



# **Red or White?**

## ***Decisions for Selecting Wine and Improving Quality***

*Presented by*

**Bill Bellows**

President

In2:InThinking Network, Canoga Park, CA, Email: [bill@in2in.org](mailto:bill@in2in.org)

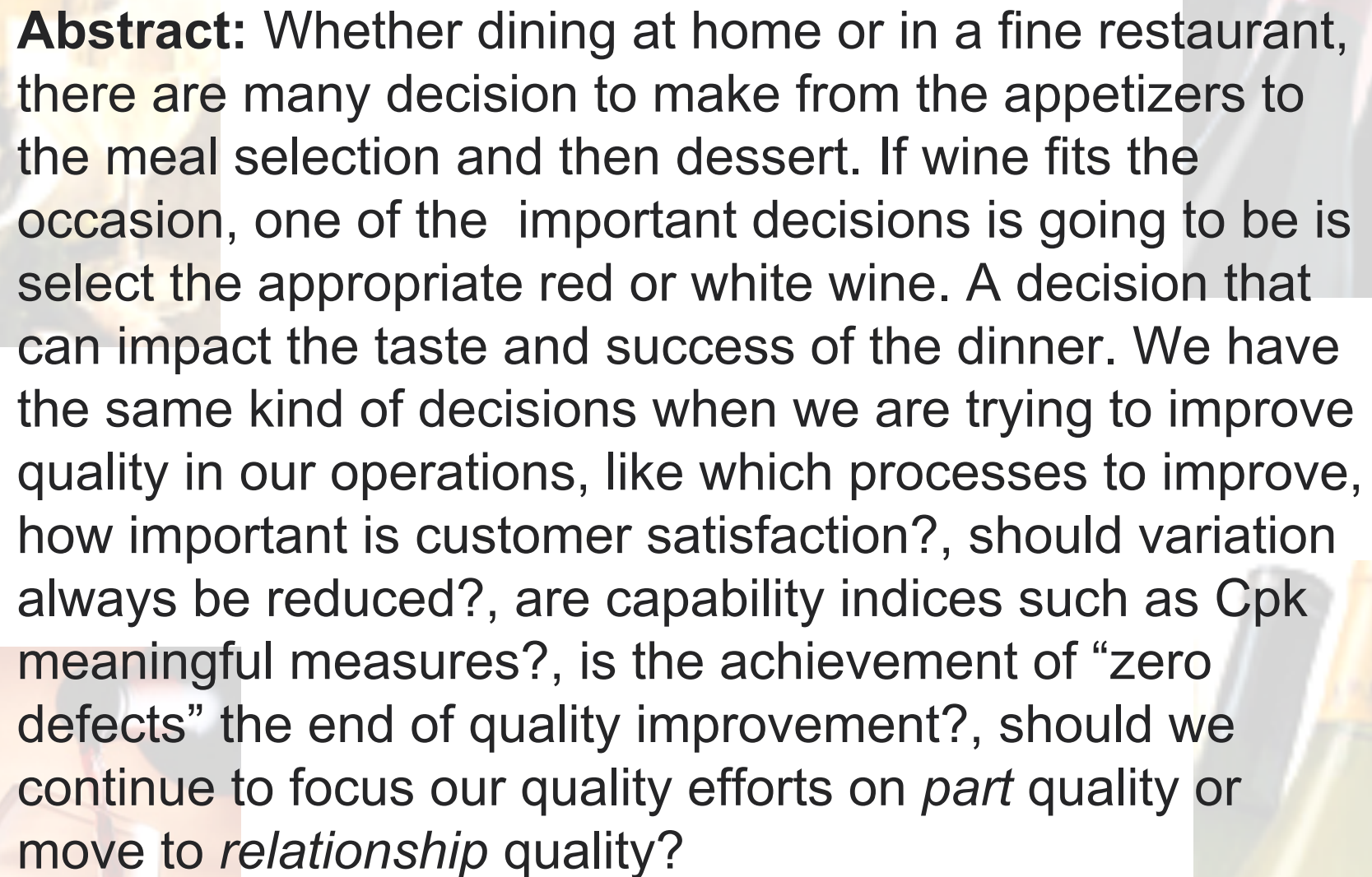
Associate Technical Fellow & Lead

Enterprise Thinking Network, Pratt & Whitney Rocketdyne

Canoga Park, CA, Email: [william.bellows@pwr.utc.com](mailto:william.bellows@pwr.utc.com)



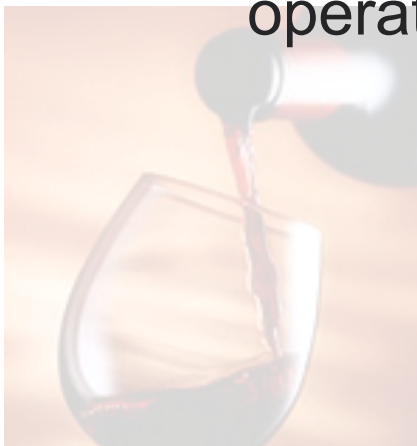
October 11, 2007  
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Granada Hills, California

The background of the slide features two semi-transparent images. On the left, there is a close-up of a wine glass filled with red wine, with a bottle neck visible behind it. On the right, there is a collection of several wine bottles of different colors (dark, light, and white) standing together. The text is centered over these images.

**Abstract:** Whether dining at home or in a fine restaurant, there are many decision to make from the appetizers to the meal selection and then dessert. If wine fits the occasion, one of the important decisions is going to be is select the appropriate red or white wine. A decision that can impact the taste and success of the dinner. We have the same kind of decisions when we are trying to improve quality in our operations, like which processes to improve, how important is customer satisfaction?, should variation always be reduced?, are capability indices such as Cpk meaningful measures?, is the achievement of “zero defects” the end of quality improvement?, should we continue to focus our quality efforts on *part* quality or move to *relationship* quality?

