

ELECTRIC SYSTEM AND INSTRUMENTS

Batteries

Renault Trucks offer

Renault Trucks has developed batteries according to the specific technical characteristics of its vehicles. The batteries meet high requirements defined in terms of capacity, power, maintenance and resistance to vibrations and leaks.

Strengths of an original Renault Trucks battery:

- Good starting capacities (even in very cold weather);
- Superior capacity and efficiency;
- Long useful life / operating time;
- Good cycling performance;
- Good charge accepted;
- Minimal or no maintenance (for maintenance-free batteries and gel batteries).

Renault Trucks batteries are designed and developed to fit perfectly into the electrical system of a Renault Trucks truck. It is essential to only use original Renault Trucks batteries as replacement parts. Batteries of other brands are not manufactured in accordance with Renault Trucks specifications, which may jeopardize the proper functioning of the electrical system, the charging function, and the general supply of the truck.

⚠️ RISKS OF INSTALLING AN ADAPTABLE PART ⚠️

Using a lower quality battery can seriously compromise the functionality of a truck's electrical system. If an adaptable battery is installed, a short circuit is possible due to vibrations or increased risk of sulfation, when the battery:

- Becomes difficult to charge (high internal resistance).
- Is never fully charged and therefore remains undercharged.
- Overheats due to high current and internal resistance (overheating causes plates to warp and generates a short circuit).

This results in possible overheating and early alternator malfunction, as it operates at continuous high power trying to force the battery charge.

CHARACTERISTICS	BENEFITS
High service life with thick plates.	Increased service life with fewer interruptions.
Unique active lead mass.	Short recharging time due to high charging capacity. Good charge acceptance in cold conditions.
Optimized plate design.	High cold starting capacity.
Glued plate groups located in a secure area.	Very high resistance to vibrations. Extended service life.
95% recyclable.	Protects the environment.

Key arguments

Strict specifications

- Polyethylene dividers
- Reinforced plates
- Robust housing
- Protection against vibrations

Separators
Polyethylene separators allow lower voltage drop and up to 30% more starting power. The plates remain in place even under high vibration conditions, as the plates lead are attached to each other with glue rods and the groups of cells are retained with wedges. Many competitors do not use no glue and rely solely on the location to secure the plates; normal vibrations can therefore damage the plates to term and shorten the useful life of the battery.

The plaques
To maximize load acceptance, Renault Trucks optimizes both the number and thickness of the plates. During tests, some batteries competitors presented only 30% of Renault's load acceptance Trucks at -18 ° C. This means that the truck must travel much longer for the vehicles to be batteries are fully charged. The most likely hypothesis is that this recharge is not obtained, and the battery deteriorates rapidly.

The box
The solid polypropylene housing, in addition to its tremendous robustness, incorporates several features designed to increase performance and security.

Vibration protection
Only a Renault Trucks battery has additional support and hot melt glue on the internal plates preventing them from moving when subjected to vibrations and gravitational forces. Of normal vibrations can reduce the useful life of a battery if the plates move and cause a short circuit.

Compatibility with the charge indicator (for 185 AH, 225 AH AND 210 AH gel)

- Checking the state of charge of the battery
- Behavior analysis and charging optimization

The condition of the batteries is indicated on the instrument panel display (depending on the vehicle equipment).You must learn to decipher this information and act accordingly to limit battery problems.

Depending on the vehicle equipment, the instrument panel indicates the current charge level, the capacity that can be recharged and the capacity momentarily lost in low temperatures.

The battery charge indicator shows the remaining power level. When the temperature of the battery decreases, so does its maximum capacity.

With original Renault Trucks batteries, the charge indicator can analyze the behavior of the batteries and control the alternator to optimize recharging.

Complete range of batteries with advanced technologies

- Standard battery
- Maintenance free battery
- Gel battery
- EFB battery (for commercial vehicles)
- AGM battery (for commercial vehicles)

Standard battery

- Power suitable for vehicles with moderate energy needs and on-board equipment;
- Water maintenance to be monitored;
- Good resistance to vibrations and difficult ground conditions;
- Secure assembly with reinforced trays;
- Average resistance to cycling;
- Lead plate with polyethylene and fiberglass envelope separator for better conductivity.



