TODAY'S PRESENTER

Mathew Moreau, Product Manager, Pure Safety Group

Mathew Moreau has been involved in dropped objects prevention for over 10 years. As product manager for Pure Safety Group, Moreau has had the opportunity to work specifically in dropped object prevention environments across countless facilities in the U.S. He has developed several dropped objects prevention training programs and is the 2020 vice chair of the ISEA Dropped Objects Product Group.

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THE DROPS PROBLEM

There were 278 deaths caused by dropped objects in the U.S. in 2018. (BLS)

The same year, there were 52,070 non-fatal struck-by falling objects injuries. (BLS)

Dropped objects are a part of the third leading cause of injuries on the jobsite overall and second in construction. (OSHA)

A Liberty Mutual Insurance study estimates that $5.2 billion was paid out in worker's compensation claims for "struck by objects" in 2016.

Retrieval of dropped objects is frequently cited as a cause for lost employee production.

Dropped objects also cause immeasurable costs through damage to equipment, structures and the environment.

Fatal Four Construction

Falls – 338 out of 1,008 total deaths in construction in CY 2018 (33.5%)
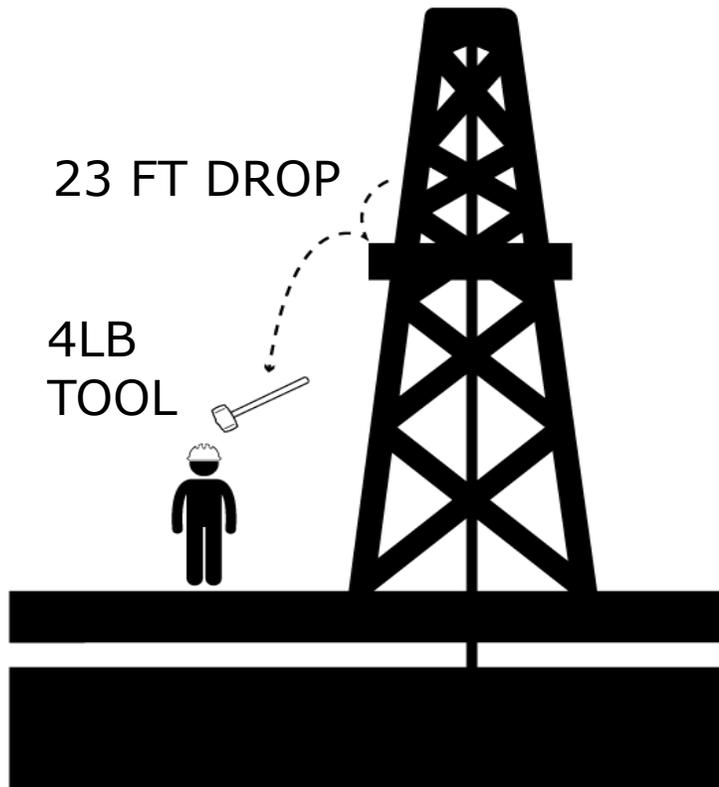
Struck by Object – 112 (11.1%)

Electrocutions – 86 (8.5%)

Caught-in/between* – 55 (5.5%)
(*This category includes construction workers killed when caught-in or compressed by equipment or objects, and struck, caught, or crushed in collapsing structure, equipment or material)
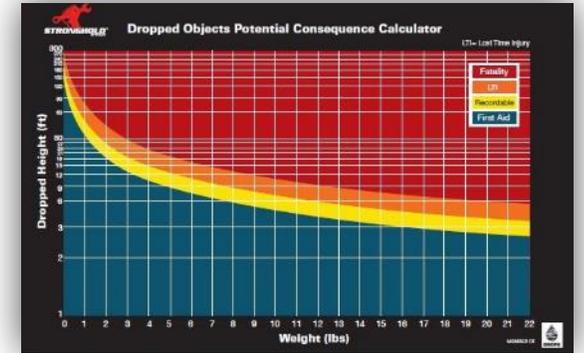
A FEW INCIDENTS

23 FT DROP

4LB TOOL

What is a DROPS Prevention Program?

It is a company's way of managing and preventing dropped objects, including any common workplace practices, written policies and procedures, and company expectations.

A good written procedure is the backbone of any dropped objects prevention program.

A dropped objects procedure:

- Takes the form of a physical document, or contract requirement, or simply lives as a set of common expectations communicated at appropriate times with work groups.

