

# **OPERATION MANUAL**



## **FVR600 Vibratory Road Roller**

**PERFORMANCE · EFFICIENT · RELIABLE**



**Master** sincerely thanks you for selecting the Plate Compactor Machine. For your Safety and proper operation, before you start to operate or carry out any maintenance on this equipment, **YOU MUST READ** and **STUDY** this manual carefully. Be sure to always keep it ready for reference.

**Produced By Henan Master Machinery Co.,Ltd**

**Dear Customer,**

**Thanks for choosing Master machine.**

**To ensure the safety and proper use of the machine, please read the instruction book carefully before use.**

**Also, please fill this card and save it for warranty use.**

Buyer Name		Purchase Time	
Tel		Contact Person	
Address			
Product Name	Road Roller		
MODEL	FVR600		
Motor Model			
Note			

### 1. Preface

Thank you very much that you have purchased the products.

This operation manual will tell you how to correctly operate and

maintain your machine. Before using the machine, please read the operation manual thoroughly to guarantee the correct operation. Following the operation requirements in the operation manual will make that your machine is in the best operation state so as to extend the life of the set. For you own safety and protection injury, carefully read, understand and observe the safety instructions described in this manual.

Keep this manual or a copy of it with the machine. This machine is built with user safety in mind; however, it can present hazards if improperly operate and serviced. Follow operating instructions carefully!

With the increasing improvement and enhance of the products made by the company, there may be some differences between the contents described in the operation manual and the practical products, it is our desire that the users will pay attention to the differences.

The walk-behind double drums roller is light road roller. It is used to compress on the asphalt, sand soil gravel and it is also used to planish the lawn and playground.

This machine is with hydraulic unit, variable plunger pump, and constant displacement hydraulic motor, which make the machine has excellent performance.

## **2. Safety alerts**

In order to operate the machine safely, it is very necessary to maintain the machine regularly. Please read the Safety alerts carefully

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to master the skills of maintenance and operation.

### 3. Driving qualification

Qualified staffs are allowed to operate the machine

1. Compaction task

Operator should get training on the aspects of compaction before operating the machine.

2. Loading and unloading the machine

Operator should get training on the aspects of Loading and unloading the machine

### 4. Safety precautions

#### 4.1 General precautions

◎Read the Manual carefully to understand and master the operating methods and functions, know the operation device and meanings of labels.

◎Comply with the rules

◎Be familiar with the working site in advance.

◎Be familiar with the functions of the machine.

Please operate the machine within the allowed range.

◎Check the machine before operating. Make sure the functions of the machine are sound.

◎Pay attention to the bystanders during working.

◎Do not touch fire components.

◎Pay attention to fireproof.

Fuel and oil catch fire easily, do not smoking and using match and lighter. The engine should be turned off the engine before filling fuel

and far from open fire.

#### 4.2 Preparations for safety operation

- ◎Cleaning the machine

- ◎Check the machine before operation. Make sure the functions of the machine are sound.

Check and make sure the enough level of all the liquid.

Check and make sure no leaking of hydraulic oil, fuel and water.

#### 4.3 Attentions before starting up engine

- ◎Make sure each control levers are in the neutral position before starting up the engine. Using manual brake lever to stop the engine.

- ◎Ensure safety around the machine before starting up engine.

- ◎Be care of ventilate.

It is danger to inhale the exhaust gas, ensure enough ventilate during working.

- ◎Do not near exhaust pipe.

The exhaust gas is poisonous.

#### 4.4 Attentions after starting up engine

- ◎Preheat the machine.

Idle the machine several minutes after starting up the engine. Do not operate the machine in high speed at the beginning of operating. Those will avoid damaging the machine, and prolong the life of machine,

- ◎Trial run

Trial operate the machine and check if every function are sound.

#### 4.5 Attentions during working

◎ Avoid operation errors.

Focus on operation, and pay attention to bystanders.

◎ Be careful of bystanders and barriers when forward and back the machine.

◎ Repair the machine at once when meeting shortcomings.