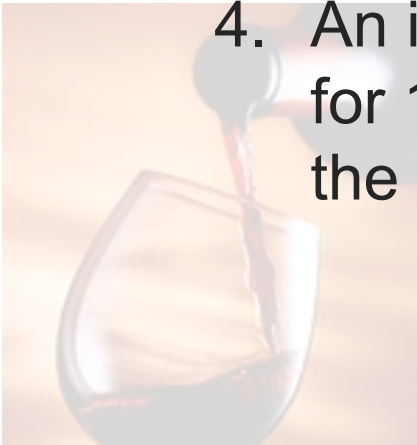


**Abstract:** The aim of this presentation is to reflect on the decisions made to select a bottle of wine for dinner and link this to the traditional decisions made in quality improvement efforts, in this way, we can improve the analysis and execution of our quality improvement projects, gaining the operational advantage to our organizations.





# Takeaways

1. The limitations of the popular focusing on customer satisfaction and striving to reduce variation
  2. The opportunities for moving from the "Old Economics" of the quality of *parts* to the "New Economics" of the quality of *relationships*
  3. Why Genichi Taguchi's *Quality Loss Function* is a "better description of the world"
  4. An invitation to learn more about efforts underway for 10 years at Pratt & Whitney Rocketdyne to bring the ideas above in to daily practice
- 





# Aim

Introduce the *potential energy* of  
integrating the management  
theories and thinking of

Dr. Genichi Taguchi



Dr. W. Edwards Deming



Dr. Edward de Bono



Dr. Russell Ackoff

and many others...





# Agenda

- Quiz
- Present State
- Future State
- Better Value
- What's Next?





# Quiz



# Alligators

What is the leading use of alligator skin  
the United States today?



# Automobile Tires

Who makes the best automobile tires in the world today?





# Wine

Q: Are you having a glass of wine?

A: Yes

Q: Why don't we buy a bottle?

A: Sure

Q: Red or white?

A:








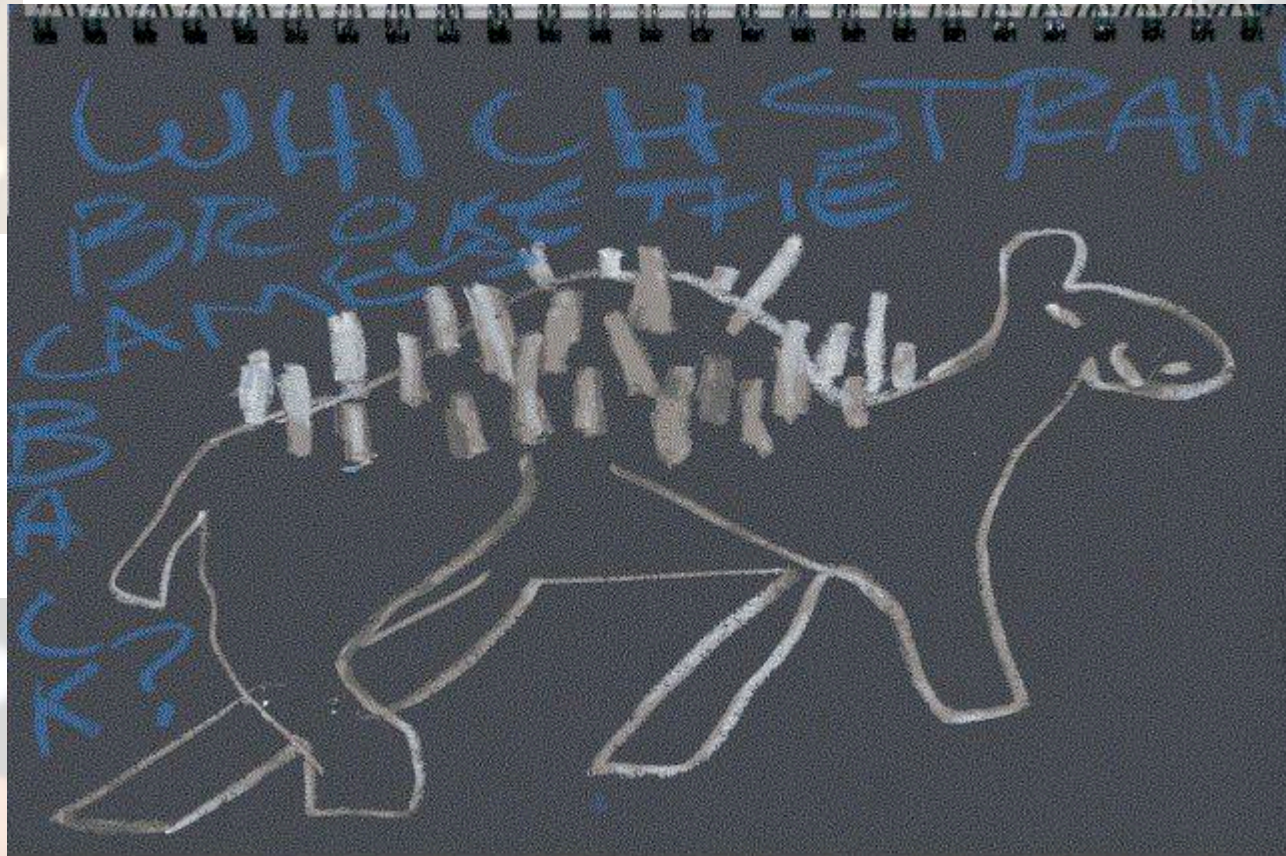


# Good

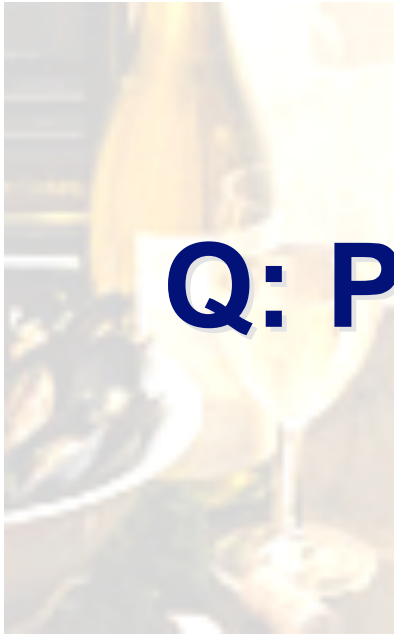
How much time is spent discussing parts which are good and arrive on time?



