

Your Car Battery

What do you need to know?

An awful lot depends on your car battery. A healthy battery brings the car to life on a cold morning – you're safe, warm, and on your way. A dud can mean a cold wait, unhappy passengers and missed schedules – and the AA attends over 500,000 battery-related breakdowns each year. Not much of a choice really – but how to make sure the battery is up to its job? Here are some guiding notes.

Battery care

Car batteries suffer if heavily discharged, damaging the cells as well as failing to start the car. So, if the charge warning light comes on, or if the battery seems very sluggish on starting, get the system checked as soon as possible.

If the battery has removable vents (maintenance-free batteries may be sealed, and low-maintenance batteries may not be easy to open) check the electrolyte level. Top up to cover the plates with distilled or deionised water – de-frost water from the fridge is ok provided it's absolutely clean. With maintenance free or low-maintenance batteries, topping up should only be necessary every year or so: have the charging rate checked if much water is being lost.

Corrosion of the battery terminals can cause starting problems. Before removing either battery lead make sure any radio and security codes are noted as given in the handbook, and the engine must be stopped. Remove the negative lead (Black -) first, then the positive (Red +), and just lightly scrape the battery posts and the inside of the terminals. Coat the faces with petroleum jelly and re-attach, tightening firmly but not over-straining the fixings. Re-enter any codes.

Battery choice

Modern car batteries have a life expectancy of around five to seven years, but it's pretty much impossible to predict when the end is getting near. So, the options are to soldier on until it fails, or change it at say five years – and the latter is probably the best option. At least this gives you the chance to choose a suitable battery at your convenience. But what to look for?

The basic voltage, current rating and size of battery will be given in the dealer's catalogues, and these must of course be right for the make and model of car. There will then be the choice of battery make, capacity, grid type and warranty life. These factors will be reflected in the price, as generally the higher capacity and longer warranties go with the more expensive brands. In most cases they'll be worth paying for – particularly in the case of a diesel where cold-start current demand will be higher than for the same sized petrol engine.

Maintenance-free batteries will use lead-calcium for both grids, and this is nowadays a widely sold type of battery. An alternative, sometimes cheaper type is the "hybrid" lead-calcium/lead-antimony low maintenance batteries, or the older style plain lead-antimony battery. There are good and bad examples of each type, but in our tests the lead-calcium/lead-antimony battery performed better overall than the others.

Having selected a make and type, look for the date of manufacture, or ask the dealer to check it, if it's not shown. Batteries don't improve in storage. If a calcium battery is more than a year old, or for other types say six months, look for a newer one, or at least check that it has been recharged within the last three months. And weigh the warranties. A three or four years warranty indicates a greater degree of confidence on the part of the manufacturer.

Battery safety

A car battery is a very dangerous box of tricks. Most things can hurt you if you do something wrong, but a battery has got more ways of damaging people than you might expect. Don't go near them unless you know what you are doing and take proper precautions.

Batteries can:

- *Explode.* Charging a battery releases hydrogen – this gas is explosive and the slightest spark can cause the battery to explode, given the right mixture of gas and air. Ventilate well.
- *Burn.* Metal jewellery, watchstraps, rings, hand tools or wires can get red hot instantly if batteries short-circuit. Be very careful around the terminals, and disconnect the earthed (negative) lead first. Note security codes before disconnecting.
- *Corrode.* The sulphuric acid will severely injure eyes or any skin it contacts with. Never tip or drain a battery; take great care to avoid contact with the acid.
- *Poison.* Both the acid and the lead are toxic and a battery must be treated as hazardous waste. Dispose only at an

approved battery disposal site.

- *Injure in lifting.* They are heavy and often awkwardly positioned and difficult to grip. Take great care lifting and putting down – dropping one is a serious hazard.
- *Damage the vehicle.* Make sure the battery and the leads are never fitted the wrong way round. Secure the battery properly, without over-tightening the clamps.

If you ever need to jump-start a car, follow the instructions precisely – these will normally be printed on the jump lead bag.

Conclusions

- Look after your battery, it's important.
- Buy a good one. Get a lead-calcium/lead-antimony "hybrid" type, with a long guarantee period, and make sure the capacity and cold-start current are right for your car.
- Check its age when you are purchasing – we are calling for all car batteries to be marked with the date of manufacture, and preferably a "sell-by" date.
- Take care near batteries.

Institute of Advanced Motorists

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