



Guide for Supplier Corrective Action Requests

K&L Microwave



Overview

- ▶ Companies that use corrective and preventive action as management tools are those that experience consistently superior results from their value delivery system.
- ▶ They are the ones that meet problems head on, find the root cause, and then ensure that the same problem is not repeated and the same battles not fought over and over.

K&L's Expectations

- ▶ Documentation
- ▶ Approach
- ▶ Responsibility
- ▶ Implementation
- ▶ Verification of effectiveness

Documentation

- ▶ At a minimum, we will send the following
 - Corrective action request
 - A cover letter defining what we require from you
 - Supporting documentation, if appropriate, such as photographs or measurements

Your Approach

- ▶ **CONTAINMENT** – Take action immediately to stop the nonconformance from occurring and preventing or minimizing any impact from the nonconformance. Check your production and stockroom areas.
- ▶ **PROBLEM DEFINITION** – Clearly define the actual problem.
- ▶ **ANALYSIS** – Determine the root cause.
- ▶ **SOLUTION** – Determine corrective and preventive actions (capa).
- ▶ **VERIFY** – Verification of effectiveness of CAPA is to be documented.

Supplier Responsibility–Response

- ▶ Use our form
- ▶ Reply to the K&L Sender
- ▶ Respond by the due date
 - Communicate your progress
 - If *implementation* of the corrective action plan is going to additional time to complete,
 - submit your *plan* for our approval and
 - ask for an extension.
- ▶ Attach objective evidence that demonstrates your corrections– inspection data, test data, photographs, revised procedures, training or other records

Please Remember

- ▶ You are responsible for your suppliers
- ▶ We can participate in the corrective action
 - Let us know if you need assistance
- ▶ Notify us if other parts have the same condition

Example –Implementation & Objective Evidence

- ▶ Example: Supplier inadvertently ships nonconforming material. Supplier decides to revise the method by which nonconforming material is identified. Supplier implements use of a new Hold area and new reject tags.
- ▶ K&L expects to receive:
 - Completed CAR
 - Copy(ies) of revised procedure(s)
 - Training record for the revised procedure(s)
 - Photograph of the new Hold area
 - Sample reject tag

Verification and Close-out

- ▶ What signifies to us that everything is done? Have all the deliverables been met? Has your plan been implemented? Did it work? Are both parties satisfied with the outcome? Do you have all the documentation, evidence, sign-offs, etc., that your process requires?
- ▶ One of the biggest benefits of supplier corrective actions, besides actually solving a problem, is that it provides us with evidence that our suppliers are capable of addressing nonconformances.

Identifying Root Cause and Corrective Action

- ▶ Make Sure You Address the Root Cause and not just the Symptom

Corrective Action

Corrective Action

- ✓ **Definition: “Action to eliminate the cause of a detected non-conformity”**
- ✓ **Perform root-cause analysis**
 - “I only want to pay for this real estate once.” — General Patton
- ✓ **Follow-up to verify effectiveness**

- ▶ Proactively correct processes to keep nonconformities from recurring
- ▶ Perform methodical actions to ensure that the corrective action was effective

Acceptable Example – Corrective Action

▶ This was the response to an actual CAR:

1. Process change implemented to assure that flux contamination is removed from assembly. Assembly is placed in aqueous solution to remove flux before installing into housing. See attached photo.
2. Sample set of parts cleaned with new process and subjected to “life-test” series of environmental tests. 100% PASS–see attached electrical data.
3. MOP changed to include new cleaning process; all assemblers trained. Copy of MOP attached; training form attached.
4. Process improvement implemented for all similar products. Copy of router attached.

Unacceptable Examples–Corrective Actions

- ▶ 3 examples
 - “More attention will have to be paid to this process. Operator is no longer here.”
 - “Defect confirmed. Sent for repair. Repair complete, plot taken to send to customer. Return to customer.”
 - “Had to be rebuilt.”

