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**February 20, 1997**

**Revision pages for**

**Standard for**

**Particular Requirements for Battery-Operated Circular Saws and Circular Knives**

**UL 745-4-5, First Edition**

Attached to this distribution notice is a reprinted title page for the First edition of UL 745-4-5.

As indicated on the title page (page 1 and 2), this UL Standard for Safety is an American National Standard. Attention is directed to the note on the title page of this Standard outlining the procedures to be followed to retain the text of this ANSI/UL Standard.

Revised and/or additional pages may be issued from time to time.

With the inclusion of the accompanying material, the standard consists of pages dated as shown in the following checklist:

<b>Page</b>	<b>Date</b>
1, 2 .....	March 23, 1995 (Reprinted: February 20, 1997)
3, 4 .....	March 23, 1995
5, 6 .....	February 20, 1997
7 - 22 .....	March 23, 1995

**Canadian Standards Association**  
**CAN/CSA-C22.2 No. 745-4-5**  
**First Edition**



**Underwriters Laboratories Inc.**  
**UL 745-4-5**  
**First Edition**



# **Particular Requirements for Battery-Operated Circular Saws and Circular Knives**

March 23, 1995

(Title Page Reprinted: February 20, 1997)

Approved  
by  
Standards Council  
of Canada



 **American National Standard**  
**ANSI/UL 745-4-5-1996**

### **Commitment for Amendments**

This Standard is issued jointly by Canadian Standards Association and Underwriters Laboratories Incorporated. Amendments to this Standard will be made only after processing according to the Standards writing procedures by both Canadian Standards Association and Underwriters Laboratories Incorporated.

Approval as an American National Standard (ANSI) covers the numbered paragraphs on pages dated March 23, 1995. These pages should not be discarded when revised or additional pages are issued if it is desired to retain the ANSI approved text.

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## Preface

This is the common CSA and UL Standard for portable battery-operated circular saws and circular knives. It is the first edition of CSA Standard C22.2 No. 745-4-5 *Safety of portable battery-operated tools Part 4: Particular requirements for circular saws and circular knives* and UL 745-4-5 *Safety of portable battery-operated tools Part 4: Particular requirements for circular saws and circular knives*. It is written in SI (metric) units.

This Standard was prepared by Canadian Standards Association and Underwriters Laboratories Inc. This common CSA and UL Standard is based on IEC Publication 745-2-5 (1983) *Part 2: Particular requirements for circular saws and circular knives*.

Where a particular clause of the general requirements Standard is not mentioned in this Standard, the clause applies as far as is reasonable. Where this edition states *addition*, *modification*, or *replacement*, the relevant requirement, test specification, or explanatory matter in the general requirements Standard should be adapted accordingly.

If the functions of a tool are covered by different particular Standards, the relevant particular requirements Standard is applied to each function separately, so far as is reasonable. If applicable, the influence of one function on the other is taken into account.

This Standard was reviewed by the CSA Subcommittee on Portable Electric Tools of the Technical Committee on Consumer and Commercial Products under the jurisdiction of the Standards Steering Committee on the Canadian Electrical Code, Part II, and was formally approved by these Committees.

This Standard was processed and reviewed in accordance with the method of development, revision and implementation of UL Standards for safety.

This Standard has been approved by the Standards Council of Canada as a National Standard of Canada and has been approved by the American National Standards Institute (ANSI) as an American National Standard.

March 23, 1995

### UL Effective Date

As of June 1, 2007, all products Listed or Recognized by UL must comply with the requirements in this Standard.

Between June 1, 2002 and June 1, 2007, new product submittals to UL must be evaluated under all requirements in this standard.

Between March 23, 1995 and June 1, 2002, new product submittals to UL may be evaluated under all requirements in this Standard or, if requested in writing, evaluated under presently effective requirements only. The presently effective requirements are contained in the seventh edition of UL 45.

**CSA Effective Date**

The effective date for CSA will be announced through a *CSA Certification Notice*.

**Note:** *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*

# UL 745-4-5

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# Particular Requirements for Battery-Operated Circular Saws and Circular Knives



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UL Standards for Safety are developed under a procedure which provides for participation and comment from the affected public as well as industry. The procedure takes into consideration a survey of known existing standards and the needs and opinions of a wide variety of interests concerned with the subject matter of the standard. Thus manufacturers, consumers, individuals associated with consumer-oriented organizations, academicians, government officials, industrial and commercial users, inspection authorities, insurance interests and others provide input to UL in the formulating of UL Standards for Safety, to keep them consonant with social and technological advances.

