PaverPro
Steerable Double Drum Roller

Operation Manual

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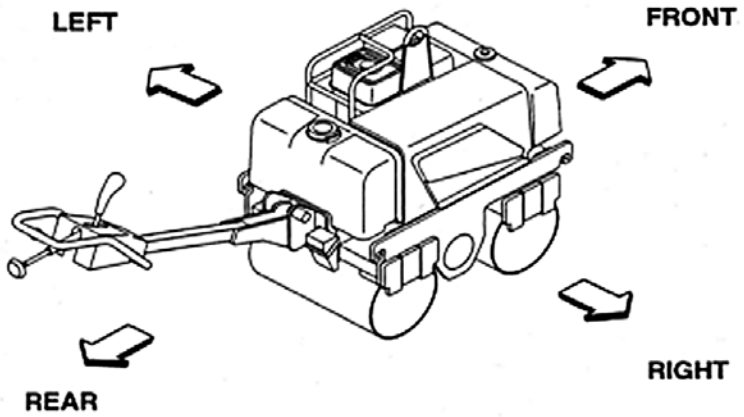
PPSR-13



Introduction

Thank you for purchasing an MMD PaverPro Steerable Double Drum Roller! We're happy that you have chosen our product for all your compaction needs. This user manual covers the PPSR-13 Steerable Double Drum Roller.

We strive to provide the best products, and in those efforts, we are constantly making improvements. The information in this manual is based on the most recent information available at time of print. You can always find the latest information, parts, and accessories on our website.

We recommend reading this manual thoroughly before use to prevent any damage to the product or personal injury.

This manual should always be kept with the roller and should remain with roller if resold.

Reference — For your reference, please record the model, serial number, sales representative, and date of purchase.

Model: _____

Serial Number: _____

Sales representative and date of purchase: _____

Find our Tech Support and Online Parts Ordering at:

mmdequipment.com/tech-support.html

parts.mmdequipment.com

Need help?

Scan for MMD technical support

Need parts?

Scan for online parts ordering

Safety Instructions

Failure to properly follow these instructions can result in property damage, serious injury or DEATH!

For the safe use of your machine and proper handling, periodical maintenance is of utmost importance. Thoroughly read the safety precautions described in this manual. Do not attempt to operate and perform maintenance on your machine until you develop a full understanding of safe and proper use of this machine.

This manual covers the proper and safe method of operation and handling of this machine for its intended use. MMD Equipment is not responsible for any injury, property damage, or death from the improper use of this machine. Each safety notice starts with a signal word as shown below.

⚠ DANGER Indicates that there is an extreme hazard. If you fail to take proper precautions, it can result in serious injury or death.

⚠ WARNING Indicates that there is a hazard. If you fail to take proper precautions, it can result in serious injury or death.

⚠ CAUTION Calls attention to safety practices. If you fail to take proper precautions, it can result in serious injury and/or damage to your machine.

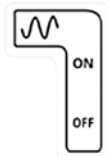
It is almost impossible for the safety warnings in this manual and on the machine to cover all the potential dangers. Be aware of possible dangers not mentioned in this manual and on the decals.

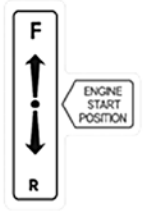
- Unapproved modifications can pose safety-related problems. Please contact your sales representative before making any modifications. MMD Equipment accepts no responsibility for an injury or damage to the machine caused by unapproved modifications.
- Anyone who intends to operate this machine should read the manual thoroughly before operation.

Safety Instructions

Safety Decals

Please carefully read the all decals for your own safety and proper operation. If decals worn or damaged, please contact your dealer for replacement.





Basic Safety Precautions

1.1 General Precautions

- Thoroughly read the operator's manual.
  - Understand the functions of the controls and gauges.
  - Familiarize yourself with locations of controls and gauges, and how to operate them.
  - Understand the meaning of all the symbols.
- Obey the work site rules.
  - Follow all work site rules, regulations and restrictions.
- Wear protective clothing.
  - Wear protective gear suitable for the work you are performing (hard hat, gloves, goggles, masks, safety shoes, etc.)
  - Do not wear clothing and accessories can get caught in the controls or protrude outside the portions of the machine.
  - Do not wear oily clothing.
- Know the work area in advance.
  - Know the terrain, geology and conditions of the working surface.
  - Secure area by stationing a guardsman or setting up barriers where risk of injury may occur from machine.
- Prepare for accidents.
  - In case of an emergency, know how to contact your local fire department and hospital.
  - Know the location of a fire extinguisher and first-aid kit.

- Understand the capabilities and limitations of the machine.
  - Thoroughly understand the performance and the limitations of your machine.
  - Understand the requirements of the work to safely operate the machine — operating the machine beyond its limitations may lead to an accident or damage.

Basic Safety Precautions

- Do not use a machine that has not been maintained at is recommended intervals.
  - Before operating, perform necessary inspections to ensure the machine is in good operating condition.
  - Correct any possible problems before operating the machine.
- Do not allow anyone to enter the work area except for authorized personnel.
  - Always be aware of other personnel around the machine.
- Be careful of hot parts.
  - After and during the operation of your machine, components become very hot and may cause burns.
  - Do not remove filter caps, drain oil, or replace filters until the machine is cooled down. The coolant engine oil and hydraulic fluid becomes hot, builds pressure, and may burst with hot fluid that can cause serious burns.
  - To remove the radiator cap, wait until the machine is fully cooled and the engine is shut off. Slowly loosen the cap to relieve the pressure. (For the radiator cap with a lever, lift the lever to release the trapped pressure.)
  - When removing the filler cap on the hydraulic tank, wait for the machine to be fully cooled. Turn the cap slowly to release trapped pressure to prevent the oil from gushing out.
  - Do not touch the muffler while the engine is running or immediately after it has been shut down. It can cause serious burns.
- Keep away from sources of ignition.

  - The fuel, oil, and anti-freeze will ignite if near open flames or ignition sources.
  - Fuel is highly flammable and should not be around any sources of ignition.
  - Do not smoke, use a lighter, or use any source of ignition around flammable fluids.
  - When refueling, stop the engine first and do not smoke around the machine.
  - Keep caps of the fuel and oil tanks tight.
- Use precaution when handling hydraulic fluids.
  - Wear safety goggles to protect your eyes from contact with hydraulic fluid as it can irritate your eyes.

