

model no. 011-1871-4

MOTOMASTER
ELIMINATOR

MOBILE POWER OUTLET 1000 W INVERTER



IMPORTANT:

This manual contains important safety and operating instructions. Read all instructions and follow them with use of this product.

INSTRUCTION MANUAL



DO NOT RETURN THIS PRODUCT TO THE STORE!

QUESTIONS? CALL CUSTOMER SERVICE, HOTLINE: 1-877-466-8191

MOTOMASTER ELIMINATOR

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This manual contains information that relates to protecting personal safety and preventing equipment problems.

Carefully read and follow the guidelines in this manual and give special attention to the caution and warning statements.

ABBREVIATIONS AND ACRONYMS

A	Amp (Ampere)
AC	Alternating current
cm	Centimeter
DC	Direct current
mm	Millimeter
V	Volts
W	Watts

SHOCK AND FIRE HAZARDS

- Do not expose the inverter to rain, snow, spray, or bilge water.
- Make sure the inverter wiring has proper size/rating and is in good condition. Operating the inverter with damaged wiring

may void warranty and result in shock or fire.

- Do not use the inverter if it is hit, dropped, worn, broken, or damaged.
- Do not attempt to service or disassemble the inverter, as it does not have user-serviceable parts.
- Disconnect AC and DC power source from the inverter, before attempting to service, clean, or operate on any circuits connected to the inverter. Simply turning OFF the ON/OFF switch of the inverter will not disconnect the power, thereby causing electric shock.
- Use only components recommended or sold by the manufacturer, as doing so may result in electric shock or injury to persons.

EXPLOSION AND FIRE HAZARD

- Never operate the inverter near flammable items or explosives, such as in cabin of a gasoline powerboat, or near propane/fuel tanks, in compartments containing batteries or flammable materials, locations that require ignition protected equipment, joints, fittings or any connections between fuel system components. This inverter contains components which tend to produce arcs or sparks.
- Never smoke while handling the inverter.

FIRE HAZARD

- Do not cover or obstruct the ventilated openings of the inverter, as doing so may cause overheating.
- Never install the inverter in a zero-clearance environment.
- Do not place any materials near the inverter that could be easily damaged by heat.

EQUIPMENT DAMAGE

- Do not connect inverter to live AC power circuits or any AC device with neutral conductor connected to ground, as doing so may damage the inverter even if it is switched OFF.
- It is not recommended to use this inverter with any life support system used for medical applications.

SAFETY PRECAUTIONS WHEN WORKING WITH BATTERIES

Follow all instructions mentioned by the manufacturer to avoid explosion of the battery.

EXPLOSION HAZARD

- Do not drop a metal tool on the battery, as doing so can create spark or short circuit in the battery or other electrical parts, resulting in battery explosion.
- While removing the battery, make sure to remove grounded terminal from the battery and disconnect other electrical connections.

IMPORTANT!

Read and keep this owner's manual for future reference. This chapter contains important safety and operating instructions.

- Make sure the area around the battery is well ventilated and free from spark or flame.
- Have someone within the range of your voice or nearby for help when working with the lead-acid batteries.

CHEMICAL HAZARD

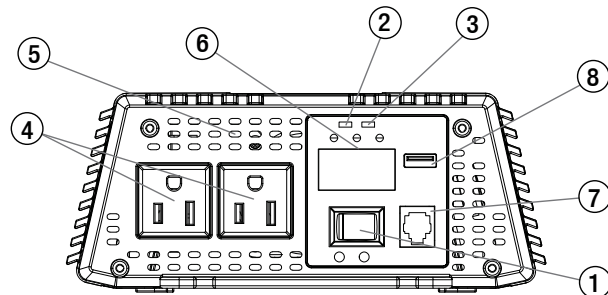
- Remove all metal items such as rings, bracelets, and watches when working with the lead-acid batteries. The batteries may produce short circuit current that can weld metals, thereby causing severe burns on skin.
- Make sure there is plenty of fresh water and soap near the work area. If a person's skin or clothing accidentally contacts with battery acid, wash immediately with soap and water. If the acid enters eye, wash immediately with running cold water for a minimum of twenty minutes and get medical attention immediately.
- Always wear complete eye and clothing protection. Avoid touching your eyes while working with the batteries.

