

BREAKAWAY SWITCH WIRES & CABLE LENGTH

Switch Wire Problem: I have had two reports of the insulation on the switch wires wearing through and the wires shorting together. In both cases this occurred where the wires go underneath the propane bottle cover. I checked a number of trailers at International and found a few with extra tape on the wires but most of them just had the plain wires. The cover can evidently bounce on the wires and over time, wear through the insulation. The cover then shorts the wires together which is the same as pulling the breakaway switch cable and actuating the brakes. When this occurs all of the brakes are immediately locked since it is assumed that the trailer has broken free from the tow vehicle and must be stopped.

In one case the trailer was getting ready to be parked and there was no damage since everything stopped when the brakes locked up. In the other case this occurred at highway speeds which resulted in all of the tires having flat spots and one broken axle (a very expensive failure).

Obtain a 4" piece of, ¼ or 3/8 inch interior dimension, vinyl tubing and slit it down the side. Remove the propane cover and slip this over the wires with the slit facing sideways. Then wrap the tubing securely with electric tape so it can be installed under the propane cover. This will protect the wire insulation from excessive wear.

Question: I have heard several different opinions on how long my breakaway switch cable should be. What is the correct length?

Answer: The actual length depends on the distance from your tow vehicle mounting point to the switch mounted on your 'A' frame. The purpose of this switch is to turn on the brakes, using the trailer coach batteries, only if the trailer has completely broken away and is starting to roll down the road. You do not want the brakes to come on under any other circumstance. For example, even if the hitch platform or the coupling ball broke and the 'A' frame falls on the chains you can slowly come to a controlled stop even at highway speeds. You do not want the trailer brakes to come on in this situation.

The proper cable length should be as long as possible so it does not drag on the ground. It should, as a minimum, not actuate the breakaway switch unless the trailer has completely broken free from the tow vehicle. If you have made a nice neat looking loop with your cable it is probably too short. You can run it over the chains just make sure it cannot get tangled and will pull straight out if needed. To work effectively it must be properly attached to the towed vehicle.

Remember, you are liable for any damage or consequences that occur if your towed vehicle breaks free.

You should test your switch every year when you get ready for the camping season. While hooked to the tow vehicle, first remove your main electrical cable, and then pull the switch key. You should not be able to move the trailer with the wheels locked. The reason for removing the main cable is to prevent damage to the tow vehicle computer and/or circuit boards. With all of the brakes on there is a significant current draw and you do not want that current spike to come from the tow vehicle.