

Chapter 13

Work at height

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Version

The table below shows the history of the document and the changes that were made at each version.

Version	Date	Summary of changes
1.0		First issue
1.2	8 th August 2013	Review, Grammar and Spelling

1. Introduction

- 1.1 Falls from height account for around 70 deaths and 4000 major injuries in the UK every year. The education sector as a whole produces a significant number of falls – five deaths over the last six years and more than 3000 injuries.
- 1.2 Falls often occur where the work at height is of short duration and from 'low' heights of less than 2 meters. Common causes of such accidents include:
- Overreaching or over balancing.
 - Climbing with loads.
 - Using inappropriate equipment such as desks / chairs.
 - Not securely fixing access equipment.
 - Placing access equipment on unsuitable surfaces.
 - Falls from roofs with unprotected edges.
 - Falls through fragile materials.
- 1.3 This Chapter applies to all work at height situations from where a person could be injured falling from it, even if it is at or below ground level.

2. Key responsibilities

- 2.1 **Line Managers:** The overriding principle is that Line Managers must do all that is reasonably practicable to prevent anyone falling. They must:
- Avoid work at height where they can.
 - Assess the risks involved in the task.
 - Use work equipment or other measures to prevent falls where they cannot avoid work at height.
 - Where they cannot eliminate the risk of a fall, use work equipment or other measures to minimise the distance and consequences of a fall should one occur.
 - Ensure all work at height is properly planned and organised.
 - Ensure all work at height takes account of weather conditions that could endanger health and safety.

- Ensure those involved in work at height are trained and competent.
- Ensure the place where work at height is carried out is safe.
- Ensure equipment for work at height is appropriately inspected.
- Ensure the risks from fragile surfaces (e.g. roof lights) are properly controlled.
- Ensure the risks from falling objects are properly controlled.
- ensure that when organising work:
 - No work is done at height if it is safe and reasonably practicable to do it at other than height;
 - Work is properly planned, appropriately supervised, and carried out in as safe a way as is reasonably practicable;
 - Emergencies and rescues are properly planned for; and
 - The outcomes of a risk assessment are complied with.

2.2 **Employees** must:

- Report any safety hazard to their line manager;
- Use the equipment supplied (including safety devices) properly, following any training and instructions (unless you think that would be unsafe, in which case you should seek further instructions before continuing).

3. **Guidance on risk assessments**

3.1 Work at height should never be considered as being incidental to the actual job to be undertaken. Thus for all activities involving work at height a risk assessment must be conducted and the findings recorded. This assessment should consider both the work to be done and the most appropriate access equipment to be used (not just what is available on site) to achieve a safe system of work.

3.2 The simple hierarchy of controls for work at height are as follows:

- Avoid the risk by not working at height, for example by working from existing platforms, using long reach equipment etc. If it is not practicable to do the work safely in some other way then use work equipment or other measures to prevent falls; and

- Where the risk of a fall cannot be eliminated further controls to minimise the distance and consequences of a fall should one occur.

3.3 The risk assessment should be carried out following the general guidance contained in Chapter 2 of This Manual.

3.4 The detail of the assessment will depend on the level of risk involved. As a general guide the risk assessment should consider:

- The task and activity involved;
- The employees (medical conditions etc.);
- Equipment to be used including erection and dismantling;
- The location (proximity to roads, overhead electrical cables etc.);
- The environment, poor conditions and slippery surfaces (weather, temperature etc.); and
- Possibility of falling objects.

3.5 Examples of points to be covered in specific work at height situations are contained in Appendix A.

4. Selecting equipment for work at height

4.1 In selecting appropriate equipment for working at height priority should always be given to collective protective measures to prevent falls (e.g. guardrails and working platforms) before other personal measures, (e.g. fall arrest equipment).

4.2 Access equipment should be selected appropriate to the nature of the work being undertaken, taking account of such factors as:

- working conditions;
- duration and frequency of use;
- complexity of work; and
- Distance and consequences of a fall.

4.3 Ladders and stepladders should be used only for light duty, short duration work which has been approved by the Head teacher.

- 4.4 For example whilst a ladder may reach the workplace, if the task requires strenuous work, carrying bulky / heavy equipment or likely to take more than 30 minutes then an alternative means of access such as a tower scaffold or podium steps would be more appropriate.

