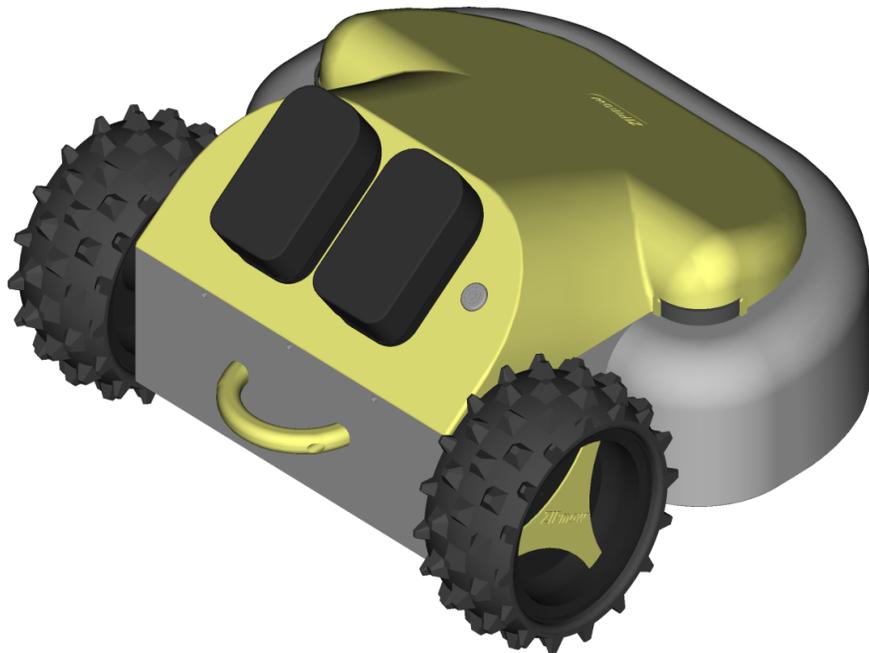




User Guide



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1 Introduction

This User Guide should be read completely before operating the ZIPmow lawnmower. The Safety section is a **MUST READ**.

ZIPmow Concept

ZIPmow is an advanced remote control lawn mower that makes it fast and easy to mow your grass. It is the first of its kind with 100% battery power for a clean and quiet experience.

An RC (Remote Control) lawn mower frees a person from having to walk behind and push, or sit on top and steer a lawn mower. The mower is operated from a simple, hand-held device while standing or sitting at a safe distance. This is not only beneficial to elderly and people with disabilities, but also for anyone who mows grass. The drudgery of the job is taken away and can even be fun! There is also the added safety of not having to be near the mower blades when the machine is in operation.

ZIPmow Advantages

EASY

Just relax in a comfortable spot and direct the mower where to go with the remote control.

FAST

Moves at jogging speed to make quick work of your lawn. It cuts a 20 inch strip of grass on each pass.

QUIET

Electric motors are almost silent. The only thing you hear are the blades moving through the air and the grass getting cut.

PORTABLE

Weighs just 17 pounds! Easy to carry wherever you need with its convenient handle.

SAFE

Once you turn it on, you can always be at a safe distance from the cutting blades.

NIMBLE

Moves quickly and easily and instantly turns to any direction. Can easily climb hills of over 25 degrees.

QUALITY

Powerful motors and razor sharp blades easily cut through all types of grass producing a professional looking result.

CONVENIENT

Uses two 18 volt power tool batteries that you can share with other power tools. Also allows quick change to fresh batteries when the job is not finished. No waiting for recharging.

CLEAN

100 percent electric powered. There is no pollution and no smell. Also there is no gas or oil to deal with and store.

EFFICIENT

Uses less than 150 watts of energy to cut your lawn!

AFFORDABLE

No gas and no oil to buy. Just recharge the batteries between uses.

