**IMPORTANT SAFETY WARNINGS**

**DANGER**

- **READ AND FULLY UNDERSTAND ALL SAFETY INFORMATION BEFORE USING THIS PRODUCT.** Failure to do so may result in ELECTRICAL SHOCK, EXPLOSION, FIRE, which may cause SERIOUS INJURY, DEATH, or PROPERTY DAMAGE.

**Shock** - Product is an Electrical Device that may cause serious injury if not handled correctly. Do not wear jewelry, or other metallic objects, when working with batteries.

**Explosion** - Batteries can spark! The potential of Explosion exists if batteries are used around areas where flammable fumes or high dust content are 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 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) or charge 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.

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

** Proposition 65** Related accessories may contain materials 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 use gloves and handle the battery with care. Do not install close to Carbon Fiber... Carbon Fiber can conduct electricity!

- **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 at least 3 feet away from metal objects that are square with bent ears that will need to be bent flat for use with our batteries.

**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.

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**GENERAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th>BATTERY TYPE:</th>
<th>Lithium-Iron-Phosphate (LifePo4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOLTAGE:</td>
<td>12.8 Volt (nominal)</td>
</tr>
<tr>
<td>AMP HOUR CAPACITY:</td>
<td>Check Label on Battery</td>
</tr>
<tr>
<td>CRANKING AMPS:</td>
<td>Check Label on Battery</td>
</tr>
<tr>
<td>MAX CHARGING RATE:</td>
<td>Check Label on Battery</td>
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<tr>
<td>MAX CHARGING VOLTAGE:</td>
<td>14.4 Volts</td>
</tr>
<tr>
<td>CHARGER TYPE:</td>
<td>Check your Battery Voltage</td>
</tr>
<tr>
<td>Lithium-Iron-Phosphate for 12.8v Starter Batteries</td>
<td></td>
</tr>
<tr>
<td>Lithium-Iron-Phosphate for 16v Starter Batteries</td>
<td></td>
</tr>
</tbody>
</table>

- **OPERATING TEMPERATURE.** This product is designed to work in ambient temperatures between —10°C to 60°C (-14°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).

- **STORAGE.** Store your product on a flat, secure surface so it’s not prone to being balled. Store your battery in a cool, 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 use this 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 cause internal damage, 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 is extremely hot, emitting an odor, deformed, cut, or 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 the 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 vehicle may go bad or be charging at excessively high voltages. This occurs most often in older vehicles, 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 charging system carefully to make sure it is operating correctly and not charging above 14.4v.

**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** have a housing attached foam inside the retail box. You can use this foam to take up any slack in your vehicle tray bay area if needed. Cut the foam with scissors or razor knife and test the fit 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 hot pipes, sharp objects, or metal parts**

- **Battery cables should have some slack and not be 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 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

**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 LIFEP04 Chargers for your Batteries Voltage, Chemistry and Maximum Charge Rate**

**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.
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, the 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 short in 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 occurs. 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 on 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 your 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 battery in it something is taking the battery’s energy. If you are losing voltage quickly it is important that you correct the issue.

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

A good way to check for a Parasitic drain on your 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 battery in it something is taking the battery’s energy. If you are losing voltage quickly it is important that you correct the issue.

**Trouble Shooting**

- 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 fast cranks on batteries 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 cranks 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 from date of purchase. During this 2-year warranty period, Antigravity Batteries LLC will repair or replace (at its discretion) any battery that fails to work properly under normal use. This warranty is void if the battery is damaged or if it is used under abnormal conditions or if the battery is not used or charged correctly. The warranty also does not cover any damage caused by abnormal use, misuse, or neglect. The warranty does not cover any damage caused by owner’s failure to follow the instructions provided in the product manual or failure to maintain the battery properly. The warranty also does not cover any damage caused by owner’s failure to follow the instructions provided in the product manual or failure to maintain the battery properly. The warranty also does not cover any damage caused by owner’s failure to follow the instructions provided in the product manual or failure to maintain the battery properly.

**ANTIGRAVITY BATTERIES**

Visit us at antigravitybatteries.com

E-mail us at info@antigravitybatteries.com

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**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 modifications to any part of the battery or its parts, any disassembly of the battery.
- WARRANTED 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 Tender, etc. DO NOT USE LEAD-ACID CHARGERS
- Use of Chargers NOT intended specifically for Lithium Lithium-Ion 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 by overcharging systems
- Overcharging battery above 14.6V. DO NOT OVERCHARGE battery above 14.6V
- Excessive overcranking, or using the incorrect size battery for the application (this small a battery where a larger battery is needed)
- Any non-standard electrical systems such as total-loss systems, 24v or 12v systems, Race Systems... (Only standard, stock 12-volt systems are warranted)
- Parasitic drain that discharge the battery below 11v (please check the 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 repair 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.

**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 Desulfate 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 (40°F) 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.