Preventive Action

Preventive Action

- ✓ **Definition: “Action to eliminate the cause of a potential non-conformity”**
- ✓ **Proactive program of problem avoidance**
 - Documented and acknowledged

- ▶ How do you prevent a problem that has yet to happen?
- ▶ Proactive approach to assuring conformance.
- ▶ Actively look for problems based on data trends.
- ▶ Process FMEA
- ▶ PokeYoke
- ▶ Management Reviews

Training & Reference Materials



BSC FILTERS | DOW-KEY MICROWAVE | K&L MICROWAVE | POLE ZERO

Proprietary Information



Root Cause Analysis–Defined

- ▶ If we do not define the problem correctly, we will never be able to solve the problem **PERMANENTLY.**
- ▶ Ensure that we are working on the problem, not just a **SYMPTOM** of the problem

Root Cause Analysis

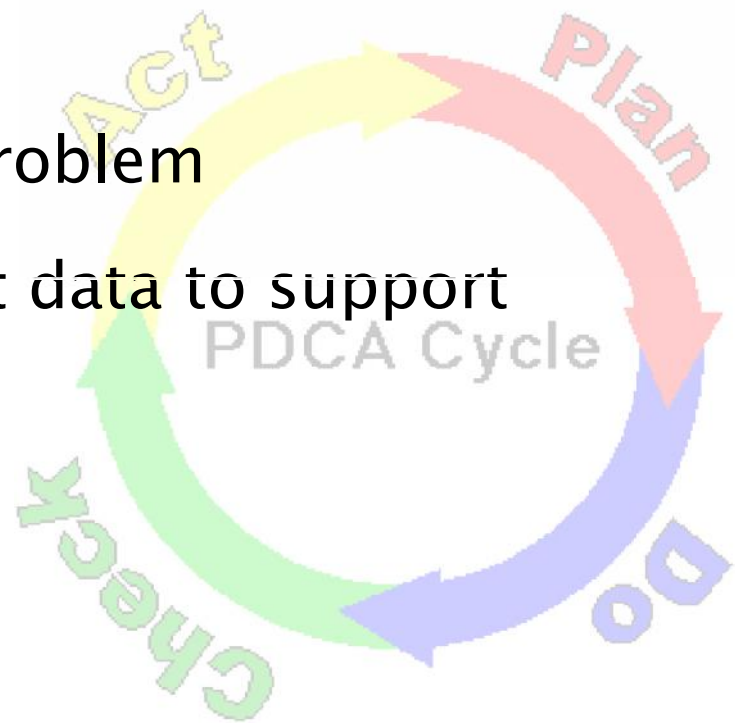
Root cause analysis is a structured investigation that aims to identify the true cause of a problem and to eliminate it.

- ▶ Understand the problem
- ▶ Find the root cause
- ▶ Identify potential solutions and implement the best one
- ▶ Check your results
- ▶ Standardize OR
- ▶ Go through the process again



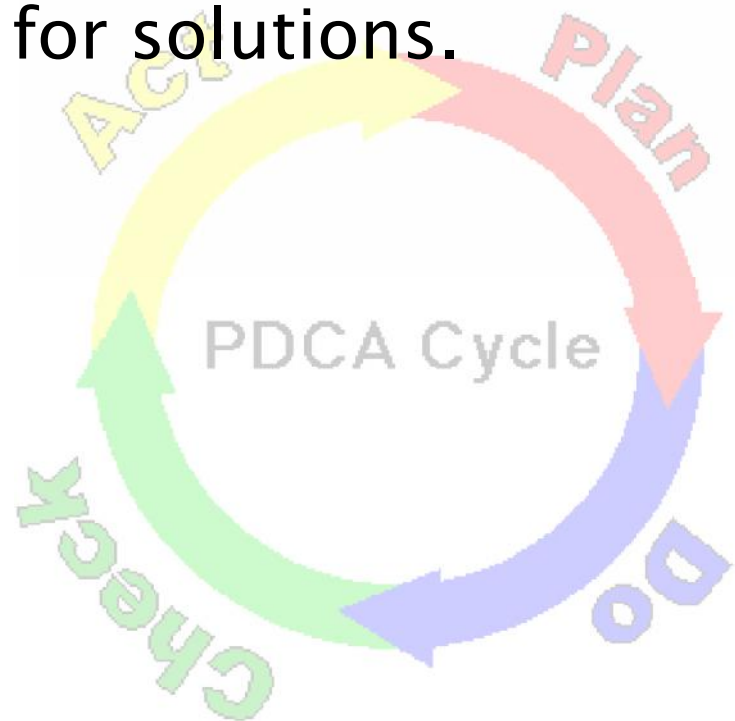
Understanding the Problem–Common Mistakes

- ▶ Defining the problem and the solution at the same time
- ▶ Defining a symptom as the problem
- ▶ Defining the problem without data to support definition