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**March 23, 1995**

**Standard for**

**Particular Requirements for Battery-Operated Circular Saws and Circular Knives**

**UL 745-4-5, First Edition**

Accompanying this transmittal notice is a copy of the First edition of UL 745-4-5.

THIS EDITION OF THE STANDARD BECOMES EFFECTIVE JUNE 1, 2002 FOR NEW PRODUCT SUBMITTALS AND JUNE 1, 2007 FOR ALL PRODUCTS LISTED OR RECOGNIZED BY UL.

New product submittals made prior to a specified future effective date will be judged under all of the requirements in this standard unless the applicant specifically requests that the product be judged under the current requirements. However, should the applicant elect this option, it should be noted that compliance with all the requirements in this standard will be required as a condition of continued Listing, Recognition, and Follow-Up Services after the effective date and understanding of this should be signified in writing.

The requirements in this standard are substantially in accordance with UL's bulletin on this subject dated July 25, 1994. This bulletin is now obsolete and may be discarded.

Revised and/or additional pages may be issued from time to time.



**Canadian Standards Association**  
**CAN/CSA-C22.2 No. 745-4-5**  
***First Edition***



**Underwriters Laboratories Inc.**  
**UL 745-4-5**  
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## Preface

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March 23, 1995

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**Note:** *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*

## Foreword (CSA)

Certification organizations, as accredited by the Standards Council of Canada, have their own criteria procedures for certification services. The following paragraphs define CSA Certification policies.

The Canadian Standards Association provides certification services for manufacturers who, under license from CSA, wish to use the appropriate registered CSA Marks on certain products of their manufacture to indicate conformity with CSA Standards.

CSA Certification for a number of products is provided in the interest of maintaining agreed-upon standards of quality, performance, interchangeability and/or safety, as appropriate. Where applicable, certification may form the basis for acceptance by inspection authorities responsible for enforcement of regulations. Where feasible, programs will be developed for additional products for which certification is desired by producers, consumers or other interests.

In performing its functions in accordance with its objectives, CSA does not assume or undertake to discharge any responsibility of the manufacturer or any other party. The opinions and findings of the Association represent its professional judgement given with due consideration to the necessity limitations of practical operation and state of the art at the time the Standard is processed.

Products in substantial accord with this Standard but which exhibit a minor difference or a new feature may be deemed to meet the Standard providing the feature or difference is found acceptable utilizing appropriate CSA Certification Division Operating Procedures. Products which comply with this Standard shall not be certified if they are found to have additional features which are inconsistent with the intent of this Standard. Products shall not be certifiable if they are discovered to contravene applicable Federal laws or regulations.

Testing techniques, test procedures and instrumentation frequently must be prescribed by the CSA Certification Division in addition to the technical requirements contained in Standards of CSA. In addition to markings specified in the Standard the CSA Certification and Testing Division may require special cautions, markings and instructions that are not specified by the Standard.

Some tests required by CSA Standards may be inherently hazardous. The Association neither assumes nor accepts any responsibility for any injury or damage that may occur during or as the result of tests, wherever performed, whether performed in whole or in part by the manufacturer or the Association, and whether or not any equipment, facility or personnel for in connection with the test is furnished by the manufacturer or the Association.

Manufacturers should note that, in the event of the failure of the CSA Certification and Testing Division to resolve an issue arising from the interpretation of requirements, there is an appeal procedure: the complainant should submit the matter, in writing, to the Secretary of the Canadian Standards Association.

If this Standard is to be used in obtaining CSA Certification please remember, when making application for certification, to request all current Amendments, Bulletins, Notices and Technical Information Letters that may be applicable and for which there may be a nominal charge. For such information or for further information concerning details about CSA Certification please address your inquiry to the Applications and Records Section, Canadian Standards Association, 178 Rexdale Boulevard, Rexdale (Toronto), Ontario M9W 1R3.

## Foreword (UL)

- A. This Standard contains basic requirements for products covered by Underwriters Laboratories Inc. (UL) under its Follow-Up Service for this category within the limitations given below and in the Scope section of this Standard. These requirements are based upon sound engineering principles, research, records of tests and field experience, and an appreciation of the problems of manufacture, installation, and use derived from consultation with and information obtained from manufacturers, users, inspection authorities, and others having specialized experience. They are subject to revision as further experience and investigation may show is necessary or desirable.
- B. The observance of the requirements of this Standard by a manufacturer is one of the conditions of the continued coverage of the manufacturer's product.
- C. A product which complies with the text of this Standard will not necessarily be judged to comply with the Standard if, when examined and tested, it is found to have other features which impair the level of safety contemplated by these requirements.
- D. A product employing materials or having forms of construction differing from those detailed in the requirements of this Standard may be examined and tested according to the intent of the requirements and, if found to be substantially equivalent, may be judged to comply with the Standard.
- E. UL, in performing its functions in accordance with its objectives, does not assume or undertake to discharge any responsibility of the manufacturer or any other party. The opinions and findings of UL represent its professional judgment given with due consideration to the necessary limitations of practical operation and state of the art at the time the Standard is processed. UL shall not be responsible to anyone for the use of or reliance upon this Standard by anyone. UL shall not incur any obligation or liability for damages, including consequential damages, arising out of or in connection with the use, interpretation of or reliance upon this Standard.
- F. Many tests required by the Standards of UL are inherently hazardous and adequate safeguards for personnel and property shall be employed in conducting such tests.

