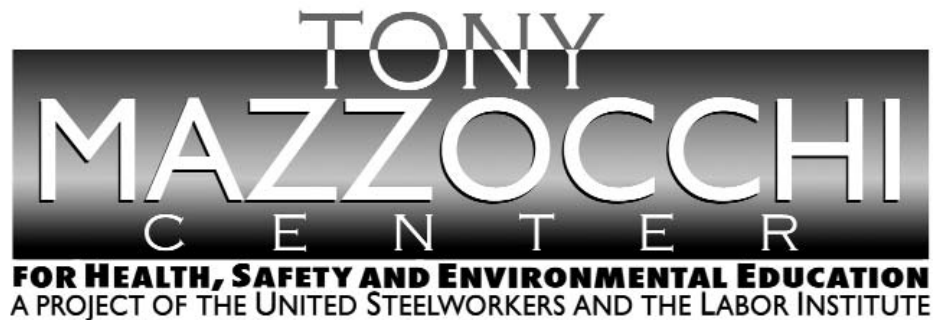


Kicked-back Material from Saw Blade Rips Off Finger Nail

Purpose

To share “lessons learned” gained from incident investigations through a small group discussion method format.

To understand “lessons learned” through a Systems of Safety viewpoint.



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Lessons Learned

Volume 07, Issue 101

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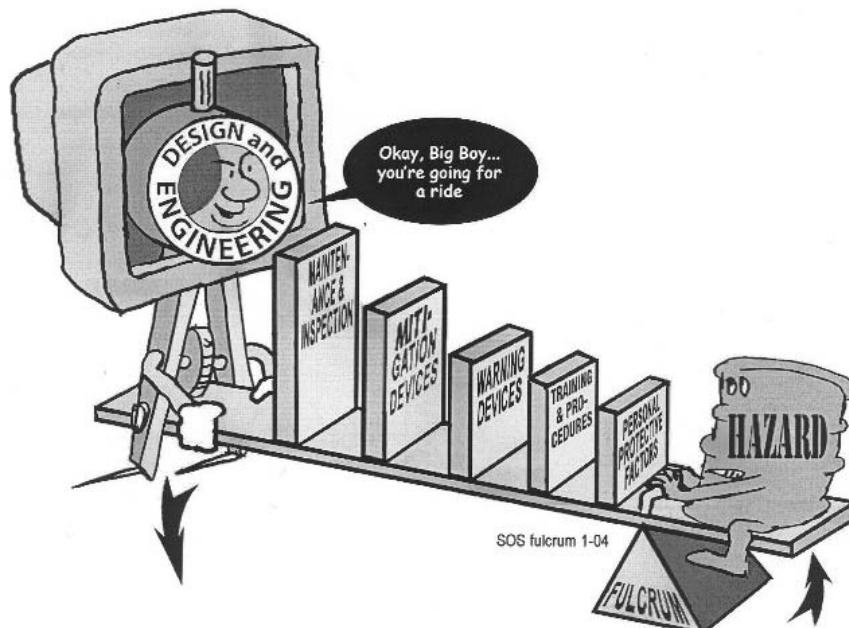
Background Information

Before beginning this Lessons Learned, please review this and the next page which contain information that will introduce the concepts of Lessons Learned and Systems of Safety.

Creating a safe and healthy workplace requires a never ending search for hazards that sometimes are not obvious to us. These hazards exist in every workplace and can be found by using various methods. Lessons Learned are just as the name suggests: learning from incidents to prevent the same or similar incidents from happening again.

Systems Are Not Created Equal: Not equal in protection and not equal in prevention.

Using our Systems Focus to uncover system flaws or root causes is only one part of controlling hazards. We also need to look at the systems involved to decide on the best way to deal with the problem. The most effective way to control a hazard is close to its source. The least effective is usually at the level of the person being exposed. The system of safety in which the flaw is identified is not necessarily the system in which you would attempt to correct the flaw.



Major Safety System	Design & Engineering	Maintenance & Inspection	Mitigation Devices	Warning Devices	Training & Procedures	Personal Protective Factors
Level of Prevention	Highest—the first line of defense		Middle—the second line of defense			Lowest—the last line of defense
Effectiveness	Most Effective		←————→			Least Effective
Goal	To eliminate hazards	To further minimize and control hazards				To protect when higher level systems fail
EXAMPLES OF SAFETY SUB-SYSTEMS**	Technical Design and Engineering of Equipment, Processes and Software Management of Change (MOC)** Chemical Selection and Substitution Safe Siting Work Environment HF	Inspection and Testing Maintenance Quality Control Turnarounds and Overhauls Mechanical Integrity	Enclosures, Barriers Dikes and Containment Relief and Check Valves Shutdown and Isolation Devices Fire and Chemical Suppression Devices Machine Guarding	Monitors Process Alarms Facility Alarms Community Alarms Emergency Notification Systems	Operating Manuals and Procedures Process Safety Information Process, Job and Other Types of Hazard Assessment and Analysis Permit Programs Emergency Preparedness and Response Training Refresher Training Information Resources Communications Investigations and Lessons Learned Maintenance Procedures Pre-Startup Safety Review	Personal Decision-making and Actions HF Personal Protective Equipment and Devices HF Stop Work Authority
	Organizational (must address a root cause) Staffing HF Skills and Qualifications HF Management of Personnel Change (MOPC) Work Organization and Scheduling HF Work Load Allocation of Resources Buddy System Codes, Standards, and Policies**					