# Q: The Last Straw



# Q: Pulse

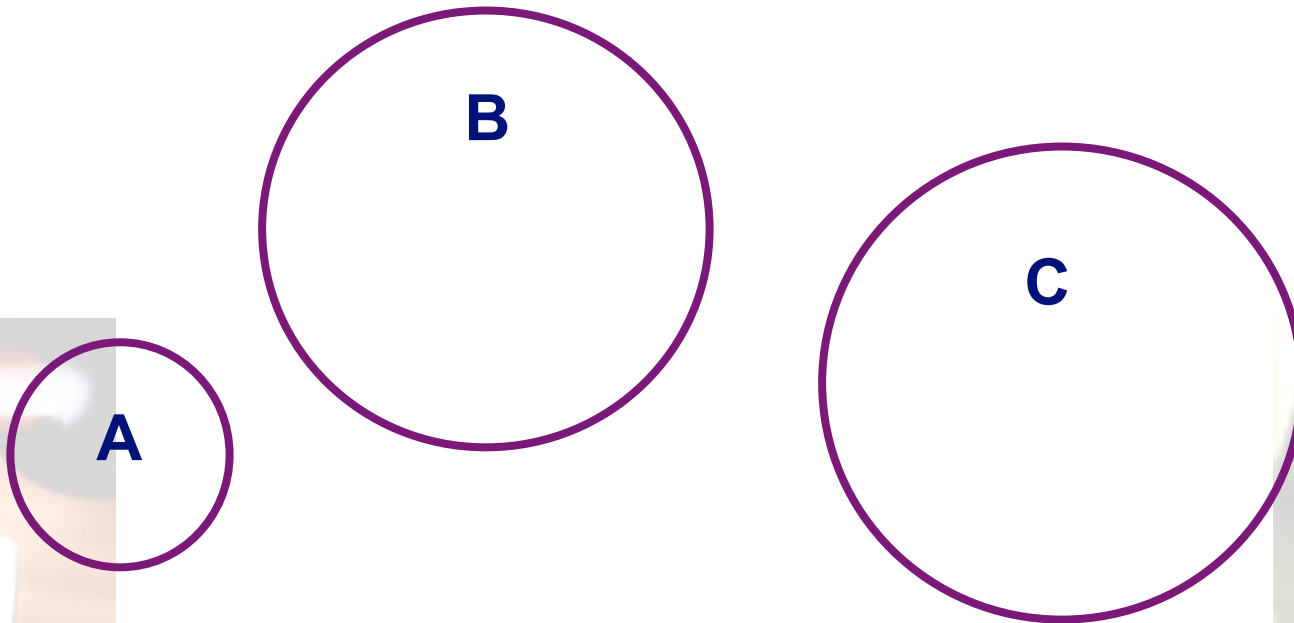






# Q: Sorting Circles

Which 2 of these 3 circles are closest to having the same diameter?



# The Boeing Company - Vision 2016

- Core Competencies

- detailed customer knowledge
- large-scale systems integration
- lean enterprise

- Values

- leadership
- integrity
- quality
- customer satisfaction
- people working together
- a diverse and involved team
- good corporate citizenship
- enhancing shareholder value



# Expectations

Value

Expectation

Disappointment



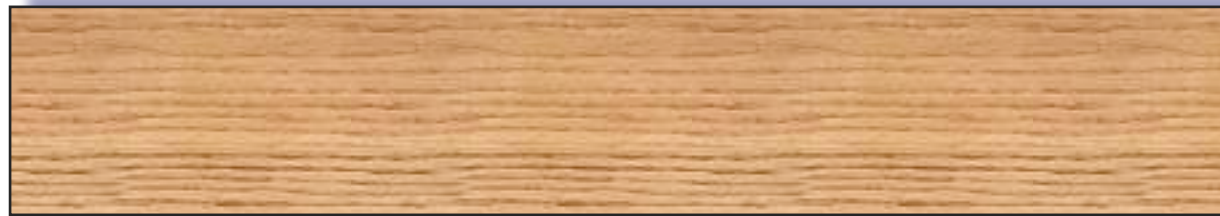
# Expectation Dynamics

Value



# Q: Cutting Wood

Given a piece of wood that will be cut into 2 pieces....



how many lines will be drawn across the top face before the cut is made ?

# Cutting Wood

target



# Cutting Wood



**target**

# Q: Sorting Circles

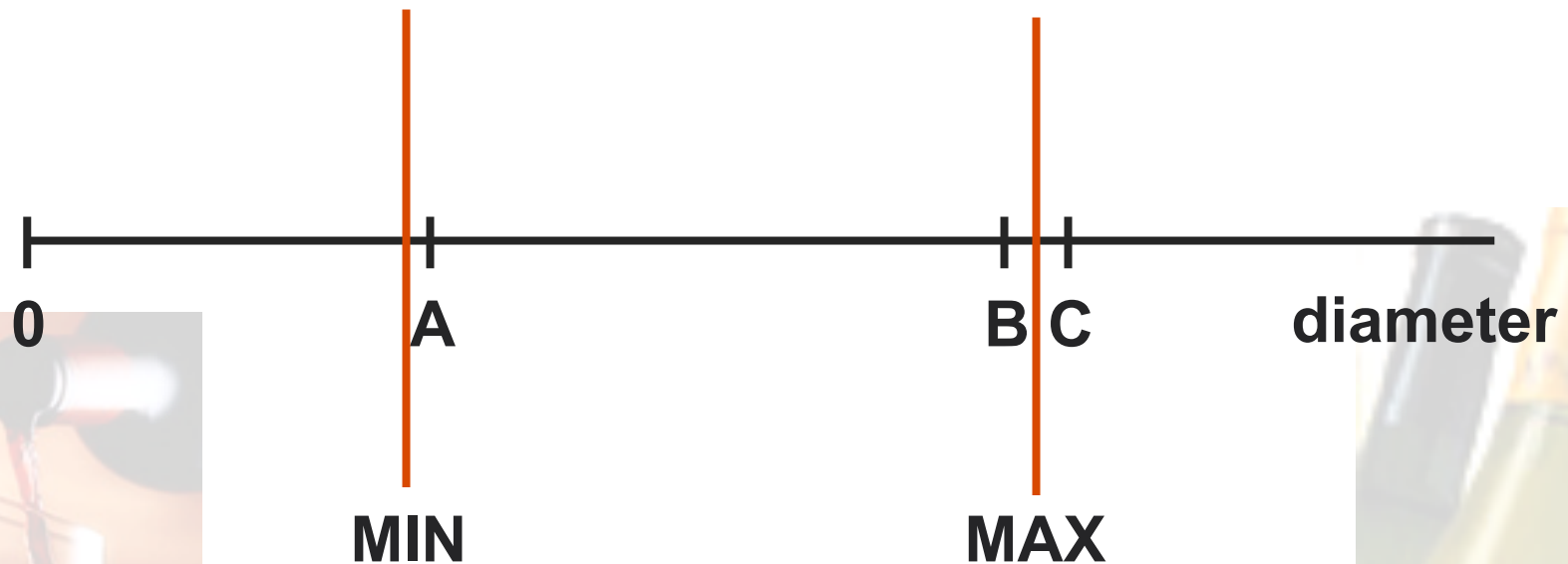
Which 2 of these 3 circles are closest to having the same diameter?