EQUIPMENT DAMAGE

- Do not use this inverter to charge small battery operated appliances such as flashlights, razors, and night lights that can be plugged directly into an AC outlet.
- Never use this inverter for hand power tool applications. The battery chargers provided for the tools will have a warning label indicating that battery terminals contain dangerous voltage.
- In case of difficulty using your rechargeable appliance with the inverter, contact the equipment manufacturer to determine the rechargeable appliance's compatibility with the modified sine wave (non-sinusoidal) AC waveform.
- Make sure the inverter is turned OFF when not in use, to prevent unnecessary battery discharge

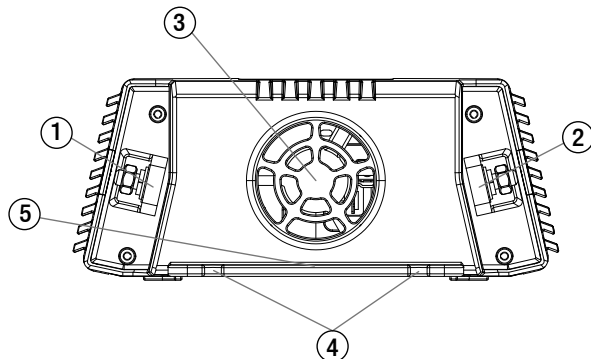
AC PANEL

- | | |
|----------------------|------------------------|
| 1 ON/OFF switch | 5 Ventilation openings |
| 2 Power light | 6 LED display |
| 3 Fault light | 7 Remote switch port |
| 4 3-prong AC outlets | 8 USB Output |



DC PANEL

- | | |
|-------------------------------|-------------------------------|
| 1 Negative DC terminal | 4 Screw mounting holes |
| 2 Cooling fans | 5 Mounting flange |
| 3 Positive DC terminal | |



GENERAL USE

The MotoMaster® Eliminator Mobile Digital Power Inverter is suitable for recreational vehicles and truck applications.

It provides up to 1000 W of continuous output power for loads such as mini refrigerators, VCRs, mid-sized power tools, 600 W microwaves.

SAFETY FEATURES

The MotoMaster® Eliminator mobile power outlet includes the following safety features to ensure safe and trouble free operation :

LOW BATTERY VOLTAGE ALARM

- The alarm produces an audible sound if the battery discharges between 10.5 V - 11.5 V.

LOW BATTERY VOLTAGE SHUTDOWN

- This feature automatically shuts down the inverter if the battery voltage drops below 10 V - 11 V to prevent the battery from being completely discharged.

HIGH-VOLTAGE SHUTDOWN -

This feature automatically shuts down the inverter when the battery

voltage rises between 15 V -16.3 V due to a defective battery.

OVERLOAD PROTECTION - This feature automatically shuts down the inverter when a device rated more than 1000 W is plugged into the mobile power outlet.

OVERHEAT PROTECTION - This feature automatically turns OFF the inverter in case the outlet overheats due to improper ventilation or a high ambient temperature.

OUTPUT SHORT-CIRCUIT

PROTECTION - This feature automatically shuts down the inverter in case of a short circuit in the connected device.

SURGE PROTECTION - This feature automatically shuts down the inverter when a device starting power is more than the peak power of the inverter.

MAIN FEATURES OF AC PANEL

ON/OFF SWITCH - Turns the inverter's control circuit on and off. This switch **1** is not a power disconnect switch. Disconnect AC and DC power before working on any circuits connected to the inverter.

POWER LIGHT - This light **2** is a green light indicating the ON/OFF switch is on and AC voltage is present at the inverter's AC outlets.

FAULT LIGHT - This light **3** is a red light indicating the inverter has shut down due to low or high battery voltage, unit overload, or over temperature.

Note: To restart the unit after a fault condition has occurred, turn off the unit, and then wait 3 to 5 seconds before turning the unit back on.

3-PRONG AC OUTLETS - Mobile Digital Power inverter delivers a combined total of 1000 W of continuous AC power across two outlets **4**.

VENTILATION OPENINGS -

The openings **5** must not be obstructed for the proper operation of the inverter. When the inverter is mounted, the ventilation openings must not point up or down.

LED DISPLAY - This display **6** show DC input voltage (V)/AC output voltage (V)/AC output power (KW).

Note: If you use the 600 W output, AC output power will display 0.60;

REMOTE SWITCH PORT - The port **7** through which the remote control is connected using a communication cable of 1.8 m.

USB OUTPUT - The output **8** charges USB-enabled devices with power of 5 V, 2.1 A.

