

# Hand-held electric motor-operated tools —

## Part 2: Particular requirements —

### Section 2.16 Specification for trimmers —

#### (Implementation of CENELEC HD 400.3 Section R S1)

IMPORTANT NOTE. Before reading this Section it is essential to read  
BS 2769-2.0 *General introduction and list of Sections* published separately.

# Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Light Electrical Engineering Standards Policy Committee (LEL/-) to Technical Committee LEL/161, upon which the following bodies were represented:

Association of Consulting Scientists  
 Association of Control Manufacturers TACMA (BEAMA Ltd.)  
 Association of Manufacturers of Domestic Electrical Appliances  
 British Cable Makers' Confederation  
 British Electrotechnical Approvals Board  
 British Gas plc  
 British Lawn Mower Manufacturers' Federation  
 British Pest Control Association  
 British Retail Consortium  
 Catering Equipment Manufacturers' Association  
 Consumer Policy Committee of BSI  
 Consumers' Association  
 Department of Trade and Industry (Consumer Safety Unit, CA Division)  
 Electrical Installation Equipment Manufacturers' Association (BEAMA Ltd.)  
 Electricity Association  
 Health and Safety Executive  
 Institute of Trading Standards Administration  
 Institution of Electrical Engineers  
 Loss Prevention Council  
 Portable Electric Tool Manufacturers' Association  
 Rotating Electrical Machines Association (BEAMA Ltd.)  
 Royal Society for the Prevention of Accidents  
 Small Electrical Appliances Marketing Association

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

Association of Manufacturers Allied to the Electrical and Electronic Industry (BEAMA Ltd.)  
 Hire Association Europe  
 Institution of Incorporated Executive Engineers  
 Radio Electrical and Television Retailers' Association

## Amendments issued since publication

Amd. No.	Date	Comments

This British Standard, having been prepared under the direction of the Light Electrical Engineering Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 15 August 1992

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The following BSI references relate to the work on this standard:  
 Committee reference LEL/161  
 Draft for comment 91/23387 DC

ISBN 0 580 20983 0

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## National foreword

This British Standard has been prepared under the direction of the Light Electrical Engineering Standards Policy Committee. This Section of BS 2769 implements HD 400.3 Section R S1 of the European Committee for Electrotechnical Standardization (CENELEC).

*Product certification.* Attention is drawn to the fact that products conforming to this British Standard may be approved by BSI Quality Assurance, and that such certification may be used for the purpose of participation in the CENELEC Certification Agreement. (Details of the BSI certification marks are given on the inside back cover.)

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### Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the HD title page, pages 2 to 6, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

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UDC 621.914.3-83

Descriptors: Hand-held motor operated tools, trimmers, safety requirement, protection against electric shock

English version

Hand-held motor operated tools  
Part 3: Particular specifications  
Section R: Trimmers

Outils portatifs à main à moteur  
Troisième partie: Règles particulières  
Section R: Affleureuses

Handgeführte Elektrowerkzeuge  
Teil 3: Besondere Bestimmungen  
Hauptabschnitt R: Kantenfräse

This Harmonization Document was approved by CENELEC on 1991-12-10. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for implementation of this Harmonization Document on a national level.

Up-to-date lists and bibliographical references concerning national implementation may be obtained on application to the Central Secretariat or to any CENELEC member.

This Harmonization Document exists in three official versions (English, French, German).

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

## CENELEC

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**Central Secretariat: rue de Stassart 35, B-1050 Brussels**

## Foreword

This Harmonization Document was prepared by the CENELEC Technical Committee TC 61F and submitted to the CENELEC members for Unique Acceptance in February 1991 following a decision taken at the CLC/TC 61F meeting held in Brussels in April 1990.

The text of the Harmonization Document was approved by CENELEC as HD 400.3R S1 on 10 December 1991.

This Harmonization Document (Section R of HD 400.3) has to be used together with HD 400.1 *Hand-held motor-operated tools — Part 1: General specifications*.

The clauses of this Section supplement or modify the corresponding clauses in Part 1. Where there is no corresponding clause or subclause in this Section the clause or subclause of Part 1 applies without modification as far as is reasonable. Where the text of this Section states “addition”, “modification” or “replacement”, the relevant requirement, text specification or explanation of Part 1 should be adapted accordingly.

