NEW BATTERY CHOICE OPTIONS FOR THE GENERAL AVIATION MARKET

The lead acid battery is one of the oldest remaining technologies used in General Aviation aircraft. Since 1859, the construction of the battery has slightly evolved, from the original flooded batteries (FLA) to the Absorbent Glass Mat (AGM) to Gel batteries, but the technology is basically the same. If you own or operate a certified General Aviation aircraft, you had no choice but to use a lead acid battery starter battery.

Until now. Times are changing.

After more than a century and a half, you soon will have a choice of using something different. Introducing Lithium Iron Phosphate, commonly known as LiFePO4 or LFP, batteries. EarthX, Inc. has been dedicated to innovation to provide a safe and reliable alternative and currently has FAA TSO approved 12V and 24V LiFePo4 batteries and is invested in providing STC's for installation approvals. The experimental aircraft market has adopted this battery choice for almost a decade now and EarthX is the most used and trusted manufacturer of this technology.

How are they different and how will this advancement be useful to you?

Energy Density

Energy Density is the amount of energy stored per the space and weight of the battery. A LiFePo4 battery will be almost 80% lighter than an equivalent cranking lead acid battery, and physically smaller. With new Type Certificated aircraft using this technology, this will give them the opportunity to add more reliable and efficient engine starts, added capacity if needed to run equipment, and add redundancy and safety by having an additional battery for back up with no weight penalty.

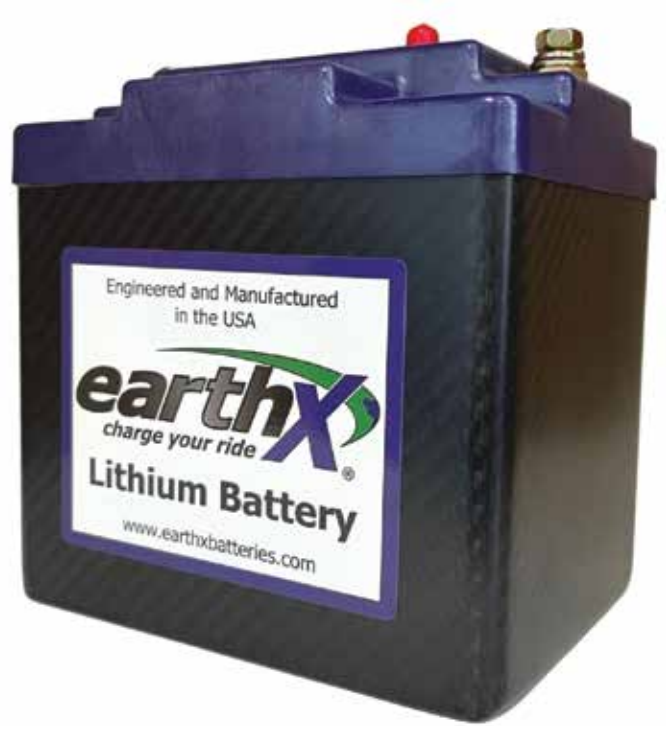
Weight Savings

Weight savings is critical and has many benefits. An example of replacing the Gill G-35 with the EarthX ETX900-TSO is 21.6 pounds.

- Increased useful load
- Increased your fuel by 3 gallons to get you further
- Fuel savings as the overall weight is lighter
- Ability to fly faster

Example:

	Gill G-35	EarthX ETX900-TSO
Weight	27 LB	5.4 LB
IPP (cranking amps)	250	390
Dimensions	9.8 x 5.2 x 7.4"	6.5 x 3.1 x 6.6"



Charging

A LifePo4 battery will accept a very high charge current which means the battery will recharge much faster than a lead-acid battery and in a fraction of the time. This means more time flying and less time waiting to recharge your battery.

Discharging

In the event of an alternator failure and you are using battery power only, a LiFePo4 battery will have very little voltage drop and all your equipment will continue to be powered fully without dimming until you have used all the capacity of the battery. A lead acid battery will have almost an immediate voltage drop and the faster you discharge the battery, the less capacity you will have to run your equipment.