## 1. Scope

This clause of Part 3 is applicable, except as follows:

### 1.1 First sentence

#### *Replacement:*

The term "tool" is replaced with "circular saws and circular knives."

## 2. Definition

This clause of Part 3 is applicable

## 3. General requirement

This clause of Part 3 is applicable.

## 4. General notes on tests

This clause of Part 3 is applicable.

## 5. Rating

This clause of Part 3 is applicable.

## 6. Reserved

## 7. Marking

This clause of Part 3 is applicable, except as follows:

### 7.1 *Addition:*

Circular saws and circular knives shall be marked with:

- indication of direction of rotation.

The direction of rotation of the blade shall be indicated on the tool by an arrow raised or sunk, or by any other means no less visible and indelible.

- **DANGER – Keep hands and body parts away from blade.** Contact with blade will result in serious injury.

- **WARNING - To reduce the risk of injury, check lower guard. It must close instantly! Hold saw with both hands. Support and clamp work. Wear eye protection.**

If this cautionary marking is included as part of the cautionary marking required in Part 3, Sub-clause 7.1, the words "Warning - To reduce the risk of injury" need not be repeated.

For circular saw blades with 140 mm or smaller diameter blades, the "Hold saw with both hands" statement may be omitted.



**8. Protection against electric shock**

This clause of Part 3 is applicable.

**9. Reserved****10. Reserved****11. Heating**

This clause of Part 3 is applicable.

**12. Reserved****13. Reserved****14. Reserved****15. Electric strength**

This clause of Part 3 is applicable.

**16. Reserved****17. Abnormal operation**

This clause of Part 3 is applicable.

**18. Mechanical hazards**

This clause of Part 3 is applicable for all parts except the blade. The blade shall be judged as follows:

*Additional sub-clauses:*

18.101 Circular saw blades and knives shall be so guarded as to minimize the risk of accidental access to the rotating blade or knife as far as conditions of use will permit.

Above the platen, access to the periphery of the blade or knife from the rear or the side of the tool shall be effectively prevented by a fixed guard. Where conditions of use so require, access to the periphery from the front of the tool must be such as to make it impossible for the periphery of the blade or knife to be touched with a cylindrical test probe, 13 mm in diameter and 50 mm in length.

Below the platen, the periphery of the saw or knife shall be screened by a movable guard. In the closed position of this guard, the angle between its front edge and the platen subtended to the axis of rotation shall not exceed:

- 10° if the outboard circumference of the platen does not enclose the diameter of the saw blade or knife on its front side opposite the machine;

- 25° if the outboard circumference of the platen encloses the saw blade or knife on its front side opposite the machine.

18.101.1 The probe specified in Clause 18.101 shall not contact the blade when the saw is set for a 90° cut and the probe is advanced perpendicular to the blade and parallel and above the platen. The probe is first advanced centered on the blade then 12.7 mm to the right and then 12.7 mm to the left of the blade. See Figures 101 – 103.

18.102 The total mass of a circular saw intended to be operated by one person only shall not exceed 16 kg.

The total mass is the mass of the tool fitted with the heaviest accessory indicated by the manufacturer and with a flexible cord having a length of 1.5 m.

*Compliance with the requirements of Sub-clauses 18.101 and 18.102 is checked by inspection and by measurement.*

18.103 A circular saw lower guard shall close, (retract from the full open position to the full closed position), in 0.3 seconds or less. A circular saw lower guard shall be resistant to abuse. The guard shall extend to at least the root of the teeth.

