



DROPS

DROPPED OBJECTS
PREVENTION SCHEME

Recommended Guidelines for the Safe Use of Tools & Equipment at Height

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PREFACE

The recommended guidelines presented in this document are issued after considerable research and validation. They represent 'best practice', as agreed by general consensus of the members of the DROPS Workgroup.

Certain processes and procedures detailed here-in may require modification to suit specific locations, activities or facilities. However, the underlying guidelines are considered best practice and are a recommended component of any integrated dropped object management scheme.

We challenge you to compare your current working practice with this best practice and we hope it helps you improve safety in your workplace. If you consider your current practice to be better - please let us know!

These guidelines are subject to regular review and update in response to improved methodologies and technologies. Any comments, suggestions or recommendations should be notified to the issuing authority where they will be considered as part of the continuous review process



1 INTRODUCTION

There is a significant risk of dropped objects when using tools and portable equipment at height and a large number of such incidents are regularly reported.

To combat this problem, it is recommended that all tools and equipment used at height are secured against falling. The following provides DROPS recommended Best Practice for the safe use of tools and portable equipment at height.



2 GENERAL

The following general recommendations should be observed when using tools / equipment at height:

- Tools and portable equipment used at height shall be adequately secured to either the user or the workplace.
- Tools used at height shall have a lanyard attachment point that does not compromise the tool's effectiveness.
- All tools, lanyards and attachment points shall be inspected prior to use and prior to their return to the Tools at Height Toolkit, to ensure they are fit for purpose.
- Do not modify any tools or securing equipment.
- "At height" tools shall be used for all tasks undertaken at 2 metres or above, or where there is the potential for tools to drop more than 2 metres, eg when working at or near a handrail.
- Any deviation from recommended best practice shall be undertaken through a documented MOC (management of change) procedure.
- All personnel working at height and / or using "at height" compliant tools shall be adequately trained.
- If any tool or equipment is dropped, or if the retention system failed such that there was potential for the tool or equipment to drop, it must be reported immediately.
- While work at height is ongoing, the "Drop Zone" below the worksite shall be barriered off.

3 TOOLING SPECIFICS

The following recommendations relate to specific tools and tool types used at height:

- Multi-part tools shall have systems to prevent separation (eg sockets must be locked onto extension bars, knuckles, ratchets and breaker bars; it must be impossible to remove jaws from shifters or pliers etc).
- All hammers shall have steel or steel composite shafts, non-slip handles and a head locking mechanism to prevent separation of the head from the shaft.
- Cold chisels and associated hand protecting guards shall have retention in place for both chisel and guard.
- The use of flogging spanners shall be subject to a specific risk assessment.
- Sockets, extensions and ratchets etc should be pin locked.
- Any equipment or tool exceeding 5kg in weight shall be subject to the recommendations for "Heavy Tools and Equipment" (see Section 5).



4 LANYARDS AND ATTACHMENT POINTS

The following represents best practice for lanyards and attachment points:

- All tooling used 'at height' shall be lanyard attached to the toolbag, the equipment loop on the harness or the workplace. As such, tooling should be manufactured and supplied with tested and certified lanyard attachment points.
- The lanyard attachment point on the tool must still enable the tool to be used effectively.
- The length of lanyard wire should be appropriate to the unhindered function of the tool, and the tool and wire shall have been tested and proven to withstand a drop of double the lanyard length.
- All lanyards should be fitted with Screwgate rated carabiners. For handtools $\geq 5\text{kg}$, weight-rated carabiners should be used.
- All carabiners, lanyards and shackles shall be marked and traceable.
- All lanyards shall be serial numbered and have date of manufacture. This will enable user to assess age and condition in an objective manner.
- All wire lanyard terminations should be designed to avoid potential hand injury due to protruding wire tails.
- The standard use of wrist lanyards is discouraged, however, it is recognised that they may be appropriate to specific tasks, eg within confined spaces.
- The lanyard attachment points on tools should be manufactured in such a way that they cannot be removed.
- For tools and equipment $\geq 5\text{kg}$, a minimum 4mm certified wire is recommended.



