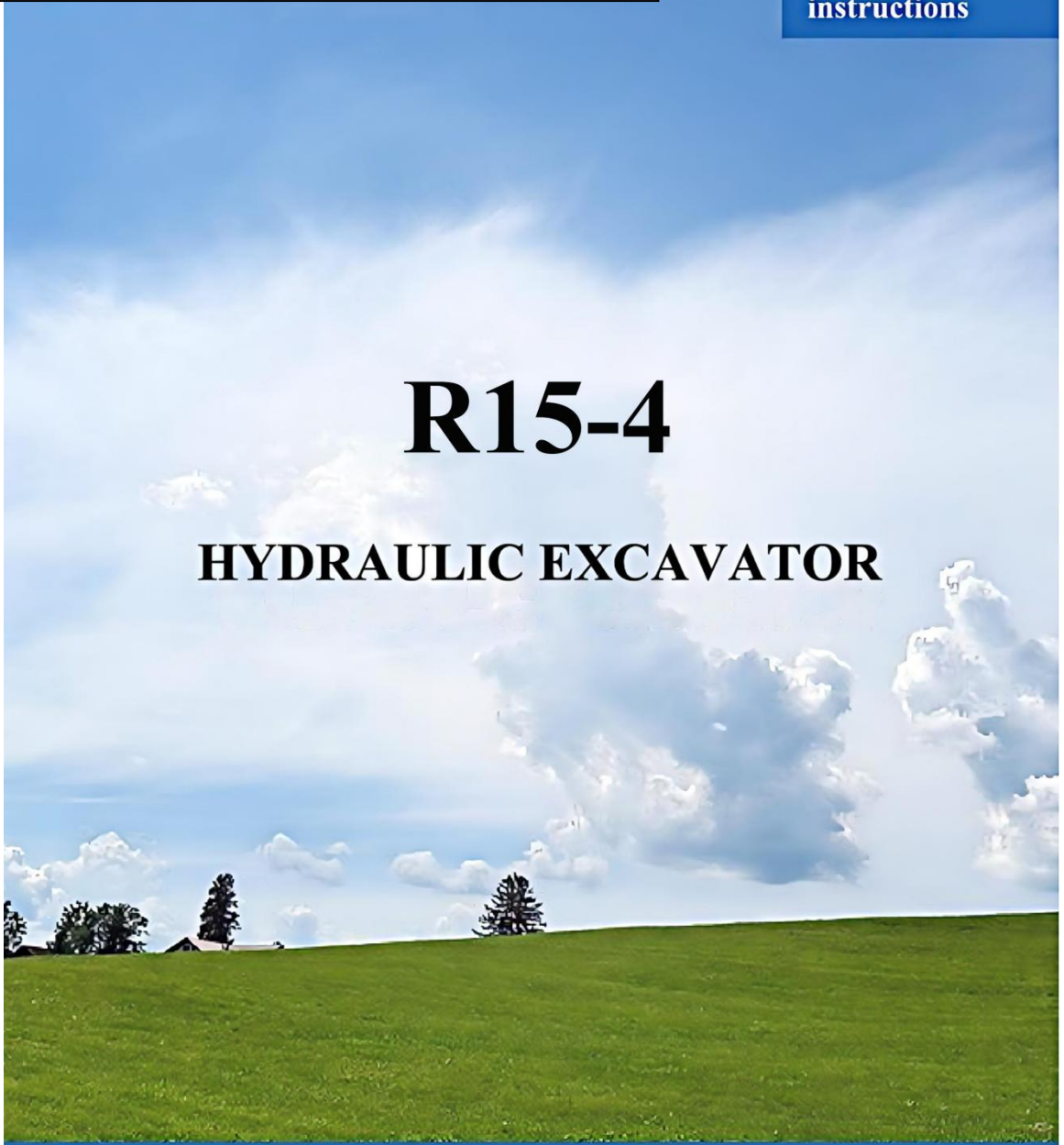


Operation and maintenance instructions

First edition

instructions



R15-4

HYDRAULIC EXCAVATOR

Warning:Unsafe use of this machine may cause serious injury or death.Operation and maintenance personnel must read this manual before operating and maintaining this machine.This manual should be placed near the machine for timely reference and all personnel related with this machine should consult this manual regularly.

