



ONLINE SIX SIGMA GREEN BELT MANAGEMENT TRAINING GUIDE

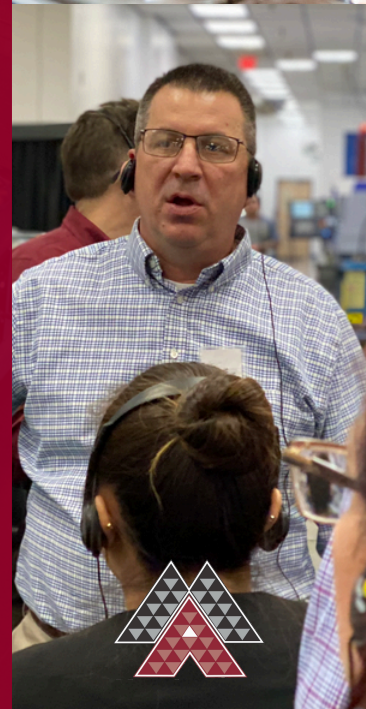
A GUIDE OUTLINING YOUR ROLE TO HELP INDIVIDUALS COMPLETE THE
ONLINE SIX SIGMA GREEN BELT CERTIFICATION

This guide will help you as the manager provide the support and accountability people in training need to apply what they are learning.

Scan this guide to quickly learn the main points of the training. Then, invest more time to debrief with each individual. Each debrief section includes questions to ask and experiences to share to help apply the learnings.

To your sustained success,

Kirby Sneen, President & CEO
Manufacturers Alliance



GETTING STARTED

1

Prepare your answers in each “Management Debrief” section.

2

Schedule a 15-minute meeting after each workshop with the person in certification to cover the management debrief section together.

3

Document the days your team member will be in training below:

Define & Measure: _____

Measure & Analyze: _____

Analyze & Improve: _____

Improve & Control: _____

Certification Completion Deadline: _____

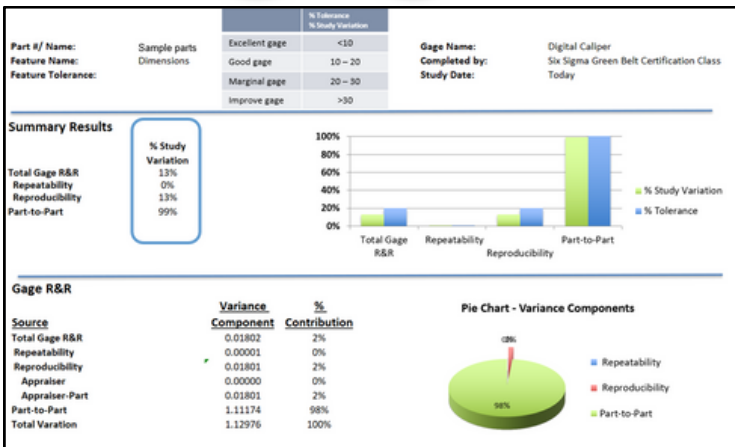
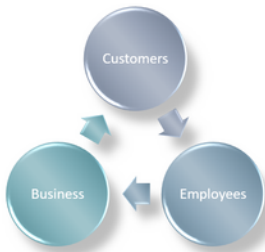


THE FIRST WORKSHOP

DEFINE & MEASURE

The purpose of this workshop is to learn that without a standard there can be no improvement and if you don't measure it, you don't really understand it.

Individuals will develop their understanding of the DMAIC problem-solving process, enhancing their ability to define customer requirements and identify critical processes and problems. They will learn to select and scope improvement projects, define inputs and outputs with greater precision, and develop comprehensive project charters. Participants will gain advanced skills in data collection planning, ensuring measurement accuracy, and utilizing various types of data and metrics effectively.



