

# **ANSI B15.1-2000 (R08)**

**(Reaffirmation of ASME B15.1-2000)**

*American National Standard for Machine Tools -*

## *Safety Standards for Mechanical Power Transmission Apparatus*

Secretariat and Accredited Standards Developer:

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

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by the American National Standards Institute, Inc.



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## FOREWORD

This Safety Standard for mechanical power transmission apparatus is the most universally applicable standard concerned with safeguarding mechanical equipment. Few machines can operate without some mechanical linkage somewhere between the energy source and point of operation.

The first edition of the B15 standard was approved in 1927 and reaffirmed in 1935. The second edition was approved in the 1953 revision and reaffirmed in 1958. The third edition was approved in 1972 and had departed from the format of previous editions in defining specific areas of responsibility and in establishing performance requirements for the types of safeguarding that apply to mechanical power transmission apparatus. The fourth edition was approved in 1984 followed by an Addenda which was approved in 1994 and (b) Addenda that was approved in 1995. The sixth edition was approved in 1996 followed by an (1) Addenda that was approved in 1997 and (b) Addenda that was approved in 1998. The seventh edition was approved in 2000. In 2005, ASME decided to withdraw as Secretariat to this standard. After appropriate notification to ANSI and public notice, the Association for Manufacturing Technology (AMT) agreed to assume sponsorship and further development of this standard. AMT is an existing ANSI-accredited standards developing organization for the ANSI B11 series of machine tool safety standards.

The purpose of this Standard is to provide guidance for minimizing the likelihood that people will incur injury when in the proximity of mechanical power transmission apparatus. This standard is presented in a "performance" mode rather than a "specification" mode to encourage the appropriate use of ingenuity and imagination in achieving a maximum degree of safeguarding. As written, the left-handed column contains the requirements of this Standard, and the right-hand column (Explanatory Information) contains advisory and illustrative material which is not a part of this Standard, but supports the intent of this Standard.

Good judgment is encouraged to be used with this Standard in matters where safe practice and safety are involved. It is also recognized that an appropriate attitude regarding safety can be beneficial in the avoidance of injury.

Safety codes and standards are intended to enhance public health and safety. Revisions result from Committee considerations of factors such as technological advances, new data, and changing environmental and industry needs. Revisions do not imply that previous editions were inadequate.

The values stated within the Standard are in both SI and U.S. customary units, with the latter placed in parentheses. These units are non-interchangeable and, depending on the country, as well as industry preferences, the user will determine which values are to be regarded as the standard.

This Standard was approved by the B15 Committee and by the ASME and designated as an American national Standard by the American National Standard Institute on August 2, 2000.

## **ASME COMMITTEE B15**

### **Safety Standard for Mechanical Power Transmission Apparatus**

(The following is the roster of the Committee at the time of the approval of this Standard)

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**F. A. Smith, Jr.**, Alternate, U. S. Department of Labor - OSHA

## ASME B15.1-2000 SUMMARY OF CHANGES

The 2000 edition of ASME B15.1 includes changes, revisions, and corrections introduced in B15.1a-1997 and B15.1b-1998 as well as those listed below, identified on the pages by a margin note, **(00)**.

<i>Page</i>	<i>Location</i>	<i>Change</i>
<i>i</i>	<i>Foreword</i>	<i>Second paragraph revised</i>
<i>5</i>	<i>E3.2.1(a)</i>	<i>Both cross references revised</i>
<i>5</i>	<i>E3.2.3(c)</i>	<i>Both cross references revised</i>
<i>10</i>	<i>Fig. E12</i>	<i>Fig. 12 redesignated as Fig. E12</i>
<i>11</i>	<i>Table E1</i>	<i>Fig. 13 redesignated as Table E1</i>
<i>12</i>	<i>Fig. E13</i>	<i>Fig. 14 redesignated as Fig. E13</i>

### **SPECIAL NOTE:**

The interpretations to ASME B15.1 are included as a separate section for the user's convenience.

*American National Standard for Machine Tools -  
Safety Standard for Mechanical Power  
Transmission Apparatus*

**STANDARD REQUIREMENTS**

**EXPLANATORY INFORMATION**

**1 Scope**

**1.1 General**

The requirements of this Standard apply to any source of hazard to people from the operation of mechanical power transmission apparatus on machines, equipment, or systems that are stationary in their use, other than the point of operation. This Standard applies to the sources of mechanical power, and also to pulleys, gears, and other mechanical components used to transmit power to the point of operation. Where other standards take precedence by specific reference to power transmission apparatus, this B15.1 Standard shall not apply.

**1.2 Purpose**

The purpose of this Standard is to provide requirements for use in developing effective safeguarding methods to protect people from injury due to inadvertent contact with mechanical power transmission apparatus. When specific safeguarding methods are listed, they are based on sound safety practices; however, alternatives that provide equivalent protection are acceptable. The use of personal protective equipment is recommended, where applicable, but its use does not negate provisions of this Standard.

**1.3 Application - General Requirements**

People having access to areas where motion hazards exist shall be protected, by safeguarding means, from contact with moving parts (mechanisms). Such safeguarding means shall prevent people from walking into, reaching over or under, or other inadvertent contacts.

**E1.1**

Hazards to people pertain to the rotating, oscillating, reciprocating, transversing, or other motions associated with equipment used in the mechanical transmission of power (see Figs. 1 through 11).

See ANSI B11, *Standards on Safety Requirements for Construction, Care, and Use of Machine Tools*, for "machine tools" point of operation and related workzone safe practices.

This Standard does not apply to mobile equipment, "Stationary in their use" also includes mechanical power transmission apparatus that is mounted on, part of, or attached to equipment which is capable of being moved when the mechanical power transmission apparatus is not performing its function.

This Standard does not apply to lift trucks, transit concrete mixers, and other similar pieces of mobile equipment.

**E1.3 Application - General Requirements**

It is understood that in the application of this Standard, there are responsibilities incumbent upon the owner, the manufacturer, the installer, the operator, and the user of the power transmission apparatus. Some safeguarding features are incorporated into the design of the equipment. Some protection depends upon the installation of safeguarding features after assembly of all the associated components in the field. Other safeguarding features are a part of a building or structure and are not an integral part of the components themselves. Some protection depends upon the operator and maintenance by the user, and some protection depends upon training and supervision.