

A toolbox talk on leaning ladder and stepladder safety



Notes for employers

This talk can be used to help improve the competence of workers using leaning ladders and stepladders across all industry sectors. The talk is divided into three sections, which can be given individually or together:

- hazards and pre-use checks;
- positioning;
- safe use.

Each section lasts approximately 10-15 minutes.

Ladders are involved in more falls from height than any other kind of work equipment. Usually the accident could have been avoided and training is a key step in encouraging people to use them safely. This talk can help but additional training may be required to give a full level of competence. For existing users the talk can be used as a refresher.

We have made it clear where the talk applies to leaning ladders, stepladders or both and there are additional notes for speakers.

Before you start

Training is only one part of managing the risks from working at height. All employers should have procedures in place to ensure that ladders are only used where other safer means of access cannot reasonably be used.

The following points must be considered before site works begin:

- identify all types of work where work at height is necessary;
- assess whether the work can be done without the need to work at height.

Where the work has to be done at height:

- identify if other safer means of access can be used such as:
 - tower scaffolds; or
 - powered access such as a cherry picker or a scissor lift;
- identify the remaining work for which ladders can still be used. Restrict this to short-duration, light-duty work based on a suitable assessment of the risks;
- for more guidance consult any method statements or risk assessments.

You should also have procedures in place for:

- choosing the right ladders for the job (length and strength);
- identifying each ladder so that you can keep track of it;
- routine, recorded inspections of ladders and a procedure for withdrawing unsafe ladders from use;
- secure storage away from sources of accidental damage;
- providing adequate supervision by competent people.

Using the talk

Not all of the talk may be relevant to your site - leave out the parts that are not. There may also be some risks that apply to your site that have not been included. Before using the talk, check its contents against your own risk assessment of ladder use on your site and add any information that you think is necessary.

Further information is available in HSE leaflet *Safe use of ladders and stepladders: An employers' guide*. You may also want to give people a copy of the HSE pocket card *Top tips for ladder and stepladder safety* to take away after the talk. See back cover for details.

Identify the people who use ladders and should listen to the talk and put what they hear into practice. Make sure they are present when it is delivered. Keep a record of those who have received the talk and make other arrangements for anybody who could not attend.

The person who delivers the talk should:

- be a good speaker;
- be committed to what they say;
- be able to demonstrate safe use of the ladders and accessories used; and
- know enough about the safe use of ladders to be able to answer any questions that may be asked.

While the talk can be read as written, it is important that whoever delivers it is comfortable with the language used. Where they are not, it should be modified to suit their own style of delivery. It can be delivered on site but try to make sure that there is minimal disruption.

Introducing the toolbox talk

Why talk about ladders?

Every year an average of 14 people die and a further 1200 are seriously injured at work as a result of falling from a leaning ladder or stepladder. Here are examples of such accidents.

- A joiner working from a leaning ladder to replace a gutter applied force to the guttering to free it from a bracket, lost his balance and fell 4 m. He broke a bone in his back resulting in 10 days in hospital and 6 months off work. He can now only do light work that does not involve heavy lifting.
- During refurbishment of a warehouse a contractor placed a wooden leaning ladder between two stands of pallet racking. The ladder was leaning at an angle of 45° with the top against one rack and the bottom against another, to stop it from slipping. The ladder broke under the user's weight, causing him to fall to the ground and fracture his skull.
- A self-employed electrician was working from the second from top rung of a 2 m-high industrial aluminium stepladder. He was over-reaching while operating a power drill and lost his balance, falling onto the concrete floor. He fractured his skull and right heel, and was off work for three months.

By listening to this talk and putting what you hear into practice you can help make sure these sort of accidents do not happen to you.

The talk is made up of three sections, each lasting 10-15 minutes:

- hazards and pre-use checks;
- positioning;
- safe use.

When the advice mentions 'ladders' in the heading, the section refers to both leaning ladders and stepladders.



Section 1 Hazards and pre-use checks

Hazards

1 Has anyone here fallen from a stepladder or a leaning ladder, witnessed a colleague have such a fall or been made aware of such an incident?

Notes for speaker Discuss the circumstances of the accident including what caused the fall and how it could have been avoided.

