Henan Master Machinery Co., Ltd

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OPERATION MANUAL

FVR850 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	FVR900		
Motor Model			
Note			

1. Foreword

Thanks for purchasing our product!

This manual provides information and procedures to safely operate and maintain this model. For your own safety and protection from injury, carefully read, understand and observe the safety instructions described in this manual.

Keep this manual or a copy of it with the machine. If you lose this manual or need an additional copy, please contact our Corporation. This machine is built with user safety in mind; however, it can present hazards if improperly operated and serviced. Follow operating instructions carefully! If you have questions about operating or servicing this equipment, please contact our Corporation. The information contained in this manual was based on machines in production at the time of publication. Our Corporation reserves the right to change any portion of this information without notice. We expressly reserve the right to make technical modifications, even without due notice, which aim at improving our machines or their safety standards.

2. Safety Information

This manual contains DANGER, WARNING, CAUTION, and NOTE callouts which must be followed to reduce the possibility of personal injury, damage to the equipment, or improper service.

NOTE is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

NOTE

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

DANGER

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

WARNING

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

CAUTION

CAUTION: Used without the safety alert symbol, CAUTION indicates a potentially hazardous situation which, if not avoided, may result in property damage.

Note: Contains additional information important to a procedure

2.1 Operating Safety

WARNING Familiarity and proper training are required for the safe operation of equipment. Equipment operated improperly or by untrained personnel can be dangerous. Read the operating instructions contained in both this manual and the engine manual and familiarize yourself with the location and proper use of all controls. Inexperienced operators should receive instruction from someone familiar with the equipment before being allowed to operate the machine.

2.1.1 ALWAYS disengage and stow the locking bar for the articulated steering joint before operating the machine. The machine cannot be steered when the locking bar is engaged.

2.1.2 ALWAYS check that all controls are functioning properly immediately after start-up!

DO NOT operate the machine unless all controls operate correctly.

2.1.3 ALWAYS remain aware of changing positions and the movement of other equipment and personnel on the job site.

2.1.4 ALWAYS remain seated at all times while operating the machine.

2.1.5 ALWAYS remain aware of changing surface conditions and use extra care when operating over uneven ground, on hills, or over soft or coarse material. The machine could shift or slide unexpectedly.

2.1.6 ALWAYS use caution when operating near the edges of pits, trenches or platforms. Check to be sure that the ground surface is stable enough to support the weight of the machine with the operator and that there is no danger of the roller sliding, falling, or tipping.

2.1.7 ALWAYS wear protective clothing appropriate to the job site when operating equipment.

2.1.8 ALWAYS keep hands, feet, and loose clothing away from moving parts of the machine.

2.1.9 ALWAYS read, understand, and follow procedures in the Operator's Manual before attempting to operate the equipment.

2.1.10 ALWAYS store the equipment properly when it is not being used.

Equipment should be stored in a clean, dry location out of the reach of children.

2.1.11 ALWAYS operate the machine with all safety devices and guards in place and in working order.

2.1.12 NEVER allow anyone to operate this equipment without proper training. People operating this equipment must be familiar with the manual.

2.1.13 NEVER touch the engine or muffler while the engine is on or immediately after it has been turned off. These areas get hot and may cause burns.

2.1.14 NEVER use accessories or attachments that are not recommended by ROADWAY. Damage to equipment and injury to the user may result.

2.1.15 NEVER leave machine running unattended.

2.1.16 NEVER operate the machine with the fuel cap loose or missing.

2.2 Operator Safety While Using Internal Combustion Engines

DANGER Internal combustion engines present special hazards during operation and fueling. Read and follow the warning instructions in the engine owner's manual and the safety guidelines below. Failure to follow the warnings and safety guidelines could result in severe injury or death.

2.2.1 DO NOT smoke while operating the machine.

2.2.2 DO NOT smoke when refueling the engine.

2.2.3 DO NOT refuel a hot or running engine.

2.2.4 DO NOT refuel the engine near an open flame

2.2.5 DO NOT spill fuel when refueling the engine.

2.2.6 DO NOT run the engine near open flames.

2.2.7 DO NOT run the machine indoors or in an enclosed area such as deep trench unless adequate ventilation, through such items as exhaust fans or hoses, is provided. Exhaust gas from the engine contains poisonous carbon monoxide gas; exposure to carbon monoxide can cause loss of consciousness and may lead to death.

