



GM1ze

OPERATOR MANUAL

GREEN MACHINES.

Model **GM1ze** ←

Part Number:

Date:

CONTENTS.

1. Preface.	3
2. Identification Plate.	3
3. Function of the GM1ze .	3
4. Warnings and Safety Precautions to the Operators.	3
5. Training of the GM1ze ; Operators and Maintenance Staff.	4
5. 1 – Subjects of training necessary for operators of the GM1ze .	4
5. 2 – Subjects of training necessary for technicians of the GM1ze .	4
6. Functions Ensuring Safe Usage.	4
7. Technical Features.	5
7. 1 – Duration of Operation.	5
7. 2 – Duration of Charge.	5
7. 3 – Battery Capacity.	5
7. 4 – Control Rod.	5
7. 5 – Tiller Head.	5
7. 6 – Drive System.	5
7. 7 – Motion Characteristic.	5
7. 8 – Vacuum Fan.	5
7. 9 – Suction Pipe.	5
7.10 – Filter System.	5
8. Initial Controls.	6
9. Operating and Functions.	6
9. 1 – Tiller Head.	6
9. 2 – Operator Control Panel.	7
9. 3 – Operation the vacuum fan.	7
9. 4 – Operation the GM1ze .	7
10. Notification of Failures.	8
11. Maintenance.	8
11. 1 – Battery Control.	8
11. 2 – Maintenance and cleaning of the Air Filter.	8
11. 3 – Tire Control and Air Pressure.	8
11. 4 – Electrical and Mechanical System Maintenance.	8
11. 5 – Daily Maintenance and Controls.	8
12. Attention.	9
13. Warranty.	9
14. Environmental.	10

1. Preface.

This manual is intended to inform the operator due to subject of operation and maintenance of the **GM1ze**. This manual should be absolutely read by operators before starting to operate the **GM1ze** in safety. GREEN MACHINES cannot be held responsible for any damages/injuries that may be caused on persons and objects while use in scope of this Operator Manual.

2. Identification Plate.

Please find the identification plate of the **GM1ze** on the upper right hand side of the machine. The plate shows information about the **GM1ze**.



	
PRODUCT:	GM1ze / 36 V
SERIAL NO:	GM201605/36003
DATE:	11.05.2016
www.greenmachines.com	

3. Function of the GM1ze.

The **GM1ze** has been designed and manufactured for collecting solid sweepings. Such as light materials, dead cigarette ends, leaves, plastic bottles etc. which can pass through the vacuum pipe.

In closed and open areas:

- ➔ In closed traffic.
- ➔ Squares and pavements.
- ➔ In closed and open car parks.
- ➔ In shopping centers.
- ➔ Parks and gardens.
- ➔ Suitable for use in areas like hospitals, universities, factory sites, camp grounds, etc.

4. Warnings and Safety Precautions to the Operators.

Maintenance on the **GM1ze** should be made by competent personnel with occupational and technical qualifications sought in law. Technicians should first read the **GM1ze** Maintenance and Fault Finding Manual. The operators should be provided necessary training.

If personnel without training uses/operates/drives the **GM1ze**, he/she may harm himself/herself.

Discharging of the garbage chamber; please remember to turn the starting switch of the **GM1ze** 'OFF' to prevent risk of interference of the **GM1ze** by non-concerned people, and to switch it to safety position by pressing the (Emergency Button – Red) button on the control panel.

The **GM1ze**, with its multi-function command feature, provides safe use under the control of the operator. It is dangerous and potentially harmful to carry people or goods on this **GM1ze**. Adding further functions to the **GM1ze** beyond those specified in this guide, may not be held without the approval of GREEN MACHINES. GREEN MACHINES may not be held responsible for injuries/damages caused by any change on the **GM1ze**, without GREEN MACHINES approval.

5. Training of the GM1ze; Operators and Maintenance Staff.

GM1ze is designed and produced by considering safety factors. It is obligatory; machine must be operated by personnel with proper training.

5. 1 - Subjects of training necessary for operators of the GM1ze.