2 What are the reasons people fall from leaning ladders and stepladders?

Notes for speaker Answers should include:

- the leaning ladder slipping either at the top or bottom;
- the leaning ladder flipping over or coming away at the top;
- overstretching;
- a fault with the ladder;
- slipping or losing your footing;
- stepladder wobbles due to missing feet or not being correctly open;
- stepladder being used side-on to the work task.

Some of these will be a result of **bad planning** or use of the **wrong piece of equipment** for the job.

3 You do not need to fall from a great height to be badly injured. More people get injuries such as broken arms or legs falling less than 2 m from a ladder than falling from above this height. For example, a person was killed when they lost their footing on the second rung of a ladder and fell backwards, hitting their head on the floor.

4 Are there any questions so far?

Pre-use checks

5 All the company's ladders have been individually identified. Don't use any other ladder, including any brought from home or belonging to other companies.

Notes for speaker Explain how ladders are individually identified.

6 Every time you use a ladder check it beforehand to make sure it is safe to use. Frequently used ladders only need one such check a day - except for checking the feet when moving from soft/dirty ground to a clean area. Do you know what to look for?

Notes for speaker Answers should include:

- missing, damaged or worn anti-slip feet on metal and fibreglass ladders (these are essential for good grip);
- items stuck in the feet such as swarf, stones grease or dirt, preventing the feet from making direct contact with the ground;
- mud, grease or oil either on the rungs or the stiles (the sides);
- cracks in the rungs or stiles of the ladder;
- missing, broken or weakened rungs;
- missing or damaged tie rods;
- check metal ladders for cracked or damaged welds and missing or loose screws or rivets.

7 If you see any of these do not use the ladder or try and repair it yourself. Remove it from use and report it.

Notes for speaker Explain how to remove the ladder and who to report the problem to.

8 It is important to have clear on-site arrangements for storing ladders safely. Discuss and agree what your storage arrangements are - they should meet the manufacturer's recommendations.

9 Are there any questions?

Notes for speaker Summarise the main points that have been learnt by the team and complete the attendance records.

Section 2 Positioning

Positioning all types of ladder

- 1 Do not position a ladder:
 - where it can be knocked by a door or window - unless the door or window is secured. If this is impractical, have a person standing guard at a doorway, or inform workers not to open windows until they are told to do so;
 - where it may get struck by a passing vehicle;
 - within 6 m of an overhead power line (unless the lines have been temporarily disconnected or insulated).
- 2 Check each foot is on a clean, level, firm footing and look out for oil, grease or loose material, including plastic packaging and sheeting.
- 3 Make sure the ladder is at the correct height, never use boxes or bricks etc to gain extra height.

Positioning leaning ladders

- 4 Avoid placing ladders on side or back slopes, particularly if the surface is wet. Ladders should not be used on a suitable surface where the side slope is greater than 16° or the back slope is greater than 6° (see Figure 1), unless the manufacturer states otherwise. The rungs should always look horizontal and appropriate levelling devices may be used.

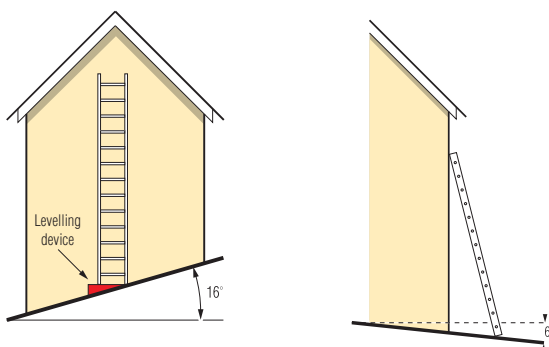


Figure 1 Ladder showing maximum angles at 16° on a side slope and 6° on a back slope

- 5 To erect a ladder, place its foot against a fixed object such as a wall and raise the other end by progressing hand over hand, from rung to rung, until it is upright.
- 6 Make sure the ladder is erected the right way up. If it is wooden ensure the tie rods are underneath the rungs, if it is aluminium check the rung profile is the right way round.