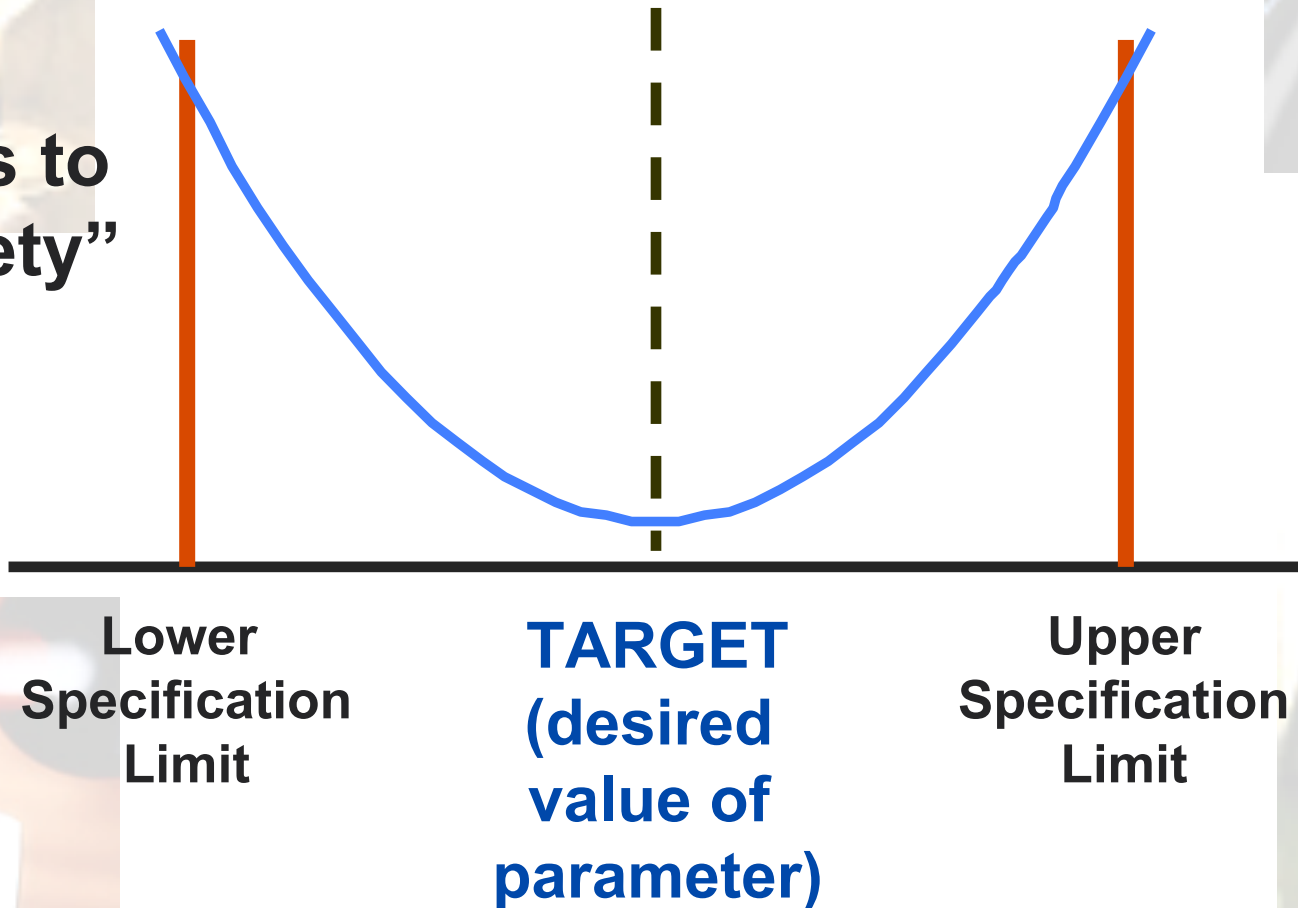
# Decisions Decisions

Which 2 of these 3 circles are closest to having the same diameter?



# Taguchi's Quality Loss Function

“Loss to Society”





# Taguchi on Quality Loss

“Quality is the loss a product causes to society after being shipped, other than losses caused by its intrinsic functions.”

Dr. Genichi Taguchi



Source: *Introduction to Quality Engineering*, Dr. Genichi Taguchi



# Perception & Thinking

“How the world we perceive works depends on how we think.”

The world we perceive is a world we bring forth through our thinking.”