SIX SIGMA PROJECT CHARTER & SUMMARY				
Project Name:				
Team Leader:		Today's Date:		
Sponsor:		Planned Start Date:		
Area or Process Impacted:		Estimated Time to Complete:		
Element	Description	Project Information		
1. Problem Statement	Specifically and clearly defines the problem (including Scope).			
2. Commitment Statement	Quantify the opportunity using SMART objectives. Include consideration of Benefits to Customers, Business Impact and expected deliverables, (Improve "X" to "Y" by "when").			
3. Metrics	What are the metrics that will be impacted and need to be measured? Examples: Sigma value, defects, yield, capacity, cycle time, closure rate, etc.	Metric Description	Baseline / Current	Goal / Commitment
4. Team Members	Identify team members required to be successful.	Results		
5. Knowns & Unknowns	Identify any risks, constraints, critical assumptions or other significant resource needs and how they will be addressed.			
6. Milestones	What needs to be done by when in order to meet the project deadline.	Action	Owner	Due Date
		Completed		
Initial Approval:		Date:		

MANAGEMENT DEBRIEF:

Ask: How will you use the DMAIC process to identify a Project?

Share: One example of a Six Sigma Green Belt Project you have lead/been part of and the role Define and Measure played in its success

Ask: What metrics did you identify as critical for measuring the performance of your chosen process?

Ask: How did you ensure the accuracy and reliability of your data collection?

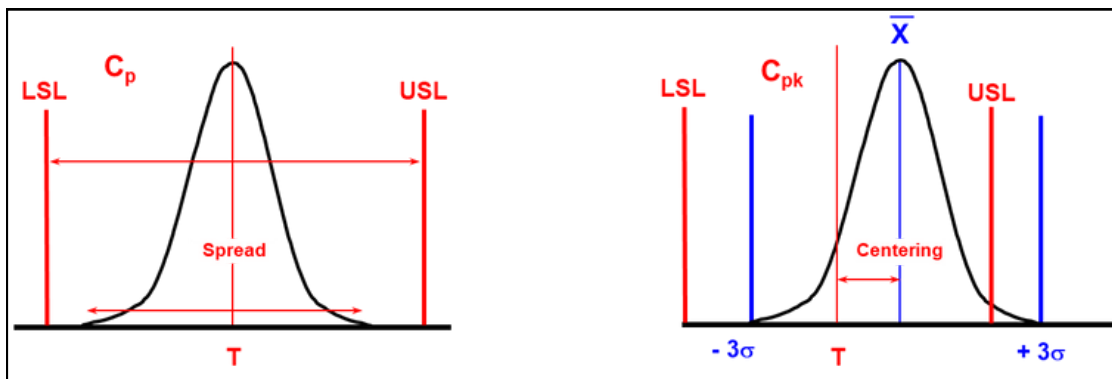
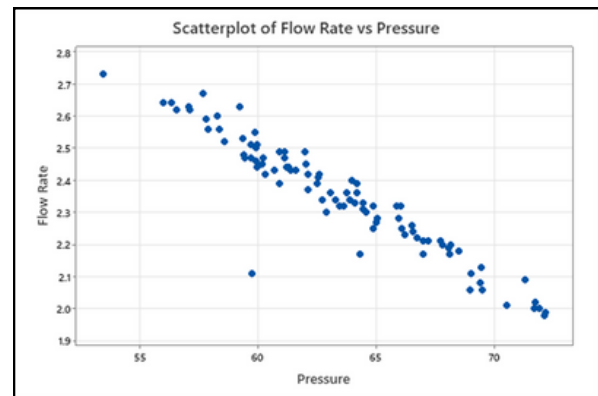
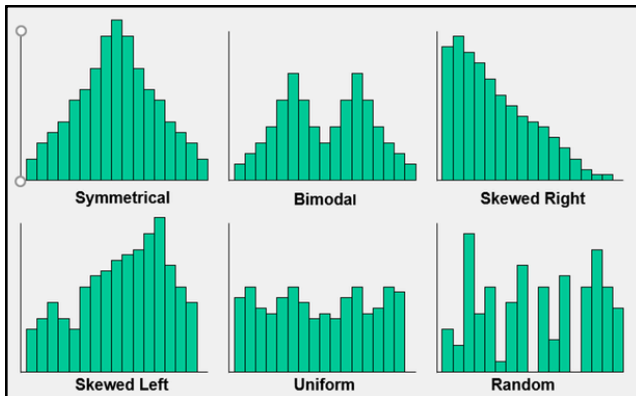


