**Note to self**: trailers to be washed in the morning or after dark only!

A customer recently sent me this note about a window in their 2013 Airstream. Whenever I give a seminar concerning exterior maintenance, I always go over some basic rules such as: never wash the trailer in direct sun or in the heat of the day.
Wash when trailer surface temperatures are cooler, such as early morning or early evening when possible. Many times I get the impression from the audience that they are not buying into the need to be cautious about high surface temperatures on the aluminum and glass on their Airstream.

Shattered main door glass from sudden temperature change - rare occurrence, but it does happen.

One reason we suggest washing when cooler is to avoid water spots from the rapid drying of water on the warmer surfaces which can leave mineral deposits. Water spots can be hard to remove if left on for long periods without cleaning.

Other reasons to be cautious are the expansion and contraction of the aluminum and glass used on your Airstream.

What would cause the glass to break? Here is an explanation I found on Yahoo Answers that I believe helps explain some possibilities.

Glass will break when internal stresses are set up which can cause the glass to fracture. These stresses are set up when the temperature of the glass is not uniform from one area to another of the glass. So, it is not so much a function of the temperature as the speed of a change in temperature which makes certain parts hotter or cooler than others.

If you heat up a piece of glass very, very slowly, you can bring it to an extremely high temperature without any ill effects. Similarly, if you cool it very slowly there will be no ill effects. However, if you heat it or cool it very quickly, it could break.

That is the general principle. Whether the fracture will occur depends on the glass and the extremes to which the glass is subjected. For example, Pyrex is specifically manufactured to withstand sudden, rapid temperature changes or by extreme heating of one section of the glass but not the rest. Also, modest temperature changes will not create the stress levels needed to cause breakage, and very thin glass will usually cool or heat more evenly since the heat has a chance to dissipate more quickly and evenly.

Glass with imperfections, small fractures or under pressure is more prone to break under extreme temperature changes. The thicker the glass the more susceptible it is to temperature variations.