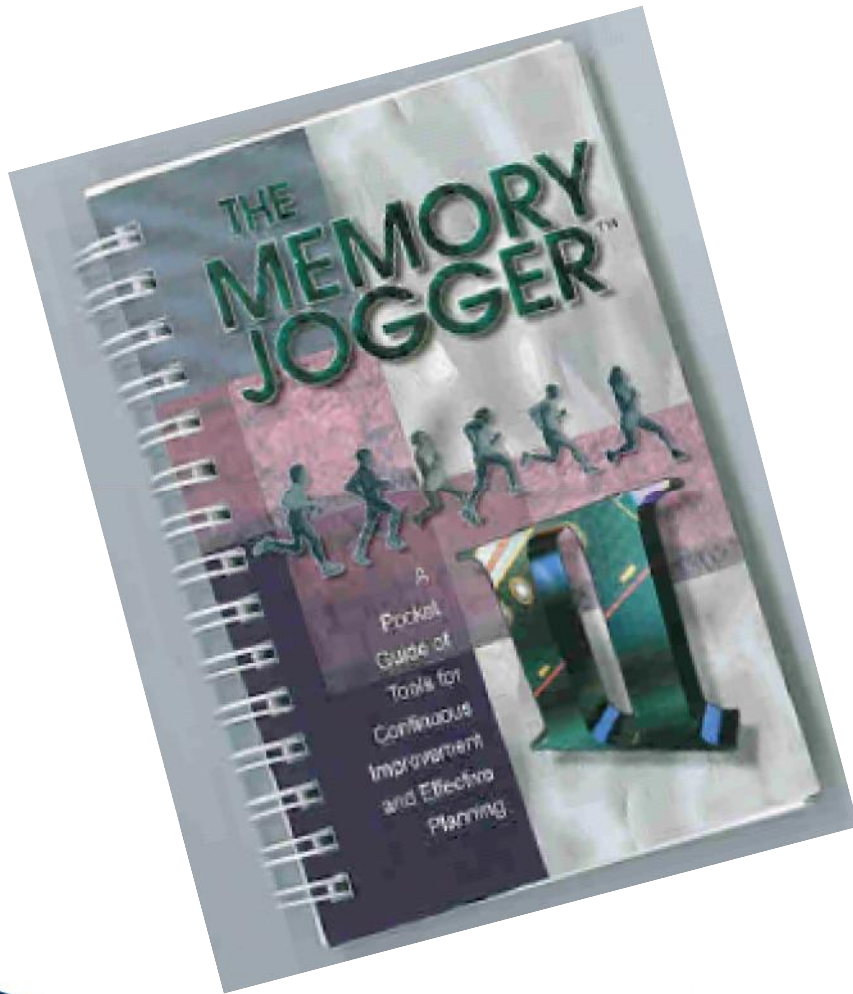


Finding the Root Cause

- ▶ Once the root cause is known, then and only then can you start to look for solutions.
- ▶ Ask:
 - Why
 - Why
 - Why
 - Why
 - Why



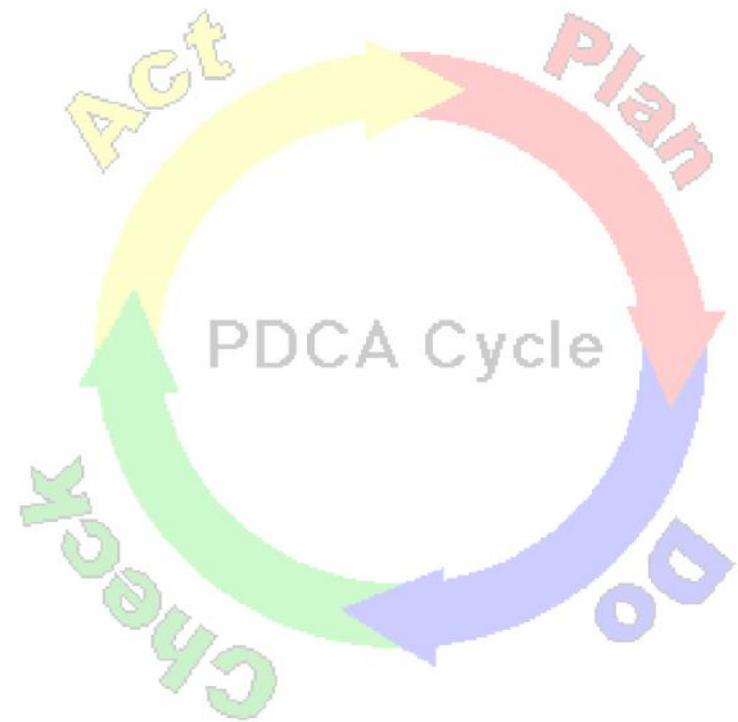
The Seven Quality Control Tools



- ▶ Check Sheets
- ▶ Histograms
- ▶ Pareto Charts
- ▶ Flowcharts
- ▶ Cause and Effect Diagrams
- ▶ Scatter Diagrams
- ▶ Control Charts