THE SECOND WORKSHOP

MEASURE & ANALYZE

The purpose of this workshop is to expand on the measurement tools from the 1st workshop and learn advanced analytical techniques to understand the root causes of problems, avoiding the traps of assuming correlation means causation and confusing activity with results

Participants will develop their critical thinking skills with statistical tools and concepts such as Variation Measurement, Scatter Plots, and Cp/Cpk



MANAGEMENT DEBRIEF:

Ask: Which analytical tool did you find most useful in identifying the root cause of a problem? Why?

Share: 1 example of a Six Sigma Green Belt Analytical Tool you have used, and how it helped

Ask: How do you differentiate between correlation and causation?

Ask: What Topic did you select for your Certification Application Project?

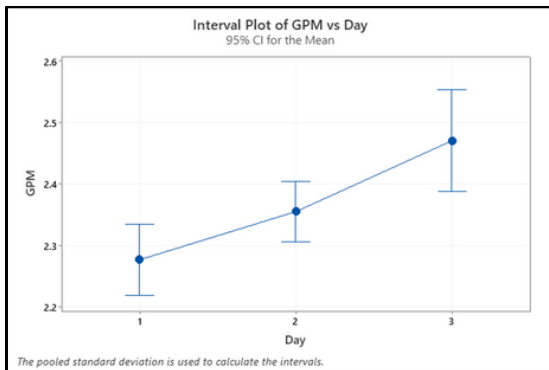


THE THIRD WORKSHOP

ANALYZE & IMPROVEMENTS

The purpose of this workshop is to expand on the analysis tools from the 2nd workshop, and identify sustainable improvement.

Individuals will become competent in regression analysis, ANOVA and Design of Experiments (DOE) They will also develop and implement robust solutions using tools such as Failure Mode and Effect Analysis (FMEA)



Finding		Prepared by: Bonding Team		Page ___ L of ___				
Bery Thompson, Sus Small, Dana Henry and Dave Marten		FMEA Date (Orig) _____ (Rev) _____						
Failure Mode	Potential Failure Effects	S E V	Potential Causes	O C C	Current Controls	D E T	R I P N	Action Recommended
is does the poring?	What is the impact on the Key Output Variables (Customer Requirements) or internal requirements?	How Severe is the impact to the customer?	What causes the Key Input to go wrong?	How often does it occur?	What are the existing controls and procedures (Inspection and test) that prevent the cause of the Failure Mode? Should include an SDCP number.	How often does it occur?	How often does it occur?	What are the for reduce occurrence Cause, early detection? Should have action on high RPN early fix
is short	Won't fit at Customer	5	Measuring mistake	2	Cutting Fixture	3	54	
is long	Customer has to trim	3	Measuring mistake	2	Cutting Fixture	3	30	
is adhesive	Bond Test Failure	7	Applicator malfunction	3	Pull Test	7	147	
adhesive	Poor Visual Appearance	3	Applicator malfunction	3	Visual Inspection	2	36	
isn't fit into (right)	Bond Test Failure	7	Low Bond Depth	3	Pull Test	7	147	
isn't fit out of being	Bond Test Failure	7	Incomplete Bond Depth	7	Pull Test	7	343	Use the same for Bonding 5
isn't fit at of being	Bond Test Failure	7	Low bond IDepth	8	Pull Test	7	336	Use the same for Bonding 5
isn't fit that all	Bond Test Failure	7	Un cured adhesive	3	Pull Test	7	147	
is short (Over SDCP)	Bond Test Failure	2	Partially cured adhesive	2	Pull Test	7	30	

