

# MAKING WAVES.

Competitive Sport Fishing. Incredible Demands.



# AWESOME POWER.

Starting with Crown.



HIGH PERFORMANCE



COST EFFECTIVE



RELIABILITY



PROVEN SAFETY RECORD



99% RECYCLABLE

## Tips to Maximize Battery Life and Performance

We're ready for the Winner's Circle. Are you?

**CROWN MARINE BATTERIES...AS TOUGH AS THEY COME**

*The Power Behind Performance*



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**NEW.WAVE.**  
*Marine Batteries*

***The Power Behind Performance***

**AS TOUGH AS THEY COME**

## **Taking on All the Elements and All Applications... With UNMATCHED POWER.**

In the Marine battery business you've got to have what it takes to deliver. And that's power. Since 1926 Crown Battery has serviced battery markets all over the world. With dependable batteries that deliver unmatched power when you turn the key.

Crown Marine Batteries. Rugged. Dependable. Safe. Smart buyers know that heavy-duty, Made in America batteries can handle the waves coming at them..

**We're ready.. Are you?**

## **IN THIS QUICK GUIDE:**

You're going to learn exactly how to get the most out of your battery, including:

- 
- 5 easy steps to make sure your batteries are at maximum performance
  - Which water you should never put inside your battery
  - Why 12.6 is the magic number for long battery life
  - And more
- 

Just a few quick checks are all you need to get your batteries ready, make them last longer, and perform at your level all season!

# STEP 1:

## SAFETY FIRST

All batteries -- **even low or “no-maintenance” models** -- require regular inspection. It's especially important during spring startup because batteries are often exposed to weather extremes and can go unused for months at a time.

This **Quick-Start Guide** covers common maintenance routines. Your battery manual will **offer specific maintenance guidelines and schedules**.

( Questions? Check out our **Safety.First.** document )

To begin, make sure there aren't any sparks or open flames nearby. Don't smoke. And even if it's uncomfortable, always wear eye protection, proper gloves, and protective clothing. Remove jewelry, too.

Be sure to disconnect the battery from any electrical load before removing the terminal connectors. Then check again to make sure they're disconnected. A few extra seconds checking can prevent serious accidents.



# STEP 2:

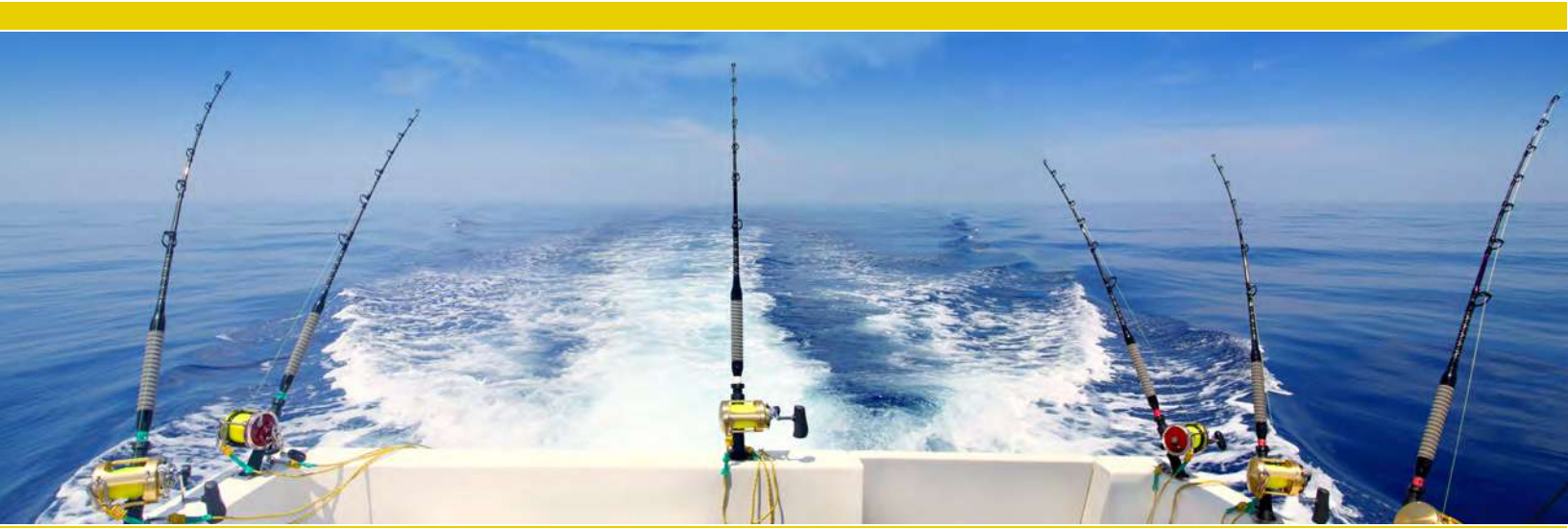
## VISUAL INSPECTION

For flooded batteries, start by visually inspecting the battery case and terminals for obvious signs of damage or wear.

Common issues include corroded (**white / green**) or dirty terminals; missing caps, low fluid levels, and dirt on the battery case.

If servicing is needed, it's best to remove the battery from the application before work begins. When removing batteries, handle the product carefully and avoid shaking the batteries; this could short out cells, force fluid out of the battery – or even damage the battery.