5. Use of equipment for work at height

5.1 Equipment identification and inspection

- 5.1.1 Each school should compile a register of equipment used for work at height (for example, ladders but excluding kick stools). Where there is more than one piece of similar equipment each should be indelibly marked with an identifying number. An example of a ladder register is at Appendix B.
- 5.1.2 Equipment for work at height, should be inspected prior to use and by a competent person termly/6 monthly. The inspection will depend upon the complexity of the equipment. A checklist for ladder inspections is at Appendix C.
- 5.1.3 Where work equipment is hired to the user, it is important that both parties agree, in writing, exactly what inspection has been carried out and that this information is passed to those working at height.

5.2 Using Ladders (including stepladders)

- 5.2.1 Ladders should not be used simply because they are readily available, the risk assessment should determine if a ladder or stepladder is appropriate for the task.
- 5.2.2 Ladders and stepladders should only be used for short duration tasks (less than 30 minutes), light duty tasks or where more suitable access equipment cannot be used due to existing features of the site which cannot be altered.
- 5.2.3 All ladders should be secured to prevent unauthorised use
- 5.2.4 Prior to use it should always be ensured that the ladder is in good condition and fit for purpose.

5.2.5 Where ladders are to be used to work from, it should be ensured that:

- A secure handhold and support are available at all times;
- The work can be completed without stretching; and
- The ladder can be secured to prevent slipping.

5.2.6 Extracts from the HSE publication IND (G) 402, Safe use of ladders and stepladders, are reproduced in Appendix D.

5.3 Working from roofs

5.3.1 Precautions must be in place to prevent falling from an edge. Where permanent edge protection is not available then temporary guard rails or similar barriers are required.

5.3.2 Specific work activities such as maintenance must be undertaken by a suitable contractor or, if properly trained, instructed and authorised, by the premises Manager/Caretaker.

5.4 Fragile surfaces

5.4.1 All fragile surfaces should be identified on site and suitable precautions should be in place to prevent inadvertent access.

5.4.2 Warning signs should be fixed at the approach to fragile roofs where access is needed or foreseeable.

5.4.3 Work should be arranged as far as possible to avoid working on or passing near fragile surfaces (for example, roof lights).

6. Information, instruction and training

6.1 All employees required to work at height must be competent to do so and receive information and instruction in the risks of working at height and specific training in the equipment that they will be using. The level of training required should be proportionate to the risk.

7. Appendix A – Examples of risks and control measures

7.1 Putting up displays

Hazard	Risk	Who?	Standard control measures
Use of incorrect equipment (desk, chairs etc)	Falls, falling objects	Staff Visitors Pupils	<ul style="list-style-type: none"> • Staff instructed not to use makeshift steps (chairs/ tables etc) • Restrict displays to head height where practical • Ensure display boards are accessible • Kick stool provided for users to access display areas safely
Defective equipment /	Falls, falling objects	Staff Visitors Pupils	<ul style="list-style-type: none"> • All access equipment suitable for purpose checked before use and maintained in good condition. • Reporting procedure in place for identified defective items with prompt removal /remedial action.
Inappropriate use of access equipment Overreaching, stretching etc. Uneven floor causing instability	Falls, falling objects	Staff Visitors Pupils	<ul style="list-style-type: none"> • Displays prepared as far as possible before putting them up. • Use of access equipment restricted to those trained and competent in use. • Staff to re-position kick stool rather than overstretch. • Floor surfaces suitable to use kick stool (firm and even surface) • Persons using access equipment to wear appropriate footwear (low heeled, non slip soles) • Do not leave unattended to avoid unauthorised use.