2.2.8 ALWAYS refill the fuel tank in a well-ventilated area.

2.2.9 ALWAYS replace the fuel tank cap after refueling.

2.2.10 ALWAYS keep the area around a hot exhaust pipe free of debris to reduce the chance of an accidental fire.

2.3 Service Safety

 Poorly maintained equipment can become a safety hazard! In

WARNING order for the equipment to operate safely and properly over a long period of time, periodic maintenance and occasional repairs are necessary.

2.3.1 DO NOT attempt to clean or service the machine while it is running.

Rotating parts can cause severe injury.

2.3.2 DO NOT use gasoline or other types of fuels or flammable solvents to clean parts, especially in enclosed areas. Fumes from fuels and solvents can become explosive.

2.3.3 DO NOT modify the equipment without the express written approval of the manufacturer.

2.3.4 ALWAYS check all external fasteners at regular intervals.

2.3.5 ALWAYS keep the area around the muffler free of debris such as

leaves, paper, cartons, etc. A hot muffler could ignite the debris and start a fire.

2.3.6 ALWAYS replace worn or damaged components with spare parts

designed and recommended by ROADWAY Corporation.

2.3.7 ALWAYS disconnect the spark plug on machines equipped with

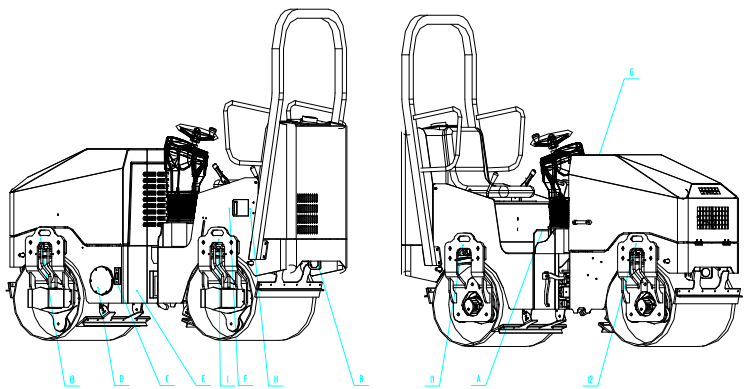
gasoline engines, before servicing, to avoid accidental start-up.

2.3.8 ALWAYS keep the machine clean and labels legible. Replace all missing and hard-to-read labels. Labels provide important operating instructions and warn of dangers and hazards.

2.3.9 ALWAYS switch off the power supply at the battery disconnect before adjusting or maintaining the electrical equipment.

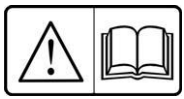
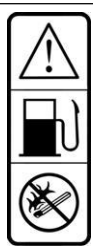
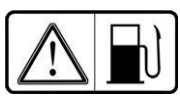
2.3.10 ALWAYS do Periodic Maintenance as recommended in the Operator's Manual.

2.4 Safety Labels



master machines use international pictorial labels where needed. These labels are described below:

Ref.	Label	Meaning

A		CAUTION! Read and understand the supplied Operator's Manuals before operating this machine. Failure to do so increases the risk of injury to yourself or others.
B		CAUTION! Lifting point
C		Hydraulic oil reservoir level
D		Hydraulic oil reservoir fill tube
E		Hydraulic oil drain
F		DANGER! Before fueling, stop the engine. No sparks, flames, or burning objects near the machine.
G		WARNING! Hot surface!
H		Gas level

I		CAUTION! Lifting point

3. Technical Data

3.1 Engine

Item No.	FVR900P/900DC
Engine	
Engine Type	4-stroke, 3 cylinder, water cooled
Engine Make	Perkins
Engine Model	Perkins 403D-1/HONDA GX630
Rated Power hp	25/20
Displacement L	1.1
Engine Speed—full load rpm Engine Speed—idle rpm	2800 1000
Battery V	12 VDC
Air Cleaner type	G042544(Donaldson)
Walk speed	0-8km/h
Fuel Tank Capacity L	60
Fuel Consumption L/hr.	4

3.2 Roller

Item No.	FVR900P/900DC
Roller	
Dry Weight kg	1800
Water Tank Capacity L	150
Outside Turning Radius mm	1900
Forward /Reverse m /S	0–126
Climbing Capacity %	30
Vibration Frequency Hz (vpm)	60 (3600)

