

AFAG308

Top-handled chainsaws

Introduction

This leaflet covers the safe working practices to be followed when using a petrol-powered top-handled chainsaw for arboricultural off-ground work. Tree work requiring the use of a chainsaw should only be carried out by a trained and competent climber who has experience in chainsaw use, or by a trainee under supervision who is competent using a chainsaw on the ground.

You can use this leaflet, along with the chainsaw manufacturer's handbook, as part of your risk assessment to help identify the controls to put in place when using a top-handled chainsaw.

You must assess the effect of the site and the weather as well as following this guidance.

Operators who do not observe good working practices with chainsaws in trees can cause serious accidents and fatalities. All operators must have had appropriate training in how to operate the machine and how to carry out the tasks required (see HSE leaflet INDG317 *Chainsaws at work*).

Top-handled chainsaws are only suitable for use off the ground. Operators must use rear-handled saws when working on the ground.

Read this leaflet in conjunction with AFAG401 *Tree-climbing operations*, 402 *Aerial tree rescue* and 403 *Mobile elevating work platforms (MEWPs) for tree work*. For guidance on work preparation see safety topics on HSE's Treework webpages: www.hse.gov.uk/treework/index.htm.

Personal protective equipment (PPE)

While no PPE can provide 100% protection against cuts from chainsaws, when climbing, chainsaw users should wear the following:

- A safety helmet (the Arboriculture and Forestry Advisory Group (AFAG) recommends a mountaineering-style helmet complying with BS EN 12492).
- Eye protection (complying with either BS EN 1731 or BS EN 166).
- Hearing protection (complying with BS EN 352).
- Suitable gloves appropriate to the task and subject to the operator's risk assessment.

- Leg protection* and groin protection (complying with BS EN 381-5). AFAG recommends Type C leg protection for aerial work, because of the high all-round chainsaw cut protection. However, where wearing Type C is impractical (eg because of the higher risk of heat stress associated with it), it may be appropriate to use Type A, where justified by risk assessment.
- Protective boots* with good grip and protective guarding at front vamp and instep (complying with BS EN ISO 20345).
- Non-snag outer clothing. The use of high-visibility clothing may also be appropriate.

As a minimum, each person should carry a personal first-aid kit, incorporating a large wound dressing, barrier gloves, plasters and whistle (see INDG214 *First aid at work: Your questions answered*).

Hand-cleaning material such as waterless skin cleanser or soap, water and paper towels should be readily available.

The machine

Only use a chainsaw if:

- the stop switch works and is clearly marked;
- the front hand guard/chain brake, chain catcher and anti-vibration mounts are undamaged and functional;
- the throttle opens only when the throttle lock is depressed;
- it is fitted with a reduced kickback chain;
- the exhaust system and silencer are in good order;
- there is a means for attaching a suitably rated or tear-away lanyard to the rear of the saw;
- there is a mandatory hearing protection symbol on the saw.

Fuelling

Petrol vapour is invisible and can travel considerable distances from spillage or fuelling sites. Maintain a safe distance from all sources of ignition at all times.

When storing fuel, avoid vapour ignition from any sources such as fires, people smoking or the chainsaw. Select a site shaded from direct sunlight.

Use fuel containers specifically designed for chainsaw use that incorporate a non-spill spout. The containers must be clearly labelled and have securely fitting caps.

Replace all fuel and oil caps securely. Make sure the 'O' ring seals on the fuel and oil caps are in good condition.

Move a safe distance (normally at least 4m) from the fuelling point before starting the chainsaw.

Preparing to work

Ensure that a minimum of two people are present during all tree-climbing operations. One of the team should be available on the ground, competent and equipped to perform an aerial rescue without delay (see AFAG402 *Aerial tree rescue*).

* These should bear the chainsaw logo. See Treework webpages www.hse.gov.uk/treework/safety-topics/chainsaw-operator.htm.

Carry out a risk assessment for the site as a whole, including an emergency plan, and record the significant findings. Make sure all the people involved in any operation on the worksite are aware of the controls identified and comply with them.

Agree a safe method of operation for the work to make sure that a safe working distance can be maintained between workers and between workers and machinery (outside the risk zone of the machines being used).

Ensure that a designated and responsible person knows the daily work programme and agree with them a suitable emergency procedure. Where reasonably practicable, use a two-way radio or mobile phone and a pre-arranged call-in system.

Ensure that, in case of emergency, the emergency services are provided with adequate information, eg a grid reference, a designated meeting point, the distance from the main road, the type of access (suitable for car/four-wheel drive/emergency service vehicles). In urban areas, street names and postal codes are essential. Know the location details before they are needed in an emergency.

On all reasonably foreseeable approaches to the worksite, erect warning and prohibition signs conforming to the Health and Safety (Safety Signs and Signals) Regulations 1996 to indicate a hazardous worksite and that unauthorised access is prohibited. In areas of high public access, a risk assessment may indicate that additional controls, eg barrier tape, barriers or extra personnel, are required.

Check the following before starting work and periodically throughout the day:

- Are all external nuts, screws and fastenings secure?
- Is the chain tension correct? (To check, pull the chain fully round the guide bar in the running direction. Wear gloves or use a cloth.)
- Is the on-off switch effective?
- Is the chain brake effective?
- Is the chain stationary when the saw is idling without the chain brake applied?
- Is the chain oiling system working?

