

Using the Proper Liftgate Cable Size (2 ga. vs. 4 ga.)

An inoperable liftgate can leave you in a less than optimal place and even prevent a delivery to your customer. While multiple factors can affect the cycle of the liftgate, one crucial factor to consider is the wire gauge being used to power the system.

2 ga. vs. 4 ga. Liftgate Wiring

2 gauge versus 4 gauge, is one better than the other? It's common in the field to see fleets using a 4 ga. cable to reduce cost because 2 ga. cable has more copper, making it more expensive. However, using 2 ga. cable vs. 4 ga. cable is always a better choice because it protects the tractor wiring from overheating and ensures the liftgate system can handle a maximum amount of amperage draw needed to power the liftgate.

After a few liftgate cycles, the charge in the liftgate batteries begins to diminish. Once there isn't enough power left in the liftgate batteries to cycle the liftgate, the system will start drawing power from the tractor batteries as well. That's where cable size/gauge becomes vital.

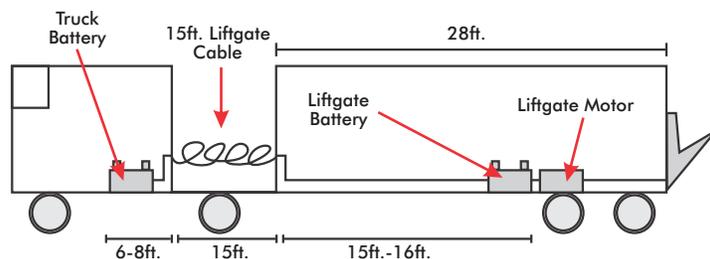
The overall length of a liftgate charging system is the distance from the tractor batteries to the liftgate batteries (including the liftgate electrical assembly), and since trailers vary in length, this entire length is subject to change. The longer the distance, the heavier the wire gauge required to handle the load. The load will depend on the amperage draw of the liftgate motor. Some additional factors to consider that can increase amperage draw are the age of the liftgate motor and weight capacity of the liftgate. If the gauge is too small to handle the load, the cable will overheat. To ensure use of the proper gauge based on length, use the wire gauge selection chart.

Protecting the Tractor Liftgate Wiring

Since tractors can hook-up with multiple trailers, liftgate wiring may not

always be the same gauge throughout the entire charging system. If the gauge of the cable run on the tractor is smaller than the trailer, there is the potential to overheat the tractor wiring. To protect the tractor, a fleet should always be prepared for any type of liftgate system that will require the maximum amount of power draw. Phillips recommends using 2 ga. cable on the tractor dual pole. In doing so, it creates a larger current carrying capacity. 4 ga. cable will work in most instances but depends entirely on the amperage draw and length of the trailer as previously mentioned. Any combination in the chart below will help to keep the tractor liftgate cable wiring from overheating.

WIRE GAUGE SELECTION CHART				
12-VOLT SYSTEM	TOTAL LENGTH OF CHARGING SYSTEM			
AMPS (A)	30 FT	40 FT	50 FT	60 FT
100	4	4	2	2
150	2	2	1	1/0



COMBINATION	TRACTOR	LIFTGATE ASSEMBLY	TRAILER
1	2 GA.	2 GA.	2 GA.
2	2 GA.	2 GA.	4 GA.
3	2 GA.	4 GA.	4 GA.
4	4 GA.*	4 GA.*	4 GA.*

*Will work with most short trailers

TIPS

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- The overall length of a liftgate charging system is the distance from the tractor batteries to the liftgate batteries.
- A longer distance of the overall length of the liftgate charging system requires a heavier wire gauge to handle the load.
- If the gauge of the cable run on the tractor is smaller than the trailer, there is the potential to overheat the tractor wiring.

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