◎ Attentions to park the machine.

The machine should be parked on level surface. If must be parked on slope, block should be put in the front of drum.

Push the forward and back control lever to middle position, and push the lock lever to lock position, then turn off the engine, and pull out the key.

#### 4.6 Attention of loading and unloading the machine

◎ Use the hard climbing board with appropriate width, length and thickness for safe loading and unloading

◎ Don't use redirector on the climbing board.

◎ Use the rope with the adequate strength to lifting the machine

◎ Please vertical lifting the machine

◎ After loading, the machine firmly fixed. Then inset the block under the double side of drums

4.7 The correct usage of the battery (note: For the battery needing to maintain, maintenance-free except)

◎ The battery will produce flammable gas, may cause an explosion. Do not smoke around the battery, so that the battery can be far away from fire, sparks and fire

Battery electrolyte contains sulfuric acid; it will destroy the clothing and skin. If it exposed to clothes and skin, rinse with plenty of

water. In case of contact with eyes, rinse with water and seek for medical help.

◎ During checking and processing the battery, please turn off the engine and turn the switch to the OFF position

◎ Ensure the wire ends tighten

Battery liquid under the minimum line, please don't charge. If you continue to use the battery at this time, it will shorten the battery life, or even cause an explosion. Should add distilled water immediately to the right charge location.

#### 4.8 Attention of the maintenance

◎ Keep the machine clean

◎ Detach the negative pole of the battery to disconnect the power when repairing the electric system or doing the electric welding.

◎ Attention of operating the high-pressure pipe

In the "OFF" position, the key can pulled out. All electronic systems are shut down. The key to "OFF" position can turn off the engine. Or the battery power on their own, and led to the engine fails to start.

◎ Throttle switch

Used to control the engine speed

Press down the "throttle switch", the engine speed will increase. Lift up the "throttle switch", the engine speed will decrease to stop

**Attention: When starting the engine, should press down the "throttle switch" to the suitable position (full throttle)**

◎ Lock spanner

Can be folded during transportation (see the overall structure)

1) When folding, pull back the "lock spanner" until the position locked automatically.

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2) When normal running, have to unfold the tail parts. Pull back the “lock spanner” to the run position, and then the “lock spanner” is automatically locked,

©Manual lock lever

When machine stops, put the “manual lock lever” in the locked position. When machine runs, unlock the “manual lock lever”.

**Attention: Machine stops, must lock the “manual lock lever”!**

**Machine starts, must unlock the “manual lock lever”!**

## 5.2 Diving operation

### 5.2.1 Inspection before operation

Ensure that the “forward and backward handle” in the middle position, vibration switch is in the “OFF” position. “Manual lock lever” locks the machine

### 5.2.2 Start up the engine

1) Turn on the throttle lever (full throttle)

2) Starting switch turn to “start” position, to start the engine. At the same time of engine start, release the hand, the key will return to the “ON” position.

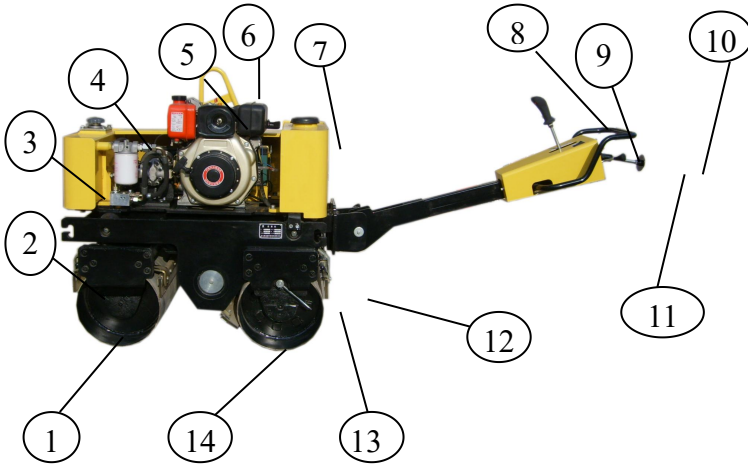
**Attention: Do not keep starting more than 15 seconds**

