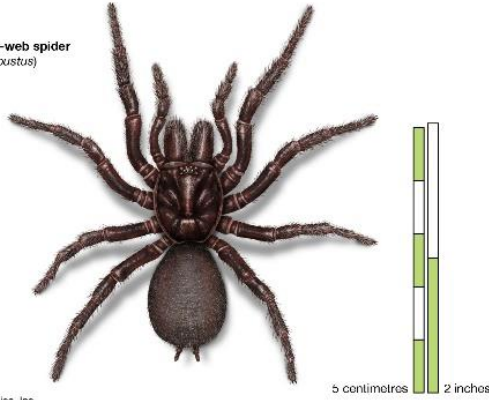


My Strangest Service Call

The Case of the Spider Web

By Roy Bardowell, CDDC

Sydney funnel-web spider
(*Atrax robustus*)



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In May, 1978 I relocated from New Jersey to Montreal, Canada.

Prior to my relocation, I had worked at Automatic Doorman in Paterson, New Jersey for more than seven years. During that time, I worked every task in every department and became an expert in every facet of the business. Lynx Industries of Canada had been selling and distributing Automatic Doorman commercial door operators to local Canadian installing door companies for many years. In 1977 the spread between the American and Canadian dollar grew to an all-time record, making American goods more expensive. To offset the difference a drastic solution was needed. When the time came to duplicate the manufacturing plant in Canada, I was the first choice to get it started.

After getting a temporary Canadian work permit and getting set up in St. Leonard, Quebec, I joined the team at Lynx Industries to build an operator production department. The plan was to start producing commercial operators and then move on to producing residential door operators for the Canadian

market. First, we had to certify the operators with CSA. The national safety testing agency of Canada. This took 6 months.

About 35 miles North of Montreal is the town of Saint Therese. In St. Therese there was a General Motors production plant that built Camaros and Firebirds. Years before my move, a Lynx Industries gearhead commercial door operator was installed and wired to an existing panel that GM had contracted to be built from their own specifications.

I found out later, I knew everything about the motor, gearbox, and limit assembly, but had NO information on the special panel. Since I was missing the most important information, it made it difficult to trouble shoot the overall system. The GM engineers were very adamant the problem had to be within the motor operator, because they had the same separate panel throughout Ontario, Canada and had no other problems elsewhere. Even so, I was sure the problem was within the GM factory in their panel, because they're main complaint was phantom operation.

Basically, any operator that moves without an intended input has what we call-- Phantom Operation. And 99% of the time it is due to a faulty control or pushbutton. This is not up for debate. It's FACT! Plain & Simple, no motor can start on its own. It has to be told to go by connecting electricity to the motor. This is the same for all motors. Think about it. It's like claiming the light turned on, even though nobody threw the

switch. In theory, only a component in the panel could be guilty.

An operator cannot just select to move. The input to go must come from somewhere such as a PB, radio control or another device. If the door opens, then you must investigate all the devices that can command the operator to open. This could simply be the open button, a loop module, or a defective key switch.



On residential installations, most phantom operation will be from a staple shorting out the bell wire. Most techs focus on a radio control being the issue. Many will change the code and think they solved the issue, only to get another call just days later. I have seen this a hundred times. A short in the wire or P/B is the problem most of the time. If the phantom operation to open is occurring while you are present, you can start by removing the control wires that connect to the operator and see if the problem goes away or disconnect the receiver and test the operation. Most technicians have trouble grasping the idea that a push button or other defective device can alone command an operator to go. But that is what happens when a control fails.

BACK TO THE GM plant...after many months and hours of phone calls from the GM engineering dept. I was so sure the problem was homemade, so eventually one Saturday I was forced to go see the job. I drove up to the GM plant with only a voltmeter and some basic tools. I met with the building supervisor, Ronald Gagnon. This is the guy I spent months talking to over the phone. He showed me the door that had closed on two new Camaro's and I opened the panel to look inside. There were added loop detector modules and many timers in the panel. The wiring was totally disorganized and looked like a huge bowl of colored spaghetti.

Once I saw the loop modules, I immediately thought there was a shorted or open underground loop that had failed. It is normal for the ground to move or shift in colder regions and the loop wire can be broken and shorted out to Earth. Before going out to check the underground loops, something else caught my eye. There was also a circuit board with 4 relays on the board which I couldn't figure out why it was there. To determine the purpose of the relay board, I had to study every wire connected to it. There was no diagram available, so I had no idea what was the circuit boards purpose and what I was looking at.