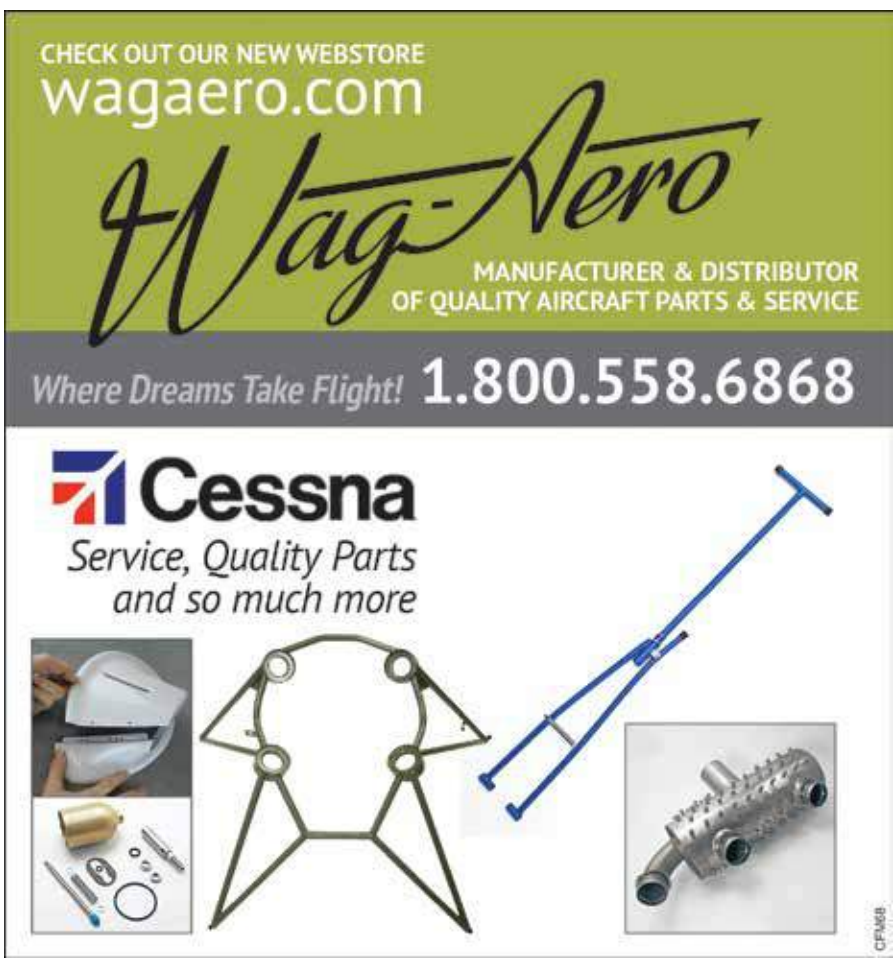
Lifespan

Typical lead acid batteries have between 300-500 charge cycles. The typical LiFePO4 will have between 2,000-4,000 which means a lifespan that is 2-3X longer.

Storage

The monthly discharge rate of a LiFePo4 is on average 2%, whereas a typical lead acid batteries monthly discharge rate is 30%. The shelf life of a LiFePo4 battery is significantly longer and can sit uncharged for over a year and sustain no damage. They do not corrode, sulphate or freeze.

continued on Page 80 »



News

» *EarthX Batteries*
Continued from Page 78

Environmental Impact

LifePo4 batteries are nontoxic and non-contaminating which make them environmentally safe to be used. There is no venting of any gases during charging or discharging and they can also be recycled to recover the materials used in their electrodes, wiring, and casings to be used in new lithium batteries. They use no rare earths or toxic metals and employ commonly available materials including copper, iron, and graphite.

Lead acid batteries can also be safely recycled to recover lead and other materials, but sadly many end up in landfills, especially in developing countries, and toxins can cause fires and explosions and poison food and water supplies for generations. Lead acid batteries pose a potential threat to human health and the environment if improperly discarded. Lead acid batteries are hazardous waste with 3 main components: sulfuric acid, cadmium and lead. Both lead and sulfuric acid can contaminate solid and ground water. Lead is harmful to brain, kidney, hearing and concentration, and reproductive system and may cause high blood pressure, joint pain and nerve disorder while sulfuric acid and cadmium can be more harmful than other acids. Lead acid batteries vent little or no gas while discharging, but explosive mixtures of hydrogen and oxygen can be produced during charging. Hydrogen gas is colorless, odorless, lighter than air, and highly flammable; oxygen is an oxidizer that can promote a fire or explosion.

In summary, LiFePo4 batteries are much more EARTH friendly.

Technologically Advanced Features

The LiFePO4 battery technology has advanced protection in the form of a battery management system (BMS) inside to protect the battery cells from common abuses such as over discharge, over charge, short circuit protection, and heat and can alert you via an LED light on your panel if outside of normal parameters.