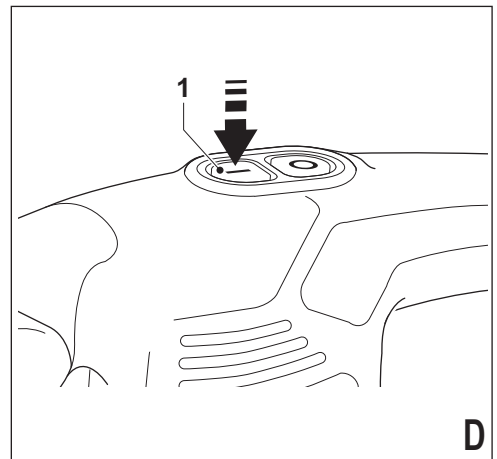
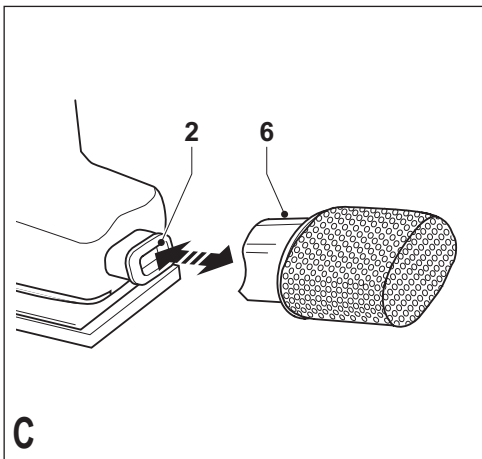
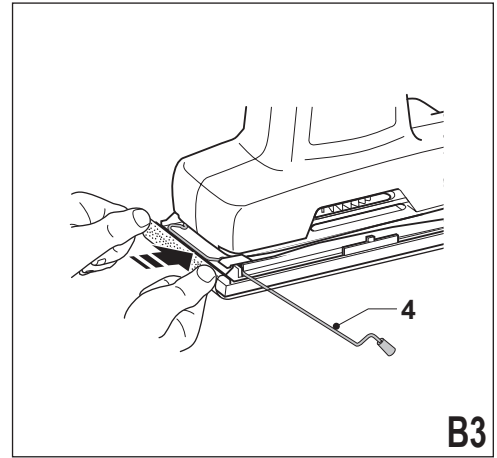
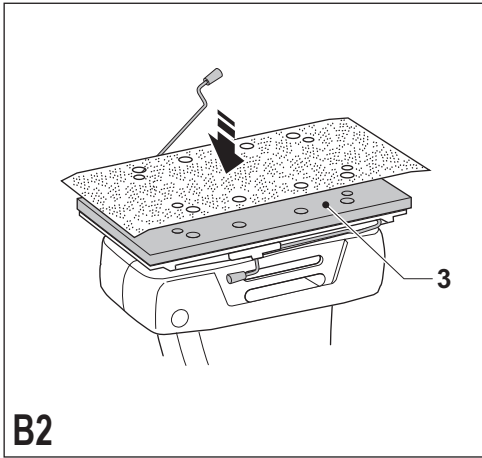
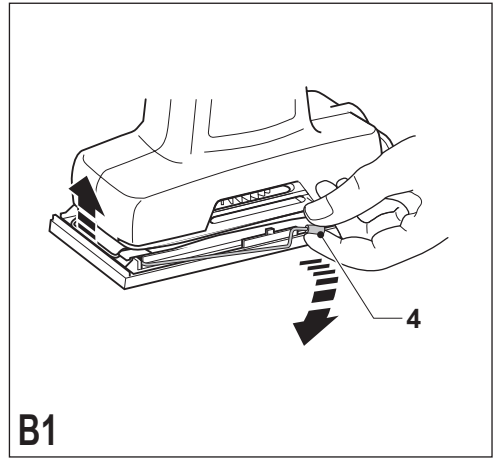
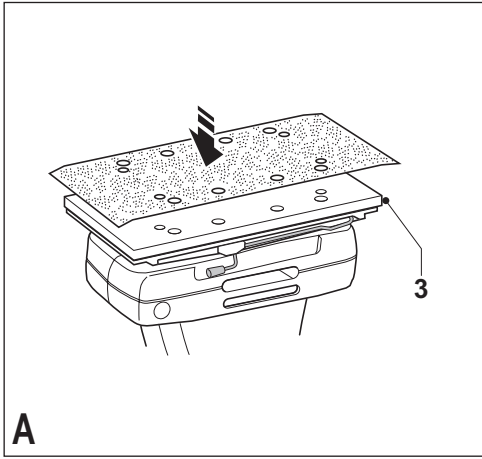
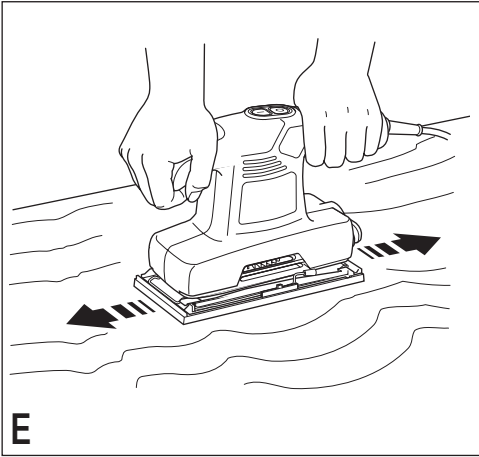


