



## OWNER'S MANUAL

Congratulations on the purchase of a new Chairman battery! Chairman has been the leading name in AGM (Absorbed Glass Mat) batteries since 1993. The quality and durability of the Chairman battery series has been proven again and again in military and commercial applications worldwide.

This manual is intended to be used for quick reference only. For the full content of Concorde's technical recommendations, cautions and other important information, please refer to the "Chairman Technical Manual" available for download at [www.concordebattery.com](http://www.concordebattery.com). If you do not have web access, please contact Concorde's Customer Service Dept. by calling 1-800-757-0303 or (626) 813-1234 to receive a copy by mail.

### The AGM difference:

- 20% faster recharge than a conventional vented battery and gel cells.
- 100% maintenance free. No addition of water needed.
- Classified as "NONSPILLABLE" and can be shipped HAZMAT Exempt by any means.
- Tested to stringent military shock and vibration standards.
- Minimal gas release under normal charging conditions.

### Sizing a battery bank:

It is always good to have twice the battery capacity that an application requires. This will promote long battery life and also reduce the amount of recharge time.

## Battery Charging:

**WARNING: All batteries must be adequately vented during charging to avoid accumulation of explosive hydrogen gasses. Never install or charge in a sealed container or room.**

The following charging voltages are recommended for maximum battery life for all Chairman models.

	Volts per cell	6 Volt Battery	12 Volt Battery
Bulk/Absorb	2.37 – 2.40	7.10 – 7.20	14.2 – 14.4
Float	2.20 – 2.23	6.60 – 6.70	13.2 – 13.4

### NOTES:

1. Use only constant potential (constant voltage) chargers.
  2. For 24-volt systems, multiply 12-volt setting by 2. For 48-volt systems, multiply 12-volt setting by 4.
  3. Charge voltage should be adjusted if battery temperature varies by more than 10°F from 77°F. Consult Chairman Technical Manual for further guidance.
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## Conditioning/Equalizing Charge:

Charge at 2.58 volts per cell (e.g., 15.5 volts for a 12V battery) for 8 hours at 68 - 77°F. If the battery temperature is outside this range, refer to the Lifeline Technical Manual.

Conditioning/equalizing should only be done when the battery is showing symptoms of capacity loss. If conditioning/equalizing is necessary, first go through the normal charge cycle. Once the battery is fully charged, start the conditioning/equalizing charge.

NOTE: For maximum life, batteries must be periodically recharged to 100% capacity. Continually recharging to less than 100% may result in premature capacity loss. It is recommended that batteries be recharged to 100% at least every 5-10 cycles.

## For Inverter/Charger applications:

Refer to the Inverter/Charger manual to ensure the correct voltages have been set.

## Knowing when to recharge:

As a general rule, batteries should be recharged immediately after use or when they reach approximately 50% depth of discharge. Discharging to 60% or even 100% occasionally will not harm the batteries, but if this is done frequently it will shorten the battery's overall life. If batteries are discharged beyond 50%, it is important to recharge as soon as possible (same day if possible). The depth of discharge can be estimated by measuring the "open circuit voltage" as shown in the following table. Note that the battery must be at rest with no loads for at least 4 hours to obtain an accurate "open circuit voltage".

Depth of Discharge	Volts per Cell	6 Volt Battery	12 Volt Battery
0%	2.13V or more	6.40V or more	12.8V or more
25%	2.08V	6.25V	12.5V
50%	2.03V	6.10V	12.2V
75%	1.98V	5.95V	11.9V
100%	1.93V or less	5.80V or less	11.6V or less

## Multiple Batteries:

If there is more than one battery in the battery bank, the following guidelines should be used:

- Always use batteries of identical make, model and with the same manufacturing date.
- Make sure the battery cable is not undersized for the battery system.
- Make sure the battery cables are connected to the terminals correctly. If unsure, professional assistance is recommended.

## **Storage:**

Follow these guidelines if the battery is to be stored for an extended period of time (more than a month):

- Fully charge the battery before putting it in storage and store in a cool place.
- It is not necessary to leave the battery on charge while in storage.
- Disconnect the negative battery cable. This will prevent inadvertent discharging of the battery that may lead to a complete discharge.
- Boost charge the battery every 3 months while in storage to ensure maximum battery life.

## **Warning:**

- Risk of fire, explosion, or burns.
- Do not disassemble, heat above 75°C, or incinerate.

## **Customer Service:**

For customer service, contact Concorde Battery Corporation at 1-800-757-0303 or (626) 813-1234, or visit our website at [www.concordebattery.com](http://www.concordebattery.com).