Name:Shandong Rippa Machinery Group Co.,Ltd.

Address:No.6 industrial Park,No.2166 Chongwen Avenue,High Tech Zone,Jining City,Shandong Province,P.R.Chine

R15-4

Operation and maintenance description of hydraulic excavator

Warning: Unsafe use of this machine may cause serious injury or death. Operation and maintenance personnel must read this manual before operating and maintaining this machine. This manual shall be placed near the machine for timely access and all machine-related personnel.

Shandong Rippa Machinery Group Co., Ltd

**No.6 Industrial Park, No.2166, Chongwen Avenue, High-tech Zone, Jining City,
Shandong Province**

Before the machine can be used or repaired, the relevant information must be approved, and the company's technical service station can be contacted if necessary. When purchasing accessories, please indicate the factory date and number of the excavator.

To facilitate your use, the company has established a perfect "three guarantees of technical service network". If during the warranty period, you buy our small agricultural excavator under the correct use of quality problems, please contact the local excavator's three insurance maintenance service stations.

Due to the continuous innovation of product technology, this manual reserves the right to interpret and modify.

If the actual product does not match with pictures in this manual, the physical object shall prevail.

Warn! This machine shall not be used for the following purposes:

- Lifting operation;
- Lifting operation (additional protection should be installed);
- Disassembly (if used as a disassembly machine, a protective device shall be installed);
- Areas at risk of falling objects (no top guard or FOPS installed)
- Unhealthy areas, such as contaminated areas;
- Lightning climate.

The EC qualification declaration	57
List of accessories and spare parts	58

Chapter 1 Safety precautions and safety identification

1.1 Safety precautions

General preventive measures

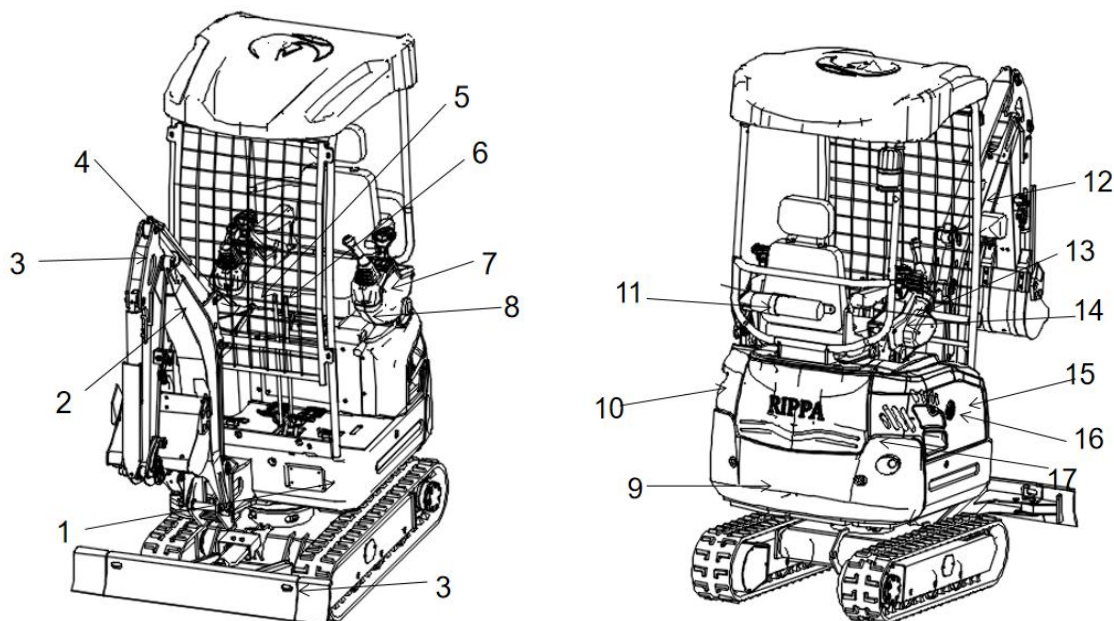
Observe safety regulations and laws and operate, inspect, and maintain the machine as required by the manufacturer.