MAIN FEATURES OF DC PANEL

NEGATIVE DC TERMINAL -

This terminal **1** accepts ring connector of the negative battery cable connected to the battery.

COOLING FAN - The fan **2** will activate when loads are connected to inverter to draw a significant amount of power or when the internal temperature exceeds the ambient operating temperature. The fan will turn off when loads are disconnected from inverter or when the internal temperature is equal to the ambient operating temperature.

POSITIVE DC TERMINAL -

This terminal **3** accepts ring connector of the positive battery cable connected to the battery.

MOUNTING FLANGE WITH SCREW MOUNTING HOLES - This feature **4** & **5** is used to install the inverter on a car or wall.

TROUBLE LOADS

The electrical appliances mentioned below may be damaged when connected to this inverter.

- Some induction motors used in freezers, pumps, and other motor operated equipment need high surge current to start. This inverter may not be able to start these motors even though their rated current is within the operating limits. The inverter will start single phase induction motors rated at 500 W or less.
- Electronics that modulate RF (radio frequency) signals on the AC line will not function and may be damaged.
- Metal halide arc (HMI) lights will be damaged.

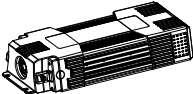

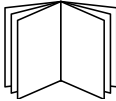
NOTE:

- If devices connected to inverter draw a small load when compared to the capacity of the inverter, the display will indicate zero as power output. This is normal condition. In such case, please check whether the small load device operates with required capacity. For assistance, contact our customer support at 1-877-466-8191.

NOTE:

If you have trouble when using the inverter, please contact our customer support at 1-877-466-8191.

PACKAGING CONTENTS

NO.	MATERIAL NAME	QUANTITY	ILLUSTRATION
1	Mobile Digital Power Inverter	1	
2	1.8 m wired remote control	1	
3	Owner's manual	1	

NOTE:

If any of these materials are missing or damaged, please contact our TOLL-FREE, Hotline: 1-877-466-8191.

LOAD PERFORMANCE CHART

APPLICATIONS	PERFORMANCE RATING	
	MODIFIED SINE WAVE INVERTER	PURE SINE WAVE INVERTER
LCD/Plasma TV	—	***
Standard TV	**	***
Audio equipment	*	***
Laptop	***	***
Desktop computer	**	***
Microwave	**	***
Table saw/ Air compressor	**	***
Hand power tool	**	***
Coffee maker, toaster, hair dryer	**	***
Blender, mixer, coffee grinder	**	***
Laser printer	—	***
Photo copier	—	***
Bubble jet printer	**	***
Fax machine	**	***
Air conditioner	*	***
Light (incandescent)	***	***

APPLICATIONS	PERFORMANCE RATING	
	MODIFIED SINE WAVE INVERTER	PURE SINE WAVE INVERTER
Light (others)	* *	* * *
Medical equipment	—	* * *

—	Not recommended	* *	Good performance
*	Adequate performance	* * *	Ideal performance

NOTE:

Even though the inverter can supply momentary surge power up to 2000 W, some appliances may exceed capabilities of the inverter and trigger the safety overload shutdown circuit. It is recommended to check the output of your appliance.

BEFORE INSTALLATION

Follow all instructions including safety guidelines mentioned in this manual. We recommend you to familiarize with all features before installing and operating the inverter.

DETERMINING BATTERY CAPACITY

This inverter should be used with 12 V DC batteries. The battery capacity is determined on the power requirements of the loads.

LOAD RUN TIME SPECIFICATION

LOAD RUN TIME PER BATTERY TYPE					
APPLIANCE	WATTS	22 NF (50 AH)	24 NF (75 AH)	27 NF (100 AH)	8D (200 AH)
Small refrigerator	120	2 h 45 min	4 h	5 h	11 h
TV/VCR combo	200	1 h 30 min	2 h 30 min	3 h 30 min	7 h 30 min
Small coffee maker	600	—	30 min	45 min	2 h
Microwave oven	1000	—	—	25 min	1 h

— Not recommended

**WARNING!**

Please consult an electrician for installing electrical equipment, if there is difficulty identifying local electrical codes. Only qualified professionals can easily identify the applicable installation codes and the hazards involved in performing electrical work.

DETERMINING BATTERY CABLE

- Proper cables and fuses are needed to operate the inverter safely and effectively.
- Due to low voltage and high input current characteristics of the inverter, it is recommended to use low resistance wiring between the battery and the inverter to deliver maximum amount of usable energy to the load.

