stone's labor compensation policy. Ken Stone reserves the right to provide remanufactured replacement parts as it deems appropriate.

Retail buyer responsibility

This limited warranty requires appropriate maintenance and regular inspections of the industrial equipment described in the operator/maintenance manual accompanying each new industrial equipment. Daily or necessary maintenance and services are the responsibility of retail buyers. Require retail purchasers to keep proof documents of the execution of these services. If the above requirements are not met, the limited warranty of Ken Stone New Industrial Equipment may be cancelled. Any known faults or defective parts of Ken Stone industrial equipment must be immediately stopped from use.

Exclusion and restriction

The warranties contained herein do not apply to:
(1) Any defects caused by the normal use and service of mechanical equipment (at the discretion of Ken Stone); (i) Unexpected accidents; (ii) abuse or negligence; (ii) Overloading; (iv) Lack of reasonable and appropriate maintenance; (v) Improper repair or installation; (vi) Improper storage; (vii) Modification or alteration without the approval of Ken Stone; (VIII) Natural disasters; (ix) Intentional destruction; (x) Parts or accessories installed on industrial equipment manufactured or installed by non authorized distributors of Ken Stone; (xi) Natural factors; (xii) Collision or other accidents.
(2) Any mechanical equipment whose identification number or mark has been altered or removed, or whose hour meter has been altered or tampered with.
(3) Any industrial equipment, including but not limited to engine adjustment parts, engine oil filters, air filters, hydraulic oil filters, and fuel filters, that requires or recommends regular inspections or services using parts that are not manufactured or supplied by Kenstone or meet Kenstone specifications.
(4) New industrial equipment delivered to retail buyers who have not completed equipment/warranty registration, and returned to Ken Stone within ten (10) days from the date of purchase.
(5) Any defects caused by the operation of mechanical equipment not following the fixed operating procedures listed in the operating manual, as judged by Ken Stone himself.
(6) The limited warranty and support for engines, batteries, and tires are the responsibility of their respective product manufacturers.
(7) The transportation cost to the Ken Stone distributor (if any). The shipping cost (if any) will be paid by the Ken Stone distributor.
(8) The travel time for Ken Stone dealer service personnel to conduct repairs at the retail buyer's site or other locations.
(9) In any case, the liability of Ken Stone shall not exceed the purchase price of the product.
(10) Under no circumstances shall Ken Stone be liable for any incidental or consequential damages (including but not limited to loss of profits, interruption of service time) incurred by any person at any time for any reason.
(11) This limited warranty policy does not include diagnostic fees and overtime pay. Oil and liquids are not covered by this limited warranty.

(12) Depreciation damage caused by normal wear and tear. Lack of reasonable and appropriate maintenance, failure to follow operating instructions, misuse, and inadequate protection during storage.
(13) The accessory systems and electronic devices of non Ken Stone manufacturers are only guaranteed within the scope of their respective limited warranties (if any).
(14) This warranty does not cover downhole tools.
(15) The following supporting items; Antenna, spiral drill, base plate, bearing seal, bearing, belt. Brake pads, brushes, bolts/torque components, worn items on the arm frame, arm frame, brake pads, bushings, buckets, cable fingers, chains. Clamping vise parts, clutch, clutch components, conveyor belt, cup, curtain, knife wheel, mold, digging chain, digging ring, unloading conveyor belt. Drive chuck, drum, soil pile, end idler, end roller, fan belt coupling, flash, hammer, hose, feed conveyor belt, feed conveyor chain, clamp, knife, blade chain, lamp, lamp kit on lamp, liner, outer drum bearing, packaging component, pin and liner, pin and pivot point, piston cup, pivot ring, plastic wear strip, plow blade, plunger, pocket, rod, roller, rod loader component, root belt, rotor plate, rubber roller, rubber or plastic item, rubber track, rubber shield, scraper knife, screen, seal, service item, shear bar/bed knife, anti-skid shoes, sprocket, tooth, tip, tip installation. Tires, thrust wheels, tools, track chains, track rails, track idlers, track pads, track rollers, track sprockets, groove cleaners (debris), travel cleaners, hammer brushes, hammer screen panels, ear shafts and pivot points, valve seats, water pipes, water shafts, wear rods, wear blocks, wear plates, wear strips, wheels, winch cables, windshield wiper components.

Parts Warranty

Parts replaced during the warranty period will receive the balance of the first year's limited warranty period for new mechanical equipment within the 12th month or 1000 hours, whichever comes first. After the original machine warranty, the replacement parts are guaranteed to have no defects in the material within ninety (90) days. Otherwise, the parts need to be repaired or replaced, excluding manual insurance for disassembly and reinstallation.

Ken Stone Equipment Limited Warranty Terms

Compact skid steer loader frame and loader arm
3000 hours/3 years
Partial insurance for extending the insurance period

Ken Stone agrees to extend the warranty coverage of the designated model of Ken Stone Machinery New Equipment's warranty parts only to the extended period under the applicable Ken Stone Machinery New Equipment Limited Warranty (hereinafter referred to as the "Standard Limited Warranty"), provided that the equipment is operated and maintained in accordance with the instructions and manuals specified in the Operator Manual. All conditions, exceptions, and limitations of the applicable standard limited warranty.

Designated model: model

RH1200

Includes components

Loader main frame and boom loader arm.

Non included components

Oilable pins, mounting plates, and worn parts (as specified in the limited warranty of Ken Stone's new mechanical equipment). Extension period: Three (3) years from the date of original retail of the equipment or 3000 hours of machine operation, whichever occurs first. This warranty period applies to both the original buyer and subsequent buyers.

Except for the standard limited warranty and these additional terms, Ken Stone makes no other warranties, and any possible liability of Ken Stone under this Agreement supersedes all other express, implied, or statutory warranties, including but not limited to any introduced warranties of merchantability or fitness for a particular purpose.

Disclaimer Guarantee

Except for the warranties expressly and specifically provided in this Agreement, Ken Stone makes no other warranties, and any possible liability of Ken Stone under this Agreement supersedes all other express, implied or statutory warranties, including but not limited to any warranties of merchantability or fitness for a particular purpose. Ken Stone reserves the right to modify, alter, and improve any product without assuming any obligation to replace any previously sold product with such modifications. No one has the right to make any other guarantees or assume any additional obligations on behalf of Ken Stone.

No dealer warranty available

The sales distributor makes no warranties and has no authority to make any statements or commitments on behalf of Ken Stone, nor to modify the terms or limitations of this warranty in any way.

Electronic Signature

The parties to this agreement expressly agree to conduct transactions electronically.

Manufacturer: Shandong Ken Stone

Heavy Industry Machinery Co., Ltd

Delivery and Receipt Report

Dealer preparation

Check or perform the following operations:

------Check if all optional and accompanying items are included in the machine.
------Check if the operation manual is installed on the equipment.
------Check the status of the air filter.
------Check the oil level of the machine.
------Check the operation of the engine.
------Check the lubrication condition of the machine.
------Check if the bolts are tightened.
------Check the shielding installation and status.
------Check the auxiliary accessory drive neutral start interlock function.
------Check that the springs of the drive control lever and auxiliary control lever return to neutral.
------Check if the machine moves when in neutral control and the engine is running at full speed (with the operator standing on the foot platform).
------Check that when the key is in the closed position and the control lever is pushed, the accessory will not move.
------Check that when the key is in the closed position and the control lever is pushed, the boom will not descend.
------Check the forward and backward functions.
------Check the parking brake function.
------Check the tension of the track.

------Check the status of all safety signs and stickers.

------Check all actions of the operation.

Hydraulic

-----Check the hydraulic oil level.

-----Check whether the hydraulic components are leaking or damaged.

-----Check if the hydraulic control is functioning properly.

Annex

------Check if the operation manual provided by the accessory manufacturer is in the RH1200 manual storage box or the storage box on the accessory. The instructions for bucket accessories are included in this RH1200 operator manual. Please contact your authorized Kenstone distributor.

Deliver

Check and perform the following tasks together with the customer:

------View all chapters of the operation manual.

------Apply grease or oil to all lubrication points.

Review and demonstrate various aspects of machine operation with clients:

------A comprehensive explanation of the working principle of the machine

------Machine safety

------Prepare the machine for operation

------Operating the machine

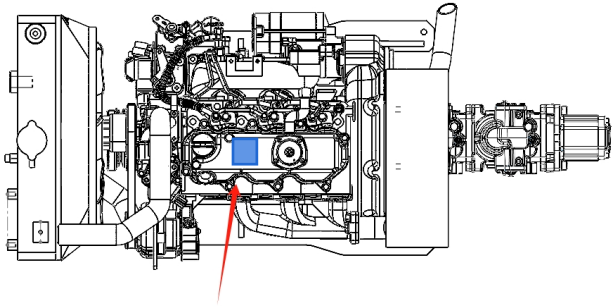
Dealer/Owner Information

Distributor:	Owner:
Address:	Address:
City:	City:
Province/City:	Province/City:
Postal Code:	Postal Code:
Phone number:	Phone number:
Email address:	Email address:

Identification Number - Record

Model No _____

Machine serial number _____

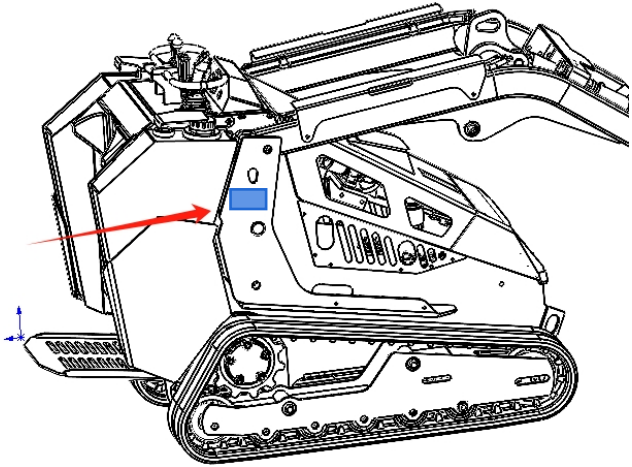


Diesel engine model _____

Diesel engine serial number _____

Machine recognition stickers

here



目录

Security information

General safety information appears in this chapter. Specific safety information can be found in the appropriate section of the manual. Failure to follow instructions or procedures may result in potential hazards. The message for specific attachments will be found in the attachment manual.