Product Description

ZIPmow is a remote controlled (RC) lawn mower. The product has a removable battery power source. The product movement is controlled by the operator with a remote control transmitter. The operator has total control over where the mower goes and when it cuts the grass.

Parts List

	NAME	DESCRIPTION	QUANTITY
	ZIPmow RC Mower	All electric remote control lawn mower.	1
	Remote Control	Hand-held remote control that communicates with the ZIPmow mower to control its operation.	1
	3Ah Batteries	Rechargeable lithium-ion batteries.	2
	Dual Charger	Dual battery charger that charges both batteries at once.	1

Fig. 1.1 ZIPmow Parts List

2 Safety

General Information

Important:

READ CAREFULLY BEFORE USE. KEEP FOR FUTURE REFERENCE.

This is a dangerous power tool. The operators are responsible for accidents or hazards occurring to themselves or other people or property. Exercise care when operating it and follow all safety instructions and warnings.

ZIPmow is not like robotic mowers. It has more cutting blades and more power. Also, the blades span the entire width of the cutting deck. This makes it more dangerous to touch anywhere around the cutting deck.

Keep out of reach of young children. This mower can be operated by children aged from 12 years old if they are under adult supervision. They must know how to use the mower in a safe manner and understand the hazards involved. Local regulations may restrict the age of the operator. Cleaning and maintenance shall not be made by children without supervision.

Only charge the battery in the included charging station. Incorrect use may result in electric shock, overheating or fire.

Use only original batteries recommended by the manufacturer. Product safety cannot be guaranteed with other than original batteries. Do not use non-rechargeable batteries.

Safety Instructions for Operation

ZIPmow has a TILT ANGLE sensor to automatically shut off the blades in the event that it flips over, or if someone picks up the mower by the handle. An alarm is sounded until the mower is shut off.

Please follow the safety instructions below:

1. Always turn off the mower and remove the batteries when carrying or transporting it.
2. Only place the batteries into the machine when ready to start mowing. Remove the batteries immediately when mowing is completed.
3. Do not turn on the mower while transporting it.
4. Always turn off the mower when not in use.
5. Never touch the mower when running.
6. Only pick up the mower by the back handle.
7. Before mowing, check for any objects around the mower like branches or stones. Also check for pipes or other hard object buried in the ground. Blades and motors can be damaged when hitting these objects.
8. While mowing, never take your eyes off of the mower when it is moving.
9. Never let the mower get closer than 10 feet from any person or pet when the mower is in operation.
10. Wear eye protection at all times when the mower is in operation. Even at a safe distance from the mower, small stones or other projectiles may be ejected from the mower.
11. Always turn off the mower and remove batteries when cleaning any blockage of the blades.

3 Setup

Blade setup

The ZIPmow lawnmower comes ready to mow out of the box. There are 3 cutting blades already attached. With this initial version of the mower, we have 3 blade height selections that are achieved by 3 sets of plastic blade mounts. The blade mounts must be swapped manually in order to change the blade height. ZIPmow ships with the blades in the MEDIUM cutting height position. Blade mounts for low and high cut are included.

NOTE: the blades are mounted with the sharp edges hanging down. Normally, once the height is selected, it does not need to be changed afterward.

Changing Blade Mounts

In order to change the cutting height, the blades must first be removed. Then the plastic blade mounts can be changed. The blade mounts have 1 small Phillips screw to be removed.