1.2 Safety Identification Tips

Use the following warning signs and safety signs.

1. Be sure to fully understand the correct location and content of the logo.
2. To ensure that the identification is visible, ensure that the identification position is correct and keep it clean. When cleaning the label, do not use organic solvents or gasoline, otherwise it will peel off.
3. Besides warning signs and safety signs, there are other signs treated in the same way.
4. If the identification is damaged, lost, or invisible, replace it. Please refer to this manual or actual identification and send the order to the factory.

1.3 Location of safety identification



(1) Pay attention to the machine running noise of 93dB



△ Warning: Under certain specific operating conditions of the machine, the actual noise value may be different from that determined using the noise test code.

The measured A-weighted emission acoustic power is 92 dB (A).

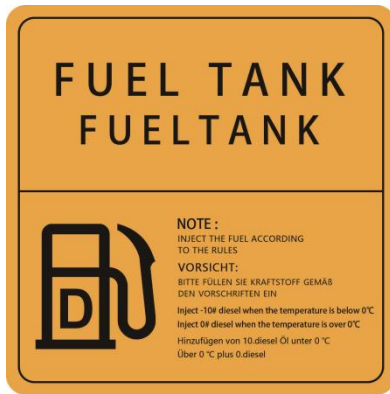
The guaranteed sound power is 93 dB (A).

The uncertainty of the noise emission value is 3.5 dB.

(2) Brand models



(3) Hoisting position



△ Refueling at the specified location.

△ The engine should be closed when refueling and should be kept away from all open fires.

(16) Hydraulic oil filling port



(17) Never stand within the operating range



△ It is strictly prohibited to stand within the operating scope of the machine.

△ Note the rotation radius of the machine.

△ Do not damage or remove the marks on the machine.

fire-proof and explosion-proof

The fire is caused by fuel oil or engine oil



Fuel oil, oil, antifreeze, and window cleaners are very flammable and dangerous. To prevent a fire, the following provisions must be observed:

1. Do not smoke or use any open flame near the fuel or engine oil.
2. Turn off the engine before refueling.
3. Do not leave the machine when adding the fuel and engine oil. Fuel and machine tank caps are tightened.
4. Do not let fuel splash on overheated surfaces or components of the electrical system.
5. Oil or store oil in well-ventilated places.
6. The oil or fuel oil shall be stored in designated places and shall not be entered without permission.
7. After adding fuel or oil, erase the spilled fuel or oil. When grinding or welding on the lower car body, the flammable materials should be transferred to a safe place before starting.
8. When cleaning parts with oil, you should use non-flammable oil, diesel oil and gasoline are easy to catch fire, so do not use them.
9. Place tarpaulin or other flammable items in safety containers to ensure site safety.
10. No welding or cutting of pipes filled with flammable liquids.

Fire caused by the accumulation of flammable substances

Remove dry blades, wood chips, paper, dust, or other flammable substances that accumulate in or around the engine, exhaust pipe, muffler, battery, or hood.

Sigsignals and gestures of signalmen

1. Set up signs on an embankment or a soft ground. If the sight is not good, arrange a signalman if necessary. The operator should pay special attention to these signs and follow the instructions of the signalman.
2. Can only be sent by one signaler.
3. Before starting work, make sure all workers know all the signals, gestures, and cab emergency exits.

