

## Warnings & Safety Information

- Whenever you work with a lead-acid battery, someone should always be within range of your voice or close enough to come to your aid.
- Wear eye protection and proper clothing. Avoid touching your eyes while working with a lead-acid battery.
- Have plenty of fresh water and soap nearby in case battery acid comes into contact with skin, clothing, or eyes.
- If battery acid comes into contact with skin or clothing, wash the area immediately with soap and water. Seek medical attention if irritation or pain develops and persists after washing. If acid enters the eyes, flush with cold running water for at least 10 minutes, and seek medical attention immediately.
- Do not smoke, use matches or a cigarette lighter, or allow a spark or flame near a battery.
- Do not allow metal to come into contact with the battery posts. It may spark or short-circuit the battery, and may cause an explosion.
- Remove rings, bracelets, necklaces, and watches when working with a lead-acid battery.
- Battery posts, terminals, and related accessories contain lead and lead compounds. Wash your hands after handling.

## Features & Specifications

**NOTE:** It is strongly recommended to review the installation instructions in their entirety in order to ensure a full understanding of the operation and installation of the Intelligent Battery Guard.

### **INTELLIGENT BATTERY GUARD**

The Intelligent Battery Guard is an innovative accessory that easily installs onto any 12 V battery. It protects the driver from getting stranded with a dead battery, and protects the vehicle against theft. Using unique micro-electronic technology, the Intelligent Battery Guard continually monitors the battery charge, and automatically isolates the battery from the electrical system if it detects that the power is falling below the level that is required to start the engine. This ensures that there is always enough power to start the engine. The Intelligent Battery Guard also acts as an anti-theft system.

## Technical Specifications

### **DIMENSIONS**

Base: 2 1/4 x 2 3/4" (5.8 x 7.2 cm)

Height: 2" (5.3 cm)

Brackets: 1 1/4 x 5/8 x 1/8" (3.2 cm x 1.5 cm x 3 mm)

### **WEIGHT**

Intelligent Battery Guard: 8 1/2 oz (245 g)

Remote control unit: 3/5 oz (18.2 g)

Accessories: 5 1/2 oz (159 g)

Packaging: 7 1/2 oz (212 g)

Total weight: 24 1/4 oz (687.2 g)

### **POWER CONSUMPTION**

Normal operation mode: 10 mA

Current drawn for ignition: up to 1100 A

Current drawn under normal operating conditions: 250 A

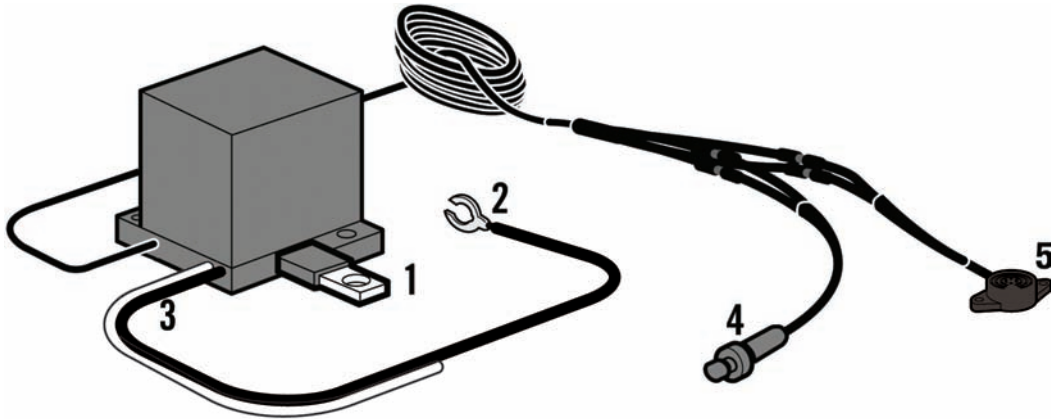
### **OPERATIONAL TEMPERATURE RANGE:**

-60 to 200°F (-51 to 90°C); the Intelligent Battery Guard is made from non-combustible materials.

