

MAINTENANCE AND CARE

1. *Storage and transport*

- Batteries are filled with acid.
- Always store and transport batteries upright and prevent from tilting so that no acid can escape.
- Store in a cool and dry place.
- Do not remove the protective cap from the positive terminal.

2. *Initial operation*

- The batteries are filled with acid at a density of 1.28 g/ml during the manufacturing process and are ready for use.
- Recharge in case of insufficient starting power (cf. chapter (5)).

3. *Installation in the vehicle and removal from the vehicle*

- Avoid short-circuits caused by tools, for example.
- Remove any foreign body from the battery tray, and clamp battery tightly after installation.
- Clean the terminals and clamps, and lubricate slightly with battery grease.
- When installing, first connect the positive terminal, and check the terminal clamps for tight fit.
- After having fitted the battery in the vehicle, remove the protective cap from the positive terminal, and place it on the terminal of the replaced battery in order to prevent short-circuits and possible sparks.
- Use parts from the replaced battery, such as the terminal covers, elbows, vent pipe connection and terminal holders (where applicable); use available or supplied filler caps.
- Leave at least one gas outlet open or equip with an angle and hose to prevent the danger of explosion. This also applies for returning old batteries to collection points.
- Elbows and filler caps are available under order No. 8342271228 if and when required.

4. *Charging*

- Remove the battery from the vehicle; disconnect the lead from the negative terminal first.
- Ensure good ventilation.
- Use suitable direct current chargers only.
- Connect the positive terminal of the battery to the positive output of the charger. Connect the negative terminal accordingly.
- Switch on the charger only after the battery has been connected, and switch off the charger first after charging has been completed.
- Charging current recommendation: 1/10 ampere of the battery capacity Ah.
- Use a charger with a constant charging voltage of 14,4 V for re-charging.

- If the acid temperature rises above 45° Celsius, stop charging.
- The battery is fully charged when the charging voltage has stopped rising for two hours.

5. *Maintenance*

- Keep the battery clean and dry.
- Use a moist anti-static cloth only to wipe the battery, otherwise there is a danger of explosion.
- Do not open the battery.
- Recharge in case of insufficient starting power (cf. chapter 5).

6. *Jump starting*

- Use the standardised jumper cables in compliance with DIN 72553 only, and follow the operating instructions.
- Use batteries of the same nominal voltage only.
- Switch off the engines of both vehicles.
- First connect the two positive terminals, then connect the negative terminal of the charged battery to a metal part of the vehicle requiring assistance away from the battery (observe the instructions of the vehicle manufacturer in all cases).
- Start the engine of the vehicle providing assistance, then start the engine of the vehicle requiring assistance for a maximum of 15 seconds.
- Disconnect the cables in reverse sequence

7. *Taking the battery out of service*

- Charge the battery; store in a cool place or in the vehicle with the negative terminal disconnected.
- Check the battery state of charge at regular intervals, and correct by recharging, when necessary (cf. chapter 5).

* NOTE:

Owing to the much reduced water consumption of sealed batteries, it is no longer possible or even necessary to test the acid density or top up the water.

 **VARTA**

BY JOHNSON CONTROLS