- 7 When erected, the ladder must be at an angle of 75° as this is the best angle for stability. Use the angle indicator marked on the stiles of some ladders or the 1 in 4 rule (1 unit for every 4 units up, as shown in Figure 2).

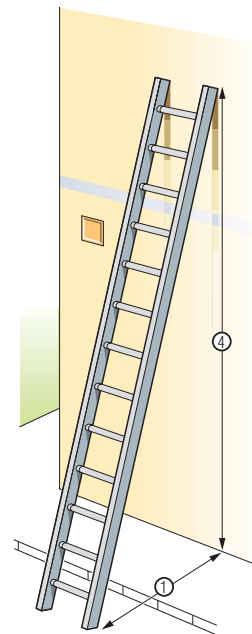


Figure 2 Ladder showing correct 1 in 4 angle (means of securing omitted for clarity)

- 8 If you cannot achieve this angle, because the ladder is too short, too long or something is in the way, then don't use it.
- 9 If the top of a ladder is 6 m up a wall how far out from the wall should the base be?

Notes for speaker Answer 1.5 m

- 10 Do not place the top of a ladder against a fragile surface such as plastic guttering or glazing as this might give way and cause instability.
- 11 Don't stand on the top three rungs. Always try and make sure a ladder extends at least 1 m (or three rungs) above where you will be working.
- 12 If you are using a ladder for access, make sure it rises to at least 1 m (or three rungs) above the landing place. But make sure it does not project so far above that it could pivot around the landing point.

Positioning stepladders

13 Check all four feet are in contact with the ground.

14 Try and position stepladders with the rungs facing the work activity and not side-on, as this is less stable (see Figure 3).



Figure 3a Correct - rungs facing work activity



Figure 3b Incorrect - rungs side-on to work activity

15 Make sure the stepladder is the correct length. Don't use the top two steps of a stepladder unless it has a suitable handrail (see Figure 4b). 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 4a). This should ensure a handhold is readily available.



Figure 4a Correct - three clear steps. Don't work any higher up this type of stepladder

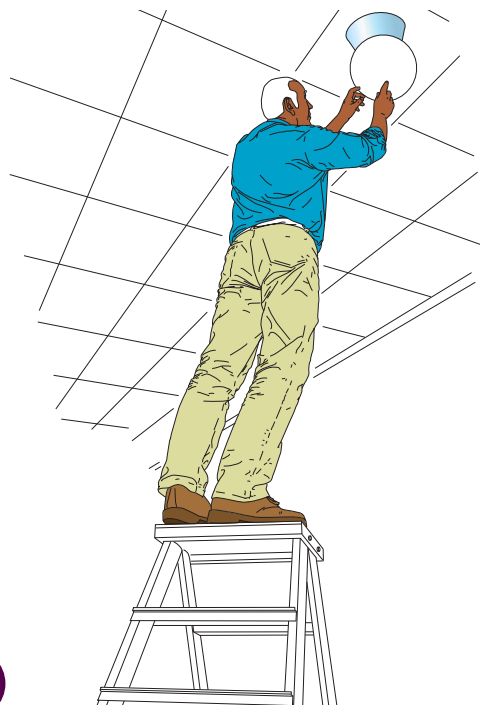


Figure 4b Incorrect - working from the top step with no handrail

16 When positioning a leaning ladder what should you check for?

Notes for speaker Answer: Check that the points raised in paragraphs 2, 4, 7, 10 and 11 of this section are mentioned - highlight any that are not.

17 When positioning a stepladder what should you check for?

Notes for speaker Answer: Check that the points raised in paragraphs 13, 14 and 15 of this section are mentioned.

18 Are there any questions?

Notes for speaker Summarise the main points that have been learnt by the team and complete the attendance records.

Section 3 Safe use of all types of ladder

Safe use of all types of ladders

- 1 Only use ladders for light-duty, short duration work which has been approved by the responsible person.
- 2 You could, for example, use a ladder for wiring a security light or replacing a bulb. However, avoid strenuous work such as freeing a seized nut, installing a run of cable trays or removing a heavy object as any sudden release can cause you to lose your balance and fall.

Notes for speaker Discuss the work that has been identified on your site that ladders can and cannot be used for and agree the tasks involved. Explain who needs to approve ladder work and make sure everybody understands and is happy with this.