3.3 Lubrication

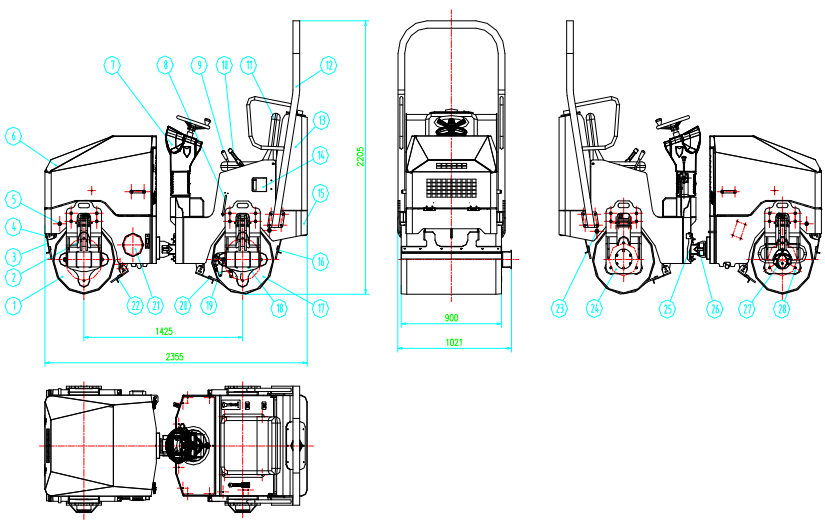
Item No.	FVR900P/900DC
Lubrication	
Engine Lubrication type	API, CH
Hydraulic System type	Premium grade, Anti-wear hydraulic fluid 10W30
Rear Drum Drive Bearings type	Shell Alvania RL2 Grease
	Hand-held grease gun
Front Drum Drive Bearing type	Sealed Bearings—No lubrication required
Articulated Joint type qty	Shell Alvania RL2 Grease Hand-held grease gun

4. Operation

4.1 Operation and Service Locations

Ref.	Description	Ref.	Description
1	Front wheel	18	Brake assembly
2	Front frame	19	Mud scraping board
3	Mud scraping board	20	Driving motor
4	Tie-down point	21	Fuel tank cleaning end cap
5	Spray pipe	22	Mud scraping board
6	Machine cover	23	Spray pipe
7	Direction assembly	24	Rear support
8	Fuel level indicator	25	Fasten fixed panel
9	Forward/reverse controlling handle	26	Direction changing articulate assembly

10	Hand brake	27	Vibration motor
11	Seat	28	Front support
12	ROPS		
13	Water tank		
14	Fuel filler		
15	Rear frame		
16	Mud scraping board		
17	Rear wheel		



4.2 Application

This machine is designed as a lightweight roller to be used in the compaction of sub layers and finish layers of asphalt on roads, driveways, parking lots, and other types of asphalt-covered surfaces.
Do not use this machine for any other purpose.

4.3 Recommended Fuel

The engine requires regular grade unleaded diesel. Use only fresh, clean diesel containing water or dirt will damage fuel system.
Consult engine Owner's Manual for complete fuel specifications.

4.4 Before Starting

Before starting the machine, check the following:

- Engine lubricating oil level
- Hydraulic fluid level
- Condition of fuel lines
- Condition of air cleaner
- Operation of the brake system
- Fuel level
- Water level
- Scraper bars are clean and properly adjusted

Note:
All fluid levels should be checked with the machine on a level surface.
Ensure that regular maintenance has been carried out.
Ensure that the driver's platform is clean.
Always use the steps and handrails when climbing on and off the machine.

4.5 Starting

4.5.1 If the engine is cold, please preheat engine (especially the temperature is low). Preheating shall not be more than 5 seconds。
4.5.2 Set the forward/reverse control in the neutral position.
Note: The roller will not start unless the forward/reverse control is in neutral.

4.5.3 Check that the parking brake is set .

4.5.4 Turn the ignition switch to start the engine. If exciter indicator light is on, turn vibration off.

CAUTION: Do not crank the engine starter for more than 15 seconds at one time. Longer cranking cycles could lead to starter damage.

4.5.5 Gradually place the choke lever to the open position as the engine warms up.

Allow the engine to warm up for a few minutes before operating the roller.

4.6 Stopping/Parking

4.6.1 Turn vibration off.

4.6.2 Close both watering valves.

4.6.3 Stop the engine by the key

4.6.4 Make starting devices in OFF position after stopping the engine.

Note: After the engine stops, turn off and take away the key, otherwise it will cause the battery discharge, and seriously the engine won't start.