Dangerous, warning, or warning signs are used together with safety warning symbols.

Safety signs marked with danger, warning, or warning words are located near specific hazards. Used to warn of potential dangerous situations that, if not avoided, may result in death or serious personal injury.

Danger: Refers to a dangerous situation that, if not avoided, could result in death or serious injury.

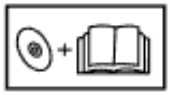
Warning: Indicates a dangerous situation that, if not avoided, may result in death or serious injury.

Attention: Refers to information that is considered important but unrelated to danger.

Safety sign instructions

This is a safety warning sign. This symbol is used in conjunction with exclamation marks or other symbols to warn of potential death or serious injury.

This symbol indicates that at least a portion of the machine is not functioning properly. It may not be necessary to shut down the machine, but some maintenance may be required.



Warning: Before operating the machine, please read the operation manual and safety signs, and watch operation and safety videos.

Warning: Please check the machine before operation. The machine must be in good operating condition, and all safety equipment must be installed and running properly.

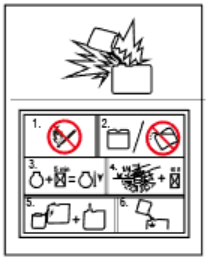
Warning: Wear personal protective equipment. Wear close fitting clothes and avoid long hair. Additional personal protective requirements will be explained separately. Please refer to page 9-2 'Personal Protection'

Warning: Please stay away from crowds.

Warning: Engine exhaust may cause suffocation or poisoning, leading to death or serious injury. Operating machines outdoors. If it is necessary to operate the engine in a closed area, please discharge exhaust gas appropriately and maintain fresh air circulation.

Warning: Not using the shutdown program may result in unexpected danger. Entanglement, crushing, cutting, or other hazardous contact may result in death or serious injury. Before maintaining, cleaning, repairing, or transporting the machine, please use the shutdown procedure. Please refer to page 7-1 of the shutdown program.

Warning: Pressurized liquids can penetrate human tissue, causing death or serious injury. Leakage may be difficult to detect. Stay away from any suspicious leaks. Release the pressure in the hydraulic system before searching for leaks, disconnecting hoses, or performing any operation on the system. If you have to pressurize the system to detect suspicious leaks, use an object such as a piece of wood or cardboard instead of your hands. When loosening the connector in areas where residual pressure may exist, slowly loosen the connector until oil begins to leak. Wait for the leak to stop before disconnecting the connector. Fluid injection into the skin must be immediately treated by a corresponding surgeon.



Warning: Fuel and smoke may explode and burn.
Prohibit flames.
No Smoking.
Fill horizontally with a machine, do not overfill.
Turn off the engine and let it cool down for 5 minutes.
Rotate the oil cap 1/4 turn. Wait for 10 seconds.
Touch the slot to discharge static electricity, then remove the bottle cap.
Keep the nozzle in contact with the fuel tank during filling.

Warning: Moving parts may be compressed. Keep hands, feet, and clothing away from power driven components. Keep the protective cover in place and secure it properly.

Warning: Heat flow under pressure can cause burns.

Let the engine cool down before opening the radiator cap.

Crystalline silica

Warning: Silicon dust may cause illness.

Long term inhalation of crystalline silica dust can lead to silicosis, a disabling, irreversible, and sometimes fatal lung disease. The country has established exposure limits for construction sites. Avoid exposure to dust containing crystalline silica particles exceeding these limits.
Due to the fact that crystalline silica is a fundamental component of sand and granite, many activities on construction sites, such as digging trenches, sawing, and drilling, generate dust containing crystalline silica. When working in soil containing sand or granite, air monitoring may be necessary to determine if site conditions expose workers to excessive amounts of crystalline silica dust. According to the air monitoring results, the following measures may need to be taken to avoid excessive exposure to crystalline silica dust.

Use water spray or other methods to reduce dust concentration.

Use certified respirators that protect against crystalline silica dust.

If possible, change into disposable or washable work clothes at the work site. Take a shower and change into clean clothes before leaving the workplace.

Do not eat, drink, use tobacco products or apply cosmetics in areas containing crystalline silica dust. Wash hands before eating, drinking, or using these products.

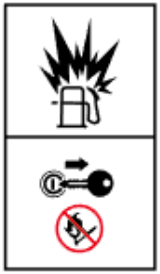
Store food, beverages, and personal belongings away from the work area.

Warning: Do not modify this configuration unless specifically recommended by Ken Stone Company.

Warning: Ensure that all safety equipment is equipped with protective covers. Has the machine been installed and functioning properly after maintenance.

Warning: Failure to follow any of the above safety instructions or the safety instructions in this manual may result in death or serious injury. This machine can only be used for the intended purpose described in this operating manual.

Fuel tank filling



Warning: Fuel and smoke may explode and burn.

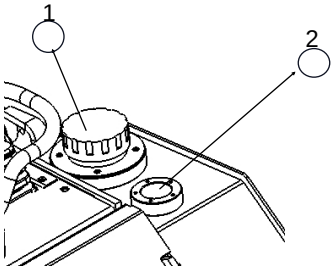
Turn off the engine before refueling. Prohibit flames. No Smoking.

Diesel engine - sulfur content

Require ultra-low sulfur diesel (ULSD) fuel with a sulfur content below 15ppm (15mg/kg). Using fuels other than those specified in the engine manual will affect engine performance, damage the engine emission system, and may result in the warranty of the engine and exhaust system being invalidated.

① Fuel cap

② Fuel sensor



Attention: Use ultra-low sulfur diesel sulfur content of less than 15ppm).

Safe refueling operation

●Do not smoke when refueling. Stay away from all flames and other sources of ignition.
●Refueling the machine on a horizontal surface. Do not overfill. Stop refueling when the oil level is below the neck. Do not spill fuel onto the exhaust system or engine during refueling. The leaked fuel may generate a large amount of steam, which may ignite.
●Turn the engine start switch to the [ON] position and check the fuel level on the display. After inspection, turn the switch back to the 【 OFF 】 position.
●Turn off the engine, wait for 5 minutes for the machine to cool down, then remove the fuel cap and add fuel. ●The exhaust system and hot engine components may ignite spilled fuel or steam.
●Before removing the oil cap,
(A) Release the oil cap only 1/4 turn and wait for 10 seconds for the potential pressurized steam to slowly release.
(B) To prevent static sparks from igniting fuel or steam, please place the fuel nozzle or nozzle in contact with the machine.
(C) Remove the fuel cap.
(D) Keep the fuel nozzle or nozzle in contact with the neck of the fuel tank during refueling to help prevent static electricity accumulation.
●When refueling the fuel tank, make sure not to splash fuel onto the machine and not exceed the specified amount.
●Only use approved portable containers with built-in fuel nozzles or fill with grounded fuel nozzles.
● Keep the engine and exhaust system free of debris.
●Only use high-quality diesel fuel.

Intended Use

The RH1200 small skid steer loader can be equipped with various accessory attachments for light and medium duty work. Contact your Kenshi dealer for information on the authorized attachment list. RH1200 shall not be used with attachments and accessories that have not been evaluated and authorized for use by Kenshi.

Warning: Using attachments authorized by Kenshi is crucial for your safety. Using unauthorized attachments may result in difficulties with steering, stopping, stability, and other poor performance or operational characteristics. Do not use unauthorized attachments.

Always use this machine according to the instructions in this manual; Safety signs on the machine and accessories, as well as other materials provided by Kenstone Company and accessory manufacturers.
Proper maintenance and repair are crucial for the safe and efficient operation of machines. If the machine is in an unsuitable operating state, do not use it.
In addition, ensure that new operators are familiar with all safety signs and control operations.

Quick Reference Guide for Emissions

Kubota D1703 diesel engine		
Engine oil	Only applicable to low ash engine oil: API CF or higher grade, SAE 10W30	
Fuel	Only for ultra-low sulfur diesel (ULSD) (S<15mg/kg)	
Post processing	Dual DOC only	
Start	Please refer to the start-up procedure section of the manual. Do not use any other cold start assist devices.	
Engine warm-up	Run the engine at low idle below 32 ° F (0 ° C) to warm up the engine. If the hydraulic pump makes noise due to insufficient oil, the engine should be slowed down.	
Operate	To avoid permanent damage, please repair it when all activity failures occur.	
Halt	Unless in emergency situations, run the engine at low idle for 2 to 3 minutes before shutting it down.	
ISO symbol	significance	operate
	High coolant temperature	The machine will shut down and the indicator light will light up. Check if there are any obstacles in the radiator fins, air inlet, and filter. Check the fan belt and coolant level.
	low oil pressure	Stop the engine and immediately resolve the activated malfunction.
Stop the engine immediately and resolve the activated fault if the oil pressure is low. For more information, please refer to the machine and engine operation manuals.		