- 3 Do not use a ladder if you have a medical condition, or are taking medication that could affect your safety, or you are under the influence of drugs or alcohol.
- 4 Make sure you have the right footwear, ie clean, in good condition and without dangling laces.
- 5 When going up or down a ladder, take each rung one at a time and don't rush. Use both hands to grip the ladder whenever possible.
- 6 On nearing the bottom, watch where you place your feet. Make sure you do not miss the lower rungs as you step off.
- 7 When working from a ladder, try and maintain three points of contact with it at all times (eg both feet and one hand).
- 8 Don't carry heavy or awkward shaped objects on a ladder. Never carry loads heavier than 25 kg - any over 10 kg should be avoided if possible. This includes long lengths of lightweight material such as plastic guttering, which can be passed up by a second person instead.

Notes for speaker Where toolbelts have been issued, explain that they are to avoid having to carry tools by hand up or down a ladder.

- 9 If you have to carry an item up or down, you must keep one hand free to grip the ladder.

Notes for speaker Provide examples of items that would be acceptable to carry up ladders in your workplace.

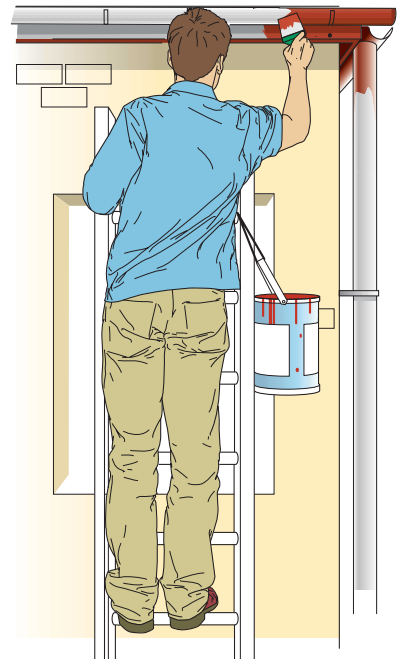


Figure 5a Correct - user maintaining three points of contact

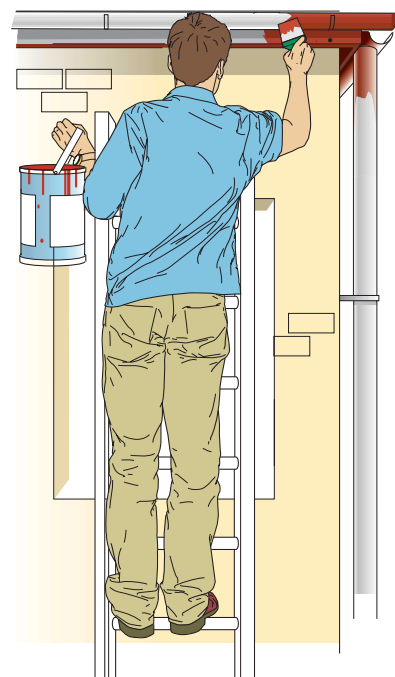


Figure 5b Incorrect - user not maintaining three points of contact



Figure 6 Incorrect - overreaching and failing to maintain three points of contact

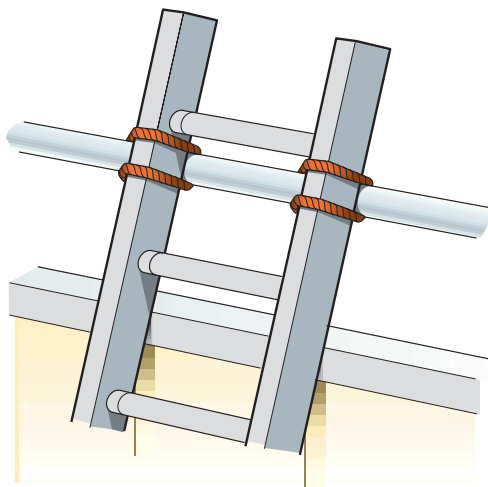


Figure 7a Correct- ladder tied at top stiles (correct for working on, not for access)

