

Troubleshooting

synonyms

The problem is unknown ;

In order to find out what is wrong with a system / machine we ;

- trace faults
- locate trouble / a problem
- discover issues
- find an issue / defective part
- identify the problem
- perform testing

The problem is found

To fix the issue and make sure it won't occur again we ;

- isolate the problem
- work on the problem
- diagnose the problem
- analyze the problem
- examine the problem
- try obvious solutions
- reproduce the issue (to find the cause)
- correct the issue
- correct faults
- resolve the issue
- fix the problem
- make repairs in machinery / equipment
- solve the problem
- eliminate unnecessary components to determine if the issue persists
- identify component incompatibility issues
- look for common , known causes
- look for the root cause

Troubleshooting checklist

- Gather data
 - The goal is to identify the problem and understand how to reproduce it .
- Describe the problem
 - Answering these questions below will expose which components aren't part of the problem .
 - What are the symptoms ?
 - When does the problem occur?
 - Where does the problem occur?
 - What are the conditions when the problem occurs ?
 - Is the problem reproducible ?
- Determine the most probable cause
 - Trial-and-error method
 - Split-half approach - first test half down the line of components . If the middle component works ,everything before it works as well . Move onto the middle of the remaining untested section towards the end of the series .
- Create a plan of actions and test a solution
- Implement the solution
 - When the issue was identified and understood we now must adjust , repair or replace whatever is causing the problem.
 - After making all necessary repairs we should run a test or series of tests to make sure the problem was fixed.
- Analyze the results
 - Sometimes the solution to a problem creates another issue , we should monitor the system to ensure the changes made didn't affect other parts of the system in the way that lead to malfunction .
- Document the process
 - Document all the steps taken . This ensures other troubleshooters will know what to do if the problem happens again.

Troubleshooting.jpeg