RECOMMENDED BATTERY CABLE

	LENGTH	GAUGE
Battery Cable (2 required)	≤ 3'	At least 6 AWG
	≤ 6'	At least 4 AWG
	≤ 10'	At least 2 AWG

NOTE:

Appropriately sized cable will be available at welding supply house or marine supply store.



CAUTION! EQUIPMENT DAMAGE

- The inverter will not operate if connected to a 6 V battery and will be damaged if connected to a battery of 16 V or more.
- Never use a DC cable longer than 5' (1.5 m). Doing so may generate excessive heat or start a fire and affect the inverter performance.

CHOOSING A LOCATION

The inverter contains components that tend to produce arcs or sparks. The inverter should be operated only in locations that meet the following requirements:

CONDITION	DESCRIPTION
Dry	Avoid splashing of water or other liquids on the inverter.
Cool	Maintain ambient air temperature between 32°F and 105°F (0°C and 40°C). The inverter performs better when operated in a cool condition.
Ventilated	Allow atleast 3" (7.5 cm) of clearance around the inverter for airflow. Ensure that the ventilation openings on DC and AC panels are not obstructed.
Safe	Do not operate the inverter in a compartment containing batters or flammable liquids like gasoline.
Close to battery	It is better to use longer AC wires than longer DC wires. This will reduce wire resistance, thereby minimizing the voltage drop and cost. Usage of longer DC wires will increase wire resistance and reduce input power.
Protection from battery gases	Do not mount the inverter in a place where it is exposed to gases produced by the batteries. Prolonged exposure to these gases will damage the inverter, as they are very corrosive.

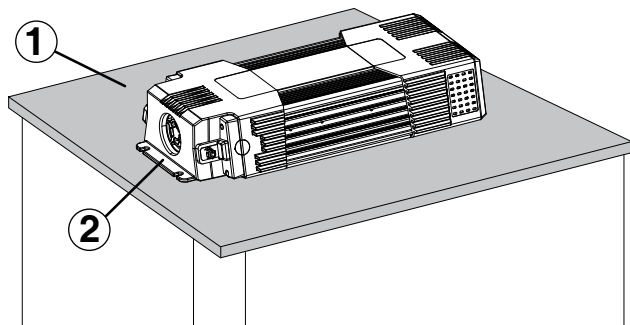


WARNING!

- To prevent fire or explosion, do not install the inverter in compartments containing batteries, flammable materials, or ignition-protected equipment.
- Do not cover or obstruct the ventilation openings of the inverter.
- Never install the inverter in a zero-clearance environment, as doing so may cause overheating of the inverter.

MOUNTING THE INVERTER

1. Place the inverter in an appropriate location and orientation. The inverter can be positioned on a vertical or horizontal surface.
2. Hold the inverter against the mounting surface (1) and mark the positions on the surface with respect to mounting flange (2) provided on the DC panel.



3. Drill mounting holes on the marked position of the surface.
4. Align the holes on the mounting surface with corresponding screw mounting holes of the mounting flange. Fasten the inverter on the mounting surface using corrosion resistant fasteners.

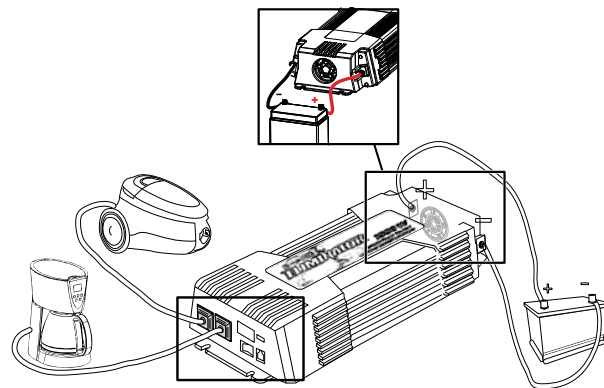


WARNING!

- Before handling the inverter, make sure wiring is disconnected from all electrical sources. All wiring must be done in accordance with local and national wiring codes.
- Consult applicable codes for details about DC and AC wiring in close proximity to each other.

INSTALLATION

Connect the ring connector of the negative battery cable to the negative (black) DC terminal of the inverter, connect the ring connector of the positive battery cable to the positive DC terminal of the inverter.

