



IMPORTANT SAFETY WARNINGS

	DANGER
	READ AND FULLY UNDERSTAND ALL SAFETY INFORMATION BEFORE USING THIS PRODUCT! Failure to follow these safety instructions may result in ELECTRICAL SHOCK, EXPLOSION, FIRE, which may result in 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 if 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 un-attended while charging. 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 Chargers. Do not attempt to jump-start a damaged or frozen battery.
	Eye Injury -Wear eye protection when working with battery products. Batteries can explode and cause flying debris.

Proposition 65. Related accessories may contain materials are known to the State of California to cause cancer and birth defects and other reproductive harm.

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, explosion which may result in injury, death or property damage.

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.

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 sub-merged, discontinue use, and contact Antigravity Batteries. Any modifications to the product will void your warranty.

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.

LOCATION. Make sure product is installed correctly. Position cable leads to avoid accidental damage by moving vehicles 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 guideline could result in fire, death, personal injury, or property damage.

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

CLEANING. Power off the product before attempting any cleaning. Clean and dry product immediately if it comes in contact with liquid or any type of contaminant. Use a soft, lint-free (micro fiber) cloth. Avoid getting moisture in openings.

OPERATING TEMPERATURE. This product is designed to work in ambient temperatures between -10°C to 60°C (-4°F to 140°F). Do not operate outside of temperature ranges. Do not jump start a frozen battery. 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.

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

COMPATIBILITY. The product is only compatible with 12-volt stock systems in vehicles. Do not attempt to use product with any other types of batteries or in series or parallel with another battery, or interior electronics could be damaged. Use with, or Jump starting other battery chemistries may result in fire, explosion, injury, death or property damage. Contact the battery manufacturer 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.

THE BATTERY. The built-in lithium-ion battery in the product should be replaced or serviced only by Antigravity Batteries, and must be recycled or disposed of separately from household waste. Do not attempt to service or replace the battery yourself and do not handle a damaged or leaking lithium-ion battery. 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 product battery is excessively hot, emitting an odor, deformed, cut, or is experiencing or demonstrating an abnormal occurrence, immediately stop all use and contact Antigravity Batteries (info@antigravitybatteries.com).

BATTERY CHARGING. Use only approved Lithium-Iron Phosphate specific chargers for 12.8v LifePo4 Lithium Chemistries ONLY 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.

IMPORTANT NOTICE ON CHARGING: The charging system in your vehicles may go bad or be charging at excessively high voltages. This occurs most often in older vehicle, or vehicle with modified or aftermarket charging systems. This can lead to an "over-charge" of the lithium battery and create fire or other damage to the battery and your property. It is important you check your vehicles charging system to make sure it is operating correctly and not charging above 14.4v.

GENERAL SPECIFICATIONS

Please see website for specific details

BATTERY TYPE: Lithium Iron-Phosphate (LifePo4)

VOLTAGE: 12.8 Volt(nominal)

AMP HOUR CAPACITY: Check Label on Battery

CRANKING AMPS: Check Label on Battery

MAX CHARGING RATE- Check Label on Battery

MAX CHARGING VOLTAGE- 14.4 Volts

CHARGER TYPE - Check your Battery Voltage

Lithium-Iron Phosphate for 12.8v Starter Batteries

Lithium-Iron Phosphate for 16v Starter Batteries



Charging an Antigravity Battery (12v Models)

*Do NOT use Lead/Acid Chargers/Maintainers on a Lithium Battery

*Do NOT use a 16-Volt Charger on a 12-Volt Battery

*Use only APPROVED LIFEPO4 Chargers for your Batteries Voltage, Chemistry and Maximum Charge Rate

*Check Vehicle for proper Charging System Operation

The Antigravity Batteries operate and are recharged correctly with any stock/standard charging system found in most modern vehicles. Under normal operating conditions the Antigravity Battery should rarely need to be charged. If you ride your vehicle this recharges the battery and keeps it topped off, but in some circumstances your battery may become over discharged due to not riding/driving enough, maybe it was in storage, or potentially you have extra accessories or a fast "parasitic drain" occurring from your ECU. In these cases charging may be needed.

