

ANSI B175.4-2006

American National Standard

*for Outdoor Power Equipment –
Portable, Handheld,
Internal-Combustion-Engine-Driven
Cut-Off Machines –
Safety Requirements*



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Cut-Off Machines –
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Sponsor

Outdoor Power Equipment Institute

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Abstract

American National Standard

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Foreword (This foreword is not part of American National Standard ANSI B175.4-2006.)

This standard replaces the withdrawn ANSI B7.5-1990, *American National Standard Safety code for the construction, use, and care of gasoline-powered, hand-held, portable, abrasive cut-off machines.*

The B 175.4 Standards Development Committee developed this standard. The Committee is comprised of several organizations and individuals that evaluate or manufacture these products and accessories.

A summary of the principle changes included in this standard is as follows:

- The new standard covers maximum wheel diameters up to 16 inches rather than 14 inches as described in the withdrawn ANSI B7.5-1990.
- New important technical specifications and test procedures were added, such as detailed noise and vibration requirements.
- During the development of this standard, an attempt to harmonize it globally with relevant ISO, CEN, and ANSI standards was considered and implemented where appropriate. In this regard, some of the clauses of this standard are identified as optional as they may only apply to certain market requirements.
- Concerning the maximum speed for cut-off machines, the definitions of ANSI B7.1-2000 apply, i.e., to define a maximum spindle speed, which correlates to the maximum speed of the cut-off wheel. Usually this maximum wheel speed is calculated from the maximum peripheral speed of the existing wheels, i.e., 100 m/s. Under these circumstances, clause 8 of ANSI B7.1-2000 for Special Speeds is applicable.
- Requirements for heat protection were added.
- Requirements were defined for the strength of the wheel guard. The test requirements are identical to those in EN 1454.
- A requirement has been added, by which the mounting of the wheel assembly shall not become loose when a defined torque is applied to the cut-off wheel in both directions.
- The clause on marking was transferred from ANSI B7.5 with several additions. Additions concern safety markings and optional noise labelling.
- In an informative annex (annex F), several symbols were added.

There are six annexes in this standard. Annexes A - E are normative and are considered part of the standard. Annex F is informative and is not considered part of the standard.

Suggestions for improvements of this standard are welcome. They should be sent to B175.4 c/o OPEI, 341 South Patrick Street, Alexandria, VA 22314.

The following organizations, recognized as having interest in the standardization of safety requirements for cut-off machines, were contacted prior to the approval of this revised standard. Inclusion in this list does not necessarily imply that the organization concurred with the submittal of the proposal to ANSI:

AEM/SMI (Association of Equipment Manufacturers' Masonry and Concrete/
Saw Manufacturers Institute)
Concrete Sawing & Drilling Association
Dolmar Germany
Echo, Inc.
Homelite
Husqvarna AB/Partner Industrial
Piedmont Technical Associates
Power Tool Institute
Saint-Gobain Abrasives
Shindaiwa, Inc.
Southland Engineering Systems
Stihl, Inc.
Underwriters Laboratories, Inc.

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1 Scope and purpose

This standard applies to portable, hand-held gasoline powered-machines, which use a rotating cut-off wheel that is center-mounted on and driven by a spindle shaft, that are designed for cutting construction materials such as asphalt, concrete, stone, and metal.

NOTE – The requirements in this standard apply to machines using up to 16 in (410 mm) cut-off wheels, which was the State-of-the-Art at the time this standard was developed. If the machine is designed for larger than 16-inch cut-off wheels, the requirements of this standard must be considered. The requirements listed may apply to machines designed for larger cut-off wheels.

Cut-off wheel design and safety specifications are not included in this standard.

1.1. Purpose

This standard establishes the minimum manufacturer requirements to reduce the risk of injury associated with the use of portable, hand-held gasoline powered machines using a rotating cut-off wheel.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this American National Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this American National Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

ANSI B7.1-2000, *Safety requirements for the use, care, and protection of abrasive wheels*

ANSI B175.1-2000, *Power tools for gasoline-powered chain saws – Safety requirements*

ANSI S1.4-1983 (R2001), *Specification for sound level meters*

ANSI Z87.1-2003, *Practice for occupational and educational eye and face protection*

ANSI/UL 969-2001, *Marking and labelling systems*

IEC 651:1979, *Sound level meters*

ISO 5349, *Mechanical vibration – Measurement and evaluation of human exposure to hand-transmitted vibration – Part 1: General requirements*