## ***Package Contents:***

### ***INTELLIGENT BATTERY GUARD UNIT***

1. Positive (+) side of Intelligent Battery Guard with Butterfly Connector
2. Black Ground Wire
3. White Antenna Wire
4. Manual reset switch
5. Buzzer



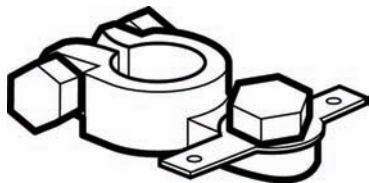
### ***REMOTE CONTROL UNIT (X2)***

**NOTE:** The batteries provided in the accessory kit must be installed.

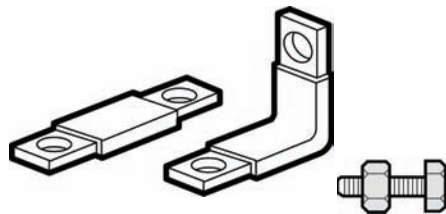


**ACCESSORY KIT**

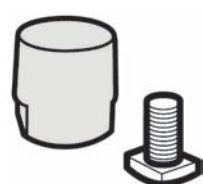
Positive Clamp, Bolt, and Flat Washer with butterfly connector



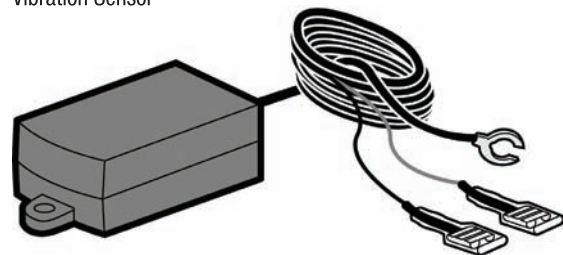
L-Bracket and Straight Bracket



Aluminium Positive Post with Bolt and Lock Washer



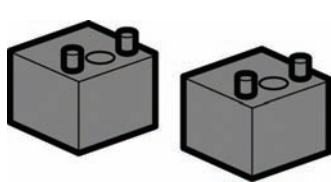
Vibration Sensor



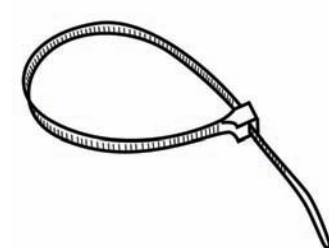
Side Mounting Bolt



Chassis Mounting Blocks



2 Cable Ties



## ***2-Year Warranty***

### **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 **2 years** from the date of purchase.

### **What does this warranty not cover?**

This warranty will not apply where 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® Canada will, at its option, repair or replace the defective product free of charge. Motomaster® 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® Canada repairs or replaces a product, its warranty term is not extended. Motomaster® 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.

# Installation Instructions

## TOOLS REQUIRED:

Open-end 17 mm or adjustable wrench, standard and Phillips screwdrivers

**NOTE:** Before beginning installation, verify that the battery is able to hold a proper charge. Check using a voltmeter or consult a qualified technician. If the battery is not able to hold a minimum charge, it may be at the end of its life cycle.

**NOTE:** After installation, verify that all connections are tight.

**NOTE:** Instruction stickers have been added to several key connection points in order to assist with installation.

## STEP 1:

Disconnecting the Battery Cables:

- A. Disconnect the black/negative (–) cable from the negative (–) post/bolt on the battery.
- B. Disconnect the red/positive (+) cable from the positive (+) post/bolt on the battery.

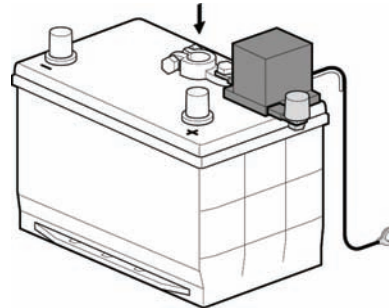
## STEP 2:

Connecting the Intelligent Battery Guard:

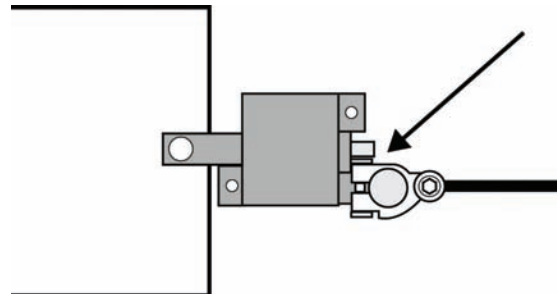
- A. Connect the positive (+) clamp on the positive (+) side of the Intelligent Battery Guard to the positive (+) post/bolt on the battery.

**NOTE:** The positive (+) clamp of the Intelligent Battery Guard is located on the side of the unit that has **12 V +** printed on it.