In the event that the battery does need to be recharged, or maintained, for example if used in a vehicle with a fast/large Parasitic Drain that is not ridden often then it may need to be put on a Lithium Charger or Maintainer. In this circumstance you should use ONLY use a specific Charger designed for 12.8 volt LifePo4 Lithium-Iron Phosphate Batteries. There are a number of high-quality chargers on the market. Follow Manufacturers Instruction on Charger use. Contact Antigravity Batteries for suggestions on a Charger for your use or visit our website.

Charging an Antigravity Battery (16v Models)

Antigravity Batteries 16-Volt Batteries are only for Race Use and not intended for use with vehicle Charging Systems.

Antigravity Batteries will not warranty the use of 16-Volt batteries in these Total Loss systems. 16-Volt Antigravity Batteries are not to be used in 12-Volt vehicle Systems.

To charge the 16-Volt Antigravity Batteries make sure you have obtained the correct and recommended 16-Volt charger from Antigravity Batteries and Charge according to the Instructions that come with the 16-volt Lifepo4 Charger.

Charging Systems Warning

Antigravity Batteries can be over-charged if the vehicles charging system is defective or goes bad. For example the voltage regulator being defective. In these case the Lithium battery can be dangerously overcharged by spiking voltages (voltage should never go above 14.4v when charging) from the vehicles system. It is imperative to check for proper operation of your vehicles charging system. Many older vehicles have defective/broken voltage regulators. We recommend a Professional check your vehicles system, especially on older vehicles (Pre 1995) that are being ridden currently. Failure to check system could result in Fire, Explosion and Damage to personal property.

Installation

*Before Installation make sure the location of the battery will be free from areas of potential short-circuiting of the cables, terminals and other electrical connections. Be aware of other potentially dangerous situations such as moving parts, metal parts or extremely hot parts such as headers. Make sure your Charging System is in good operating condition and not charging above 14.4v.

- Remove the Negative Cable then the Positive Cable from your old battery, and remove the battery
- Antigravity Small Case Models a have adhesive backed foam inside the retail box. You can use this foam to take up any extra room in your battery tray area if needed. Cut the foam with scissors or razor knife and test fit the battery for secure installation. Antigravity Batteries OEM Models will fit correctly without the need of foam.
- Antigravity Batteries use large brass terminals for better Current flow and a stronger terminal. Some vehicles have battery cable ends that are square with bent ears that will need to be bent flat for use with our batteries.
- After secure fitment of 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!

Please USE SAFETY! Follow these PRECAUTIONS

- Battery MUST be securely mounted into vehicle
- Be careful not to directly short-circuit the Battery connections on the frame, or other metal parts
- Battery and Cables should not be installed near to hot pipes, sharp objects, or metal parts
- Battery Cables should have some slack and not be tightly stretched
- Do not install close to Carbon Fiber... Carbon Fiber can conduct electricity!
- Test for Parasitic drains on your vehicle after battery installation (VERY IMPORTANT)
- If you have an older bike (1980s and earlier)with a voltage regulator, update to a modern regulator
- Test for properly functioning charging system in your vehicle by a Professional

Battery Care and Maintenance

Antigravity Batteries do not require maintenance for the most part if they are kept in a good state of charge, but as with any battery, it should be checked once every few months as a precaution. Visually inspect of the product for any cracks, check the mounting is secure, and check the voltage. They key to long life for any battery chemistry is to not allow the battery to get below 11v. Below 10v, damage to the cells may occur, and the lower the voltage, the more potential for damage.

