

Battery preparation

Lead acid battery is a power source for a vehicle's electronics. Batteries are usually sold filled with acid, charged and ready for use. Density of the acid $1.28 \pm 0.01 \text{ g/cm}^3$, voltage between terminals $\sim 12.5\text{V}$ at $+25^\circ\text{C}$ temperature.

Motorcycle batteries can be dry charged or dry charged with an electrolyte container.

Battery can be made ready for use at the point of sale on buyer's request. Operation can be started 12 hours after the electrolyte is added to the battery. If the battery operation after its preparation starts later, it needs additional charge.

Storage and transportation

Store in a dry and cool place. The battery must be recharged when acid density is 1.21 g/cm^3 and less or voltage 12.4 V and less. Store battery horizontally and transport it in a position so that it doesn't fall over.

Installing battery into a vehicle

If your vehicle's or additional equipment's (sound system's, alarm's, communication equipment's) manufacturer doesn't specify any requirements, the following:

1. A clean battery has to be installed into vehicle manufacturer's specified location.
2. Connect the "+" terminal of the battery to the vehicle's electrical equipment "+" clamp, and "-" battery terminal to the vehicle's electrical equipment "-" clamp. These connections must be especially reliable. Both connectors must be lubricated with a thin layer of lubricant or sprayed with a special grease. Connect the drain plug (if there is one) to the nozzle at the top of the battery.

Instruction of proper use

1. Battery must be used for its intended purpose.
2. Capacity of the battery and the vehicle's alternator charging voltage must meet the requirements set by the vehicles manufacturer.
3. For batteries with caps that unscrew periodically check the electrolyte level and density. If the electrolyte level is low, add only distilled water. Electrolyte level should be 10-15 mm above the separator, density – $1.28 \pm 0.01 \text{ g/cm}^3$.
4. For maintenance-free batteries constantly check the voltage, which can't be less than $\sim 12.5\text{V}$ at $+25^\circ\text{C}$ temperature.
5. If the battery is subjected to extreme operating conditions (often travels around town, often use of headlights, additional electrical equipment, etc.) frequent monitoring of the condition and electrolyte level is required and , if necessary, charge with a battery charger.
6. Discharged battery must be recharged immediately, otherwise even if you recharge it with a stationary battery charger it won't regain its former capacity, or at sub-zero temperatures, the electrolyte freezes.
7. When the battery is charged to the appropriate level its necessary to stop charging.
8. Battery electrolyte density can only be checked at least 8 hours after operating or charging.
9. Do not leave the vehicle's alarm activated for long periods of time (more than 2 weeks) without using the vehicle.
10. Battery in the vehicle must be securely fastened, dry and clean.
11. It is forbidden to check battery voltage directly connecting battery terminals.
12. It is necessary to check battery vents.
13. Clean the terminals and clamps then connect them securely again, once per month.
14. Its not allowed to transport or store flooded cell batteries on a 45° slope or bigger.

15. Battery must be kept as much away as possible from naked flame during charging, after been charged or after a long drive, because during charging an explosive mixture of oxygen and hydrogen builds-up in the battery.
16. Do not leave vehicle with switched on unnecessary electrical energy consuming devices. Low beam headlights will fully discharge a fully charged 55Ah capacity battery in 4-6 hours.
17. If the vehicle is not use in the winter, before placing it to store it is necessary to check the batteries voltage, if possible electrolyte density, if necessary recharge. When storing disconnect “-” clamp.
18. Service of maintenance-free battery, used in modern vehicle with a lot of electrical equipment, is recommended to entrust to professionals.
19. **By purchasing the battery and the buyer accepting this warranty card commits to become acquainted with instruction of proper battery use and stick to it.**

Charging battery using an external power source

1. Before charging the battery you should familiarize yourself with the chargers instructions for use.
2. If it is possible unscrew battery caps.
3. Connect the chargers “+” clamp with the batteries positive terminal, and then the chargers “-” with the batteries negative terminal.
4. Switch on the charger and start the charging process with ten times lower current than the batteries capacity. (eg. 60 Ah capacity batteries charging current 6A).
5. Rechargeable in a temperature not below +10°C.
6. The battery is fully charged when:
 - Electrolyte density is $1.28 \pm 0.01 \text{ g/cm}^3$;
 - At the end of charging process, voltage 13.5V – 15.0V.These parameters have to hold out for the last two hours of charging process.

Caution! If during charging the temperature of the battery rises above +45°C, it is necessary to reduce charging current. Although this will increase the charging time, but it will reduce the temperature of the electrolyte. Severely discharged batteries need to be charged for not less than 24 hours.

Labor safety and hygiene

Carefully read and follow the manufacturer's instructions.

Keep the battery away from children.

Risk of explosion. During charging a very explosive mixture of oxygen and hydrogen builds-up in the battery.

Corrosion risk. Acid in the battery is very dangerous. Use gloves and protective eyewear.

Use eye protection.

Keep away from open flames, sparks. Do not smoke. Do not cause sparks when working with electrical equipment. Avoid short circuit.

Give used batteries to a collection point for recycling. Never store used batteries in your home.

