

Electrical Troubleshooting Basics - Isolation

[0m:0s]



[0m:4s] Hi, I'm Josh Bloom, welcome to another video in the RSP Supply education series. If you find that these videos are helpful to you, it certainly helps us out if you could give us a big thumbs up and subscribe to our channel.

[0m:16s] In this video, we want to discuss some basic methods you might use when trying to troubleshoot electrical issues.

[0m:25s] There are many different issues you might encounter when dealing with any electrical system, and because of this, there are many different methods that can be used to troubleshoot them in order to find a fix. For the purpose of this video, we want to focus on one of the most important aspects of any electrical troubleshooting scenario, and that is being able to find where the problem actually originates, or, in other words, being able to isolate the problem.

[0m:55s] By the end of this video, we hope you have a better understanding of the steps required to help you isolate any electrical problems you might encounter, so you might be able to quickly fix the issue and get things working quickly again.

[1m:11s] Electrical issues can pop up at any time and also range from something really big, like a power failure or a broken motor to something minor such as a loose wire connection.

[1m:24s] It is because there are so many variables and possibilities that finding what might be causing your specific issue can sometimes be very difficult.

[1m:34s] However, if you follow a few simple steps, you should be able to find out where the problem is originating from.

[1m:42s] For the purpose of this video let's use a specific scenario so that we can illustrate some of the steps that might help you isolate the problem.

[1m:52s] Let's assume you have a motor that is not working at all and you don't know why.

[1m:57s] You obviously need to figure out what is wrong.

[1m:59s] But where do you start? There are so many potential issues, and how can you possibly identify what the problem is?

[2m:6s] In this scenario, like with almost all the electrical issues, it is important to first try to identify where the problem is coming from.

[2m:14s] So let's look at a few possible solutions.

[2m:18s] First things first, if the motor is not running, we need to ask ourselves the question:

[2m:23s] Is the motor getting the power it needs in order to run,

[2m:27s] and how do I check to verify that?

[2m:29s] This is where a multimeter is very important troubleshooting without this tool would almost be impossible, so make sure that when you are troubleshooting electrical issues, your meter is with you. Now using your multimeter, the first thing you need to check is to see if power is getting to the motor.

[2m:49s] This is done by applying the leads of the multimeter directly to the input terminals at the motor.

[2m:56s] If the right amount of power is present, then we know the problem is most likely with the motor, in which case we were able to successfully isolate the issue.

[3m:7s] However, let's assume that there was no power at the motor.

[3m:11s] In this scenario it's safe to assume that the motor is probably functioning normally,

[3m:16s] so,, we need to identify where the power is coming from and start to determine where the problem might originate.

[3m:24s] If no power exists at the motor, it would make sense to check the protection device for the motor. In other words, the breaker.

[3m:32s] First check to see if the breaker has tripped.



[3m:36s] Then, to test the breaker, again, apply the leads of your multimeter to the load side of the breaker terminals to see if the correct power is present.

[3m:46s] If no power is present, check the line side of the breaker.

[3m:50s] If the line side of the breaker has power, then we know the problem most likely exists with the breaker.

[3m:56s] However, if there is power present on the load side of the breaker, you can safely assume that the power is somewhere between the breaker and the motor at this point you are starting to narrow things down. From this point, you need to determine what is between the motor and the breaker,

[4m:14s] and what are the most likely points of failure? First look for any junction points as these points are more likely to be causing a problem.

[4m:23s] Also look for any connections or devices running in series on the circuit. Using the same steps that we have already talked about, check to see if power is present at any of the points you test.

[4m:37s] Continue this process until the problem area has been isolated.

[4m:42s] By following this method, you can quickly and safely locate where the problem exists and start to determine what the solution might be. With a little practice and experience you will gain the confidence that is needed to troubleshoot almost any electrical issue.

[4m:59s] As a reminder, this method is just one way to troubleshoot electrical problems. However, depending on the specific issue, this method may not apply.

[5m:11s] Luckily, we will cover more troubleshooting techniques in some of our upcoming videos,

[5m:17s] so make sure to tune in when those videos are published.

[5m:21s] For a full line of industrial hardware and thousands of other products, please go to our website. For more information or other educational videos, go to RSPSupply.com, the Internet's top source for industrial hardware. Also, don't forget: like and subscribe.





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