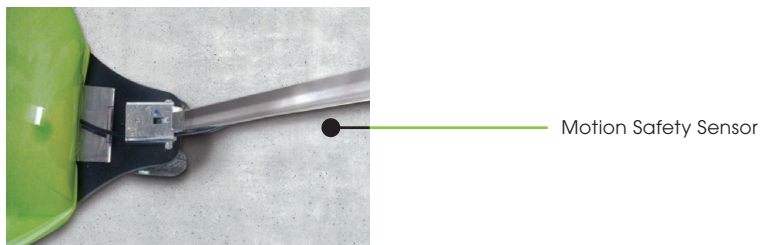
- ➔ Reading **GM1ze** Operators Manual.
- ➔ Introduction to functions and components of machine.
- ➔ On-site training and Safe drive training.

5. 2 - Subjects of training necessary for technicians of the GM1ze.

- ➔ Reading the **GM1ze** Operators Manual and the **GM1ze** Maintenance Manual.
- ➔ Introduction to the functions and components.
- ➔ Operating information.
- ➔ Maintenance and Repair training.

6. Functions Ensuring Safe Usage of the GM1ze.

- ➔ **Dead-man's Function:** Blue color Motion Safety Sensor, is going to activate and stop the **GM1ze** immediately on leaving the control rod for free position in case of emergency.



- ➔ **Belly Button:** If operator get stuck between the **GM1ze** and for instance a wall, the Belly Button gets in contact with the operator's body, the **GM1ze** will automatically halt the motion then make some backward motion and then completely stop.
- ➔ **Grips control (Automatically neutral position):** The propel control throttle on the control arm ensuring forward and backward motion ensures that the operator drive the **GM1ze** at the desired speeds. When throttle button is released motion will stop.
- ➔ **Park brake:** It will automatically activate whenever the **GM1ze** stops, or caused to stop in operating condition of the **GM1ze**, and will remain active until another command from the operator by controlling throttle.
- ➔ **Audio warning system:** It activates and gives warning as the **GM1ze** moves backwards. Audio warning causes awareness for both the operator and people around the place of operation of the **GM1ze**.
- ➔ **Emergency Button:** In case of emergency, pressing EMS Button halt the motion block the machine.

7. Technical Features.

7. 1 - Duration of Operation.

Machine works 8 –16 hours in full charge.

7. 2 - Duration of Charge.

Duration of charge is 8 hours.

7. 3 - Battery Capacity.

36 V of traction lead acid batteries (6 pcs x 6 V). Or 48 V of traction lead acid batteries (6 pcs x 8 V).

7. 4 - Control Rod.

The **GM1ze** is designed for easy use with a control rod. Control Rod can move angularly; down, right and left.

7. 5 - Tiller Head.

Functional Tiller Head installed on the control rod.

7. 6 - Drive System.

- ➔ Differential axial system installed on the chassis.
- ➔ Hub system.
- ➔ User-controlled traction motor.
- ➔ 3,00/4 pneumatic tires at the front. 2 pieces.
- ➔ 4,00/8 pneumatic tires at the rear. 2 pieces.

7. 7 - Motion characteristic.

Electrical motor driven system.

7. 8 - Vacuum Fan.

Vacuum fan is servo controlled (suction pressure: 25 mBar).

7. 9 - Suction Pipe.

- ➔ Length: 900 mm. Diameter: 125 mm. Solid waste vacuum pipe.
- ➔ Adjustable, orthopedic, ambidextrous holding rod is present on the suction pipe.

7.10 - Filter System.

- ➔ Preliminary filter under the filter cabin.
- ➔ Secondary filter within the cartridge..
- ➔ Easy-to-clean filter.
- ➔ Automatic water spray dust suppression system at the preliminary filter.

8. Initial Controls.

GM1ze requires a series of supervision and control before each and every drive.