Control

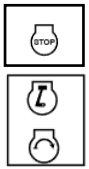
Engine control device

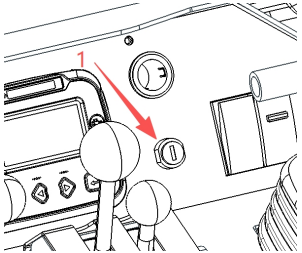
(1) Ignition switch

Completely counterclockwise stop; Turn off the engine and stop the electrical system

Rotate clockwise in the middle position; Open the electrical system

Start the engine completely clockwise; Return to running state after release

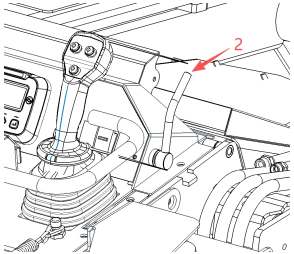




(2)Throttle push rod

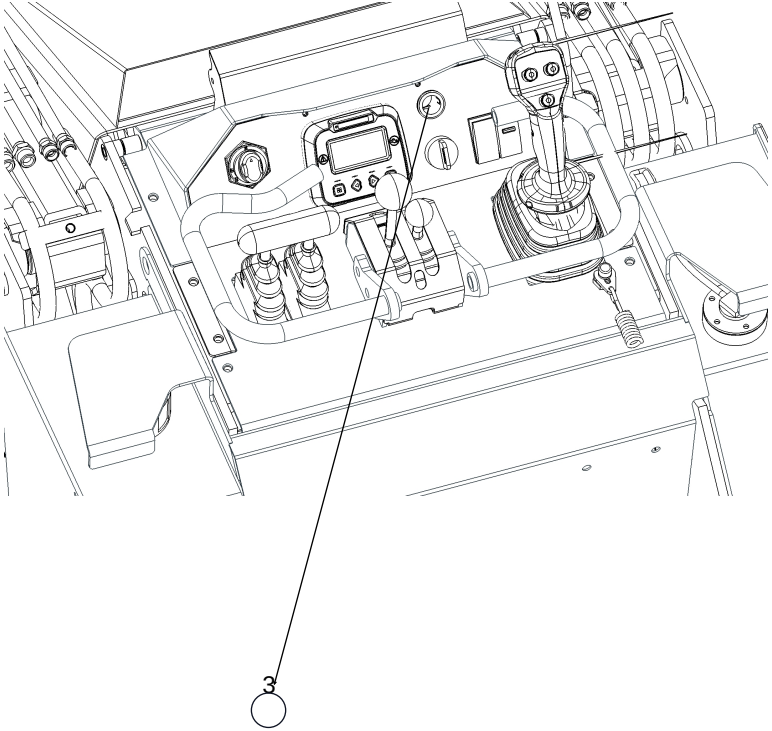
Push forward·····Increase engine speed

Push backwards·····Reduce engine speed



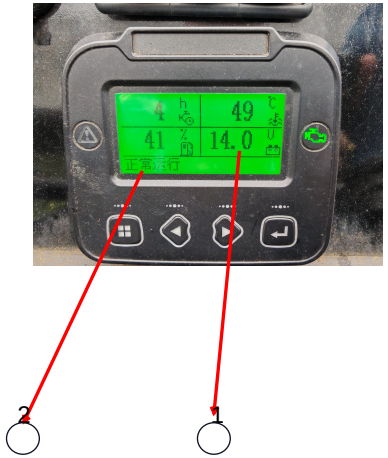
(3) 12V DC auxiliary power socket

12V 10 amperes can be used in critical operating positions.



Indicator light

X: Symbols that are not applicable to this machine.



(1) Preheating indicator light

When the engine preheating function is activated, this light will illuminate.

(2) Charging indicator light

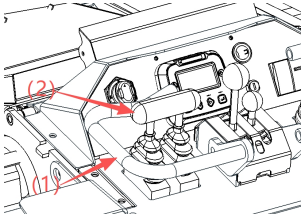
When the light is on, it indicates that it is charging.

(3) Oil pressure indicator light

The red light of the diesel engine monitors the engine oil pressure and lights up when the ignition switch is initially turned on. If the light does not turn off within 30 seconds after starting the engine or lights up during normal operation, please shut down the engine and correct the problem.

control station

(1) Hold the lever ① to keep the operator's hands on the lever. The joystick also provides a stable rest for smooth control of the joystick.



(2) Left joystick ② - Ground drive control

Dual pole forward····· Variable speed forward 

Double pole backwards·····Variable speed reverse 

Right pole forward ·····Left reverse rotation 

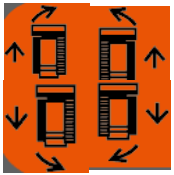
Left pole forward·····Right reverse rotation 

Guiding operation:

Lateral movement of the front of the machine

When the control lever moves in the same direction, both move

Forward and backward.

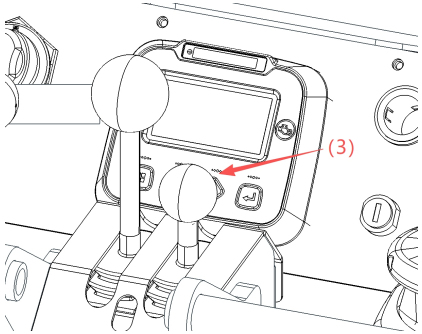


(3) Auxiliary accessory drive rod ③

The joystick will be locked in the fully forward or hind leg position. The control lever must return to neutral after starting before it can be activated

Operate attachments.

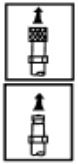
The maximum hydraulic flow through this valve for a 25 horsepower machine is 8.4 gpm at 3045 psi (21 MPa) and 210 bar



Forward·····Oil flows through the internal joint

Centered·····Gap

Backward·····Oil flows through the external joint



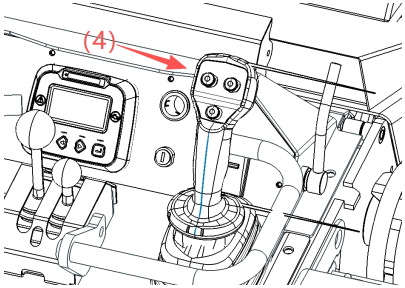
（4） Right joystick - lift/tilt control

Completely forward·····Lower arm

Backward·····Arm lifting

right·····Tilt the bucket forward

left·····Tilt the bucket backwards



(5) The arm float is controlled by a switch

Parking brake

When the parking switch is pressed, the motor brake works. Before the brake is activated, the machine can travel 4 inches (10cm).

Suspension rod lifting/attachment tilt locking cover

On a non working machine, lower the boom and tilt attachments by standing on the operating platform, turning the ignition key to the running position, and then moving the lift/tilt control lever. When the battery is over discharged, connect the jumper battery to the discharged battery column. Please refer to "Startup Program" on page 6-1.

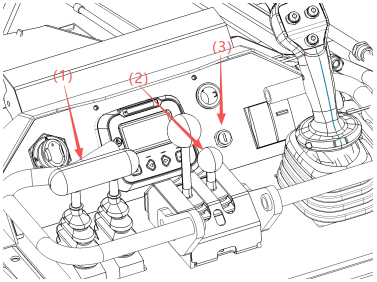
Fuses and relays

The fuse and relay protection circuit are located in the engine compartment. Replace the fuse with the correct rated value to prevent damage to the electrical system.

Diesel engine

safety valve 安全阀电源 5A			Electric outlet 电源插座 10A
			Parking power supply 驻车电源 5A
			Warning lamp power supply 报警灯电源 5A
			Instrument power supply 仪表电源 7.5A
			Oiltransfer pump 输油泵 10A

Start program



Start the engine

Step 1: Stand with both feet on the control panel.

Step 2: Ensure that the ground drive lever ① is in neutral position.

Step 3: Move the auxiliary accessory drive lever ② to neutral.

Step 4: Move the ignition switch to the running position.

Step 5: Turn ignition switch ③ to the start position; Release when the engine starts. (Note: If the engine does not start within 10 seconds, turn off the key, wait for 30 seconds, and then restart the engine start program. The starter motor should run continuously for no more than 10 seconds. If the oil indicator light does not turn off after the engine starts, turn off the engine and correct the problem.)

Step 6: Do not operate the engine under load until it has warmed up. Please refer to the engine operation manual for detailed information.

Start in cold weather

engine

Attention: The use of handheld aerosol initiators may cause explosions. Splashing debris and fire may cause personal injury. Do not use hand-held spray additives, such as ether.

Attention: Handheld aerosol start assist device may cause explosion. The engine may be damaged. Do not use hand-held spray additives, such as ether.

Please refer to steps 5-6 on page 6-1 to learn about cold weather start-up (diesel engine).

When the temperature is below 5 ° F (-15 ° C), remove the battery from the machine and store it indoors until the next use of the machine.

Kenshi dealers provide electric heaters.

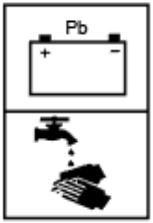
Please refer to the engine operation manual for recommendations and procedures on using cold weather starting aids.

Hydraulic oil

Give sufficient preheating time to hydraulic oil, especially in cold weather.

Attention: If the hydraulic pump makes sharp abnormal noise, it indicates insufficient hydraulic oil and may damage the hydraulic pump. Please reduce the engine speed.

Start with a jumper wire



Warning: Battery terminals and terminals. And related accessories contain lead and lead compounds, which are known chemicals that can cause cancer and reproductive harm.

Please wash your hands after contact.

Battery explosion - danger

Warning: Battery smoke is flammable and may explode. Keep batteries away from sources of fire. Battery explosions can cause blindness. Acid can cause blindness and burns. Tools and cable clamps can generate sparks.

Don't smoke. Cover your eyes and face when working here. Read the instruction manual.

Do not start or charge the battery when it is frozen or has insufficient electrolyte.
Vehicles used for starting are not allowed to come into contact with non functional machines. The vehicle should be equipped with a bottom line when connecting or removing the battery positive wire to reduce electric sparks Generated. If equipped with a battery cap, it must be in place and tightened to reduce the risk of battery explosion.
Note: Only use a 12 volt system for startup.

Battery burns - avoid

Batteries contain sulfuric acid, which can cause severe burns. Avoid contact with skin, skin, and clothing.

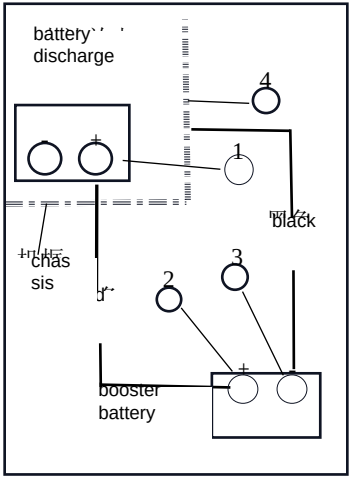
If in contact with acidic substances:

External: Rinse with plenty of water. In case of skin contact, rinse with plenty of soapy water for at least 15 minutes and seek medical attention immediately.