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

TO STORE. The Antigravity Battery can hold a charge for over a year provided there are not parasitic drains taking the batteries 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. If you will be keeping the Place the battery in a cool dark place

ANTIGRAVITY BATTERIES

Trouble Shooting

Sluggish performance on initial start in very cold weather

(This condition may not occur if you are using the proper size battery for your conditions)

This is a normal effect of Lithium-Ion due to Resistance cause by the cold. If you do a few quick presses of the starter button, not a full start attempt, but a quick press to engage the starter, they battery will flow Current and start to "self warm" and should have much more power on the start attempt. You may also leave the lights on for a few minutes to get the Current of the battery flowing to have more power on the initial start attempt. Once warmed, the batteries full power is available. For freezing weather we recommend a battery warmer.

Battery is losing voltage while in the bike (Parasitic Drain)

If you notice your bikes Voltage is going down fast and having trouble starting after just a week or a few in the bike this could be from a Parasitic Drain. A Parasitic Drain is a condition where the batteries energy is used up while the bike is sitting not running and with the key off... Often times there are items like accessories, alarms, instrument panels and even Power Commanders that will still draw the energy from the battery even with the key off. Even a shorted wire on the vehicle can cause this condition. Eventually, if the battery is drained and will not start the vehicle. This is NOT a defective battery, it is the fact that the vehicles system has drained the battery. Track down the Parasitic Draw, or keep the battery in a state of charge on a Lithium Maintainer or Charger.

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. Items like improper grounding, or a shortin the electrical system can also cause parasitic drains. A mistake such as leaving the ignition on can drain your battery and damage it. Most modern vehicles do have a mild parasitic drain that will not pose a large problem, but adding accessories is usually where excessive parasitic drain 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. If you do not ride often you may want to disconnect the battery when not in use or keep it one a Lithium Charger during non-riding times. The Antigravity Battery will not lose its own charge for up to a year if disconnected.

A good way to check for a Parasitic drain on you bike is to monitor the voltage. Antigravity Batteries WILL NOT lose their own voltage if not connected to a accessory taking the voltage. If the voltage on your vehicle is going below 13.3v with the Antigravity Battery in it something is taking the battery's energy. If you are losing voltage quickly it is important that you correct the issue.

IMPORTANT- The Antigravity Battery is not a cure for a very hard starting vehicle! Do not attempt to start by cranking the starter for more than 6 seconds per attempt. A couple 5-6 second attempts is fine, but multiple, long starts can lead to over heating and is not considered a normal use of the battery. These batteries are EXTREMELY powerful and express high amperage, repeatedly attempting to start your vehicle with 10 second cranking without giving the battery some time to cool down can result in overheating the battery cells and possible damage to your starter and/or the battery.

Warranty

For full Warranty terms and information visit antigravitybatteries.com

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 2-year Limited Warranty. It warrants to the original purchaser that our batteries are free of defects in material and workmanship for the term of 2 years in stock vehicles using standard charging systems. Race use is a 1 year warranty, but not covering Total-Loss Systems. All batteries must be registered within the first 30 days from the original purchase date or original purchaser must provide original receipt in order to be eligible for a warranty claim. Warranties are non-transferable. Returns will only be accepted from the original Purchaser.

WARRANTY DOES NOT COVER ANY OF THE FOLLOWING PHYSICAL ISSUES

- Any physical damage caused by abuse, negligence, improper installations, or lack of general maintenance.
- Any modification to any part of the battery or its parts, any disassembly of the battery.

WARRANTY DOES NOT COVER THE FOLLOWING ELECTRICAL ISSUES

- Damage from direct "short-circuiting" of the battery caused by improper use or installations, grounding problems or accidents.
- Use of any Chargers intended for Lead/Acid batteries- Trickle chargers, Battery Tenders, etc. **DO NOT USE LEAD ACID CHARGERS**
- Use of Chargers NOT intended specifically for Lifepo4 Lithium Motorsport Batteries, or with a maximum charge voltage over 14.6 volts
- Overcharging due to a defect with vehicle's voltage regulator or defective charging system, or performance charging systems
- Overcharging Battery above 14.6volts OR Over-Discharge of battery below 10volts
- Excessive over cranking, or using the incorrect size battery for the, (too small a battery where a larger battery is needed)
- Any non-standard electrical systems such as total-loss systems, 24v or 16v systems, Race Systems etc....(Only standard, stock 12-volt systems are warranted)
- Parasitic drains that discharge the battery to below 11v (please check your electrical system and accessories for parasitic drains)

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 pro-rated 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.

