

ANTIGRAVITY BATTERIES

RE-START POWERSPORTS

USER MANUAL



FOR ALL MOTORCYCLE/POWERSPORT RESTART MODELS

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DANGER! IMPORTANT SAFETY INSTRUCTIONS.

NOTE: Lithium-Ion has different maintenance procedures than Lead/Acid batteries!



PRIOR TO USE, READ AND UNDERSTAND PRODUCT SAFETY INFORMATION AND THIS USER MANUAL.

Failure to follow these safety instructions may result in **ELECTRICAL SHOCK, EXPLOSION, or FIRE**, which may result in a **SERIOUS INJURY, DEATH, DAMAGE TO DEVICE or PROPERTY**. DO NOT DISCARD YOUR USER MANUAL.



Introduction

THANK YOU

Thank you for purchasing Antigravity Batteries high performance “Intelligent” Starter Battery with our exclusive “RE-START” feature. This battery represents the latest in Lithium-Ion Technology and offers better starting performance, longer service life as well as incredible weight reduction over comparable Lead/Acid Batteries.

OUR REVOLUTIONARY RE-START FEATURE OFFERS THESE BENEFITS:

- 1) In the event your battery is over-discharged (for example you left your lights on) our battery will put itself into “sleep mode” and retain enough energy to RE-START your vehicle without the aid of a Jump-Starter or Charger. Simply press the RE-START button on the battery and start your vehicle! We also offer a Remote Switch (coming soon) so you do not have to remove parts to access the battery.
- 2) During times of storage the Antigravity Battery with RE-START will put itself to sleep if it notices the battery is close to “dead”. This will allow you to start the vehicle the next time you take it out. Just press the RE-START button!
- 3) This battery is equipped with full Battery Management features including over-discharge protection, balancing of all the cells and temperature protection. This makes for a safer, longer lasting battery.

For more information feel free to Contact us.

info@antigravitybatteries.com

antigravitybatteries.com

themicrostart.com

310 527 2330

Antigravity Batteries

15622 Broadway Center St.

Gardena CA

90248



IMPORTANT! READ FIRST!**DANGER!**

READ AND FULLY UNDERSTAND ALL SAFETY INFORMATION BEFORE USING THIS PRODUCT. Failure to follow these safety instructions may result in ELECTRICAL SHOCK, EXPLOSION, or FIRE, which may result in a SERIOUS INJURY, DEATH, or PROPERTY DAMAGE.



Shock. Product is an electrical device that may shock or may cause serious injury if not handled correctly. Do not wear jewelry or other metallic objects when working on batteries.



Explosion. Batteries can spark! The potential of Explosion exists if batteries are used around areas where flammable fumes or high dust content is present. Do not attempt to jump-start a damaged or frozen battery. Do not mix battery chemistries such as lead/acid and lithium batteries. Do NOT charge this battery with a LEAD/ACID Battery Charger. Use only approved Lithium-Ion Chargers.



Fire. Use Battery only as intended. Do not leave any battery unattended while charging. Do not jump-start damaged or frozen battery. Do not mix battery chemistries. Use only approved Lithium Chargers to charge this battery. Do not jump-start batteries below 10-volts.



Eye Injury. Wear eye protection when working with battery products. Batteries can explode and cause flying debris.

CALIFORNIA RESIDENTS PROPOSITION 65: Related accessories may contain materials that are known to the State of California to cause cancer and birth defects and other reproductive harm.

Important Safety Warnings

1 PERSONAL PRECAUTION

Only use product as intended. When working on or around this battery, use caution. It can produce extremely high discharge currents when short-circuited. Someone should be within range of your voice or close enough to come to your aid in case of emergency. Wear complete eye protection and protective clothing while working near a battery. Always wash hands after handling batteries and related materials. Do not handle or wear any metal objects when working with batteries including tools, watches or jewelry. If metal is dropped onto battery, it may spark or create a short-circuit resulting in electrical shock, fire, or explosion which may result in injury, death or property damage.

2 HANDLING

Handle product with care. The product can become damaged if impacted. Do not use a damaged product, including, but not limited to, cracks to the casing or other physical damage. Do not handle product or any electrical components near any liquid. Store and operate product in dry locations.