Internal: induce vomiting. Drink plenty of water or milk, followed by magnesium containing milk, egg white, or vegetable oil, and seek medical attention immediately.

Cross start program

Step 1: Place the ignition switch in the off position.
Step 2: Open the engine access door.
Step 3: Connect the jumper cables in the following order:
a. Red to discharge battery positive (+) terminal ①.
b. Red to the positive (+) terminal ② of the boost battery.
c. Black boost battery negative (−) terminal ③.
d. After the battery is discharged, black will appear on the machine frame ④. Keep the connection away from batteries, hydraulic pipelines, and moving parts.
Attention: To avoid sparks, please disconnect the black cable first and then adjust the red cable.
Step 4: Start the engine.
Step 5: Remove the cables in reverse order and install cover plates on the cable clamps. Close and lock the engine access door.



Shutdown Sequence

For your and others' safety, please shut down the engine according to the procedure before operating the machine (including repairing, cleaning, or inspecting the machine).

Step 1: Park the machine on a horizontal surface.

Step 2: Move the walking handle lever to the middle position.

Step 3: Move the operating handle of the working device to the middle position.

Step 4: Lower the working device to the lowest point and make contact with the rubber block.

Step 5: Lower the throttle valve and let the engine idle for 1-5 minutes before shutting down. For detailed information on shutdown, please refer to the engine manual of the machine.

Step 6: Turn the start switch to the 【 OFF 】 position, turn off the engine, and remove the key.

If there are such instructions in this manual, or if necessary in emergency situations, the above procedures can be changed. When the operator leaves the platform or turns off the engine, turn the parking switch to the P position.

Transport machinery

Loading/Unloading Machine

Warning: When loading or unloading on wet, dirty, or uneven trailer surfaces, the machine may unexpectedly move. If hit or squeezed by a machine, it may result in serious injury or even death. When loading/unloading, ensure that the trailer is level and the loading surface is clean and free of debris. Do not attempt to load onto slippery trailer surfaces. Use smooth and controllable steering movements.

- Read the tractor and trailer manuals to understand safety precautions and information.
- Ensure that the total weight of the machine and its accessories is within the load limits of the trailer and tractor. Connect the trailer correctly to the tractor and wedge the wheels or set the tractor's parking brake. Ensure that you can operate the machine safely. Please refer to "Operator Qualifications" on page 9-1.
- During loading and unloading, try to lower the attachments as much as possible.
- When towing up/down, drive the machine slowly and try to minimize turning.
- Maintain balance at trailer/ramp transitions and do not attempt to manipulate the machine.
- According to the trailer manufacturer's recommendations, place the machine in the position of the fastening device and weight distribution.

load/unload

- When light attachments weighing less than 200 pounds (90 kilograms) are installed on the front, such as a standard bucket or fork, or when the attachments are removed, reverse drive to a slope during loading; When unloading, drive the car forward and downhill.
- When heavy attachments are installed on the front surface, drive forward onto the slope during loading; Drive backwards onto a slope during unloading. Driving downhill with heavy attachments may cause the machine to tilt forward.
- When driving on a slope, attachments should be lowered as much as possible.
- Do not suddenly stop or start on a slope, as sudden stopping or starting may cause forward or backward tilting. Drive slowly and steadily on a slope, avoiding turning on the slope as it may cause the machine to suddenly turn and fall off the slope, or cause the slope to move and fall.
- Secure the machine and attachments firmly to the trailer using the recommended fixing method recommended by the trailer manufacturer.

Warning: If the machine is moved backwards from the ground, the operator's legs may be crushed. It is strictly prohibited to move the machine with one or both feet on the ground. Both feet must be kept on the pedals.

Warning: If the foot platform is lifted during machine operation, the machine will stop running. Suddenly stopping while driving at high speeds may throw you off the machine or cause the machine to tip over. To avoid sudden parking, please place your feet completely on the platform and stand as far back as possible. Slow down when driving on uneven ground.

Drive into the trailer

Attention: This device cannot be driven on public roads.

Step 1: Start the machine. Refer to "Startup Program" on page 6-1.

Step 2: Align the machine with the trailer ramp, with the heavy end on the uphill side.

Step 3: Secure the lifting arm of the loader to prevent the attachments from moving when driving on a slope.

Before reversing to a slope, the attachments should be raised so that when the track travels to the slope, the attachments will not hit the ground.

Before driving forward to the slope, the accessory should be raised to a sufficient height to avoid hitting the slope.

Step 4: Slowly move the machine onto the trailer ramp. Try to minimize turning on a slope, as turning on a slope may cause the machine to drive away from one side of the slope or cause the slope to move and fall off the trailer slope.

Step 5: After the machine leaves the slope and drives onto the trailer platform, quickly lower the attachments as much as possible to maintain the stability of the entire vehicle.

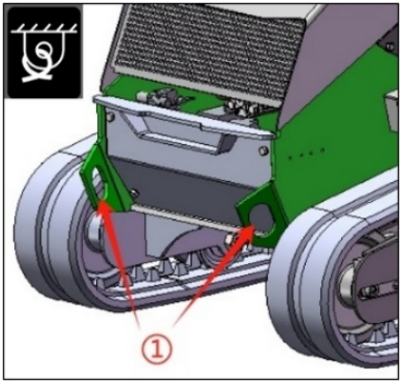
Step 6: Stop the machine after reaching the fixed position.

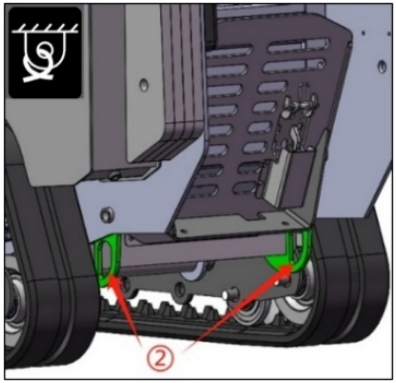
Step 7: Lower the lifting arm and adjust the angle until the accessory is securely placed on the trailer deck.

Step 8: Turn off the engine and remove the key.

Step 9: Use the front and rear binding points ① and ② on the machine to secure the machine to the trailer. The dismantled accessories need to be properly secured for transportation.

Warning: After disconnecting from the machine, attachments may slip off the trailer, causing crushing injuries. After disconnecting, preventive measures need to be taken to ensure that the attachments are properly secured to the trailer.





Drive away from the trailer

Step 1: Unfasten the binding cable or chain.

Step 2: Start the machine. Please refer to "Startup Program" on page 6-1.

Step 3: Align the machine with the trailer ramp, with the heavy end located on the uphill side.

Step 4: Secure the lifting arm to prevent the attachments from moving when driving on a slope.

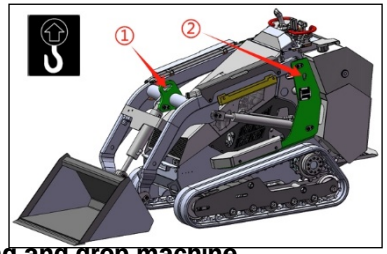
Before reversing along the slope, the attachments should be raised to a certain height to avoid collision with the slope when the track leaves the slope.

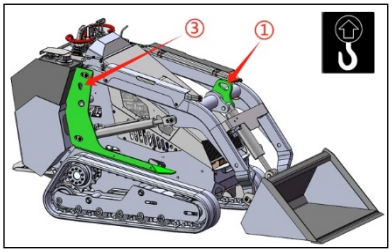
Before driving along the slope, the attachments should be raised to a certain height to prevent them from hitting the ground when the machine reaches the end of the slope.

Step 5: Slowly move the machine down the slope to the ground. Try to minimize turning on slopes, as turning on slopes may cause the machine to leave the slope or cause the slope to move and fall off the trailer deck.

Crane loading

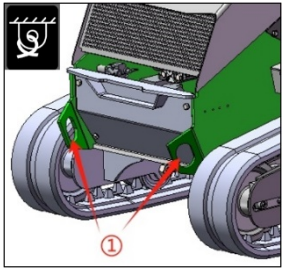
There are front lifting holes ① and rear lifting holes ② and ③ provided on the fuselage, which are used to lift the machine onto the transport vehicle with a crane.
Attention: It is necessary to use lifting equipment with the "CE" mark to lift the machine.

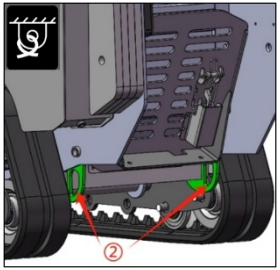




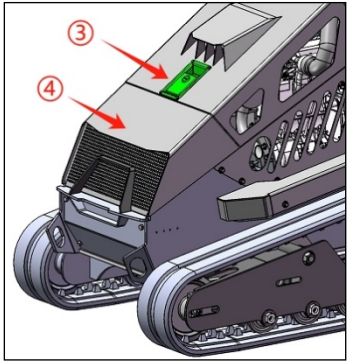
Drag and drop machine

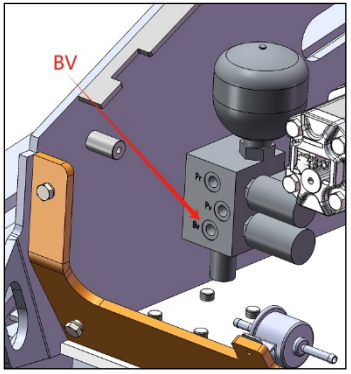
When dragging the machine, it is necessary to release the drive motor pressure and release the parking brake.
Step 1: Release the parking brake. Refer to "Parking Brake" on pages 5-9.
Step 2: When the machine is stuck in a mud pit or cannot be used, tie a suitable traction chain to the front fixed point ① or the rear fixed point ② to drag the machine.