**If the starting fails, starting again wait for 30 seconds!**

**Excessive use the starter, will burn the starting motor!**

Overall structure





**1. Turning front wheel**

**3. Hydraulic oil tank**

**5. Engine**

**7. Water tank**

**9. Vibration switch**

**11. Throttle lever**

**13. Manual lock lever**

**15. Starting switch**

**2. Shaving bat**

**4. Oil filter**

**6. Sling rack**

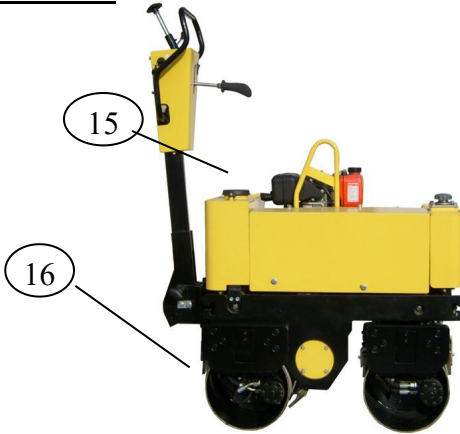
**8. Forward and backward handle**

**10. Safety lever**

**12. Shaving bat**

**14. Back wheel**

**16. Lock spanner**



- |                                     |                                       |
|-------------------------------------|---------------------------------------|
| <b>1. Forward and turning wheel</b> | <b>2. Shaving bat</b>                 |
| <b>3. Hydraulic oil tank</b>        | <b>4. Oil filter</b>                  |
| <b>5. Engine</b>                    | <b>6. Sling rack</b>                  |
| <b>7. Water tank</b>                | <b>8. Forward and backward handle</b> |
| <b>9. Vibration switch</b>          | <b>10. Safety lever</b>               |
| <b>11. Throttle lever</b>           | <b>12. Shaving bat</b>                |
| <b>13. Manual lock lever</b>        | <b>14. Back wheel</b>                 |
| <b>15. Starting switch</b>          | <b>16. Lock spanner</b>               |

**WARNING**

- 1. Comply with safety rules during working.
- 2. Don't modify the equipment casually
- 3. When maintenance, stop the machine

4. During the loading and unloading process, the climbing angle shall not be bigger than 15 degrees
5. Before starting the machine, check the capacity of engine oil, fuel and hydraulic oil.
6. When start the machine, push Throttle Lever biggest.
7. After starting, slow speed to run 5 minutes to warm machine
8. Throttle Lever back in the end, the engine stops. Then put the key in the OFF position.
9. Stop the engine after the machine cold running for 5 minutes. And then take away the key.

### **ATTENTION**

1. IN THE PROCSS OF LOADING AND UNLOADING THE MACHINE, PLEASE LOCK THE MANUAL LOCK LEVER.
2. BEFORE THE ENGIN STOPS, PUT THE FORWARD AND BACKWARD HANDLE IN THE "MIDDLE" POSITION

## **5. Operation**

### 5.1 The name and function of operation device

### 5.1.1 The name of operation device

#### 5.1.2 Function of the operation device

Familiar with the function of the operation device, for safe operation

##### ◎Forward and backward handle

The handle has three functions: to walk (forward and backward) stop and stepless speed.

2) Lock the machine by hand.

3) Insert wedge-shaped objects under the drums.

4) The Engine runs 2 to 3 minutes under the idle situation.

5) Engine will stop when the throttle switch is pushed to the bottom position.

6) Put the start switch to the OFF position.

1) When folding, pull back the “lock spanner” until the position locked automatically.

2) When normal running, have to unfold the tail parts. Pull back the “lock spanner” to the run position, and then the “lock spanner” is automatically locked,

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**Attention: Do not keep starting more than 15 seconds**

**If the starting fails, starting again wait for 30 seconds!**

**Excessive use the starter, will burn the starting motor!**

### 5.2.3 After starting up the engine

Do not run machine immediately after starting, please observe the following principles:

1) Low-speed to warm engine a few minutes, until warm the machine

2) Ensure that the exhaust color normal, no unusual sounds and smells

### 5.2.4 Machine running

**Attention: Before running the machine, please ensure that there is no person and obstacles nearby.**

1) Unlock the “manual lock lever”

2) Adjust the “forward and backward handle” to make machine forward and backward.