The following dates were fixed:

- latest date of announcement of the HD at national level (doa) 1992-06-01
- latest date of publication of a harmonized national standard (dop) 1992-12-01
- latest date of withdrawal of conflicting national standards (dow) 1992-12-01

For products which have complied with the relevant national standard before 1992-12-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 1997-12-01.

## 1 Scope

This Section of BS 2769, together with the requirements of BS 2769-1:1984 to which reference is made, specifies requirements, including safety requirements, for hand-held electric motor-operated trimmers.

**NOTE** The titles of the publications referred to in this standard are given on the inside back cover.

### Addition

#### 1.1

**NOTE** This Section of BS 2769 does not cover trimmers designed to be used in conjunction with a support or in any other way, such as stationary or transportable machines.

## 2 Definitions

The definitions given in BS 2769-1:1984 apply subject to the following modification to **2.20** and the additions of **2.33** to **2.36**.

### Modification

#### 2.20

##### normal load

the load obtained when the tool is operated intermittently, each cycle comprising a period of continuous operation of 1 min and a rest period of 1 min with the tool switched off. The load applied during the period of continuous operation is such that the input, in watts, is equal to rated input

**NOTE 1** The introduction of a definition based on a formula is under consideration.

**NOTE 2** Care is to be taken that, if eddy-current brakes are used for applying the load, their starting characteristic is not detrimental to the unit under test.

### Additions

#### 2.33

##### trimmer

a tool designed to be fitted with a suitable rotary cutter and an appropriate base, for trimming and finishing the edge of plastic laminate sheet, wood veneer, etc., including when they are fixed to a substrate, as shown in Figure 16.1

**NOTE** Trimmers are gripped by only one hand around their body and do not generally have additional handles or gripping areas. They are equipped with one or more of the base plates defined in **2.34** to **2.36**.

#### 2.34

##### fixed base plate

a height-adjustable base plate provided with a roller to guide the tool relative to the work piece

**NOTE** The fixed base plate can be equipped with an attachment for trimming to size two laminate sheets to be butted together, as shown in Figure 16.2.