Step 3: Lift the loader arm (refer to "Right Joystick - Lift/Tilt Control" on pages 5-6) and install the lift arm safety brace (refer to "Installation/Removal of Lift Arm Safety Brace" on page 11-2).
Step 4: Turn off the engine. Follow the "Shutdown Procedure" on page 7-1.
Step 5: Release the residual pressure of the walking motor.
(1) If the battery is charged: After turning off the engine, turn the start key to the "ON" position and move the walking operation handle in the forward, backward, left, and right directions to release residual pressure.
(2) If the battery is dead: open the upper cover ③ and remove the front cover ④. Disassemble the oil pipe at the "BV" interface of the oil source valve, wait for the hydraulic oil in the pipeline to completely flow out, and then install the oil pipe back in place.
When the machine is just stopped, the hydraulic oil temperature is high, and it needs to be stopped and wait for a period of time before disassembling the oil pipe.
Before disassembling the oil pipe, a suitable container should be placed under the oil source valve to collect the hydraulic oil that flows out.
Step 6: Place wedges in front/behind the tracks.
Step 7: Release the parking brake.
After releasing the parking brake, the machine may slide. Before attempting to drag, ensure that the machine is in a stable position
On the plane. Proper track fixation is crucial for keeping the machine stationary before preparing for towing.
Step 8: Drag the vehicle in the predetermined direction of travel, tighten the drag chain, and carefully remove the brake wedge.
Step 9: Drag the trapped machine to a solid and level place.
When towing, the speed should not exceed 1-2 miles per hour (2-3 kilometers per hour). Excessive vehicle speed can cause heat accumulation, which can easily damage the pump and motor.
Do not drag continuously for more than 100 feet (30 meters).
Attention: Do not attempt to start the machine by pushing. If the traction instructions are not followed correctly, it may damage the pump or motor.

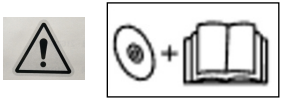




Cleaning machines

Attention: Machine control devices and electrical/electronic equipment cannot withstand high-pressure and high-temperature cleaning. Any equipment that is impacted by water may be damaged due to water intrusion. Keep the water flow of the cleaning machine away from machine controls and electrical/electronic equipment. Do not aim the compressed air nozzle directly at the sealing area, as compressed air can also allow moisture to enter some connectors and component seals.

Operator Qualification



Warning: Before operating the machine, please read the operation manual and safety signs, and watch operation and safety videos.

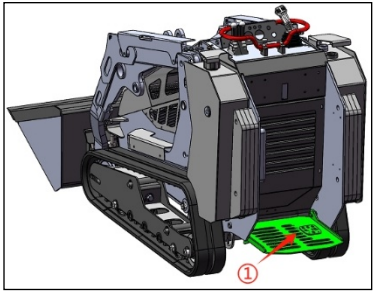
Only responsible and professionally guided personnel are allowed to operate the machine.
Familiarize oneself with the control, operation, and use of the machine under the supervision of trained and experienced operators.
Operators must be familiar with the safety regulations of the workplace and possess the mental and physical abilities to operate machines safely.

Operator present switch

Operator presence system: Use the pressure switch under the operating foot pedal to detect the presence of the operator. The operator must stand on the operating foot pedal ① in order to perform machine driving, lifting/tilting functions, or auxiliary accessory driving.

If the operator leaves the platform while driving, lifting/tilting functions, and/or accessory drives are in operation, these actions will stop. If the lift/tilt control lever is in a floating state, it will continue to lower/float. Before the ground drive and accessory drive are reconnected, the auxiliary accessory control lever must be returned to the "OFF" position.

The presence of operators in the system is for your safety and must be maintained in good functional condition. If it does not work properly, please contact your Kenstone dealer.



Protection

Warning: Wear personal protective clothing. Wear close fitting clothes and avoid long hair. Avoid wearing jewelry such as rings, watches, necklaces, or bracelets.

- Do not wear loose or decorative items that may hang control levers or moving parts.
- Do not wear clothes that are prone to catching fire and contain oil or fuel stains.
- According to the requirements of the work environment, wear safety shoes, helmets, safety glasses, filter masks, thick gloves, ear protection, and other protective equipment. When using grinding machines, hammers, or compressed air, appropriate protective equipment such as safety goggles and filter masks should be worn, as metal shavings or other objects splashing may cause serious injury.
- Please use hearing protection when operating the machine. Long term exposure to high noise can cause hearing impairment, or even complete loss.
- When used in unhealthy environments, such as in contaminated areas, please wear a filter mask.

Sound level

Determine sound pressure and sound power levels according to the testing procedures specified in EN ISO 3744:1995 and ISO 6395:1988.
According to the working cycle procedure specified in ISO 6395:2008, the ear noise at the operator's position is measured to be 76dB (A), with a measurement uncertainty of 2.5 dB.
According to 2000/14/EC measurement, the external noise is 92dB (A). The measurement uncertainty is 1.5 dB.

Vibrational levels

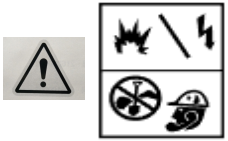
The vibration experienced by the hands and arms is less than 2.5 m/s ². The measurement uncertainty is 0.5 m/s ².
The vibration experienced by the body is less than 0.5 m/s ². The measurement uncertainty is 0.1 m/s ².
Measure on a representative machine using the program in the following standards:
''ISO 2631-1"
''ISO 5349-1"
''ISO 5349-2 "

Preparation Area

Warning: During operation, please keep all spectators and other staff away from the machine and work area.

Locate underground public facilities

First, call your single point of call system



Warning: Electric or gas explosions can cause death. Laser cutting in cables can cause eye damage.
Determine public facilities before excavation and contact local utility companies or national regulatory agencies.

Before starting any mining project, please call the local utility company in your area. For areas without an international single point of call system representative, please contact the appropriate utility company or national regulatory agency to locate and mark underground facilities. If you don't make phone calls, accidents or injuries may occur, causing service interruptions, environmental damage, or delays in the project schedule.

Before starting excavation, please call the utility company. The utility company will use the following international marker codes to mark their underground facilities:

RED	electrical	Green/Brown	sewer
YELLOW	Natural gas, oil or petroleum	WHITE	Proposed excavation
ORANGE	Communication, telephone, television	PINK	measure
BLUE	drinking water		

OSHA CFR 29 1926.651 requires determining the predicted location of underground utilities before commencing excavation or underground drilling operations. When actual excavation or drilling approaches the predicted location of public facilities, safe, acceptable, and reliable methods must be used to determine the exact location of underground facilities. If precise positioning is not possible, it must be closed by the utility company.

Searching for evidence placed underground

Visual inspection

Underground deployment announcement

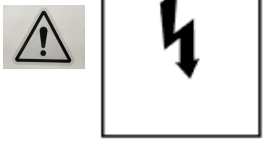
Manhole cover

Delivery box

Recent trenching activities

Attention should be paid to public utilities

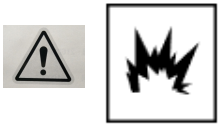
Electricity



Danger: Electric shock can cause death.
If the machine strikes, please stay on the machine. Contact with the machine and the ground while getting off the vehicle may result in death or injury. Lift up the spiral drill or trencher and try to disconnect it from the wires. Ask people who are far away from the area to contact the utility company to turn off the power. Work can only continue after the public utility company declares the area safe. Do not let anyone approach the machine.

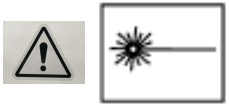
Attention: Some circuit breakers will automatically reset. Do not assume that the power supply has been permanently disconnected until you confirm that the utility company has locked the power supply to the line.

gas



Danger: Gas explosion can cause death. If encountering a gas pipeline, immediately turn off the engine and evacuate immediately. Contact the utility company and do not return until they allow it.

optical fiber



Warning: Laser may harm the eyes, do not look inside. The laser carried by fiber optic cables may harm your eyes. If you're not sure what type of cable it is, don't look at its end. Contact the utility company immediately for assistance.

Construction site assessment

Check if there are any obstacles in the work area that may affect machine operation or pose safety hazards to operators or others. Use the information in this manual and combine it with your own judgment to identify these hazards and take measures to avoid them.

Inspect steep slopes, riverbanks, cliffs, drops, and potential collapsed ditches.

Warning: The weight of the machine may cause the ground to collapse. The machine may tip over or fall, which could result in death or serious injury. Stay away from the edge of the cliff. Do not dig holes under machines or attachments, be careful when backfilling. Don't get too close to the edge. Do not drive or operate on unstable ground.

Warning: Cliffs and high embankments may hit you, be careful when working on cliffs. Do not dig under cliffs, be careful of rocks falling and soil sliding.

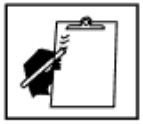
When the work plan is carried out inside or around the building, check if there is enough clearance above and on the sides, taking into account the height of the boom.
The operator or work leader should also inspect the work site:
Caves, rocks, or other hidden dangers.
Transportation/on-site visits.
Remove any obstacles or materials that may cause injury or damage to the machine.

Warning: Engine exhaust may cause suffocation or poisoning, leading to death or serious injury. If it is necessary to operate the engine in a closed area, please discharge the exhaust gas appropriately.

Good ventilation is very important. In flammable and explosive environments, sparks generated by electrical systems and engine exhaust can cause explosions or fires. Do not operate this machine in areas with combustible dust or vapor.

The carbon monoxide smoke emitted by the engine can cause suffocation. It can only be operated outdoors. If it is necessary to operate indoors, sufficient ventilation must be provided.

Prepare the machine



Warning: Please check the machine before operation. The machine must be in good operating condition, with all safety devices installed and functioning properly.

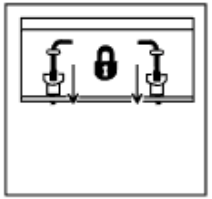
- Ensure that you understand and comply with all workplace rules applicable to your work environment.
- If driving along the road, give appropriate warnings and avoid both motorized and non motorized vehicles.
- Use necessary signs, cones, flagmen, or lighting equipment required for the work environment.