3 MODIFICATIONS

Do not attempt to alter, modify or repair any part of the product. Disassembling product may cause injury, death or damage to property. If product becomes damaged, malfunctions or is submerged, discontinue use, and contact Antigravity Batteries. Any modifications to the product will void your warranty.

4 ACCESSORIES

This product is only approved for use with Antigravity Batteries accessories. Antigravity Batteries is not responsible for user safety or damage when using accessories not approved by Antigravity Batteries.

5 LOCATION

Make sure product is installed correctly. Position cable leads to avoid accidental damage by moving vehicle parts (including hoods and metal parts), moving engine parts (including fan blades, belts, and pulleys), or what could become a hazard that may cause injury or death. Do not install next to metal objects that could cause a short-circuit. Failure to follow guidelines could result in fire, death, personal injury, or property damage.

6 HIGH CONSEQUENCE/RISK ACTIVITIES

This product is not intended for use where the failure of the product could lead to injury, death or severe environmental damage.

7 CLEANING

Use a soft, lint-free (micro fiber) cloth. Avoid getting moisture in openings. Use only mild cleaners on product and no solvents or harsh chemicals. Do not use pressure washers near or on product.



Safety Warnings (Continued)

8 OPERATION TEMPERATURE

This product is designed to work in ambient temperatures between -10°C to 48°C (14°F to 118°F). For best performance do not operate outside of temperature ranges. Do not jump-start a frozen battery or battery with voltage below 10v. Do not charge a frozen battery. Only charge within the range of 0°C to 45°C (32°F to 113°F). Discontinue use of product immediately if the battery becomes excessively warm or swells.

DO NOT PLACE IN CUSTOM OIL BAGS IN HARLEY-DAVIDSONS; the temperature range is too hot!

9 STORAGE

Store your product on a secure surface so it's not prone to falling. Store your product in a dry location. The storage temperature is -20°C to 25°C (-4°F to 77°F), average temperature. Never exceed 80°C (176°F) under any condition.

10 COMPATIBILITY

The product is only compatible with 12-volt *stock OEM systems* in vehicles; no other uses are advised. Do not attempt to use product with any other types of batteries or in series or parallel with each other; damage may occur. Unintended uses may result in fire, explosion, injury, death or property damage. Contact Antigravity Batteries prior to attempting to jump start the battery. Do not jump-start a battery if you are unsure of the battery's specific chemistry or voltage, or if the battery is severely over-discharged below 10.5v.

11 THE BATTERY

The lithium-ion battery inside this product should be replaced or serviced only by Antigravity Batteries. Do not attempt to service or replace the battery yourself. Do not handle a damaged or swelled lithium-ion battery. This battery must be recycled or disposed of separately from household waste. Never dispose of battery in household trash. Disposal of batteries in household trash is unlawful under state and federal environmental laws and regulations. Always take used batteries to your local battery recycling center. If the battery is excessively hot, emitting an odor, deformed, cut, or is demonstrating an abnormal occurrence, immediately stop all use and contact Antigravity Batteries (info@antigravitybatteries.com) or call 310 527-2330.

12 BATTERY CHARGING

Use ONLY approved Lithium-Iron Phosphate specific chargers for 12.8v LifePo4 Lithium Chemistries with this battery. Using damaged cables or chargers, or charging with other than intended battery chargers could result in damage to battery, fire, or explosion which may result in injury, death or property damage. Never leave any battery being charged unattended.

13 IMPORTANT NOTICE ON CHARGING

The charging system in your vehicle may go bad or be charging at excessively high voltages if not operating correctly. This occurs most often in older vehicles, or vehicles with modified or aftermarket charging systems. This could result in damage to battery, fire, or explosion which may result in injury, death or property damage. It is important you check your vehicle's charging system BEFORE installing this battery. Make sure it is operating correctly and not charging above 14.4v.

THIS BATTERY IS NOT INTENDED FOR USE IN NON-STOCK CHARGING SYSTEMS.



Contents

1 pc- RE-START Battery (though sizes may differ, operation will be the same for all models).



