POKA-YOKE
MISTAKE PROOFING CUSTOMER FRIENDLY FORMS

Poka-Yoke Your Forms Agenda

- Defining Poka-Yoke
- Examples of Poka-Yoke
- Review of Reading Levels
- Steps to Collect Data for Forms
- Tips to Improve your Forms
- BREAK
- Putting the learning to work
  - Exercise: Poka-Yoke a form in groups
  - Exercise: Brainstorm other Poka-Yoke ideas
Reactions

- “What an idiot!”
- “Most people know enough to remove the hose before they drive off - why should we change things for one fool?”
- “Maybe this is a good way to screen drivers, as he is clearly not smart enough to be on the road”
- “There’s just nothing that can be done to help some people” or

“What can we do to prevent that mistake from ever happening again?”
Solution

Equip gas pumps with hose couplings that break-away and quickly shut-off the flow of gasoline.

Three Rules for Defect Reduction

<table>
<thead>
<tr>
<th>Your Supplier</th>
<th>You</th>
<th>Your Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don’t accept defects</td>
<td>Don’t make a defect</td>
<td>Don’t pass on a defect</td>
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**Poka-Yoke**

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*Don’t allow any defects to occur in the first place*

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**Poka-Yoke Definition**

- **Poka-yoke** is a Japanese term that means "mistake-proofing".
- To correct mistakes before they happen!

*Mistake Proofing is everywhere from our home, to our car, to our work!*

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In our Home: No Mess to Clean

Markers don’t write except on special paper. No more ruined clothing, stained fingers or messy walls.

No Burns to Heal

This Stove burner turns off automatically when a pot or pan is removed.
No Lost Cell Phone to Find

Can’t get dressed for work without finding it

No Items to Replace

The trash opening is smaller than the tray
No Watery Stuff to Soak Your Bun

No Fingers to Sew Back On
Poka Yoke your FORMS

- How many of you use forms as a part of your work?
- How many of you have to fill out forms as a part of your work?
- Are all forms created equal?
- Does this look familiar!

No Errors on the Form to Re-do?

- You are a semi-monthly depositor making a payment in accordance with the Accuracy of Deposits Rule. See section 11 of Pub. 15 (Circular E), Employer’s Tax Guide, for details. If this case, the amount of your payment may be $2,500 or more.
- Otherwise, you must make deposits by electronic funds transfer. See section 11 of Pub. 15 (Circular E) for deposit instructions. Do not use Form 941-V to make federal tax deposits.
- If you pay an amount with Form 941 that should have been deposited, you may be subject to a penalty. See Deposit Penalties in section 11 of Pub. 15 (Circular E).

Specific Instructions

Box 1—Employer identification number (EIN). If you do not have an EIN, you may apply for one online. Go to IRS.gov and click on the Apply for an EIN Online link. You may also apply for an EIN by calling 1-800-829-4933, or you can fax or mail Form SS-4, Application for Employer Identification Number. If you have not received your EIN by the due date of Form 941, write “Applied For” and the date you applied in this entry space.

Box 2—Amount paid. Enter the amount paid with Form 941.

Box 3—Tax period. Darken the circle identifying the quarter for which the payment is made. Darken only one circle.

Box 4—Name and address. Enter your name and address as shown on Form 941.

- Enclose your check or money order made payable to the “United States Treasury.” Be sure to enter your EIN, “Form 941,” and the tax period on your check or money order. Do not send cash. Do not staple Form 941-V or your payment to Form 941 (or to each other).
- Detach Form 941-V and send it with your payment and Form 941 to the address in the Instructions for Form 941.

Note: You must also complete the entity information.
Government Forms

- Almost every government process involves a form
- During scoping, almost every Kaizen team is frustrated that users of their services can’t complete a simple form (What an idiot!)
- During the Kaizen event almost every team identifies waste in the area of the process that involves forms.
- More than 95% of State of Ohio Kaizen Event teams to date have implemented improvements that reduce mistakes, delays and frustration around forms.

Poorly designed forms can waste up to 28% of staff time.

Love/Hate Relationship with Forms

<table>
<thead>
<tr>
<th>Government Loves</th>
<th>Citizen’s Hate</th>
</tr>
</thead>
<tbody>
<tr>
<td>The more information received the better</td>
<td>The longer the form the more frustrating and intrusive</td>
</tr>
<tr>
<td>The bigger the words the more impressive</td>
<td>The bigger the words the more likely to confuse</td>
</tr>
<tr>
<td>Completely familiar with all the jargon and issues</td>
<td>Unfamiliar</td>
</tr>
</tbody>
</table>

How readable are your forms

- Have you ever tested the reading level of your forms, letters or website?

Quiz Time!