NOTE: 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.

ANTIGRAVITY BATTERIES

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ANTIGRAVITY BATTERIES LITHIUM-ION STARTER BATTERY

USERS GUIDE AND SAFETY INFORMATION



**DANGER! IMPORTANT SAFETY INSTRUCTIONS.
COMPLETELY READ THIS MANUAL FIRST!**



PRIOR TO USE, READ AND UNDERSTAND PRODUCT SAFETY INFORMATION.
Failure to follow the instructions may result in **ELECTRICAL SHOCK, EXPLOSION, or FIRE**, which may result in **SERIOUS INJURY, DEATH, DAMAGE TO DEVICE or PROPERTY. DO NOT DISCARD THIS INFORMATION.**

Introduction

Thank you for purchasing the Antigravity Battery. You have purchased what we feel to be the best Hi-Power, Lightweight Lithium Battery available. We want you to enjoy the benefits of this performance mod for a long time, so to protect your investment please read the following information carefully and educate yourself. Lithium-Ion has different maintenance procedures than for Lead/Acid batteries!

Antigravity Batteries are extremely Hi-Power, Lightweight Lithium Iron Phosphate batteries using the latest available Technology. They can be as much as 80% lighter and half the size of the Lead/Acid battery they replace. They can offer more than twice the power compared to Lead/Acid batteries yet be a much smaller size. They are maintenance free batteries that can hold a charge over a year providing there is no "parasitic drains" on the vehicle.

About Lithium-Ion Batteries

Lithium-Ion Starter Batteries are a relatively new technology compared to the 100-year-old lead/acid technology. They offer great benefits such as massive weight reduction, much higher cranking power, longer service life and can improve the performance of your vehicle due to the large weight reduction and better starting performance. But with those benefits, the user should understand that Lithium is NOT the same as lead/acid. There are differences in maintenance and other characteristics that should be learned and adhered to for safe operation and the longest life from the battery.

Lithium and Lead/Acid are extremely different chemistries yet when vehicle from the vehicles charging system, both Lead/Acid and the Lithium-Ion will charge fine (provided the charging system is working properly, see warnings). But when being charged by an exterior Charger/Maintainer, the correct charger should be used for the battery chemistry of your battery. This is because most Lead/Acid chargers are for a specific type of Lead/Acid battery such as Standard, AGM or Gel and have different "modes" like Fast Charge, or Desulfinate Mode which are NOT compatible with Lithium-Ion. The potential for over-charging of a Lithium Battery is there when using a Lead/Acid charger, and could pose potential safety issues. So for the safety of yourself, your battery, and your property just use the correct charger for the battery chemistry you are using. See the "Charging" section of the manual for more information.

In very cold weather below (40F) Lithium-Ion Batteries may have initial sluggish performance due to resistance increase in the battery due to cold temperatures. This will also depend if you have chosen the correct battery size for your Motor size, too small of a battery will suffer more in cold weather so size your battery correctly. But in general this initial slower turn over is normal and will actually go away when the battery is self-warmed. A Lithium Battery can be self-warmed with a few short presses (not start attempts) of the Start button on your vehicle to get the "Current" flowing out of the battery... this self warms the battery and as the battery warms power will increase rapidly and will easily start the vehicle again. Additionally if you leave the lights on for a minute or two, this will also get the battery to self-warm because "Current" is being discharged. But it should be noted that if you operate your vehicle in extremely cold conditions often you might want to consider the biggest battery you can get for your vehicle.

ANTIGRAVITY BATTERIES