

FEATURED PRODUCT

STA-DRY® Heat Shrink Tubing

- Can extend the life of terminals indefinitely
- Outstanding defense from calcium and magnesium chlorides, heat, shock, cold, vibration, moisture and other critical environmental conditions
- Assures reliable electrical performance
- Creates a fast, easy, semi-permanent seal with natural strain-relief properties



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Why SAE J3082 ?

What is SAE J3082? Current SAE standards have been created for seven-way primary and seven-way secondary primary connectors such as SAE J560, but a standard for dual pole auxiliary connectors didn't previously exist. The SAE J3082 standard was developed to fill in the gap.

Per SAE J3082, this standard provides "the minimum requirements for high power two conductor jumper cable plug and receptacles for truck-trailer jumper cable systems and includes test procedures, design and performance requirements." Because no standard previously existed for auxiliary power connections the industry had been looking to SAE J560 as a guide for the requirements. SAE J3082 specifically addresses specifications and safety requirements for dual pole auxiliary connectors.

The current industry standard for auxiliary plugs and sockets are those with either vertical or horizontal aligned pins. Auxiliary plugs and sockets with vertical pins are typically used with tarpaulin and skirt applications, while plugs and sockets with horizontal pins are typically used with liftgate battery charging applications. Although they are the standard in the industry, they are vulnerable to arcing.

A new design element included in the SAE J3082 are offset auxiliary plug and socket pins. Plugs and



Plug Insert with Offset Pins

sockets with offset pins are safer because they reduce the risk of arcing. Arcing happens when electric current flows through an air gap between conductors. Offset pins prevent positive terminals from touching first and minimizes the air gap between conductors, which prevents the potential for arcing.

Another risk of initial positive pin contact is ground contact being made through the trailer body and in turn back to the tractor through the SAE J560 connection, which typically has a much smaller ground wire. High current flow through an improperly sized wire can cause over-heating, which breaks down wire jacketing and could possibly melt the wire. This can result in shorts in the electrical system or even vehicle fire. Damaged wire jacketing also allows for corrosion to seep into the electrical system which can cause a whole host of other electrical problems.

SAE J3082 specifications not only bridge the gap for auxiliary power connectors not addressed in SAE J560, but have created a new level of safety. For the highest level of safety and to prevent arcing, use auxiliary connections that have offset pins and cables with an internal ground.



Socket Insert with Offset Pins



- Offset pins prevent positive terminals from touching first and minimizes the air gap between conductors, which prevents the potential for arcing.
- Auxiliary plugs and sockets with vertical pins are typically used with tarpaulin and skirt applications, while horizontal pins are typically used for liftgate charging applications.
- SAE J3082 specifications not only bridge the gap for auxiliary power connectors not addressed in SAE J560, but have created a new level of safety.

Have technical questions?
Get the latest tips from a skilled Phillips engineer!
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