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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 16454-2008

**Sawing machines for metal cutting -- Safeguarding
specifications
(English Translation)**

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Foreword

Chapter 3, 4, 5.7 and 5.9 of this Standard are recommendatory; the rest are mandatory.

This Standard replaces GB 16454-1996 "Sawing machines - Safeguarding requirements".

GB 16454-1996 shall be abolished from the date of implementation of this Standard.

Compared with GB 16454-1996, the main changes of this Standard are as below.

- The name of the standard is change from "Sawing machines - Safeguarding requirements" to "Sawing machines for metal cutting - Safeguarding specifications".
- Delete "sawing machines for grinding wheel" in Chapter 1 Scope.
- Add "safety of sawing machines", "sawing machines danger" and other 8 terms in Chapter 3.Delete "machining area guard", "machining area fence" and other 8 terms.
- Add Chapter 4 "Sawing machines danger".
- 5.1~5.5 of Chapter 5 are newly added.
- Chapter 6 "Requirements for operation and maintenance" of 1996 edition is changed into Chapter 7 "Responsibilities" of this Standard.

The products from manufacturing enterprises shall be in accordance with this Standard since October 1, 2009.It shall stop selling the products that fail to meet this Standard since October 1, 2010.

This Standard was proposed by China Machinery Industry Federation.

This Standard shall be under the jurisdiction of National Technical Committee on Metal Cutting Machines of Standardization of China SAC/TC 22.

Drafting organizations of this Standard. Changsha Sawing Machine Research Institute, and Hunan Taijia New Material Technology Co., Ltd (Hunan Machine Tool Works).

Main drafters of this Standard. Song Anxiang, Xie Wenzhong, and Ye jun.

The historical version replaced by this Standard is as follows.

- GB 16454-1996.

Sawing machines for metal cutting -

Safeguarding specifications

1 Scope

This Standard aims at the major dangers of metal sawing machines and specifies the basic safety requirements and/or measures to eliminate the dangers and reduce the risks.

This Standard is applicable to horizontal band, vertical band, circular and horizontal hack sawing machines for general purposes (hereinafter abbreviated as sawing machines).

2 Normative references

The articles contained in the following documents have become part of this Standard when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

GB 5226.1 Safety of Machinery - Electrical equipment of machines Part 1.General technical specifications (GB 5226.1-2002, IEC 60204-1.2000, IDT)

GB/T 15706.1-2007 Safety of Machinery - Basic concepts and general principles for design Part 1.Basic terms and methods (ISO 12100-1.2003, IDT)

GB/T 15706.2 Safety of Machinery - Basic concepts and general principles for design Part2.Technical principles (GB/T 15706.2-2007, ISO 12100-2.2003, IDT)

GB 15760 Metal Sawing Machines - General safeguarding specifications

GB/T 16769 Metal Sawing Machines - Methods for measuring noise SPL

GB/T 16856.1 Safety of Machinery - Risk evaluation Part 1.Principles (GB/T

16856.1-2008, ISO 14121-1.2007, IDT)

3 Terms and definitions

The following terms and definitions, and those established in GB/T 15706.1 and GB

15760 apply to this Standard.

3.1

4.1 Danger analysis and risk evaluation shall be conducted on sawing machines in

accordance with the provisions of Chapter 5 of GB/T 15706.1-2007 and GB/T 16856.1.

Identify and evaluate the dangers of sawing machines.

Note: for the dangers not involved in this Standard, safety measures shall be taken in accordance with relevant provisions of GB/T 15706.2.

4.2 During danger analysis, special attention shall be paid on the dangers caused by the

operators and other personnel's misuse, including.

- operating period of sawing machines;
- adjustment, cleaning and maintenance periods of sawing machines.

4.3.1.1 The danger of squeezing or cutting caused during clamping the work-piece or

changing the cutting tools.

4.3.1.2 The danger of squeezing between saw frame and operating vise, saw frame and

working bench, saw frame and upright rod, saw blades box and operating vise or upright rod, saw arm and operating vise.

4.3.1.3 When saw frame, operating vise, saw blades box, saw arm and other parts are

lifted or shifted, the danger of cutting or squeezing between these parts and positioning surface.

4.3.1.4 The sharp edges, sharp points and openings among components of sawing

machines that may cause cutting dangers to operators.

4.3.1.5 If the operators touch the working cutting tools with hands, it may cause cutting

dangers.

4.3.1.6 When the operators operate machines manually (such as during loading, disassembling work-piece or measuring), if they are close to rotating cutting tools, it may cause winding dangers.

4.3.1.8 When the units are shifted, exposed wires (turns), hydraulic pipes, cooling water

pipes etc. that may cause winding dangers due to the inappropriate fixing measures.

4.3.5 Dangers caused by interrupt of energy supply, damage of components and other

dysfunctions

4.3.5.7 Mistakes in motor program caused by assembling error of control elements may

cause dangers.

4.3.6 Dangers caused by mistakes of safety measures, incorrect installation of safety

devices or incorrect positioning