Check the following carefully:

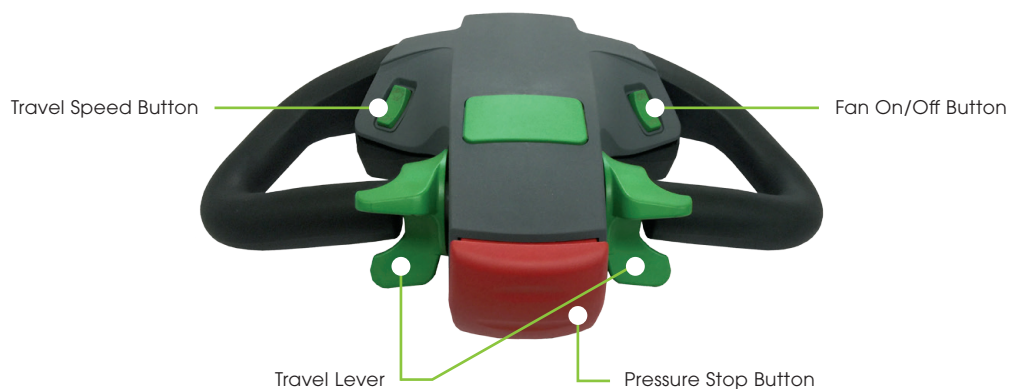
- ➔ Any damage on the machine.
- ➔ Control rod is operational and fan control button is functional.
- ➔ Park brakes are functional.
- ➔ Beacon and lighting.
- ➔ If garbage chamber and filter system are clogged or not.
- ➔ Indicator panel (Charge Level).
- ➔ Emergency stop button function.
- ➔ Air pressure of tires.

9. Operating and Functions.

9. 1 - Tiller Head.

- ➔ In case of an emergency; Belly button (Pressure Stop) must be pressed, machine will first stop and then automatically halt after some backwards motion.
- ➔ Fan ON/OFF button start/stop the vacuum,
- ➔ Travel speed button (rabbit/turtle) on the left controls movement speed.
- ➔ Tiller Head is taken to low position, and forward or backward motion is ensured by pressing the travel lever motion throttle on Tiller Head in desired direction.

TILLER HEAD OVERVIEW.



9. 2 – Operator Control Panel.

- ➔ Pressing Emergency Stop (red button) stops the machine.
Emergency button should be kept pressed to prevent any tampering by third persons.
- ➔ The start/power switch provides and ceases power to the system.
- ➔ ON/OFF keys to the right is for the light switch, in the middle of the operator control panel is for activation/deactivation of the beacon. ON/OFF key on the left controls water jet.
- ➔ Fan operating time on the operator control panel to the right of the machine informs how many hours the fan engine worked.
- ➔ Battery charge level, traction motor operating time and failure code indicator on the operator control panel. Display screen shows battery charge level. Concerned error code will show up on the digital screen in case of any warning and error, and the warning led lamp will blink meanwhile.

OPERATOR CONTROL PANEL.



9. 3 – Operation of Vacuum Fan.

Operation of vacuum fan can be started/stopped by pressing fan switch on Tiller Head.

9. 4 – Operating GM1ze.

- ➔ Activate EMS Button.
- ➔ Turn the Start/Power Switch.
- ➔ Control voltmeter and machine operating hours indicator.

For Motion:

- ➔ Move the control rod down.
- ➔ Press travel lever on the Tiller Head. When travel lever is released motion will stop.
- ➔ On rabbit mod your motion will be fast and on turtle mod your motion will be slow.
- ➔ When you move backwards your speed reduces by half.
- ➔ It is not necessary to move the control rod down to operate vacuum fan.
- ➔ And after you finish cleaning turn the starting switch to OFF position and deactivate EMS Button.

10. Notification of Failures.

- ➔ Daily and general maintenance of the **GM1ze** should be made to prevent any major breakdown. (see **GM1ze** Maintenance manual)
- ➔ If the **GM1ze** cannot be charged, a repair notification should be made.
- ➔ If the dust filter is clogged, the filter should be replaced.

11. Maintenance.

Electrical and mechanical maintenance of the **GM1ze** should be carried by expert personnel with technical qualifications out. (see **GM1ze** Maintenance manual)

11. 1 - Battery Control.

- ➔ Battery water level control should be made after 10 working days before connecting to charge. If the water level is below plates, then pure water must be added.
- ➔ Check lead terminals of batteries every 10 working days. In case of any oxidization or loosening, report to the maintenance technician.