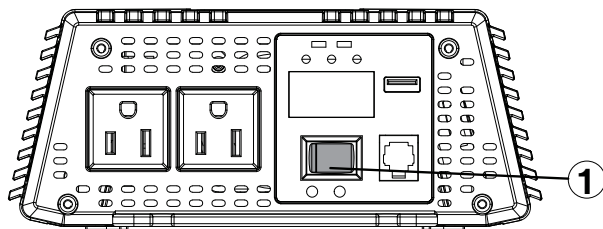


CAUTION! EQUIPMENT DAMAGE

- Do not change the negative and positive polarities of battery cable, while connecting into the DC terminals. A reversed polarity connection will cause the fuse to be blown, thereby damaging the inverter and voiding the warranty.
- Return the inverter for servicing if the fuse gets damaged, as the fuse is not replaceable.
- Make sure the cable connections are secured. Loose connections may cause excessive voltage drop, thereby leading to overheating and melting of cable insulation.
- Do not over-tighten the nuts on the DC terminals. Doing so may damage the DC terminals. The maximum torque setting is 10 ft/lb (13.6 Nm).

TURNING ON/OFF THE INVERTER

1. Flip the ON/OFF switch (1) to ON position to turn the inverter function ON.
2. Flip the ON/OFF switch to OFF position to turn the inverter function OFF.



NOTE:

- The ON/OFF switch only controls inverter function.
- The inverter draws less than 1.5 A from the battery when the ON/OFF switch is turned ON under no load condition. To prevent unnecessary battery discharge, turn OFF the inverter when not in use.
- The remote control will only function when the ON/OFF switch is in OFF position.



WARNING!

- Do not connect the DC terminals of the inverter to any incoming AC source.
- Do not mix AC and DC wiring connection in the same panel. In case the AC and DC wires must cross, make sure they cross at 90° to one another.
- Do not perform the cable connection if the environment has any flammable fumes.
- Always ventilate the battery compartment before making this connection, if not explosion or fire may occur.

OPERATING SEVERAL LOADS

The inverter will operate most AC loads within its power rating of 1000 W. While operating multiple loads, turn ON the loads sequentially. This will avoid the inverter from delivering the starting current for all the loads simultaneously, thereby preventing overload shutdown.

INVERTER MODE OPERATION

The table depicts the function of inverter LED and voltage display under various operating conditions:

OPERATING CONDITION	SOUND		DISPLAY
Low voltage alarm (10.5 V - 11.5 V)	Long beep	No charge	≤ 11.5 V (Input voltage)
Low voltage shutdown	Long beep	Glows red	≤ 11 V (Input voltage)
Low voltage shutdown (10 V - 16.3 V)	No charge	Glows red	≤ 15 V (Input voltage)
Short circuit protection	No change	No charge	0.00 (output power)
Overload protection	No change	Glows red	0.00 (output power)
Thermal protection (>70°C)	Long beep	Glows red	0.00 (output power)



WARNING!

- Before working on any circuits connected to the inverter, always disconnect DC and AC power source from the inverter even if the ON/OFF switch is in OFF position.
- Before operating the remote control, make sure the remote control cable is connected to the inverter securely and the ON/OFF switch is in OFF position.

MAINTENANCE

Minimal maintenance is required to keep the inverter operating properly.

- Clean the exterior surface of the inverter with a damp cloth to prevent accumulation of dust and dirt.
- Ensure that the DC cables are secured and fasteners are tightened.
- Make sure the ventilation openings on the AC and DC panels and the bottom of the inverter are not blocked.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Low output voltage (96 V AC - 104 V AC)	• Voltmeter does not accurately read RMS voltage of modified sine wave.	• Use a true RMS reading voltmeter.
	• Input voltage is low.	• First confirm whether the Charge Battery is normal. Check the battery cable connections to verify if the battery is fully charged. Recharge the battery if required.
	• Overload.	• Reduce the load.
No output voltage Inverter LED does not glow.	• The inverter is in OFF condition.	• Turn the inverter ON.
	• There is no power to the inverter.	• Check the inverter wiring.
	• The DC terminals of the inverter are connected with the battery reservedly.	• The inverter may be damaged.
Low battery alarm sounds	Poor DC wiring.	Use cable of proper size and length. Make sure the cable connections are secure.
	Poor battery condition.	Charge or replace the battery if required.