- If the fluid makes contact with your eyes, flush with clean water for 15 minutes and seek medical attention.

- Wear rubber gloves to avoid contact with hands and skin. The fluid can also irritate your skin.

- In case of skin contact, wash with soap and water thoroughly.

- Do not consume the fluid. It can cause diarrhea and emesis. If swallowed do not try to vomit. Get medical attention immediately.

1.2 Preparation for Safe Operation

■ Clean your machine.

- Keep the handle free from mud, oil, ice or water to prevent slippage during operation.

- Do not place parts, tools or unnecessary articles on your machine.

■ Inspect your machine before operation

- Check your machine for damage such as cracks and deformation. Repair any issues before the operation of the machine.

- Check fluid levels (fuel, engine oil, anti-freeze, and hydraulic oil) before operation. Add as necessary.

- Inspect area where machine was parked for signs of leakage of oil, fuel and water. If any leakage occurs, determine and source and repair the issue before operation.

1.3 Before Starting the Engine

■ Before starting make sure the lever is in the neutral position and the parking lock is applied (parking lever in “LOCK” position).

■ Ensure proper ventilation.

Exhaust fumes are dangerous. If machine used in enclosed area, make sure proper ventilation is provided by opening windows and doors.

■ Do not stand close to the exhaust system.

■ Exhaust fumes are toxic and will be hot.

1.4 After Starting the Engine

■ Secure safety around the machine.

- Ensure that the area around the machine is clear of personnel and obstructions.

■ Warm up the engine.

- Do not put your machine into motion immediately after the engine has started. Let it idle for several minutes until it reaches operating temperature.

■ Do a test run.

- Do a test run in a safe place to check that there are no abnormal signs.

- Listen for unusual sounds and abnormal temperature rise.

- Correct any problems before actual operation.

1.5 During Operation

■ Refrain from inattentive operation.

- Inattentive operation is dangerous and can cause accidents.

- Use extreme care for personnel in the path of the roller or around it. Always be aware of personnel and obstructions.

■ Be aware of your surroundings.

- Secure the path in the travel direction. When traveling backward, exercise extreme caution of people or obstructions.

- Night time operation obstructs your sense of distance. Carefully drive the machine at a speed suited to illumination. Keep the headlamps switched on, and if necessary provide additional lighting in the work area.

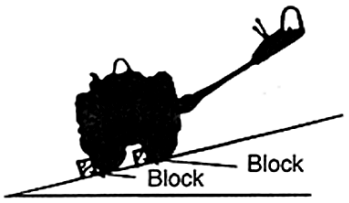
■ Repair as soon as possible if machine is defective.

- If the machine is found to be faulty, stop the machine and repair. Do not operate the machine until the problem is corrected.

- When inspecting the machine for faulty operation, make sure the machine is moved to a safe place first.

■ Parking the machine.

- Select a level and hard surface to park the machine. If it is necessary to park on a slope, block the front of the drums on the downside of the slope.

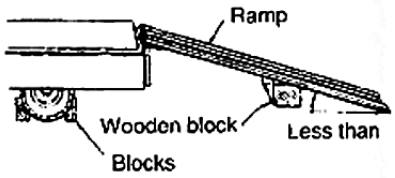


- When it is required to park on the public road, provide necessary cautionary flags, barriers and other safety indicators. Be sure they do not obstruct traffic.

- Before leaving the roller, place Forward-Reverse (F-R) lever in “Neutral” position and parking lock lever in “Lock” position, then shut off engine and remove the key from the ignition switch.

1.6 Loading and Unloading

■ Use extreme caution when loading and unloading. Unsafe practices can cause serious injury and/or damage.



- Select level and hard ground leaving a sufficient distance from the shoulder.

- Use sturdy ramps with proper width, length, and thickness, that allows safe loading and unloading .

- If they deflect considerably under load, apply wooden blocks to reinforce the ramps.

- To prevent your machine from diagonal slippage, keep the ramps and machine drums free from oil, mud, debris etc.

- Do not steer your machine on ramps. If the machine is facing in the wrong direction, dismount from the ramp, correct the direction and try again.

- Do not use kinked, twisted, or damaged wire ropes/cables for crane or winch operation. Use ample strength wires/cables.

- When lifting the machine, be sure to lift it vertically. Any lateral or longitudinal directional lift is hazardous as it may bend or damage the hook.

- When loading is complete, secure the machine with wooden blocks placed under the drums, and have chains fastened to the machine.

- Do not use steering system while loading or unloading.

1.7 Transportation

■ Follow required regulations of your local government for the transportation of equipment.

1.8 Handling the Battery

■ When handling the battery:

- Wear safety goggles, full face shield, rubber gloves and rubber apron when adding fluids to the battery and/or handling battery.

- The battery generates hydrogen gas which can explode. Do not allow any fire or any source of ignition to reach the battery.

- The battery generates flammable gases that can cause an explosion. Do not smoke close to the battery. Keep the battery away from flames, sparks and ignition sources.

- Battery electrolyte contains sulfuric acid. It will damage clothing and skin and can cause serious injury.

- If it touches your clothing or skin, flush with large quantities of water.

- In case of eye contact, flush with clean water and seek immediate medical attention.

- If swallowed, drink large amount of water, milk, beaten egg or vegetable oil, and seek immediate medical attention.

- Inspect or handle the battery with the engine shut down and the starter key in the OFF position.

- Keep metallic objects such as tools away from the battery terminals.

- Loose terminals can cause sparks leading to an explosion. Always secure the terminals tightly.

- The battery is intended only for starting this machine and not for other uses.

- Do not use or charge the battery with its electrolyte level remaining below the “Lower’’ mark (minimum electrolyte level). Immediately refill with distilled water so it comes to between the Upper and Lower levels

- Use with the level remaining below “Lower” mark accelerates deterioration of the battery internals and may even cause explosion.

■ Jump-starting the engine.

- Before starting up, make sure that Forward-Reverse (F-R) lever is in “Neutral” and starting switch is in OFF position, and engage blocking of drums.

- Wear safety goggles when jump-starting the machine.

- When starting from another machine, do not allow the two machines to make contact with each other.

