INFORMATION

ROTAX NEW AGE KARTING

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CHARGER FOR LITHIUM BATTERIES

Dear Distributor,

In our warranty statistics we recognized a significant amount of claims regarding the Super-B lithium batteries. Some of you returned batteries, which we forwarded to our supplier for further investigation. The result is that most of the batteries were working but not properly charged due to the usage of a conventional lead-acid battery charger.

We would therefore like to kindly remind you that lithium batteries have to be charged with a special charger. We recommend our OptiMate Lithium (Rotax Part Nr. **581325**). In the following section you can read how this tool works.

OptiMate Lithium – Battery Performance Guaranteed

1. **Pre-qualification test:** OptiMate Lithium displays the condition of the battery before charging and measures environment temperature. The **ampmatic™** charge program is selected according to temperature and battery condition.

2. **Low Volts recovery:** The **safeTº** protection mode controls charging during this sensitive battery SAVE stage, to ensure that an over discharged battery will be correctly and safely recovered. Tests are conducted through-out the SAVE program to determine if the battery has successfully recovered and can advance to BULK CHARGE.

3. **Bulk charge:** the **ampmatic™** processor actively adjusts charge current to match battery capacity and condition, achieving a complete charge in the shortest time. Progress is tracked against the ideal charge curve for LiFePO4 batteries.

4. **Short-circuited / dead cell check:** Charge progress is tracked against the ideal LiFePO4 charge curve, internal damage will be detected and unnecessary charging is prevented of a battery that cannot be recovered.

5. **Absorption and equalization:** for 10 minutes the current is delivered in pulses with voltage controlled between 14,0 and 14,3V, aiding cell voltage equalization and improving the battery's overall power delivery.

6. **Charge verification:** the voltage is limited at 13,6V while the **ampmatic™** processor monitors the current absorbed by the battery. If this reveals a less than optimal charge, the program reverts to absorption for a further 10 minutes.

7. **Voltage retention test:** is conducted for 30 minutes during which no charge current is delivered, with 5 possible test results indicating the battery's general

state of health. A green (voltage > 12,7V) result extends the test up to 12 hours, to check for excessive self discharge or higher than expected power loss through the vehicle's electrical system.

8. **Charge maintenance:** The 12 hour MAINTENANCE CHARGE CYCLE consists of 30 minute float charge periods at a voltage of 13,6V followed by and alternating with a 30 minute 'rest' (no charge current) periods. During the float charge period current is delivered only if the battery has lost charge due to connected vehicle circuitry. A refresh cycle may be performed if the charge level has dropped significantly.

9. **The voltage retention test and maintenance charge cycle will repeat 24 hours after the start of the very first test and continue to repeat for as long as the charger remains connected.** The alternating charge and 'rest' maintenance program protects the battery against over discharge by connected vehicle circuitry, making it ideal for indefinite and 100% safe long term maintenance charging.

Best Regards,

BRP-POWERTRAIN GMBH & CO KG

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