Appurtenance

Warning: Using attachments authorized by Kenshi Company is crucial for your safety. Using unauthorized attachments may result in difficulties with steering, parking, stability, and other undesirable performance or operational characteristics, or they may not be securely connected to the machine. Unauthorized use of attachments is prohibited.

Installation/disassembly

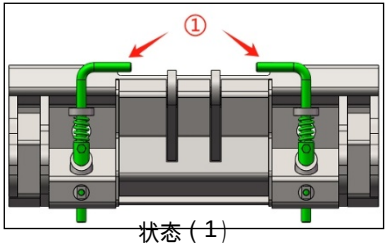
Before connecting any accessory to the machine, ensure that there are no debris on the machine and accessory mounting plate to ensure that the accessory can be properly and securely connected.



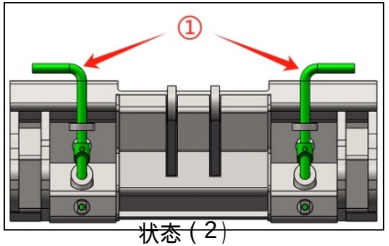
Warning: If the connection is incorrect, the attachments may detach from the loader attachment mounting plate, which may result in death or serious injury.
After installing the accessory, please ensure that the safety pin is in place and the top of the pin is rotated inward by 90 degrees. The pin end can be seen below the accessory base.

Accessories - Installation

Step 1: Place the accessory on a horizontal surface, ensuring there is enough space behind it to accommodate the machine.
Step 2: Rotate the safety pin ① from state (1) in the right figure to state (2), ensuring that the bottom of the safety pin has been fully retracted into the interior of the mounting plate.
Step 3: Start the machine, lower the lifting arm, and slightly tilt the loader mounting plate forward.
Step 4: Drive the machine forward and fine tune the lifting arm and mounting plate until the mounting plate is fully inserted into the tool limit slot.
Step 5: After the top edge of the installation plate enters the slot of the accessory support, tilt the installation plate backwards and raise the lifting arm to firmly connect the accessory.
Step 6: Place the connecting plate in a fully tilted backward position.
Step 7: Ensure that the lift arm control lever and mounting plate tilt control lever are in neutral position, turn off the machine, and remove the key.

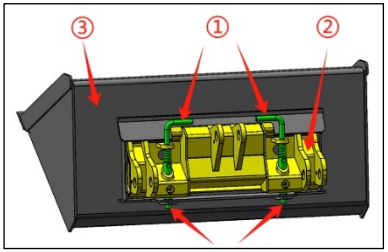


状态（1）



状态（2）

Step 8: Rotate the pin 180 ° (as shown in the figure on the right) until the pin engages and extends through the bottom limit hole of the accessory base, and is visible below the accessory base.

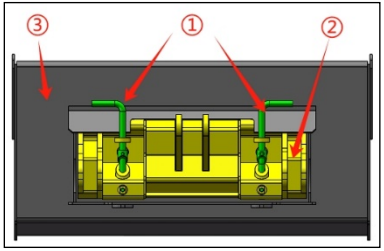


Step 9: If hydraulic devices need to be connected. Please refer to "Hydraulic Device - Connection/Separation" on pages 9-12.

Attention: Ensure that the bottom of the safety pin passes through the limit hole of the accessory base and is visible, otherwise there may be a risk of the accessory falling off.

Accessories - Demolition

Step 1: If hydraulic drive needs to be installed. Please refer to "Hydraulic Accessories" on pages 9-13
Step 2: Lower the lift arm to the ground, ensuring that the lift arm control lever and mounting plate tilt control lever are in neutral position, turn off the engine, and remove the key.
Step 3: Rotate safety pin ① 180 ° (as shown in the figure on the right) to disengage the bottom of the safety pin from the limit hole of the fixture.
Step 4: Slightly tilt the loader mounting plate forward. If necessary, lower the elevator arm.
Step 5: Reverse drive the machine and separate the loader from the attachments.
If the accessory is installed separately on the trailer, please secure it to prevent it from falling off.



Warning: After disconnecting from the machine, attachments may fall off the trailer, causing crushing injuries. After disconnecting, take preventive measures to ensure that the attachments are properly secured to the trailer.

Hydraulic Device - Connection/Separation

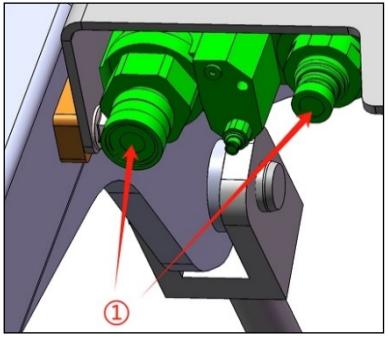
Warning: High pressure liquids can penetrate human tissues, causing death or serious injury. Leakage may not be visible, please stay away from any oil pipes or components that may cause leakage. Release the pressure of the hydraulic system before searching for leaks. If it is necessary to pressurize the system to detect suspicious leaks, use an object such as a piece of wood or cardboard instead of your hands. When loosening the connector in areas where residual pressure may exist, slowly loosen the connector until oil begins to leak. Wait for the leak to stop before disconnecting the connector. If the liquid penetrates the skin, it is necessary to immediately seek medical treatment from a relevant doctor.

Warning: Contact with hot hydraulic couplings, hoses, and fluids may cause burns. Wear gloves when connecting and disconnecting hydraulic hoses. Wait for the machine to cool down before coming into contact with hydraulic components.

Attention: Before connecting, please make sure to remove all foreign objects from the hydraulic joint.

Hydraulic - Accessories

If hydraulic power is required for the accessory, after fixing the accessory to the machine, follow the steps below:
Step 1: Turn off the engine, turn the start key to the "ON" position, move the control lever forward, backward, left, and right respectively, and finally return to the neutral position to release residual pressure.
Step 2: Turn the start key to the "OFF" position and remove the key.
Step 3: Connect the hose to the auxiliary hydraulic coupler ① and confirm the connection is secure by tightening the coupler.
Attention: Accessories with oil cylinders or motors may have residual pressure from the load of the cylinder or motor in the hydraulic pipeline. Before connecting the hydraulic pipeline to the coupler, ensure that the cylinder or motor is not loaded to help release residual pressure in the additional hydraulic pipeline.



Hydraulic Separation

Step 1: Lower the lift arm to the ground, ensuring that the lift arm control lever and mounting plate tilt control lever are in neutral position, and turn off the engine.

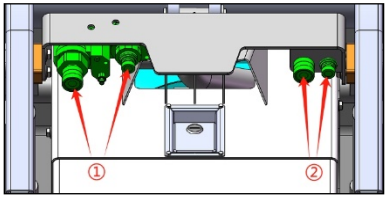
Step 2: Turn the start key to the "ON" position, move the control lever forward, backward, left, and right respectively, and finally return to the neutral position to release residual pressure.

Step 3: Turn the start key to the "OFF" position and remove the key.

Step 4: Remove the hose from the auxiliary hydraulic coupler.

Step 5: Remove the accessory from the machine.

Auxiliary low flow/fuel tank port



The machine is equipped with an additional fuel tank port ① and a low flow auxiliary connector ②. This auxiliary connection design is used for attachments that require low flow, medium closed operation.

The connection and disassembly method of the auxiliary hydraulic connector is the same as the standard connection.

Some accessories that use this standard may have a leakage oil port on the shell for higher flow connectors, which can be directly connected to the oil port ① of the fuel tank.

Operate the machine

Load capacity

According to SAE J2752 and ISO 14397-1 standards, the rated operating capacity of RH1200 is 1000 lb (453 kg).

Attention: Ensure that the total weight of accessories and materials does not exceed the operating capacity of the machine. Materials with higher density are heavier than those with lower density, so reduce the size of the bucket when lifting materials with higher density.

Driving safety

Before driving

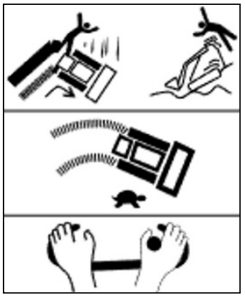
Operators should move the machine at a slower speed before becoming familiar with and proficient in controlling it. When driving on rough terrain or in small areas, please slow down appropriately. The presence of a handheld lever allows the operator to maintain physical stability while using the machine. Always hold your hands firmly on the handle before starting to move the machine. Whenever moving or operating the ground drive control, keep both hands tightly gripping the handle. Before removing your hand from the control lever, return the lever to the neutral position. Before driving or operating a small skid steer loader, please check for personnel or obstacles around the machine.

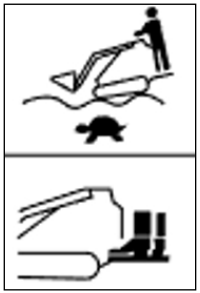
Place both hands on the handle with palms facing downwards, so that the fingers are at the front of the handle and the palms are at the back. Place the joystick between the thumb and index finger, providing a safe grip and good control.

This machine cannot be driven on public roads.

Warning: Sudden starting and uneven terrain may cause the operator to shake off the machine.

- Avoid sudden starting, stopping, and turning
- Grasp the handle tightly with both hands
- Slow down on rugged terrain
- Keep both feet on the platform





Attention: Slowly move the joystick to start moving the machine smoothly. Unless necessary, sudden stops, starts, or turns should be avoided.

Warning: Do not carry passengers.

Carrying passengers may result in falls or even death.

Warning: Obstacles behind may squeeze the operator.

When moving backwards, please pay attention to your back and maintain sufficient safety distance between your body and obstacles.

Attention: When driving around obstacles that may limit visibility, please slow down and be extra careful.

