Mastervolt’s top tips for a trouble free summer afloat

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Mastervolt, the leading Dutch-based specialist of electrical systems, has circulated a series of simple tips to allow yachtsmen and motorboaters to keep their electrics in top condition after the long winter lay-up.

Some yachtsmen find the start of the season frustrated by flat batteries, short circuits, and faulty connections, especially after a cold, damp winter, but Mastervolt’s advice seeks to minimize the disruption. Listed below are some of the most common malfunctions electrical engineers are called to deal with, and simple ways around them.

Use intelligent charging
Unfortunately, many boaters find their batteries almost flat when used in anger for the first time. Extreme cold, self-discharge and lack of recharging will shorten a battery’s life considerably. Some batteries will have spent the winter stored on a cold concrete garage floor rather than lifted onto wooden batons.

“Batteries left on the boat should ideally have been connected to an ‘intelligent’ battery charger, matched to the type of batteries being used,” said Mastervolt’s Global Power Conversion Product Manager for the Marine and Mobile Group, Marc Persoon. “This will monitor the state of each battery bank and adapt its charging regime to match the requirements of the battery bank. The best scenario is to have a dedicated charger for each bank. All Mastervolt’s chargers charge in three steps, which has proved to be the optimal choice between fast charging and battery lifetime. If shore power is interrupted, the charger starts again where it left off, whereas rival products would start the cycle again. Having the right charger to suit your batteries, and with the right charging regime, will get your season off to a flying start.”
If you find your boat stored in a winter storage where continuous shore power is prohibited, Mastervolt advises to fully charge the batteries before disconnecting the battery terminals to make sure no loads drain the batteries during the winter. We advise to reconnect the batteries and fully charge every two months. When you have GEL batteries this can be done every three months. For Mastervolt Lithium Ion batteries, the requirements are easier without availability of shore power. Ideally, store batteries at 60-70% state of charge and disconnect the battery terminals. You can store them for 6 months without problems. Mastervolt advises a ‘winter switch’ to isolate your batteries from the system; this makes preparing for winter storage as easy as possible, and allows for quick disconnection of the system when doing maintenance.

**Check terminal tightness**
It may seem obvious, but yachts and especially engine rooms are full of vibration and movement, so it’s not surprising that battery terminals can work themselves loose. Movement in the batteries themselves can often strain the connections, so ensure the batteries are well strapped down, the terminals kept clean, not over-tightened, and thinly smeared with petroleum jelly to deter corrosion. Often a ‘flat’ battery is actually just poorly connected.

**Seek out corrosion**
A boat is in the worst possible environment for wiring, and the salty atmosphere can eat its way into the terminal ends and work up the wire, the extent of the corrosion not always fully obvious under the insulation. The use of fully tinned wire for installations may be more expensive, yet will offer a great deal of protection against creeping corrosion. Even during the early season, keep the boat warm and dry with thermostatically controlled heaters or dehumidifiers.

“Condensation has also been known to settle onto the circuit boards of some of the cheaper electronics, causing shorts,” Persoon said. “Keep non-marine electronic equipment off your boat, especially in the winter or early season, until you actually need it.”

**Inspect shore power cables**
Shore power may well have been left on during the winter, and will be used a lot
during the season, so it’s worth a few minutes to visually check the cable and connections. Cables suffer the occasionally heavy trolley being run over them, the ends being dropped into the water, storage in wet, salty lockers, and accidental pull-outs, so look for damaged pins, corrosion on the metal, and crush or chafe damage to the insulation. Mastervolt’s stylish but rugged range of shore power cables features moulded waterproof ‘pin and sleeve’ connectors to prevent salt water corrosion, and the cable is ribbed to stop it rolling underfoot.

**Review the system**

If your boat’s electrics have become unreliable, the best way to guarantee a trouble-free season is to consider refitting with a fully compatible system of batteries, chargers and inverters. Many systems are a mish-mash of different manufacturers’ equipment, yet Mastervolt’s components are all designed to work seamlessly together, and connect via the MasterBus CAN-bus system. They’re also fully hybrid-ready. Mastervolt’s ‘Powerbook’ brochure and website (www.mastervolt.com) gives full advice for refitting to achieve complete electrical freedom.

Have fun enjoying your independence ...

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