If inhaling asbestos dust in the air can cause lung cancer. There is a risk of inhaling asbestos when engaging in dismantling operations or handling industrial waste in the workplace. One of the following rules must be followed.

- (1) When cleaning, spray water to reduce dust, do not use compressed air cleaning.
- (2) If the air may contain asbestos dust, the machine must be placed in a prominent position, and all personnel should use qualified dust masks.
- (3) During the operation process, other personnel shall not approach it.
- (4) Abide by the rules regulations and environmental standards of the work site.

once there are water and other impurities in the key, can lead to the lock core stuck or an internal short circuit, damage the starter, so in the rainy day or wet, dust outside more environment to avoid parking keys for a long time, if you need to park must take protective measures to the key.

Special note: the diesel engine can not start after 10 seconds, please wait 15 seconds before starting (continuously starting the power supply for a long time leads to a lot of battery consumption, and the starter may burn out). The above phenomenon may cause the starter damage.

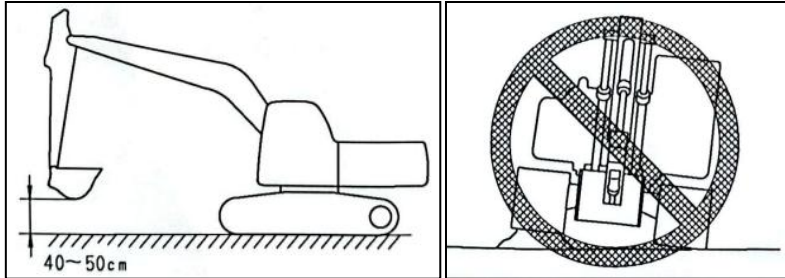
Winter start mode: the model has the preheating function. When the weather is too cold, the key switch must be turned backward and stored for 8~10 seconds (can not be used for a long time, otherwise the battery will cause power loss), and then start the engine normally.

After startup, the power master switch and the 1-gear key are turned on, otherwise the battery cannot be charged.

After starting the engine, the following operations and inspections shall be performed where there are no personnel or obstacles. If a fault is found, stop down and report the fault according to the procedure.

1. Preheat the engine and the hydraulic oil for 5-10 minutes.
2. Check the instrument and alarm equipment for normality.
3. Check it out for any noise.
4. Test the engine speed.
5. Do not use ether or starter fluid on the engine. Starting fluid may lead to explosion and serious injury or even death.
6. Preheat the engine and the hydraulic oil. If the control lever is operated without preheating, the machine will not be able to react or move quickly or accurately, causing an accident.

3.11 Safety precautions for travel



1. When walking on flat ground, the working device shall be 40~50cm (16~20 inches) above the ground.
2. When walking on rugged ground, walk at a low speed, and do not suddenly operate the steering, so as not to cause the danger of machine rollover. The working device will hit the ground, take the machine out of balance, and damage the machine or structure.
3. When walking on rough ground or steep slopes, if the machine is equipped with an automatic deceleration device, turn the automatic deceleration switch off (cancel). If the automatic downshift switch is turned on, the engine speed will increase and the walking speed will suddenly increase.
4. Try to avoid walking on the obstacles, if the machine must walk on the obstacles, keep the working device close to the ground and walk at a low speed.
Do not walk fast on the road.
5. Always keep a safe distance from people, buildings, or other machines and avoid contact with them.
6. When passing through a bridge or building, first check whether the structure is strong enough to support the weight of the machine.
7. When walking on the highway, first ask the relevant authorities to check and follow their instructions.
8. When operating in tunnels, under bridges underwires, or in other places of limited height, operate slowly and take special care not to let the working device touch anything.

when transporting the machine, please contact the factory for this work.

