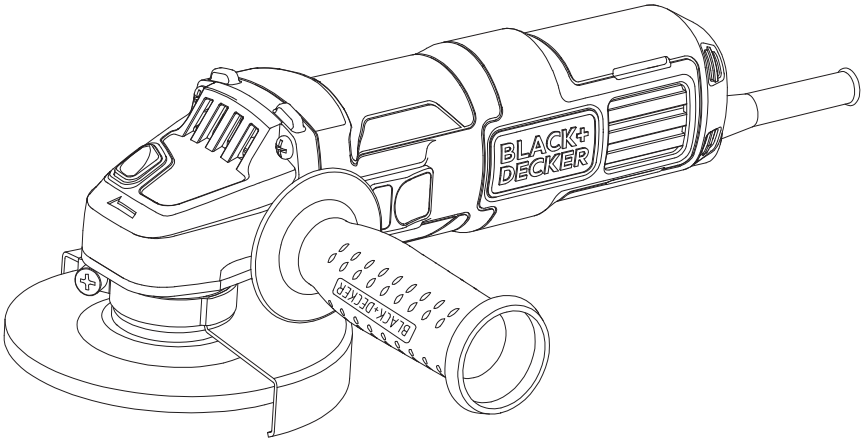
BLACK+ DECKER™



G650

FIG. A

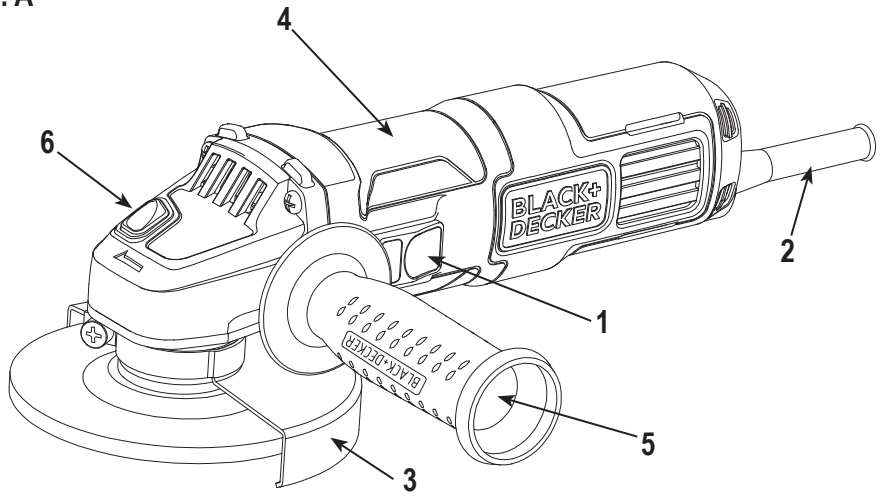


FIG. B

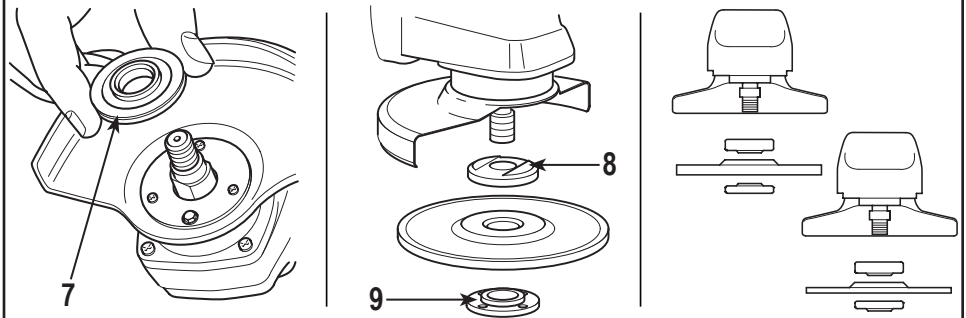


FIG. C

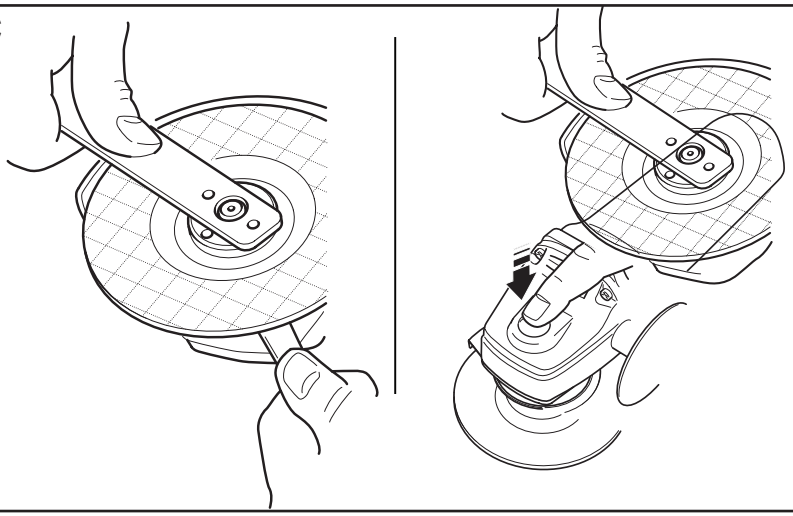


FIG. D

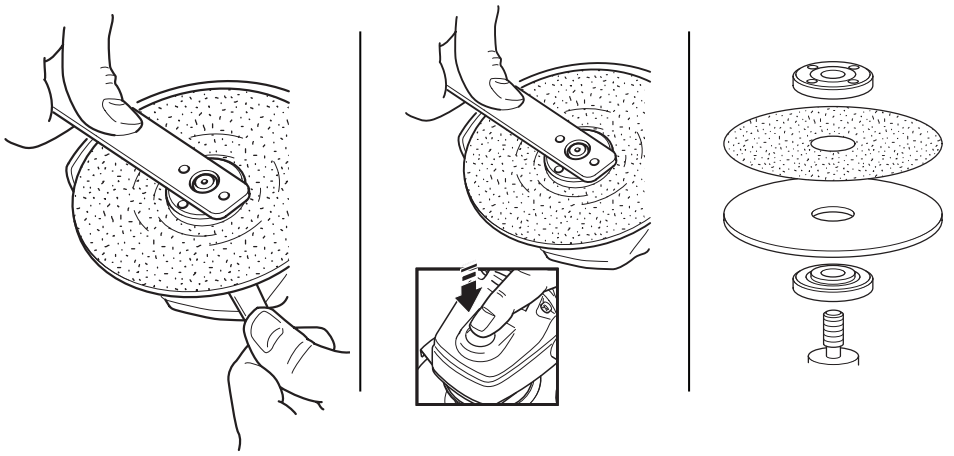
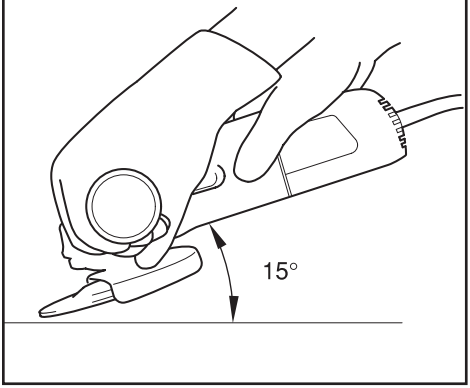


FIG. E



100mm ANGLE GRINDER G650

SPECIFICATIONS

Power	650W
Disc diameter	100mm
Voltage	220-240V ~ 50/60Hz
Rate speed	12000/min (rpm)
Spindle size	M10
Cable length	2m

GENERAL SAFETY RULES

⚠ **Warning!** Read and understand all instructions. Failure to follow all instructions listed below, may result in electric shock, fire and/or serious personal injury.

SAVE THESE INSTRUCTIONS

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

a. Keep work area clean and well lit. Cluttered and dark areas invite accidents.

b. 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.

c. Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.

2. Electrical Safety

a. 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.

b. 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.

c. Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.

d. 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.

e. 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.

f. 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

a. 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.

b. 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.

c. 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.

d. 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.

e. Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.

f. 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.

g. If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. Use of these devices can reduce dust related hazards.