Specifications

BATTERY TYPE: Lithium Iron-Phosphate (LiFePo4) with built-in Battery Management System

VOLTAGE: 12.8V (nominal)

CAPACITY: 7-30 Ah (varies, see battery label)

CRANKING AMPS: 150-880 peak (varies, see battery label)

DIMENSIONS: (varies per model)

WEIGHT: 1.3 - 5.7 lbs (varies per model)

MAX CHARGING RATE: (see battery label)

MAX CHARGING VOLTAGE: 14.4V

CHARGER TYPE: Lithium-Iron Phosphate for 12.8V Batteries



Please see website for specific details



Charging



CHARGING WARNINGS

- 1) Do NOT use Lead/Acid Chargers/Maintainers on this Antigravity Battery or Lithium Batteries.
- 2) Do NOT use a 16-Volt Charger on a 12-Volt Battery.
- 3) Use only APPROVED LIFEPO4 Chargers for your Battery's specific Voltage, Chemistry and Maximum Charge Rate.
- 4) Check Vehicle for proper Charging System Operation (especially pre-1995 vehicles, see below). You may have a bad Voltage Regulator.



CHARGING ANTIGRAVITY 12-VOLT BATTERY

The Antigravity Batteries starter batteries operate and are recharged correctly with any STOCK/OEM STANDARD CHARGING SYSTEM found in modern 12-volt vehicles. Under normal operating conditions, and if you are riding/driving enough to keep the battery charged, the Antigravity Battery should rarely need to be charged. In some circumstances your battery may become over-discharged due to not riding/driving enough, being in storage, or you have extra accessories that drain the battery when the vehicle is not running. In these cases charging may be needed.

To Charge or Maintain your Antigravity RE-START Battery:

- 1) Only use a Lithium-Ion Charger designed specifically for 12.8 volt LifePo4 Lithium-Iron Phosphate Starter Batteries.
- 2) Follow all Manufacturer Instructions on Charger use.
- 3) Make sure that your RE-START battery has voltage at the Terminals and is not in "Sleep Mode". Sleep mode may prevent the Charger from "seeing" the battery. If no voltage is present, press RE-START button to "awaken" the battery.
- 4) Connect the Charger to the Battery to begin Charging. Remove when fully charged.



CHARGING SYSTEMS WARNING (OWNERS OF PRE-1990S BIKES & CUSTOM BIKES)

Defective old Voltage Regulators found in some 1990s and earlier bikes can over-charge and damage Lithium Batteries! If the vehicle's charging system is defective, or is a Custom Charging system it might cause severe, dangerous overcharging of the Lithium-Ion battery. For example, most older bikes from pre 1995 have Voltage Regulators that can fail mechanically (modern vehicles use Solid-State Voltage Regulators and do not have this problem). If the voltage regulator is defective the Lithium battery can be dangerously "over-charged" by spiking voltages not being controlled by the voltage regulator. It is imperative to check for proper operation of your vehicle's charging system on older and/or Custom bikes! We recommend that a Professional checks your vehicle's system if your bike falls into this category. Failure to check the system could result in fire, explosion and damage to personal property. The most popular bikes that usually have older defective Voltage Regulators are Harley-Davidsons, and Japanese bikes from the 1960s-1990s. You may not realize the Voltage Regulator has become old and defective so please be alerted to this potential Hazard. You can find modern solid-state plug and play systems for these vehicles. Defective Charging System components are not covered by our Warranty and are not a battery issue.

We only approve modern OEM Solid-State Voltage Regulators for any Pre 1995 Motorcycles or Vehicles.



Installation



BATTERY INSTALLATION

- 1) Remove the Negative Cable, then Positive Cable from your old battery. Test fit your Antigravity Battery into place. Note: Our batteries have a 4-Terminal design so you can turn the battery one-half turn to switch the Terminals location.
- 2) Check for proper fitment, and make sure wires are free from hazards. Please note that all models of Antigravity Batteries are designed to replace a few different sizes of Lead/Acid Batteries, so there may be some minor variations in height or fitment. Use the provided plastic blocks (slide into holes on the bottom of the battery's case) to raise the battery if necessary.
- 3) After verifying the fitment of the battery, secure the battery. Replace Positive and Negative cables and tighten the nuts. A firm tightness is all that is needed (4.0 N-m or 3.5 lb-ft). Do not over-torque the battery terminals; damage could result.