11. 2 - Maintenance and cleaning of the Air Filter.

In case of some weakness in the suction (vacuum power) of the machine; remove the air filter, pat on it with mild strikes to remove any dust on the filter, and reinstall. If filter is deformed, then request a new filter from the authority.



11. 3 - Tire Control and Air Pressure.

Front drive system of the **GM1ze** has been designed as double tires. It is not safe to propel the **GM1ze** on a single tire.

- ➔ Check front tire air pressure.
- ➔ Check rear tire air pressure.

11. 4 - Electrical and Mechanical System Maintenance.

Electrical and mechanical maintenance should be made every 3 months by a trained technician.

11. 5 - Daily Maintenance and Controls.

- ➔ Charge batteries every day if used. Even the machine is not operated at all, charge it once a month to avoid shortening of accumulator lifetime.
- ➔ Check batteries water level every ten days, and complete with pure water if deficient.
- ➔ Check the air pressure of tires.
 - Front tire (3.00/4) 60 PSI.
 - Rear tire (4.00/8) 50 PSI.
- ➔ Clean dust filter daily (by shaking). Replace filter if dirty and clogged enough to lower vacuum.

12. Attention.

Safety system control of the machine should be made on a daily basis at start of the work and thereafter. Check brake function of **GM1ze** when emergency button is at pressed position.

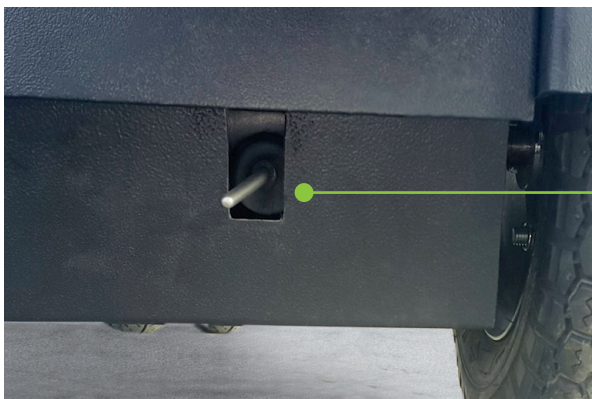
Park the **GM1ze** after controls to avoid any tampering by non-concerned individuals.

DANGER: Any modification on the **GM1ze** will affect and harm safe use of the machine. Interference by people without authority and technical competence to the parts inside and outside the **GM1ze** will cause danger.

DANGER: Safe use of the machine depends on the carefulness of the operator.

ATTENTION!

In case of any **GM1ze** breakdown; if the system is not functional; but it is necessary to move the **GM1ze** use the mechanical brake rod on the axle. Deactivate brake system and pull machine easily from its point of breakdown to where it is to be taken. It is necessary to resume the former position of the brake rod on arrival to its destination.



Brake On | Off Rod

ATTENTION!

DO NOT USE BRAKE ON/OFF SYSTEM on ramps and slopes. Otherwise you can lose control of the **GM1ze** and cause an accident.

Use wedge if the **GM1ze** must be parked at a slope.

Throughout the process, the control of the **GM1ze** will be entirely at operator's control, and after the process, park machine with mechanical brake.

13. Warranty.

The guarantee period of the **GM1ze** is 1 year or 1000 hours against manufacturer or workmanship errors.

Warranty scope will not be valid in following cases.

- ➔ Inappropriate usage of the **GM1ze**.
- ➔ Breakdown and damages arising from erroneous use (user error).
- ➔ Inadequate and incorrect maintenance.
- ➔ Non-original spare part usage.
- ➔ Exposure to water of the electronic parts of the **GM1ze**.
- ➔ Inadequate daily periodic maintenance and negligence.,
- ➔ Maintenance and service interference by persons without authorization and technical qualification.,
- ➔ Exposing machine to the voltage value out of voltage range (230V ±10 V) .

14. Environment Info.

Material and components necessary for production of the **GM1ze** has been designed with environment friendly materials. Therefore; it is necessary to deliver the scraped **GM1ze** to the public or special authorized organizations in relation with scrap or recycling.

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