H. Thomas Johnson

Source: Profit Beyond Measure, H. Thomas Johnson, 1999








# Present State





# Philip Crosby on Quality

- “Zero defects is another way of saying ‘do it right the first time’”
  - Quality is defined as conformance to requirements
- 
- 
- 

Source: Let's Talk Quality, P. Crosby, 1989





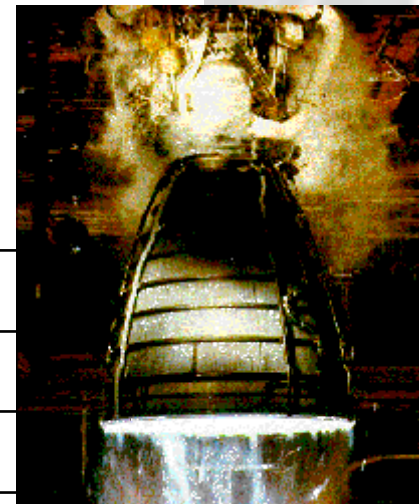
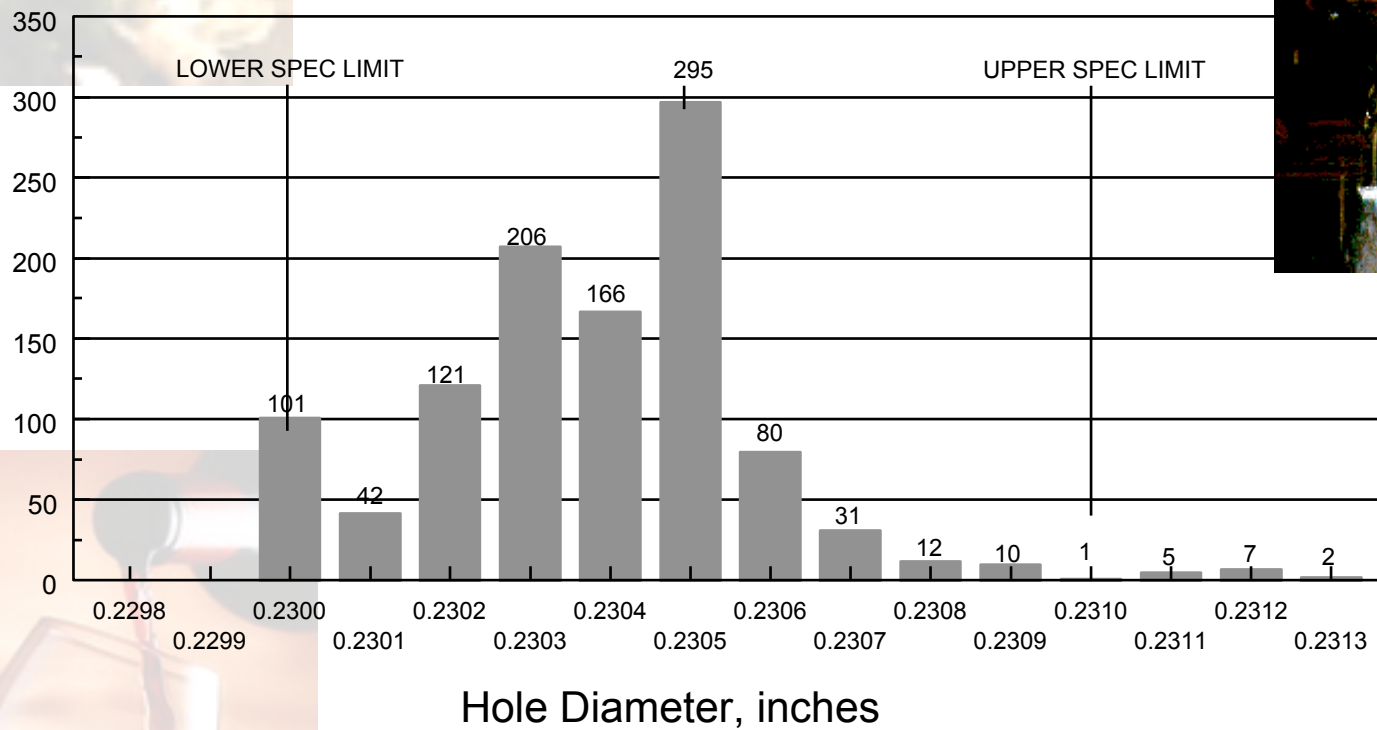
# Crosby on the Absolutes of Quality Management

1. Quality is defined as conformance to requirements, not as 'goodness' nor 'elegance'.
2. The system for causing quality is prevention, not appraisal.
3. The performance standard must be Zero Defects, not 'that's close enough'.
4. The measurement of quality is the Price of Non-conformance, not indices.

Source: *Quality is Free*, Philip Crosby, 1979

# Defects

Frequency



# Present State

- Driving Change
- Reliance on Reforming
- Reducing Variation, Cost, Waste, Inventory, etc
- Talk about “Working Together”
- Striving for “Zero Defects” and “Zero Waste”
- Continuous Improvement
- Using Metrics for Alignment\*

**\*without a thinking transformation**



# Future State



# Assumptions

- A better way to operate an organization is to invest resources with the ability to manage customer delight, satisfaction, and disappointment
- Better investment results from discovering opportunities to invest
- The discovery of opportunities for investment is limited by how thinking is conditioned



**What is needed ?**






Thinking that  
promotes  
***better***  
discovery





# InThinking

InThinking is about a transformation of the ways people think into effective predetermined patterns and sequences of thinking. The organization of thinking itself and the awareness that there is a choice of alternative ways of thinking when creating better solutions, presents a significant and exciting departure from traditional approaches.





