



ANSI B11.8 – 2001 (R07)

*for Machine Tools –
Safety Requirements for Manual Milling,
Drilling and Boring Machines with or
without Automatic Control*



American National Standards Institute

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without Automatic Control*

Secretariat and Accredited Standards Developer

AMT-The Association For Manufacturing Technology
7901 Westpark Drive
McLean, VA 22102

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Foreword (This foreword is not part of the requirements of American National Standard B11.8-2001)

The primary objective of this standard is to eliminate or control hazards to personnel associated with manual milling, drilling and boring machines by establishing requirements for the construction, operation and maintenance of these machines. To accomplish this objective, responsibilities have been assigned to the supplier (e.g., manufacturer, rebuilder, reconstructor, installer, integrator), the user, and personnel in the working environment.

The words "safe" and "safety" are not absolutes. Safety begins with good design. While the goal of this standard is to eliminate injuries, it is recognized that risk factors cannot be practically reduced to zero in any human activity. This standard is not intended to replace good judgment and personal responsibility. Operator skill, attitude, training, job monotony, fatigue and experience are safety factors that must be considered by the user.

Manual milling, drilling and boring machines, and associated equipment technologies are continuously evolving. This standard reflects the most commonly used and time-tested state of the art at the time of its approval. The inclusion or omission of language relative to any evolving technology, either in the requirements or explanatory area of this standard, in no way infers acceptance or rejection of such technologies.

Inquiries with respect to the application or the substantive requirements of this standard, and suggestions for its improvement, are welcomed and should be sent to the AMT – The Association For Manufacturing Technology, 7901 Westpark Drive, McLean, Virginia 22102-4269, Attention: B11 Secretariat.

This standard was prepared by the B11.8 Subcommittee, processed and submitted for ANSI approval by the B11 Accredited Standards Committee on Safety Standards for Machine Tools. Committee approval of this standard does not necessarily imply that all committee members voted for its approval. At the time this standard was approved as an American National Standard, the ANSI B11 Accredited Standards Committee was composed of the following member organizations:

John W. Russell, PE, CSP Chairman
Gary D. Kopps, Vice-Chairman
David A. Felinski, Secretary

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Name of Representative(s)

Delegate

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Aluminum Extruders Council	Jeff Dziki	Martin Bidwell
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General Motors Corporation	Michael Taubitz	
Graphic & Product Identification Mfgs. Assn.	Donald Root	
International Association of Machinists & Aerospace Workers, District Lodge 142	Jim Soptic	Ken Hass

Intl. Union, United Automobile, Aerospace and Agricultural Implement Workers of America (UAW)	Jim Howe, CSP	Luiz Vazquez
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Steel Service Center Institute	Bob Carragher	Nicole LaPorte
Tooling and Manufacturing Association	Jeffery W. Hayes	Bruce C. Braker
Unified Abrasives Manufacturers' Association, Bonded Division	Charles S. Conant	
U.S. Department of the Navy (NAVSEA)	Various delegates depending on the Standard	

At the time this standard was approved, the ANSI B11 ASC **B11.8 Subcommittee** had the following members who participated in the development of this revision:

Gene Tkachuk, Lamb, Chairman	Tony Bratkovich, PE	AMT
John F. Bloodgood, PE, Secretary	Lance Chandler	Boeing
	Dennis Coleman,	Southwestern
	Robert Jewell, Zagar, Inc.	Zagar, Inc.
	Kent Johnson	Deere & Co.
	Ralph Lamkin	Lovejoy
	Stephen K. Miller	Bridgeport
	Mark Periello	Westinghouse
	Carl Sharak	Liberty Mutual
	Warren Stanford	General Motors
	William Riley	U.S. Navy
	John Wolfe	Sugino Corp.

Explanation of the format of the standard

This ANSI B11.8 – 2001 standard is divided into parts formerly referred to as sections or chapters and now referred to as clauses in line with the current ANSI style manual. Major divisions of clauses are referred to as subclauses and, when referenced by other text in the standard, are denoted by the subclause number (e.g., see 5.1).

The standard uses a two-column format to provide supporting information for requirements. The material in the left column is confined to “Standard Requirements” only, and is so captioned. The right column, captioned "Explanatory Information" contains information that the writing Subcommittee felt would clarify the standard. This column should not be construed as being a part of the requirements of this American National Standard.

Operating rules (safe practices) are not included in either column of this standard unless they are of such nature as to be vital safety requirements, equal in weight to other requirements, or guides to assist in compliance with the standard.

As in all American National Standards, the term “SHALL” denotes a requirement that is to be strictly followed in order to conform to this standard; no deviation is permitted. The term “SHOULD” denotes a recommendation, a practice or condition among several alternatives, or a preferred method or course of action.

Similarly, the term “CAN” denotes a possibility, ability or capability, whether physical or causal, and the term “MAY” denotes a permissible course of action within the limits of the standard.

By convention, the B11 standards do not use the term “and/or” but instead, the term “OR” is used as an inclusive disjunction, meaning *one or the other or both*.