KA320E

English	4
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KA310/KA320E 1/3 SANDER

Technical data

		KA310	KA320E
Input voltage	V _{AC}	110	110
Power input	W	240	240
Oscillations (no load)	/min	30,000	14,000-30,000
Orbits (no load)	/min	15,000	7,000-15,000
Sanding base surface	mm	90 x 187	90 x 187
Weight	kg	1.30	1.30

Intended use

Your Black & Decker sander has been designed for sanding wood, metal, plastics and painted surfaces. This tool is intended for consumer use only.

Safety instructions

General power tool safety warnings



Warning! Read all safety warnings and all instructions. Failure to follow the warnings and instructions listed below may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

The term "power tool" in all of the warnings listed below refers to your mains operated (corded) power tool or battery operated (cordless) power tool.

1. Work area safety

- Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.
- Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

2. Electrical safety

- Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.
- Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.

- Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
- If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of an RCD reduces the risk of electric shock.

3. Personal safety

- Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- Use personal protective equipment. Always wear eye protection.** Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.
- Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.
- If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.

4. Power tool use and care

- Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
- Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.

- c. **Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
 - d. **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
 - e. **Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tools operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
 - f. **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
 - g. **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.
5. **Service**
- a. **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.
 - b. **The tool always is supplied via residual current device with a rated residual current of 30 mA or less.**

Additional power tool safety warnings



Warning! Additional safety warnings for sanders

- ◆ **Hold power tool by insulated gripping surfaces, because the belt may contact its own cord.** Cutting a "live" wire may make exposed metal parts of the power tool "live" and shock the operator.
- ◆ **Use clamps or another practical way to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body leaves it unstable and may lead to loss of control.
- ◆ **Warning!** Contact with or inhalation of dusts arising from sanding applications may endanger the health of the operator and possible bystanders. Wear a dust mask specifically designed for protection against dust and fumes and ensure that persons within or entering the work area are also protected.
- ◆ Thoroughly remove all dust after sanding.

- ◆ Take special care when sanding paint which is possibly lead based or when sanding some woods and metal which may produce toxic dust:
 - Do not let children or pregnant women enter the work area.
 - Do not eat, drink or smoke in the work area.
 - Dispose of dust particles and any other debris safely.
- ◆ This tool is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
- ◆ The intended use is described in this instruction manual. The use of any accessory or attachment or performance of any operation with this tool other than those recommended in this instruction manual may present a risk of personal injury and/or damage to property.

Labels on tool

The following pictograms are shown on the tool:



Warning! To reduce the risk of injury, the user must read the instruction manual.

Electrical safety



This tool is double insulated; therefore no earth wire is required. Always check that the power supply corresponds to the voltage on the rating plate.

- ◆ If the supply cord is damaged, it must be replaced by the manufacturer or an authorised Black & Decker Service Centre in order to avoid a hazard.

Features

This tool includes some or all of the following features.

1. On/off switch
2. Dust extraction outlet
3. Sanding base
4. Paper clamp lever
5. Variable speed control knob

Assembly

Warning! Before assembly, make sure that the tool is switched off and unplugged.

Fitting sanding sheets (fig. A & B1 - B3)

Warning! Never use the tool without a sanding sheet or accessory in place.

Fitting sanding sheets with nylon loops (fig. A)

- ◆ Make sure that the tool is switched off and unplugged.
- ◆ Press the sheet firmly and evenly onto the sanding base (3), making sure that the holes in the sheet line up with the holes in the base.