*Compliance is checked by the following test.*

*The closing time of a circular saw lower guard is to be measured without restoration of the guard in case of bending after a single sample is subjected to each of the following:*

- *Sawing 60 m of 12mm plywood that has been stored indoors for 72 hours prior to the sawing. The saw then is to be conditioned for 24 hours in air at a relative humidity of 90 +5/-0 percent and a temperature of 32±2°C.*
- *The saw, set for a 90 degree cut of maximum depth and oriented so that the lower guard will strike the floor with the table parallel to the floor, is to be dropped from a height of 1m to a concrete surface.*
- *The saw, set for a 90 degree cut of maximum depth and oriented in a hand carrying position intended for the particular tool, is to be dropped from a height of 1m to a concrete surface.*

The saw need not be conditioned by cutting plywood if it is obvious that accumulation of sawdust will not affect the closure time of the guard.

18.104 A circular saw lower guard shall close, (retract from the full open position to the full closed position), in 0.3 seconds or less after extended use.

*Compliance is checked by the following test.*

*The saw is to be set for a 90 degree cut and oriented in the horizontal plane. The retractile lower guard is to be cycled from the full closed position to the maximum open working position and then released for 50,000 cycles at a rate not less than 10 cycles per minute.*

*Following the cycling, the closure time is to be measured and the guard shall be fully functional.*

*If agreeable to all concerned, the guard may be tested at a rate faster than 10 cycles per minute.*

The sample used for this test may be positioned in a manner other than horizontal provided that it can be shown that the alternate position is equivalent.

18.105 An opening provided for the ejection of dust in the fixed blade guard of a circular saw shall comply with the following.

*The openings shall be located beyond the outer circumference of the blade, including the teeth, or the rigid test probe of Figure 104 shall not contact the blade teeth when inserted at any angle.*

## 19. Mechanical strength

This clause of Part 3 is applicable, except as follows:

19.1 Not applicable to lower guard.

## 20. Construction

This clause of Part 3 is applicable, except as follows:

20.4 *Addition:*

Circular saws and circular knives shall be fitted with a on/off switch such that the motor is switched off automatically as soon as the actuating member of the switch is released.

This switch shall have no locking arrangement in the "on" position.

20.101 The mains switch on a circular saw shall be equipped with a device that automatically locks it in the off position when the actuator is released so that two motions are required to energize the tool, or the part of the switch that has the greatest travel shall not be less than 6.4mm.

*Compliance is checked by inspection.*

## 21. Internal wiring

This clause of Part 3 is applicable.

## 22. Components

This clause of Part 3 is applicable.

## 23. Supply connection and external flexible cables and cords

This clause of Part 3 is applicable.

## 24. Reserved

## 25. Reserved

## 26. Reserved

## 27. Clearances

This clause of Part 3 is applicable.

**28. Resistance to heat, fire and tracking**

This clause of Part 3 is applicable.

**29. Resistance to rusting**

This clause of Part 3 is applicable.

**30. Reserved****31. Instructions**

This clause of Part 3 is applicable, except as follows:

***Additional Specific Safety Rules:***

**31.3.101 DANGER! Keep hands away from cutting area and blade. Keep your second hand on auxiliary handle or motor housing.** If both hands are holding the saw, they cannot be cut by the blade.

**Keep your body positioned to either side of the saw blade, but not in line with the saw blade.** KICKBACK could cause the saw to jump backwards. (See KICKBACK)

**Do not reach underneath the work.** The guard can not protect you from the blade below the work.

For circular saws with 140 mm or smaller diameter blades, the "Keep your second hand on auxiliary handle or motor housing" may be omitted.

**31.3.102 Check lower guard for proper closing before each use. Do not operate saw if lower guard does not move freely and close instantly. Never clamp or tie the lower guard into the open position.** If saw is accidentally dropped, lower guard may be bent. Raise the lower guard with the Retracting Handle and make sure it moves freely and does not touch the blade or any other part, in all angles and depths of cut.

Alternate wording may be substituted for "Retracting Handle."

**31.3.103 Check the operation and condition of the lower guard spring. If the guard and the spring are not operating properly, they must be serviced before use.** Lower guard may operate sluggishly due to damaged parts, gummy deposits, or a buildup of debris.

**31.3.104 Lower guard should be retracted manually only for special cuts such as "Pocket Cuts" and "Compound Cuts." Raise lower guard by Retracting Handle. As soon as blade enters the material, lower guard must be released.** For all other sawing, the lower guard should operate automatically.

Alternate wording may be substituted for "Retracting Handle."

**31.3.105 Always observe that the lower guard is covering the blade before placing saw down on bench or floor.** An unprotected, coasting blade will cause the saw to walk backwards, cutting whatever is in its path. Be aware of the time it takes for the blade to stop after switch is released.

**31.3.106 NEVER hold piece being cut in your hands or across your leg.** It is important to support the work properly to minimize body exposure, blade binding, or loss of control.