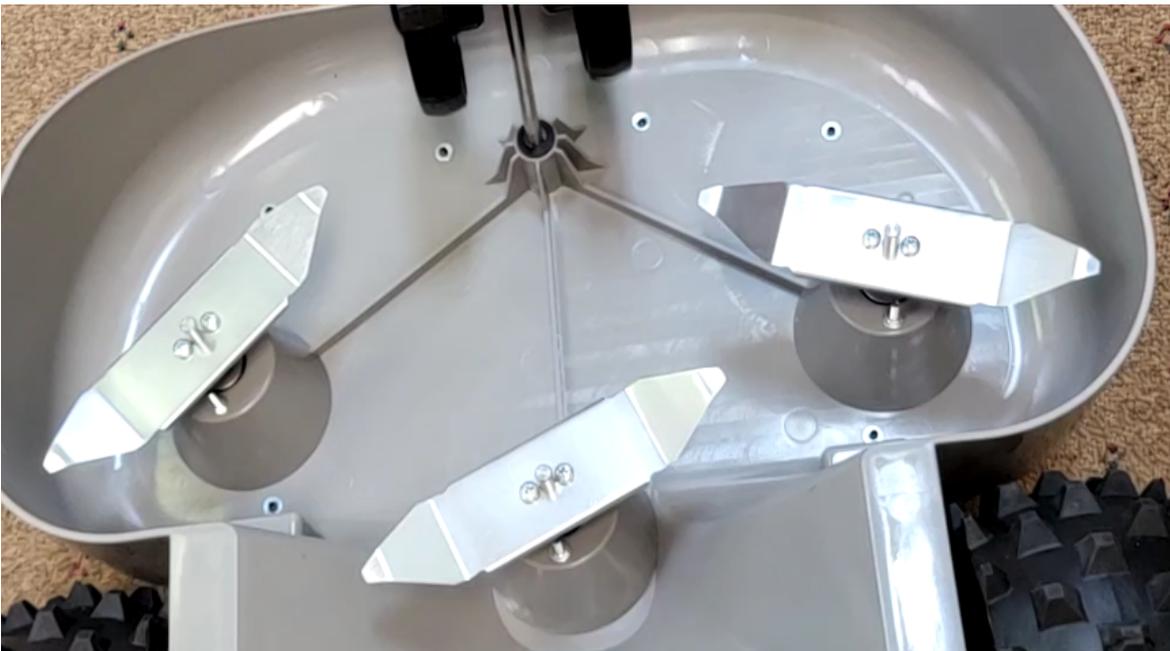
Remove the screw and slide the blade mount off. Then slide the new blade mount on and replace the screw through the motor shaft.



Changing Blades

There are 3 cutting blades that may need to be changed due to damage or wear. You may just change the damaged blade and leave the others alone. Or every season you can change all 3 blades for a cleaner cut.

Each blade has 2 Phillips screws to remove and replace the blade.



Operation

Remote Control (RC) Transmitter

The RC Transmitter or just RC, is the main interface to the ZIPmow lawnmower.

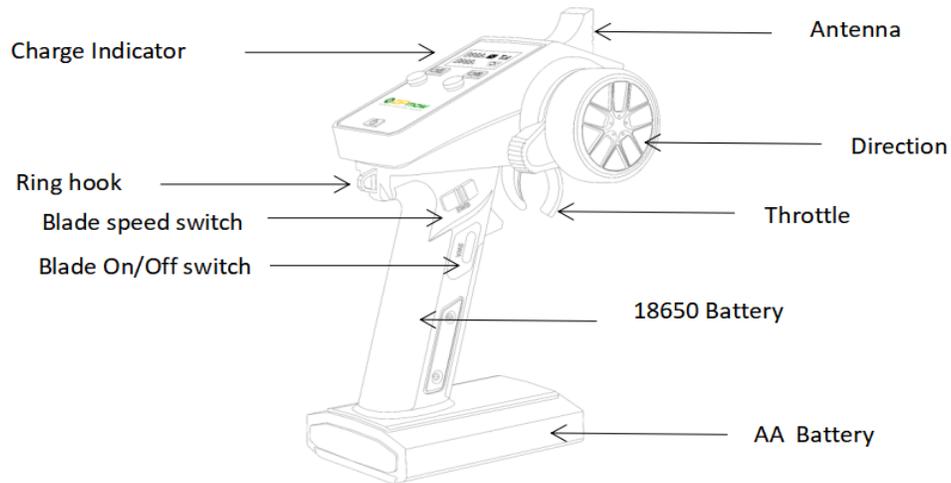


Fig. 4.1 - Remote Control Transmitter (RC)

The RC is held in the left hand which controls mainly forward and backward movement while the right hand is used for steering. There is a control panel on top and several buttons on the side.