7.2 Accessing office filing and storage

Hazard	Risk	Who?	Standard control measures
Use of incorrect equipment (desk, chairs etc)	Falls, falling objects	Staff Visitors Pupils	<ul style="list-style-type: none"> • Staff instructed not to use makeshift steps (chairs/ tables etc) • Restrict high level storage • Ensure storage remains accessible • User to ensure access equipment is of adequate height. • Step ladder provided for users to access areas safely (more height is required than can be achieved with a kick stool)
Defective equipment	Falls, falling objects	Staff Visitors Pupils	<ul style="list-style-type: none"> • All access equipment suitable for purpose checked before use and maintained in good condition. • Frequent documented checks on stepladder to ensure safe working condition (6 monthly / termly) • Reporting procedure in place for identified defective items with prompt removal /remedial action.
Inappropriate use of access equipment Overreaching, stretching etc. Uneven floor causing instability	Falls, falling objects	Staff Visitors Pupils	<ul style="list-style-type: none"> • Use of access equipment restricted to those trained and competent in use. • Maximum working height not exceeded- user's waist should not rise above top step. • Staff to re-position steps rather than overstretch. • Floor surfaces suitable to use (firm and even surface) • Persons using access equipment to wear appropriate footwear (low heeled, non slip soles) • Securely stored when not in use to avoid unauthorised use.
Manual Handling Unstable / unwieldy loads	Falls, falling objects	Staff Visitors Pupils	<ul style="list-style-type: none"> • Ensure shelving is not overloaded • Organise storage with heavy / bulky objects at lower levels. • Frequently used items stored at easily accessible locations. • Use team handling where necessary. • Staff to be trained in moving and handling techniques.

7.3 Opening and closing windows/blinds

Hazard	Risk	Who?	Standard control measures
Use of incorrect equipment (ledge, desk, chairs etc)	Falls, falling objects	Staff Visitors Pupils	<ul style="list-style-type: none"> Staff instructed not to use makeshift steps (chairs/ tables/ledges etc) Provide remote means of opening high level windows i.e. long handled poles or mechanical openers.
Defective equipment	Falls, falling objects	Staff Visitors Pupils	<ul style="list-style-type: none"> All access equipment suitable for purpose checked before use and maintained in good condition. Reporting procedure in place for identified defective items with prompt removal /remedial action.
Falls from unprotected window	Falls	Staff Visitors Pupils	<ul style="list-style-type: none"> Fit window opening limiters to all windows above ground level
Poorly maintained windows, sashes and frames	Falls	Staff Visitors Pupils	<ul style="list-style-type: none"> Ensure windows are maintained in a safe condition

7.4 Replacing defective fluorescent tube

Hazard	Risk	Who?	Standard control measures
Use of incorrect equipment (desk, chairs etc)	Falls, falling objects	Staff Visitors Pupils	<ul style="list-style-type: none"> Staff instructed not to use makeshift steps (chairs/ tables etc) User to ensure access equipment is of adequate height. Step ladder provided for users to access areas safely
Defective equipment, collapse of ladder	Falls, falling objects	Staff Visitors Pupils	<ul style="list-style-type: none"> All access equipment suitable for purpose checked before use and maintained in good condition. Frequent documented checks on stepladder to ensure safe working condition (6 monthly / termly) Reporting procedure in place for identified defective items with prompt removal /remedial action.
Inappropriate use of access equipment Overreaching, stretching etc. Uneven floor causing instability	Falls, falling objects	Staff Visitors Pupils	<ul style="list-style-type: none"> User trained in use of ladders for minor inspection / maintenance tasks. Access equipment restricted to those trained and competent in use. 2 person job, second person available at ground level to hand diffuser / tubes to. Move furniture if needed to gain access. Maximum working height not exceeded- user's waist should not rise above top step or top of handrail. Staff to re-position steps rather than overstretch. Floor surfaces suitable to use (firm and even surface) Persons using access equipment to wear appropriate footwear (low heeled, non slip soles) Stepladder securely stored when not in use to avoid unauthorised use.
Persons colliding with ladder	Falls, falling objects	Staff Visitors Pupils	<ul style="list-style-type: none"> Segregate work area Provide warning signs, cones etc. if needed.
Manual Handling Unstable / unwieldy loads	Falls, falling objects, musculoskeletal damage	Staff Visitors Pupils	<ul style="list-style-type: none"> Use team handling where necessary. Staff to be trained in moving and handling techniques. Obtain help transporting ladder if needed
Contact with electricity	Electrocution, burns	Staff Visitors Pupils	<ul style="list-style-type: none"> Switch off electrical supply or tape off and label light switch if this is not possible.