- Question: What grade level is the Cleveland Plain Dealer Written?
  - Answer: 11th Grade
- Question: What grade level is the New York Times Written?
  - Answer: 10th Grade
- Question: What grade level are Time and Reader’s Digest Written
  - Answer: 9th Grade

Quiz Time!

- Question: What grade level are John Grisham’s and Stephen King’s writing:
  - Answer: 7th Grade
- Question: What grade level is Mark Twain’s “Huckleberry Finn” Written
  - Answer: 7th Grade
- Question: What grade level are most State Forms, letters and websites written?
  - Answer: College Level and Beyond

Reading Levels: Why you should care

According to the National Adult Literacy Survey

- The average adult in the U.S. reads at the 7th grade level
- Nearly 50% read below the 6th grade level
- Over 80% read below the 10th grade level.

The largest selling magazines, newspapers and books are written at lower grade levels.
Reading Levels: Target

- Experts recommend that documents for the general public be written at the 7th-grade level.
- Documents about health, medicine, or safety should be written at the 5th-grade level.

“I notice that you use plain, simple language, short words, and brief sentences. That is the way to write English—Stick to it; and don’t let the fluff and flowers and verbosity creep in.” – Mark Twain

How to check the reading levels

Microsoft Word has reader level features
- Go to the Spelling and Grammar Page of the Tools/Options Menu and checking “Show Readability Statistics.”
- Microsoft Word then will display the box shown on the left after it finishes checking spelling and grammar.
Microsoft Readability Statistics

Key Stats:
- Flesch Reading Ease (Higher is better)
- Flesch-Kincaid Grade Level (Lower is better)

Understanding Readability Scores

- Looks at # syllables and # words per sentence
- Flesch Reading Ease Test: the higher the score, the easier it is to understand. You want the score to be between 60 and 70.
- Flesch-Kincaid Grade Level Test: rates text on a U.S. school grade level. For most documents, aim for a score of approximately 7.0 to 8.0.

Bulleted Lists are GREAT!
The need for DATA

Data is our friend!

- We often know that a form is flawed (re-work, missing information, duplication, phone calls, complaints, confusion).
- But we never collect the data to know WHY it isn’t working.
1st Step to Mistake-Proofing: **Collect Data**

- Identify Errors by type or question
- Create checklist to breakdown errors by type or by question
  - Or
- Create a Concentration Diagram

**Talk to your customers!**
Concentration Diagrams

• Concentration Diagrams are great ways to collect data for your forms.
• Basketball example:

Concentration Diagram for forms

• Put data in a visual form for all to see
• Entire team sees exactly what is being tracked
• Visibility helps employees prioritize issues and develop ideas to eliminate root causes
2nd Step to Mistake-Proofing: **Display Data**

- Create Pareto Diagram and start with big leg
  - Or
- Create a Pie Graph
  - Or
- Create a Bar Graph

3rd Step to Mistake-Proofing: **Analyze Data**

- What percentage of times is the form completed with no errors?
- How many errors are made?
- Review how many, how often, what kind and how long.
- How much time is spent reviewing the form and correcting errors
- Look for Root Causes
3rd Step to Mistake-Proofing: **Redesign Form**

Redesign form using Poka-Yoke methodology.
- Review missed questions with employees and with customers
- Review statute, code, rules to see if you really, Really, REALLY need to ask the question
- Develop or Benchmark a good checklist for creating useable forms and ask every question before form is approved

First Step to Mistake-Proofing Forms: **Test/Implement Solution**

- Test / Implement solutions
- Continue to track errors.
Tips to Create a Better Form

- Tips and techniques to improve forms.

Potential Improvements

- Online forms can’t be sent if information is left blank.
Potential Improvements

- Create an FAQ or checklist to accompany the form that explains to customers exactly what is needed. (Make most frequently missed questions the first thing on the checklist)

Potential Improvements

- Explain questions that may seem unnecessary
Potential Improvements

- Explain items with visuals if possible:

![Image](image_url)

- Eliminate unnecessary typing with pull down menus if online, or boxes to check if a paper form
- With pull down menu, ensure most common answers are first
Potential Improvements

- The most important questions are highlighted or in a prominent location

Potential Improvements

- Remove unnecessary questions
- Highlight required fields
- Other Examples of Improvements?
Remember This?

This revised form identifies the nature of the change in the columns and indicates unnecessary signatures in gray.

Try This:
Poka Yoke can be Phased In

Think Rail Road Crossings:
• We Started with this:

Then Evolved to this:

• And even to this the Ultimate Poka Yoke:
Obeying this ----

Means you can avoid this
EXERCISE: Review the Form

1. Collect the data and identify the numbers and types of errors being made on the form.
2. Prioritize most common errors
3. Consider the root causes of the errors
4. Develop Poka-Yoke ideas to prevent future errors
5. On a flip chart page, draft a new form that incorporates those ideas