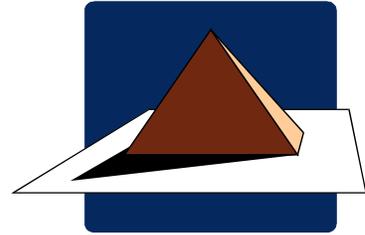


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“Service Measured To The Standard”

## ~ THE ART OF TROUBLESHOOTING ~

In a perfect world, nothing would ever fail and there would be NO need for troubleshooters. But this is not a perfect environment and equipment does fail resulting in *Problems* with a capital “P”. When a failure occurs we call in the experts, the troubleshooters, to solve the problem quickly and effectively.

With advances in technology, often today’s equipment is more complex to maintain. Troubleshooting those associated problems has been left to the engineers and highly skilled technicians. Yet, with our changing work environment, the number of these individuals has been dwindling. This situation has reduced the craftsmen’s resources for assistance to resolve complex or repeat failures.

There is a simple solution to this challenging problem. Craftsmen can be trained to:

1. Understand how to operate and maintain the equipment;
2. Find the true root cause of the failure;
3. Develop solutions for each failure; &
4. Implement improvements.

Without supporting each of these steps, the expected result will not be achieved.

Effective troubleshooters, whether they are teachers, doctors, or craftsmen, must understand their profession, tools, and equipment. Without this foundation, they cannot ask the proper questions to assess a situation. Similar

to doctors gaining years of experience to evaluate the symptoms of patients, a craftsman must be a skilled individual. There are techniques gained and used by troubleshooters to ask the proper questions and to generate sound hypotheses. The gateway to success begins here. From the answers and the hypotheses, logical pathways are developed and tested. Failure to open each door of the hypotheses and to verify the assumption to be true or false will result in the wrong conclusion and a repeat failure. Thus, a skilled person must receive the proper training and engage in supervised experiences.

Did you ever wonder why some individuals are quick to solve problems and others are slower? Being quick is not an advantage if the only troubleshooting method used is “parts changing”. These individuals never find the root causes resulting in repeat work. Why? The “parts changer” and the slow troubleshooters are dealing with troubleshooting barriers. These barriers are both perceived and unknown; they can be real or imaginary. Nevertheless, the barriers must first be identified in order to either eliminate or minimize their impact to provide effective troubleshooting.

Finding the root cause of maintenance problems does not mean having to perform a “root canal”. Your craftsmen are the first line of defense. They are valuable assets. Give them the tools to perform as one.

### Disclaimer

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