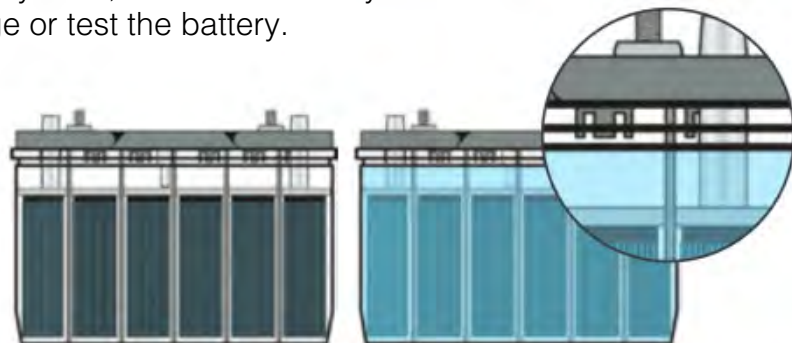


## STEP 3: CHECK FLUID LEVELS

If you have flooded, lead batteries (the most common type)...

Check battery fluid conditions only if your battery allows access via removable vents. If your battery has removable vents, take them off to inspect cell fluid levels and conditions. When inspecting the battery cells, take care to verify that fluid is covering the battery's plates before you charge or test the battery.

If fluid levels are low, fill the cells with distilled water—taking care to avoid over-filling the battery higher than the bottom of the cell's vent well structure, and to never add additional acid to the battery. Only use distilled water because tap and well water can have impurities that shorten battery lifespan.



NOTE: If fluid levels have fallen below the top of the battery's plate components – the plates may have been damaged from exposure. Closely monitor the battery's performance because it may require early replacement from low fluid levels.

Once you've replenished the battery's fluid levels, it is effective to also inspect the battery's specific gravity with a hydrometer. This simple-to-use and inexpensive tool is available at local auto parts stores, your equipment supplier's parts department – and at farm supply stores.

Make sure to replace and tightly secure the battery's vent caps when you are finished with Step 3.

### NOTE:

AGM batteries should **NEVER** be opened. They're sealed, so you don't have to (and cannot) inspect electrolyte levels. Otherwise, follow the same procedures.



## **STEP 4:**

### **CLEAN THE BATTERY**

Next, check that vents are secure and the battery case is clean and corrosion-free.

If cleaning is required, double-check that the battery is disconnected. Clean the battery using a solution of baking soda and water mixed in the proportion of one pound of baking soda to one gallon of water. Take care to treat corroded surface areas on the terminals and connectors with the neutralizing solution – using a small wire brush or old toothbrush to remove corrosion.

Finally, rinse the battery with clean water then fully and completely dry using paper towels or rags.

# STEP 5:

## CHECK STATE OF CHARGE

After inspection and cleaning, it's time to check the state of charge. Using a voltmeter, check your battery terminal voltage. It should read ~12.6 volts for flooded batteries (or ~12.8 volts for maintenance-free AGM batteries). If you're reading is lower or if you've added electrolyte fluids, boost charge your battery in a well-ventilated area.

If a battery requires a jump-start, make sure to follow these steps to ensure you complete this work safely and effectively:

1. Connect one end of the booster cable to the positive terminal of the discharge battery.
2. Connect the other end of the positive booster cable to the positive terminal of the assisting battery.
3. Connect one end of the negative booster cable to the negative terminal of the assisting battery.
4. Complete the jump-start connection by securing the other end of the negative booster cable to the engine block of the equipment with the discharged battery – as far away as possible from the discharged battery. Always be aware of safety risks while performing this work – belts, blades and fuel lines.

Finally, if your battery is secured by hold down straps, be sure they are snug. Otherwise, the battery can bounce with your vehicle and get damaged or short out. If you don't have one already, it's strongly recommended you buy and install a hold down kit.

## WHAT IF MY BATTERY WON'T START, OR DOESN'T HOLD POWER FOR LONG?



Assuming batteries are in good health, these maintenance and inspection procedures are often all that's needed to be ready for **routine** startup. However, batteries that have deteriorated due to age, sulfation, overheating, or corrosion may have extremely limited capacity – even if their terminal voltage is within normal levels.

There are two ways to check for this condition: reinstall the battery and attempt to start your vehicle; or have the battery's capacity tested at a service center or battery dealer. Using a hydrometer and load testing equipment, service technicians will be able to evaluate your battery's health – and whether it's ready for service or requires replacement.

# CHARGING TIP:

## WHICH CHARGER MAXIMIZES PERFORMANCE AND LIFESPAN?

Most conventional chargers overcharge batteries to make sure they're at capacity. They don't monitor batteries' charge levels or account for key variables like battery temperature. That means batteries often get ~110% charged -- and the extra power turns into heat, which greatly reduces battery life and performance.

Smart battery chargers take a more sophisticated approach. Similar to tools like GPS and data collection on many fish finders, smart chargers optimize the charge cycle for a number of variables. These include ambient temperature, battery temperature (no more overheating), and battery charge state. And once your battery reaches a full state of charge, they go into "float mode" - reducing charging current to a trickle and eliminating battery discharge and overcharging.

Of course, even if you buy the best batteries and properly maintain and care for them, they'll eventually wear out. If your battery is on its way out, it may be easier and more cost/time - efficient to replace it now, instead of risking running out of power in the water.

### TO LEARN MORE ABOUT HOW TO SELECT THE RIGHT BATTERIES FOR YOUR EQUIPMENT, CONSULT THESE ARTICLES:

How to Select the Right AGM Battery

[CLICK HERE TO READ](#)

How to Get Your Boat Battery Ready for Spring

[CLICK HERE TO READ](#)

