

## **Chain saw kickback**



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The following revisions have been formally approved and are marked by the symbol delta ( $\Delta$ ) in the margin on the attached replacement pages:

<b>Revised</b>	Table F.1
<b>New</b>	None
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# Preface

This is the fourth edition of CSA Z62.3, *Chain saw kickback*. It supersedes the previous editions, published in 2004, 1996, and 1990.

This Standard arose from a need to reduce injuries and fatalities in the Canadian forest industry caused by incidents from chain saw kickback. Saw chain designs were modified to produce chains that would reduce the degree of kickback. It therefore became important to evaluate the kickback performance of these chains and to determine the extent of their effectiveness.

The original intent was to prepare a Standard that would evaluate only the performance of so-called low-kickback chain without the influence of safety features such as chain brakes. Chain saws, however, are normally sold as complete units, so it became necessary to develop a dual approach. This Standard therefore addresses the performance of chain as part of a complete chain saw unit, as well as chain purchased separately as replacement chain.

Major revisions to this edition include the following:

- (a) addition of definitions for computed kickback angle with brake, computed kickback angle without brake, and chain stopping angle. These terms are now used throughout this Standard to aid in the understanding of computed kickback angle within the context of each clause;
- (b) addition of a definition and requirements for a reduced-kickback guide bar;
- (c) lowered acceptance limits for kickback on Class A and B chain saws;
- (d) introduction of the generic kickback unit (GKU) to qualify low-kickback replacement chain. The intent of the Technical Committee on Chain Saws is for the GKU to replace the list of chain saws in [Table 1](#), although [Table 1](#) has been retained in this edition to allow laboratories time to transition to use of the GKU.

The design of the GKU is intended to closely emulate the kickback performance of the chain saws listed in [Table 1](#) for each respective chain family, except 1/4" chain pitch (trade size). Achieving this objective required four design iterations and over five years of development. Verified by conducting round robins with several experienced laboratories in North America, the GKU has shown itself to be capable of reproducing equivalent computed kickback angles compared to the manufacturer's original evaluated values for the 3/8 mini, 3/8 standard, and 0.325 chain families.

New [Clause 6](#) specifies the test methods for replacement saw chain and new [Annex F](#) provides set-up and operating instructions for the GKU; and

- (e) to further reduce sources of variability in kickback testing, a new test procedure and acceptance limits have been created for the hardness of medium-density fibreboard. The new test procedure is specified in [Annex E](#).

Compliance of new products with the requirements of this Standard is expected within one year after publication (two years for products existing at the time of publication).

This Standard is considered suitable for use for conformity assessment within the stated scope of the Standard.

This Standard was prepared by the Technical Committee on Chain Saws, under the jurisdiction of the Strategic Steering Committee on Occupational Health and Safety, and has been formally approved by the Technical Committee.

October 2011

## Note

- (1) Use of the singular does not exclude the plural (and vice versa) when the sense allows.
- (2) Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.
- (3) This publication was developed by consensus, which is defined by CSA Policy governing standardization — Code of good practice for standardization as "substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity". It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this publication.

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# Z62.3-11

## *Chain saw kickback*

### 1 Scope

#### 1.1

This Standard specifies kickback performance requirements for gasoline-powered chain saws, 80 cm<sup>3</sup> (4.88 in<sup>3</sup>) engine displacement and smaller, Classes 1A, 1B, and 1C, and electric chain saws, Classes 2A, 2B, and 2C, intended for forestry and other wood-cutting applications, as defined in CSA Z62.1.

#### 1.2

This Standard also specifies kickback performance requirements for replacement saw chains.

#### 1.3

This Standard also specifies kickback marking requirements.

#### 1.4

In CSA standards, “shall” is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; “should” is used to express a recommendation or that which is advised but not required; and “may” is used to express an option or that which is permissible within the limits of the standard.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material.

Notes to tables and figures are considered part of the table or figure and may be written as requirements.

Annexes are designated normative (mandatory) or informative (nonmandatory) to define their application.

#### 1.5

The values given in SI units are the units of record for the purposes of this Standard. The values given in parentheses are for information and comparison only.

### 2 Reference publications

This Standard refers to the following publications, and where such reference is made, it shall be to the edition listed below, including all amendments published thereto.

#### **CSA (Canadian Standards Association)**

Z62.1-11

*Chain saws*

#### **ANSI (American National Standards Institute)**

B175.1-2011

*Safety Requirements for Gasoline Powered Chain Saws*

#### **ISO (International Organization for Standardization)**

6535:2008

*Portable chain-saws — Chain brake performance*