Fitting regular sanding sheets (fig. B1 - B3)

- ◆ Make sure that the tool is switched off and unplugged.
- ◆ Soften the sanding sheet by rubbing its non-abrasive side over the edge of a worktop.
- ◆ Press the paper clamp levers (4) upwards to release them from the retaining grooves and open the paper clamps by pressing them down (fig. B1).
- ◆ Place the sheet onto the sanding base (3), making sure that the holes in the sheet line up with the holes in the base (fig. B2).
- ◆ Insert the edge of the sanding sheet into the front paper clamp as shown (fig. B3).
- ◆ Press the front paper clamp lever (4) downwards and locate it in the retaining groove.
- ◆ While keeping a slight tension on the sheet, insert the rear edge of the sheet into the rear paper clamp.
- ◆ Press the rear paper clamp lever (4) downwards and locate it in the retaining groove.

Fitting and removing the dustbag (fig. C)

- ◆ Fit the dustbag (6) over the dust extraction outlet (2).
- ◆ Slide the dustbag onto the tool and make sure that it is securely located.
- ◆ To remove the dustbag, pull it to the rear and off the outlet.

Use

Warning! Let the tool work at its own pace. Do not overload.

KA320E - Variable speed control

The variable speed control allows you to adapt the speed of the tool to the workpiece material.

- ◆ Set the control knob (5) to the desired setting. Use a high speed for wood, medium speed for veneer and synthetics and low speed for acrylic glass, non-ferrous metals and for removing paints.

Switching on and off (fig. D)

- ◆ To switch the tool on, press the front part I of the on/off switch (1).
- ◆ To switch the tool off, press the rear part O of the on/off switch.

Emptying the dustbag (fig. C)

The dustbag (6) should be emptied every 10 minutes of use.

- ◆ Pull the dustbag (6) to the rear and off the tool.
- ◆ Hold the spout down and shake the dustbag (6) to empty the contents.

- ◆ Slide the dustbag (6) onto the tool and make sure that it is securely located.

Hints for optimum use (fig. E)

- ◆ Always hold the tool with both hands.
- ◆ Do not exert too much pressure on the tool.
- ◆ Regularly check the condition of the sanding sheet. Replace when necessary.
- ◆ Always sand with the grain of the wood.
- ◆ When sanding new layers of paint before applying another layer, use extra fine grit.
- ◆ On very uneven surfaces, or when removing layers of paint, start with a coarse grit. On other surfaces, start with a medium grit. In both cases, gradually change to a fine grit for a smooth finish.
- ◆ Consult your retailer for more information on available accessories.

Accessories

The performance of your tool depends on the accessory used. Black & Decker and Piranha accessories are engineered to high quality standards and designed to enhance the performance of your tool. By using these accessories you will get the very best from your tool.

Maintenance

Your tool has been designed to operate over a long period of time with a minimum of maintenance. Continuous satisfactory operation depends upon proper tool care and regular cleaning.

Warning! Before performing any maintenance, switch off and unplug the tool.

- ◆ Regularly clean the ventilation slots in your tool using a soft brush or dry cloth.
- ◆ Regularly clean the motor housing using a damp cloth. Do not use any abrasive or solvent-based cleaner.

Protecting the environment



Separate collection. This product must not be disposed of with normal household waste.

Should you find one day that your Black & Decker product needs replacement, or if it is of no further use to you, do not dispose of it with household waste. Make this product available for separate collection.



Separate collection of used products and packaging allows materials to be recycled and used again. Re-use of recycled materials helps prevent environmental pollution and reduces the demand for raw materials.

Local regulations may provide for separate collection of electrical products from the household, at municipal waste sites or by the retailer when you purchase a new product.

Black & Decker provides a facility for the collection and recycling of Black & Decker products once they have reached the end of their working life. To take advantage of this service please return your product to any authorised repair agent who will collect them on our behalf.

KA310/KA320E 1/3 砂光機

技術參數

		KA310	KA320E
輸入電壓	伏特(交流電)	110	110
輸入功率	瓦特	240	240
震盪次數(空載)	/分鐘	30,000	14,000-30,000
軌道次數(空載)	/分鐘	15,000	7,000-15,000
砂光板表面尺寸	毫米	90 x 187	90 x 187
重量	千克	1.30	1.30

請注意! 各地區上市產品/配件不盡相同, 請依台灣繁體中文說明書的內容為主。

Warning! Attachments and accessories are not the same in each region, please only refer to Taiwan Traditional Chinese description in this manual.