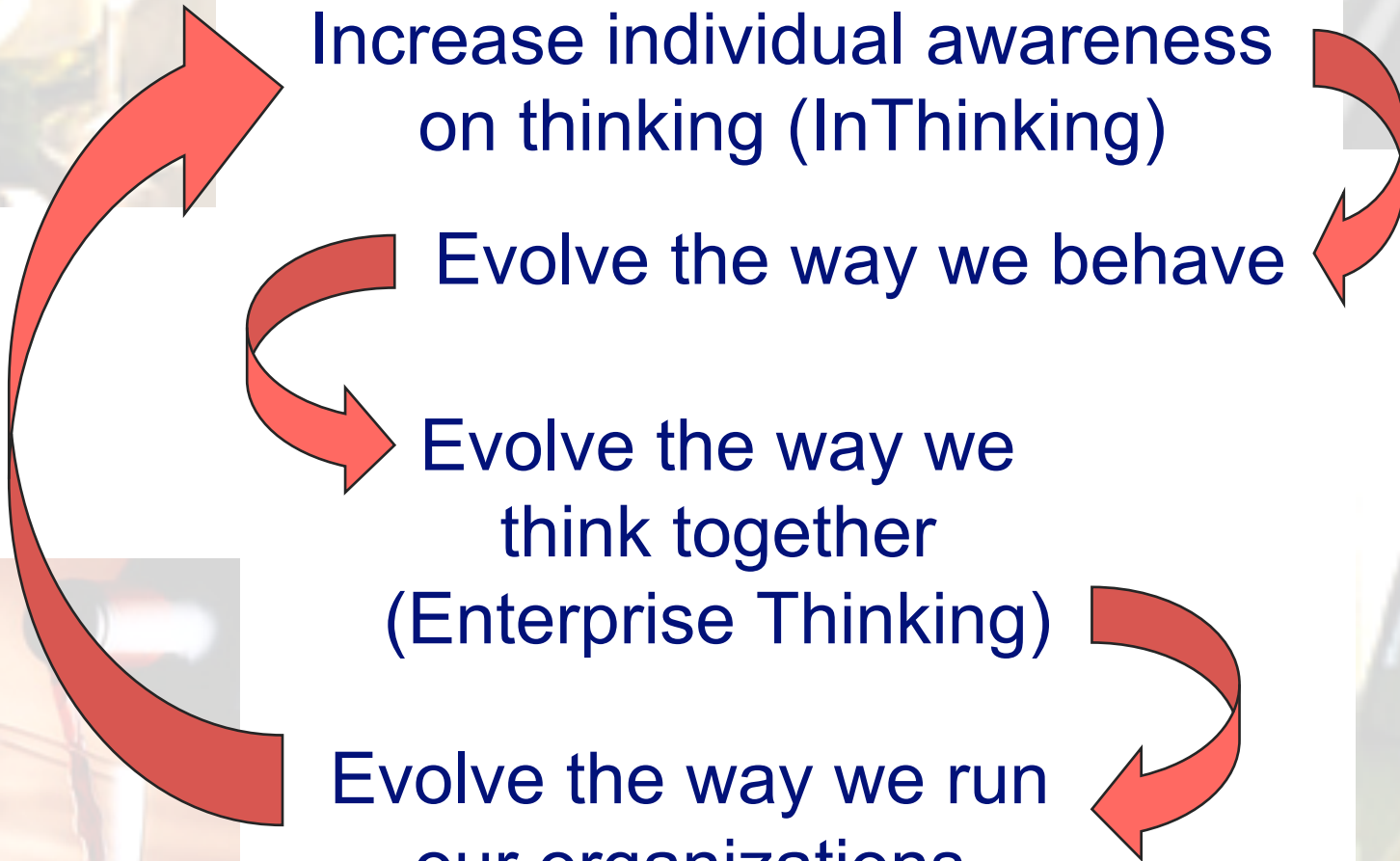
# InThinking & Enterprise Thinking

Increase individual awareness  
on thinking (InThinking)

Evolve the way we behave

Evolve the way we  
think together  
(Enterprise Thinking)

Evolve the way we run  
our organizations





The background of the slide features two vertical panels of laboratory glassware. The left panel shows a close-up of a glass flask containing a yellow liquid, with a blurred background of other glassware. The right panel shows a collection of glass bottles and flasks, some containing liquids of different colors (yellow, green, and clear), arranged in a slightly overlapping manner. The overall aesthetic is scientific and professional.

# In2:InThinking Network

The In2:InThinking Network was formed in 2001 by a group of students of the work of W. Edwards Deming and related theorists. The **aim of our network** is to make thinking about systems, variation, knowledge, and psychology, and their interaction – which comprises Deming's System of Profound Knowledge <sup>tm</sup> - more conscious. We believe that such thinking about thinking, which we call "inthinking," will allow people to better perceive relationships and interdependencies in human endeavors, and consequently act to make those endeavors more valuable, more satisfying, and more joyful.



# **Our Forums...**

**2002 - Creating New ROIs - Transforming the Economics of the 21st Century**

**2003 - What's New? What's Next? –  
Better Thinking for a Better Future**

**2004 - Making a Difference From Where You Are –  
Better Thinking For a Better Future**



**2005 - Daring to Lead - Influencing Better Thinking  
for a Better Future**



**In2:InThinking Network**



# **Our Forums...**

**2006 - Daring to Explore –  
Creating Possibilities Together**

**2007 - Passion Flowing In2 Purposeful Action –  
Unleashing the Power of Us**

**2008 – Transforming My Space In2 OurSpace –  
Developing Our Uncommon Knowledge**



**In2:InThinking Network**

InThinking Network

# **2005 In2:IN Forum: “Daring to Lead”**



**In2:InThinking Network - [www.in2in.org](http://www.in2in.org)**

# Future State

- Leading Transformation
- Use of Reformation and Transformation
- Resource & Relationship Management (Striving for Balance)
- Thinking & Learning Together - Then Working Together
- Continuous Investment
- Using Thinking for Alignment
  - InThinking and Enterprise Thinking



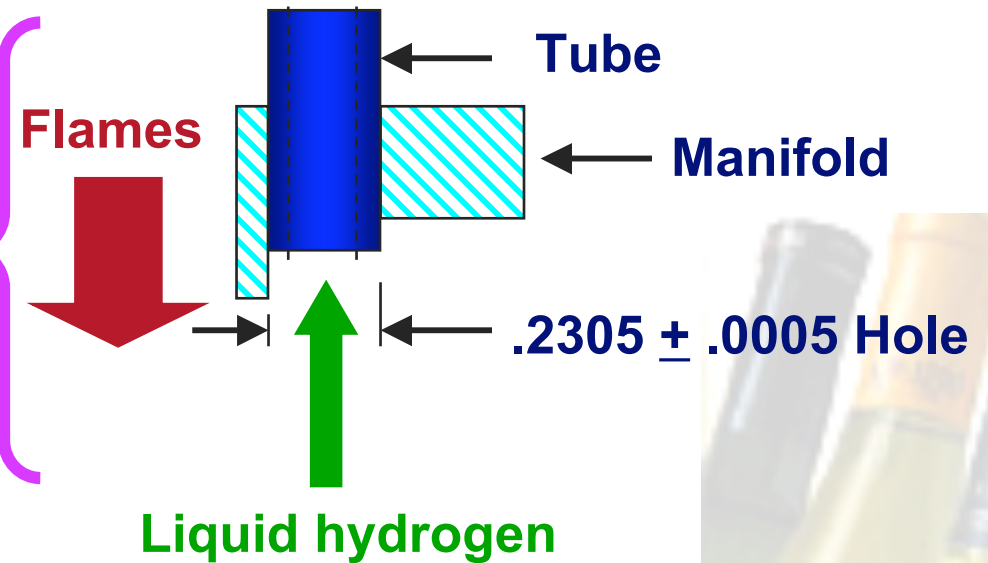
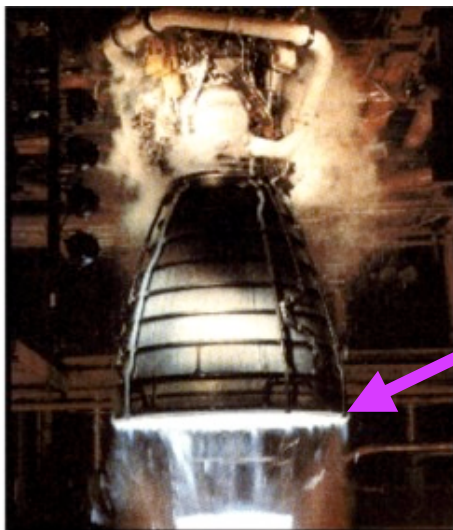
# Better Value