4.6.5 Set the parking brake. To set the brake, pull the brake lever up until

the brake pad engages the drum. To release, lower the lever. Always set the parking brake before leaving the machine.

The parking brake is connected to the brake pads and can be adjusted by turning the knob on the end of the handle.

Note: *The parking brake engages the rear drum only*.

CAUTION: Avoid parking the roller on a hill or an incline. If the roller must be parked on a hill, block the drums in addition to setting the brake to prevent the roller from moving.

4.7 Direction and Speed

The forward/reverse lever controls both the direction and speed of the roller. Use the control lever, rather than the throttle, to control the speed of the machine while compacting. Daily, before operating, check the machine for *drift* (movement with the forward/reverse control in the NEUTRAL position) and adjust as needed. See section *Adjusting the Drive Control Cable*.

Speed is controlled by the amount the lever is moved in the direction of travel—forward or reverse.

While operating the machine, run it at full throttle. To run the machine at full throttle, press and release the throttle switch. This ensures maximum travel speeds and will produce the best compaction results. Operating the machine at slower engine speeds will reduce compaction, slow down machine functions, and damage hydraulic components.

4.8 Braking Machine

The machine will brake automatically when the control lever is returned to neutral. If the machine continues to drift, shift the control lever slightly in the opposite direction to stop movement and then return the lever to neutral. If the machine will not remain stationary in neutral, adjust it.

4.9 Vibration

CAUTION: If the machine has been turned off with the vibration on, the vibration will come on as soon as the machine is restarted. Therefore, for easier starting and to keep the surface finish smooth, be ready to

switch vibration off should it come on while cranking the engine.

4.10 Watering System

The watering system is controlled by two valves, one for each drum.
The valve handles are located to the right of the operator. Rotate the valve handles to control the amount of water being applied to the drum.

4.11 Articulation Joint Lock arm

A lock arm, located above the articulated joint, is provided to secure the front and rear halves of the roller together. Once secured, the lock arm prevents the two halves from swinging together.

WARNING To avoid being pinched by machine halves, set the lock arm before lifting the machine for transport or repairs!

To set lock arm, release it from its holder and swing it out from its stored position. Place the forward end of the arm into the hole provided in the front frame of the machine. Secure it in this position using the large hairpin cotter provided.

4.12 Roll over Protection Structure (ROPS)

The machine is fitted with a Roll Over Protection Structure (ROPS).
The machine is normally delivered to the customer with the ROPS folded forward to facilitate transport.

Before using the machine, position the ROPS in the fully upright position as follows:

4.12.1 Support the ROPS using a crane and suitable rigging capable of supporting 48 kg. (105 lbs.), or two individuals

capable of supporting the ROPS.

4.12.2 Loosen the screws (one on each side) without removing them.

4.12.3 Raise the ROPS to the upright position.

4.12.4 Insert the screws into the holes and torque all screws to 120 Nm (88 ft.lbs.).

4.12.5 Remove the rigging from the ROPS.

CAUTION: Do not use the ROPS to lift the machine.

WARNING Each month, check that the screws holding the ROPS in place are tight. Check that the ROPS frame is not rusty, cracked, broken or damaged in any way.

If the frame has been removed from the machine, it must be reinstalled before the machine is used. When reinstalling a safety frame, use the original nuts and bolts.

WARNING Keep the safety frame upright when working with the roller, and use the safety belt provided.

4.13 Hour Meter / Tachometer

The hour meter/tachometer is located on the steering column. When the engine is running, it acts as a tachometer. When the engine is shut down, it records the actual running time of the engine. Use the hour meter when planning scheduled maintenance.

4.14 Operation on Slopes

When operating on slopes or hills special care must be taken to reduce the risk of personal injury or damage to the equipment. Always operate the machine up and down hills rather than from side to side. For safe operation and for protection of the engine, continuous duty use should be restricted to front/rear slopes of 17° (30% grade) or less.

WARNING NEVER operate machine on side slopes. The machine may roll over, even on stable ground.

4.15 Battery Disconnect

WARNING Isolate the battery using this switch before performing any maintenance operations on electrical equipment.

5. Maintenance and Repair Periodically

Notes: Regular maintenance machine can make the machine always maintain the best state.