設計用途

本百得砂光機的設計用途是砂光木材、金屬、塑膠以及油漆表面。本工具僅供一般DIY消費者家庭使用, 營業使用者不適用一年保修條款。

安全須知

電動工具安全通則



警告! 閱讀說明。沒有按照以下列舉的說明而使用或操作將導致觸電、著火和/或嚴重傷害。

請妥善保管所有警示與須知, 以備將來參考使用。

在所有以下列舉的警告中術語“電動工具”指用電驅動(有線)電動工具或電池驅動(無線)電動工具。

1. 工作場地

- 保持工作場地清潔和明亮。**混亂和黑暗的場地會引發事故。
- 不要在易爆環境, 如有易燃液體、氣體或粉塵的環境下操作電動工具。**電動工具產生的火花會點燃粉塵或氣體。
- 讓兒童和旁觀者離開後操縱電動工具。**分心會使你放鬆控制。

2. 電氣安全

- 電動工具插頭必須與插座相配。不能以任何方式改裝插頭。**需接地的電動工具不能使用任何轉換插頭。未經改裝的插頭和相配的插座將減少觸電危險。
- 避免人體接觸接地表面, 如管道、散熱片和冰箱。**如果你身體接地會增加觸電危險。

- 不得將電動工具暴露在雨中或潮濕環境中。**水進入電動工具將增加觸電危險。
- 不得濫用電線。絕不能用電線搬運、拉動電動工具或拔出其插頭。**讓電動工具遠離熱、油、銳邊或運動部件。受損或纏繞的電線會增加觸電危險。
- 當在戶外使用電動工具時, 使用適合戶外使用的外接電線。**適合戶外使用的電線將減少觸電危險。
- 如果在潮濕的環境中使用電動工具, 請使用漏電保護裝置(RCD)。**使用此裝置可降低觸電危險。

3. 人身安全

- 保持警覺, 當操作電動工具時關注所從事的操作並保持清醒。**切勿在有疲倦、藥物、酒精或治療反應下操作電動工具。在操作電動工具期間精力分散會導致嚴重人身傷害。
- 使用安全裝置。始終配戴護目鏡。**安全裝置, 諸如適當條件下的防護面具、防滑安全鞋、安全帽、聽力防護等裝置能減少人身傷害。
- 避免突然起動。**確保開關在插入插頭時處於關斷位置。手指放在已接通電源的開關上或開關處於接通時插入頭可能會導致危險。
- 在電動工具接通之前, 拿掉所有調節鑰匙或扳手。**遺留在電動工具旋轉零件上的扳手或鑰匙會導致人身傷害。
- 手不要伸得太長。**時刻注意腳下和身體平衡。這樣在意外情況下能很好地控制電動工具。
- 著裝適當。不要穿寬鬆衣服或佩帶飾品。**讓你的頭髮、衣服和袖子遠離運動部件。寬鬆衣服、佩飾或長髮可能會捲入運動部件。
- 如果提供了與排屑裝置、集塵設備連接用的裝置, 則確保他們連接完好且使用得當。**使用這些裝置可減少碎屑引起的危險。

4. 電動工具使用和注意事項

- 不要濫用電動工具, 根據用途使用適當的電動工具。**選用適當的設計額值的電動工具會使你工作有效、更安全。
- 如果開關不能接通或關斷工具電源, 則不能使用該電動工具。**不能用開關來控制的電動工具是危險的且必須進行修理。