4. Power Tool Use and Care

a. 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.

b. 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.

SAFETY INSTRUCTIONS FOR ALL OPERATIONS SAFETY WARNINGS COMMON FOR GRINDING

a. This power tool is intended to function as a grinder tool. Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

b. Operations such as sanding, wire brushing, polishing or cutting-off are not recommended to be performed with this power tool. Operations for which the power tool was not designed may create a hazard and cause personal injury.

c. Do not use accessories which are not specifically designed and recommended by the tool manufacturer. Just because the accessory can be attached to your power tool, it does not assure safe operation.

d. The rated speed of the accessory must beat least equal to the maximum speed marked on the power tool. Accessories running faster than their rated speed can break and fly apart.

e. The outside diameter and the thickness of your accessory must be within the capacity rating of your power tool. Incorrectly sized accessories cannon be adequately guarded or controlled.

f. Threaded mounting of accessories must match the grinder spindle thread. For accessories mounted by flanges, the arbor hole of the accessory must fit the locating diameter of the flange. Accessories that do not match the mounting hardware of the power tool will run out of balance, vibrate excessively and may cause loss of control.

g. Do not use a damaged accessory. Before each use inspect the accessory such as abrasive wheel for chips and cracks, backing pad for cracks, tear or excess wear, wire brush for loose or cracked wires. If power tool or accessory is dropped, inspect for damage or install an undamaged accessory. After inspecting and installing an accessory, position yourself and by standers away from the plane of the rotating accessory and run the power tool at maximum no-load speed for one minute. Damaged accessories will normally break apart during this test time.

h. Wear personal protective equipment. Depending on application, use face shield, safety goggles or safety glasses. As appropriate, wear dust mask, hearing protectors, gloves and workshop apron capable of stopping small abrasive or workpiece fragments. The eye protection must be capable of stopping flying debris generated by various operations. The dust mask or respirator must be capable of filtrating particles generated by your operation. Prolonged exposure to high intensity noise may cause hearing loss.

i. Keep bystanders a safe distance away from work area. Anyone entering the work area must wear personal protective equipment. Fragments of workpiece or of a broken accessory may fly away and cause injury beyond immediate area of operation.

j. Hold the power tool by insulated gripping surfaces only, when performing an operation where the cutting accessory may contact hidden wiring or its own cord. Cutting accessory contacting a “live” wire may make exposed metal parts of the power tool “live” and shock the operator.

k. Position the cord clear of the spinning accessory. If you lose control, the cord may be cut or snagged and your hand or arm may be pulled into the spinning accessory.

l. **Never lay the power tool down until the accessory has come to a complete stop.** The spinning accessory may grab the surface and pull the power tool out of your control.
m. **Do not run the power tool while carrying it at your side.** Accidental contact with the spinning accessory could snag your clothing, pulling the accessory into your body.
n. **Regularly clean the power tool's air vents.** The motor's fan will draw the dust inside the housing and excessive accumulation of powdered metal may cause electrical hazards.
o. **Do not operate the power tool near flammable materials.** Sparks could ignite these materials.
p. **Do not use accessories that require liquid coolants.** Using water or other liquid coolants may result in electrocution or shock.

KICKBACK AND RELATED WARNINGS

Kickback is a sudden reaction to a pinched or snagged rotating wheel, backing pad, brush or any other accessory. Pinching or snagging causes rapid stalling of the rotating accessory which in turn causes the uncontrolled power tool to be forced in the direction opposite of the accessory's rotation at the point of the binding.
For example, if an abrasive wheel is snagged or pinched by the workpiece, the edge of the wheel that is entering into the pinch point can dig into the surface of the material causing the wheel to climb out or kick out. The wheel may either jump toward or away from the operator, depending on direction of the wheel's movement at the point of pinching. Abrasive wheels may also break under these conditions. Kickback is the result of power tool misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below:

a. **Maintain a firm grip on the power tool and position your body and arm to allow you to resist kickback forces. Always use auxiliary handle, if provided, for maximum control over kickback or torque reaction during start up.** The operator can control torque reaction or kickback forces, if proper precautions are taken.
b. **Never place your hand near the rotating accessory.** Accessory may kickback over your hand.
c. **Do not position your body in the area where power tool will move if kickback occurs.** Kickback will propel the tool in direction opposite to the wheel's movement at the point of snagging.
d. **Use special care when working corners, sharp edges etc. Avoid bouncing and snagging the accessory.** Corners, sharp edges or bouncing have a tendency to snag the rotating accessory and cause loss of control or kickback.
e. **Do not attach a saw chain woodcarving blade or toothed saw blade.** Such blades create frequent kickback and loss of control.

SAFETY WARNINGS SPECIFIC FOR GRINDING

a. **Use only wheel types that are recommended for your power tool and the specific guard designed for the selected wheel.** Wheels for which the power tool was not designed cannot be adequately guarded and are unsafe.
b. **The guard must be securely attached to the power tool and positioned for maximum safety, so the least amount of wheel is exposed towards the operator.** The guard helps to protect operator from broken wheel fragments and accidental contact with wheel.
c. **Wheels must be used only for recommended applications. For example: do not grind with the side of cut-off wheel.** Abrasive cut-off wheels are intended for peripheral grinding, side forces applied to these wheels may cause them to shatter.
d. **Always use undamaged wheel flanges that are of correct size and shape for your selected wheel.** Proper wheel flanges support the wheel thus reducing the possibility of wheel breakage. Flanges for cut-off wheels may be different from grinding wheel flanges.
e. **Do not use worn down wheels from larger power tools.** Wheel intended for larger power tool is not suitable for the higher speed of a smaller tool and may burst.

`6. Electrical safety

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

Warning! If the power cord is damaged, it must be replaced by the manufacturer, authorized BLACK+DECKER Service Center or an equally qualified person in order to avoid damage or injury. If the power cord is replaced by an equally qualified person, but not authorized by BLACK+DECKER, the warranty will not be valid.

7. Labels on tool

The label on your tool may include the following symbols:


Read Instructions Manual


Use Eye Protection


Use Ear Protection

Hz ..... Hertz
W ..... Watts
min ..... minutes

..... Alternating Current

..... Direct Current


..... Class II Construction

.... Earthing Terminal

.... Safety Alert Symbol
.../min.. Revolutions or Reciprocation per minute

V ..... Volts
A ..... Amperes
n ..... Rated Speed

FEATURES (Fig. A)

1. Slider switch
2. Cable
3. Guard
4. Body grip
5. Side handle (2 positions)
6. Spindle lock button

OPERATION

Operatingyour angle grinder (Fig. A)

To switch on, push the slider switch forward **(1).** To switch off, press the rear of the slider switch.

Fitting the discs (Fig. B and C)

Proceed as follows:

- ► Disconnect the plug from the electricity supply.
- ► Ensure the guard is fitted. Place the inner flange **(7)** on the spindle. Ensure it is located on the two flats.
- ► Place the abrasive disc on the spindle and inner flange **(8).** Ensure it is correctly located.
- ► Fit the threaded outer flange **(9),** making sure it is facing in the correct direction for the type of disc fitted. For grinding discs, the flange **(9)** is fitted with the raised portion facing towards the disc. For cutting discs, the flange **(9)** is fitted with the inner portion facing away from the disc.
- ► Hold the spanner on the flats of the spindle to prevent rotation of the disc and tighten the outer flange with the spanner provided.
- ► Press in the spindle lock button and rotate the spindle until it locks **(Fig. C).** Keeping the lock button pressed in, tighten the outer flange with the spanner provided.

Fitting sanding discs (Fig. D)

- ► Use a sanding disc with the backing pad for sanding with your angle grinder.
- ► Disconnect the plug from the electricity supply.
- ► Remove the guard.
- ► Place the flange on the spindle. Place the backing pad on the spindle and inner flange, ensuring it is correctly located.
- ► Mount the fibre backed abrasive disc on the backing pad.
- ► Fit the threaded outer flange and tighten as explained in **'Fitting the discs'.**

Handy hints (Fig. E)

Hold your angle grinder firmly with one hand around the side handle and the other around the body of your angle grinder.