- When connecting the battery cables, start with the positive terminal for disconnection.

-Do not allow a tool to bridge between the positive terminal and machine body. This can generate dangerous sparks.

- Do not connect the cable to wrong terminal. NEVER connect the positive terminal to the negative, and NEVER connect the negative terminal to the positive.

- Final connection to the engine block of the disabled machine can cause sparks. The connection point should be as far as possible from the battery.

1.9 Servicing

- Post a warning tag during inspection or servicing.

  - Starting the engine or touching any lever inadvertently by any third person while the roller is under inspection or in service may lead to serious personal injury.

  - Attach the warning sign in a visible position on the control handle if necessary. Post it additionally around the roller as well.

- Use proper tools when servicing machine.

  - It is very dangerous to use damaged or deteriorated tools, or to use tools for other purposes than its intended use.

  - Use correct tools for their intended use only.

- Change safety-related parts at regular intervals.

  - Replace fuel hose and high pressure hydraulic hoses regularly to prevent fire.

  - Replace high pressure hoses of the power steering system every two years

  - Change these parts at regular intervals even if found to be normal They will deteriorate over time.

  - Change any hose found to be damaged even if it is within its recommended service interval.

- With the Forward-reverse(F-R)lever placed in Neutral, apply parking brake and engage blocking.

- Inspect or service your machine with the engine stopped.

  - Use extreme care when servicing the machines with the engine running such as cleaning the radiator.

  - One operator should always be ready to stop engine in case of an emergency.

  - Be cautious not to touch any lever while servicing.

  - Service personnel should be cautious of any body part or clothing from being caught by moving parts.

- Supplying fuel and oils.

  - Clean up spilled fuel or oil immediately. Spilled fuel or oil can ignite.

  - Keep the filler caps tight.

  - Do not use fuel for flushing oil.

  - Handle fuel and oil in a well ventilated area.

- Checking coolant level in the radiator.

  - Shut down the engine and allow the engine and radiator to cool before checking levels.

- Keep unauthorized personnel away from machine

  - During service, do not allow unauthorized personnel to enter the work area.

- Keep your machine clean

  - Spilled oil, grease or debris are dangerous.

  - Do not use water to clean sensors, control cover, connectors and the operator's station.

  - Entry of water or moisture into electric system may cause operation issues or malfunctions.

- Repairing the electrical system.

  - Disconnect the negative battery cable from the battery to disable power when repairing the electrical system or when conducting welding.

- Carefully handle high pressure hoses.

  - Do not bend or cause any potential damage to hoses.

  - Do not use hoses or pipes that are bent or damaged as they can burst.

  - Replace damaged fuel and hydraulic hoses immediately before operation.

  - An oil or hydraulic fluid spill can cause a fire.

- Be careful of high pressure hydraulic fluid.

  - Hydraulic systems are under internal pressure. Do not add, drain, inspect or service the hydraulic system until the internal pressure has been relieved.

  - Leaking hydraulic fluid at high pressure can penetrate your skin and eyes.

  - Inspect leakage by holding a hard board close to suspected leaks wearing goggles.

  - If exposed to hydraulic fluid seek medical attention immediately.

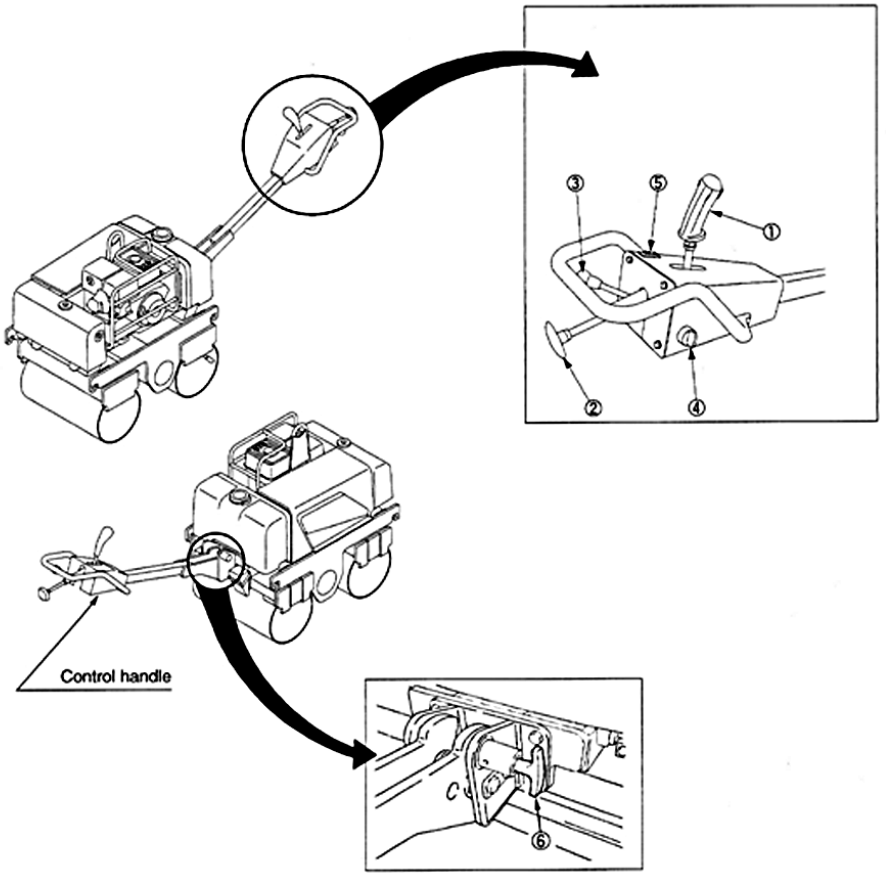
Basic Safety Precautions

- Be careful of hot parts.
  - After the machine has been operated, the coolant, engine oil and hydraulic fluid will become hot.
  - Removing the radiator cap or draining the coolant or oil can burn you. Perform this work after these systems have fully cooled down.
- Use care when inspecting or servicing fan or belts in motion.
  - Secure loose clothing and keep loose articles away that can get caught in moving parts.
  - Do not let your body or tools make contact with the fan blades or belts. This can result in serious injury or equipment damage.
- Dispose oil and other fluids properly.
  - Do not dispose used oil into a drain, waterway, or directly on the ground.
  - Obey all local, state and federal environment regulations for the proper disposal of oil, fuel, coolant, battery electrolyte or any other fluids.
  - Drain the oil from the machine into a proper container.