HF - Indicates that this subsystem is often included in a category called Human Factors.
 * There may be additional subsystems that are not included in this chart. Also, in the workplace many subsystems are interrelated. It may not always be clear that an issue belongs to one subsystem rather than another.
 ** The Codes, Standards and Policies and Management of Change subsystems listed here are related to Design and Engineering. These subsystems may also be relevant to other systems; for example, Mitigation Devices. When these subsystems relate to systems other than Design and Engineering, they should be considered as part of those other systems, not Design and Engineering.

Revised October 2006



Title: Kicked-back Material from Saw Blade Rips Off Finger Nail

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Lessons Learned Statement

Using an incorrect tool for a job (in this case a saw blade) and failing to train workers in the proper use of a tool resulted in an injured worker. *Systems of Safety* are utilized to provide prevention from this type of incident. Protection provided by using tools that are properly designed for each job provide a well-defined **Design and Engineering System of Safety** approach. Using the same tool for every job eliminates the protection afforded by the properly-designed tool.

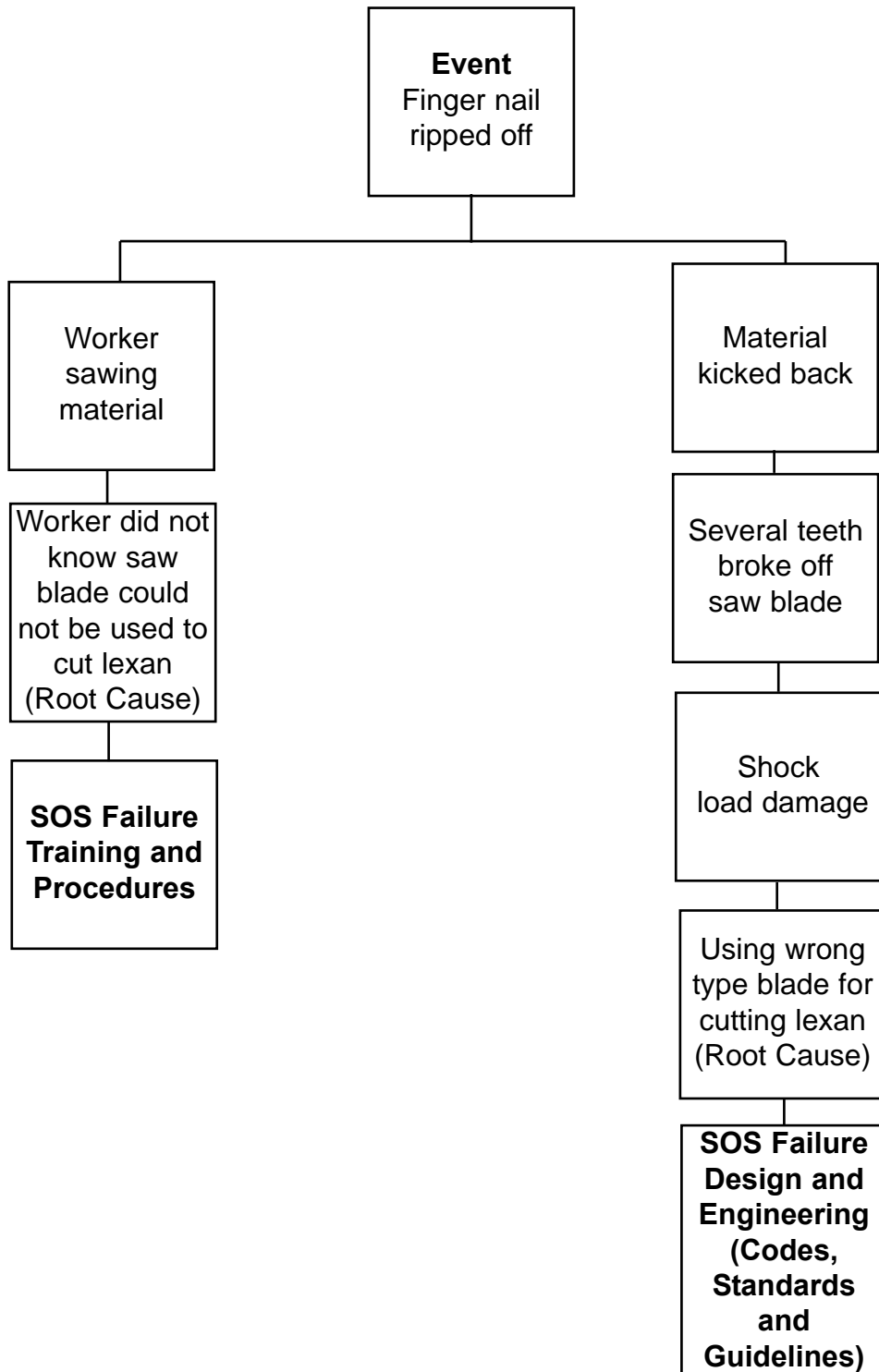
The **Training and Procedures System of Safety** should include all workers who will use the tools. Researching, finding and providing the correct tool for the job will provide maximum protection through the proper implementation of the **Design and Engineering System of Safety**.