- ► Always position the guard so that as much of the exposed disc as possible is pointing away from you.
- ► Be prepared for a stream of sparks when the disc touches the metal.

When grinding, always maintain the correct angle between the disc and the work surface (15°)**(Fig. D).** This increases the removal capacity of the disc and avoids unnecessary overloading.

Overload

Overloading will cause damage to the motor of your angle grinder. This can happen if your angle grinder is subjected to heavy duty use for prolonged periods of use. Do not in any circumstances, attempt to exert too much pressure on your angle grinder to speed up your work. The abrasive discs operate more efficiently when a light pressure is exerted, thus avoiding a drop in the speed of your angle grinder.

MAINTENANCE

Keep guards, air vents and the motor housing as clear as possible of dust and dirt. Wipe with a clean cloth and blow through with a low-pressure air supply. Excessive build-up of metal dust can cause tracking of electrical current from the internal parts to exposed metal parts.

Do not overload your angle grinder. Overloading causes a reduction in speed and efficiency, causing your angle grinder to become too hot. If this happens, operate your angle grinder under no load for one or two minutes until it has cooled to normal operating temperature. Switching your angle grinder off under load will reduce the life of the switch.

⚠ **Important!** To assure product **SAFETY** and **RELIABILITY,** repairs, maintenance and adjustment (other than those listed in this manual) should be performed by authorized service centers or other qualified service personnel, always using identical replacement parts.

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.

SERVICE INFORMATION

BLACK+DECKER offers a full network of company-owned and authorized service locations throughtout Asia. All BLACK+DECKER Service Centers are staffed with trained personnel to provide customers with efficient and reliable

product service.

Whether you need technical advice, repair, or genuine factory replacement parts, contact the BLACK+DECKER location nearest to you.

NOTE

- BLACK+DECKER's policy is one of continuous improvement to our products and, as such, we reserve the right to change product specifications without prior notice.
- Standard equipment and accessories may vary by country.
- Product specifications may differ by country.
- Complete product range may not be available in all countries. Contact your local BLACK+DECKER dealers for range availability.

100mm 砂輪機
G650

規格

額定消耗功率/額定輸出功率:	650W / 318W
切盤直徑:	100mm
電壓:	110V~ 60Hz
空載轉速:	12000/mm (rpm)
軸心大小:	M10
電源線長度:	2m
打磨砂輪厚度:	6mm
砂輪切盤類型:	27型
可使用研磨輪	
外徑:	100mm
厚度:	6mm
孔徑:	16mm
最高使用週邊速度:	80米/秒

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.

