

ANSI B11.2-1995 (R2005)

American National Standard for Machine Tools —

Hydraulic Power Presses — Safety Requirements for Construction, Care, and Use

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 American National Standard B11.2-1995.)

The objective of this standard is to eliminate or control the risk of injuries to personnel associated with hydraulic power press production systems by establishing requirements for the machine's construction, care and use. To accomplish this objective, responsibilities have been assigned to the manufacturer, the reconstructor, the modifier, the employer, the employee, and the owner to implement this standard.

Point-of-operation safeguarding, the single most important factor in the elimination of point-of-operation injuries, can only be determined by the employer. A production system consists of the press as one component, dies (tooling) as another component, feeding methods (including part or scrap removal) as a third component, and the fourth component, point-of-operation safeguarding. The vital fourth component, point-of-operation safeguarding, can be evaluated for effectiveness only after the first three components and operator involvements are known. Since this information is known only by the employer, the responsibility for compliance with clause 4 has been assigned accordingly.

The safeguarding of press production systems is complicated by the wide variety of operations and operating conditions, due to the variations in size, speed, and type of press used; the size, thickness, and kind of pieces to be worked; the design and construction of dies; the required accuracy of the finished work; the skill of operators; the length of run; and the method of feeding, including part and scrap removal. Because of these varying factors in the operations and in the workplace, a wide variety of point-of-operation safeguarding (methods, guards and devices) has been covered in this standard.

The words "safe" and "safety" are not absolute. Safety is an attitude. 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. Human factors engineering (ergonomic) principles should be used in the design, installation and use of hydraulic power presses, their controls and their safeguarding.

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 22102-4200. Attention: B11 Secretariat.

This standard was revised by the B11.2 Subcommittee, processed and administered by the AMT as Secretariat, and approved by the B11 Parent Voting Committee for submission to ANSI as an American National Standard in accordance with requirements of the ANSI Accredited B11 Operating Procedures.

Subsequent to an annual interest survey conducted by the Secretariat, the organizations listed below have registered a voting interest on this standard. Their listings do not necessarily imply that all organizations voted for its approval. At the time of ballot, the following representatives registered a vote on behalf of their organization.

At the time it approved this standard, the B11 Parent Voting Committee had the following members:

Theodore M. Wire, Chairman
 Charles A. Carlsson, Secretary

<i>Organization Represented</i>	<i>Name of Representative</i>
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Explanation of the format of the standard

This ANSI B11.2 standard is divided into parts formerly referred to as sections or chapters and now referred to as clauses in line with the new ANSI style manual. Major divisions of clauses are referred to as subclauses and when referenced by other text in the standard is 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 standards requirements only, and is so captioned. The use of the word *shall* indicates a mandatory requirement.

To achieve uniform interpretation, it is imperative to read and understand the definitions (clause 3) of this standard.

The right column, captioned "Explanatory information," contains explanatory information that the subcommittee felt would clarify the standard. This column should not be construed as being a part of American National Standard B11.2 - 1995. The use of the word *should* indicates a recommendation that is advisory and not required.

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.

Figures 1, 2, 3, and 4 included in this standard are provided to aid in its understanding. As such, they are to be considered to be examples and not as part of the requirements.

Appendices A, B, and C are for information purposes only.

American National Standard
for Machine Tools —

Hydraulic Power
Presses —
Safety Requirements for
Construction, Care, and
Use

STANDARD REQUIREMENTS**1 Scope, purpose, and application****1.1 Scope**

The requirements of this standard apply only to those industrial machine tools, commonly referred to as hydraulic power presses, which transmit force hydraulically to cut, form, or assemble metal or other materials by means of tools or dies attached to or operated by slides.

1.1.1 Exclusions

Specifically excluded from this standard are:

- manually powered presses;
- mechanical power presses;
- air-powered presses;
- powdered metal presses;
- horizontal hydraulic extension presses;
- high energy rate presses;
- manually positioned "C" frame punching and riveting presses;
- meat-processing presses;
- forging presses and hammers;
- powered press brakes;
- metal shears;
- iron workers;
- cold chasers;
- die-casting machines;
- plastic injection molding machines;
- stretch forming machines;
- pipe, tube, or shape bending;
- machines, roll-bending machines;
- welding machines, welding presses;

EXPLANATORY INFORMATION

(Not part of American National Standard for Machine Tools – Hydraulic Presses – Safety Requirements for Construction, Care, and Use, ANSI B11.2-1995)

E1.1.1

Many of the excluded machines are covered by other standards. Refer to clause 2, Referenced Standards.

- radial expanding and compression equipment;
- packaging machines;
- balers;
- laboratory machines or equipment used to determine properties of materials;
- guillotine paper cutters.

1.2 Purpose

The purpose of this standard is to establish safety requirements with respect to the construction of hydraulic power presses and the care and use of production systems in which hydraulic power presses are used.

1.3 Application

1.3.1 All installations

The requirements of this standard shall apply to all hydraulic power presses subsequent to the approval date of this standard (Feb. 13, 1995). All hydraulic power presses installed within 24 months not in compliance with clause 6 shall be considered existing installations. See 1.3.2.

1.3.2 Existing installations

A hydraulic power press system installed prior to the approval date of this standard (Feb. 13, 1995) shall be modified within 36 months by the employer or owner, if other than the employer, as required to conform with the construction requirements of this standard. This does not relieve the employer or owner of the equipment of having all hydraulic power press systems in conformance with the requirements of ANSI B11.2-1982 at this time.

E1.2

The requirements in this standard are for eliminating or controlling the risk of injuries to operating, maintenance, and setup personnel while working on or adjacent to a hydraulic power press.

This standard is not intended:

- to establish requirements for other safety considerations such as personal protective equipment
- for environmental considerations

E1.3.1

This requirement applies to any newly constructed or newly installed used presses. This means that older presses being installed or re-installed should be brought into conformance with clause 6.

E1.3.2

The useful life of hydraulic power presses can extend over several decades. Existing machines that are substandard by contemporary safety standards should be modified in accordance with the requirements of this standard.