

# PHILLIPS

## Qwik Tech Tips

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### FEATURED PRODUCT

#### CHARGE-BOX™

- The right equipment every time!
- Includes both a single and dual pole socket.
- STA-DRY® Nosebox is a non-corrosive nylon housing



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PAST ISSUES

### Is your liftgate keeping you down?

Maybe it's the ground. All electrical equipment has one common requirement for efficient operation, clean unrestricted power. A common practice is to ground every light, the lift gate and every electrical item on the trailer to the trailer itself. This is known as "chassis ground". This method was okay years ago, but new electronics call for better integrity of the wiring system.

Using multiple ground paths, where all tractor and trailer electrics are grounded through the J560 7-way connectors and also grounded through the 5<sup>th</sup> wheel and kingpin, is not recommended because the trailer frame and wiring are made of dissimilar metals, allowing for corrosion, voltage drop, ground loops and loss of ground contact.

Today, lighting is grounded through "ground return" for most manufacturers, but that doesn't resolve grounding for heavy amp-draw items like liftgates. Liftgates still use single pole systems and are grounded through the 5<sup>th</sup> wheel and kingpin. When the kingpin ground is interrupted, the 8 gauge wire at the J560 connector can easily become overloaded, leaving no lights and ABS on the trailer. 5<sup>th</sup> wheel Teflon and other protective coating no longer make the ground path as reliable, compared to when the 5<sup>th</sup> wheel was uncoated.

The solution is a dual pole cable. The dual pole cable has a dedicated POSITIVE and GROUND line directly from the tractor batteries. The extra reliability in the connection ensures that the charge to the liftgate batteries is continuous, and

not intermittently relying on the 5<sup>th</sup>-wheel/king-pin GROUND combination. When using the dual pole cable, you are providing a cleaner signal to the liftgate batteries and other auxiliary devices. If your tractor only has a single pole sockets, spec a Dual to Single Lead Adaptor to make your single pole socket act as a dual pole socket.



Dual pins in each plug and socket



Dual to Single Lead Adaptor will turn a truck's single pole into a dual pole in seconds.



- Old way of "chassis ground" is not sufficient for new electronics
- Multiple ground paths are not recommended because of dissimilar metals
- "Ground return" is ok for lighting but not for heavy amp-draw items like liftgates
- Solution is a dual pole cable