



How To Analytically Troubleshoot Complex Electrical Systems with Deductive Reasoning 5 day course

*New Course
Alert!!*



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How To Analytically Troubleshoot Complex Electrical Systems with Deductive Reasoning

This five-day program is designed for electrical troubleshooters and is guaranteed to improve their troubleshooting processes and significantly reduce downtime costs.

This system was developed by a team of Master Troubleshooters and then honed over twenty years of continuous improvement. During this time hundreds of programs were taught to several thousand participants with constant feedback and refinement. Participants spend 90% of their time troubleshooting realistic faults utilizing both hardwired and software simulators under the guidance of a Master Troubleshooter.

Based on Canada Training Group's proprietary Analytical Electrical Troubleshooting TM methodology, this program is flexible enough to develop strong processes in younger troubleshooters and still challenge experienced troubleshooters to fine-tune their skills.

Our experience shows that we can improve the skills of experienced troubleshooters 25%, 200-300% in others and immeasurably for some. This translates into major reductions in unplanned downtime.

A major outcome from this training will be a huge increase in job satisfaction. Your troubleshooters will be keenly aware of their increased competence and feel capable of extraordinary achievement. The natural result is a dramatic increase in productivity; your people will see the impact of a job well done and will want to do more.

Any troubleshooter determined to improve their game will be able to apply our Analytical Electrical Troubleshooting TM methodology to electrical and other systems, collectively saving hundreds of thousands of dollars of downtime during the career of the successful participant.

Our instructors have 30-40 years of electrical troubleshooting experience, including 15-20 years as troubleshooting instructors, and work closely with each participant to advise them on how to improve every aspect of their troubleshooting skills.

COURSE TOPICS

I. TROUBLESHOOT USING AN ANALYTICAL PROCEDURE

Objective: Troubleshoot an electrical circuit or system following a logical, structured procedure.

- Describe Analytical Thinking
- Apply Convergent Thinking Skills
- Apply Divergent Thinking Skills
- Apply Deductive Reasoning Skills
- Apply Inductive Reasoning Skills
- Develop an Analytical Troubleshooting Procedure
- Develop an Analytical Electrical Troubleshooting Procedure

II. PREPARE TO TROUBLESHOOT

Objective: Develop preparatory skills.

- Gather Data
- Make Factual Observations
- Select Troubleshooting Tools

III. ANALYZE THE FAULTED SYSTEM

Objective: Use a systematic process to localize the problem.

- Deduce Fault Type
- Deduce Location

IV. PLAN YOUR TROUBLESHOOTING APPROACH

Objective: Use both empirical and inferred data to plan your steps.

- Evaluate Hazards
- Select Starting Point
- Plan Minimum Troubleshooting Steps
- Deduce Test Results

V. TROUBLESHOOT THE SYSTEM

Objective: Apply a non-redundant series of tests supported with documentation of the process.

- Control Hazards
- Conduct Tests
- Record Tests and Results

VI. INTERPRET DATA

Objective: Utilize results of troubleshooting to both fix the current problem but to also deduce root cause.

- Evaluate Test Results
- Adjust Troubleshooting Approach
- Identify Cause of Failure

VII. TROUBLESHOOT DC SYSTEM PROBLEMS

Objective: Apply analytical electrical troubleshooting procedure to dc circuits.

- Open Circuits
- Short Circuits
- Voltage Drops
- Grounded Circuits
- Crossed Circuits

VIII. TROUBLESHOOT SINGLE PHASE SYSTEM PROBLEMS

Objective: Apply analytical electrical troubleshooting procedure to single-phase circuits.

- Open Circuits
- Short Circuits
- Grounded Circuits
- Crossed Circuits

IX. TROUBLESHOOT THREE PHASE MOTOR CIRCUIT PROBLEMS

Objective: Apply analytical electrical troubleshooting procedure to three-phase motor circuits.

- Open Circuits
- Short Circuits
- Grounded Circuits
- Crossed Circuits

X. TROUBLESHOOT ELECTRICAL CONTROL SYSTEM PROBLEMS

Objective: Apply analytical electrical troubleshooting procedure to electrical control circuits.

- Open Circuits
- Short Circuits
- Grounded Circuits
- Crossed Circuits

XI. TROUBLESHOOT UNKNOWN SYSTEM PROBLEMS

Objective: Apply analytical electrical troubleshooting procedure to unknown systems

- What is Known
- What is Unknown
- Applying the Process

XII. CONCLUSION

Objective: Conclude course and evaluate troubleshooting skill progression in both speed and accuracy.

- Evaluation of Learned Skills
- Review of Course Goals