

# **THE 4 GENERAL RULES FOR EFFECTIVE AND EFFICIENT TROUBLESHOOTING**

## **1. Know how the system works**

However, preliminary study to gain a comprehensive knowledge base of the system's operation is without peer when it comes to troubleshooting.

*Reference documentation consisting of instructions, videos, schematics, etc. are invaluable tools.*

## **2. Assess and characterize the symptoms**

Be specific. For example: What exactly is happening? When or under what conditions does it occur? Make detailed observations - write them down if necessary – especially if there is (or could be) more than one issue going on at the same time.

## **3. MEASURE / TEST (don't guess)**

Depend on measurements – expert opinions are often helpful but are only opinions. Only after you verify them with measurements or conduct tests do opinions become facts!

## **4. DIVIDE AND ELIMINATE!**

Chunk the problem up into sections whenever possible. Test components and eliminate them from the list of potential causes – thus narrowing the issue down.

Don't get distracted: stay the course - troubleshoot one issue to its conclusion (Note: Especially applicable to troubleshooting complex systems such as an engine or an electronic network(s). *Often an issue may present you with symptoms characteristic of another issue(s) which go away when the immediate issue at hand is fixed.*)

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