Discussion

A carpenter was cutting lexan (polycarbonate resin thermoplastic) with a table saw when several teeth broke off the blade, causing the material to “kick back” and rip off the carpenter’s fingernail. The “PlanerCombo” blade was manufactured by Oldham as part of its “Woodworking Line.” It is a carbide-tipped, 12-inch blade with 60 teeth. It is the blade of choice at this location for general purpose cutting because it produces a very low cutting pressure, provides a balanced cutting force and allows the chips to fall free in the chip spaces. The carpenters indicated that, until this event, they had only seen carbide tips fall off and not the whole tooth as in this case. The lexan piece being worked showed evidence of three teeth digging in but not completing the cut. Oldham literature states that the leading point is susceptible to wear and damage from shock loads. The manufacturer reported that the “Planer Combo” blade is not recommended for cutting plastics. They recommended using the “Triple Solid” blade from their “Commercial” line (product number 120P7260) for cutting plastics, including lexan.

Analysis

The Logic Tree is a pictorial representation of a logical process that maps an incident from its occurrence, “the event,” to facts of the incident and the incident’s root causes.



Recommended Actions

1. Purchase proper saw blade approved for plastics or a blade that can be used for all cutting applications.
2. Provide training on cutting all types of materials.
3. Inspect table saw blades for wear and replace the blade if there is any evidence of discoloration or deformation.

Education Exercise

Working in your groups and using the Lessons Learned Statement, Discussion, Analysis and Recommended Actions, answer the two questions below. Your facilitator will give each group an opportunity to share answers with the large group.

1. Give examples of ways to apply the Lessons Learned Statement at your workplace.

2. Of the examples you generated from Question 1, which will you pursue in your workplace? (**Note:** When we say something you may pursue, we mean a joint labor-management activity or a union activity rather than an activity carried out by you as an individual.)

Trainer’s Lessons Learned Success Inventory

Following a Lessons Learned (LL) session, **the trainer who led the LL** should complete this form. This information will: 1) Help you reflect on the successes and challenges of the session; 2) Help USW with new curriculum development; and 3) Help USW as a whole better understand how the LL Program is supporting their workers.

By reviewing LL from different sites or from other areas of their workplaces, workers are able to analyze the information and apply these lessons to their own workplaces in order to make their workplaces healthier and safer.

1. Site name (if there are participants from more than one site, please list all).

2. Date of LL training _____
3. LL number used in today’s Training _____
4. Your name _____
5. **Summary of Education Question 1:** Please summarize participants’ examples of ways to apply this LL Statement to their workplace.

Please continue on reverse side.

- 6. Summary of Education Question 2:** Please summarize which actions or recommendations participants discussed pursuing at their workplace(s).

Thank you for completing this form.

EVALUATION

Lessons Learned: Kicked-back Material from Saw Blade Rips Off Finger Nail

Please answer the two questions below:

1. How important is this lessons learned to you and your workplace? (Circle one.) Rate on a scale of 1 to 5, with 5 being the most important.

1	2	3	4	5
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2. What suggestions would you make to improve this Lessons Learned?

End of Training Trainer's Instructions

Please complete the information below.

Trainer's Name _____
(Please Print)

Date of training: _____

No. of Participants: Total _____ Hourly _____ Management _____

Location of Training: _____

USW Local # _____

Send:

1. This page;
2. The Education Exercise (page 8);
3. The Trainer's LL Success Inventory form (pages 9 and 10);
4. The evaluation for each participant (page 11); and
5. The Sign-in sheet (page 13) to:

Doug Stephens
United Steelworkers
3340 Perimeter Hill Drive
Nashville, TN 37211

Thank you for facilitating the sharing of this
Lesson Learned with your coworkers.

Sign-in Sheet



Name of Class _____ Date of Class _____

Instructors: _____

Please Check One*		Print Name	Signature
H	M		

*H = Hourly Worker
 M = Management or Salaried Worker