3.18 Installation and unloading of the machines

When loading and unloading the machine, the machine frequently turns or falls, so special care must be taken. The following must be done:

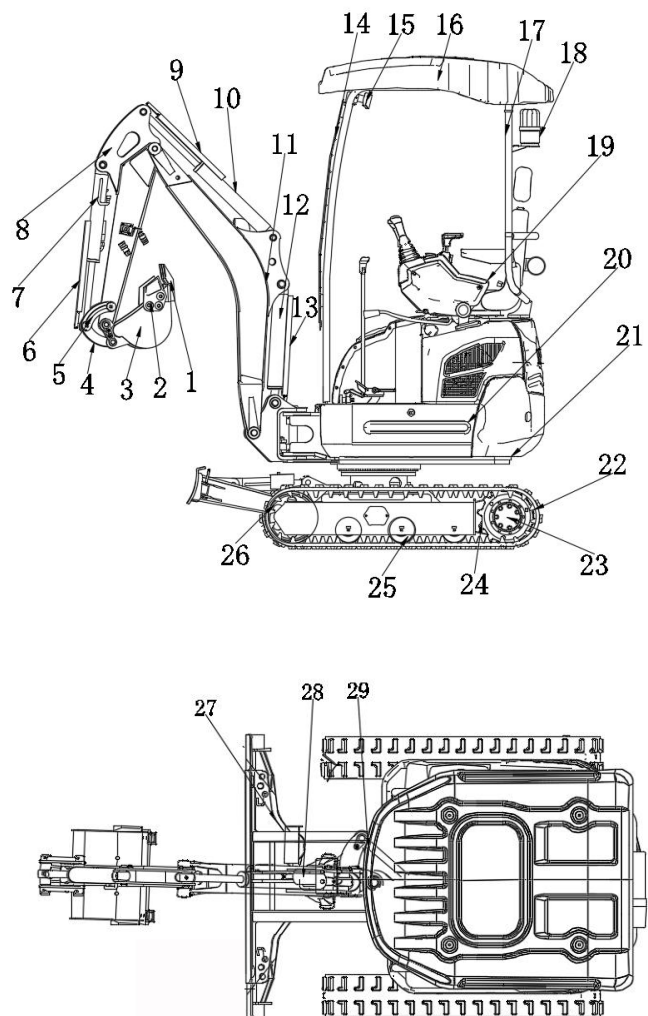
1. Can only be installed and unloaded on hard, flat ground. Keep a safe distance from the roadside or from the cliff edge.
2. Do not install or unload the machine together with the working equipment. The machine is at risk of falling or overturning.
3. Use a springboard with sufficient strength, to ensure the width, length and thickness of the springboard to provide a safe handling slope.
4. Ensure that the springboard surface is clean and free of grease, oil, ice, and loose material. Remove the dirt from the machine tracks. Especially on rainy days, because the surface of the springboard is very slippery, be extra careful.
5. Close the automatic deceleration switch (the automatic deceleration function is canceled). Start the engine at a low speed and drive slowly. When on the springboard, do not operate any control lever other than the walking bar.
6. Do not correct the direction on the springboard. If necessary, drive out of the springboard, correct the direction, and then drive back to the springboard. At the connection of the springboard to the track or trailer, the center of gravity of the machine suddenly changes, putting the machine in danger of losing its balance. Slowly pass through the junction.
7. When loading and unloading on the subgrade or platform, ensure that the subgrade or platform has the appropriate width, strength, and slope. When turning the superstructure of the trailer, the trailer is unstable, making the working device exit and rotate slowly.
8. Machine equipped with the cab, install the machine and lock the doors. If not, the cab door will suddenly open during transit.