# Better Value – Tube Fit in Hole

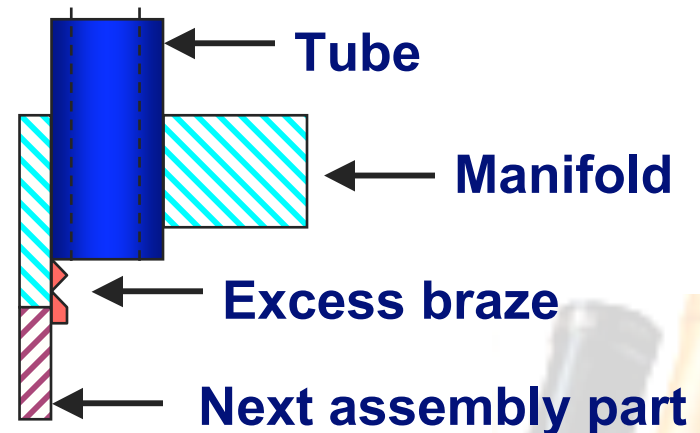
Consider a tube fit into a hole



# Better Value – Tube in Hole - Next Assembly

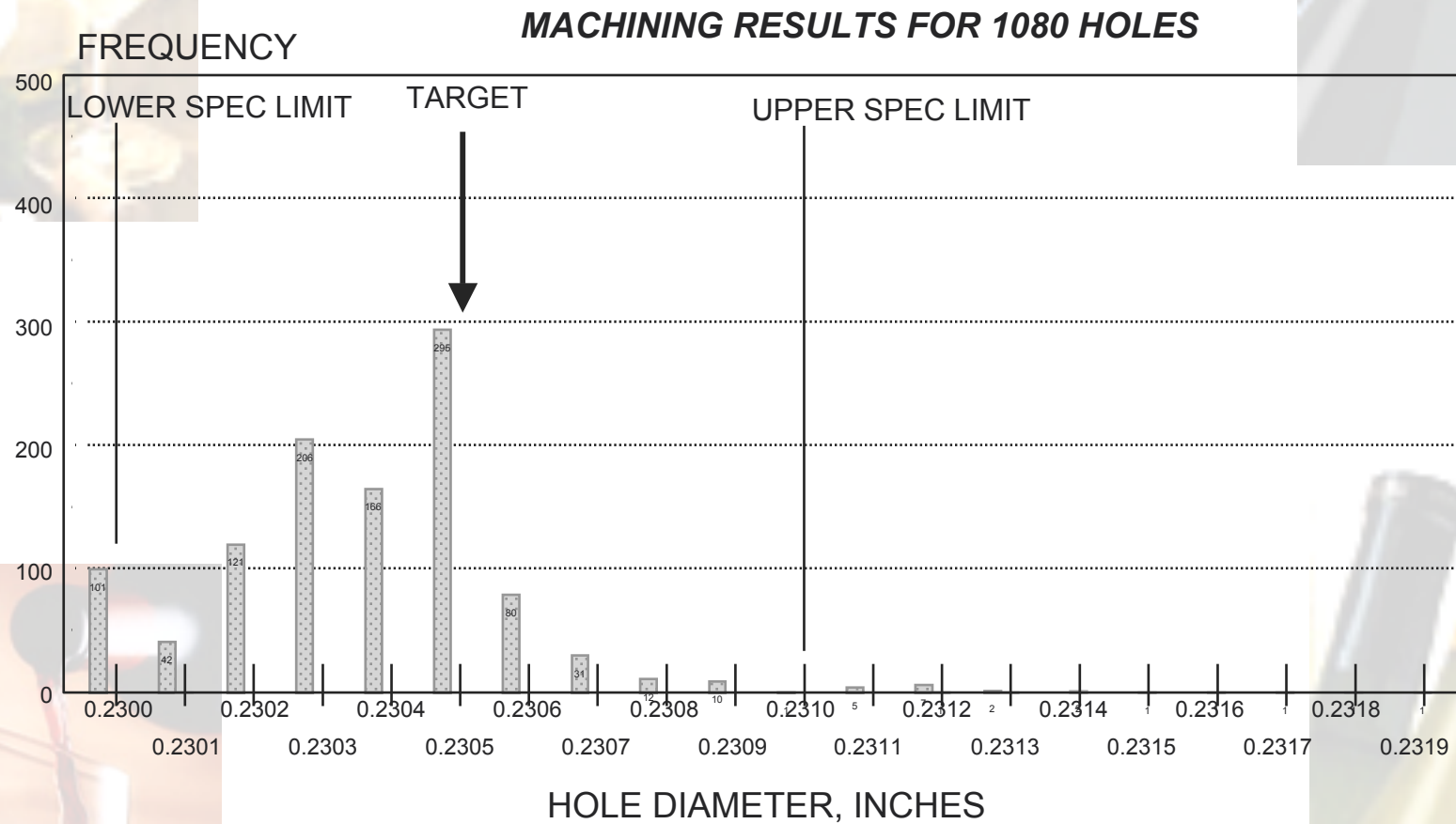
## Traditional Approach

- Ream/ rework holes
- Braze flow thru holes
- Crack welds
- Add grind operation
- Add etch operation
- Add better etch operation