Operation

2.1 Instruments and Controls

2.1.1 Operator's station



1. Forward-Reverse(F-R) lever
2. Safety system knob
3. Throttle lever
4. Starter switch
5. Vibrating switch
6. Control handle lock pin

2.1.2 Controls

Familiarize yourself with the controls to operate this machine safely.

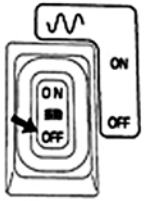
Forward-reverse lever

- This has three functions: Starting (forward or reverse,) stopping, and speed changing steplessly.
- Moving the Lever forward or reverse causes the roller to travel accordingly and placing it in neutral position causes the roller to stop.

NOTE: Traveling speed is in proportion to the angle of lever tilted.

IMPORTANT

- Do not operate the vibrator on a hard area such as cement concrete pavement surface or the ground covered by thick steel sheets.
- Keep the machine stopped when the machine is at rest.
- Shut off the vibrator immediately when the machine has been caught in mud during vibratory operation.

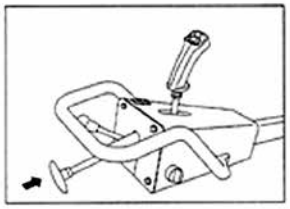


Vibrating Switch

- Vibration is generated when switch is set to the ON position.
- Vibration is shut down if set to the OFF position.

Safety System Knob

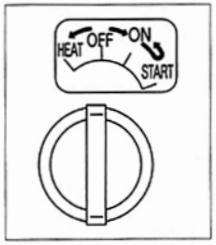
- When depressed, it causes the roller to travel forward at very slow speed



Starter Switch

- Starts and stops the engine.

HEAT: When the engine is cold, hold the starter switch in the HEAT position for about 10 seconds. The key will automatically return to the OFF position. Turn the key to the START position to start the engine.



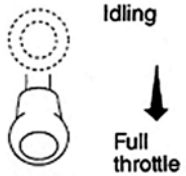
OFF: To shut down the engine, move the key to this position. All the electric systems are switched off. The key can be removed in this position.

ON: The machine is operational in this position. Let the key stay in this position after the engine has started.

START: Turn to this position to crank start the engine. The moment the engine has started, release the key. It will automatically return to the ON position

Throttle Lever

- Shifts the engine RPM
- The Engine RPM increases when moved toward the operator



IMPORTANT

- Changing the maximum engine rpm can be a cause of trouble.

2.2 Handling

Control Handle

- Can be folded for transportation.

To fold the control handle: Release the lock pin and then lift the control handle into fully folded position. Once in this position the pin automatically locks the handle.

To set the control handle to the operating position: Release the lock pin and then swing the control handle to the operating position. Once in this position the pin automatically locks the handle.

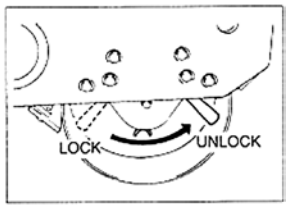
⚠ CAUTION After folding or shifting the position of control handle, make sure that it is positively locked.

IMPORTANT

- Do not clean the rear of the control cover with high-pressure water. Water or moisture that enters the electrical system can cause malfunctions.

Parking Lock Lever

- When parking, place the parking lock lever in“LOCK” position.
- When operating be sure to return the lever to “UNLOCK” position.
- **NOTE:** If the lever is difficult to operate try to moving the roller slightly forward and backward until lever can be moved.



⚠ WARNING When parked it is absolutely important that the parking lock lever is in"LOCK" position.

Never shift the lever to "LOCK" position while the roller is in motion. Do not use it for a service brake.

Use with mobile crane

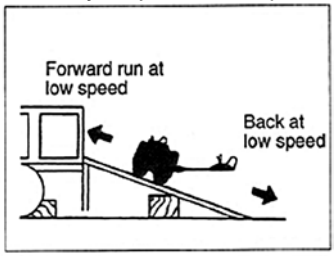
- Before lifting, check the crane's lifting limitations to ensure it is able to lift the roller and connect properly to the roller.
- Check the lifting cables to see if they are in good condition and have enough capacity to lift the roller.
- When lifting, set the stabilizer of the crane on the planking speed under it.
- The driver who transports the roller must make sure that the parking brake of his truck is applied and all tires are chocked.
- When lifting the crane, the operator and other workers must strictly obey hand signals.
- Fold the control handle up so it is locked in position.
- Connect the cables to the lifting hook of the roller. Carefully keep the machine well balanced with loading or unloading.
- Perform loading or unloading slowly, being careful not to allow the roller and cables to touch obstructions.
- Load the machine in the correct position on the truck bed.

⚠ WARNING Do not allow hook or cable of crane to come in contact with folded handle and/or lever.

Lift the machine perpendicularly to avoid accidents. Do not draw laterally, longitudinally or at angle.

2.3 Self-propelling

- Engage the trailer brake and wedge its wheels for safety. Adjust the ramp and trailer so they are completely aligned.
- The angle between the ramp and ground must be less than 15 degrees.
- Leave a proper space between the ramps according to the width of the roller drum.



- Always run machine at low-speed when loading or unloading.
- When machine is loaded, move the F-R level back to the neutral position and shutdown engine.

2.4 After Loading the Machine

- When the machine has been located properly on the trailer, secure it as follows:
- Set the parking lock lever to the "LOCK" position.
- When loading is complete, put wooden blocks at the front and rear of the rollers. Anchor the front and rear of the machine to the truck with wire/cables and two sufficient hooks that will prevent the machine from moving.
- When unloading, check to see if the machine has slipped out of place or is floating before removing machine.

2.5 After Operation

- Follow the procedures below to prevent the machine from being trapped in mud/other extraneous matter, or frozen drums:
- Remove mud and water and other extraneous matter from the machine that can get into and damage the seals of the hydraulic cylinder piston rod.
- Park the machine on a hard and dry surface. If surface not available, cover the ground with hard plates as an alternative.
- Low temperature will cause a significant reduction of battery efficiency. Cover battery or remove from the machine and store in a warm place for the following day's operation.
- Drain water from sprinkler system to prevent freezing.