- Streamlines expectations, and clarifies to workers when certain measures are necessary.

- Ensures a workplace is requiring safety supplies that meet current standards (ANSI 121).

- Brings an opportunity to build common sense into dropped-objects prevention practices on-site.

DROPPED OBJECTS PREVENTION

TOOL TETHERING PROCEDURE

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Major Components & Necessary Info

1. Purpose, Scope and Definitions

2. Responsibilities

3. Work Practices

Others, of varying importance (less impact):

- Specific tasks and equipment outlines
- Permanent exclusion zones
- High risk activities
- Exceptions to work practices

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Responsibilities Examples

Workers

Supervisors

Management

If applicable to your company:
- Planning
- Training
- Procurement (or job tool requirements)

Procurement & Site Tool Requirements
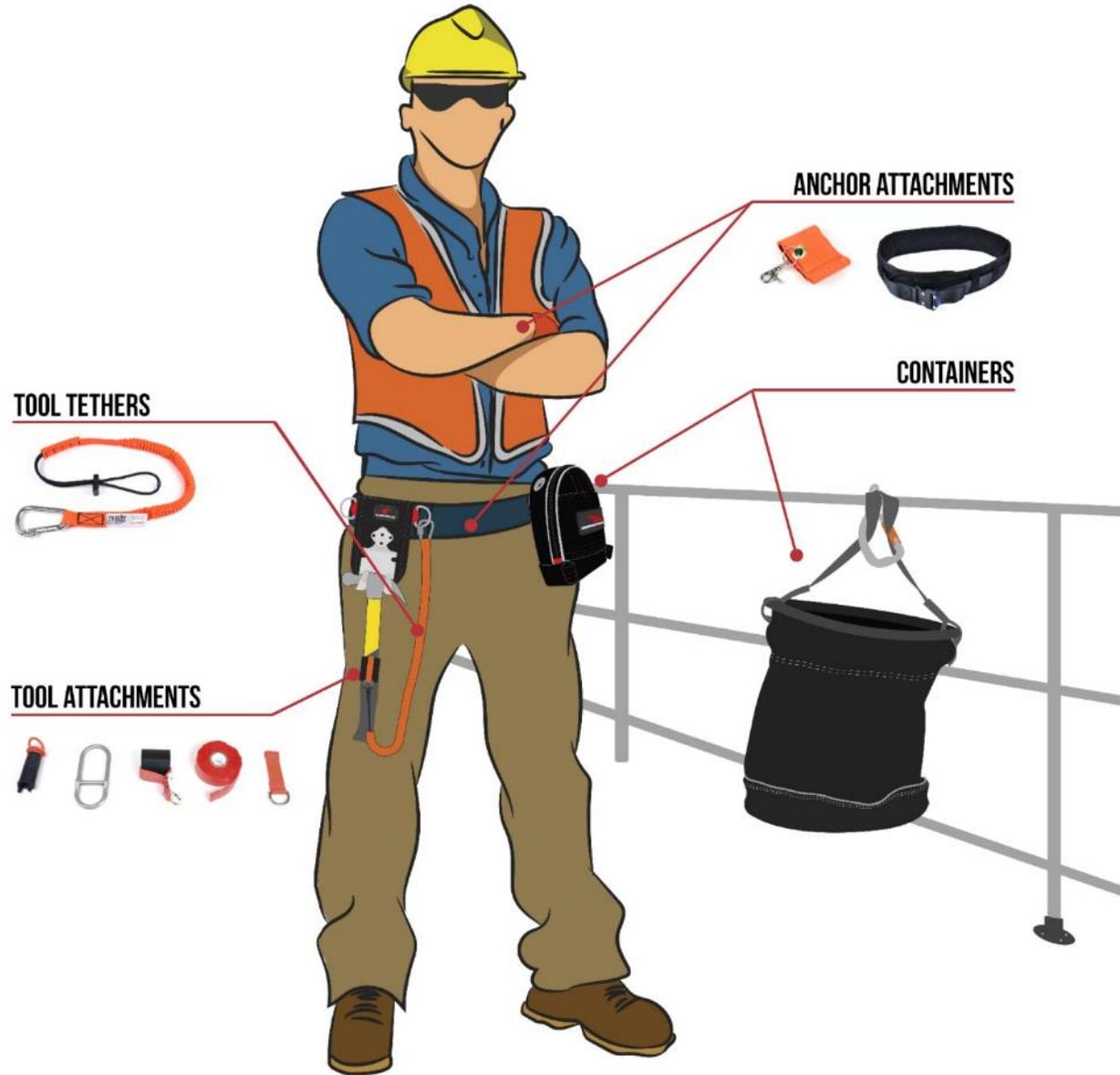
Hand Tools:

Loose Materials and Debris

Single Part vs. Multi-Part Tooling

Ability to accept an attachment point

Dropped Objects Products:

ANSI/ISEA 121-2018:

1. Is a manufacturing standard.

2. Establishes minimum design, testing, and performance criteria.

3. Covers four major dropped objects product categories.

ANCHOR ATTACHMENTS

CONTAINERS

TOOL TETHERS

TOOL ATTACHMENTS

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THE ANSI STANDARD OFFERS A CONSISTENT BASE

Design, testing, and performance criteria

Standardized testing equipment, fixtures, rigs

Consistent environmental testing

- Cold, hot, wet, dry

Test sample requirements, quantity, number of tests

Dynamic and static testing

Established test factors and safety buffers

Anchor Attachments

Solutions that are applied to anchors being used at height to create secure connection points for tool tethers.

Anchor: The beginning point (human body or structure) at which a tether is attached and is relied upon to prevent a tool from dropping.

2X DROPPING DISTANCE

TESTED DYNAMICALLY

1:1 TEST FACTOR

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Tool Attachments

Solutions that are applied to tools being used at height to create a secure connection points for tool tethers.

Tool: An object protected from falling.

2X DROPPING DISTANCE

TESTED DYNAMICALLY

1:1 TEST FACTOR

Tool Tethers

A length of material with at least one connector on each end that will connect a tool to an anchor.

2X DROPPING DISTANCE

TESTED DYNAMICALLY

2:1 TEST FACTOR (1ST)

LOCKING EYE CAPTIVE PIN

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Containers

A bucket, tool bag or similar device used to hold or transport tools or other equipment.

MUST CONTAIN ONE OR MORE
- CLOSURE SYSTEM
- INTEGRAL ANCHOR POINTS
- INTEGRAL TETHERS

VARYING TEST FACTORS

TESTED DYNAMICALLY AND STATICALLY

LOCKING EYE CAPTIVE PIN

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Work Practice Elements

PPE Use

Housekeeping

Work Practices, Area Clearing

Passive Measures, toe-boards and debris netting
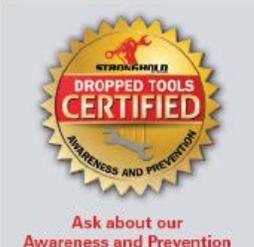
Tool Tethering Specifics

Pre-Task Tool-Tethering Guidance

    Pre-task checklists

    Inspection

    Installation of tethering products should be done on the ground

    (More on installation later)

Keep your workplace safe and productive. Review these items prior to starting any job.

☠ Is there potential for a dropped tool injury?

- ❏ Work is happening at height
- ❏ Operations are occurring below other work
- ❏ Tools are used at height
- ❏ Tools are left behind at height

⚠ Possible Risk Factors

- ❏ Weather and Temperature Affecting Grip (Wet/Hot/Cold/ Wind)
- ❏ Inexperienced Workers
- ❏ Gloves and other obstructions
- ❏ Times Pressure/ Rushing

- ❏ Stress
- ❏ Fatigue
- ❏ Possibility to leave tools at height
- ❏ Possibility for a tool to break

✔ What You Can Do Now

Avoid working in dropped object zones

- ❏ Set up blockades that prevent workers from traversing drop zones
- ❏ Expect ricocheting and make sure workers are sufficiently distanced

Use available resources

- ❏ Use toe boards and/or debris netting
- ❏ Tie off tools

Improve awareness

- ❏ Have a clear plan for preventing dropped objects
- ❏ Clearly communicate dropped object expectations
- ❏ Talk about dropped objects during pre-job briefs
- ❏ Educate yourself
- ❏ Use this checklist daily

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At-Height

Not overloading tool tethers

Following instruction

Tool transferring techniques (images and QS Plug)