PLEASE USE SAFETY! FOLLOW THESE PRECAUTIONS

- 1) Battery **MUST** be securely mounted into vehicle to prevent movement.
- 2) Be careful not to short-circuit the Battery connections on the frame, or other metal parts.
- 3) Battery and Cables should not be installed near hot pipes, in high heat areas, near sharp objects or metal parts.
- 4) Battery Cables should have some slack and not be tightly stretched.
- 5) Test for Parasitic Drains on your vehicle after battery installation (VERY IMPORTANT, see "Troubleshooting" section).
- 6) Older bikes (1990s and earlier) should update to a modern solid-state voltage regulator.
- 7) Test for properly operating charging system in your vehicle by a professional. Vehicles should never charge above 14.4v.



RE-START Overview



THE RE-START FEATURE

The “RE-START” feature is for times when an over-discharge of the battery has happened, but keep in mind the RE-START button does not take the place of proper battery maintenance.

It is advised that you still maintain your battery in a normal manner such as putting the battery on a Lithium battery maintainer if you are not riding often enough to keep the vehicle’s battery charged, or if you have a large Parasitic Drain on your vehicle from accessories that draw energy from the battery such as Theft Alarms, Power Commander, etc.



USING THE RE-START BUTTON

- 1) In the event you have noticed the “RE-START” function has put the Battery to into “Sleep Mode”, indicated by no voltage and the vehicle not turning “ON”, you would then access the battery and simply press the “RE-START” Button to “wake” the battery. Once the button is pressed, the battery is “live” and you will now have enough energy to start the vehicle a few times.
- 2) NOTE: Prior to attempting to start the vehicle, you should turn Off any accessories that might be drawing energy from the battery such as Alarms, Heated Grips or Gear, GPS, etc. Remember this is an *emergency-start* with just enough energy to get you a few start attempts.
- 3) After the vehicle has been started, keep it running and ride/drive as soon as possible to re-charge your battery from the vehicle’s charging system; or if you have a charger available, fully recharge on the proper Lithium-Ion Charger.
Only use the proper Lifepo4 Charger for charging Lithium Batteries (see “Specifications” section).
- 4) Please note that battery access in some vehicles may be more difficult than others; we recommend you bring the proper tools required to access the battery in the event you have a “dead” battery emergency on the road.



We will soon offer a Remote RE-START Harness to trigger the RE-START feature remotely when the battery is in difficult to access locations.



Battery Care & Maintenance



CHECKING THE BATTERY

Antigravity Batteries do not require maintenance if they are kept in a good state of charge, but as with any battery, they should be checked every few months as a precaution. Visually inspect the battery for cracks, check the mounting and cables are secure and check the voltage. The key to long life for any battery is to not allow the battery to get below 11v. Below 11v damage to the battery cells may occur. The lower the voltage and longer the time in an over-discharged state the more potential for damage your battery.



CLEANING

Use a clean dry cloth. Do not use harsh chemicals or solvents. DO NOT directly spray the battery with a Pressure Washer or Hose.



STORING

The Antigravity Battery can hold a charge for over a year provided there are no parasitic drains taking the battery's energy. If you are going to be storing your vehicle, it is best to disconnect the battery completely and it will maintain its charge for over a year. In cases where you leave the battery in the vehicle, you can use a Lithium specific Maintainer/Charger during times of storage. If you will be storing the battery out of the bike, place the battery in a cool dark place. During storage make sure you check the voltage each 4 months to verify the voltage has not gone too low.



GENERAL CARE

The best thing you can do for your battery is to maintain it in a good state of charge. This goes for any battery. 13.2v is considered a full charge. With Antigravity Batteries "RE-START" feature, your battery is protected from getting over-discharged which will dramatically increase the life-cycle of the battery. But you should still maintain the battery in the event you will be storing it in the winter or if you have active accessories that continually drain the battery, such as theft alarms. In cases where you have these large Parasitic drains, you can use a Lithium specific Maintainer-Charger.