Notes: The new machine is running around 250 hours need to exchange engine oil.

Every month to check, maintain the electrical wires.

1) Check the wire is damage or not.
2) Check the wire is loose or not
3) Check whether the normal work of electrical apparatus

5.1 Routine maintenance

5.1.1 Every 10 hours in maintenance

1) Engine oil

The engine is placed in a horizontal position, check the engine oil level, if the oil level is not between the scales, please add.

2) The fuel tank

Check fuel liquid surface height

5.1.2. Every 50 hours in maintenance

1) Hydraulic oil

Observe the height of liquid level in the oil level indicator, and it should above the middle of the oil level indicator. If the oil is not enough, please add oil by the oil filter.

2) Battery

Observe the state of battery, and confirm that if need to change new one

The fastening bolts if loose or not, if loose, please fastens.

Note: The battery is located in the bottom right of the foot pedals

5.1.3 Every 100 hours in maintenance

1) Clean the fuel filter

2) Clean the air filter

5.1.4 Every 200 hours in maintenance

1) Please replace the hydraulic oil filter

2) Add the grease to vibratory steel rollers

5.1.5 Every 500 hours in Maintenance

1) Replace the engine oil

Exhaust oil when oil is still warm.Tighten the plug and fill in oil.

2) Replace hydraulic oil

Exhaust oil when hydraulic oil is still warm. Clean the inner of the tank and fill in the hydraulic oil to the level. Start up engine and idle 2-5 minutes then turn off engine and check oil lever again, fill in to the level if oil level is low.

3) Fill butter to pin roll and joint parts of dydro-cylinder.

5.2 Fill hydraulic oil water and lubricant

5.2.1 General rule

1）Do not discharge filter screen when filling water and oil to avoid litter in.

2）Use recommended lubricant and hydraulic oil.

3）Do not use different brand lubricant and hydraulic oil.

4) Discharge oil completely and clean it before filling new oil.

5.2.2recommended lubricant

1）Engine oil API CH lubricant

2) Hydraulic oil Anti-friction VG46

3）Lubricating grease Anti-high-temperature Lithium base grease

4）Fuel oil Diesel oil

5.3 Fuel Filter

Change the in-line fuel filter once per year. Check the fuel lines and fittings daily for cracks or leaks. Replace as needed.

Turn the engine off and allow the engine to cool before replacing the fuel filter.

5.4 Lubricant Oil

5.4.1 Drain the lubricant oil while the oil is still hot.

Remove the filler cap drain screw, and washer. Drain the oil into a suitable container.

Note: In the interests of environmental protection, place a plastic sheet and a container under the machine to collect any liquid which drains off. Dispose of this liquid in accordance with environmental protection legislation.

5.4.2 Re-insert the drain screw and washer and tighten the screw securely.

5.4.3 Fill the engine with the recommended oil to the upper limit mark on the dipstick. See Technical Data for correct oil type and amount.

 Burn hazard! Care must be taken when draining hot engine oil.

WARNING Hot oil can burn!

5.5 Scraper Bars

Scraper bars, located in front of and behind each drum, are used to prevent dirt and asphalt from sticking to and accumulating on the drum surface. These bars must be adjusted periodically as they wear.

To adjust the scraper bar , loosen the bolts connecting the scraper bars to the shockmounts on both sides of the drum. Using a 9 mm (3/8") drive ratchet extension in the socket , rotate the assembly away from the drum until the bolts are observed to have rotated approximately 6 mm (1/4") in slots, then tighten the bolts.

Check that the scraper bar has a slight deflection where it contacts the

drum, and readjust as necessary.

Note: A large deflection of the scraper bar indicates excessive preloading of the rubber shockmounts, which will result in premature scraper wear.

5.6 Grease Fittings

Articulated Joint:

The articulated joint is equipped with grease fittings for lubrication.

To avoid being pinched by the machine halves, set the lock arm

WARNING before greasing the articulating joint!

Rear Drum: The rear drum drive bearing is equipped with a grease fitting located at the center of the drum behind the right rear drum support.

Exciter: The exciter is grease lubricated. There are two grease fittings, one on each side of the machine, located behind the front drum supports.