- c. 在進行任何調節、更換附件或貯存電動工具之前，必須從電源上拔掉插頭和 / 或將電池盒脫開電源。這種防護性措施將減少電動工具突然起動的危險。
 - d. 將閒置電動工具貯存在兒童所及範圍之外，並且不要讓不熟悉電動工具或對這些說明不瞭解的人操作電動工具。電動工具在未經訓練的用戶手中是危險的。
 - e. 保養電動工具。檢查運動部件的安裝偏差或卡住、零件破損情況和影響電動工具運行的其他條件。如有損壞，電動工具必須在使用前修理好。許多事故由維護不良的電動工具引發。
 - f. 保持切削刀具鋒利和清潔。保養良好的有鋒利切削刃的刀具不易卡住而且容易控制。
 - g. 按照使用說明書以及打算使用的電動工具的特殊類型要求的方式，考慮作業條件和進行的作業來使用電動工具、附件和工具的刀頭等。電動工具用作那些與要求不符的操作可能會導致危險情況。
- ◆ 打磨可能含鉛的油漆、或打磨某些可能產生有害粉塵的木材與金屬時，必須格外小心：
 - 禁止兒童或孕婦進入工作區域。
 - 禁止在工作區內吃、喝、抽煙。
 - 安全處理粉塵顆粒及其它碎屑。
 - ◆ 除非其安全負責人進行工具使用的監督或指導，否則體力、感知能力或心智不足的人（包括兒童），或缺乏相關經驗與知識的人不得使用本工具。必須看管兒童，勿使其拿本工具玩耍。
 - ◆ 本指導手冊已經說明了預定用途。如果配件或附件的使用、本工具的操作超出本指導手冊建議的範圍，則可能出現人身傷害和/或財產損壞風險。

工具上的標誌

本工具有如下圖形標誌：



警告！為降低傷害風險，使用前務必閱讀使用手冊。

製造年份及機號(範例)

2016 23 BM
西元年份 週數 機號

電氣安全



本工具為雙重絕緣，因此無須接地線。隨時檢查並確保電源電壓與銘牌上的使用電壓相符。

- ◆ 如果電源線損壞，必須由廠商或百得授權服務中心更換，以排除隱患。

部件名稱

本工具包含以下部分或全部部件：

1. On/off開關
2. 排塵口
3. 打磨底座
4. 砂紙夾緊杆
5. 調速旋鈕

組裝

警告！組裝前，請確保工具開關關閉並拔下電源插頭。

安裝砂紙 (圖A和B1 - B3)

警告！禁止在不裝砂紙或配件的情況下使用本工具。

5. 維修

- a. 將你的電動工具送交專業維修人員，必須使用同樣的備件進行更換。這樣確保所維修的電動工具的安全性。
- b. 本工具必須採用額定剩餘電流小於等於30毫安培的漏電保護器。

電動工具安全通則



注意！砂光機安全附則。

- ◆ 緊固件可能接觸隱藏的導線時，請僅握持絕緣的把手表面。如果緊固件接觸“帶電”導線，工具暴露金屬部件的表面會“帶電”，並且導致操作員觸電。
- ◆ 請使用夾鉗或其他切實可行的方法來固定和支撐工件，將其固定到穩定的工作臺上。用手抓住工件或用身體抵住工件並不穩定，可能會導致工件失控。
- ◆ **警告！**砂光作業會產生粉塵，如果不慎與之接觸或吸入，會危害操作人員甚至周圍人員的健康。請佩戴專用防塵面罩，並保證工作區內人員和進入工作區的人員也採取保護措施。
- ◆ 砂光作業後，請徹底清除所有粉塵。

帶尼龍環砂紙的安裝 (圖A)

- ◆ 請確保工具開關關閉並拔下電源插頭。
- ◆ 把砂紙牢固、均勻地按入打磨底座 (3) 內，並確保砂紙上的孔與底座上的孔對正。

安裝普通砂紙 (圖B1 - B3)

- ◆ 請確保工具開關關閉並拔下電源插頭。
- ◆ 把砂紙的非打磨面在工作臺的邊緣摩擦，使其變軟。
- ◆ 把砂紙夾緊杆 (4) 向上按，把它們從卡槽中釋放出來，然後向下按夾緊杆，將其打開。(圖B1)
- ◆ 將砂紙放到砂光板 (3) 上，確保砂紙孔與砂光板孔 - 對應(圖B2)。
- ◆ 如圖所示，把砂紙的邊緣插入前砂紙夾。(圖B3)
- ◆ 向下按前砂紙夾緊杆 (4)，將其定位於卡槽內。
- ◆ 輕微拉緊砂紙的同時，把砂紙的後邊緣插入後砂紙夾內。
- ◆ 向下按後砂紙夾緊杆 (4)，將其定位於卡槽內。

集塵袋的安裝與拆卸 (圖C)