7.5 Use of ladder for light work < 30 minutes duration

Hazard	Risk	Who?	Standard control measures
Use of incorrect equipment (desk, chairs etc)	Falls, falling objects	Staff Visitors Pupils Contractors	<ul style="list-style-type: none"> User to ensure access equipment is of adequate height. Consideration given to hiring suitable equipment for specific jobs or where work is liable to take >30mins.
Defective equipment, collapse of ladder	Falls, falling objects	Staff Visitors Pupils Contractors	<ul style="list-style-type: none"> All access equipment suitable for purpose checked before use and maintained in good condition. Frequent documented checks on ladder to ensure safe working condition (6 monthly / termly) Reporting procedure in place for identified defective items with prompt removal /remedial action.
Inappropriate use of access equipment Overreaching, stretching etc. Uneven floor causing instability	Falls, falling objects	Staff Visitors Pupils Contractors	<ul style="list-style-type: none"> User trained in use of ladders for minor inspection / maintenance tasks. Access equipment restricted to those trained and competent in use. Maximum working height not exceeded. Ensure correct angle of ladder (1M out for 4M up), secure ladder No lone working when using ladders. Staff to re-position ladder rather than overstretch. Floor surfaces suitable to use (firm and even surface) Persons using access equipment to wear appropriate footwear (low heeled, non slip soles) Securely stored when not in use to avoid unauthorised use.
Persons colliding with ladder	Falls	Staff Visitors Pupils Contractors	<ul style="list-style-type: none"> Segregate work area effectively. Provide warning signs, cones or fencing if needed. Schedule work to take place when persons are not in immediate area.
Manual Handling Unstable / unwieldy loads	Falls, falling objects, musculoskeletal damage	Staff Visitors Pupils Contractors	<ul style="list-style-type: none"> Accompanying tools and equipment carried in tool belt. Both hands to be kept free when climbing ladder. Use team handling where necessary. Staff to be trained in moving and handling techniques. Obtain help transporting ladder if needed
Environmental conditions (weather, wet ground, uneven surfaces etc.)	Falls	Staff Visitors Pupils Contractors	<ul style="list-style-type: none"> Consideration given to environmental conditions prior to starting work. No work to be undertaken in adverse weather conditions (wind, rain, snow etc.) Ensure rungs are clear of slippery substances, ice, mud etc.

7.6 Use of mobile tower scaffold

Hazard	Risk	Who?	Standard control measures
Use of incorrect equipment	Falls, falling objects	Staff Visitors Pupils Contractors	<ul style="list-style-type: none"> User to ensure access equipment is of adequate height and suitable for task. All users to be trained in work at height Height of scaffold to be no more than 3 times base dimension (or in accordance with manufacturer's instructions)
Defective equipment, collapse of equipment,	falls, falling objects	Staff Visitors Pupils Contractors	<ul style="list-style-type: none"> All access equipment suitable for purpose inspected before use and maintained in good condition. Inspected weekly if it remains in place and after any event likely to have affected its stability. Safe working load marked on equipment To be erected only by certified persons. Reporting procedure in place for identified defective items with prompt removal /remedial action
Inappropriate use of access equipment Overreaching, stretching etc. Uneven floor causing instability	Falls, falling objects	Staff Visitors Pupils Contractors	<ul style="list-style-type: none"> All users trained in use of mobile towers for inspection / maintenance tasks. Access equipment restricted to those trained and competent in use. Brakes to be applied in use. Move tower from base only, all tools and persons removed from structure prior to moving. Guardrails and toe boards to be provided. No lone working when erecting or using tower. Floor surfaces suitable to use (firm and even surface) Persons using access equipment to wear appropriate footwear (low heeled, non slip soles) Securely stored when not in use to avoid unauthorised use. Remove access ladder.
Persons or vehicles colliding with tower	Falls, fractures	Staff Visitors Pupils Contractors	<ul style="list-style-type: none"> Segregate work area, create exclusion zone beneath work area Provide warning signs, cones or temporary fencing if needed. Schedule work to take place when persons are not in immediate area.
Contact with overhead electrical services	Electrocution, burns	Staff Visitors Pupils Contractors	<ul style="list-style-type: none"> Survey area prior to erection

Manual Handling Unstable / unwieldy loads	Falls, falling objects	Staff Visitors Pupils Contractors	<ul style="list-style-type: none"> Accompanying tools and equipment carried in tool belt. Both hands to be kept free when climbing ladder. Use team handling where necessary. Staff to be trained in moving and handling techniques. Obtain help transporting equipment if needed
Environmental conditions (weather, wet ground, uneven surfaces etc.)	Falls	Staff Visitors Pupils Contractors	<ul style="list-style-type: none"> Consideration given to environmental conditions prior to starting work. No work to be undertaken in adverse weather conditions (wind, rain, snow etc.) Ensure rungs are clear of slippery substances, ice, mud etc.