Test Qty	Process Parameters (INPUTS)						Process Outputs					Weld Strength (lbs tensile)
	Aux Gas Flow (SCFH)	Tool Angle (degrees)	Weld Feed Rate ("/min)	Post Weld Purge (sec)	Power (Watts)	Frequency (Hz)	Energy (Joules)	Ti Residue (1-10)	Cosmetic Pass/Fail	He Leak Test		
16	50	45	2	1	1000	5	2.5	5	pass	n/a	n/a	
10	75	45	2	1	1000	5	2.5	4	pass	n/a	n/a	
15	75	45	2	1	1000	5	2.5	4	pass	15/15 pass	n/a	
20	100	45	2	1	1000	5	2.5	2	pass	20/20 pass	n/a	
9	70	38	2	1	1000	5	2.5	2	pass	9/9 pass	197.5	
10	70	45	2	1	1000	5	2.5	2	pass	10/10 pass	195.8	
15	70	40	2	1	1000	5	2.5	2	pass	15/15 pass	n/a	
30	70	40	3	2	1200	7.5	3	2	pass	13/30 fail	n/a	

***Proposed Process Does Not meet our requirement for Lean Flow!**

MANAGEMENT DEBRIEF:

Ask: What 2 sources of Variation did you identify and what methods did you use to do so?

Share: 1 improvement tool you've used and the impact it had

Ask: What area did you identify for improvement?

Ask: When and why would you perform a Design of Experiments (DOE)?

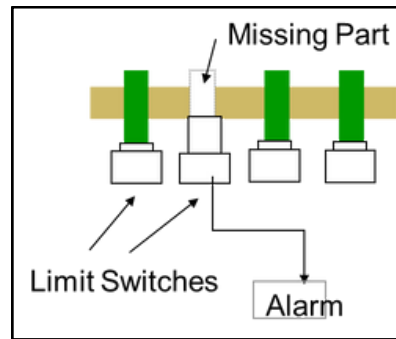
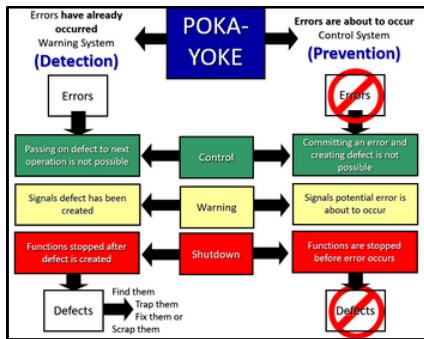


THE FOURTH WORKSHOP

IMPROVEMENTS & CONTROLS

The purpose of this workshop is to expand on the improvement lessons of the 3rd workshop and drive the sustainable improvement, making it a habit rather than an act, ensuring that new standards are maintained over time.

Individuals will be skilled in creating detailed control plans and using them to maintain improvements. This includes utilizing mistake proofing (Poka-Yoke) and developing and deploying standard operating procedures to monitor and control processes. Participants will also learn to foster a culture of continuous improvement by recognizing and encouraging new behaviors and applying change management principles to sustain gains.



Standard Operating Procedure: Lead Wire Stripping Operation, CADD

1.0 Purpose: This document covers the methods for stripping the insulation from the ends of Lead Wires for the CADD Manufacturing line prior to soldering the Occlusion Sensor (Part# 78255) to the Printed Wiring Board (PWB, Part# 28945).

2.0 Scope: This document is focused on Stripping approximately 0.25" of insulation from both ends of the Lead Wires (Part# 9022), including Inspection and Delivery to Station 1 of the CADD Manufacturing line.