本工具只供一般DIY消費者使用, 營業使用者不適用百得一年保修條款

一般安全規則

⚠ **警告！**請閱讀並理解全部指示。不遵循下列的任何指示可能會導致觸電、火災及/或嚴重人身傷害。

請妥善保存這些安全指示

安全說明
電動工具一般安全警告
警告！請閱讀所有安全警告及指示。若不遵循以下所示警告及指示，可能會導致觸電、火災及/或嚴重傷害。

請妥善保存所有警告及指示以備將來查閱。以下所示所有警告中的術語「電動工具」係指由電源供電 (插電式) 或由電池供電 (充電式) 的電動工具。

1. 工作場地安全

a. 請保持工作場地清潔明亮。混亂和黑暗的場地會引發事故。

b. 請勿在易爆環境 (例如存在易燃液體、氣體或粉塵的環境) 中操作電動工具。電動工具產生的火花可能會引燃粉塵或煙霧。

c. 操作電動工具時，請遠離兒童與旁觀者。分心會導致您疏於控制。

2. 電氣安全

a. 電動工具插頭必須與插座相符。切勿以任何方式改裝插頭。請勿將接地的電動工具與任何配接器插頭搭配使用。使用未經改裝的插頭與相符的插座可降低觸電風險。

b. 請避免人體接觸接地表面 (例如管道、散熱片、爐灶及冰箱)。若您的身體接地，會增加觸電風險。

c. 請勿將電動工具暴露在雨中或潮濕環境中。水進入電動工具會增加觸電風險。

d. 請勿濫用電線。切勿使用電線來搬運、拉動電動工具或拔出插頭。請讓電線遠離熱、油、銳邊或活動部件。受損或纏繞的電線會增加觸電風險。

e. 在室外操作電動工具時，請使用適合室外使用的延長電纜。採用適合室外使用的電線可降低觸電危險。

f. 若必須在潮濕環境中操作電動工具，請使用受漏電保護器 (RCD) 保護的電源。使用 RCD 可降低觸電風險。

3. 人身安全

a. 操作電動工具時，請保持警覺、留意所執行的操作並運用常識。請勿在疲倦或在受到藥物、酒精或藥品的影響時使用電動工具。操作電動工具時，一時的注意力分散可能會導致嚴重人身傷害。

b. 請使用人身防護設備。始終佩戴護目裝置。防護設備 (例如在適當條件下使用的防塵面具、防滑安全鞋、安全帽或聽力保護裝置) 可減少人身傷害。

c. 避免意外啓動。在連接至電源及/或電池組、拾起或搬運工具之前，請確保開關處於關閉位置。若搬運電動工具時將手指放在開關上，或者在電動工具開關開啓時將插頭插入電源插座，這兩種行為都會引發事故。

d. 開啓電動工具之前，請卸下所有調整鑰匙或扳手。電動工具旋轉部件上遺留的扳手或鑰匙可能會導致人身傷害。

e. 請勿過度伸長雙手。時刻注意腳下與身體的平衡。如此可在意外情況下更好地控制電動工具。

f. 穿著適當。請勿穿著寬鬆衣服或佩戴飾品。讓頭髮、衣服及手套遠離活動部件。寬鬆衣服、佩飾或長髮可能會捲入活動部件中。

g. 若為連接除塵與集塵設備而提供裝置，請確保妥善連接及正確使用。使用以上設備可減少與塵埃有關的危險。

4. 電動工具的使用與養護

a. 請勿超負荷使用電動工具。請根據您的應用使用正確的電動工具。正確的電動工具能以設計的額定值更有效、更安全地執行工作。

b. 若開關無法開啓或關閉電動工具，則請勿使用。若開關無法控制電動工具，則電動工具存在危險，必須予以維修。

c. 在執行任何調整、更換配件或儲存電動工具之前，請從電源上拔掉插頭及/或卸下電池組。這類防護性措施可降低電動工具意外啓動的風險。

d. 請將閒置的電動工具存放在兒童無法觸及的地方，請勿讓不熟悉電動工具或這些指示的人員操作電動工具。未經訓練的使用者操作電動工具會發生危險。

e. 維護電動工具。請檢查是否存在活動部件未對準或卡住、部件破損以及可能影響電動工具運作的其他任何狀況。若電動工具有損傷，請先維修後再使用。許多事故都因電動工具維護不善所導致。

f. 請保持刀具鋒利清潔。妥善維護、刀刃鋒利的刀具卡住的可能性更低，更易於控制。

g. 請根據這些說明，並考慮工作條件和所要執行的工作，來使用電動工具、配件和工具刀頭等。若將電動工具用於執行不同於預期的操作，可能導致危險情況。

5. 維修

a. 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。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。