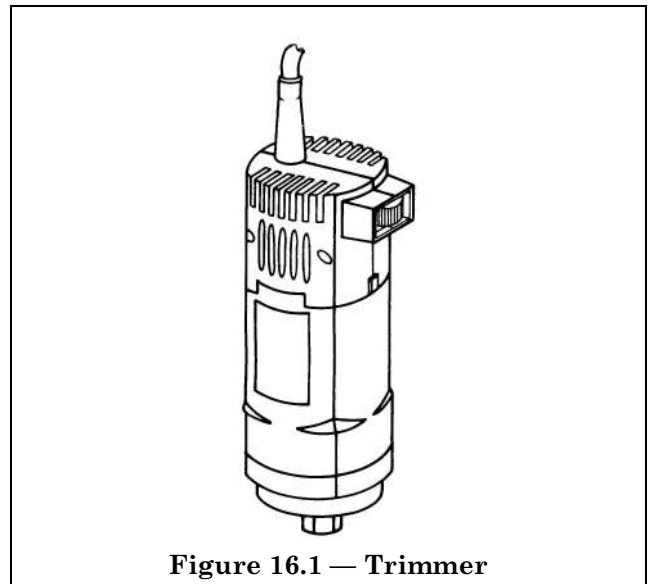


Figure 16.1 — Trimmer

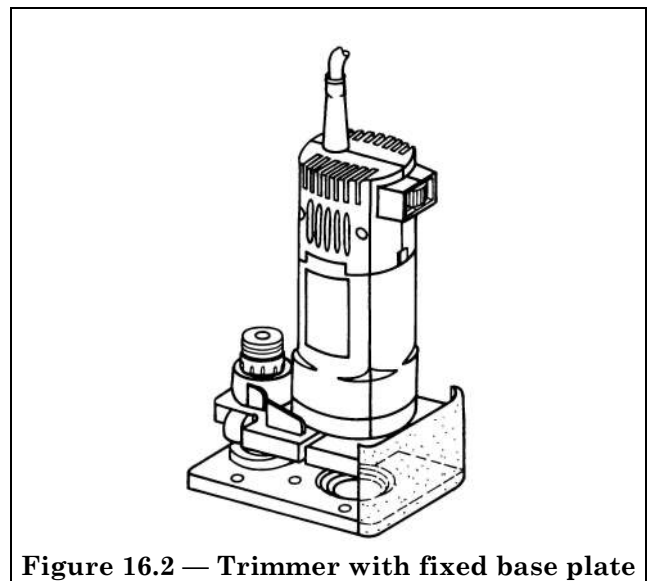


Figure 16.2 — Trimmer with fixed base plate

#### 2.35

##### tilt base plate

a height-adjustable base plate provided with pivots to cut at an angle, as shown in Figure 16.3

#### 2.36

##### off-set base plate

a base plate with a height-adjustable cutter used where the trimmer spindle is off-set from the motor to enable it to get into awkward spaces, as shown in Figure 16.4

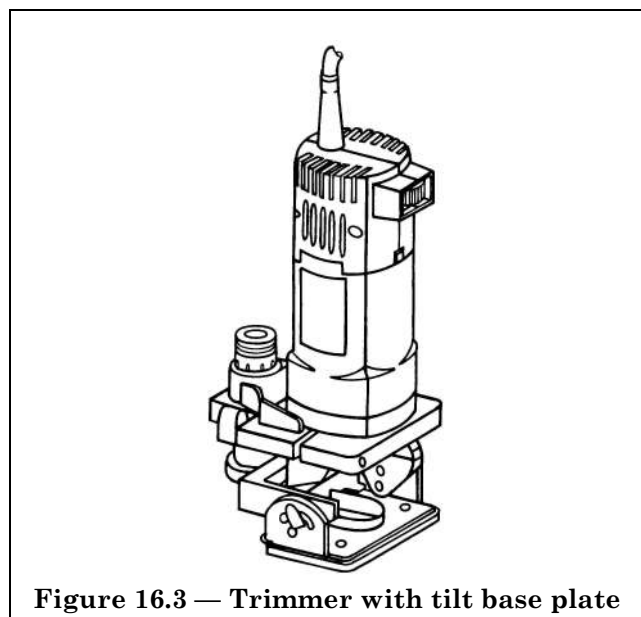


Figure 16.3 — Trimmer with tilt base plate

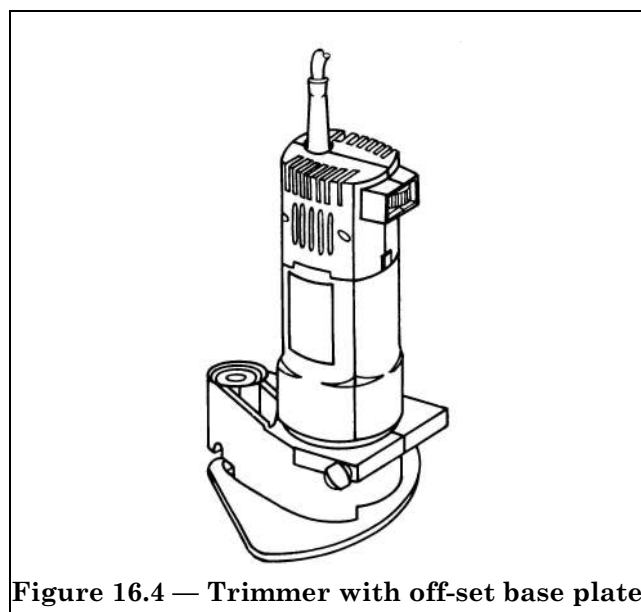


Figure 16.4 — Trimmer with off-set base plate

### 3 General requirements

Clause 3 of BS 2769-1:1984 shall apply.

### 4 General conditions for the tests

Clause 4 of BS 2769-1:1984 shall apply.

### 5 Rating

Clause 5 of BS 2769-1:1984 shall apply.

### 6 Classification

Clause 6 of BS 2769-1:1984 shall apply.

## 7 Marking

Clause 7 of BS 2769-1:1984 shall apply subject to the following modification to 7.1 and addition to 7.13.