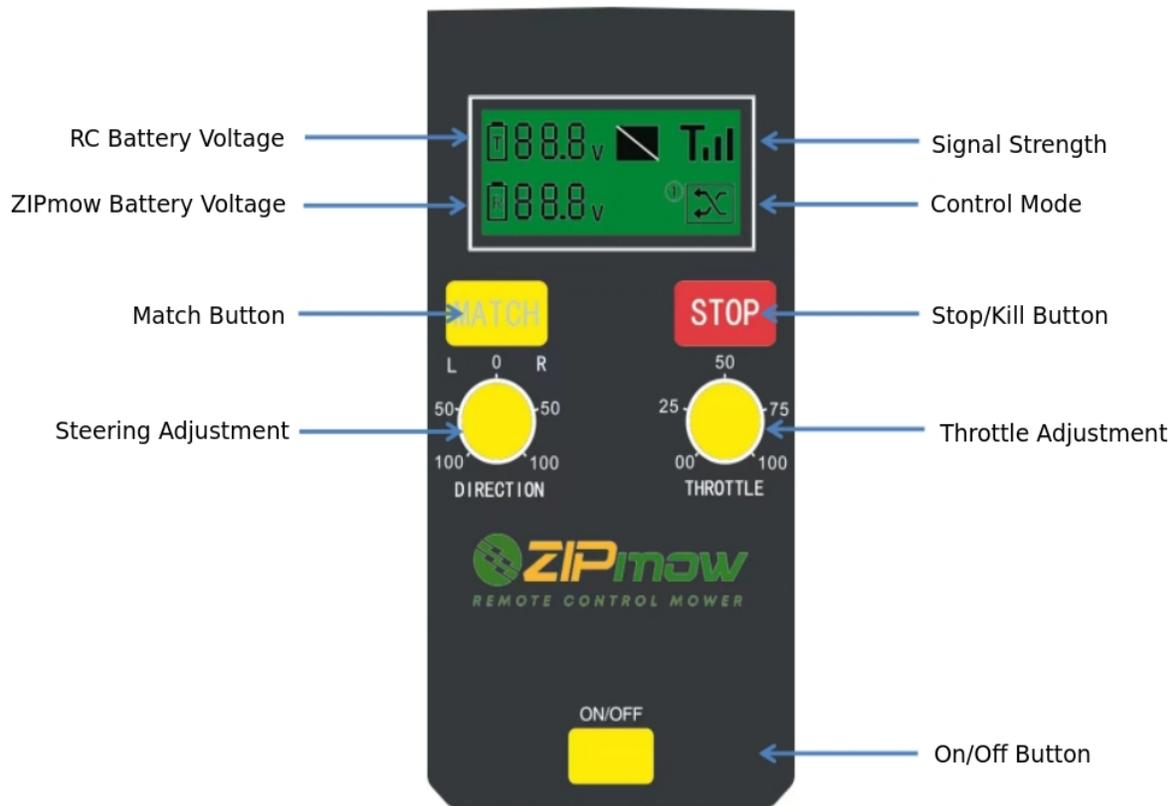


Fig. 4.2 – RC Control Panel

Use of the RC control panel is explained below.

LCD Display

- RC Battery Voltage

This icon displays the battery voltage of the RC remote control. When the remote control battery is low, the power indicator light flashes and alarms. Please replace the battery immediately.

- ZIPmow Battery Voltage

The icon displays the device battery voltage. When the battery voltage is below 30V, the power indicator light flashes and alarms. Please charge the battery immediately.

- **Signal Strength**

This display shows the radio signal strength from the RC to the ZIPmow.

