

Introduction to Concorde's SunXtender Batteries



Recombinant Gas Absorbed Electrolyte versus Vented Lead Acid Batteries AGM Batteries are Self Contained

Concorde's Sun Xtender AGM batteries are not a gelled electrolyte. It is considered a "Recombinant Gas Absorbed Electrolyte" battery. Some of the main differences between the old vented lead acid batteries and the new valve regulated sealed lead acid batteries are that the electrolyte is absorbed in a glass mat separator of the absorbed

version as opposed to the spillable flooded or vented type. This design offers a fully contained system. Whereas flooded batteries require open vent cap holes which can lead to electrolyte spillage when a battery is tilted or inverted, absorbed electrolyte batteries are equipped with pressure relief valves allowing for the dangerous hydrogen and oxygen gas to be release without the danger of electrolyte spills that are highly corrosive. In addition, an AGM battery nearly has a 100% recombination rate within the battery which reduces the level of the dagerous hydrogen emissions.

Sun Xtender AGM battery's self contained design is maintenance free. Flooded deep cycle batteries require constant maintenance with the addition of electrolyte. This process is dangerous, due to the highly corrosive nature of acid. In AGM sealed batteries, the acid is absorbed between the plates and immobilized by a very fine fiberglass mat. This glass mat absorbs and immobilizes the acid while still keeping the acid available to the plates. This allows for a quick reaction between acid and plate material without the need for an open system. Even if the battery is broken, no electrolyte will ever be spilled.

More Powerful Construction

The cell groups in the old vented type batteries are loosely packed and thus have high plate separation. In contrast, the VRSLAB has every square inch of positive and negative plate material tightly packed and compressed with AGM material which is supported by the walls of each cell. Therefore, SunXtender batteries are much more efficienct. Loss of charge due to self-discharge is 3 to 10 times better with a Sun Xtender AGM battery than a conventional gelled, and 5 to 50 times less than with flooded batteries. This is due to the design which allows for gasses to recombine more efficiently. This efficiency reduces dangerous hydrogen emissions to a level far below most battery types, and less than half the lower explosive limit for Hydrogen. Sun Xtender battery also do not have the charge and discharge current limitations that most gelled batteries have. Therefore, Sun Xtender batteries are longer lasting due to their resistance whereas most gel cell batteries can be effectively ruined with just one sustained overcharge.

Sun Xtender AGM batteries have an extremely low internal electrical resistance. This, combined with faster acid migration, allows the AGM batteries to deliver and absorb higher rates of amperage than any other sealed batteries during discharging and charging. Concorde AGM batteries can be bulk charged at extremely high rates without damage. Results have show that Concorde AGM batteries can be charged up to 10 times faster than gelled cells, and 5 times faster than dangerous flooded batteries. In addition, AGM technology is capatable with normal flooded lead-acid regulated charging voltages and it is not necessary to recalibrate charging systems or purchase special chargers.

AGM batteries, such as Concorde's Sun Xtender line, have much better resistance to vibration and shock due to their construction than most flooded batteries. The tight construction includes many plates which are packed in with the

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glass mat. This reduces plate movement and vibration to nearly nothing. In addition, because the glass mats are not saturated and the liquid does not expand causing damage, Sun Xtender AGM batteries can withstand freezing temperatures.

All Concorde AGM batteries carry a one-year full warranty - most gelled cells carry only a 90-day warranty.

SUN-XTENDER® BATTERY DESIGN FEATURES

- Copper Alloy Terminals for improved electrical connections.
 - No exposed lead terminals. This change was incorporated to improve environmental safety and health.
 - Threaded insert terminals are recessed to prevent short circuits across battery connections.¹
 - New cover is flat top design. No protruding or exposed vent valves.¹
 - Built in lifting handles, except PVX-490T, PVX-560T, and PVX-2240T.
 - Reinforced container walls to reduce bulging.
 - High Impact Strength Copolymer Polypropylene Case and Cover.
 - Completely Sealed Valve Regulated Construction.
 - Immobilized Electrolyte Non-Spillable.
 - Maintenance Free Design Never Requires Watering.
 - Absorbed Glass Mat (AGM) Micro-porous Glass Separators retain electrolyte.
 - Flame Arresting Pressure Regulated Safety Valves.
 - UL Recognized Systems Component.
 - Positive Plates - Proprietary Lead Calcium Alloy- Negatives Plates - Lead Calcium.
 - Low Self Discharge Rate Approximately 1 % per month at 25 C (77 F).
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- Classified as "Non-Spillable Battery" for transport. Complies with DOT HMR49, Non-Hazardous Materials.

Standard Terminals: All "T" batteries now incorporate copper alloy M8 terminals except the PVX-340T & PVX-420T which are M6. All batteries supplied with silicon bronze bolts, nuts, and washers as required for installation. No exposed lead terminals. This change was made to improve environmental safety and health. Torque Value M6: 35 in-lbs / 4.0 nm. Torque Value M8: 70 in-lbs / 7.9 nm. Optional Terminals: L Blade or Automotive post type terminals are available installed by adding the appropriate suffix: "L" for L Blade or "A" for automotive post. Handles: All part numbers include lifting handles except the PVX-490T, PVX-560T, and PVX-2240T. Ratings: Capacity ratings are stated at 77F (25 C) to 1.75 volts per cell. Drawings: Click on the part number in the table above or contact the factory.