5.7 Hydraulic System Cleanliness

Keeping the hydraulic oil clean is a vital factor affecting the service life of hydraulic components. Oil in hydraulic systems is used not only to transfer power, but also to lubricate the hydraulic components used in the system. Keeping the hydraulic system

clean will help avoid costly

Major sources of hydraulic system contamination include:

- Particles of dirt introduced when the hydraulic system is opened for maintenance or repair
- Contaminants generated by the mechanical components of the system during operation
- Improper storage and handling of hydraulic oil
- Use of the wrong type of hydraulic oil
- Leakage in lines and fittings

To minimize hydraulic oil contamination:

CLEAN hydraulic connections before opening the lines. When adding oil, clean the hydraulic tank filler cap and surrounding area before removing it.
AVOID opening the pumps, motors, or hose connections unless absolutely necessary.

PLUG or cap all open hydraulic connections while servicing the system.

CLEAN and cover the containers, funnels, and spouts used to store and transfer the hydraulic oil.

CHANGE the hydraulic filters and oils at the recommended service intervals.

5.8 Hydraulic Oil Requirements

ROADWAY recommends the use of a good petroleum-based, anti-wear hydraulic oil in the hydraulic system of this equipment. Good anti-wear hydraulic oils contain special additives to reduce oxidation, prevent foaming, and provide for good water separation. When selecting hydraulic oil for your machine, be sure to specify anti-wear properties. Most hydraulic oil suppliers will provide assistance in finding the correct hydraulic oil for your machine.

Avoid mixing different brands and grades of hydraulic oils.

Most hydraulic oils are available in different viscosities.

The SAE number for an oil is used strictly to identify viscosity—it **does not** indicate the type of oil (engine, hydraulic, gear, etc.).

When selecting a hydraulic oil be sure it matches the specified SAE viscosity rating and is intended to be used as a hydraulic oil. See Technical Data—Lubrication.

5.9 Hydraulic Oil Level

A hydraulic oil level sightglass is located near the bottom left side of the machine below the engine compartment.

Check that the hydraulic oil level is visible in the sightglass. If it is not, add oil through the filler port inside the engine compartment. Use only clean hydraulic oil.

Thoroughly clean the top of the filler cap before removing it from the tank. Care should be taken to prevent smaller dirt particles from entering the system.

If hydraulic oil continually needs to be added, inspect the hoses and connections for possible leaks.

5.10 Suction Filter

A hydraulic filter is located in the hydraulic tank. This filter will not normally require service and does not need to be replaced when

changing the hydraulic oil.

5.11 Changing Hydraulic Oil & Filter

All oils eventually shear or thin out with use, reducing their lubricating ability. In addition, heat, oxidation, and contamination may cause the formation of sludge, gum, or varnish in the system. For these reasons, it is important to change the hydraulic oil at specified intervals. See Maintenance Schedule.

5.11.1 Remove the filler cap from the top of the hydraulic tank.

5.11.2 Remove the drain plug and allow the hydraulic fluid to drain.

Note: In the interests of environmental protection, place a plastic sheet and a container under the machine to collect any liquid which drains off. Dispose of this liquid in accordance with environmental protection legislation.

5.11.3 Open the backflow filter, change the filter element

5.11.4 Installation the oil drain plug

5.11.5 Pour the clean hydraulic oil to the hydraulic oil tank through the oil filter

5.12 Bleeding the Hydraulic System

5.12.1 Turn off the key or take away the key to prevent the engine from starting.

5.12.2 Crank the engine 5–10 seconds, this will allow oil to fill inlet lines.

5.12.3 Place the forward/reverse control lever in NEUTRAL. Start the engine and run the machine at idle for 3–4 minutes.

5.12.4 With the engine still running at idle, move the control slowly back and forth from forward to reverse for a short time to bleed air trapped in the drive circuit.

5.12.5 Increase the engine speed, and operate all controls to bleed the remaining air from the hydraulic lines.

5.12.6 Check the hydraulic oil level and add oil as required.

5.12.6 Check the hydraulic oil level and add oil as required.

5.13 Parking Brake Adjustment

The parking brake is located on the rear drive motor drum support and is used to prevent the roller from moving when the roller is turned off. Adjust the brake for proper holding force as follows:

5.13.1 Unscrew the brake lever knob until the brake can be applied with moderate force (approximately 30 lbs.).

5.13.2 Start the roller on level ground and try to travel forward and reverse with the brake applied. If the roller drives through the brake, stop the machine, tighten the lever knob one turn and repeat the process.

5.13.3 When the machine no longer moves with the brake applied, stop the machine, turn the knob one more turn and the brake is properly set.