Choosing an attachment point

THE MOST COMMONLY USED TOOLS

DERIVED FROM U.S. CUSTOMER FEEDBACK

Common Hand Tools

Hammers

Adjustable wrenches

Crescent wrenches

Plyers / Cutters

Vice grips

Screwdrivers

Pry bar / Cats claw

Tape measures

Cordless drills

Heavier Tools

Angle grinders

Mag drills

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HAMMERS

Most Recommended

Double-D ring

Self-locking tool tether shackle

Also Works

Cold shrink

Tether cinch loops

Tether attachment tape and D-rings

ADJUSTABLE WRENCHES

Most Recommended

Tether cinch loops

Also Works

Cold shrink

Self-locking tool tether shackle

Tether attachment tape and D-rings

ADVANCING FALL PROTECTION

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COMBO WRENCHES

Most Recommended

Double-D ring

Also Works

Cold shrink

Tether cinch loops

Self-locking tool tether shackle

Tether attachment tape and D-rings

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PLYERS/CUTTERS

Most Recommended

Cold shrink

Tether attachment tape and D-rings

VICE GRIPS
SCREWDRIVERS

Most Recommended

Tool collar

Also Works

Cold shrink

Tether attachment tape and D-rings

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PRY BARS/ CATS CLAW

Most Recommended

Cold shrink

Also Works

Tether attachment tape and D-rings

Tool collar

Bar clamp (Not in the U.K. range)

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TAPE MEASURES

Most Recommended

Tape measure sleeve

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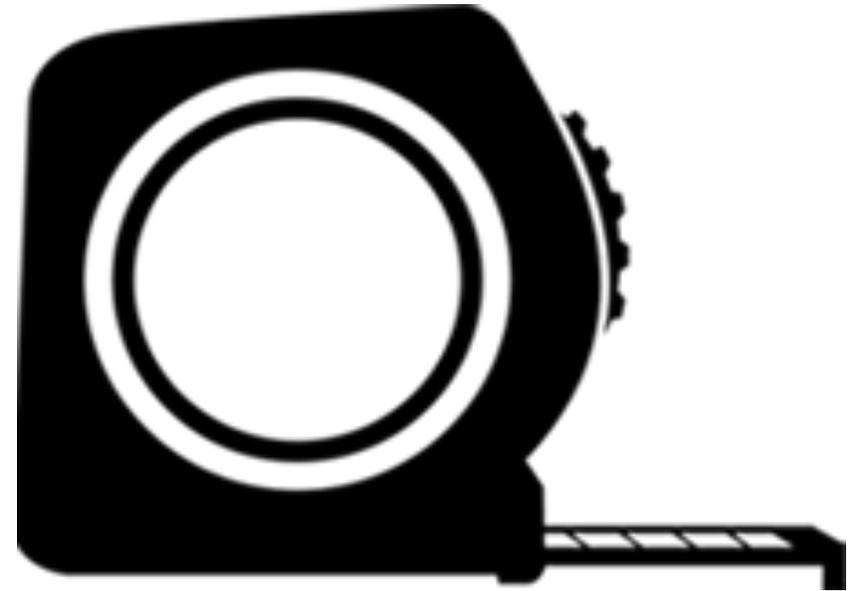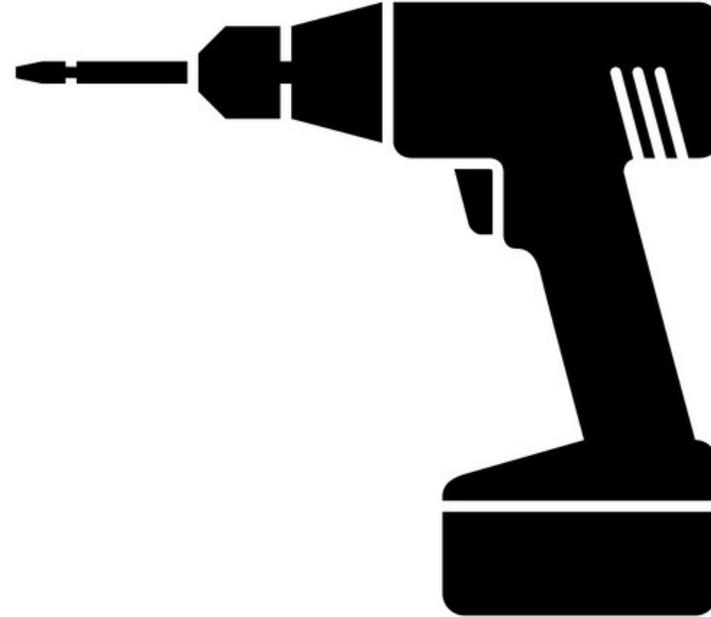
CORDLESS TOOLS

