

# American National Standard

*for Commercial Turf Care Equipment –  
Safety Specifications*

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**ANSI/OPEI B71.4-2012**  
Revision and redesignation of  
ANSI B71.4-2004

American National Standard  
for Commercial Turf Care Equipment –  
Safety Specifications

Sponsor

**Outdoor Power Equipment Institute (OPEI)**

Approved June 8, 2012

**American National Standards Institute, Inc.**

# American National Standard

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**Foreword** (This foreword is not part of American National Standard ANSI/OPEI B71.4-2012.)

This standard is a revision and redesignation of American National Standard for Commercial Turf Care Equipment - Safety Specifications, ANSI B71.4-2004. The first edition of this standard was approved and published by the American National Standards Institute in 1980. It has been revised five times since initial publication, including this revision.

The present revision was prepared by the Outdoor Power Equipment Institute (OPEI) Subcommittee on Commercial Turf Care Equipment as part of OPEI's continuing work on standards.

The effective implementation date of this standard shall be two (2) years after the approval date and shall apply to all products built after that date. Manufacturers may also certify to this standard anytime after the approval date.

A summary of the principal changes included in this revision is as follows:

- Changed format of standard to harmonize with ANSI B71.1
- Broadened scope of ROPS requirements for ride-on machines
- Removed lateral upset test
- Added specific force for guards used as steps
- Changed stability test to last tire off for lift-off
- Hot surface requirements revised to use ISO cones
- Revised guarding requirements for operator location and rotating engine screens

Consensus for this standard was achieved by the use of the Canvass Method. There are three annexes in this standard. Annexes A, B, and C are informative and are not considered part of this standard.

Suggestions for improvement of the standard will be welcome. They should be sent to the Outdoor Power Equipment Institute, 541 South Patrick Street, Alexandria, VA 22314 or [www.opei.org](http://www.opei.org).

The following organizations recognized as having an interest in the standardization of safety requirements for power lawn mowers, land and garden tractors, and lawn tractors were contacted prior to the approval of this revision of the standard. Inclusion in the list does not necessarily imply that the organization concurred with the submittal of the proposal to ANSI.

Alamo Group  
Ariens Company  
American Society of Agricultural and Biological Engineers (ASABE)  
Brickman Group, LTD.  
Briggs & Stratton Corporation  
Christopherson, Herman P. (independent consultant)  
Consumers Union  
Consumer Product Safety Commission (CPSC)  
Cohenberger, Lawrence M. (independent consultant)  
Husqvarna  
John Deere Tractor Corporation  
MTD Products, Inc.  
Scag Power Equipment, Inc.  
SGS Consumer Testing Services  
Underwriters Laboratories Inc. (UL)  
ValleyCrest Landscape Companies

## American National Standard

# for Commercial Turf Care Equipment – Safety Specifications

## Part I General

### 1 Scope

The safety specifications given in this standard are for powered (a) pedestrian-controlled machines, (b) ride-on machines and (c) implements for use with pedestrian and ride-on machines intended for marketing as commercial turf care equipment and that are customarily used by hired operators. Equipment covered may consist of two or more components that are functionally connected and may be produced by different manufacturers. Specific requirements are established in the standard for reel, rotary, and flail mowers as well as power rakes because of their prevalence, but this standard is intended to apply to all types of commercial turf care equipment. Each functional component shall conform to each section of this standard as it logically applies. Additionally, this standard applies to all aftermarket parts, attachments and accessories. Any manufacturer of aftermarket parts, attachments, implements, and accessories is responsible for ensuring compliance to this standard. Safety specifications in this standard apply only to a configuration of attachments, implements, and accessories approved by their respective manufacturers.

These specifications are not intended to apply to:

- turf care equipment that is designed primarily for personal use by a consumer in or around a permanent or temporary household or residence;
- equipment that is designed primarily for agricultural purposes; and
- equipment that is designed primarily for cutting grass and other growth on highways and is designed for operation with agricultural/industrial tractors.

