Best Training Practices Using the “Dirty Dozen”

Lack of Communication
Complacency
Lack of Knowledge
Distraction
Lack of Teamwork
Fatigue
Lack of Resources
Pressure
Lack of Assertiveness
Stress
Lack of Awareness
Norms

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First a Few Givens

- Over 80% of aviation accidents are due to Human Error
- Humans do not make these errors on purpose
- Training the person on how to avoid the error they don’t intend to make will lower the number of errors
- The “Dirty Dozen” are the contributing factors or preconditions to that Human Error

Train the person to recognize and understand the “Dirty Dozen” and there will be less errors
The Dirty Dozen

1. Lack of Communication
2. Complacency
3. Lack of Knowledge
4. Distraction
5. Lack of Teamwork
6. Fatigue
7. Lack of Resources
8. Pressure
9. Lack of Assertiveness
10. Stress
11. Lack of Awareness
12. Norms

Let's look at the contributing factors that can cause any one of us to make the error we don’t intend to make.

G. Dupont
1993
A Safety Net is a Regulation, Policy, Practice or Procedure which, if in place might break a link or prevent a link in the chain of events.

- The regulatory body controls the regulations
- The company controls the policies
- The individual controls the practice or procedures
Lack of Communication

- The failure to exchange information
- Seek first to understand, then be understood (*Learn to listen*)
- The “Mental Pictures” must match

**Safety Nets**

- Use logbooks, worksheets etc. to communicate and remove doubt.
- Discuss work to be done or what has been completed.
- Never assume anything.
The failure to communicate correctly can have serious, painful consequences.
Ouch!!!

What we had there was a

**Failure To Communicate**

For Communication To Occur

The Mental Pictures MUST Match

Not in WB
Complacency

- Self satisfaction resulting in a loss of awareness of the dangers
- The greater the competency of the person, the more common this contributing factor is
- The person will begin to see and hear what he/she expects to see and hear
Lack of Knowledge

- A lack of understanding or experience for the task at hand
- Can occur at any stage of a work career with constant changes
- Training is always a Safety net and a good investment
Lack of Knowledge

The Airline said that those were Barney's last words

Don’t let this be YOU

Not in WB
Distraction

- Anything that takes your mind off the job at hand
- Responsible for 15% of all human error
- Number one cause of forgetting
- Our mind can work faster than our hands
Lack of Teamwork

- A failure to seek and consider the input of others
- Becomes more common as a company grows
- Calls for trust, a common goal and communication
- Is a must for any SMS to succeed
Fatigue

- A loss of alertness and a feeling of tiredness that eventually ends in sleep
- The #1 contributor to error
- We (the industry) tend to underestimate the problem
- We (the individual) tend to overestimate our ability to deal with it
Fatigue?

"Only 12 more years and you’ll be retiring!"

Not in WB
"Sorry, but our new Mark Four “Fit For Work Indicator” indicates that you’re not thinking SAFETY today."

Fatigue?

Not in WB
Lack of Resources

- A lack of material or support to safely carry out the task at hand
- It is not uncommon, when times get tough for persons to be expected to do more with less
- One has to learn when to say NO if it affects Safety
The Dirty Dozen

8 Pressure

- The urgency of matters requiring immediate attention
- Most pressure is self pressure but the person fails to realize it
- Training must provide a model to help them recognize the true source of pressure
Now

THIS

is what real Pressure looks like

Not in WB
Lack of Assertiveness

- Failing to act in a bold and confident manner on Safety concerns
- Has caused many accidents where one person had knowledge but failed to share it
- Can be difficult to achieve in some cultures
The Dirty Dozen

10

Stress

- The subconscious response to the demands placed on a person
- The person often brings the stressor to work with them
- Their mind is never fully on the job
Lack of Awareness

- A lack of alertness and vigilance in observing
- Usually occurs to the very experienced
- Believe they are doing the right thing but have not thought it through
- Needs to ask more “What ifs”
This is NOT Lack of Awareness

MAINTENANCE HUMAN FACTORS

AWARENESS

CONCENTRATE....

..ON THE

BIG

PICTURE

Not in WB

Cartoon by Jake, Defence Aviation Safety Centre, RAF Bentley Priory
Lack of Awareness ???

Whatever made you think your cat would enjoy taking a shower with you?”
The Dirty Dozen

12 Norms

- Unwritten rules dictated and followed by the majority of the group
- Peer pressure and the desire to “fit in” are major influencers
- Not all norms are negative

Maintenance Dirty Dozen

1. Lack of Communication
2. Complacency
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9. Lack of Assertiveness
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12. Norms

Unwritten rules that are dictated and followed by the majority of a group

Use of a forklift saved 22 manhours to remove the engine and pyion together but sometimes damaged the rear pyion attachment fitting

“Never mind the Maintenance Manual. It’s quicker the way we do it here.”

Norms Safety Nets

- Identify the negative norms (they detract from an established Safety Standard)
- Work to eliminate negative norms
- Refuse to participate in negative norms
- Always follow manufacturers procedures or have the procedures changed
- A professional doesn’t take shortcuts
- Accentuate the positive norms

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This is an example of taking advantage of a Norm

Not in WB
The **Dirty Dozen** are simple and easy to understand

The **Dirty Dozen** are practical

The **Dirty Dozen** can apply to any occupation or even our daily lives

The **Dirty Dozen**, if trained correctly, will reduce human error
Thank you for the opportunity to speak to you today.

Any Questions?

If we can be of further assistance to you, contact us at:

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First Fatal Airplane Crash
September 17, 1908
Lt. Thomas Selfridge killed
1\textsuperscript{st} Fatality in Almost 5 Years