**Attention: Should gentle push “forward and backward handle”, not too fast.**

### 5.2.5 Machine stopping

**Warning:**

© Avoid stopping on the slopes

- ◎ If you has to park on the slopes, please put obstacles before the front wheel to prevent the machine slide down along the slopes.
  - ◎ Leave the machine, please keep “forward and backward handle” in the middle position, turn off the engine. Lock the “manual lock lever”, and take away the key.
- 1) The machine will stop moving when the forward and back handle on the middle position.

### 5.3 Operation of vibration and compaction

- 1) Machine begin to vibrate when the vibration switch is on the ON position.
- 2) Machine stop to vibrate when the vibration switch is on the OFF position

**Attention: Stop the vibration when the machine stops moving.  
Stop the vibration at once when the machine runs into the mud.**

### 5.4 Operation of the sprinkler system

- 1) Check the water level before open the sprinkler system, try to fill the water tank full.
- 2) The sprinkler system will be opened by turning the sprinkler valve switch.

**Attention: In the cold weather, make sure the tank is empty to prevent the water from freezing after the work finished.**

**Presentation: Drain plug is under the water tank.**

### 5.5 Adjustment of the fender

Loosen the screw bolt, and then move the fender up and down to make sure the fender is installed on the drum tightly.

### 5.6 Operation under the low temperature.

Take the following methods to prevent the faults occurring in the low temperature:

- 1) Use the fuel and oil of low viscosity
- 2) Keep the battery away from the low temperature.

Battery will be of low efficiency and even freeze in the low temperature. Please make sure the battery is full and keep the battery away from the low temperature during the night.

### 5.7 Attention after the operation

1) Remove dirt and water on the machine, especially dirt and water on the piston rod of the steering cylinder. If the dirt is brought into the oil cylinder, the seal system will be damaged.

The machine should stop on the hard and dry place.

Low temperature may cause low efficiency of the battery. For the work of the next day, cover the battery or remove the battery from the machine and keep it in a warm place.

Please discharge the water tank to prevent freezing.

### 5.8 Attention of the storage

If the machine will not be used beyond one month, please attention the following requirements

- 1) Stop the machine in the closed area after cleaning it.

If it is stored outdoors, keep the car under the cover.

2) Inject the oil and butter, change the engine oil, then check there is leak or not.

3) Coat the grease on the exposed piston rod of hydraulic steering cylinder.

- 4) Disconnect the negative of the battery, or remove the battery

- 5) Discharge the water in the tank.
- 6) Put the forward and back switch on the middle position, make sure the vibration switch on the OFF position, lock the machine by hand.
- 7) Insert wedge-shaped objects under the drums to prevent the machine moving.
- 8) Put away the key switch.
- 9) If long-term storage is needed, please start the machine regularly to prevent corrosion. Start the machine at least one time per month to prevent the oil layer deteriorates, and charge at the same time.

## **6. Regular maintenance and repairs**

Attention: Regular maintenance of machinery can keep the machine in the best situation.

Engine oil should be changed after the machine has run 50 hours or so.

Electrical wiring needs the inspection and maintenance every month.

- 1) Check the wiring is damaged or not.
- 2) Check the wiring loose or not.
- 3) Check the electrical device can work properly or not.

### **6.1 Norminal maintenance**

#### **6.1.1 Maintenance and repairs every 10 hours**

##### **1) Engine oil**

Put the engine in the horizontal position, check the oil level.

If the oil level is not within the scale of oil level indicator, please add.

##### **2) Oil Tank**

Check the fuel oil level.

#### **6.1.2 Maintenance and repairs every 50 hours**



### 1) Hydraulic oil

Observe the position of the oil level indicator; it should be at the center or the higher position of the liquid indicator. If the oil is not enough, please add.