Maintenance free battery
Reduced maintenance:

- The composition of the screens, an alloy of lead, calcium and tin, reduces water consumption;
- The duration of the electrolyte reserve is therefore 4 times longer than that of an unmaintained standard battery;

- The power is suitable for vehicles with moderate energy requirements and on-board equipment;
- Increased resistance to vibrations: the very robust design of this battery offers optimum mechanical resistance under extreme conditions of use;



Gel battery
The Renault Trucks gel battery is suitable for trucks which consume large amounts of energy overextended periods (generally for night stops and long-distance transport). It is perfect for both deep load and deep discharge applications. Gel technology is a great advantage in terms of energy supply under certain driving conditions.

- Waterproof design: no water evaporation, no handling of sulfuric acid, splash protection, no leakage, no risk of corrosion, no maintenance required;
- Low self-discharge: longer storage time, higher accepted charge, shorter charge time compared to liquid / liquid electrolyte battery;
- Robust deep load conditions: ability to withstand more deep loads;
- Recycling: 95% recyclable;
- Lifespan: 3 to 4 times more efficient in cycling than liquid electrolyte batteries;



AGM battery (Absorbent Glass Mat)
AGM technology is the most advanced currently on the market and meets the most stringent requirements. Its principle: the acid is immobilized in a felt of glass microfibers to allow the gas to recombine in water and ensure good compression of the active materials. They AGM batteries are the most suitable to meet the most severe requirements of Stop and Start vehicles with energy recovery under braking and electric assistance at low speed.

- 4 times more charge / discharge cycles;
- Optimal load acceptance;
- Cold starting power;
- No maintenance or risk of acid leakage, maximum safety;
- Gas Recombination System and Protection Valve (VLRA);
- Long shelf life (low self-discharge).



EFB Battery (Enhanced Flooded Battery)
EFB technology was introduced as an alternative to AGM batteries in Stop and Start applications. The endurance of EFB batteries in charge / discharge cycles is lower than that of AGM batteries but their cost remains very advantageous. EFB batteries They support applications that operate in a state of partial charge with cycles at limited depths of discharge.

- 3 times more charge / discharge cycles;
- Improved design with special carbon additives and the use of a fiberglass paper covering the plates;
- Large number of engine starts and extended downtimes supported.

They are ideal for Stop and Start vehicle technologies with a little energy recovery under braking and for vehicles with higher energy demands than normal due to more frequent trips or many accessories and equipment installed.

Battery state of health monitoring with Predict

- with Start & Drive contract
- for vehicles equipped with battery sensor

The State of Health (SoH) measures the storage capacity of the charge in relation to a new battery, in percentage points.

When a battery reaches a peak discharge (high energy consumption), this is known as a deep discharge, and when it occurs, it affects battery life.

Thanks to its automatic learning model, Predict is able to analyze various factors such as battery type, battery age, SoH, number of deep discharges...

The battery sensor then communicates SoC, SoH and deep discharge parameters.

Predict is currently available mainly in European countries for the T, C and K ranges (with the exception of the C 2 Steps), in compliance with Euro VI standards.

Optimization of the energy circuit

- Less breakdowns and downtime

Alternators, starters, and batteries are designed and developed by Renault Trucks to function perfectly in this cycle. To maintain the best performance, it is essential to replace these parts with original components. The components of the energy cycle are essential, and the slightest failure can lead to the breakdown and immobilization of the vehicle.

Extensive testing

- Vibration tests
- Impact tests
- Resistance tests
- Durability tests
- Road tests

To guarantee quality, safety and low environmental impact, Renault Trucks is carrying out a series of tests on the batteries and their behavior in Renault Trucks vehicles. These tests are carried out in a variety of environments, including in specially constructed drilling rigs and in real-life driving tests.

- Vibration tests to verify that the battery can withstand random vibrations (in all directions);
- Shock tests to verify that a battery will withstand a drop without affecting its operation;
- Impact resistance testing to ensure the battery will continue to operate even after receiving a blow;
- Terminal durability tests to verify that they will withstand precise torques;
- Road tests in cold and hot climates.

Customer benefits

Durability

- Longer life with less downtime
- Great cold starting capability

Serenity

- Charge indicator compatibility
- Capacities (Ah) adapted to the energy needs of the vehicles
- Renault Trucks 2 year warranty.

Performance

- Resistance to charges and discharges (cycling)
- Resistance to deep discharge
- Vibration resistance
- Good starting skills
- Good charge acceptance