

# Antigravity



# Batteries

## Instructions and Warranty Information

*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.*

## IMPORTANT-READ THIS MANUAL FIRST!!!

✘ WARNING - DO NOT USE LEAD/ACID CHARGERS OR TRICKLE CHARGERS ON OUR LITHIUM BATTERIES. THEY WILL DAMAGE YOUR BATTERY! USE ONLY LIFEPO4 SPECIFIC CHARGERS RATED TO CHARGE A MAXIMUM OF 14.6 Volts!

✘ WARNING - DO NOT ALLOW THE BATTERY TO "OVER-DISCHARGE" BELOW 11 Volts.

## ABOUT THE BATTERY

Antigravity Batteries are extremely Hi-Power, Lightweight Lithium Polymer batteries using the latest Nanohosphate 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 up to a year if there is no parasitic drain on the vehicle. The battery comes ready to install and start your vehicle.

## INSTALLATION

- Remove the Negative Cable then the Positive Cable from your old battery, and remove the battery
- Antigravity Small Case Models and some OEM Replacement Models 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 use large brass terminals for better energy flow and a stonger terminal. Some vehicles have battery cable ends that are square with bent ears that will need to be bent flat for use on the Small Case Models. Our OEM Models come with a longer bolt and a square spacer is provided to go under the square cable-end if you choose to use it.
- 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 the Battery Terminals 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 (1970s) with a voltage regulator, update to a modern regulator
- ✘ Test for properly functioning charging system in your vehicle

## **CHARGING** DO NOT USE A TRICKLE CHARGER OR REGULAR LEAD/ACID CHARGER

The Antigravity Battery is capable of holding a charge up to a year provided there are no "parasitic drains" that will discharge the battery while in the vehicle. In a properly functioning electrical system the battery will be kept in a state of charge from the vehicle's charging system. In the event you do need to charge the battery you can charge using the following methods.

- Using the Antigravity Lifepo4 battery charger (available at [antigravitybatteries.com](http://antigravitybatteries.com) or retailers)
- Using another specific Lifepo4 Lithium charger for 12v systems that does not charge above 14.6v at no more than the maximum charge rate as stated on your battery's label.

## **WATERCRAFT AND SNOWMOBILE USE**

Watercraft and Snowmobiles can benefit from the dramatic weight-loss of Antigravity Batteries, but it should be noted that use in these applications is for Race or Hi-Performance use only. These vehicles tend to be much harder on batteries due to their use in water and extreme cold. Watercraft are often direct drive and need more power to start, and Snowmobiles are used in extremely cold. In extreme cold temperatures all lithium batteries will have initially sluggish performance and may not turn the engine over if too small a battery is used or it is too cold. For any Watercraft or Snowmobiles we recommend a 16-cell version of the battery minimum and for best performance use our largest models. For Race use you may choose a smaller version but will have to consider the application and power requirements. Please contact us with any questions for these applications.

## **TOTAL LOSS SYSTEMS**

Though the Antigravity Batteries' performance is outstanding for this use, it should be noted that we DO NOT WARRANTY the battery in this use. There is a large margin for human error on these types of systems. These systems must be maintained and operated correctly so users must proceed at their own risk!!!

- Use ONLY specific Lifepo4 battery chargers or the Antigravity Charger or damage will result.
- Never drain the battery below 12.5v before recharging for optimal life and operation.
- Charge battery as often as possible to keep in optimal voltage... above 13.3v.
- Use the proper size/capacity battery for your system taking into consideration your use and amperage draw. Antigravity can help you determine this but will not warranty or be held responsible for operation or damage occurring from a total loss system.

## **ISSUES THAT CAUSE BATTERY DAMAGE**

Reading the following will give you a better understanding of battery facts and provide knowledge for what can cause your battery to go bad. These principals apply to all Lead/Acid or Lithium batteries used in vehicles.