7.7 Work at height within drama

Hazard	Risk	Who?	Standard control measures
Defective equipment /	Falls, falling objects	Staff Pupils Visitors	<ul style="list-style-type: none"> All access equipment suitable for purpose checked before use and maintained in good condition. Inspected weekly if it remains in position. To be erected only by certified persons. Reporting procedure in place for identified defective items with prompt removal /remedial action.
Hit by falling equipment	Bruising, fractures	Staff Pupils Visitors	<ul style="list-style-type: none"> Segregate area under tower effectively, accompanying tools / equipment to be carried in tool belt.
Falls from mobile tower scaffold Inappropriate use, Overreaching, stretching etc.	Falls	Staff Pupils Visitors	<ul style="list-style-type: none"> Pupils should not change stage lights Consider installing lighting rigs which can be lowered to ground level All relevant teaching staff trained in safe use of access equipment. Cascade to pupils, no pupils to use tower scaffold unless supervised by a competent person. No lone working when erecting or using tower. Persons using access equipment to wear appropriate footwear. Code of conduct for pupil behaviour in drama studio. Access equipment restricted to those competent in its safe use. Ensure access ladder removed / tower securely stored when not in use to prevent unauthorised use. Drama dept has policy detailing safe working procedures for adjusting lights, working on gantry etc.

9. Appendix C – Ladder checklist

INSPECTION CARRIED OUT BY				Location			
Name in Capitals				Description of item			
Signature				Ladder ID Number			
Position				Date of Inspection			
Item	Satisfactory		Defect (s)	Action Required		Follow-Up Action	
	Yes	No		Immediate	Follow-Up	Carried Out By	Date
Compliant with British standards							
Any evidence of wear, distortion, decay corrosion, cracks, splits or corrosion							
Are there any loose, bent or missing rungs							
Ropes / chains on stepladders secure and of correct length?							
Are there any splinters or sharp edges on stiles and treads? / cracks							
Handrails in good condition and securely fixed?							
Non slip feet fitted to stiles and in good condition?							
Storage							
Correct support							
Protected to prevent damage							
Secured to stop ANY unauthorised use							

NOTE: Equipment which fails must be taken out of use immediately and prominently labelled until repaired or disposed of.

10. Appendix D – Extracts from IND (G) 402

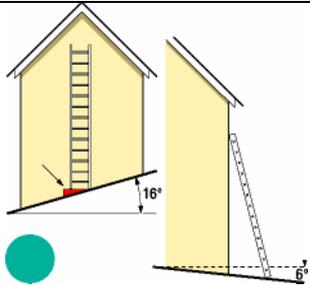
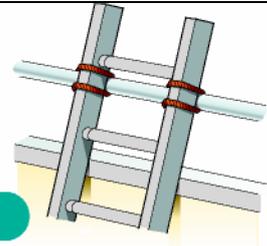
The information reproduced below is taken from HSE publication IND (G) 402, *Safe use of ladders and stepladders*.

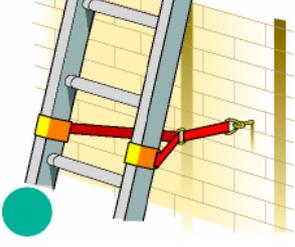
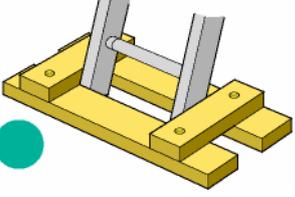
10.1 When is a ladder the most suitable access equipment?

 <p>Fig 1a</p>	<p>Incorrect</p> <p>Overreaching and not maintaining three points of contact</p>
 <p>Fig 1 b</p>	<p>Correct</p> <p>User maintaining three points of contact</p>
 <p>Fig 2a</p>	<p>Incorrect</p> <p>Steps side-on to work activity</p>

 <p>Fig 2b</p>	<p>Correct</p> <p>Steps facing work activity</p>
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10.2 Is it a safe place to use a ladder or stepladder?