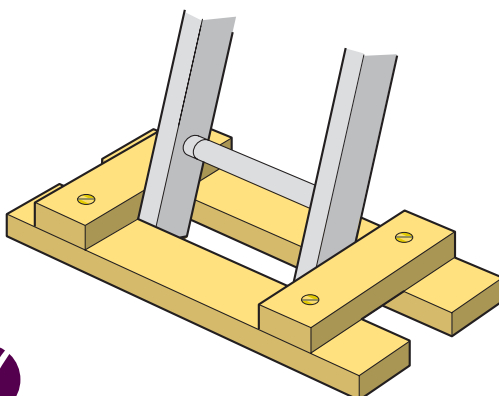


Figure 7b Correct - securing at the base

10 Do not overreach. Move the ladder so that you can keep your belt buckle (navel) inside the stiles and both feet on the same rung throughout the task. Do not place a foot on another surface, such as a window frame, to extend your reach.

11 When working on or close to electrical equipment that is live or may become live, use ladders that will not conduct electricity, such as those with fibreglass stiles.

12 Do not throw things from ladders.

13 What types of work can a leaning ladder be used for?

Notes for speaker Answers: Check these against the list of tasks identified by the company as suitable for ladder use.

14 What types of work can a stepladder be used for?

Notes for speaker Answers: Check these against the list of tasks identified by the company as suitable for stepladder use.

Safe use of leaning ladders

15 Wherever possible, tie a ladder to prevent it from slipping. This can either be at the top, the bottom or both, making sure both stiles are tied. Never tie a ladder by its rungs.

Notes for speaker Ask which method is the preferred option in their workplace.

16 If you can't tie the ladder use an 'effective ladder' or one with an 'effective ladder-stability device'. This means a ladder or ladder-stability device that the suppliers or manufacturers can confirm will be stable enough to use unsecured in your worst-case scenario.

Notes for speaker If ladder-stability devices are used, explain when they are to be used and demonstrate how to use them correctly. Explain that they are designed to provide an extra level of protection and not to enable you to do something that would otherwise be unsafe.

17 If the precautions suggested in paragraphs 15 and 16 of this section are not possible then you can wedge the stiles against a wall or other similar heavy object or, as a last resort, have a second person foot the ladder.

18 How and where should a ladder be tied?

Notes for speaker Check the answer given is the company's preferred way.

19 Remember to check that all the basic conditions for safety have been met. This is particularly important if the ladder is not tied. Can you remember what they are?

Notes for speaker *Answers should include the following.*

- *The ground is level, firm and free from anything that may cause the ladder to slip.*
- *The ladder is at the correct 1 in 4 angle.*
- *You can hold on with both hands when climbing up or down.*
- *The work does not involve using both hands, over-reaching or working above three rungs from the top.*

Safe use of stepladders

20 Make sure the legs are fully open before you go up.

21 When working from a stepladder, always make sure you have an available handhold. This means having a suitable handrail or not working off the top two or three rungs, depending on the design of the stepladder.

22 Avoid working side-on from a stepladder, especially when applying force, such as when drilling.

23 For higher-risk work, such as applying a side-on-force that cannot be avoided, you should prevent the steps from tipping over, for example by tying the steps to a suitable point.

24 Stepladders should not be used as a means of access to another level, such as a roof (unless they have been designed for this) as they can become unstable when you are stepping on or off them.

25 Are there any questions?

Notes for speaker *Summarise the main points that have been learnt by the team and complete the attendance records.*

Further information



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This leaflet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

This leaflet is available in priced packs of 5 from HSE Books, ISBN 0 7176 6106 7. Single free copies are also available from HSE Books.

More advice can be found in:

Safe use of ladders and stepladders: An employers' guide Leaflet INDG402 HSE Books 2005 (single copy free or priced packs of 5 ISBN 0 7176 6105 9)

Top tips for ladder and stepladder safety Pocket card INDG405 HSE Books 2005 (single copy free or priced packs of 25 ISBN 0 7176 6127 X)

The Work at Height Regulations 2005: A brief guide Leaflet INDG401 HSE Books 2005 (single copy free or priced packs of 10 ISBN 0 7176 2976 7)

You can also find information online at: www.hse.gov.uk/falls/index.htm

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