The most common causes of battery damage are:

- "Over-Discharge" of the battery- Meaning the battery has been allowed to drain below 11v. At 11v a battery is effectively "dead" and will not start the vehicle. Below this voltage damage can occur to the battery cells resulting in a battery that will not hold a charge and will not have power to start the vehicle well. Alarms, accessories, ECUs, instrument panels, Power Commander type ignition modules or storing for a long periods can drain the battery because they take the battery's energy even while the vehicle is just sitting in the garage. (see "Parasitic Drains")
- "Over-Charging" of the battery....this usually happens on older vehicles when a voltage regulator goes bad, or if the battery is charged using the wrong type of charger. Both of these issues will quickly damage your battery whether it is lead/acid or Lithium. Be sure to update your charging system if you have an older 1970s bike that uses a voltage regulator, these often go bad.

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## PARASITIC DRAINS

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 panel 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 vehicle is not being ridden to keep the battery charged, the batteries energy could be depleted below 11v and the battery could be damaged. It is very important to avoid this happening to your battery!

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 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 on a Lithium Charger during non-riding times. The Antigravity Battery will not lose its 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.

## 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)

If you are using the smallest battery possible for your vehicle, ride in extremely cold weather or have a snow mobile... you may find the battery may seem sluggish on the first start attempt. This is NORMAL... BUT NOTE that the Antigravity Battery will actually become STONGER on the next attempts because an amperage discharge will get the battery to self warm. Once warmed, the batteries full power is available. **For freezing weather we recommend a battery warmer.**

### **There are two ways to have the battery self warm in very cold weather.**

- 1) Turn on the ignition and let the lights run for about 2-3 minutes, this will provide an amp draw which will allow for a little warming and more power on the first start attempts in cold weather.
- 2) Push the start button with a couple SHORT Pulses 1-2 second starter bursts... the will make the battery use more amps and cause it to warm...after a couple quick pulses attempt a normal start.

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

If you check the battery and find the voltage is going down while the bike is not being ridden you should seek the advice of a vehicle electrician to eliminate the parasitic drain. A lithium battery CANNOT DRAIN ITSELF. If you are losing voltage it is due to a drain occurring on the vehicle....NOT THE BATTERY...

**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.

# Antigravity Batteries

# Warranty Information

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 term of 3 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. Batteries are NOT FOR USE IN PASSENGER CARS.

## WARRANTY DOES NOT COVER ANY OF THE FOLLOWING PHYSICAL ISSUES

- Any physical damage caused by abuse or improper installations.
- Any modification to any part of the battery or its parts.

## WARRANTY DOES NOT COVER THE FOLLOWING ELECTRICAL ISSUES.

- Damage from direct "shorting" of the battery cause by improper use or installations or grounding problems.
- Use of any Chargers intended for Lead/Acid batteries- Trickle chargers, Battery Tenders ect. **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 (usually found in older bikes pre 1980s)
- Overcharging battery above 14.6v OR Overdischarge of battery below 11v
- Excessive over cranking, or using the incorrect size battery for the application (too small a battery where a larger battery is needed)
- Any non-standard electrical systems such as total-loss systems, 24v systems, etc....(Only standard stock systems are warranted)
- Parasitic drains that discharge the battery to below 11v (please check your electrical system and accessories for parasitic drains)

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. Do not contact your reseller for warranty claims. Returns will only be accepted from the original owner. 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.

If the battery is used in competition of any kind, warranty is limited to 1 year.

**TOTAL-LOSS, 24-Volt SYSTEMS, OR NON-STANDARD USE IS NOT WARRANTED!**

Racing warranty is prorated on a 1 year basis. 1-5 mos free replacement, after 6-12 months 50% off MSRP.

The 3 Year Limited Warranty is on a pro-rated basis based from the original date of purchase, on stock powersport electrical systems. Only ONE battery replacement will be given under warranty.

1-5 Months = Free Replacement

6-12 Months = 75% discount from retail MSRP

13-24 Months = 50% discount from retail MSRP

25-36 Months = 25% discount from retail MSRP

All shipping charges, insurance and any damage incurred during shipping for any and all warranty claims is the customer's responsibility. If the battery is determined to be defective, Antigravity Batteries will pay for return shipping of the replacement battery back to the customer (within USA only). In cases where Antigravity products are purchased outside the United States, return shipping charges may apply even for warranty-replacement issues.

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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