*The positive battery post is tapered. Verify that the cable is mounted correctly.*



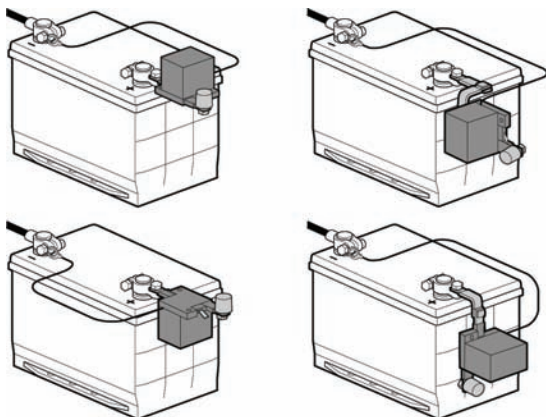
*The positive cable must not come into contact with the ACC clip.*



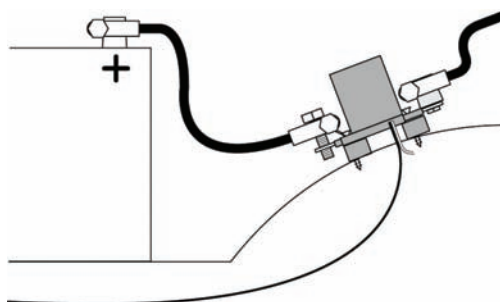
### ***CONFIGURATION OPTIONS***

Battery location and position differ depending on the vehicle, The Intelligent Battery Guard can be configured for various top mounting, side mounting, and chassis mounting installations (see below).

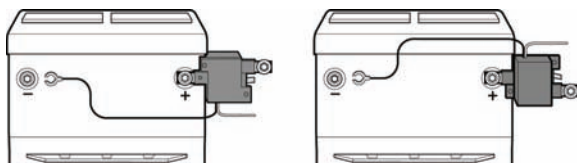
#### ***Top Mounting Options***



#### ***Chassis Mounting Option***



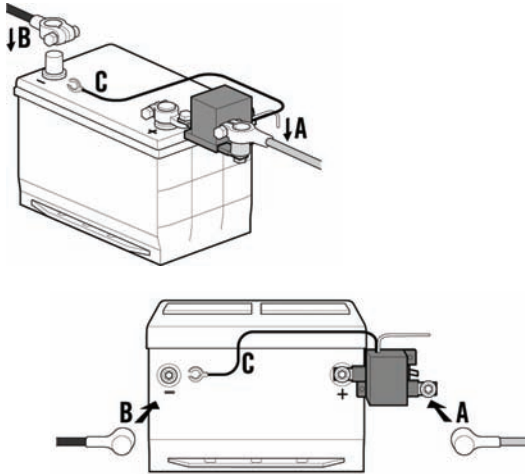
#### ***Side Mounting Options***



### STEP 3: TOP & SIDE MOUNTING OPTIONS

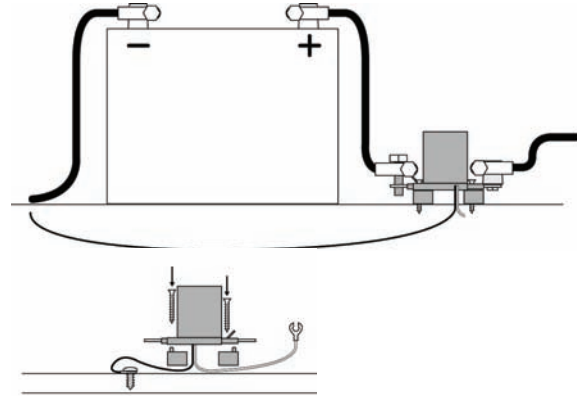
Connecting the battery cables and the ground:

- A. Connect the red/positive (+) battery cable to the aluminium post (or side mounting bolt) on the outer bracket of the Intelligent Battery Guard.
- B. Connect the black/negative (-) battery cable to the negative (-) post/bolt on the battery.
- C. Connect the clip end of the black ground wire to the clamp bolt on the negative (-) post/bolt on the battery, or connect it to the chassis using a metal screw.



### OR STEP 3: CHASSIS MOUNTING OPTION

- A. Connect the positive (+) side of the Intelligent Battery Guard to the positive (+) side of the battery using a red/positive extension cable (not provided).
- B. Connect the vehicle's original positive (+) cable to other side of the Intelligent Battery Guard.
- C. Connect the Intelligent Battery Guard's black ground wire to the chassis using a metal screw.