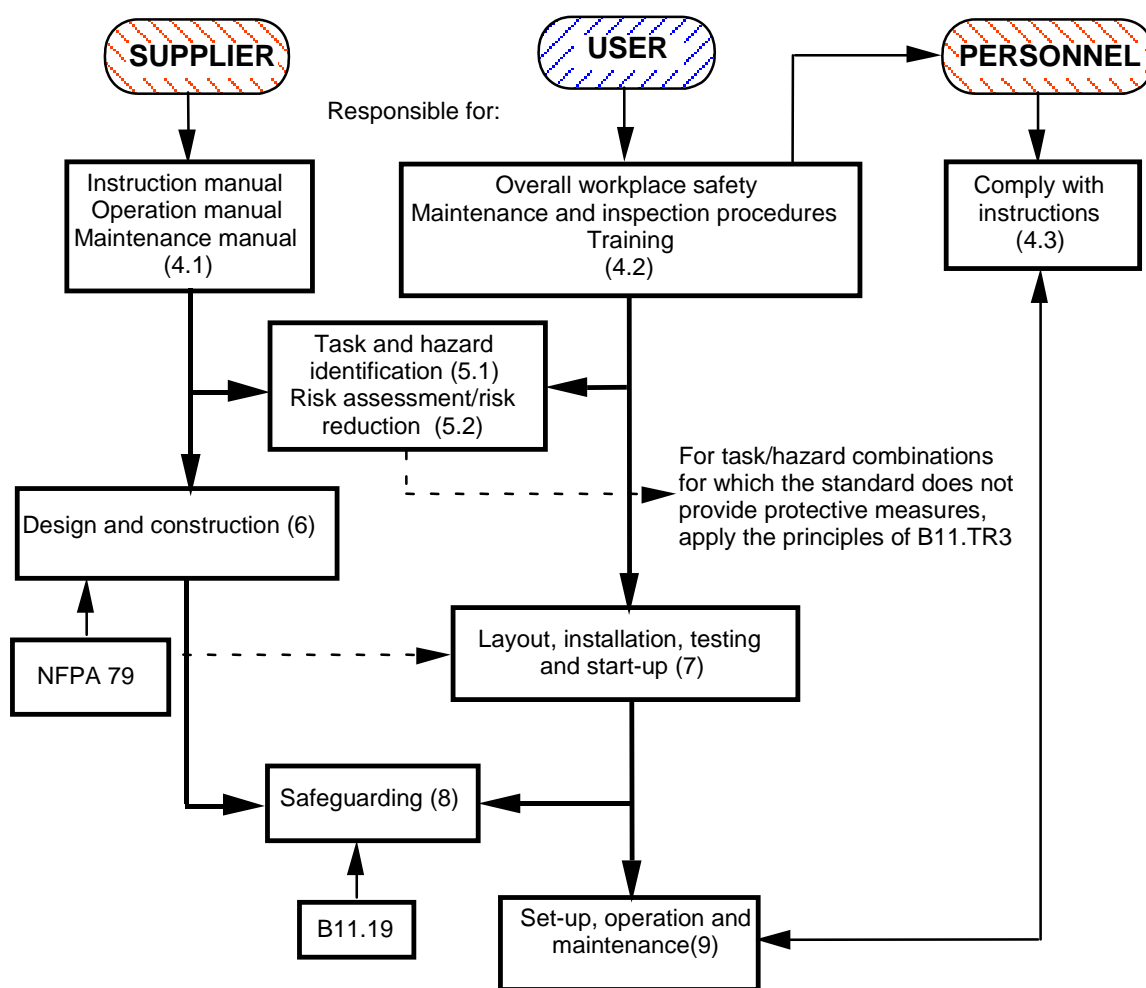
Suggestions for improvement of this standard will be welcome. They should be sent to AMT-The Association For Manufacturing Technology, 7901 Westpark Drive, McLean, VA 22102 - Attention: B11 Secretariat.

Introduction

The primary purpose of every machine tool is to process parts. This is accomplished by the machine imparting process energy onto the workpiece. Inadvertent interference with, or accidental misdirection of the released energy during production, maintenance, commissioning and de-commissioning may result in injury.

The primary purpose of the ANSI B11 series of machine tool safety standards is to devise and propose ways to minimize risks of the potential hazards. This can be accomplished by an appropriate machine design, by restricting personnel or other individuals' access to hazard areas, and by devising work procedures to minimize personnel exposure to hazardous situations. This is the essence of the ANSI B11 series of safety standards.

The responsibility for the alleviation of these risks is divided between the equipment supplier, its user and its operating personnel, as follows (numbers in parentheses refer to the clause numbers in these standards which address that responsibility):



*American National Standard for Machine Tools –
**Safety Requirements for Milling, Drilling, and Boring
Machines with or without Automatic Control***

STANDARDS REQUIREMENTS

EXPLANATORY INFORMATION

(Not part of American National Standard for Machine Tools – Safety Requirements for Milling, Drilling and Boring Machines with or without Automatic Control. (ANSI B11.8-2001))

1 Scope

E1

This American National Standard specifies safety requirements for the design, construction, operation and maintenance (including installation, dismantling and transport) of manually controlled milling, drilling, and boring machines. This standard also applies to devices that are integral to the machine.

These machines may have automatic capability but may not be equipped with automatic tool changing or automatic part handling systems. This standard does not apply to NC milling, drilling and boring machines where manual control is used only to set the machine for automatic production.

See ANSI B11.23 for the requirements for Machining Centers and Automatic Numerically Controlled Milling, Drilling and Boring Machines.

NOTE: For purposes of this standard, the terms *machine* and *machine tool* refer to manual drilling, milling and boring machines.

1.1 Manual Milling, Drilling and Boring Machines

These machines utilize manually initiated steps to produce a part by moving a rotating cutter against a workpiece to remove metal and other materials in milling, drilling and boring operations.

2 Normative references

E2 Informative references

The following normative documents contain provisions that, through reference in this text, constitute provisions of this American National Standard. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements subject to this American National Standard should apply the most recent editions of the normative documents listed below.

The corresponding European Standards are EN 13128 – *Machine tools – Safety – Milling machines (including boring machines)* and EN 12717 – *Machine tools – Safety – Drilling machines*.