- **Control mode**

The display shows the remote is set to hybrid control mode. This allows the mower to operate as a zero-turn mower. Zero-turn mowers use the differential speed between the left and right wheels to control the mower's speed and direction. It also allows it to spin in place.

Control Panel Buttons

- **On/Off Button**

At the bottom of the RC panel is the On/Off button. Press and hold the button for 1 second to turn ON the RC. The display screen will activate and a startup tone is heard. Hold again for 1 second to turn OFF the RC.

- Match Button

The MATCH button allows the connection to be made between the RC and the ZIPmow. It is not normally necessary since the connection is usually automatic.

- Emergency Stop/Kill Button

The red **STOP** button immediately stops all operation of the ZIPmow. It is for use in emergency when you need to quickly stop the mower. Press this button whenever you feel something unsafe is about to happen. For example if a child or animal runs toward the mower. When the switch is pressed, all functions of the mower are immediately stopped. This included the blade and wheel motors.

NOTE: When pressing the emergency stop button, the machine will give a prompt tone, you need to turn OFF the power of the ZIPmow and the RC, and then back ON, to resume normal operation.

Adjustment Knobs

There are also 2 adjustment knobs on the RC panel. These allow configuration and fine tuning of the mower movement.

- Steering Adjustment Knob

It is used to fine-tune the direction of the ZIPmow if it curves left or right with no steering. Turn this knob while moving forward to adjust it to go in a straight line fashion.

- Throttle Adjustment Knob

It is mainly used to control the maximum output voltage of the throttle and the maximum output speed of the traveling motor.

- Blade Speed Switch



This switch is located on the right side of the RC handle at the top. It is labeled as SWB. It has 3 positions from left to right (Low-Medium-High). These correspond to the 3 blade speeds.

- Blade On/Off Switch



This is a push button on the right side of the handle labeled as SWA. Press once to start the cutting blades. Press again to stop the cutting blades.

NOTE: The blades can also be stopped by using the Kill Switch.

- Throttle Trigger



The Trigger is used for moving the mower forward/backward. Put the left index finger into the Trigger slot. Pull back on the Trigger to move forward. Release to the middle position to stop. Push forward on the Trigger to move backward. The movements of the Trigger are blended with the movements of the Wheel to get any movement desired.

- Steering Wheel



The Steering Wheel is manipulated by the right hand. This allows steering of the mower. Counter-clockwise turns left and clockwise turns right. Steering movements are combined with the forward and backward movements to get the overall desired movements.

Startup Procedure

1. Plug 2 batteries into the slots on the back of the mower but sliding them in until they snap on the sides.
2. After placing the machine on the ground, press the power button on the back to turn on the mower. The button should light up blue.
3. Stand back 10 feet.
4. Press and hold the ON/OFF key to enable the RC. The screen will display a startup tone is played.
5. Hold the RC in your left hand.
6. Press the BLADE button on the RC to startup the blades.
7. To prevent forgetting to shut down, the remote control will enter the shutdown state after 15 minutes without any operation, and there will be an audio prompt 1 minute before the shutdown.

Now you are ready to mow!

Remote Operation

The first time operating ZIPmow should be with the cutting blades off. This will give you a chance to learn the movement behavior of the mower without any danger.

1. If the blades are running, then press the BLADE button and they will turn off.
2. Put the first finger of your left hand in the trigger and pull back slowly. The mower should start moving forward slowly. Pull back farther and the mower will go faster. Let the trigger back to the original position and the mower will stop.
3. Now push the trigger forward slowly and the mower will move backward. Push it farther forward and the mower will backup faster.
4. Let the trigger back to the original position.
5. Now with the right hand, turn the steering wheel to the left. The mower spins to the left. Turning the wheel to the right spins the mower to the right.
6. Now start the mover moving forward and then turn left and right to get the feeling for how the mower responds.
7. After practicing for a few minutes, you can turn the blades on and start mowing!