Troubleshooting

1 SLUGGISH PERFORMANCE ON INITIAL START IN VERY COLD WEATHER

This may not occur if using proper size battery for your conditions, but is a normal effect of Lithium-Ion due to Resistance caused by the cold. A few quick presses of the starter button, not a full start attempt, and the battery current will flow and start to “self warm” the battery. You may also leave the lights on for a few minutes prior to a start attempt to get the battery current flowing and self-warming. Once warmed, the battery’s full power is available. For hard freezing weather, we recommend a battery warmer.

Do not try to charge, or jump-start any frozen battery!

2 LOSING VOLTAGE IN BIKE, WILL NOT HOLD CHARGE

The Antigravity Lithium Battery cannot drain itself. It has a very low self-discharge rate and can hold a charge for a year. If you notice the battery’s voltage is going down quickly over a few days or weeks, this is due to your vehicle’s accessories or system using the battery’s energy, this is not from the battery “self-discharging”. There are items such as the ECU, Accessories, or Instrument cluster continually drawing the energy from the battery; this is called a “Parasitic Drain”. For example, when the bike is not being ridden items like accessories, alarms, instrument panels and ignition modules continue to draw the energy from the battery, eventually depleting it, even with the key off. This is why it is important to check your voltage when not riding often or when the bike is in storage. If not riding often we suggest a Lithium-Battery Maintainer, or disconnect the the Antigravity Battery from the vehicle and it will hold a charge for up to a year.

Some of the causes of excessive Parasitic Drains are incorrectly connected accessories such as heated grips, Power Commanders, or other accessories wired directly to the battery. Alarms, and Stereos can also create significant drains on the battery when the bike is not running. Improper grounding, or a short-circuit in the electrical system can also cause Parasitic Drains. A mistake such as leaving the ignition on can drain your battery quickly also. Most modern vehicles do have a mild parasitic drains that will not pose a problem in the short term, but adding accessories is usually where excessive parasitic drains occur. Be sure to keep the battery charged or ride enough to keep the battery in a fully charged state to get the longest life from your battery. Your battery has a limited supply of energy to give before being over-discharged. Over-Discharge is **NOT** the fault of the battery!

This Antigravity Battery does have the RE-START feature and will prevent over-discharge and damage to the battery, but you should not forget to maintain your battery in a good state of charge rather than rely solely on the RE-START feature.

3 CANNOT GET BATTERY TO CHARGE

If your Battery has gone into “Sleep Mode” because the “RE-START” function has triggered, then your charger may not “see” the battery since there will be no voltage, or very low voltage at the terminals. In this case press the “RE-START” button on the battery to “awaken” the battery and connect the charger. Now the Charger will be able to “see” the battery and begin to charge it.

4 BATTERY HAS PUFFED OR SWELLED

- 1) This is the typical sign that a Lithium Battery has been “over-charged” and damaged. It can be from using a Lead/Acid Charger or Lead/Acid “Tender” type charger. Do not use a Lead/Acid Charger on this battery. See “Battery Specifications”.
- 2) The other reason for over-charge can be from the vehicle’s Voltage Regulator being defective, which would allow for high spiking voltages back to the battery while it is charging. This is not an issue due to the Battery, it is due to the defective/damaged voltage regulator. This usually only occurs in Pre 1995s bikes such as Harleys, Japanese Street bikes of 1960s -1980s, and other vehicles in these date ranges with old worn out voltage regulators. Please make sure you update to a Solid-State Voltage Regulator in these bikes. This is not covered by warranty. The vehicle’s system must work correctly.

THIS CAN POSE A DANGEROUS SITUATION AND CAUSE THE BATTERY TO MELT OR EXPLODE! PLEASE CHECK YOUR SYSTEM! READ OUR SAFETY WARNING INCLUDED IN THIS USER’S GUIDE!



Warranty (Non-Transferable)

1 WARRANTY PERIOD

For full Warranty terms and information visit our [Warranty page](#).