**31.3.107 Hold tool by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring.** Contact with a "live" wire will also make exposed metal parts of the tool "live" and shock the operator.

**31.3.108 When ripping always use a rip fence or straight edge guide.** This improves the accuracy of cut and reduces the chance for blade binding.

**31.3.109 Always use blades with correct size and shape (diamond vs. round) arbor holes.** Blades that do not match the mounting hardware of the saw will run eccentrically, causing loss of control.

**31.3.110 Never use damaged or incorrect blade washers or bolts.** The blade washers and bolt were specially designed for your saw, for optimum performance and safety of operation.

**31.3.111 Causes and Operator Prevention of Kickback:**

*Kickback is a sudden reaction to a pinched, bound, or misaligned saw blade, causing an uncontrolled saw to lift up and out of the workpiece toward the operator.*

*When the blade is pinched or bound tightly by the kerf closing down, the blade stalls and the motor reaction drives the unit rapidly back toward the operator.*

*If the blade becomes twisted or misaligned in the cut, the teeth at the back edge of the blade can dig into the top surface of the wood causing the blade to climb out of the kerf and jump back toward the operator.*

*Kickback is the result of tool misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below:*

**31.3.112 Maintain a firm grip on the saw and position your body and arm in a way that allows you to resist KICKBACK forces.** KICKBACK forces can be controlled by the operator, if proper precautions are taken.

**31.3.113 When blade is binding, or when interrupting a cut for any reason, release the trigger and hold the saw motionless in the material until the blade comes to a complete stop. Never attempt to remove the saw from the work or pull the saw backward while the blade is in motion or KICKBACK may occur.** Investigate and take corrective actions to eliminate the cause of blade binding.

**31.3.114 When restarting a saw in the workpiece, center the saw blade in the kerf and check that teeth are not engaged into the material.** If saw blade is binding, it may walk up or KICKBACK from the workpiece as the saw is restarted.

**31.3.115 Support large panels to minimize the risk of blade pinching and KICKBACK.** Large panels tend to sag under their own weight. Supports must be placed under the panel on both sides, near the line of cut and near the edge of the panel.

**31.3.116 Do not use dull or damaged blade.** Unsharpened or improperly set blades produce narrow kerf causing excessive friction, blade binding, and KICKBACK.

**31.3.117 Blade depth and bevel adjusting locking levers must be tight and secure before making cut.** If blade adjustment shifts while cutting, it will cause binding and KICKBACK.

**31.3.118 Use extra caution when making a "Pocket Cut" into existing walls or other blind areas.** The protruding blade may cut objects that can cause KICKBACK.

**Appendix A - Thermal cut-outs and overload releases**

This appendix of Part 3 is applicable.

**Appendix B - Reserved**

This appendix of Part 3 is applicable.

**Appendix C - Reserved**

This appendix of Part 3 is applicable.

**Appendix D - Reserved**

This appendix of Part 3 is applicable.

**Appendix E - Reference standards**

This appendix of Part 3 is applicable.

**Appendix F - Attachments and accessories**

This appendix of Part 3 is applicable.

**Appendix G - Sequence of tests**

This appendix of Part 3 is applicable.

## Appendix H - Translations

*Advisory Note: In Canada there are two official languages; therefore it is necessary to have CAUTION, WARNING, and DANGER markings in both English and French on those products to be sold or used in Canada. Following is a list of acceptable French translations of the markings specified in this Standard.*

This appendix of Part 1 is applicable except as follows:

### H1 Translations

#### H1.1 Markings

##### 7. Marquage

L'article correspondant du chapitre 3 s'applique, sauf pour ce qui suit :

##### 7.1 Règle supplémentaire :

Les scies circulaires et les rabots électriques doivent porter un marquage indiquant :

- le sens de rotation.

Le sens de rotation de la lame doit être indiqué sur l'outil par une flèche en relief ou en creux, ou par tout autre procédé offrant une visibilité et une permanence au moins égales.

**DANGER. N'approchez ni les mains ni aucune autre partie du corps de la lame. Tout contact avec la lame risque de provoquer de graves blessures.**

**AVERTISSEMENT. Afin de réduire le risque de blessure, vérifiez le protecteur inférieur : il doit se refermer instantanément ! Tenez la scie avec les deux mains. Soutenez et immobilisez le matériau à scier. Portez des lunettes ou une visière.**

*Following is a list of acceptable French translations of the instructions specified in this Standard.*

#### H1.2 Instructions

##### 31. Instructions

L'article correspondant du chapitre 3 s'applique, sauf pour ce qui suit :