Shutdown Procedure

1. Press the BLADE switch to stop the cutting blades.
2. Press the RC remote control panel ON/OFF button for 1 second until the prompt tone is heard.
3. Press the ZIPmow power button to turn off the mower. The blue light will turn off after a period of time.
4. Remove the batteries by squeezing the two buttons on the sides of the batteries and pull them out.
5. Use the yellow handle on the back of the mower to carry it away.

5 Maintenance

Cleaning

For better operation and longer service life, the mower should be cleaned and inspected regularly. Any broken or worn parts like the blades should be replaced.

NOTE: NEVER SPRAY THE MOWER WITH A GARDEN HOSE. THE MOWER IS AIR COOLED AND NOT WATER PROOF.

Use a damp paper towel to clean the outside after use. When grass residue builds up on the underside mower deck, use a firm brush or plastic scraper to remove the residue. It is best to remove the blades to clean this area. Please wear leather gloves.

Blade Maintenance

It is important that the blade disc rotates easily. The edges of the blades should not be damaged. The lifetime of the blades varies immensely and depends for instance on:

- Operating time and size of the work area.
- Type of grass
- Soil, sand and use of fertilizers.
- The presence of objects such as toys, tools, stones, branches, roots and others.

If the blades are damaged or bent, this will cause vibration and louder sound from them. If the vibration is too great, the bad blades need to be replaced.

Cleaning the blades

The blades should be inspected before using the ZIPmow.

- 1) Turn off the product and disconnect the batteries
- 2) Turn the product upside down on a flat surface
- 3) Clean any grass or debris around the blades
- 4) Examine and make sure the blades are not damaged

Blade Replacement

- 1) Turn off the product and disconnect the batteries
- 2) Wear protective gloves
- 3) Turn the product upside down on a flat surface
- 4) Use a Phillips screwdriver to remove the screws.
- 5) Remove the blades
- 6) Fasten the new blades and screws
- 7) Check to make sure the blades can rotate freely

Battery Replacement

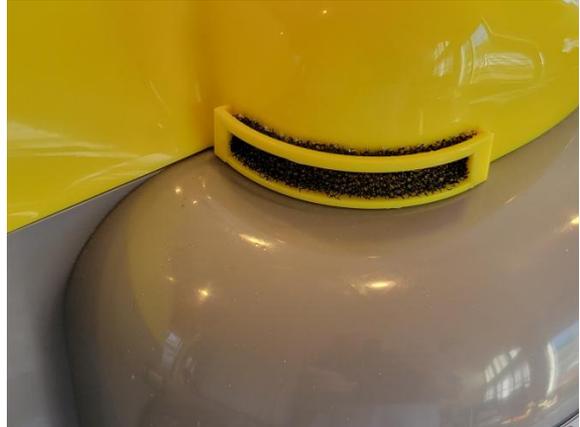
ZIPmow uses standard lithium ion batteries. These batteries have well known properties and dangers. They should only be charged in the ZIPmow battery charger.

The battery life depends on how long the product was used each time and how often the product was used. The longer and more times they are

used, the shorter the battery life. Please keep the batteries charged for the longest life.

Cleaning the Air Filters

ZIPmow has 2 small air filters on the sides of the top cover. These filters should be checked after each use and cleaned if necessary. The filters are easily removable and can be cleaned by simply blowing through them or by rinsing off with water.



Here are a few simple steps:

- 1) Brush off the outside of the mower case, the outside of the filters and all around the filters.
- 2) Slide the filters up and remove.
- 3) Brush off any other dust around the air intake holes.
- 4) Clean the filters by simply blowing through them or by rinsing with water.
- 5) Replace each filter by sliding them down into the slots.

6 Troubleshooting

6.1 Mower power button light doesn't come on when pressed.

1. Check that batteries have enough charge by pressing the button on the back of the batteries and observing the green bars.
2. Check batteries are plugged in properly. They should snap when pushed in.
3. Check that the plastic around the metal battery connectors at the top is undamaged.