IMPORTANT

- Insufficient draining of water can cause operating problems or damage to the system.
- If pressurized water is used for washing the machine, exercise caution and do not to allow water to enter exhaust pipe. Severe engine damage can occur.

2.6 Follow Seasonal Maintenance Schedule

- Follow maintenance based on seasonal/weather recommendations. Change oil and fuel per warm and cold weather recommendations.

2.7 For Extended Storage Periods

Proceed as follows if leaving the machine unused for longer than one month:

1. Clean and store the machine in a closed area.
2. Perform oiling, greasing and changing of oil. Grease lubricates the exposed portion of hydraulic cylinder piston rods.
3. Cover the battery after disconnecting the negative cable, or remove the battery from the machine and store in a safe place.
4. Completely drain the sprinkler system.
5. Place the F-R lever in the neutral position (N), place vibrator switch in the OFF position, and place the parking lock lever in “LOCK” position.
6. Wedge the machine.
7. Remove the starter switch key.

2.8 During the Storage Period

⚠ WARNING

When operating machine for anti-corrosive purposes, ensure good ventilation in the area, keeping windows and doors open to prevent gas poisoning.

During storage, operate the machine at least once a month to prevent the oils on the lubricated parts from deteriorating and to keep the battery charged.

2.9 When the Battery has discharged

⚠ WARNING

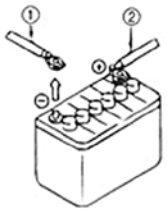
- To check and handle the battery, keep the engine stopped with the starter switch in the OFF position.

- Batteries give off explosive gases. Do not smoke or have sources of ignition close to batteries.

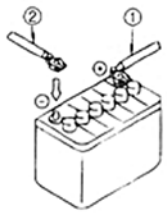
- Battery electrolyte is very corrosive and is harmful to your clothing and skin. If the electrolytes come in contact with your clothing or skin, flush with adequate amount of water. If electrolytes get into your eyes, flush with water and seek medical attention.

- To disconnect the battery cables, start with the negative terminal (ground). When connecting, start with the Positive terminal. Do not allow a metallic item to bridge between the positive terminal and machine body. This can generate sparks, causing an explosion.

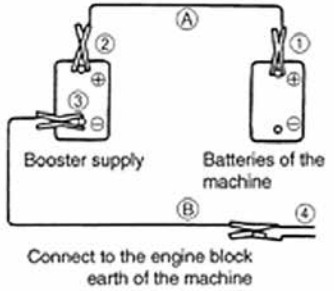
Disconnect with negative cable first



Connect with positive cable first



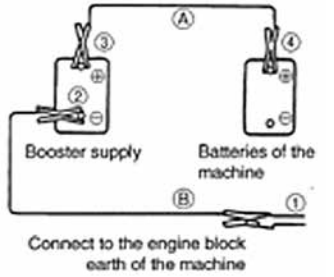
- Loose battery terminals can cause sparks, and may cause explosion. Make sure that connections to terminals are tight.



Connection and disconnection of booster cables for jump-starting

Connect the booster cables as follows:

1. Connect one end of the positive booster cable “A” to the positive (+) terminal of the battery on the machine.
2. Connect the other end of the positive booster cable to the positive (+) terminal of the booster supply.
3. Connect the negative booster cable “B” to the negative (-) terminal of the booster supply.
4. Connect the other end of the negative booster cable to a good ground of the engine block of the machine.



Disconnection of booster cables

1. Disconnect the negative booster cable “B” from the engine block earth
2. Disconnect the negative booster cable “B” from the booster supply.
3. Disconnect the positive booster cable “A” from the booster supply.
4. Disconnect the positive booster cable “A” from the machine.

⚠ WARNING

Do not allow the positive (+) terminal to make contact with the negative (-) terminal when connecting the booster cables.

Wear safety goggles when jump-staring the engine.

Do not allow the machine to contact with the booster supply.

Do not make wrong connections. Connect the negative(-) cable to the engine block ground far away from the battery, as sparks may occur when connecting.

⚠ CAUTION

Use booster cables and end clips of proper size suited to the battery capacity.

Use the batteries of the equal capacity for the machine and booster supply.

Check booster cables and end clips for signs of damage and corrosion.

Connect the clips positively.

2.10 Prevention of Engine Trouble due to water Entering Engine Cylinder

Preventive measures of water entering engine

- In order to prevent water from entering engine, take necessary measures by covering the exhaust with a “cap” or something similar to protect rain fall or accumulated snow from entering during long term outdoor storage, leaving the machine unattended at a job site, and while washing the machine with high pressure water.

- Extra precaution should be taken at the time of heavy rain or snowfall.

Inspection Prior to and Rules for Starting up Engine

- When water has possibly entered the engine after rain or snowfall, carry out the following procedures at the time of starting-up the engine.

Prior to starting-up the engine:

- Check the condition of engine oil and replace it if necessary.

At the time of starting-up the engine:

- With throttle lever placed at OFF position and decompression lever pulled, perform cranking operation a few times by means of crank handle or starter motor.

- Residual water will be removed through exhaust valve, reducing possible engine starting problems.

- After making sure that water has been removed, start the engine normally.

- If there is any possibility of water having entered, do not to start the engine normally until water has been removed.

Precautions

- Inspection and lubrication for this machine at correct and regular intervals significantly influences service life and the occurrences of malfunctions for this machine.

- This manual provides typical intervals for inspection and service. Following the recommended schedule enables your machine to operate in the best condition.

General precautions:

1. Always use genuine parts for replacement
2. Use lubricants recommended by MMD Equipment. Avoid mixing different brand lubricants
3. Use extreme care to prevent debris from entering hydraulic system when replenishing, changing, level checking, filter cleaning or replacing hydraulic oil, and when oiling and greasing other components.
4. Park the machine on a level and hard surface when checking oil level or changing oil.
5. Change oil after operation to ensure all oil is drained properly.
6. For long-term storage, fill the fuel tank, lubricate necessary points, and run the machine for at least 20 minutes once a month.
7. In temperatures below freezing, add antifreeze to the coolant according to the ambient temperature.
8. Have the hydraulic pump and motor serviced by authorized service shops.
9. Turn the starter switch OFF when performing services such as repairing broken wires, short circuits, and tightening loose terminals.