##### *Règles de sécurité particulières supplémentaires :*

**31.3.101 DANGER ! N'approchez pas les mains de la zone de coupe ou de la lame. Gardez l'autre main sur la poignée auxiliaire ou sur le carter du moteur. En tenant l'outil avec vos deux mains, vous mettez celles-ci à l'abri de la lame.**

**Placez-vous d'un côté ou de l'autre de la lame, mais non vis-à-vis celle-ci. En cas de RECUL, la scie pourrait sauter vers l'arrière. (Voir «RECUL».)**

**N'étendez pas la main sous le matériau à scier. Le protecteur inférieur de l'outil est inopérant à cet endroit.**

Dans le cas d'une scie circulaire dont le diamètre de lame ne dépasse pas 140 mm, le marquage « **Gardez l'autre main sur la poignée auxiliaire ou sur le carter du moteur** » est facultatif.

**31.3.102 Avant chaque utilisation, assurez-vous que le protecteur inférieur se referme correctement. N'utilisez pas la scie si le protecteur inférieur ne bouge pas librement et ne se referme pas instantanément. Ne bloquez jamais le protecteur inférieur en position ouverte.** Si la scie tombe par terre accidentellement, le protecteur inférieur peut être gauchi : escamotez le protecteur inférieur avec sa manette et assurez-vous qu'il bouge librement et qu'il ne touche pas la lame ni aucun autre élément de l'outil, quels que soient les réglages d'angle et de profondeur de coupe.

Une autre désignation est admise pour « manette ».

**31.3.103 Vérifiez l'état et le bon fonctionnement du ressort du protecteur inférieur. Si le protecteur ou son ressort ne fonctionnent pas correctement, il faut les réparer avant d'utiliser l'outil.** Le protecteur inférieur peut être lent à se refermer à cause de pièces endommagées, de dépôts collants ou d'une accumulation de débris.

**31.3.104 Vous ne devez escamoter manuellement le protecteur inférieur que pour des opérations spéciales comme le défonçage d'ouvertures en plein bois et les coupes de rainurage ou à onglets. Escamotez le protecteur inférieur au moyen de sa manette puis, dès que la lame attaque le matériau, lâchez le protecteur.** Pour toute autre tâche de sciage, laissez le protecteur inférieur fonctionner automatiquement.

Une autre désignation est admise pour « manette ».

**31.3.105 Assurez-vous toujours que le protecteur inférieur couvre bien la lame avant de déposer l'outil sur l'établi ou sur le sol.** Si la lame n'est pas protégée et n'a pas fini de tourner, elle entraînera la scie vers l'arrière en coupant tout sur son passage. Soyez conscient du temps nécessaire pour que la lame s'arrête après que vous avez lâché la détente.

**31.3.106 Ne maintenez jamais le matériau à scier dans vos mains ou sur votre jambe.** Il importe de soutenir le matériau correctement, afin de ne pas vous exposer inutilement et de réduire le risque de coincement de la lame ou de dérapage de l'outil.

**31.3.107 Tenez l'outil par ses surfaces de prise isolées pendant toute opération où l'outil de coupe pourrait venir en contact avec un câblage dissimulé.** En cas de contact avec un conducteur sous tension, les pièces métalliques à découvert de l'outil transmettraient un choc électrique à l'utilisateur.

**31.3.108 Lorsque que vous refendez, utilisez toujours un guide longitudinal.** Cela améliore la précision de la coupe et réduit le risque de coincement de la lame.

**31.3.109 Employez toujours une lame de diamètre approprié et dont le trou central est de forme correcte (angulaire ou ronde).** Une lame dont le trou ne correspond pas à la forme du moyeu de fixation de la scie risque de tourner de façon excentrique et de vous faire perdre la maîtrise de l'outil.

**31.3.110 N'utilisez jamais un boulon ou une rondelle de lame endommagé ou incorrect.** Les boulons et rondelles de fixation de la lame sont conçus spécialement pour votre scie et jouent un rôle essentiel dans le bon fonctionnement et la sécurité de l'outil.



**31.3.111 Causes du retour d'outil et prévention par l'utilisateur :**

*Le « retour d'outil » est une brusque réaction au pincement, au coincement ou au désalignement de la lame de scie, qui amène la scie à sauter hors du matériau vers l'utilisateur.*

*Lorsque la lame est pincée ou coincée par le rétrécissement du trait de scie, la lame se bloque et la réaction du moteur projette l'outil avec force vers l'utilisateur.*

*Si la lame se trouve désalignée dans le trait de scie, ses dents arrière peuvent mordre dans le dessus du matériau, ce qui amène la lame à sortir brutalement du trait de scie en direction de l'utilisateur.*

*Le RECUL résulte d'une utilisation incorrecte de l'outil ou de mauvaises conditions d'utilisation. On peut le prévenir en prenant les précautions adéquates ci-après :*

**31.3.112 Tenez fermement la scie et placez votre corps et vos bras de manière à pouvoir résister à la force d'un RECUL éventuel.** L'utilisateur est capable de maîtriser un RECUL s'il a pris les précautions adéquates.