5 HEAVY TOOLS AND EQUIPMENT (≥ 5KG)

When using heavy tools at height, weighing 5kg or more, the following should be observed:

- The use of heavy tools and hand-held machinery at height must be specifically risk assessed.
- All heavy tools and hand-held machines used at height must be secured against falling when in use and while being transported.
- Securing devices must be dimensioned in accordance with verifiable calculations and documented free-fall tests.
- If a heavy tool or item of equipment has fallen and a lanyard has arrested the fall, both the lanyard and the tool / equipment shall be removed from service until they can be fully inspected and confirmed as fit for purpose.
- Securing points for tools and machines must be in place above the work site and the securing device must be as taut as possible.
- The design of heavy tools and equipment should physically preclude the use of small and medium carabiners.

6 POWER TOOLS

The following recommendations relate to the safe use of power tools at height:

- For electrically powered tools, the supply cable sheave must be secured to the power tool case and the supply socket to prevent excessive strain being placed on internal conductors.
- For pneumatic tools, the air hose must be secured to prevent strain on the fittings at either end.
- **Any retention that is fitted to power tools shall never be solely secured to the power cable or air hose.**
- **Sockets, extensions and ratchets etc should be pin locked to power tools (electric and pneumatic) to prevent accidental release, and battery powered tools should have an attachment to lock the battery in place.**
- Power tools must have a lanyard with a load rating appropriate to the weight of the tool and the attachments.



7 TOOLS FOR WORKING ON ELECTRICAL INSTALLATIONS

When working at height on electrical installations, lanyard attachment points and lanyards must be electrically isolated from the tool itself, to the same level of protection as the tool grips.

Note: Tools specifically designed for working at height on electrical equipment should not be used for general purpose work at height.

8 TOOL STORAGE

The following represents best practice for tool storage:

- When not in use, "at height" tools must be kept in a secure Tool Storage Facility.
- Tools should be stored in such a manner that a simple visual inspection can highlight any discrepancies or omissions in the tool box inventory, eg 2-colour laser cut foam inserts.
- The Tool Storage Facility shall have a detailed inventory and should be kept locked when not in use. When any tools are in use, it is recommended that a "tools aloft" sign is used to indicate this.
- One person per shift should be designated as responsible for the Tool Storage Facility; to serve as keyholder and custodian of the Tools Register. The Responsible Person will log all tools in and out on the Tools Register.
- In addition to the tools, the Tool Storage Facility shall be equipped with:
 - sufficient numbers of load rated tool lanyards
 - special belts for fastening tools and bag
 - sufficient numbers of tool bags with internal fastening devices.



9 TOOL BAGS, POUCHES AND BELTS

The following guidelines should be observed to ensure the safe and effective use of tool bags, pouches and belts at height:

- **Tools shall be taken aloft in some form of kit bag.**
- **The kit bag shall be attached to the user, and leave both hands free.**
- **Tools are to be attached to the kit bag (not merely put in it).**
- **Carrying pouches shall always be used for radios and any other portable equipment with no dedicated attachment point.**
- **The locks on carrying pouches should have a double securing mechanism to guard against unintentional opening.**
- **Belts with snap fasteners are not recommended.**
- **Tool lanyards shall be used between the tools and belt or bag.**



10 INSPECTION AND TESTING

Certain inspection and testing is recommended, as follows:

- All tooling manufactured for “at height” use should be drop tested (with 50% safety factor) and certified.
- Tooling attachment points should be tested to assess pull weights and drop weight fracture.
- All tooling should be inspected and approved for use by a competent second person at its place of operation.
- All lanyards should be batch tested to failure and certified by an independent inspector.
- Guidance for inspecting tools prior to use should be provided (including acceptance / rejection criteria). This guidance is to be readily available at the Tool Storage Facility.



11 PROCEDURES

The following processes and procedures are recommended:

- Procedures and practices should be implemented to ensure that all users are aware of the scope and purpose of “At Height” tooling and any particular methods of work.
- In restricted areas, eg derrick, flare boom, cranes etc, tools used at height should be logged in and out using a simple Tools Register to ensure that no tools have been left behind.
- The person designated as responsible for the Tool Storage Facility and Tools Register shall check the contents of the storage facility and the Register at the end of every shift.

12 FURTHER INFORMATION

Other associated DROPS products and guidance include:

- DROPS Recommended Practice (Establishing a DROPS System)
- DROPS Reliable Securing Booklet
- DROPS Pre-task Prompt Cards
- DROPS Calculators
- DROPS Training
- Recommended Guidelines: Pre-task DROPS Assessments, Checks and Precautions
- DROPS Recommended Guidelines for the Use of Restricted Access Areas (Red Zones)

For details of these and many more resources, visit www.dropsonline.org