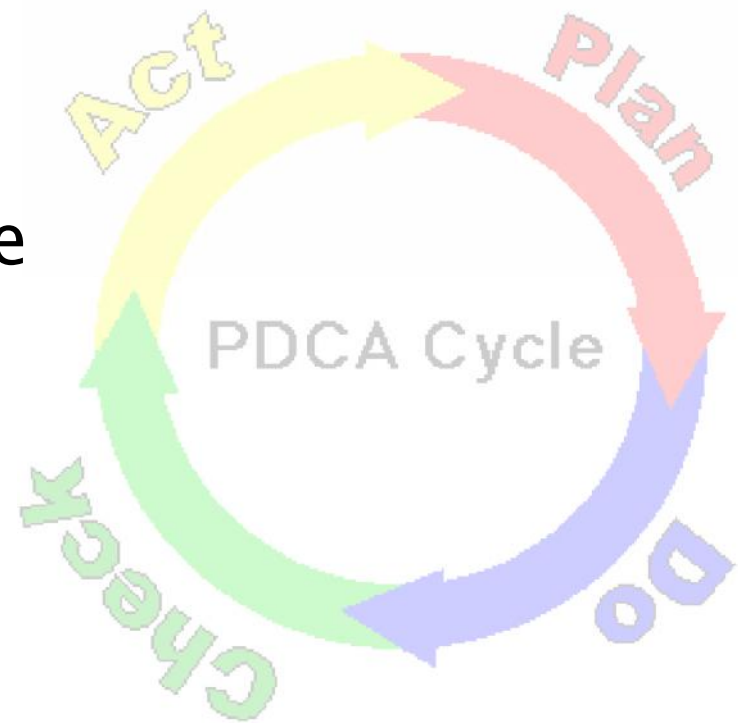
Other Tools

- ▶ Brainstorming
- ▶ PDCA
- ▶ 8D
- ▶ DMAIC
- ▶ Fishbone
- ▶ Fault Tree Analysis



Identify Potential Solutions and Implement the Best One

- ▶ Define and rank the solutions
- ▶ Plan the change
- ▶ Implement on a small scale
- ▶ Follow the plan

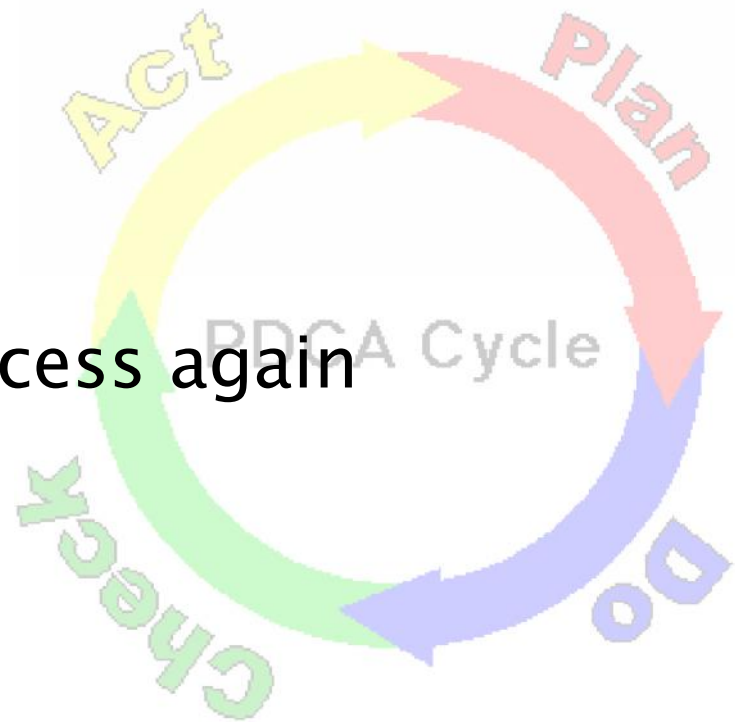


Check-Act

- ▶ Check your results
- ▶ Standardize

OR

- ▶ Go through the PDCA process again



Resources

- ▶ The Memory Jogger II, Goal QPC
- ▶ The Problem Solving Memory Jogger, Goal QPC
- ▶ www.asq.org
- ▶ [ASQ: Learn About Quality](#)
- ▶ www.thequalityportal.com