I asked Ronald if I could start the door open and he said yes. I opened the door with the open button and thought to leave it open for a minute, except almost immediately I saw an LED flicker on the relay circuit board and the door started closing. I did this, two more times, with similar results. I knew a relay was sending power to the motor, but why was the relay and contactor engaging?? I quickly determined which terminal was for the close command and disconnected all the inputs to this terminal. I opened the door, but the

door still closed. WTF? I was confused and a little upset with myself. I never was stumped before and usually found the problem within the first five minutes.

I asked Ronald if he had a flashlight and he got one for me. I thought maybe I should look under the unknown circuit board to check the tracing was intact or if other wires were connected to it. I carefully removed the circuit board and got the scare of my life when a fat black spider nesting between two relays jumped on my hand.



You can always find some creepy insects in the motor portion of an operator, but I never saw any in a Nema 4 sealed panel before. However, this panel had many holes drilled in the side walls where I suspected the spider gained entry. Only by dumb luck I shined the flashlight on the back of the circuit board and noticed the entire board was covered with spider webs. I took a towel and wiped off the webs. My next test opened the door and it did not close. *Voilà*, I said! I carefully reinstalled the circuit board and ran the door 10 times open without it closing. If you follow the Occam's Razor theory*, then the first conclusion must be the spider webs were somehow involved.

**For those interested--- "OCCAM'S RAZOR" simply states that of any given set of*

explanations for an occurring event, the simplest explanation is most likely the correct one.

Thinking I had found the final solution, I grabbed my tools and got ready to leave. I left Ronald my card and asked him to call me if anything else came up. One week went by, then a second without hearing from Ronald. I thought, great...another happy customer. But it was short-lived because one Monday morning I got a call from Ronald explaining the problem returned. I suddenly had a stomach ache. How in the world did this happen?

Anyway, I told Ronald I would come to him on Tuesday after work. This time I carried more tools, and a pair of gloves in case the spider jumped out again. Driving around the huge building, I saw Ronald standing outside the door and parked nearby. I grabbed my tools and walked by Ronald, but was too weak to make eye contact. At first, I looked at the relay board, where the spider had nested before. He wasn't in there. Then I started the door closed.



As soon as I pulled the back plate toward me, thousands of tiny red spiders came running out from behind and ran over the entire plate. I asked Ronald if he had any insect repellent, but he did not. I instructed him to get some and give the insides of the panel a good dose, but even then, Ronald was NOT convinced. All alone Ronald had a very difficult time, but I had his respect since I was

the only one that actually made the visit to him and he liked the fact I was teaching him about door operation. Even the people in Michigan who made the specialized GM panel wouldn't speak with him.

After brushing away all the webs, I asked Ronald to wait and see. I also asked him to place a strip of duct tape over the holes in the panel to keep other critters out and to be patient. A week later, I got a call from Ronald saying everything has been good so far. His call gave me the biggest relief. I wasn't 100% sure the spider and its webs were the perpetrator until Ronald's call.

That week was the longest stretch without a problem. I had a huge sigh of relief and hoped I had finally resolved the weird issue. I literally lost sleep over this one, because I was worried of being sued by the big corporation. To date, I had never been spoofed and always found the best and sometimes the only solution.

To truly be a great troubleshooter, you must be able to think outside the box—as they say. In 2012, I found a mouse dead in the electrical enclosure. The poor thing was trying to build a nest and bit through a 460 Volt power line. Its jaw was stuck shut on the wire and I had to pry him off with a screwdriver. The poor thing was completely dehydrated and looked like an over-done chicken wing. Electrocuting will do that. All the liquids in your body boil and evaporate within seconds. When a tree is struck by lightning, the sap quickly turns to steam, and will split a tree wide open.



After the case of the spider webs, I said to myself...Wow! that is one to remember. And I did, even though it happened over 40 years ago. Who would have suspected a simple spider web could cause so much wasted time, damage to two new cars, and so much aggravation? Honestly, I expect to never come across a weird one like this one ever again and after 40 plus years I have not, although I have seen other insignificant problems at times, excluding insects.

In 1987 the St. Therese GM plant was repurposed and began assembling the Pontiac Grand Prix and Cutlass Supreme. In 2002 the plant was closed and demolished. I was happy to never need to visit that factory again, but since I had moved to Arizona, I would never need to go to Quebec again. Next time someone says we have to work out the bugs, think of the Spider case.

If you found an outrageous situation and want to share it with me, please don't hesitate to contact me. I would love to hear from you. Maybe I'll include your case in a future article.

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NOW GO GET EM!

Roy Bardowell, CDDC, served as Operations Manager at Guardian Access & Door Hardware until 2014. He has been in the door and operator industry since 1973 and is known as one of the industry's most experienced operator technicians and trainers. Roy received the IDEA Commitment to Excellence award in 2008 and IDA's Jerry R. Reynolds Volunteer Service Award in 2017. Contact him at roythedoorman@gmail.com