

# Using Petrol-Driven Chainsaws

Irish Forestry Safety Guide  
(IFSG)  
301



## 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 HSA leaflets 302, 303, 304, 306 & 307.

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.

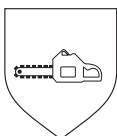
You must also assess the effect of the site and the weather as well as following this guidance.

All operators must have had appropriate training in how to operate the machine and how to carry out the tasks required (see IFSG leaflet Chainsaw Safety Training Advice Information Sheet [http://hsa.ie/eng/Publications\\_and\\_Forms/Publications/Information\\_Sheets/HSA\\_Chainsaws\\_Info\\_Sheet.pdf](http://hsa.ie/eng/Publications_and_Forms/Publications/Information_Sheets/HSA_Chainsaws_Info_Sheet.pdf)).

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 injuries 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).



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

- Protective boots\* with good grip and protective guarding at front vamp and instep (complying with EN 381-345).
- Non-snag outer clothing. The use of high-visibility clothing may also be appropriate.

**2** Each person should carry a personal first-aid kit including a large wound dressing.

**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. Kickback 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; and
- there is a mandatory hearing protection symbol on the chainsaw.

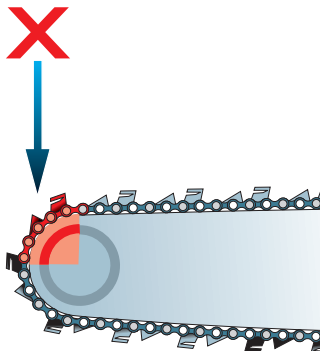


Figure 1:  
Kickback zone

- 5 Make sure you have the equipment recommended by the manufacturer to carry out sharpening, maintenance and adjustments and a chain cover for transportation.

## Preparing to work

- 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).

- 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.

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- 11 On all reasonably foreseeable approaches to the worksite, erect warning and prohibition signs conforming to the Health and Safety and Welfare at Work (General Applications) Regulations 2007 (amended 2010), 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 (for example, barrier tape, barriers, extra staffing) are required.

## Maintenance

- 12** Ensure maintenance is carried out as specified in the manufacturer's handbook.

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- 13** Check all external nuts, screws and fastenings are secure.

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- 14** Check the chain tension by pulling the chain fully round the guide bar in the running direction. Wear gloves or use a cloth.

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- 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; and
  - the chain oiling system is effective.

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- 16** Maintain equal cutter lengths, specified cutter angles and depth gauge profiles.

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- 17** Inspect the chain at each sharpening for abnormal wear patterns and damage.

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- 18** Check the guide bar rails for cracks and distortion.

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- 19** Check the drive sprocket periodically for excessive wear or damage.

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- 20** Do not make any adjustments, other than to the carburettor, when the engine is running.

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- 21** Inspect anti-vibration rubbers frequently and replace as specified in the manufacturer's handbook.

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- 22** Use only recommended non-flammable cleaner. Do not use petrol to clean any part of the machine.

## 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 4m) 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.
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- 32** From hot:
- As from cold but without using the choke or the half throttle stop controls; or
  - Thigh or knee start:
    - Grip the re handle firmly between the knees.
    - Grip the front handle with the left hand.
    - Pull the starter cord firmly.
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**33** Where conditions prevent a cold start on the ground, a thigh or knee start may be used.

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**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.

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### Further Information and Guidance:

Visit our website at [www.hsa.ie](http://www.hsa.ie), telephone our contact centre on **1890 289 389** or email [wcu@hsa.ie](mailto:wcu@hsa.ie)



Use BeSMART, our free online risk assessment tool at [www.besmart.ie](http://www.besmart.ie)  
Check out our range of free online courses at [www.hslearning.ie](http://www.hslearning.ie)

## Further reading

Available at [www.hsa.ie/eng/Publications\\_and\\_Forms/Publications/Agriculture\\_and\\_Forestry/](http://www.hsa.ie/eng/Publications_and_Forms/Publications/Agriculture_and_Forestry/)

- Code of Practice for Managing Safety and Health in Forestry Operations
- Information on Health and Safety Responsibilities of Forest Landowners who intend to fell their trees
- Guide to Safe Working with Timber and Chainsaws
- Chainsaw Safety Training Advice Information Sheet

IFSG Leaflets:

- 301 - Using Petrol Driven Chainsaws
- 302 - Basic Chainsaw Felling and Manual Takedown
- 303 - Chainsaw Snedding
- 304 - Chainsaw Cross Cutting and Manual Stacking
- 306 - Chainsaw Clearance of Windblow
- 307 - Chainsaw Felling of Large Trees
- 503 - Extraction by Forwarder
- 603 - Mechanical Harvesting
- 804 - Electricity at Work: Forestry

*In association with*



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This guide sets out evidence of good practice for a specific forestry task. Deviation from the guide should only be considered after a full risk assessment has been undertaken by competent persons. Health and safety obligations MUST be met at all times.

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