 <p>Fig 3</p>	<p>Ladder showing maximum angles at 16° on a slide slope and 6° on a back slope</p>
 <p>Fig 4</p>	<p>Ladder tied at top stiles (correct for working on, not for access)</p>
 <p>Fig 5</p>	<p>Tying part way down</p>

 <p>Fig 6</p>	<p>Tying near the base</p>
 <p>Fig 7</p>	<p>Securing at the base</p>

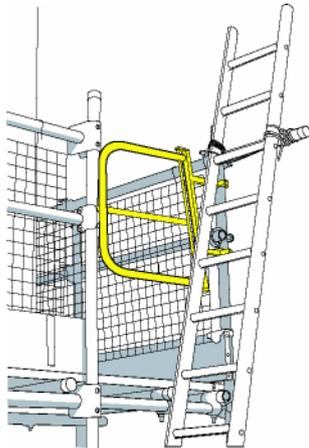


Fig 8

Access ladders should be tied and extend at least 1 m above the landing point to provide a secure handhold

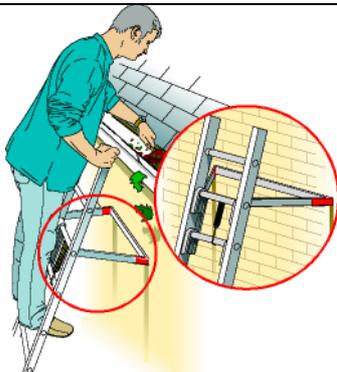
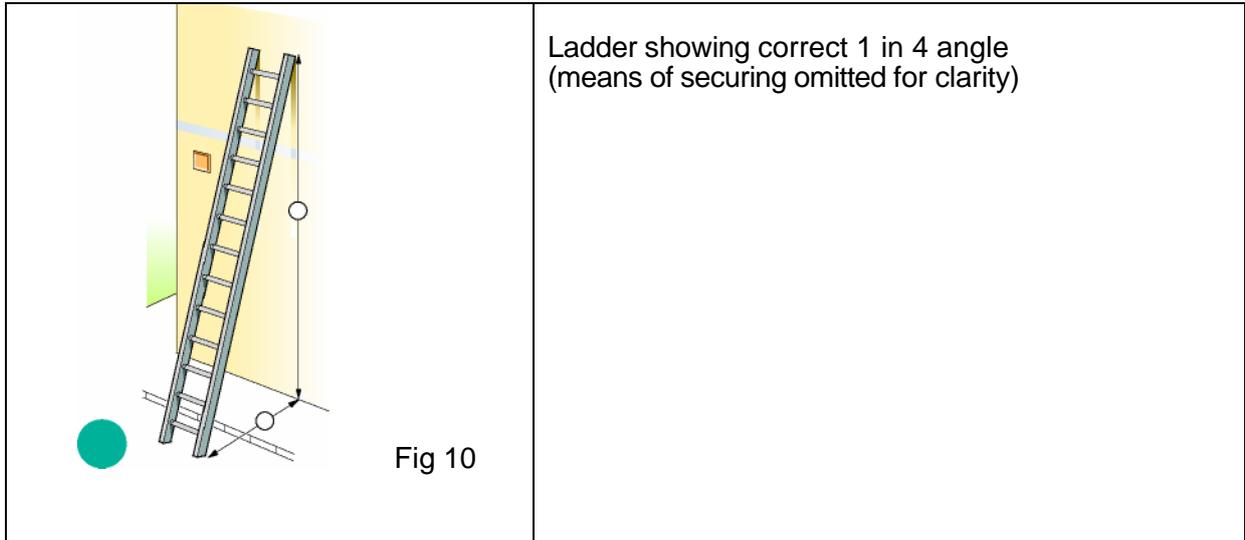
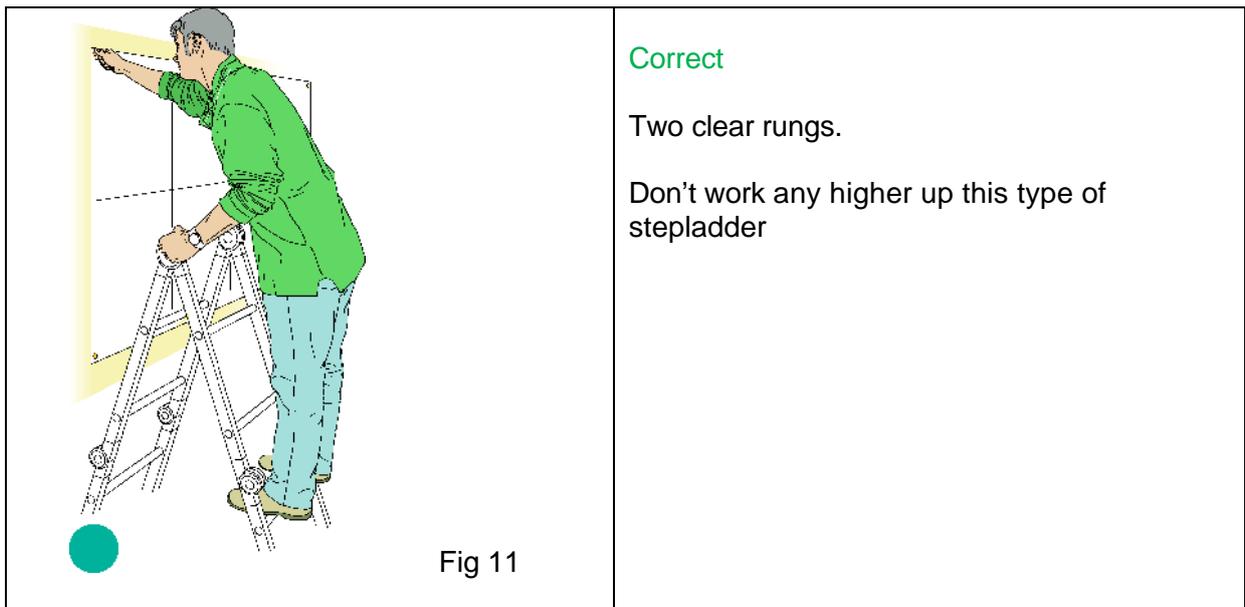