Starting the saw

Maintain a safe working distance from other people at all times.

Ensure that the saw is started and warmed up. Before passing the saw up to the climber, ground staff should check the following functions:

- Is oil delivery to the chain okay?
- Is the chain brake working?
- Is the chain stationary when idle?
- Does the saw continue to run in its full range of working positions?
- Is the on/off switch working?
- Is the chain tension okay?

To hold the saw for a cold start, place the saw on the ground with the left hand on the front handle and right knee on the rear of the control handle. Apply the chain brake. Engage the starter mechanism and pull the starter cord firmly with the right hand. Release the half throttle mechanism as soon as the saw has started.

If conditions prevent a ground start, the saw can be started using the thigh start, but beware of excess heat if the saw has a side exhaust outlet. Alternatively, the saw can be started with the right hand on the control handle. Apply the chain brake, engage the starter mechanism and pull the starter cord firmly with the left hand.

Before restarting in the tree, ensure that the saw chain is clear of obstructions such as climbing equipment, protective clothing or parts of the tree. Apply the chain brake. Start the saw either:

- by holding the front handle with the left hand and pulling the starter cord with the right hand; or
- by holding the saw with the right hand on the control handle and pulling the starter cord with the left hand.

Using the saw

Top-handled chainsaws have two handles. To maintain proper control of the saw ensure, wherever possible, that you grip both handles.

Keep the saw well clear of yourself and your climbing equipment at all times. Ensure you obtain the best available cutting position to minimise the risk of being struck by the saw (including kickback), or by severed pieces of wood.

Incorrect, one-handed use significantly increases the risk of injury from the saw if it kicks back, skates or bounces on contact with a branch, or drops through at the end of a cut.

Never 'hold and cut' a section. Do not attempt to catch a falling section.

One-handed use should be restricted to circumstances where one hand is required to maintain a stable working position and the saw is used at extended reach with the other hand, eg while cutting at the extremities of limbs.

Poor work positioning in the tree is not an acceptable reason for one-handed use.

The chainsaw may be attached to the climber's harness by means of a suitably rated or tear-away lanyard. However, ensure that it is not attached to the climber in situations where there is a risk of the chainsaw being trapped or taken with a severed section.

Ensure that the chainsaw is switched off, or the chain brake applied, after each cutting operation. Do not leave the engine running for long periods when not in use.

Maintenance

Ensure maintenance is carried out as specified in the manufacturer's handbook. You should follow a maintenance checklist, for example:

- Maintain equal cutter lengths, specified cutter angles and depth gauge profiles. Inspect the chain at each sharpening for abnormal wear patterns and damage.
- Check the guide bar rails for cracks and distortion.
- Check the drive sprocket periodically for excessive wear or damage.
- Do not make any adjustments, other than to the carburettor, when the engine is running.
- Inspect the anti-vibration rubbers frequently and replace as specified in the manufacturer's handbook.
- Use only recommended non-flammable cleaner. Do not use petrol to clean any part of the machine.

Do not delay reporting any defects that may have occurred. If necessary, take the saw out of operational use. Replace faulty parts with manufacturer's recommended items.

Further reading

Chainsaws at work Leaflet INDG317(rev2) HSE Books 2012
www.hse.gov.uk/pubns/indg317.htm

Tree-climbing operations Leaflet AFAG401(rev2) HSE Books 2013
www.hse.gov.uk/pubns/afag401.htm

Aerial tree rescue Leaflet AFAG402(rev1) HSE Books 2013
www.hse.gov.uk/pubns/afag402.htm

Mobile elevating work platforms (MEWPs) for tree work Leaflet AFAG403(rev1)
HSE Books 2013 www.hse.gov.uk/pubns/afag403.htm

Treework webpages: www.hse.gov.uk/treework/index.htm

First aid at work: Your questions answered Leaflet INDG214(rev1)
HSE Books 2009 www.hse.gov.uk/pubns/indg214.htm

*Safety signs and signals. The Health and Safety (Safety Signs and Signals)
Regulations 1996. Guidance on Regulations L64* (Second edition)
HSE Books 2009 www.hse.gov.uk/pubns/books/L64.htm

Noise: Don't lose your hearing! INDG363(rev2) HSE Books 2012 www.hse.gov.uk/pubns/indg363.htm

Further information

For information about health and safety, or to report inconsistencies or inaccuracies in this guidance, visit www.hse.gov.uk. You can view HSE guidance online and order priced publications from the website. HSE priced publications are also available from bookshops.

British Standards can be obtained in PDF or hard copy formats from BSI: <http://shop.bsigroup.com> or by contacting BSI Customer Services for hard copies only Tel: 020 8996 9001 email: cservices@bsigroup.com.

This guidance is issued by the Health and Safety Executive. Following the guidance is not compulsory, unless specifically stated, and you are free to take other action. But if you do follow the guidance you will normally be doing enough to comply with the law. Health and safety inspectors seek to secure compliance with the law and may refer to this guidance.

This document is available at www.hse.gov.uk/pubns/afag308.htm.

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