**31.3.113 Lorsque la lame se coince ou que vous interrompez une coupe pour une raison quelconque, lâchez la détente et maintenez la scie immobile dans le trait de scie jusqu'à ce que la lame s'arrête complètement. Ne cherchez jamais à sortir la scie du matériau ou à reculer la scie pendant que la lame est encore en mouvement, car vous vous exposeriez à un RECUL.** Si la lame a tendance à se coincer, recherchez-en la cause et apportez les correctifs appropriés.

**31.3.114 Lorsque vous redémarrez l'outil dans un trait de scie, centrez la lame dans celui-ci et assurez-vous que les dents de la lame ne mordent pas dans le matériau.** Si la lame est coincée, l'outil risque de reculer ou de sauter en arrière au moment du démarrage de l'outil.

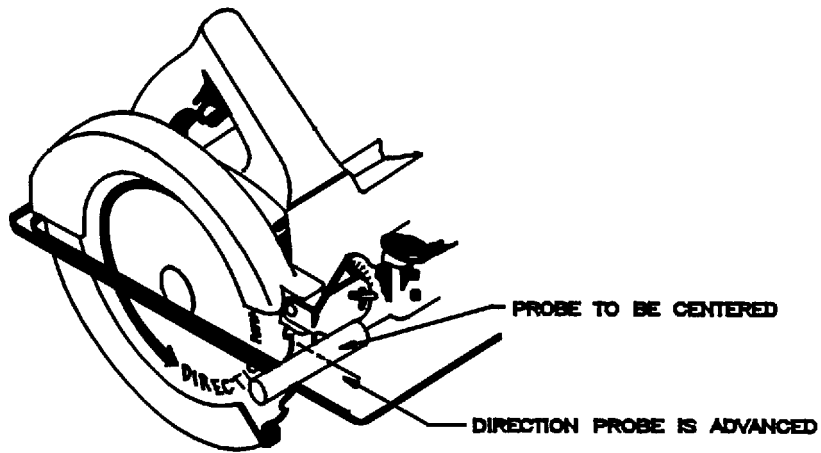
**31.3.115 Soutenez adéquatement les grands panneaux afin de réduire au minimum le risque de pincement de la lame et de RECUL.** Les grands panneaux ont tendance à s'affaisser sous leur propre poids. Placez des points d'appui sous le panneau des deux côtés, près de la ligne de coupe et près des bords du panneau.

**31.3.116 N'utilisez jamais une lame émoussée ou endommagée.** Une lame mal affûtée ou mal avoyée produit un trait de scie étroit qui donne lieu à un frottement excessif, au coincement de la lame et à un RECUL.

**31.3.117 Les manettes de profondeur et d'angle de coupe doivent être bien bloquées.** Si ces manettes se débloquent pendant la coupe, il peut en résulter un coincement et un retour d'outil.

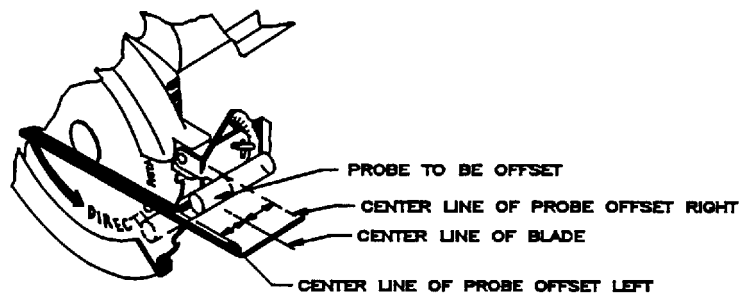
**31.3.118 Soyez particulièrement prudent lorsque vous découpez une ouverture dans une cloison existante ou tout autre matériau dont l'arrière n'est pas visible.** La lame pourrait rencontrer un objet dur, ce qui provoquerait un RECUL.

**Figures**



**S2764**

Figure 101 Guard illustrating test probe centered.



**S2765**

Figure 102 Guard illustrating probe offset.