Warranty terms

1. **Warranty only applies to defects caused by defects in material or manufacturing.**
2. Manufacturer does not guarantee the working of the battery during set warranty period if it is naturally worn out due to intensive and / or improper operation, as well as improper maintenance.
3. At the point of sale batteries are given warranty:
 - Starter batteries DETA, DEKA, BOSCH, VARTA up to 100Ah – 24 months
 - Starter batteries SONNAK, BAREN, BANNER up to 100Ah – 18 months
 - Starter batteries SZNAJDER SILVER, SILVER PREMIUM, EUROSTART PREMIUM, AGM up to 100Ah – 24 months
 - Starter batteries SZNAJDER PLUS, JAPAN and other up to 100Ah – 18 months
 - Batteries SZNAJDER ENERGY, MARINE, TRUCK, SHD, FARMER – 12 months
 - Starter batteries EUROSTART, TURBOSTART and other – 12 months
 - Batteries DYNAVOLT, OUTDO, YUASA and other motorcycle batteries – 6 months
 - Batteries YUASA, RITAR, INTACT and other VRLA batteries – 6 – 12 months
 - Deep cycle batteries SIAP, INTACT PZS – 12 – 24 months
 - Deep cycle batteries TROJAN, DEKA, YUASA AND others – up to 12 months
4. If the battery is used properly in three month period to the end of warranty , visiting any service location (view cover), batteries BAREN, SONNAK and SZNAJDER PLUS up to 100Ah, which are used in light vehicles, warranty can be extended up to 24 months. BANNER batteries up to 100Ah warranty is extended up to 24 months, if within 30 days from purchase of the battery the light vehicles electrical equipment is checked.
5. For vehicles use as taxi, police, ambulance and other special service vehicles with a lot of additional electrical equipment, warranty is 6 months.
6. Road maintenance, agricultural machinery, vans, trucks, buses and rental cars including light vehicles warranty is 12 months. If there is two batteries used, to maintain an equal operating conditions, it is required to swap them places once a month.
7. Battery for disabled people electric wheelchairs, electric bicycles and other electric vehicle warranty is 6 months.
8. Deep cycle battery used for commercial purposes warranty is up to 12 months.
9. Warranty does not cover batteries used in sports, extreme hobbies and equipment alike.
10. Note: By customers request the battery must be tested before purchase (Voltage not less than 12.5V at +25°C temperature).

Warranty void

Warranty void and claim is not satisfied when:

- Battery has been used without an alternator or a charge source;
- Battery has been used, recharged or stored without compliance of operating manual;
- Battery casing or terminals are damaged, battery was being tried to repair;
- Battery exploded due to external spark, fire or other external causes;
- Battery has been used not in accordance with manufacturer's recommendations and intended purpose;
- In vehicles using non-standard equipment (audio, video, communication, lifts, hoisting machinery and / or other equipment) warranty is valid only having additional equipment manufacturer's and installer's certificate indicating that all necessary changes have been made to the vehicle (eg. Installed a higher power alternator, electrical wiring, additional relays etc.) and what battery is necessary for this system to operate;
- Battery is frozen (discharged battery will freeze at -5°C);
- Severely discharged batteries, when electrolyte density is lower than 1.10 g/cm³, and / or voltage is less then 10.5V;

- Battery is not working due to a failure of electrical equipment, starter motor failure, evaporation of electrolyte from the battery due to too high charging voltage, the battery is only discharged;
- The battery is not securely fastened;
- Vehicle has been left with a switched on alarm system (Alarm systems can fully discharge a battery in 5 -10 days);
- Battery has been added not distilled water, but active substances;
- Alternator voltage does not meet the requirements, and is less than 14.2V and above 14.5 with full load, 24V systems – 28.4V – 29.0V, 6V systems – 7.1V – 7.3V, current draw on a switched off vehicle is more than 0.1A;
- If replacing one 6V or 12V battery, when vehicle uses 12V or 24V systems or when not replacing whole set of batteries;
- When not complying with the rules of operation, battery cells are contaminated, deteriorated active plate mass (blackened or brown electrolyte), due to long-term discharge state irreversible formed lead sulphate on the battery plates.
- When the battery is good but the indicator (magic/green eye) and / or electronic indicator is not working;
- When the battery is damaged due to consumer's fault warranty is terminated;

Warranty card

A blank or incomplete warranty card void.

Battery (manufacturer, part number, capacity).....

Date of purchase.....

Vehicle (manufacturer, model, production year, engine, license plate).....

Seller (company's name, signature, stamp).....

Warranty period.....

Vehicle inspection (date, conclusion, signature, stamp).....

Note: During warranty period light vehicle batteries that meet the conditions of paragraph 3 warranty may be extended up to 24 months. Vehicle and battery evaluation must be performed in three month period before the main warranty period expires, BANNER - within one month from date of sale.

During warranty period all services including battery charging, testing vehicle testing and / or repairs are carried out for an additional fee under the currently applicable fees.

Only when the battery has a factory defect, and it is replaced with a new battery, testing free of charge.

Claims are taken at points of sale (see cover).

Loss or destruction of the card any corrections or changes warranty void.

Claim submission date.....

To place a claim you must come with the vehicle, that is indicated in the warranty card for an electrical system inspection. If any violations of battery operation is discovered warranty is terminated.

Conclusion of battery state (filled after the claim is investigated)

Note: Conclusion on the battery quality is announced within 10 days. If there is a factory defects, the battery is replaced into an analogue battery, which gets the rest of unused warranty term. As the battery is a commodity that gets worn out during operating period even if a factory defect is found there is no refund. Buyer's losses (eg. missing a flight, calling of emergency services, freight delivery delay's and so on) the seller assumes no responsibility.

Manufacturer, distributer and / or retailer during claim period has no obligation to issue a replacement battery or replacing it to a new one, as long as there is no verification conclusions. A replacement battery if possible, may be granted for an additional fee.

Vehicle manufacturers, vehicle repair shops, retailers and other establishment, not related with this battery's sale examination conclusion are invalid and is not a basis to replace the battery immediately.

Battery's pick-up and delivery costs are paid by the buyer.