The effective implementation date of this standard shall be two (2) years after the approval date and shall apply to all products built after that date. Manufacturers may also certify to this standard anytime after the approval date.

### 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 Z535.4-2007, *Product safety signs and labels*

ANSI/ASAE S279.14-JUL2008, *Lighting and marking of agricultural equipment on highways*<sup>1</sup>

ANSI/SAE J517-OCT2007, *Hydraulic hose*

ANSI/SAE J1163-DEC2006, *Determining seat index point*

ANSI/SAE J1362-JAN2007, *Graphical symbols for operator controls and displays on off-road self-propelled work machines*

<sup>1</sup> ANSI standards available from the American National Standards Institute, 25 West 43<sup>rd</sup> St., New York, NY 10036; (212) 642-4900; www.ansi.org

ANSI/UL 73-DEC2004, *Standard for safety for motor-operated appliances*

ASAE S217.12-DEC2001 (ISO 730-1:1994), *Three-point free-link attachment for hitching implements to agricultural wheeled tractors*

ASAE S278.7-JUL2003 (ISO 11001-1:1993), *Agricultural wheeled tractors and implements – Three-point hitch coupler – Part 1: U-frame coupler*

ASAE S318.17-JUN2009, *Safety for agricultural field equipment*

ASAE/ISO 9191:1991 (OCT2001), *Lawn and garden ride-on (riding) tractors – Three point hitch*

ASAE/ISO 9192:1991 (OCT2001), *Lawn and garden ride-on (riding) tractors – One point tubular sleeve hitch*

ASTM G152-2006, *Standard practice for operating open flame carbon arc light apparatus for exposure of nonmetallic materials*<sup>2</sup>

ASTM G155-2005a, *Standard practice for operating xenon arc light apparatus for exposure of non-metallic materials*

ASABE/ISO 3767-1:1998, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment – Symbols for operator controls and other displays – Part 1: Common symbol*<sup>3</sup>

ASABE/ISO 3767-2:1991, W/Amd. 1-3, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment – Symbols for operator controls and other displays – Part 2: Symbols for agricultural tractors and machinery*

ISO 3767-3:1995, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment – Symbols for operator controls and other displays – Part 3: Symbols for powered lawn and garden equipment*<sup>4</sup>

ISO 11684:1995 *Tractors, machinery for agriculture and forestry, power lawn and garden equipment – Safety signs and hazard pictorials – General principles*

ISO 17398:2004, *Safety colours and safety signs – Classification, performance and durability of safety signs*

SAE J156-DEC2005, *Fusible links*

SAE J553-JUN2004, *Circuit breakers*<sup>5</sup>

SAE J554-AUG1987, *Electric fuses (cartridge type)*

SAE J833, *Human Physical Dimensions (ISO 3411)*

SAE J898, *Control locations for off-road work machines (ISO 6682)*

SAE J1127-DEC2005, *Low Voltage Battery Cable*

SAE J1128-DEC2005, *Low Voltage Primary Cable*

SAE J1284-APR88, *Blade Type Electric Fuses*

SAE J1292 JAN2008, *Automobile and Motor Coach Wiring*

SAE J2031-DEC2001, *High Tension Ignition Cable*

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<sup>2</sup> ASTM standards are available from ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428; (610) 832-9585; [www.astm.org](http://www.astm.org)

<sup>3</sup> ASABE and ASAE standards available from the American Society of Agricultural and Biological Engineers, 2950 Niles Road, St. Joseph, MI 49085; (269) 429-0300; [www.asabe.org](http://www.asabe.org)

<sup>4</sup> ISO standards are available from the American National Standards Institute, 25 West 43<sup>rd</sup> St., New York, NY 10036; (212) 642-4900; [www.ansi.org](http://www.ansi.org)

<sup>5</sup> SAE standards are available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096; (724) 776-4970; [www.sae.org](http://www.sae.org)