- ◆ 把集塵袋 (6) 對準排塵口 (2)。
- ◆ 把集塵袋滑動安裝到工具上，確保其牢固固定。
- ◆ 要拆卸集塵袋，將其向後拉，從排塵口取下。

使用步驟

警告！讓工具在自有節奏下工作，切勿超載。

KA320E - 調速控制

調速功能使工具速度與工件材料相適應。

- ◆ 將控制旋鈕 (5) 設定到所需檔位。高速適合木材，中速適合膠合板或合成材料，低速適合亞克力玻璃、有色金屬以及清除油漆等。塵口取下。

打開與關閉 (圖D)

- ◆ 要啟動工具，按下on/off開關 (1) 的前部 “I”。
- ◆ 要關閉工具，按下on/off開關的後部 “O”。

清空集塵袋 (圖C)

集塵袋 (6) 應每10分鐘清空一次。

- ◆ 將集塵袋 (6) 向後拉，與工具脫離。
- ◆ 將袋口朝下並搖動集塵袋 (6)，將其清空。
- ◆ 將集塵袋 (6) 滑動安裝到工具上，確保牢固固定位。

最佳使用指南 (圖E)

- ◆ 始終雙手緊握工具
- ◆ 不得對工具施加過大壓力。
- ◆ 定期檢查砂紙的狀況。必要時應更換砂紙。
- ◆ 務必順木材紋理打磨。
- ◆ 塗另一道油漆前，在新漆面上打磨時，應使用超細砂紙。
- ◆ 打磨極不平整表面，或清除油漆層時，在開始時應採用粗粒度。對於其他表面，採用中等粒度。在兩種情況下，逐漸改為細粒度，以獲得光面修整。
- ◆ 請向您的零售商諮詢可用配件的更多資訊。

配件

本工具的性能表現取決於您使用何種配件。百得和Piranha配件品質標準高，其設計有利於提高工具性能。這些配件能夠把本工具的優點發揮得淋漓盡致。

維護

本電動工具設計精良，可以長期運作，而只需極少的維護。要取得連續的令人滿意的工作效果，需要您做合適的保養和定期的清潔。

警告！開始任何維護工作前，請關閉工具開關並拔下插頭。

- ◆ 定期使用乾燥的軟刷或幹抹布清潔工具的通風口。
- ◆ 定期使用乾淨的濕抹布清潔馬達外殼。切勿使用任何研磨型或溶劑型清潔劑。

電動工具之修理，僅可由認證的技術人員執行。請勿交由非百得認證服務中心的認證技術人員進行修理、維護、調整。若產品經由非百得認證的維修工程師拆解、組裝、調整，恕無法適用百得一年家用保修條款。請務必使用原廠零件。為充份發揮其功能，修理、維護、調整請務必使用原廠零件。百得認證服務中心擁有保修條款解釋權。

保護環境



分類回收。此類產品不得和普通家庭垃圾一起處理。

當您的百得產品需要更換或不再使用時，請不要把它和家庭垃圾一起處理。把該產品單獨分類回收。



舊產品和舊包裝的分類回收使材料能夠得以再迴圈和再利用。再迴圈材料的重新利用有助於防止環境污染和減少原料需求。

在市政垃圾場或您購買新產品的零售商處，地方法規可能要求電器產品與生活垃圾分開回收。

百得提供設施來收集、回收使用壽命到期的百得產品。要利用本服務，請將產品送往任何授權維修中心，他們代表百得回收產品。

經銷商: 特力股份有限公司
地址: 台北市內湖區新湖三路23號1.2.5樓
電話: 0800-552888

進口/委製廠商:
新加坡商百得電動工具(股)公司台灣分公司
地址: 台北市士林區德行西路33號2樓
電話: 02-2834-1741

設備名稱：砂紙機， Equipment name		型號（型式）：KA320E Type designation (Type)				
單元 Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛Lead (Pb)	汞Mercury (Hg)	鎘Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr ⁺⁶)	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
機殼	○	○	○	○	○	○
馬達	○	○	○	○	○	○
開關	○	○	○	○	○	○
電源線	○	○	○	○	○	○
內部配線	○	○	○	○	○	○
電路板	○	○	○	○	○	○

備考1. “超出0.1 wt %”及“超出0.01 wt %”係指限用物質之百分比含量超出百分比含量基準值。
Note 1: “Exceeding 0.1 wt %” and “exceeding 0.01 wt %” indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.

備考2. “○”係指該項限用物質之百分比含量未超出百分比含量基準值。
Note 2: “○” indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

備考3. “-”係指該項限用物質為排除項目。
Note 3: The “-” indicates that the restricted substance corresponds to the exemption.

