Key Battery Checks Before Buying a Used Electric Car

Why Battery Health Matters When Shopping for a Used EV

Buying a used electric vehicle can be a smart move, but the battery is the single most expensive component you are inheriting. Unlike a petrol engine where a worn part can be swapped for a few hundred pounds, a degraded EV battery can cost thousands to replace. Knowing what to look for before you hand over your money saves you from an expensive surprise later. This article covers the practical checks every buyer should make, whether you are browsing at a dealer or viewing a private sale.

Battery degradation is normal, but the rate varies widely depending on how the previous owner treated it. Frequent rapid charging, regular deep discharges and exposure to extreme temperatures all accelerate wear. A well-cared-for battery might retain 90 percent of its original capacity after five years, while a neglected one could be down to 70 percent or less. The difference can mean hundreds of miles of lost range per year.

What to Check Before You Commit

Ask for the State of Health (SoH) Report

The most useful number you can get is the battery's state of health, which is a percentage that tells you how much usable capacity remains compared to when the battery was new. Many modern EVs allow the driver to view this directly through the vehicle's menu system. If the seller cannot or will not show it, that is a red flag. For older models, a diagnostic tool plugged into the car's OBD port can pull the data. A SoH above 85 percent is generally good for a vehicle over three years old. Below 75 percent and you may face noticeable range loss and faster degradation going forward.

Look at the Charging History

How the car was charged matters almost as much as the total mileage. A car that was plugged into a rapid DC charger every day will have more battery stress than one that was charged slowly at home overnight. Some EVs store a charging log that shows how many times the battery was fast-charged. If the seller cannot provide this information, ask about their typical charging routine. A car that was mostly charged to 80 percent and rarely taken below 20 percent is likely in better shape than one that was regularly drained to near zero and then charged to 100 percent.



Check for Consistent Range

The manufacturer's claimed range is rarely achieved in real-world driving, but the difference between what the car shows on a full charge and what it actually delivers matters. Ask the seller to let you take the car for a test drive that includes a mix of town and highway miles. Note the predicted range at the start and compare it to the actual miles driven plus the remaining range. If the car consistently underperforms by more than 15-20 percent of its original new range, the battery may be degrading faster than average.

Range also varies with temperature, so a cold winter day will show lower figures than a mild one. The key is consistency: if the car's guess-o-meter is erratic or drops sharply on small hills, that points to weak cells or an unbalanced battery pack. For more detailed guidance on interpreting these figures, sites like pentlandpress.co.uk often run features on real-world EV range testing.

Inspect the Battery Pack Physically (Where Possible)

While you probably cannot open the battery housing yourself, you can look for signs of trouble. Check the underside of the car for any dents, punctures or corrosion near the battery casing. If the car has been in a flood or a significant impact, the battery could have internal damage that is not visible. A musty smell inside the cabin or swelling of the floor under the rear seats (in some models) can indicate a leaking or failing cell. Any of these signs should make you walk away or demand a professional inspection.

Understanding the Warranty and Legal Protection

Most EV batteries come with an eight-year or 100,000-mile warranty from the manufacturer, though terms vary. If the car is still within that period, check that the warranty is transferable to a new owner. Some manufacturers require a registration step or a fee. Also find out what the warranty specifically covers: capacity below a certain threshold (often 70 percent) or complete failure. A warranty that only covers total failure is less useful than one that compensates for gradual degradation.

If the car is out of warranty, you are on your own for any battery replacement. That makes a thorough pre-purchase check even more important. A used EV with a degraded battery can still be a good buy if the price reflects the remaining capacity, but you need the data to negotiate fairly.



Practical Questions to Ask the Seller

When you speak to the seller, whether private or dealer, have a few direct questions ready. The answers will tell you a lot about how the car was treated. Avoid yes-or-no questions; ask for specifics.

- **What percentage did you usually charge to, and how often did you charge to 100 percent?** Regular charging to 100 percent is harder on the battery than stopping at 80 or 90 percent, unless the manufacturer recommends a full charge for cell balancing.
- **How often did you use rapid or ultra-rapid chargers?** Frequent rapid charging is a known stressor. Occasional use is fine, but daily reliance suggests accelerated wear.
- **Did you ever run the battery down to near zero?** Deep discharges, especially below 10 percent, can damage the cells over time. A car that was rarely driven below 20 percent is likely in better condition.
- **Has the battery ever been replaced or serviced?** If it has, ask why and get documentation. A replacement could be good news, but it could also indicate a problem that was not properly fixed.
- **Can I see the state of health reading on the car's display?** A seller who hesitates or makes excuses here is probably hiding something. Walk away if they refuse.

These questions are not exhaustive, but they cover the main factors that affect battery longevity. If the seller gives vague answers or seems unsure, trust your instincts and consider moving on.

What to Do If You Suspect a Problem

If the battery health data looks borderline or the seller cannot provide clear answers, you have options. The safest is to pay for an independent inspection by a specialist EV technician. Many garages now offer battery health checks that include a full discharge test and cell-level analysis. The cost is usually modest compared to the price of the car and gives you a clear picture of what you are buying.

Another approach is to negotiate a lower price based on the battery condition. If the state of health is 75 percent and the car is otherwise sound, you might still get several years of use out of it, especially if your daily driving is short. Just be realistic about the eventual replacement cost and factor that into your budget.

Final Checks Before You Buy

Before you sign anything, do a final range test on a route that includes a mix of conditions. Drive for at least 20 minutes and note the energy consumption per mile shown on the trip computer. Compare it with the car's rated consumption when new. A significantly higher consumption points to either battery degradation or a fault in the powertrain. Either way, it is a reason to pause.



Also check that the car charges correctly from a standard domestic socket if you plan to use one at home. Some older EVs have finicky charging circuits that can trip breakers or refuse to charge on certain supplies. A quick test on the seller's driveway can save you a headache later. For more tips on evaluating used EVs and staying up to date with the latest models, Pentland Press News regularly covers these topics for Scottish drivers.

Finally, remember that battery technology is improving fast. A used EV bought today might have a battery that feels small in a few years, but if you buy wisely and maintain it well, it will still serve you reliably for a long time. The key is to go in informed and not let the excitement of owning an electric car override the practical checks that protect your investment. For ongoing news and advice on EV ownership, Pentland Press News is a solid resource for independent, practical guidance.

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