### STEP 4:

Installing the vibration sensor:

- A. Connect the blue accessory wire from the sensor to the pin on the Intelligent Battery Guard that is marked ACC.
- B. Connect the red wire from the sensor to the butterfly clip on the positive clamp that is attached to the Intelligent Battery Guard.
- C. Connect the black ground wire to the point where the main Intelligent Battery Guard ground wire is connected.
- D. Mount the sensor in an area where there is vibration (the air cleaner cover or top plastic cover of the engine. Mounting the sensor on a metallic component that gets hot with engine operation or on a body panel is not recommended). Before mounting the vibration sensor, clean the selected area with an alcohol wipe in order to ensure maximum adhesion.
- E. Mount the vibration sensor using 2-sided tape, pressing it firmly in place, or using a screw (not provided).

### **STEP 5:**

Mounting the manual switch & buzzer:

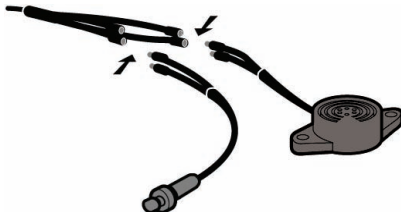
**NOTE:** The Intelligent Battery Guard is equipped with a manual on/off switch in case the remote control unit is not available, and a buzzer to test that the unit is armed.

- A. It is recommended that the manual switch be installed in a remote and secure location (in the glove compartment or under the hood, using the enclosed securing strap). The manual switch can also be detached from its blue & yellow connections and stored separately in the glove compartment or in another secure location.
- B. Clean the area with an alcohol wipe, and mount the buzzer on the side of the battery or in another secure location (the body panel) using 2-sided tape. Mounting the buzzer on a vibrating part or a part of the engine is not recommended.
- C. Both the manual switch and the buzzer are attached to unit using male/female connection pins (as illustrated).

### **Manual Switch & Buzzer**



### **Manual Switch & Buzzer Connections**

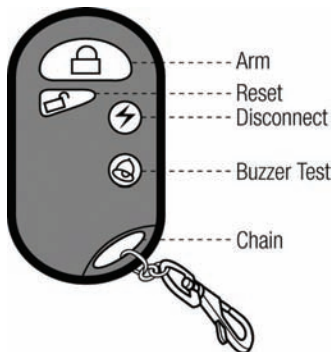


# Remote Control (RC) Instructions

## **IMPORTANT:**

Save the identification number that is printed on the back of the RC. If the original unit is lost, you will need the identification number to order a replacement unit.

## **FRONT OF THE REMOTE CONTROL UNIT**



**NOTE:** It is recommended that the unit be armed when the vehicle is left unattended. Remember to disarm the unit before starting the engine. If an attempt is made to start the engine while the unit is armed, the engine will not start, and a clicking sound will be heard. If more than one attempt is made to start the engine while the unit is armed, the engine will not start, and the settings will be erased. If this happens, press the reset button.

**NOTE:** If the unit detects that the battery voltage is less than 12 V, it will completely disconnect the power, and the settings will be lost. If this happens, press the reset button and then turn the ignition key to the first position (accessory) and wait 30 seconds in order to allow the computer to reset itself before starting the engine.

1. Lock symbol button – ARM. Press and release this button in order to arm the unit. The unit then becomes an anti-theft device.
2. Unlock symbol button – RESET. Press and release the reset button in order to disarm the unit and start the vehicle.
3. Electrical flash symbol button – DISCONNECT. Press this button in order to completely disconnect the unit and isolate the battery.
4. Bell symbol button – BUZZER TEST. Press this button to verify whether the unit is armed. If the unit is armed, the buzzer will sound twice. The buzzer will sound once when the unit is reset. If the unit is not armed, the buzzer will not sound.
5. Chain

# Operating Instructions

## 1. TO TEST FOR SUCCESSFUL INSTALLATION:

Press and release the reset button on the remote control unit. Start the engine after installation is complete.

## 2. TO TEST THE ANTI-THEFT FUNCTION:

To arm the anti-theft function when leaving the vehicle unattended, press and release the arm button on the remote control unit. The vehicle cannot be started when the anti-theft function is armed, because the battery is isolated from the vehicle's electrical system. However, all electronic settings in the vehicle will be maintained (e.g.: radio presets, clock, etc.). To verify whether the unit is armed, press the buzzer button. The buzzer will sound twice, which confirms that the unit is armed. If the buzzer does not sound, this signifies that the unit is not armed.

## 3. TO START THE VEHICLE & DISARM THE ANTI-THEFT FUNCTION:

Press and release the reset button on the remote control unit in order to start the vehicle and disarm the Intelligent Battery Guard.

