



HEALTHY BATTERIES MAKES THE DIFFERENCE FOR A FARMER

AT FIRST SIGHT, ONE MIGHT NOT DRAW THE CONNECTION BETWEEN FARMERS WITH LEAD-ACID BATTERIES AS THE MOST OBVIOUS ONE. IN FACT, HEALTHY BATTERIES, FARMER'S WELL-BEING AND THE SMOOTH RUNNING OF HIS FARM HAVE STRONG TIES AND A DIRECT INFLUENCE ON EACH OTHER.

First of all, we all live in a "batteries world" and in this case we talk, lead-acid batteries and farmers find themselves more surrounded by lead-acid batteries than the rest of the people and they are more dependent on them than most other professional categories.

Today, farmers have a fleet of vehicles and machines and each of them have to accomplish specific tasks in a specific time of the year such as the haymaking, sowing, harvesting, ploughing, harrowing, etc. The vehicles are often left unused for longer periods and when they should get started, the farmer really relies on them to work. If one of the machines suddenly doesn't start due to a discharged battery, the farmer need to re-allocate important time, energy and costs to fix such unnecessary problem. However, one can ask, does it really happen that often? Is it really a common problem?

Your battery are probably not in as good shape as you believe. Believe it or not, it is a very common problem and as almost everything, it has its logical explanations. Did you know that 80-90 % of all the farmers' larger vehicles or machines drive around with only 50-60 % charged batteries? Might not sound that important, but this fact is where the farmer's problems start. Once a battery is only 70 % charged the deleterious sulphatation of the battery begin, which makes the battery loose its power. If the vehicle isn't used during longer time periods, it won't take long before the battery is completely dead.

Over 80% of all returned batteries with complaints are not related to any faults of failure by the battery manufacturer, but because the owner or the people to serve a vehicle don't maintain and charge the battery correctly. Modern batteries don't break as they did before and they can last a lot longer, but they need maintenance and the correct care.

Electronic equipment need its source of energy. Modern vehicles and machines are as all other vehicles getting more and more sophisticated with computerized electronic equipment. We are not only talking sound-systems but many configurations and direct related functions of the vehicle are dependent on the electronics. Electronics needs a constant source of energy, even when the vehicle is turned off. This takes much more energy out of the battery than we are aware of. One doesn't want to get a completely dead battery or having to change it, as the configurations are likely to get lost. If we do not choose our chargers correctly, the sensible electronic equipment will probably get damaged which certainly is not cheap to repair.



Charging has become a vital issue for the farmer

Once understanding that fact, the next issue would then be the choice of charger. There exist a major amount of different chargers, but it is really important to distinguish the different types that exist on the market and what they can do for you. However, more importantly, one should get informed what they can't do for you and what possible harm a charger can do to a vehicle, battery or even the user. Safety cannot be compromised. Further, one shouldn't confuse chargers with the traditional "boosters" as they have completely different approaches to batteries and its need for care.

The process of charging should not take time and attention away from other important issues in a farmer's every day life and no specific prior knowledge should be required. CTEK has developed a series of unique fully-automatic battery chargers. In addition to "normal" charging, they also have a full-automatic charging cycle through CTEK's in-house patented system for maintenance charging. The batteries are kept at full capacity over a number of days and then they switch into pulse charging which is the optimal way of storing the batteries in the long-term and providing them with a maximum service life. The beauty of the float/pulse maintenance charging is how the charger manages to charge the battery only when it needs it and that way it will not boil or dry out.

This comes very handy for the farmer as vehicles and machinery can be connected for longer periods and the farmer doesn't have to worry about the charger being connected to long.

If your vehicle is unused and isn't fully charged, sulphated batteries and acid stratification will become issues to worry about

Sulphatation doesn't only occur when a vehicle is not in use over a longer period, but as mentioned earlier, it begins when the battery is only 70 % charged. Unused and lowly charged batteries lose their power and their life is shortened through sulphatation. Once sulphated, the batteries find it difficult to charge. CTEK chargers always begin its charging cycles with a patented method of "knocking" away the sulphate deposits using rapid pulses.

There is a high risk that -sooner or later- the farmer's batteries will be fully discharged as many of the fleets vehicles or machinery are unused for a longer period. This also means that acid stratification will occur. "Normal" charging will not be able to return the life and the capacity of the battery. CTEK chargers have a recondition function in order to meet such problems through a RECOND-mode. With this specific function one can reverse the acid stratification and restore the power and capacity of the battery.

Chargers should meet the farmer's environment and working conditions

Rain, dust, heat, wind, cold winter days form part of a farmers work, therefore chargers should meet such requirements. CTEK chargers can charge in any weather or climate, from -20°C to $+50^{\circ}\text{C}$. They are extremely robust for tough environments and IP44 classified which means they are approved for outdoor use and are protected against dust and splashing water.



IP classifications and robust chargers are not enough considering the environment farmers often work, wet ground and rainy days. CTEK develops all its battery chargers with safety in mind. All the models are non-sparking, reverse polarity protected and short-circuit proof, which without any doubt facilitates work and provides a reassuring feeling of security when connecting, disconnecting or even just leaving the chargers for maintenance charging without looking after them.

For more information, please contact:

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