### Modification

#### 7.1

k) the maximum speed(s) in revolutions per minute.

### Addition

**7.13** The instruction sheet shall give details of the type of cutters for which the tool is designed and shall draw attention to the need to use bits of the correct shank diameter and suitable for the speed of the tool.

The instruction sheet shall also give information concerning the diameter of shank(s) for which the collet(s) are designed.

## 8 Protection against electric shock

Clause 8 of BS 2769-1:1984 shall apply.

## 9 Starting

Clause 9 of BS 2769-1:1984 shall apply.

## 10 Input and current

Clause 10 of BS 2769-1:1984 shall apply subject to the following modification to 10.1.

### Modification

**10.1** This test shall not be made.

## 11 Heating

Clause 11 of BS 2769-1:1984 shall apply subject to the following modification to paragraph 8 [including items a), b) and c)] of 11.1.

### Modification

**11.1** (paragraph 8)

TEST. The tool shall be operated under normal load for 30 cycles. The temperature rises shall be measured at the end of the period of continuous operation.

## 12 Leakage current

Clause 12 of BS 2769-1:1984 shall apply.

## 13 Radio interference suppression

Clause 13 of BS 2769-1:1984 shall apply.

## 14 Moisture resistance

Clause 14 of BS 2769-1:1984 shall apply.

**15 Insulation resistance and electric strength**

Clause 15 of BS 2769-1:1984 shall apply.

**16 Endurance**

Clause 16 of BS 2769-1:1984 shall apply.

**17 Abnormal operation**

Clause 17 of BS 2769-1:1984 shall apply.

**18 Mechanical hazards**

Clause 18 of BS 2769-1:1984 shall apply subject to the following additions of 18.2 to 18.5.

*Additions*

**18.2** The motor housing shall be considered as the only gripping area and shall be so shaped as to minimize the risk of inadvertent contact of the hand of the user with rotating parts.

**NOTE** Inadvertent contact of the hand of the user with rotating parts is considered to be sufficiently prevented when the main switch area is at least 120 mm from the cutter, taking into account any base which may be fitted.

**TEST.** Conformance shall be checked by inspection and measurement.

**18.3** Base plates shall be so designed as to prevent the hand holding the trimmer making inadvertent contact with the cutter during use.

**TEST.** Conformance shall be checked by inspection.

**18.4** Elements intended to be readjusted while the trimmer is in operation shall be located in such a way that touching the cutter is avoided.

**TEST.** Conformance shall be checked by inspection.

**18.5** The maximum speed of the spindle at rated voltage or at the upper limit of the voltage range shall not exceed the speed marked on the nameplate of the tool.

**TEST.** Conformance shall be checked by measuring the speed of the spindle after the tool has been operating for 15 min with no load.

**19 Mechanical strength**

Clause 19 of BS 2769-1:1984 shall apply.

**20 Construction**

Clause 20 of BS 2769-1:1984 shall apply.

**21 Components**

Clause 21 of BS 2769-1:1984 shall apply.

**22 Internal wiring**

Clause 22 of BS 2769-1:1984 shall apply.

**23 Supply connection and external flexible cables and cords**

Clause 23 of BS 2769-1:1984 shall apply.

**24 Terminals for external conductors**

Clause 24 of BS 2769-1:1984 shall apply.

**25 Provision for earthing**

Clause 25 of BS 2769-1:1984 shall apply.

**26 Screws and connections**

Clause 26 of BS 2769-1:1984 shall apply.

**27 Creepage distances, clearances and distances through insulation**

Clause 27 of BS 2769-1:1984 shall apply.

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

Clause 28 of BS 2769-1:1984 shall apply.

**29 Resistance to rusting**

Clause 29 of BS 2769-1:1984 shall apply.

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

Appendix A of BS 2769-1:1984 shall apply.

**Annex B Routine tests**

Appendix B of BS 2769-1:1984 shall apply.

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# List of references

## Normative references

### BSI standards publications

BRITISH STANDARDS INSTITUTION, London

BS 2769, *Hand-held electric motor-operated tools.*

BS 2769-1:1984, *Specification for general requirements.*

BS 2769-2, *Particular requirements.*

BS 2769-2.0:1984, *General introduction and list of Sections.*

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