**NOTE:** The engine cannot be started when the Intelligent Battery Guard is armed, but all electrical settings function normally. If the Intelligent Battery Guard detects that the power in the battery is at the minimum level required in order to start the vehicle, it will isolate the battery in order to conserve enough power to start the vehicle. When this occurs, all electrical settings (radio presets, clock, etc.) will need to be reset when the power is reconnected. Any in-dash alerts that were present (check engine, check oil, etc.) may be reset.

**In such a case, it is recommended to turn the key to the first position (accessory) and wait 30 seconds before starting the engine.**

## 4. TO COMPLETELY DISCONNECT THE BATTERY:

Press the disconnect button on the remote control unit in order to completely disconnect the battery. This may be desirable in situations such as long-term parking, storage, etc. When the battery is completely disconnected, there will be no electrical power flowing to the vehicle. All electrical settings (radio presets, clock, etc.) will need to be reset when the power is reconnected.

**In such a case, it is recommended to turn the key to the first position (accessory) and wait 30 seconds before starting the engine.**

## 5. TO RECONNECT THE BATTERY:

Press and release the reset button on the remote control unit in order to reconnect the battery.

#### **6. TO OPERATE THE MANUAL ON/OFF SWITCH:**

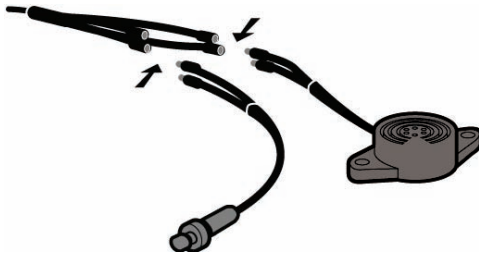
The Intelligent Battery Guard is equipped with a manual on/off pushbutton switch that can be used if the remote control unit is not available. It is recommended that the manual switch be installed in a remote and secure location (in the glove compartment or under the hood), or that the switch be disconnected from the wire and kept in a safe place.

**To Disconnect:** Press and hold the switch until the power is disconnected. No electric power will flow to the vehicle. All electrical settings will need to be reset when the power is reconnected.

**To Reconnect:** Press and hold the switch until the power is reconnected. The unit will be disarmed, and the vehicle can be started.

**In such a case, it is recommended to turn the key to the first position (accessory) and wait 30 seconds before starting the engine.**

#### **Manual Switch & Buzzer**



#### **IMPORTANT:**

The Intelligent Battery Guard is in sleep mode while the engine is running, and will not react to any change in battery power. When the vehicle is running, the vibration sensor will sense the engine vibration, and the Intelligent Battery Guard will not disconnect the battery, even if the battery power level falls below the minimum required in order to start the vehicle (as a result of the alternator not working). In order for this feature to be active, the vibration sensor must be connected (see Step 4 of the installation instructions).

#### **IMPORTANT:**

The Intelligent Battery Guard's remote control settings will remain active as long as the battery is in good operating condition. If the battery's power levels fall below the minimum required in order to start the vehicle, the Intelligent Battery Guard will disconnect the battery from the entire electrical system in order to conserve enough power to start the vehicle.

## **TROUBLESHOOTING**

***The Intelligent Battery Guard has been installed, but doesn't seem to be working.***

*What to do:*

1. Verify that the engine is not running.
2. Test the vehicle's battery to verify that it is able to hold the proper charge.
3. Verify that the positive side of the Intelligent Battery Guard is attached to the positive (+) post of the battery.
4. Verify that the black ground wire is securely attached to the negative (-) post clamp/bolt or to a metal screw on the chassis.

***The remote control unit does not reset the power after the Intelligent Battery Guard has disconnected it.***

*What to do:*

1. Press and release the arm button on the remote control unit in order to activate the Intelligent Battery Guard.
2. Verify that the light on the remote control unit lights up when the button is pressed. If the light does not come on, open the back of the remote control unit and replace the battery.

***The Intelligent Battery Guard frequently disconnects the power for no apparent reason.***

*What to do:*

1. The vehicle's battery may be low in power due to a malfunctioning alternator. If it cannot charge the battery, it may be at the end of its life cycle.
2. The vehicle may have an undetected short-circuit or drain in the electrical system. Consult a mechanic.
3. Verify that all interior lights are off (dome light, trunk light, under-hood light, etc.).
4. Disconnect all accessory electronics (radio, phone charger, DVD player, etc.) and check again.

***You cannot determine an Intelligent Battery Guard installation configuration for the vehicle, or you cannot locate the battery connections.***

*What to do:*

Consult a mechanic.

### **FCC NOTE:**

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and;
2. This device must accept any interference received, including interference that may cause undesired operation.