

Self-propelled Boom Sprayer

INSTRUCTIONS

Shandong Zhongrun shuntai machinery technology co., Ltd.

Please pay attention:

Thank you for purchasing the 3WPZ self-propelled boom sprayer of Shandong Zhongrun Shuntai machinery technology Co., Ltd. This machine uses the high gap front and rear drive axle with invention patent and the professionally designed walking wheel to adapt to the spray operation of high stalk crops. Spray system adopts gear pump with long life, simple operation and maintenance, large amount of spray, stable pressure and good spray effect; Lifting arm open spray rod and imported nozzle, widely applicable, good atomization effect, spraying no dead Angle and other excellent performance characteristics, popular with the majority of rural farmer customers.

The special structure and professional manufacturing level of the machine has good performance characteristics, widely used in dry field, paddy field crops, such as wheat, rice, cotton, tobacco, vegetables and other crops pest control. This machine has a large capacity of pesticide storage box, and is equipped with automatic stirring device and pressure limiting device, which makes it safe and reliable and can be used for large area and long time spraying of field crops.

In order to use this machine safely, please read this instructions carefully before use.

- Please pay attention to the safety signs and words when reading the instructions

WARNING

-- personal safety. Represents a potentially dangerous situation that could result in death or serious injury if not avoided.

ATTENTION

-- personal safety. Represents a potentially dangerous situation that, if not avoided, could cause low or moderate harm. It is also used as a reminder to avoid unsafe operations that could cause personal injury.

IMPORTANT ITEMS

-- related to machine performance or service life. Failure to comply will reduce machine performance or shorten machine life.

NOTE

-- supplementary information.

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I. Safety precautions and warning signs

1. When driving on the road, the machine and tools should comply with traffic regulations. Before driving on the road, check whether the lights, horns, brakes and emergency braking functions are perfect and ensure that the spray rod is in folded state.

2. Sound sirens when starting, lifting and folding and unfolding the spray rod.

Irrelevant person is forbidden to stand on the machine during transportation and operation.

3. Before starting, check whether the buttons are normal and be familiar with the operation rules. After starting, the operator should not brake sharply and accelerate suddenly. After flameout, pay attention to brake and lock the parts.

4. The operator should have the sense of self-protection and be well protected during operation. During operation, the operator should not drink, eat or smoke to prevent poisoning. If uncomfortable symptoms appear, seek medical attention immediately

5. It is strictly forbidden to check and maintain the machine without extinguishing the fire. If there is any fault in the operation, it is necessary to stop the machine to extinguish the fire, close the liquid pesticide pump, and then do the inspection. The machine should be placed on the flat ground during maintenance.

6. During the operation, no one is allowed to stand below the spray rod or within the spraying range, and no one is allowed to enter the pesticide box. Residual liquid should not be discharged at will, and should be treated according to environmental protection regulations.

7. When handling pesticides, safety signs provided by pesticide manufacturers shall be observed. The use of strong acid, strong alkali, strong corrosive, highly toxic and other special working fluids is prohibited.

8. Pay attention to the safety warning signs on the machine and ensure that they are clean and intact.

9. The spray rod folding machine may produce extrusion and shear risk when folded and unfolded so no one is allowed to stand within 8 meters when the machine is working.

10. Pay attention to the maximum working height of the machine to avoid the danger of overhead high-voltage wires.

11. Brake immediately if the moving parts are involved during the operation.

Important items:

Before using this machine, enough gear oil must be added to the spray pump box! Otherwise serious damage will be caused to the machine!



Please keep a safe distance from the machine.
The sign is posted on both sides of the machine.



When folding and unfolding the spray rod, prevent head, hand and body injury and shear injury
The sign is posted on the folds of the spray rod respectively.



Personnel are not allowed to enter the pesticide box except for maintenance.
The sign is posted at the entrance of the pesticide box.



Keep away from fire
This sign is posted on the fuel tank



When the machine is maintained,
turn off the engine and pulled out the key
This sing is posted at the engine switch



During the operation, avoid getting involved in the drive shaft
This sign is posted at the drive shaft



High temperature, do not touch.
This sign is posted at the engine exhaust pipe



During the operation, it is strictly prohibited to open the shield to prevent injury



When the spray rod is unfolded and folded, it is strictly prohibited to stand below. This sign is posted on the spray rod.