6.2 Mower power light is on, but there is no response, and there is no alarm tone.

1. Check the RC voltage displayed on the remote control screen. If the voltage is too low, the RC will sound a prompt tone. Replace the 4 AA batteries.

6.3 Mower stops while mowing.

This can happen for 3 main reasons:

1. The mower batteries have run out of power. In this case, recharge the batteries or swap them out for a new pair of batteries.
2. The mower ran into excessive grass or debris that caused the blades to stop. The blades can automatically resume cutting

after moving away.

3. Mower TILT ANGLE sensor gets triggered, causing mower to stop and sound an alarm tone. This happens if the mower flips over or is picked up. This requires turning OFF the power switch and back ON, after placing it upright.

7 Transportation/Storage

Transportation

ZIPmow is lightweight and has a handle on the back for easy carrying. Make sure to remove the batteries before picking up the mower. Insert the batteries once you have the mower at the desired location.

Storage

- 1) Unplug the batteries from the product
- 2) Plug the batteries into the charging station
- 3) Clean the product
- 4) Store the product in a dry environment
- 5) Keep the product on a flat surface

Disposal

Obey the local recycling requirements and applicable regulations.

8 Warranty

STANDARD MANUFACTURER WARRANTY

The manufacturer warrants this product to be free from defects in workmanship and materials, under normal residential use and conditions, for a period of one (1) year for the original invoice date. Shipping and handling fees are to be paid for by the customer. The manufacturer agrees, at its option during the warranty period, to repair a defect in material or workmanship or to furnish a repaired or refurbished product of equal value in exchange without charge (except for a fee for shipping, handling, packing, return postage, and insurance which will be incurred by the customer). Such repair or replacement is subject to verification of the defect or malfunction and proof of purchase as confirmed by showing the model number on original dated sales receipt.

WARRANTY LIMITATIONS

This warranty does not include:

- Any condition resulting from other than ordinary residential wear or any use for which the product was not intended, such as use in rental or contract trade or commercial use
- Any condition resulting from incorrect or inadequate maintenance or care
- Damage resulting from misuse, abuse, negligence, accidents or shipping damage
- Dissatisfaction due to buyer's remorse
- Normal wear and tear

- Damages incurred during transportation
- Damages incurred during assembly or maintenance
- Any used, previously displayed items

The Company makes no express warranty or condition whether written or oral and the company expressly disclaims all warranties and conditions not stated in this limited warranty. To the extent allowed by the local law of jurisdictions outside the United States, the Company disclaims all implied

warranties or conditions, including any implied warranties of merchantability and fitness for a particular purpose. For all transactions occurring in the United States, any implied warranty of condition of merchantability, satisfactory quality, or fitness for a particular purpose is limited to the duration of the express warranty set forth above. Some states or countries do not allow a limitation on how long an implied warranty lasts or the exclusion of limitation of incidental or consequential damages for consumer products. In such states or countries, some exclusions or limitations of this limited warranty may not apply to the Purchaser. For consumer transaction, the limited warranty terms contained in this statement, except to the extent lawfully permitted, do not exclude, restrict, or modify but are in addition to the mandatory statutory rights applicable to the sale of this Product to the Purchaser.

Please retain invoices for a minimum of one year for warranty purposes.

CLAIM PROCEDURES

- Claims for defective merchandise must be made within ONE year from invoice date.
- Claims for missing parts must be made within 60 calendar days after the merchandise is received.
- Any claim for defective merchandise returns must be packed in original packaging.
- Pictures are required to claim defective merchandise, along with a copy of the original invoice.
- If the claim is justified, the item(s) or part(s) will be repaired or replaced or a credit will be issued. It is our policy to replace parts whenever possible.

This warranty gives you specific legal rights. You may have other rights, which vary from state to state.