5.14 Throttle Solenoid Adjustment

5.14.1 With the engine still operating, adjust the engine speeds to 2800 rpm by the throttle wrench.

5.14.2 Start the engine and adjust the top engine speeds to 2800 rpm

5.15 Lifting Machine

Lock the front and rear machine halves together using the lock arm at

the articulation joint. Place slings or chains through each lifting eye on the machine (4 places). Use four slings or chains with a minimum length of 2 meters (6 feet) on each leg connected to a central lifting device, OR two slings or chains with a minimum length of 4 meters (12 feet), one connecting the front lifting eyes and one connecting the rear lifting eyes, then brought together over the crane hook. Ensure that all lifting devices have sufficient weight-bearing capacity.

To avoid being pinched by the machine halves, set the lock arm

WARNING before lifting the machine for transport or repairs!

CAUTION: Never use anything but the lifting eyes provided to lift the machine

5.16 Transporting Machine

When transporting the machine place blocks in front of and behind each drum and use the front and rear tie-down lugs provided to securely fasten the machine to the trailer (2 places).

CAUTION: Never use anything but the tie down lugs provided to tie down the machine.

5.17 Storage

If the unit is to be stored for more than 30 days:

- Drain the fuel tank and the water tank. Also drain the rear drum, if ballast was added.
- Open the water valves and drain the water from the sprinkling system.

- Change the engine oil.
- Remove any dirt from the cooling fins on the engine cylinders and on the blower housing.
- Remove the battery from the machine and charge it periodically.
- Cover the entire machine and place it in a dry, protected area.

5.18 Towing

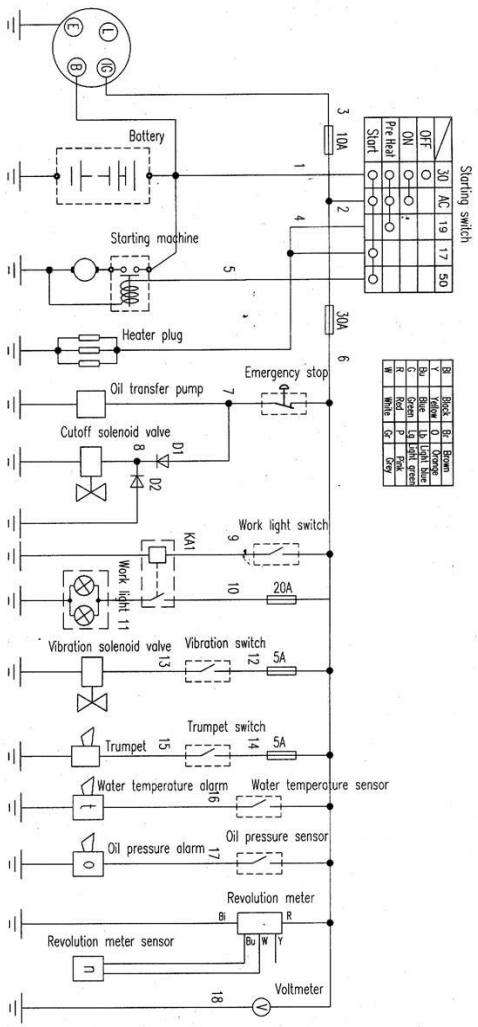
The drive circuit is equipped with a towing valve to allow oil to bypass the drive motors and let the roller free wheel for towing.

The towing valve should be used in emergency situations where the machine has become bogged down in loose or muddy soil, or cannot be driven due to an engine or hydraulic system failure.

When the towing valve opens, the machine can free roll. When the towing operation is completed, close the valve immediately to prevent the machine from go ahead accident.

CAUTION: Do not tow the roller long distances or at speeds greater than 3–5 km/h (2–3 mph). Damage to the drive motors may occur.

5.19 FVR900P/900DC Electrical Schematic


Battery
Starting machine
Heater plug
Oil transfer pump
Cutoff solenoid valve
Emergency stop
Work light switch
Work light
Vibration solenoid valve
Vibration switch
Trumpet
Trumpet switch
Water temperature alarm
Water temperature sensor
Oil pressure alarm
Oil pressure sensor
Revolution meter
Revolution meter sensor
Voltmeter
10A
30A
20A
5A
Starting switch
Pre Heat
Start
ON
OFF
30
AC
19
17
50