All warranty claims are handled by Antigravity Batteries directly. All warranty claims must be accompanied by the original receipt from your retailer or your Antigravity Batteries Invoice. Antigravity Batteries LLC offers a 3-year Limited Warranty. It warrants to the original purchaser that our batteries are free of defects in material and workmanship for the pro-rated term of 3 years in stock vehicles using OEM standard charging systems. Race use and Total-Loss Systems are not covered. All batteries must be registered within the first 30 days from the original purchase date or original purchaser must provide copy of original receipt in order to be eligible for a warranty claim. Warranties are non-transferable. Returns will only be accepted from the original Purchaser.

2 WARRANTY DOES NOT COVER

- 1) Any physical damage caused by abuse, negligence, improper installations, or lack of general maintenance.
- 2) Any modification to any part of the battery or its parts, any disassembly of the battery.
- 3) Damage from direct "short-circuiting" of the battery caused by improper use or installations, grounding problems or accidents.
- 4) Use of any Chargers intended for Lead/Acid batteries: Trickle chargers, Battery Tenders, etc. **DO NOT USE LEAD ACID CHARGERS.**
- 5) Use of Chargers NOT intended specifically for Lifepo4 Lithium Batteries, or with a maximum charge voltage over 14.6 volts.
- 6) Overcharging due to a defect with vehicle's voltage regulator or defective charging system, or performance charging systems.
- 7) Overcharging battery above 14.6 volts, or Overdischarge of battery below 10.5 volts.
- 8) Excessive over-cranking, or using the incorrect size battery (too small a battery where a larger battery is needed).
- 9) Any non-standard electrical systems such as total-loss systems, 24v or 16v systems, Race Systems etc. (Only standard, stock 12-volt systems are warrantied.)
- 10) Parasitic drains that discharge the battery to below 10v (please check your electrical system and accessories for parasitic drains).

3 REPLACEMENT

Antigravity Batteries are only eligible for one warranty replacement of a battery. Once a battery has been repaired or replaced under warranty, the replacement item only holds the remainder of the warranty period from the date of the original purchase of the battery, and covers only physical defects. The prorated discount toward the purchase of a new battery will be applied. Antigravity Batteries LLC reserves the right to deny any and all claims if all conditions and terms are not met.

ANTIGRAVITY BATTERIES LLC LIABILITY IS LIMITED TO REPLACEMENT OF THE BATTERY ACCORDING TO THE TERMS STATED ABOVE. ANTIGRAVITY BATTERIES WILL NOT BE RESPONSIBLE FOR ANY EXPENSES FOR INSTALLATION, TOWING, ELECTRICAL SYSTEM TESTS, CHARGING A BATTERY, LOSS OF TIME, OR OTHER EXPENSES WHICH WOULD BE CONSIDERED AS INCIDENTAL OR CONSEQUENTIAL DAMAGES.

THIS WARRANTY DOES NOT COVER DAMAGE TO THE BATTERY CAUSED BY ABUSE OR NEGLIGENCE, A FAILURE TO KEEP THE BATTERY PROPERLY CHARGED OR MAINTAINED, FIRE, COLLISION, EXPLOSION, FREEZING, THEFT, OVERCHARGING, OR DAMAGE CAUSED BY MODIFICATIONS.

This warranty shall be IN LIEU OF any other warranty, express or implied, including but not limited to, any implied warranty of MERCHANTABILITY or fitness for a particular purpose.

SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY HAVE OTHER LEGAL RIGHTS, WHICH MAY VARY BY STATE.



Warranty (Continued)



REGISTERING YOUR BATTERY

You must register your Antigravity Battery product in order to validate the Warranty. You can register the product Online at our [Registration](#) page. Complete the requested information and click "send".

Contact Us

When you need help or have questions, our knowledgeable support team is here for you! Please feel free to call us during our Office Hours 7:30am-4pm Pacific Time, Monday-Friday; or you can write to us any time!

310 527 2330

Info@AntigravityBatteries.com

15622 Broadway Center St.
Gardena CA 90248

VISIT OUR WEBSITES FOR MORE COOL PRODUCTS, ACCESSORIES AND INFO

ANTIGRAVITYBATTERIES.COM

THEMICROSTART.COM