Chapter 4: Basic parameters of the excavator

4.1 Basic parameters

Name of the major structural part (R15-4)

order number	name
1	cardinal tooth
2	dens lateralis
3	bucket
4	connecting rod
5	rocking bar
6	Dig bucket cylinder guard plate
7	Dig bucket cylinder
8	dipper
9	Dunk cylinder guard plate
10	The bucket pole cylinder
11	swing arm
12	Move the arm cylinder
13	Move the arm cylinder guard plate
14	Ceiling protection net
15	Central control rearview mirror
16	Plastic ceiling cover
17	platform
18	caution light
19	seat
20	shield
21	After the weight
22	track
23	Walking motor
24	driving wheel
25	thrust wheel
26	Guide the wheel
27	dozer blade
28	Push soil oil cylinder



5. 4 The engine will not catch fire when the diesel fuel runs out

Once the fuel runs out and cannot catch fire, first replenish the fuel, and then use the oil pump to inject a certain amount of fuel into the engine supply pipe.

Chapter 6: Maintenance and Maintenance

6.1 Notes for maintenance

Engine maintenance

As the main power system of the excavator, the engine needs to be maintained according to the Engine Operation Manual carried by the vehicle. Maintenance in strict accordance with the provisions of the engine operation manual can effectively improve the service life of the engine and reduce the occurrence of faults.

The main maintenance content mainly includes the following parts:

1. Engine run-in period care.
2. Oil replacement cycle, and supplement (the oil will be slowly consumed with the use of the machine, so it is necessary to regularly check the amount of oil, not refueling, and wait until the next replacement, the oil is insufficient and needs to supplement in time, otherwise it will cause serious consequences such as pulling cylinder, the engine damage caused by insufficient oil manufacturer will not warranty).
3. Replacement cycle of the oil filter and the diesel filter element.
4. Air filter element replacement cycle. When inspecting or maintaining the machine, mark the "Do not operate" warning message to prevent an unauthorized person starts the engine or touches the control handle. Before repair, turn off the engine, remove the key, and carry it around. Mark the "Do not operate" warning message in a prominent position such as the start switch or control lever.

Use the right tool

Do not use damaged or poor-performance tools or tools designed for other purposes. Use tools suitable for the relevant work.

Replace the safety-key components regularly

1. Ensure that the machine can be used safely for a long time, regular refueling, and check and maintenance. To improve safety, please replace the hose, safety belt, and other safety key components regularly.
2. "Safety critical components replaced regularly" are parts that undergo aging, wear, and functional degradation after reuse and whose performance changes over time. These characteristics of such parts can cause serious mechanical damage or personal injury, and it is difficult to judge the remaining service life only by visual inspection or operation feel.
3. If there is any damaged visual appearance, replace the "safety-critical replacement", even if the specified replacement interval is not reached.
4. Replace the fuel hose regularly. Fuel hoses wear over time, even in the absence of any wear symptoms.
5. Replace any wear symptoms, regardless of the replacement schedule.
6. Check and maintain the machine regularly. The following safety-critical components must be replaced regularly to improve safety. Damage to these parts can cause serious personal injury or fire.

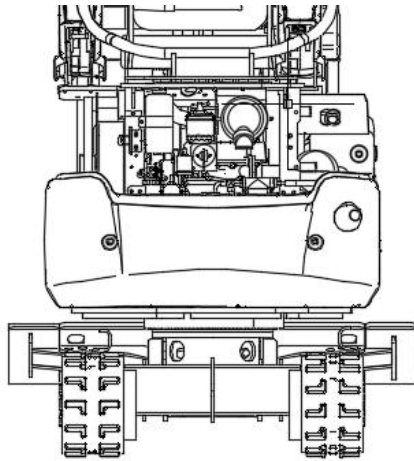
List of key safety components

main body	Safety-critical components for regular replacement		replacement time
fuel system	fuel line		Every two years
	Filler on the fuel tank cover		
hydraulic pressure system	main pump	Hydraulic pipe (pump outlet)	Every two years
		Hydraulic pipe (pump suction port)	
		Hydraulic pipe (swing motor)	
		Hydraulic pipe (stroke motor)	
	working equipment	Hydraulic pipe (boom oil cylinder pipe)	
		Hydraulic pipe (rod-cylinder pipe)	
		Hydraulic pipe (bucket oil cylinder pipe)	