Prevent high voltage shock
This sign is posted on the spray rod.



Prevent falling
This sign is posted on the platform.



When dispensing pesticide, you must wear protective clothing and wash hands in time. This sign is posted on the hand washing tank.

II. Structural features and scope of use

Structural features: the machine adopts high gap vehicle bridge, which is good for spraying high stalk crops. The walking wheel adopts narrow rubber tyre, which is good for walking narrow crops. Spray pump has high spray pressure, no pulse, stable pressure and good spray quality; The spray rod adopts artificial folding spray rod, with simple structure and low failure rate. The machine adopts articulated hydraulic steering, flexible steering, small turning radius and labor-saving operation.

Scope of application: suitable for paddy fields, dry fields and other crops, such as wheat, rice, corn, cotton, tobacco, vegetables and other crops for pest control.

III. Structure introduction diagram

Product diagram attached

The machine consists of a rack, an engine, a spray pump, a spray rod rack, a spray rod, a jet component, a liquid tank, a pressure regulating valve, a travel system, a control system, and a light signal system as shown above.

IV. Operation instructions

1. Please read the instructions carefully before using the machine, and be familiar with the parts and the operation method.
 2. Safety signs (in all parts of the machine) should pay special attention to avoid damage.
 3. It is forbidden to use high pressure water column to wash the machine, so as not to cause damage to some electronic lines due to dampness. This machine should be cleaned with water and cloth.
 4. This machine is not suitable for big rocks and steep ground.
 5. The pesticide, hydraulic pressure and leaf fertilizer shall conform to the relevant labels and be applicable to the crops to be operated.
 6. Use clean water when using spray. Do not use dirty water.
 7. The rotating and walking parts shall be lubricated in time as required.
 8. This machine adopts high quality maintenance-free battery with a life of 2 years.
 9. During spray operation, please adjust the working pressure within the range of 0.3-2.0 MPa. When using different types of nozzle, the adjustment method and instructions.
- If the customer needs to change different types of nozzle, the adjustment method of the sprayer is as follows:

1. The injection direction and amplitude shall be consistent with the original.
2. Adjust working pressure: maintain the normal pressure within the range of 0.3-2.0 MPa.
3. The flow of the new nozzle should always be consistent to prevent the waste of too much liquid.

V. Instruction of starting and stopping methods

Startup steps:

1. Check whether the lubricating oil and cooling water are sufficient before operation; if not, please add.
 2. Pilot in position. Reset the flameout cable, push the transmission lever to neutral position, close the power switch,
- Open the ignition lock to the first position, press the start button, and release the start button after the diesel engine starts. Check whether the work indicator is in normal state. If it is not normal, it

shall be stopped for maintenance. If it is normal, it shall be in working state. (if the temperature is low, idle for 2 minutes and then enter the working state)

3. Add the pesticide into the pesticide box, extend the spray rod (pay attention to the surrounding environment to avoid danger), and open the pipeline control switch. Step down the clutch pedal, stir the clutch push rod of the drug pump to the connected state, push the shift lever to the appropriate gear position, release the handbrake, gently press down the accelerator pedal, slowly loosen the clutch pedal, the vehicle starts to walk, adjust the working pressure of the spray pump appropriately, and enter the field working state.

Shutdown steps:

1. Step down clutch pedal and push shift lever into neutral.
2. Pull the handbrake.
3. Close the spray rod.
4. Pull out the flameout button to turn off the diesel engine.
5. Push the pesticide pump clutch push rod to the separation state.
6. Pull the power switch to separate state and stop the machine.

Safe parking procedure

If the shutdown time is long, the engine should be idle at a low speed for a moment, pull out the flameout cable, make the engine flameout and turn off the fuel switch.

NOTE: do not turn off the engine by reducing pressure.

When the temperature is lower than 0°C, and the machine is shut down for a long time or overnight, empty the water in the diesel engine water tank in the idle state and empty the water or liquid pesticide in spray pump and pesticide tank so as to avoid frost crack of the engine and related parts.