PROBLEM	POSSIBLE CAUSE	SOLUTION
No output voltage. Inverter LED glows.	Input voltage is low.	First confirm whether the Charge Battery is normal. Check the battery cable connections to verify if the battery is fully charged. Recharge the battery if required.
	Thermal shutdown feature turns OFF the inverter.	Allow the inverter to cool. Reduce the load if continuous operation is required. Improve ventilation. Make sure the ventilation openings are not obstructed. Reduce the ambient temperature.
	Overload shutdown feature turns OFF the inverter.	Reduce the load. Make sure the load does not exceed the inverter's output rating.
	The electric appliance is short circuited.	Remove the short circuited appliance.

The inverter does not restart after a fault condition.

Turn OFF the inverter, wait for 3 to 5 seconds before turning it ON.

Over temperature of the inverter unit.		Make sure the ventilation openings of the inverter are not blocked.
		Check the surrounding temperature. If it is higher than 45°C, please turn OFF the unit immediately.
		If it is not the case mentioned above, please turn OFF the inverter temporarily and restart it after it has been cooled.

BUZZING IN AUDIO SYSTEMS AND RADIOS

PROBLEM	POSSIBLE CAUSE	SOLUTION
The stereo system and radio produce a buzzing sound when powered by the inverter.	The power supply in audio system does not adequately filter the modified sine wave.	Use sound system with high quality power supply.

TELEVISION INTERFERENCE

PROBLEM	POSSIBLE CAUSE	SOLUTION
Improper signal reception on TV screen.	The inverter operation affects the TV signal reception.	Make sure the TV antenna provides an adequate ("snow-free") signal. Check whether a cable of good quality is used between the antenna and TV. Keep the cables as short as possible between the battery and the inverter, and twist them together to minimize radiated interference from the cables. Keep the inverter far away from the TV. Do not operate high power loads using the inverter when the TV is ON.



WARNING!

- Do not disassemble the inverter, as it does not contain user-serviceable parts.
- Have the power pack serviced by a qualified technician. Attempting to service the inverter by yourself could result in electric shock or burn.

ELECTRICAL SPECIFICATION

DC input	11 - 15 V
Normal voltage	12.5 – 13.5 V
Nominal current at full load	85 A
Maximum input current (peak)	170 A
AC output voltage	108 - 125 V
Continuous power	1000 W at 25°C
Surge power	(0.1 s) 2000 W
Frequency	60 ± 1 HZ
Wave shape Modified	Modified sine wave
Full load efficiency	90%
No load input current	1.5 A DC
AC input voltage range	90 - 132 V AC
Normal voltage 10 A charge	120 V AC
Nominal frequency	60 ± 1 HZ
DC output voltage	12 V DC
Maximum output voltage	14.4 V DC
Nominal output current	10 A
Efficiency at nominal output	75%

PHYSICAL SPECIFICATION

Dimension (L x W x H)	13 13/16 x 7 7/16 x 3" (35.1 x 18.9 x 7.7 cm)
Weight	41 lb 15 oz (2.225 kg)

IMPORTANT:

All specifications are subject to change without notice.

This MotoMaster® Eliminator product carries a one (1) year limited warranty against defects in workmanship and materials. At its discretion, MotoMaster® Canada agrees to have any defective part(s) repaired or replaced free of charge, within the stated warranty period, when returned by the original purchaser with proof of purchase. This product is not guaranteed against wear or breakage due to misuse and/ or abuse.

Imported by MotoMaster® Canada, Toronto, Canada M4S 2B8

What does this warranty cover?

This product is manufactured from parts and components that are new or equivalent to new, in accordance with industry standard practices. This warranty covers any defects in workmanship or materials.

How long does coverage last?

This warranty lasts for 12 months from the date of purchase.

What does this warranty not cover?

This warranty will not apply when the product has been misused, neglected, improperly installed, physically damaged or altered, either internally or externally, or damaged from improper use or use in an unsuitable environment.

What will we do?

MotoMaster® Eliminator® Canada will, at its option, repair or replace the defective product free of charge.

MotoMaster® Eliminator® Canada will, at its own option, use new and/or reconditioned parts made by various manufacturers in performing warranty repair and building replacement products.

If MotoMaster® Eliminator® Canada repairs or replaces a product, its warranty term is not extended.

MotoMaster® Eliminator® Canada owns all parts removed from repaired products.

How do you get service?

To qualify for the warranty, dated proof of purchase must be provided and the product must not have been disassembled or modified without prior authorization. If your product requires warranty service, please return it to the place of purchase along with a copy of your dated proof of purchase.