



# Using petrol-driven chainsaws



## Fuelling

- 23 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.
- 24 Store fuel to avoid vapour ignition from any source such as fires, people smoking or the chainsaw. Select a site shaded from direct sunlight.
- 25 Use fuel containers specifically designed for chainsaw use that incorporate a non-spill spout. The containers must be clearly labelled and have caps which fit securely.
- 26 Replace all fuel and oil caps securely. Ensure the 'O' ring seals on the fuel and oil caps are in good condition.
- 27 Move a safe distance (normally at least 4 m) from the fuelling point before starting the chainsaw.

## Starting the saw

- 28 Chainsaws must be used with the right hand on the rear handle. The thumb of the left hand must be under the front handle.
- 29 Maintain a safe distance from other people.
- 30 Be sure the saw chain is clear of obstructions.
- 31 From cold:
  - Put the saw on the ground.
  - Set the controls as recommended by the manufacturer.
  - Place one foot on the rear handle plate and the left hand on the front handle.
  - Pull the starter cord firmly.
- 32 From hot:
  - As from cold but without using the choke or the half throttle stop controls; or
  - Thigh or knee start:
    - Grip the rear handle firmly between the knees.
    - Grip the front handle with the left hand.
    - Pull the starter cord firmly.
- 33 Where conditions prevent a cold start on the ground, a thigh or knee start may be used.
- 34 Check that the chain brake works correctly. Apply the chain brake when walking on site, or if the saw is not being used for short intervals (more than 15 seconds). Apply the chain brake with the back of the left wrist. Switch the saw off if it is not in use for longer periods.

## Further reading

<i>Basic chainsaw felling and manual takedown</i>	AFAG302
<i>Chainsaw snedding</i>	AFAG303
<i>Chainsaw cross-cutting and manual stacking</i>	AFAG304
<i>Chainsaw clearance of windblow</i>	AFAG306
<i>Chainsaw felling of large trees</i>	AFAG307
<i>Top-handled chainsaws</i>	AFAG308
<i>Use of winches in directional felling and takedown</i>	AFAG310
<i>Emergency planning</i>	AFAG802
<i>Electricity at work: Forestry and arboriculture</i>	AFAG804
<i>First aid at work: Your questions answered</i>	INDG214
<i>Managing health and safety in forestry</i>	INDG294
<i>Chainsaws at work</i>	INDG317
<i>Protect your hearing or lose it!</i>	INDG363

These publications are available from HSE Books - see 'Further information'.

## Notes

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## 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.**

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## Introduction

This leaflet covers the safe working practices to be followed when using a petrol-driven chainsaw. For guidance on specific operations involving chainsaws, see AFAG leaflets 302-310.

Top-handled saws are not covered in this leaflet. They are only suitable for use off the ground by trained operatives and must be used in accordance with the manufacturer's instructions (see AFAG leaflet 308 *Top-handled chainsaws*).

You can use this leaflet, along with the chainsaw manufacturer's handbook, as part of the risk assessment process to help identify the controls to put in place when using chainsaws in forestry and other tree work.

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

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*).

Chainsaw users should be particularly aware of the potential hazards of being cut by the saw, hit by timber and exposure to noise and vibration.

## Personal protective equipment (PPE)

- 1 While **no PPE can provide 100% protection against cuts from chainsaws**, the following should be used:
  - Safety helmet (complying with EN 397).
  - Eye protection (mesh visor complying with EN 1731 or safety glasses to EN 166).
  - Hearing protection (complying with EN 352).
  - Gloves.\* The type of glove will depend on a risk assessment of the task and the machine. Consider the need for protection from cuts from the chainsaw, thorny material and cold/wet conditions. Where chainsaw gloves are required, these should comply with EN 381-7.
  - Leg protection\* incorporating chain-clogging material (complying with EN 381-5).
  - Protective boots\* with good grip and protective guarding at front vamp and instep (complying with BS EN 20345).
  - Non-s snag outer clothing. The use of high-visibility clothing may also be appropriate.



\* The items marked with an asterisk should bear the chainsaw logo (see left) and show the chain speed to which they have been tested.

- 2 Each person should carry a personal first-aid kit including a large wound dressing (see HSE leaflet INDG214 *First aid at work: Your questions answered*).
- 3 Hand-cleaning material such as waterless skin cleanser or soap, water and paper towels should be readily available.

## The machine

- 4 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 chain type recommended by the manufacturer and is designed to reduce kickback, which is the uncontrolled upward and/or backward motion of the guide bar. It happens when the nose of the guide bar contacts an object such as a log or branch or when the wood pinches the saw chain in the cut (see Figure 1);
  - the exhaust system and silencer are in good order;
  - there is a mandatory hearing protection symbol on the chainsaw.

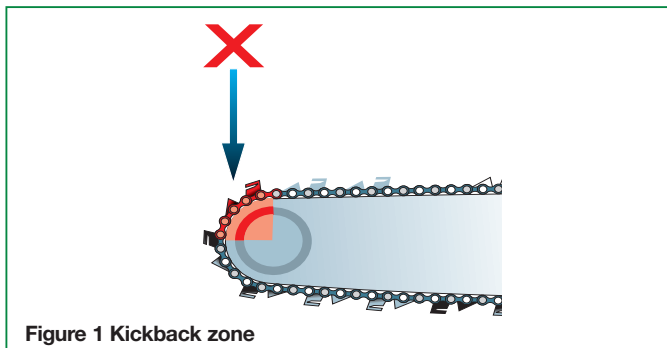


Figure 1 Kickback zone

- 5 Make sure you have the equipment recommended by the manufacturer to carry out sharpening, maintenance and adjustments and a chain cover for transportation.
- 6 Operators should not normally work alone.
- 7 Ensure that a risk assessment has been carried out and the significant findings recorded. Make sure all workers involved in any operation on the worksite are made aware of and comply with the controls identified.
- 8 Agree a safe method of operation for the work to be done to ensure that a safe working distance (at least 5 m) can be maintained between workers, and between workers and machinery (outside the risk zone of the machines being used).

## Preparing to work

- 9 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.
- 10 In case of emergency, be able to provide the emergency services with adequate information, eg a grid reference, a designated meeting place, 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 post codes are essential. Know the location details before they are needed in an emergency. (Also see AFAG leaflet 802 *Emergency planning*).
- 11 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, indicating a hazardous worksite and that unauthorised access is prohibited. In areas of very high public access, a risk assessment may indicate that additional controls (eg barrier tape, barriers, extra staffing) are required.

## Maintenance

- 12 Ensure maintenance is carried out as specified in the manufacturer's handbook.
- 13 Check all external nuts, screws and fastenings are secure.
- 14 Check the chain tension by pulling the chain fully round the guide bar in the running direction. Wear gloves or use a cloth.
- 15 Check periodically throughout the day that:
  - the on-off switch is effective;
  - the chain brake is effective;
  - the chain is stationary when the saw is idling without the chain brake applied;
  - the chain oiling system is effective.
- 16 Maintain equal cutter lengths, specified cutter angles and depth gauge profiles.
- 17 Inspect the chain at each sharpening for abnormal wear patterns and damage.
- 18 Check the guide bar rails for cracks and distortion.
- 19 Check the drive sprocket periodically for excessive wear or damage.
- 20 Do not make any adjustments, other than to the carburettor, when the engine is running.
- 21 Inspect anti-vibration rubbers frequently and replace as specified in the manufacturer's handbook.
- 22 Use only recommended non-flammable cleaner. Do not use petrol to clean any part of the machine.