Most Recommended

Drill boot

LOOSE HARDWARE

Most Recommended

Self-closing tool pouch

Also Works:

Tethered tool bucket

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DOUBLE DEE RING

U.S. Patent No. 9,038,360

COMPLIANT ANSI/ISEA 121-2018

COLD SHRINK

U.S. Patent No. 9,402,457, 9,339,100 + D676,311

COMPLIANT ANSI/ISEA 121-2018

HIGH STRENGTH SHRINK LOOP

U.S. Patent No. 9,402,457, 9,339,100 + D676,311

COMPLIANT ANSI/ISEA 121-2018

TETHER ATTACHMENT TAPE AND D-RING WEBBING

DROPPED OBJECTS REPORTING

Capturing details of a dropped object incident can be crucial to learning and preventing dropped objects in the future.

ATTACHMENT 4 – DROPPED OBJECT INCIDENT REPORT

Date: _____   Time: _____

Location: _____

Dropped Object: _____

Description: _____

_____

_____

_____

Weight: _____

Drop Distance: _____
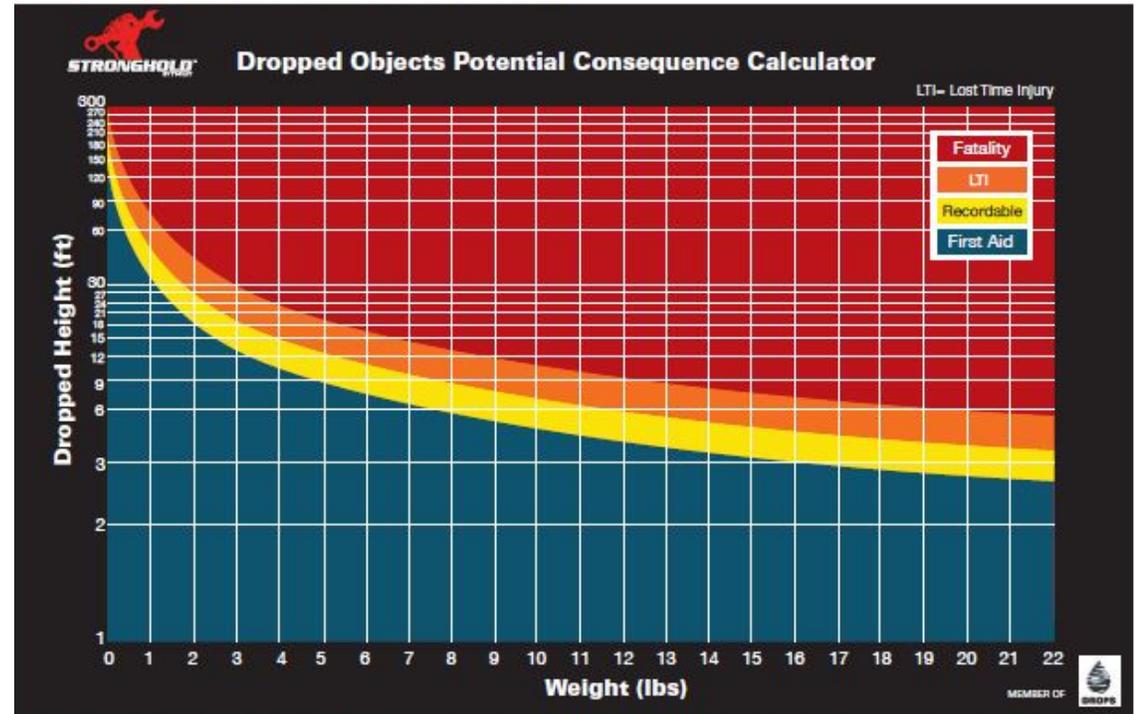
Event Description (including prevention methods that were in place at the time of the incident): _____

_____

_____

Potential Consequence: _____

(Consequence Calculator Chart with Plot Point Required)

Recommended Corrective Actions

_____

_____

_____

IMPLEMENTING THE PROGRAM

Ensuring thorough training

Reinforcing expectations on a daily basis

Constant awareness

Treat it like a marketing campaign

Review and refresh the program often

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NEXT STEPS

Get the dropped objects procedure and make it your own

Evaluate and update you tooling

Have a specialist do an FPA

DROPPED OBJECTS PREVENTION

TOOL TETHERING PROCEDURE

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