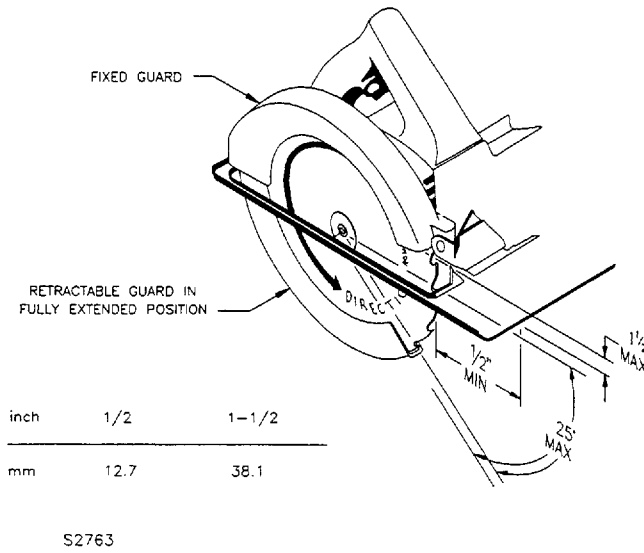


Figure 103 Circular saw guard.

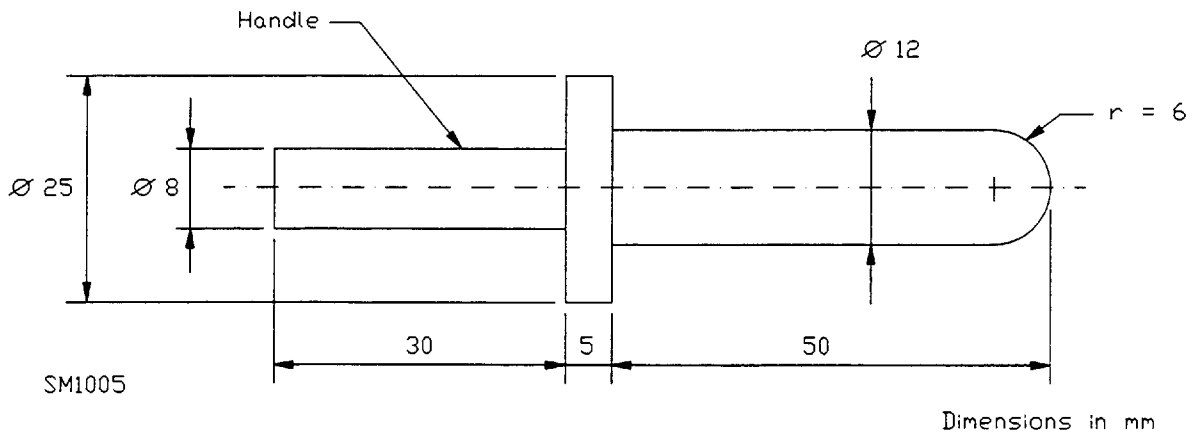


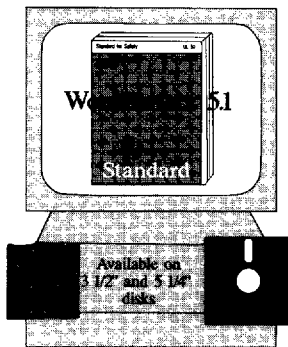
Figure 104 Rigid test probe.

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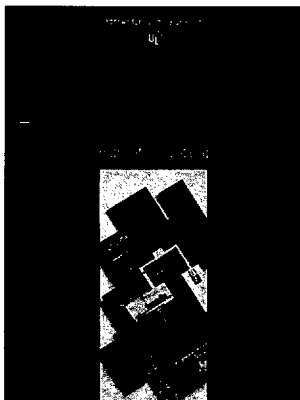
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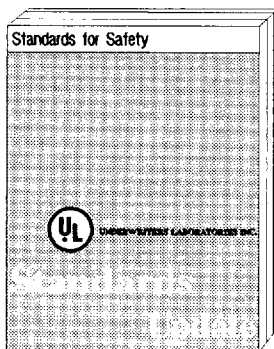
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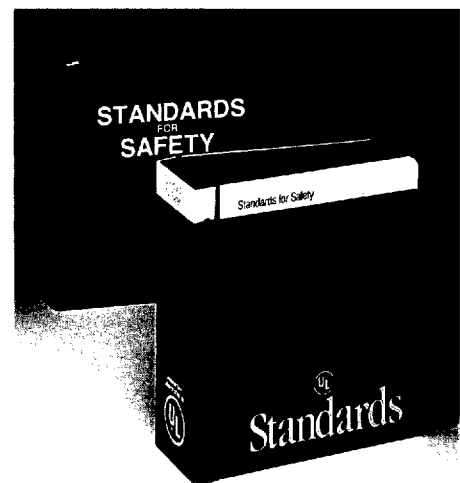
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