3.0 Procedure:

3.1 Materials

- 3" Lead Wires, Part #s 9022Y (Yellow), 9022W (White), 9022R (Red) and 9022B (Blue)
- Multi-Wire Stripping Tool, Tool# T64725
- 2 each of yellow, white, red, and blue bins for delivery

3.2 Process

- Remove packaging from one bundle of wires. Work with one color of wires at a time. Do not mix wire colors.
- Place four (4) wires into Stripping Tool so that the wire end touches the back plate.
- Close the cover on the tool and press the button the strip wires.
- Verify stripping is complete with no damage to underlying wire.
- Turn wires to repeat Steps i through iv for the other end of the wire.
- Place wires into color-coded bins to match wire color. Once the bundle is completed, deliver to Station 1, CADD Manufacturing line.
- Repeat the above Steps for each color Lead Wire, making sure not to mix colors.

4.0 Responsibilities

- Wire Stripping Operator is responsible for Wire Stripping, Quality Control and Delivery to Station 1 of CADD Manufacturing line.
- Wire Stripping Operator is responsible for notifying the Technician on duty of any decline in performance or damage to Lead Wires caused by the Stripping Tool T64725. Immediately halt Stripping Operation if damage to Lead Wires occurs.

CONTROL PLAN 4Ws					Rev: A	Date:
Part #: 19976		Specification/Drawing: Tubing Adapter		Mfg Approval:		
Process/Part Name: Adapter Bonding Process		Sponsor Approval: Dave				
STEP #	PROCESS STEP/ DESCRIPTION	SPECIFICATIONS AND CONTROLS				OUT OF CONTROL PLAN (OCAP)
		SPECIFICATION	MEASUREMENT	SAMPLING/ RESPONSIBILITY / FREQUENCY	CONTROL METHOD	
1	Cut tubing to length	24 ± .5 inches	Fixture 264-C	Quality, 3X/shift	Laser Mic, Time/Date/Value	Report OOT Parts to Operator & Engineer daily
2	Apply Adhesive to Tube	7 grams minimum	Applicator Equipment	Operator, Start of Day, 5 samples	Calibrated scale S-22, Record Daily test Values	Technician for Applicator PM
3	Put Cap in Bond Fixture, insert tube	0.8 + 0.0/-0.08"	Calibrated Probe	Operator, 6X/day or as needed	Record all Measurements when made	Contact Technician/Engineer
4	UV Cure Adhesive	4 minutes	Oven Timer	Technician, Check Monthly	Preventive Maintenance & Calibration	Equipment Lockout
5	Pull Test	20 pounds tensile	Pull Tester PT-3A	Technician, Check Monthly	Preventive Maintenance & Calibration	Equipment Lockout

MANAGEMENT DEBRIEF:

Ask: Have you completed a 4 W's plan? (homework assignment)

Share: 1 improvement and 1 control tool you've used and the impact each had

Ask: What step are you at on your Certification Application Project?

Ask: When will you take the test for this certification?



THE MANAGERS POST-TRAINING 3-STEP SUSTAINMENT PLAN

People attend training and experience a burst of better performance and more effective working relationships. The problem is that this doesn't last. Avoid the starts and stops by implementing a sustainment plan.

STEP 1: DEBRIEF

Review their Green Belt Project, discuss what went well and what didn't. Ask what you can do to help them continue to practice what they learned.

STEP 2: RECOGNITION

Find three opportunities over the next 60 days to recognize how they have become a better problem solver. For example, if you observe them quantifying a gap in performance, recognizing there is no standard, or determining the root cause of the issue, recognize them for it. The key here is to connect the learning from the training to their behavior change.

Over the next 90 days, meet with them three times so you can ask them how you can help them continue to apply what they learned.

STEP 3: CONTINUING EDUCATION

Identify one educational resource for continued learning and schedule time for them to consume it. Consider Podcasts, Webinars, and Peer Groups as ways the learning can continue. A few resources we suggest include:

- [The Manufacturers Alliance Podcast](#)
- [Educational Webinars](#)
- [Benchmarking Peer Groups](#)

To your sustained success,

Kirby Sneen, President
Manufacturers Alliance