Fig 9

Stand-off device and working maximum height on a ladder



10.3 How to use stepladders safely



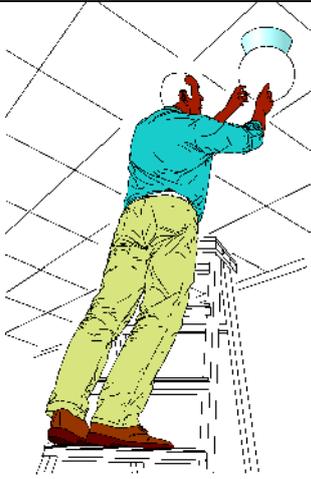


Fig 12

Correct

Three clear steps.

Don't work any higher up this type of stepladder

People should only use a ladder, stepladder or stability device if:

- they are competent - users should be trained and instructed to use the equipment safely;
- the ladder or stepladder is long enough –

for ladders:

- don't use the top three rungs (see Figure 9);
- ladders used for access should project at least 1 m above the landing point and be tied; alternatively a safe and secure handhold should be available (see Figure 8);

for stepladders:

- don't use the top two steps of a stepladder, unless a suitable handrail is available on the stepladder (see Figure 11);
- don't use the top three steps of swing-back or double-sided stepladders, where a step forms the very top of the stepladder (see Figure 12);

- The ladder or stepladder rungs or steps are level. This can be judged by the naked eye. Ladders can be levelled using specially designed devices but not by using bits of brick or whatever else is at hand;
- The weather is suitable - do not use them in strong or gusting winds (follow the manufacturer's safe working practices);
- They are wearing robust, sensible footwear (e.g. safety shoes/boots or trainers). Shoes should not have the soles hanging off, have long or dangling laces, or be thick with mud or other slippery contaminants;
- They know how to prevent members of the public and other workers from using them;
- They are fit - certain medical conditions or medication, alcohol or drug abuse could stop them from using ladders. If you are in any doubt, speak to an occupational

health professional;

- They know how to tie a ladder or stepladder properly.

On a ladder or stepladder, don't:

- Move them while standing on the rungs/steps;
- Support them by the rungs or steps at the base;
- Slide down the stiles;
- Stand them on moveable objects, such as pallets, bricks, lift trucks, tower scaffolds, excavator buckets, vans, or mobile elevating work platforms;
- Extend a ladder while standing on the rungs.