Periodical Replacement of Essential Maintenance Parts

- Inspect and service machine on a regular basis to ensure proper operation of the machine.

- For enhanced safety, the parts and components in the table bellow should be replaced periodically.

- These parts are prone to deterioration due to aging or physical change due to friction. It is difficult to determine their useful life by regular inspection, so it is recommended to replace these components after a certain period of service as stated below to maintain their full function.

- If any abnormality is detected such as cracks, deformation or oil leakage, replace immediately even if it is ahead its scheduled replacement time.

Periodical Maintenance

System or Mechanism	Part name	Periodical replacement maintenance parts	Replacement period	Remarks
Brake System	Master cylinder	Seals (rubber parts)	2 years	Applicable machines only
	Wheel cylinder	Seals (rubber parts)	2 years	Applicable machines only
	Brake piping parts	Brake hose	2 years	
		Air hose	2 years	Applicable machines only
	Operating parts	Cable	4 years	Applicable machines only
Steering System	Orbitrol	Seals (rubber parts)	2 years	
	Hydraulic piping parts	Hydraulic hose	2 years	
	Steering cylinder	Seals (rubber parts)	2 years	
	Hydraulic pump	Seals (rubber parts)	4 years	
Power Transmission System (inclusive of axle)	Axle	Seals (rubber parts)	4 years	Applicable machines only
	Travel pump	Seals (rubber parts)	4 years	Applicable machines only
	Travel motor	Seals (rubber parts)	4 years	Applicable machines only
	Hydraulic piping parts	Hydraulic hose	4 years	Applicable machines only
	Isolation rubber	Isolation rubber itself	4 years	Applicable machines only
Fuel System	Piping parts	Fuel hose	4 years	
Engine Related	Engine mounting parts	Isolation rubber	4 years	
	Seals (rubber parts)	Packing and other	4 years	
	Drive parts	V-belt	4 years	
Cooling system	Piping parts	Radiator hose	2 years	
Control related parts	Cable	Cable	4 years	Applicable machines only

⚠ CAUTION

With a new machine, change engine oil, adjust the fan belts and the drive belts after 20 operating hours for the first time only.

Check the electric wiring at a regular monthly intervals for:

1. Damage to the wire harness and loose clamps.
2. Loose sockets.
3. Function of electrical systems.

3.2 General Inspection

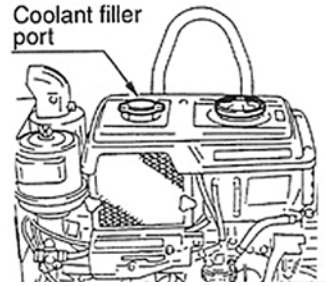
1. Perform every 10 hours (daily)

Engine crank case

- With engine positioned horizontally and on level surface, check oil level. Replenish if the level is not in between the marks on gauge
- Make sure that coolant is up to the neck of filler port. If not, replenish.

⚠ WARNING

Do not remove radiator cap while coolant is hot.

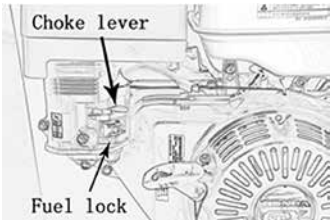


Fuel tank

Check fuel level with fuel gauge.

⚠ CAUTION

For refueling, park the machine on a level and solid surface.



2. Perform every 50 hours

Hydraulic tank

- Check oil level with level gauge. Level is proper when it is seen in the middle of gauge. If insufficient, replenish through filler port.

Battery

- Check the color of the hydrometer attached to the battery top to charge or replace the battery.

  Green = Good

  Black = Discharged too much

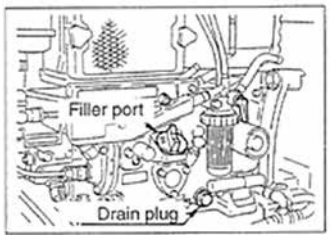
  White = Checking required

- Retighten any loose terminals. Apply grease or baseline to the terminals to prevent rusting and corrosion.

3. Perform every 100 hours

Engine crank case

1. Replace engine oil.
2. Remove drain plug to allow oil to be drained while oil temperature remains warm after operation.
3. Tighten drain plug and fill oil.



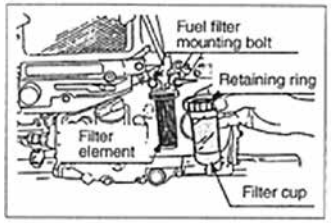
For a new machine, change oil at 20 operating hours for the first time only.

⚠ WARNING

Use caution when draining hot oil as it can cause burns.

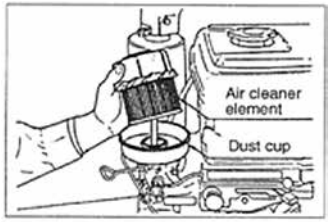
Fuel Filter

- With sediment cup removed,remove any dust or water accumulated at the bottom.



Air Cleaner

- After removing dust from cup, wipe the interior to clean, and clean the element by tapping it lightly or use compressed air blown from inside to remove dust.



⚠ WARNING

Exercise caution to prevent dust or debris to make eye contact.

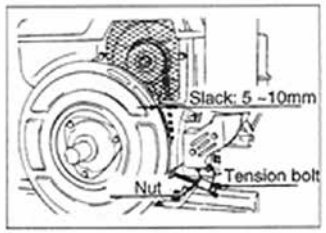
IMPORTANT

- When operating machine in more dusty/dirty environment, cleaning should take place in more frequent intervals.
- Any damaged element should be replaced with new one.
- Air cleaner should be replaced every year or after six cleanings.

Fan belt

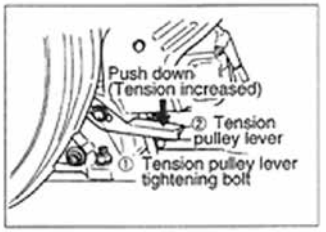
Checking the belt tension:

- Belt tension is proper if slack is 5 to 10mm when depressed between the pulleys with thumb.



Adjustment:

- With nut loosened, turn tension bolt clockwise to increase tension before tightening the bolt securely.



⚠ WARNING

Excessive belt tension will cause engine problems.

