



**Mast and Tower Safety Group**

*promoting safety and best practice*

**Guidance Note**

**GN-007**

# Lifting Equipment onto Rooftops



# MATS Group Guidance Note

## Lifting Equipment onto Roof Tops

### 1 Introduction

Many broadcast and telecommunications antennas and related equipment are located on roof tops. Often access to the roof is via a vertical fixed ladder which may have hoops fitted. Engineers are often required to take pieces of equipment that are too large to fit into a tool bag or rucksack such as spectrum analysers, spares etc onto a roof.

### 2 Purpose

The purpose of this guidance note is to provide practical guidance on a method that can be used to manually haul equipment onto roof tops.

### 3 Scope

The guidance is aimed at manually hauling equipment up short lengths of fixed ladders.

### 4 Guidance

#### 4.1 Planning

As with any work being undertaken on roof tops it should be planned. A risk assessment should be carried out which considers hazards of the work and the site at which the task is being carried out. Specific issues that should be included are:

- Weight and size of the load.
- Capability of individuals for manual lifting.
- Anchor points for lifting and whether these have been tested under the requirements of LOLER.
- Drop zone around the work area to take account of falling objects.
- Radio frequency from antennas.

#### 4.2 Competence of Individuals

Individuals carrying out this task should be trained in roof top working, be able to put on and use a harness and twin lanyards and also have a familiarity and experience of basic rope work.

#### 4.3 Equipment

The following equipment is recommended:

- 1 Lifting bag. A padded secure bag designed for lifting with a capacity to hold the spares/equipment.
- 1 Free pulley.
- 1 Traxion Snatch pulley.
- 2 short slings for securing to the top hoop (or 1 long one).
- Rope of sufficient length (minimum twice the ladder height + 3m) and strength plus the correct size for the pulleys.
- 3 carabiners.

#### 4.4 Procedure

Some of the following steps are illustrated by photographs.

- **Step 1** - Attach the carabiner through the handles of your bag (if no bag available thread a small sling through the handles of the equipment case and attach a carabiner). Attach the free pulley to the carabiner. Thread the rope through the pulley.
- **Step 2** - Climb the ladder carrying both ends of the rope.

- **Step 3** - At the top of the ladder find a suitable position to stand and attach to an anchor point, eg the top of the ladder railings with your double hook and lanyard.
- **Step 5** - Use a short sling and wrap around the top ladder hoop (on the outer edge) and attach a carabiner. Attach one end of the rope to this carabiner.
- **Step 6** - Attach the second sling to the top ladder hoop (nearest to where you are standing) and attach a carabiner. Attach the snatch pulley to the carabiner and thread the rope through.
- **Step 7** - Pull the rope and the rope will start to ascend. When it reaches the top the snatch pulley will hold the weight whilst you detach the carabiner from the load handles and pull onto the roof.

Step 6 : Sling and carabiner with snatch pulley



Step 5 : Sling and carabiner with rope attached

Step 1 : Carabiner with free pulley attached

Step 3 : Position of safety



Step 5 : A bowline is the only knot required to secure the rope end to the carabiner.

## 5 Related documents

- MATS Group Guidance Note GN-001 – Work at Height Training
- MATS Group Guidance Note GN-002 – Documenting a company RF Policy
- MATS Group Guidance Note GN-005 – Medical Requirements for Climbing Masts and Towers
- MATS Group Guidance Note GN-006 – Principles for Access to Radio Sites

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