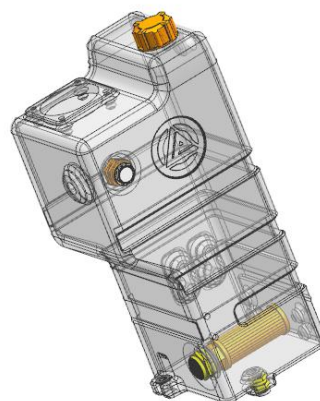
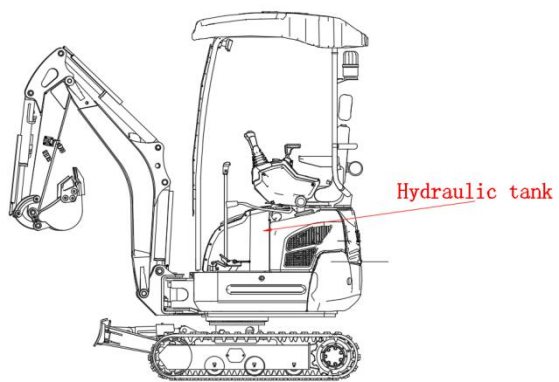


6. 6 Method of replacing the filter element

As shown in the figure below, when the JBT engine replaces the filter element, the rear cover of the excavator should be opened first, and all the filter elements can be seen after opening. Remove the cover shell on the filter element with a wrench and then remove the filter element for replacement.



The hydraulic fuel tank has a built-in filter element. Remove the right cover before replacing the filter cartridge. At this time, the hydraulic oil tank and the pipeline leak outside. Use the wrench to remove the oil pipe and screws at the return line, open the oil tank cover, and take out the old filter element. Install the new filter element, connect it back to the oil pipe, and check whether the pipe is tightened and the filter element is replaced.



The EC qualification declaration

editio princeps

manufacturer:

Name: Shandong Libao Machinery Group Co., LTD
Address: No.6, Industrial Park, No.2166, Chongwen Avenue, High-tech Zone, Jining City, Shandong Province

Authorized representative:

23566, Lubecwa, De West, Germany

Authorized to keep the technical documents on behalf of the above manufacturer

We hereby declare that the following machines are described below:

Machine description

Product name: HYDRAULIC CRAWLER EXCAVATOR
Model / Category: R15-4
Serial number:
Date of manufacture:

Voucher:

Mechanical instructions	2006/42/EC EN 474-1:2022; EN 474-5:2022
ELECTROMAGNETIC COMPATIBILITY INSTRUCTIONS	2014/30/EU EN ISO 13766-1:2018; EN ISO 13766-2:2018

And the following other directives and the corresponding national regulations:

Noise instructions	2000/14/EC & 2005/88/EC, DLGS 262/02
--------------------	--------------------------------------

Equipment as defined in Annex I, Item 20 of the Noise Directive.

Conformity assessment procedure followed: 2000 / 14 / EC

Announcement Body Annex viii: European Certification Organization S. P. A NB 0714, via MENGOLINA 33, FAENZA (RA), Italy

Technical Document holder: Manufacturer

Measuring noise grade: 92 dB (A)

Guaranteed noise level: 93 dB (A)

Signed on behalf of Shandong Lipai Machinery Group Co., LTD.

Seal & Signature:

Name:

Post:

Address:

Date:

List of accessories and spare parts

Annex list

Annex list

1. Footpads

2. Accessories

Accessories name	quantity	type
		R15-4
14 Inch Toolbox	1	○
Right Angle sleeve	1	○
grease gun	1	○
shifting spanner	1	○
hold-all	1	○
Filter filter element wrench	1	○
inner hexagon spanner	Group 1	○

3. Random files

- ①. One operation and maintenance manual
- ②. Three packages of service vouchers: 1 copy
- ③. One qualification certificate
- ④. Engine manual: 1 copy