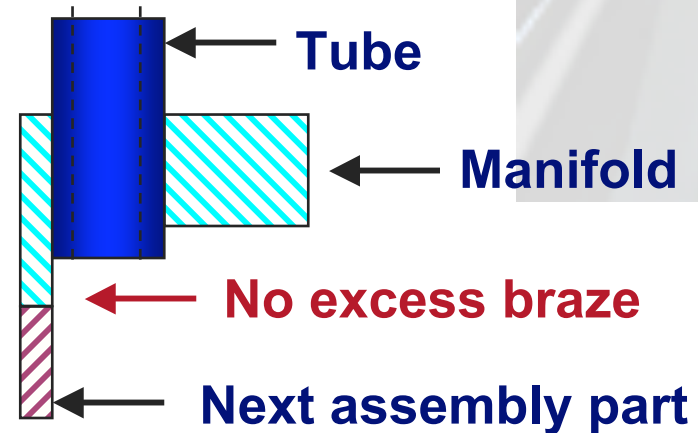


# Better Value – Drilled Hole Data



# Better Value – Tube in Hole - Next Assembly

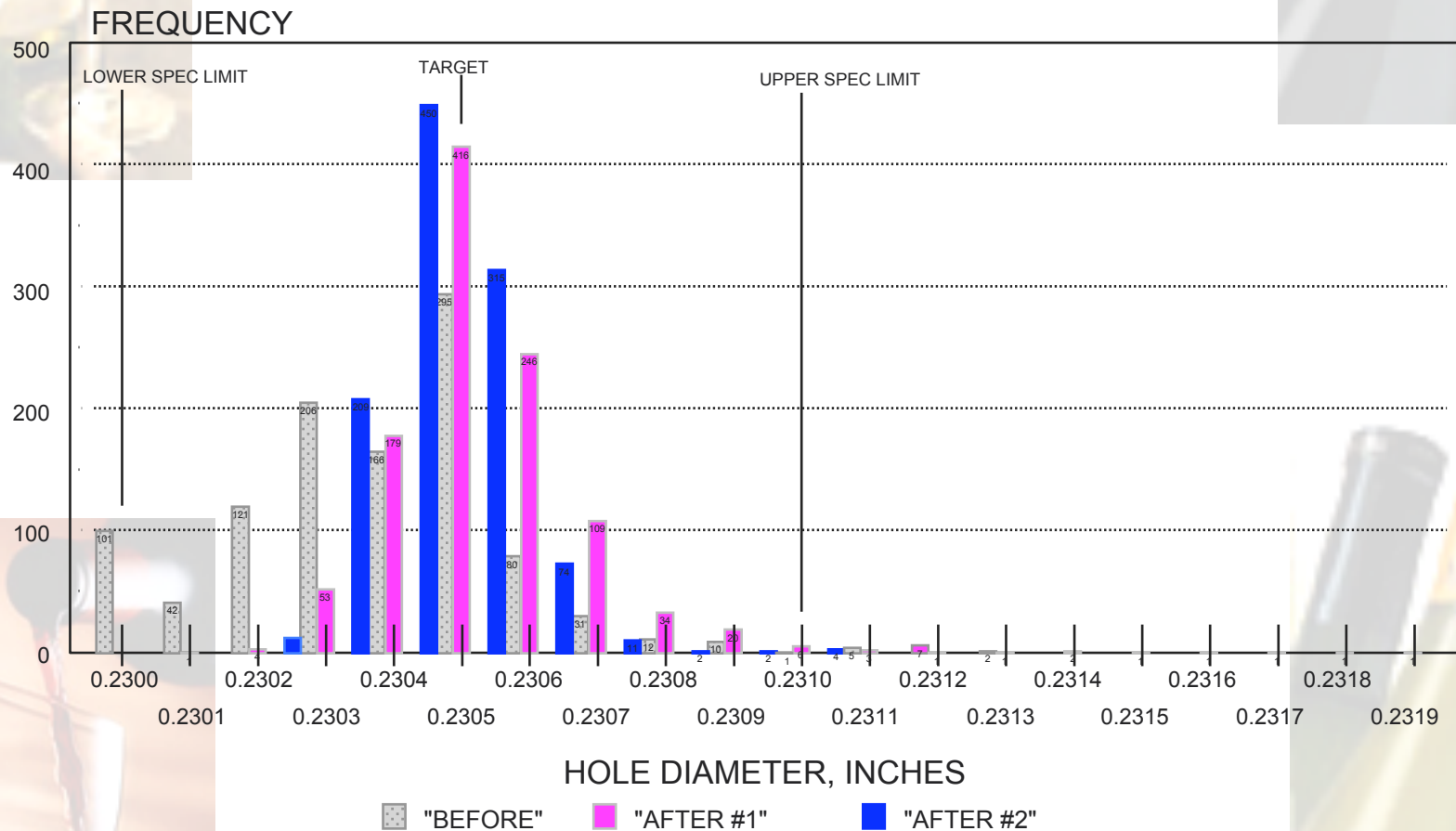
- **Traditional Approach**
- Ream/ rework holes
- Braze flow thru holes
- Crack welds
- Add grind operation
- Add etch operation
- Add better etch operation



- **Better Approach**
- Improve hole drilling
  - To target
  - Better distribution
- Successful first-cycle braze
- No excess braze

# Better Value – Drilled Hole Data Post Taguchi Experiment

*MACHINING RESULTS FOR 1080 HOLES - "BEFORE" & "AFTER"*






# What's Next?

- Thinking Together
- Rethinking “Working Together”
- Rethinking “Learning Together”
- Rethinking “Management”
- Rethinking “Leadership”
- Rethinking “Interchangeable parts”
- Rethinking ???





# Imagine the Possibilities...

- when operating in an “Enterprise Thinking” environment
  - if we could develop a broader appreciation of “continuous and connected learning”
  - if we could develop a deeper appreciation of “*working together*”, “*learning together*” and “*thinking together*”
- 
- 
- 



# Imagine the Possibilities...

- and the markets we could create

Working Together

Investing Together

Designing Together

Building Together

Learning Together

Thinking Together

Leading Together



# Takeaways

1. The limitations of the popular focusing on customer satisfaction and striving to reduce variation
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