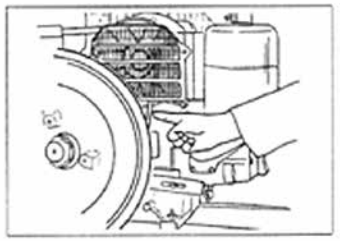
IMPORTANT

- With a new roller, V belt tension should be adjusted after 50 hours of operation for the first time only.

Drive belt

Checking the tension:

- Tension of this belt is proper if it slacks 2 to 3mm when depressed at its midway with a force of about 3kg.

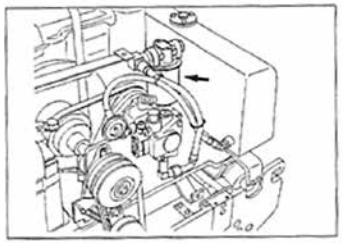


Adjustment:

- With pump bracket mounting bolts “A” loosened, loosen the nut of adjust bolt “B” and adjust tension using the bolt before tightening those loosened bolt and nut again.

IMPORTANT

- With a new roller, V belt tension should be adjusted after 20 operating hours for the first time only.



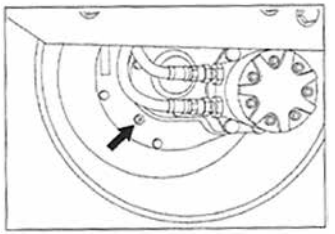
4. Perform every 200 hours

Hydraulic oil filter

- Replace filter cartridge

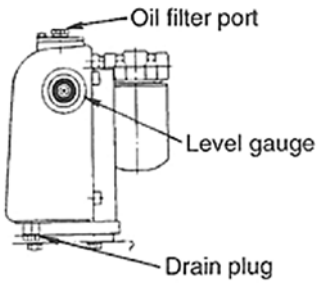
Gear reducer

- Apply grease to gear reducer for both front and rear roll.



5. Perform every 500 hours

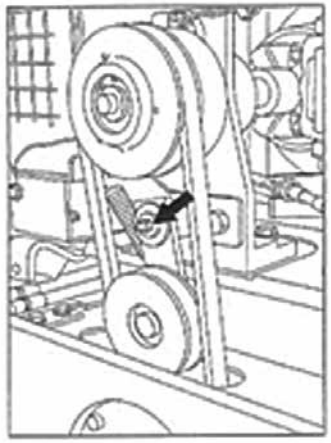
Hydraulic oil tank



1. Remove drain plug of hydraulic oil tank while oil remains warm and drain oil.
2. After cleaning the tank interior,fill the tank with new oil to specified level.
3. Start engine and run it for 2 to 5 minutes at idling speed. Check to make sure bubbles have disappeared from oil, stop engine and check the oil level again.

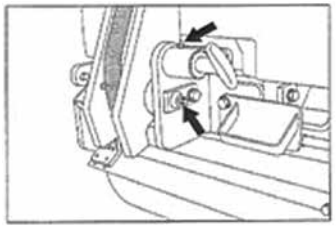
Idle pulley movable shaft for vibration

Apply grease to idle pulley movable shaft.



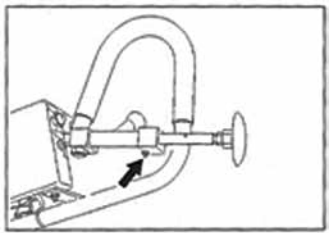
Control handle

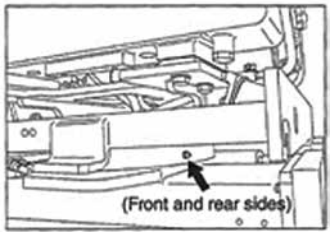
Apply grease to control handle and lock pin.



Safety system knob

Apply grease to pipe.

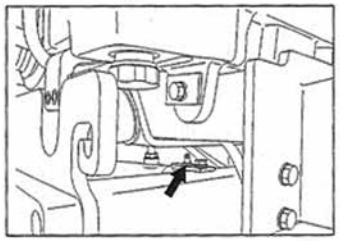


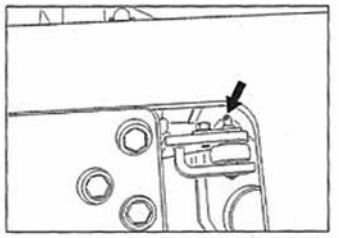


Swing bearing

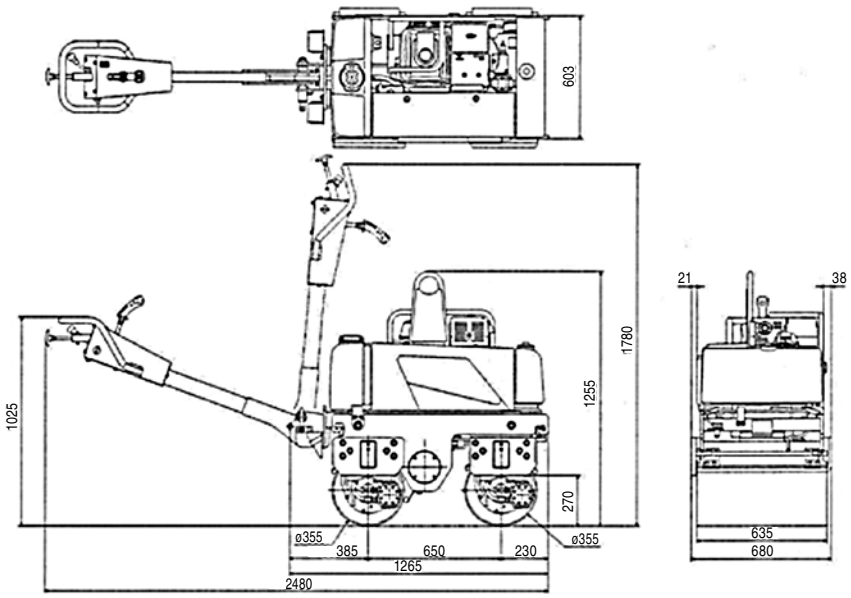
Apply grease to 2 locations:

1. Steering cylinder.
2. Apply grease to the cylinder head pin and piston rod pin.





Specifications



Model	PPSR-13
Operating weight (lb)	1653
Engine	Honda GX390
Fuel	Gasoline
Displacement	19.8 cu.in.
Engine Oil Capacity	6.8 qt.
Hydraulic Oil Tank	20 qt.
Engine type	Air-cooled, 4-stroke gasoline
Starting system	Electric
Horsepower	13
Vibration frequency (vpm)	3300
Certitifgural force	2653
Steering angle (degrees)	15
Gradeability	25
Speed (mph)	0-2.17
Drivetrain	Hydrostatic
Vibrating system	Eccentric shaft type
Rolling System	Double drums hydraulic series drive
Fuel capacity (gal)	1.7
Water tank capacity (gal)	7.9
LxWxH (in)	97.6x26.8x45.5
Compacting width (in)	25
Wheel base (in)	25.6

NOTE: Weights, dimensions and operating specifications listed on this sheet are subject to change without notice. Where specifications are critical to your application, please consult your sales representative.

