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Battery Jumpers**

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- Rope -style stranding for flexibility



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Single Pole or Dual Pole Cables: What's the Difference?

Drained liftgate batteries can stop you dead in your tracks, leaving you unable to finish off-loading the vehicle and forced to make an expensive roadside service call. In order to get the best charge for your liftgate batteries you need the right type of charging cable. There are two types of cables that can be used to charge your liftgate batteries: single pole and dual pole. Many trailer manufacturers, fleets and independent drivers may choose to use a single pole cable based on an "if it ain't broke, don't fix it" philosophy and it might seem like a change isn't necessary. But how these two types of cables work can make the difference between finishing up your route or spending the rest of the day stranded.

To get a better idea of what makes these cables different, let's start with the basics. When your liftgate batteries charge, they draw power from the tractor through the charging cable. If this connection remains constant the liftgate batteries receive a high quality, consistent charge that will enable them to operate throughout the day.

DC circuits, such as those used to charge liftgate batteries, require a positive (+) and negative (-) (ground) connection to complete a circuit. A single pole charge cable only carries a positive (+) charge and relies on the connection between the 5th wheel and kingpin plate to act as a ground and complete the circuit. This type of ground creates an inconsistent, low quality charge. This is because the 5th wheel is mounted with large rubber bushings allowing it to rock back and forth, preventing a consistent ground connection from being made. Additionally, a large quantity of grease is applied to the 5th wheel to reduce friction between the 5th wheel and the kingpin plate, which acts as an insulator. Creating a ground in this way can also cause the current to seek out another ground source, such as the



ground wire found in a 7-way cable. If the return power routes through the 7-way ground cable it will melt it and ruin the cable.

These variables prevent a secure ground, which means the voltage being supplied to the batteries will come at an inconsistent rate leading to undercharged batteries.

When the charge is not sufficient, the batteries may not have enough power to operate the liftgate. When this occurs, the liftgate motor will power directly from the tractor batteries through the charge cable. The problem is, these cables are meant for charging the batteries, not to directly supply power to the liftgate.

Due to the high amperage draw and the distance from the tractor batteries to the liftgate batteries, it is possible that the charge cable could become overloaded. This overload can cause the wire to overheat, resulting in melting, cracking, and wire failure. This can lead to an electrical short or even a vehicle fire.

Dual pole charge cables contain both a positive (+) and a negative (-) wire, creating a complete circuit within the cable. When the ground is built into the cable, the amount of voltage going to the batteries will remain consistent. This type of ground prevents the potential problems that could arise from using a single pole cable.



To put it simply, the dual pole cable's internal ground provides the most consistent charge needed to keep your liftgate batteries working properly. With a single pole cable you run the risk of an insufficient charge which can lead to undercharged or dead batteries and electrical damage. On the surface the single pole cable may seem to get the job done, but once you realize the differences in the way these two cables carry a charge, it becomes clear that the dual pole cable is the better choice.



- A single pole charge cable only carries a positive (+) charge, while a dual pole cable has an internal ground allowing it to carry both a positive (+) and negative (-) charge to the liftgate batteries.
- An insufficient ground can cause the current to seek out another ground source, such as the ground wire found in a 7-way cable. If the return power routes through the 7-way cable ground it will melt it and ruin the cable.
- Undercharged liftgate batteries will cause the liftgate motor to power directly from the tractor, which can overload the charge cable resulting in damage from overheated wires.

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