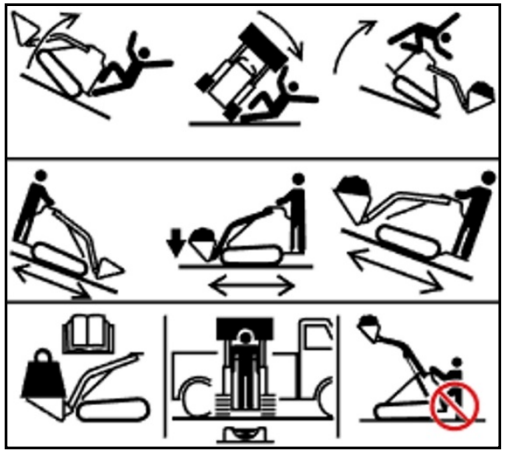
Always drive the machine at a suitable speed.

Warning: If the machine is moved backwards from the ground, the operator's legs may be crushed. Do not move the machine with one or both feet on the ground. You must keep both feet on the pedals. It is necessary to ensure that the foot pedal works properly.

Warning: If the foot pedal is raised during machine operation, the machine will suddenly stop. Sudden stopping at high speeds may cause you to fall off the machine or the machine may tip over. To avoid sudden parking, keep your feet fully on the platform and stand behind the pedals as much as possible. Slow down when driving on uneven ground.

Be extra careful when working on slopes. When operating the machine on a slope, do not cross the slope. When driving over an obstacle, such as a curbstone, if the machine's speed is very fast, it may cause a rollover. Always pay attention to these obstacles and keep the machine moving slowly. If encountering the same object repeatedly, you can build a slope with soil to make the machine travel more smoothly.

Slope safety operation



Warning: Driving on slopes or lifting heavy loads may cause the machine to overturn, which may result in death or more serious consequences.

When going up and down a slope, it is necessary to reduce the load and keep the heavy end at the top of the slope to increase stability.
Do not exceed the rated load capacity.
Load the goods onto a solid and flat platform.
Do not leave the platform while lifting goods.

The safe operation on a slope depends on several factors, including:

Machine weight distribution, including front load or no load

Load height

Flat or rugged ground conditions

Potential ground subsidence leading to unexpected forward, backward, or lateral tilting

Sudden changes in ditches, ruts, tree stumps or other obstacles, as well as slopes

speed

turn a corner

Braking performance

Operator skills

These changing factors make it impractical to specify the maximum safe operating angle in this manual. Therefore, operators must understand these actual situations and adjust their operations accordingly. The maximum engine angle and braking performance are two absolute limits that must not be exceeded, as they are design limitations, not operational limits, and therefore cannot be used alone to establish safe operating angles under different conditions. These maximum values are as follows:

The maximum lubrication angle of the engine is 30 °

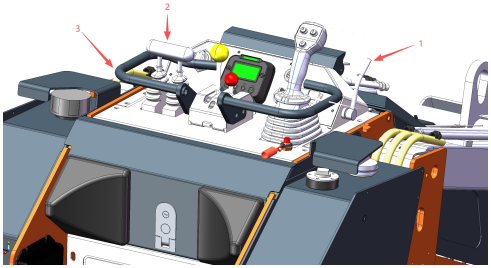
The braking force of the service brake is equal to the traction force of the two tracks

Secondary braking is equivalent to the traction force of one track

The holding force of the parking brake is equal to the traction force of one track

Operating a small skid steer loader

Slowly operate the joystick and move the machine smoothly. Unless necessary, sudden stops, starts, or turns should be avoided.



Step 1: Please refer to "Startup Program" on page 6-1.
Step 2: Move the throttle control lever ① forward and hold it until the desired engine speed is reached.
Step 3: Ensure that the accessory is in the transport position (as low and tilted back as possible).
If the operator leaves the foot pedal, the hydraulic function of the machine will stop. If the accessory lift/tilt control handle is in a floating state, it will continue to descend/float.
Step 4: Use the walking joystick ② to move and operate the machine. Do not forcefully pull the control lever. When operating, grip the lever tightly with both hands to maintain balance.
Step 5: When parking, be sure to follow the shutdown procedure. Follow the 'Shutdown Procedure' on page 7-1. Do not leave the machine while the engine is running or the attachments are being raised or lowered.
The system detects the presence of the operator on the pedal. The operator must stand on the foot pedal to operate the walking, lifting/tilting functions or drive auxiliary attachments.

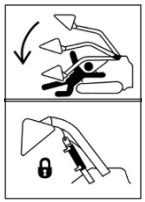
Bucket operation

Bucket - Installation/Removal

Connect and disassemble accessories according to the correct procedure. Please refer to "Attributes" on pages 9-8.

Safety precautions

Warning: Do not work under lifting arms/attachments unless there is sufficient support to prevent accidental descent.



Warning: Falling lifting arms can injure operators and even cause more serious consequences.

When repairing the machine under the lifting arm, it is necessary to use safety braces to secure the lifting cylinder.

Mobile machine with load

- When moving the machine with the bucket full, move it up/down the slope with the load (the heavy end of the machine) facing the top of the slope; When the bucket is moving the machine without load, the posture of the bucket (the light end of the machine) facing the bottom of the slope up/down the slope.
- Keep the bucket level and as low as possible (transport position), and raise it only to avoid ground obstacles.
- Pay attention to the terrain, avoid slopes and bumps, or depressions that may make the machine unstable. When feasible, drive directly on slopes or road edges.
- Do not overload. Please refer to "Load Capacity" on page 10-1.
- Avoid double stacking loads. Any load that may move during the fixed movement process.
- This section provides additional security information. Please refer to "Driving Safety" on page 10-1.
- Do not leave the operating foot pedal when the loader arm or attachments are raised. After the operator leaves the foot pedal, the stability of the machine decreases, which may cause the machine to tilt forward.
- Bring the load as close to the ground as possible to improve machine stability, load stability, and visibility ahead.
- Under certain loads, visibility ahead may decrease. When driving a machine, it may be necessary to use an observer to assist in observing the road conditions ahead.

Fill the bucket to capacity

Step 1: Fully lower the lifting arm.
Step 2: Tilt the bucket forward until the blade of the bucket touches the ground and the bottom of the bucket is level with the ground.
Step 3: Slowly move the machine forward, shovel the material into the bucket, and gradually tilt it backwards when the bucket is full.
Step 4: Move the machine backwards away from the material.

Warning: Cliffs and high embankments may hit you. Be careful when working on cliffs and do not dig holes underneath. Be careful of falling rocks and soil.

Digging with a bucket

Step 1: Fully lower the lifting arm.

Step 2: Tilt the bucket forward until the blade of the bucket touches the ground.

Step 3: Slowly move the machine forward while continuing to tilt the bucket downwards until it reaches the desired depth on the ground.

Step 4: Slightly tilt the bucket backwards to increase traction and maintain a uniform excavation depth.

Step 5: Continue driving the machine forward until the bucket is full. If the ground is hard, tilt the bucket slightly forward and backward repeatedly while driving slowly forward.

Step 6: When the bucket is full, tilt the bucket completely backwards.

Empty the bucket

Step 1: When the bucket is in the transport position, move the machine to the dumping site.

Step 2: Lift the lifting arm to a suitable height above the truck box or silo, while tilting the bucket to prevent the load from overflowing. Always load on a solid and level ground.

Step 3: Slowly move the machine forward until the bucket is above the truck box or bin, while avoiding turning when the load is raised. Turning can cause the load to move laterally, which may make the machine unstable. If you need to turn, use a smooth turning motion to move slowly.

Step 4: Tilt the bucket forward until it is empty. If necessary, use a bucket to redistribute materials from truck bins or garbage bins.

Step 5: After unloading the goods, place them back far enough away from the truck or container and lower the bucket. Lowering the bucket before turning will lower the stability of the movement of the machine when the bucket is raised.

Bucket towing

Step 1: Push the lift/tilt joystick completely forward to the floating position.

Step 2: Tilt the bucket downwards until the blade is in contact with the ground.

Step 3: Move the machine in reverse to level loose material.

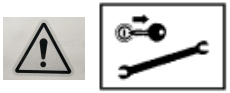
Step 4: Before moving forward, raise the loader arm or tilt the bucket backwards to lift the bucket blade off the ground.

Backfilling with bucket

Step 1: Fully lower the lifting arm.
Step 2: Use the lift/tilt control device to tilt the bucket forward until the blade of the bucket touches the ground.
Step 3: Move the machine forward to the edge of the hole or groove and push the material into it.
Step 4: Once the bucket blade exceeds the edge of the hole or groove, tilt the bucket forward to dump the material out of the bucket.
Step 5: If necessary, raise the lifting arm and tilt the bucket forward to clear the bucket.

Warning: The weight of the machine may cause the ground to collapse. The machine may fall or overturn, which may result in death or serious injury. During construction, stay away from the edge of the cliff. Be careful when backfilling, don't get too close to the edge. Do not drive or operate on unstable ground.

Maintenance interval



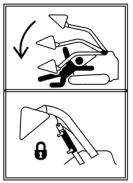
Warning: When maintaining, cleaning, inspecting, or transporting the machine, the engine must be turned off. Follow the "Shutdown Procedure" on page 7-1.

Before starting the machine for the first time every day, take a detour to check the machine and repair it immediately if necessary.
Unless specifically recommended by Kenshi Company, no modifications may be made to your device.

Safety sign maintenance -100 hours per month

The safety signs on the machine contain important and useful information that can help you operate the equipment safely.
To ensure that all safety signs remain in place and in good condition, please follow the following instructions: keep the safety signs clean, use soap and water to clean the signs, rather than mineral spirits, abrasive cleaners, or other similar cleaners that can damage the signs.
Replace any damaged or missing safety signs. When installing safety signs, the temperature of the installation surface must be at least 40 ° F (5 ° C), and the installation surface must also be clean and dry. When replacing machine components with safety signs, the safety signs should also be replaced.
Safety signs can be purchased from Kenshi equipment dealers.

Installation/removal of safety strut for lifting arm



Warning: A falling lifting arm may crush the operator and even cause more serious consequences.
Before disconnecting and disassembling hydraulic components or working under the lifting arm, completely lower the loader arm or install the lifting arm safety brace.