Parts

Parts manual can be found online here:

parts.mmdequipment.com

Our online parts system includes the full and most updated catalog for PaverPro parts.

Find Online Parts Ordering at:

parts.mmdequipment.com

Need parts?

Scan for online parts ordering

Warranty

For MMD Equipment PaverPro Steerable Double Drum Roller
Buyer Information:

Roller is covered by warranty for a period of one (1) year from date of original purchase. Additionally, the original engine is covered by a separate warranty for a period of three (3) years from original purchase. The warranty coverage is continual from the original date of purchase, and does not restart upon the replacement of any part or complete unit. Individual parts replaced at any point during the warranty period are only eligible for warranty coverage for the balance of the original warranty period.

To be eligible for warranty service, the product must be purchased in the United States or Canada from an authorized MMD sales representative. This warranty applies to the original purchaser only and is not transferable. Proof of purchase and registration is required (see page 33). Parts and service labor will be covered by MMD Equipment for any failure that is proven to be a failure in material or workmanship under normal use during the applicable warranty time period. This coverage is limited to parts, and labor. It is the responsibility of the end user to return the product to the nearest authorized repair center as directed by the warranty administration office. MMD Equipment reserves the right to repair or replace any part or unit at its option. MMD Equipment may request defective parts to be returned. Anything replaced under warranty becomes the property of MMD Equipment.

THIS WARRANTY DOES NOT EXTEND TO PARTS AFFECTED OR DAMAGED BY ACCIDENT AND/OR COLLISION, NORMAL WEAR, FUEL CONTAMINATION OR DEGRADATION, USE IN AN APPLICATION FOR WHICH THE PRODUCT WAS NOT DESIGNED OR ANY OTHER MISUSE, NEGLECT, INCORPORATION OR USE OF UNSUITABLE ATTACHMENTS OR PARTS, UNAUTHORIZED ALTERATION, OR ANY CAUSES OTHER THAN DEFECTS IN MATERIAL OR WORKMANSHIP OF THE PRODUCT. THIS WARRANTY DOES NOT EXTEND TO NORMAL MAINTENANCE ITEMS PAST THE FIRST SCHEDULED REPLACEMENT OR SERVICE INTERVAL FOR THESE ITEMS WHICHEVER COMES FIRST. MMD WILL PAY FOR MINOR ADJUSTMENTS FOR A PERIOD OF NINETY DAYS FROM THE INSERVICE DATE OF THE ROLLER. MMD DENIES ANY RESPONSIBILITY FOR LOSS OF TIME OR USE OF THE PRODUCT, TRANSPORTATION, COMMERCIAL LOSS, OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGE. ANY IMPLIED WARRANTIES ARE LIMITED TO THE DURATION OF THIS WRITTEN LIMITED WARRANTY.

The U.S. Environmental Protection Agency (EPA) require manufacturers of small off-road engines to warranty their products with a two year warranty for those components that are specified as being part of the emission control system. MMD Equipment and EPA offer the following explanation of the Emission Control Warranty. In the United States and Canada, new small off-road engines must be designed, built, and equipped to meet stringent emission standards. MMD must warrant the emission control system on your engine for the periods of time listed below provided there has been no abuse, neglect, improper maintenance, or unauthorized application of your small off-road engine. If a warrantable condition is determined, MMD Equipment will repair your small off-road engine at no cost to you including diagnosis, parts, and labor. Emissions control parts on the engine are warranted for a period of two years, subject to provisions set below. If any covered part on your engine is defective, the part will be repaired or replaced by MMD Equipment. You are responsible to maintain the engine as defined in your MMD Owner's Manual. MMD recommends that you retain all record/ receipts covering maintenance on your engine but MMD Equipment cannot deny warranty claims based on the lack of receipts or for your failure to perform all scheduled maintenance. You may be denied warranty coverage if a part has failed due to abuse, neglect, improper maintenance, or unapproved applications.

Repair or replacement parts are warranted for ninety (90) days from the date of purchase. Any part replaced during the base warranty period assumes the remainder of that warranty period or ninety (90) days, whichever is greater. An exception is made for the following parts which will be warranted for six months (180 days) from date of purchase. To be eligible for warranty coverage, the replacement part must have been purchased in North America from an authorized MMD sales representative. This warranty applies to the original retail purchaser only and is not transferable. Proof of purchase is required. Parts exported from North America are excluded from warranty coverage. (1) Repair of replacement parts will be covered by MMD Equipment for any failure that is proven to be a failure in material or workmanship under normal use during the warranty period. The warranty for replacement parts will be limited to direct replacement only with no allowance for freight and transportation charges. The issuance of credit or a cash return of the purchase price will not be applicable. MMD Equipment may request defective parts to be returned for examination before the issuance of credit. (2) Reimbursement of labor charges to replace a defective part under its warranty period will be limited only to authorized service centers and then only if an authorized service center installed the defective part. Travel time is not authorized.

Warranty Registration

Please complete this page and **FAX** to:

210-923-3489

Or mail a copy to:

MMD Equipment
602 Dunton Street
San Antonio, TX 78226
Attn: Product Registration

Retail Purchase Date_____

Model Number_____

Serial Number _____

Sales Representative_____

Sales Representative Location (City/State)_____

Buyer Name_____

Address _____

City/State/Zip Code_____

E-mail _____

Notes

Notes

Scan for MMD technical support

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