WARNING: lock the brake pedal with the handbrake after stopping and confirm that the brake is reliable to prevent the machine from sliding and rolling on its own or rolling by external force.

Starting process of spray rod sprayer

ATTENTION! The spray pesticide box must be flushed with water for one time before use, and then all the water can be discharged before use. If not, the system may be blocked!

1. Set spray operation parameters.
2. Add water.
3. Add liquid pesticide (pesticide preparation according to regulations).
4. Start the walking part, turn on the machine and tools to the operation site, and stop the machine for operation.
4. Expand the spray rod and adjust the operating angle to the appropriate state.

5. Open the spray-pump switch and the walking switch to drive the machine into the operation field slowly and steadily. Adjust the walking speed to make the machine spray.
6. If there's no need to add pesticide at the turning point, close the pesticide valve timely to save pesticide.
7. When the liquid pesticide in the box is nearly pesticide running out, the operator should timely change the machine into the transportation state and drive the machine to the place where water and liquid pesticide are added. Refill the liquid pesticide to allow the operation to continue.
8. Pressure limiting valve and adjusting sprinkler head shall be carried out according to the instructions.

WARNING

1. During the operation, it is forbidden to stand or sit on the machine, otherwise it may cause fall into the machine, resulting in serious personal injury accident.
2. During the operation of the machine and tools, it is forbidden to approach the rotating parts, or it may cause personal injury accident. When repairing the machine, the engine must be cut off to prevent personal injury.

VI. Care and maintenance

1. Replace and fill lubricating oil regularly
 - (1) After 100h's operation, replace the oil in the drug pump.
 - (2) Every 200h refuel the spray rod telescopic oil cylinder once.
 - (3) After 500h's operation, check whether the battery distilled water is reduced, air filter is blocked, if reduced and blocked, add distilled water and clean filter core.
 - (4) After 1500h's operation replace all the engine oil.
 - (5) Inspect and replace the hose used by hydraulic lock system regularly.
2. Long-term storage: when the machine is in long-term use, it shall be maintained as follows:
 - (1) Disconnect the power supply electrode.
 - (2) Add lubricating oil to all parts.
 - (3) Repair all pipelines, replace wearing parts.
 - (4) Clean the hydraulic system components.
6. Clean the nozzle to let air out.
7. After rust removal, apply anti-rust oil to the relevant parts and cover them with waterproof cover.
8. In winter, add the right amount of antifreeze mixture to the injection system pesticide pump and pesticide box to prevent frost crack.

9. Place the machine in the cold, dry and ventilated hangar to avoid corrosion, away from the source of fire.

Instruction for jack

1. Check whether all parts are normal before use.
2. Used strictly according to the provisions of the main parameters to avoid ultrahigh overload, otherwise when the lifting height or lifting tonnage exceeds the provisions, serious oil leakage will happen to the top of the cylinder.
3. If the amount of oil in the manual pump body is insufficient, it is necessary to add the N33# hydraulic oil which should be fully filtered into the pump before it can work.
4. Please refer to the operation instructions of the electric pump.
5. choose moderate weight center of gravity, choose jack's point of force reasonably, pad the bottom surface, at the same time consider the soft and hard conditions of the ground, and consider whether to liner tough wood and place it stably to avoid weight sag or tilt.
6. After lifting the weight by the jack, the hydraulic wrench should support the weight firmly with the support in time. It is forbidden to use the jack as a support. If you need to support heavy objects for a long time, please choose
7. If several jacks are used at the same time, in addition to the correct placement of the jack, multiple shunt valve should be used, the load of each jack should be balanced, and pay attention to keep the lifting speed synchronized. It is also necessary to consider the possibility of ground subsidence due to uneven weight to prevent the risk of tilt of the object being lifted.
8. Join the quick joint of the manual pump and the top, choose a good position, tighten the oil drain screw on the oil pump, then it can work. To lower the piston rod, slightly loosen the hand wheel of the manual oil pump anticlockwise, unload the oil cylinder, and gradually lower the piston rod beside the hydraulic pull. Otherwise, too fast descending speed will cause danger.
9. Separate jack is spring reset structure. After being lifted, it can be taken out quickly, but don't use the connected hose to pull the jack.
10. Because the lifting stroke of the jack is small, the user should not exceed the rated stroke when using the jack, so as not to damage the jack.
11. When using the jack, avoid the violent vibration of the jack.
12. It is not suitable to use the jack in the workplace with acid, alkali, corrosive gas.
13. The user shall check and maintain regularly according to the usage.