Before working under the raised loader arm, be sure to clear the attachments and install safety braces.
Step 1: Lower the lifting arm, remove the R-pin ①, take out the safety brace ② (as shown in Figure 1), and then insert the R-pin back into its original position.
Step 2: Lift the lifting arm to the highest position and install the safety brace on the lifting cylinder rod ③. (As shown in Figure 2)
Step 3: Lower the lifting arm appropriately to clamp the safety strut of the oil cylinder.
Step 4: Turn off the engine and follow the shutdown procedure on page 7-1.
Step 5: After completing the assignment, retract the safety brace back to its original position and secure it with an R-pin.

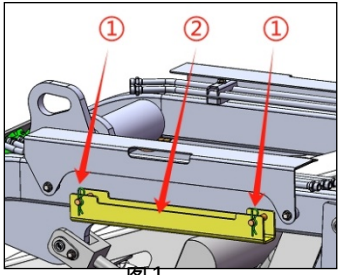


图1

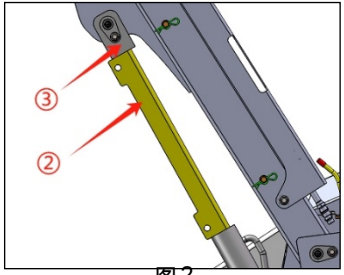


图2

lubricate a machine

In general, the working device should be lubricated after the machine finishes a day of work, which can protect the metal parts under the seal from corrosion caused by condensation when the temperature drops. Before applying grease, ensure that all oil cups and grease applicator nozzles are clean. If any grease filling port is missing, please replace it immediately.

Welding precautions - review

Attention: Welding can damage electronic components. Using a battery disconnect switch to disconnect the battery power will not prevent component damage.

Check the hourly schedule for maintenance intervals

The hour table is used to determine the maintenance cycle of the machine, and it indicates the total number of hours the engine has been running.

The maintenance interval should be based on normal operating conditions, and the maintenance interval time should be shortened when operating under harsh conditions.

Maintenance Interval Schedule

Initial=Initial maintenance of the new machine.

Regular maintenance intervals may vary.

•=Regular maintenance intervals.

For Kenstone repair and replacement part numbers, please call your Kenstone dealer.

project	8 hours per day	50 hours per week	100 hours per month	150h	200h	250h	500h	1000h	2000h	when needed
engine maintenance	•									
Engine Oil - Check	•									
Engine coolant level - check	•									
Fuel Tank - Refueling diesel engine	•									
Hydraulic Oil - Check	•									
Air Filter Inspection/Repair	•									
Machine - Lubricating grease	•									
Working device pivot lubricating grease	•									
Track condition - inspection	•									
Engine maintenance		•								
Engine oil and filter initial replacement		initial								
Track tension - check		•								

Project	8 hours per day	50 hours per week	100 hours per month	150 hours	200hours	250hours	500hours	1000hours	2000hours	when needed
Hydraulic oil return filter element - first two replacements				initial		The second				
Hydraulic oil return filter element - regular replacement							•			
engine maintenance			•							
Maintenance of safety signs			•							
Machine - Overall Inspection			•							
Control joystick and joystick - check			•							
Check the neutral position			•							
Neutral start interlock - check			•							
Operator present system - check			•							
Operator platform lubricant			•							
Hydraulic System - Inspection			•							
System Hydraulic - Release			•							
Parking Brake - Check			•							
Lubrication of supporting wheel/guide wheel axle					•					
Engine maintenance					•					
Hydraulic Oil Cooling Fan - Inspection/Repair					•					
Engine oil/filter replacement/change (diesel engine)					•					
Engine Oil/Filter - Change/Replace (Gasoline Engine)					•					
Hydraulic Filter - Replace						•				
Engine maintenance							•			
Battery electrolyte level and terminals - check							•			
Electrolyte Level - Check							•			

Project	8 hours per day	50 hours per week	100 hours per month	150 hours	200hours	250hours	500hours	1000hours	2000hours	when needed
Battery terminals - clean							•			
Fuel Filter - Replace							•			
gas engine							•			
diesel engine							•			
Engine System - Inspection								•		
Hydraulic oil - replace								•		
Hydraulic oil - discharge								•		
Filter - Service								•		
Filter - Installation								•		
Hydraulic oil tank - filling								•		
Hydraulic oil suction filter - clean/replace									•	
Engine Cooling System Emissions and Cleaning									•	
Engine System - Inspection										•
Engine Cooling System Emissions and Cleaning										•
Primary/Secondary Air Filter Cartridge - Replace										•
Battery - Replace										•
Track tension - adjustment										●
Armrest - Adjust										●
storage										●
Prepare for storage										●
Cleaning machines										●
Remove from storage										●

Engine fault code

Engine fault code (gasoline engine only)

For more information on understanding and recording engine fault codes displayed on the tachometer LED and appropriate remedial measures, please refer to the engine operation manual. Please make sure to contact your Kenstone dealer or engine service dealer for assistance in correcting engine diagnostic codes.

The first part of the code is a six digit Suspected Parameter Number (SPN) used to identify the faulty system or component, followed by a two digit Fault Mode Recognizer (EMD cnde) used to determine the fault type (e.g. high temperature). To determine the exact fault, two parts of the code are required.

SPN	FMI	describe	corrective action
106	16	MAP high pressure	Check the wiring of the fuel pump and pressure sensor
106	4	MAP low pressure	Check the circuit/contact the repair dealer
94	3	FP high voltage	Contact a repair dealer
94	4	FP low voltage	Contact a repair dealer
94	0	High fuel pressure	Contact a repair dealer
94	1	Low fuel pressure	Check the layout of fuel pipelines and fuel filters/pumps
168	15	Battery voltage too high	Contact a repair dealer
168	17	Low battery voltage	Contact a repair dealer
1079	4	Sensor power supply voltage 1 low	Check the circuit/check the condition of the battery
1080	3	Sensor power supply voltage 1 high	Check the circuit/contact the repair dealer
51	3	TPS1 signal voltage too high	Check wiring/contact repair dealer

SPN	FMI	describe	corrective action
51	3	TPS1 signal voltage low	Check wiring/contact repair dealer
3673	4	TPS2 signal voltage low	Check wiring/contact repair dealer
91	3	EPP1 voltage too high	Check wiring/contact repair dealer
91	4	EPP1 voltage low	Check wiring/contact repair dealer
100	1	low oil pressure	Check the engine oil level and contact the repair dealer
4237	0	Adaptive learning cylinder bank 1 high (gasoline)	Please contact the repair dealer
4237	1	Adaptive learning cylinder bank 1 low (gasoline)	Please contact the repair dealer
4236	0	Closed loop cylinder group 1 high (gasoline)	Please contact the repair dealer
4236	1	Cylinder bank 1 closed-loop low (gasoline)	Please contact the repair dealer
3050	11	Gasoline Catalyst (Group 1)	Please contact the repair dealer
3217	5	Catalyst not activated in gasoline (cylinder bank 1)	Check wiring/contact repair dealer
3227	5	EGO1 open circuit/inert	Check wiring/contact repair dealer
632	31	EGO2 open circuit/inert	Please contact the repair dealer
1348	4	Fuel depletion time exceeds expectations	Check the wiring of the fuel pump and pressure sensor
723	4	Fuel pump relay ground short circuit	Please contact the repair dealer
723	2	Camshaft input signal loss	Please contact the repair dealer
636	8	Camshaft input signal noise	Please contact the repair dealer
629	30	During start-up, the crankshaft and/or cam cannot synchronize	Check wiring/contact repair dealer

Please refer to the engine manual and contact your Ken Stone repair dealer for more codes and information.

EC符合性声

明

EC DECLARATION OF CONFORMITY

Original Declaration

MANUFACTURER:	
Name:	Shandong Ken Stone Heavy Machinery Co., Ltd.
Address:	South of National Highway 309#, Dingyuanzhai Town, Guanxian County, Liaocheng City, Shandong Province, China

AUTHORIZED REPRESENTATIVE:
BENEREX S.R.O,
CELADNA 221, 739 12, CZECH REPUBLIC- EUROPE
AUTHORIZED TO HOLD TECHNICAL FILE ON BEHALF OF MANUFACTURER ABOVE

HEREBY DECLARES THAT THE BELOW MENTIONED MACHINE:

DESCRIPTION OF MACHINERY	
PRODUCT NAME:	COMPACT LOADER
MODEL/TYPE:	KS1000
SERIAL NO.:	24041000001
MANUFACTURER YEAR:	2024

IN ACCORDANCE WITH:

MACHINERY DIRECTIVE	2006/42/EC EN 474-1:2022; EN 474-3:2022+AC:2022
EMC DIRECTIVE	2014/30/EU EN ISO 13766-1:2018; EN ISO 13766-2:2018

AS WELL AS TO THE FOLLOWING OTHER DIRECTIVES AND THE CORRESPONDING NATIONAL REGULATIONS:

NOISE DIRECTIVE	2000/14/EC & 2005/88/EC, DLGS 262/02

EQUIPMENT ACCORDING TO THE DEFINITION GIVEN BY ANNEX I, ITEM 37 OF NOISE DIRECTIVE.
CONFORMITY ASSESSMENT PROCEDURE FOLLOWED: ANNEX VII OF 2000/14/EC
NOTIFIED BODY: EUROPEAN CERTIFYING ORGANIZATION S.P.A. NB 0714, VIA MENGOLINA 33, FAENZA(RA), ITALY
HOLDER OF THE TECHNICAL DOCUMENTATION: MANUFACTURER
MEASURED SOUND POWER LEVEL: 91 dB(A)
GUARANTEED SOUND POWER LEVEL: 92 dB(A)

SIGNED ON BEHALF OF: Shandong Ken Stone Heavy Machinery Co., Ltd.

STAMP&SIGNATURE:
NAME: CHEN XIAOHUI
POSITION: QUALITY DIRECTOR
PLACE: LIAOCHENG, CHINA
DATE: 31 May 2024