### 2) Storage battery

Observe the state of the battery, and then confirm it should be replaced or not.

Check the bolts loose or not, if loose, please tighten.

## 6.1.3 Maintenance and repairs every 100 hours

### 1) Change the engine oil.

Open the oil plug and discharge the engine oil when the oil is still warm.

Tighten the drain plug; inject the engine oil through the oil filling port.

2) Clean the fuel filters.

3) Clean the air filters

## 6.1.4 Maintenance and repairs every 200 hours

1) Replace hydraulic oil filter.

2) Inject the grease to the drums.

## 6.1.5 Maintenance and repairs every 500 hours

1) Replace the hydraulic oil in the hydraulic oil tank.

Open the oil plug and discharge the hydraulic oil when the oil is still warm.

Clean the inside of the hydraulic tank.

Add the new hydraulic oil to the standard scale.

Start the engine and keep it run 2-5 minutes in the idle situation, then turn off the engine and check the oil level again, if the oil level is low, please inject the oil.

2) Inject butter to the rotating support used for steering.

3) Inject butter to the axis pin and hinge parts of the steering

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cylinder.

## 6.2 Injections of hydraulic oil, water and lubricants

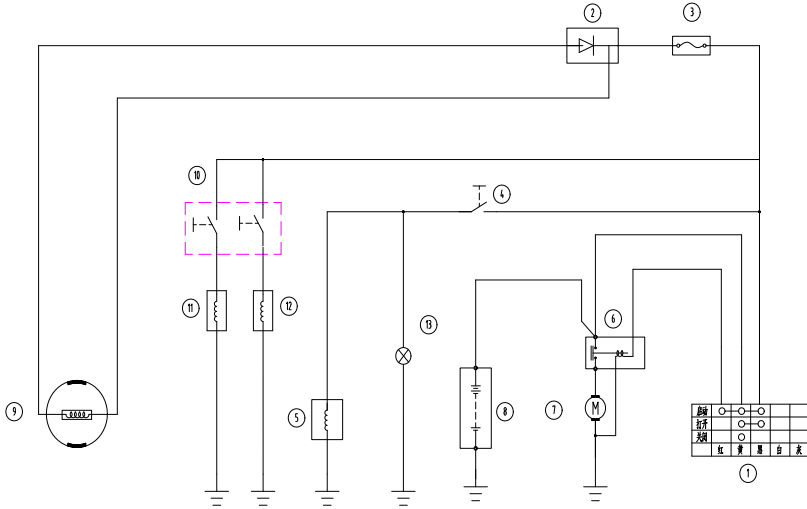
### 6.2.1 General norms

- 1) When filling the water and oil, do not remove the filtering net in which situation dirt will not be brought into the tank easily.
- 2) Use the recommended lubricants and hydraulic oil.
- 3) Do not use different brands of lubricants and hydraulic oil.
- 4) Filling the new oil after the old oil is discharged and the container is cleaned completely.

### 6.2.2 Recommended lubricant

- |                       |                                 |                          |
|-----------------------|---------------------------------|--------------------------|
| 1) Engine oil         | in low temperature              | SAE 10W-30               |
|                       | in high temperature             | SAE 40                   |
| 2) Hydraulic oil      | wear-resistant                  | VG46                     |
| 3) lubricating grease | Heat-resistant lithium saponify |                          |
| 4) Fuel oil           | diesel oil                      | (meet national standard) |

## 7. Electrical principal drawing



- |                               |                             |
|-------------------------------|-----------------------------|
| 1.Engine switch               | 2.Rectifier                 |
| 3.Fuse                        | 4.Vibration switch          |
| 5.Electromagnetic clutch      | 6.Start Relay               |
| 7.Starter motor               | 8. Battery (12V)            |
| 9.Charging coil               | 10. Forward and back handle |
| 11. Left magnetic valve       | 12.Right magnetic valve     |
| 13. Vibration indicating lamp |                             |