Seat adjustment instructions

Lift the handle under the seat with your right hand and move the seat back and forth until both feet can press the brake and clutch to the bottom at the same time. Release the handle with your right hand to hold the seat in place.

VII. Common fault and eliminating methods

Project System	Fault	Possible causes	Eliminating methods
Engine System	1. Black smoke is emitted when the engine is working	(1) The air filter is clogged (2) Too much oil	(1) Clean the air filter; change the oil (2) Fill oil as required
	2.Engine failure	(1) No oil or no switch on (2) There are bubbles or leaking water in the oil line	(1)Fill oil; turn on the switch (2)Clean the oil line and replace the oil line
	3. engine stalling	(1) The oil has run out (2) The pump is stuck	(1)Fill oil (2) Repair the oil valve, or replace the oil valve
Running system	(1) The front and rear wheels are out of sync (2) Engine load increases when walking	(1) The braking system brakes itself (2) Running parts are short of oil	(1) Adjust brake system (2) Check the refueling position and fill gear oil and oil
Spray system	(1)No spray nozzle works. (2)Some spray nozzles don't work (3)Can't be closed or lifted	(1)The Nozzle is clogged (2)Insufficient pressure; excessive concentration of liquid (3)Power failure or pump failure	(1)Clean the nozzle; check the pump (2)Adjust pressure; clean the pipe (3) Prepare the pesticide of the right concentration
explanation	Please apply and operate in strict accordance with the instructions		

VIII.Quick-wear part and list of attachments

Packing list of 3WPZ Self-propelled rod sprayer (This list is subject to change without prior notice)

Number	Model	Name	Unit	Quantity	Remark
1	3WPZ-xxx	Self-propelled spray rod spray machine	set	1	
2		nozzle	pc	5	quick-wear part
3		Instructions for liquid pesticide pump	book	1	
4		Diesel engine fitting box	pc	1	
5		Instructions	book	1	
6		self-priming pump	pc	1	
7		jack	pc	1	

IX. Storage, delivery, acceptance, transportation, assembly and installation

1. Storage:

Maintenance for the long-term storage of the machine after the operation is stopped shall be carried out in accordance with the “long-term storage requirements” in the instructions. When the machine is temporarily stored, turn off the engine, close all valves, fold spray rod to travel position. Restart according to "operation instruction".

2. Delivery, acceptance, transportation, assembly and installation

The first start-up of the machine shall be carried out by the qualified dealer who has been professionally trained.

Acceptance of the machine: according to the order contract, the dealer or the customer shall check the main technical parameters of the model, power, spray width. Unload the machine from the transport vehicle for detailed inspection. If there is no transportation damage, start the machine according to the instructions.

Transportation: before transportation, fold and bind the spray rod of the machine firmly (carefully check the bag list and accessories in the special position of the machine). Put the whole vehicle into the transport vehicle. Tie each part with a rope. The tire should be firmly linked and the other parts should be firmly tied to the transport vehicle without loose phenomenon.

Assembly and installation: the machine has been fully installed and debugged before delivery. All parts of the machine are in good working condition before delivery. After receiving and inspecting the goods, the user does not need any assembly and installation.

Untie the rope in the transportation and get started.

ATTACHMENT: Preparation and filling requirements of pesticide liquid

1. Preparation proportion: according to the regulations on pesticides
2. Preparation water: clean, free from dirt and impurities, filtered before preparation.
3. Safety requirements: wear a mouth cover and protective clothing when making the preparation.
4. Pour the prepared pesticide into the pesticide box with the appropriate method, or add a small amount of pesticide with a higher concentration, and then add clear water to dilute it. When adding the pesticide to the pesticide box, be careful to ensure safety.
5. Wash hands immediately after finishing the preparation to avoid pesticide poisoning .
6. If the user pours the highly concentrated liquid into the pesticide box, he/she shall use the drug pump to stir the liquid to reach the concentration required.

Reputation for security

Quality for survival

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