所有操作之安全指示
針對打磨的通用安全警告

a. 本電動工具適合用作打磨工具。請閱讀本電動工具隨附的所有安全警告、指示、圖示和規格。不遵循下列的所有指示可能會導致觸電、火災及/或嚴重傷害。

b. 不建議使用本電動工具執行砂光、鋼絲刷光、拋光或切割等操作。將電動工具用於非專用的操作會引發危險並導致人身傷害。

c. 切勿使用非工具製造廠商專門設計及推薦的配件。就算配件可裝到電動工具上，這並不代表能確保安全操作。

d. 配件的額定速度必須至少相等於電動工具上所標示的最大速度。配件以比其額定速度大的速度運轉可能會引發爆裂和飛濺。

e. 配件的外徑與厚度必須在電動工具的額定能力範圍內。錯誤尺寸的配件將無法得到充分保護或控制。

f. 配件的螺紋安裝必須與磨桿螺紋相符。針對由凸緣安裝的配件，配件的軸孔必須適合於凸緣的定位直徑。與電動工具安裝硬體不相配的配件將會失衡、過度震動並會引起失控。

g. 切勿使用已損壞的配件。每次使用前，請檢查配件，例如檢查砂輪是否有碎裂和裂縫，檢查支撐墊是否有裂縫、撕裂或過度磨損，檢查鋼絲刷是否鬆動或鋼絲是否斷裂。若電動工具或配件跌落，請檢查是否損毀，或立即安裝未破損的配件。檢查並安裝配件後，讓自己和旁觀者遠離配件的旋轉範圍，並讓電動工具以最大的空載速度運行一分鐘。受損配件一般會在此測試過程中碎裂。

h. 佩戴人身防護設備。根據適用情況，使用面罩、安全護目鏡或防護眼鏡。適用時，佩戴防塵面具、聽力保護器、手套及能阻擋細小磨料或工件碎片的工作圍裙。護目裝備必須能夠擋住各種操作所產生的飛屑。防塵面具或口罩必須能夠過濾各種操作所產生的顆粒。長期暴露於高強度噪音中可能會使聽力受損。

i. 讓旁觀者與工作場地保持一定的安全距離。任何進入工作場地的人員都必須佩戴人身防護設備。工件或受損配件的碎片可能會飛出並導致緊靠著操作區域的旁觀者受到傷害。

j. 若在執行操作時，切削配件可能會接觸隱藏的電線或其本身的電線，則只能透過絕緣手柄表面握住電動工具。切削配件若接觸「帶電」導線，可能會導致電動工具裸露的金屬部件「帶電」，並導致操作人員觸電。

k. 讓電線遠離旋轉的配件。若失去控制，電線可能會被切斷或纏繞，並可能使您的手或手臂被捲入旋轉配件中。

l. 直到配件完全停止運轉才放下電動工具。旋轉的配件可能會抓住表面並拉動電動工具，讓您失去對工具的控制。

m. 攜帶時，不要啓動電動工具。意外接觸旋轉配件可能會纏繞您的衣服，使配件傷害您的身體。

n. 定期清理電動工具的通風口。電動機風扇會將灰塵吸進機殼，過多的金屬粉塵沉積可能會導致電氣危險。

o. 請勿在易燃材料附近操作電動工具。火花可能會點燃這些材料。

p. 請勿使用需要冷卻液的配件。用水或其他冷卻液可能會導致觸電或觸電致死。

反衝和相關警告

反衝是因卡住或纏繞住的旋轉砂輪、支撐墊、鋼絲刷或任何其他配件而產生的突然反作用力。卡住或纏繞會引起旋轉配件迅速失速，隨之使失控的電動工具在卡住點產生與配件旋轉方向相反的運轉。例如，若砂輪被工件纏繞或卡住，伸入卡住點的砂輪邊緣可能會進入材料表面，從而引起砂輪爬出或反衝。砂輪可能會飛向或飛離操作人員，這取決於砂輪在卡住點的運轉方向。在此條件下，砂輪也可能會碎裂。反衝是由於電動工具使用不當及/或不正確的操作程序或條件而導致，並可透過採取下列適當的預防措施而避免：

a. 保持緊握電動工具，調整身體和手臂位置，以應對反衝。如有輔助手柄，則要一直使用，以最大限度地控制啓動時的反衝力或反扭矩。若採取合適的預防措施，操作人員即可以控制反扭矩或反衝力。

b. 切勿將手靠近旋轉配件。配件可能會反衝碰到手。

c. 請勿站在發生反衝時電動工具可能移動到的位置。反衝將在纏繞點促使工具逆砂輪運動方向運動。

d. 處理尖角、銳邊等時請格外小心。避免配件跳彈和被纏繞住。尖角、銳邊或彈跳可能會纏繞旋轉配件並引起失控或反衝。

e. 切勿附裝上鋸鏈木雕鋸片或帶齒鋸片。此類鋸片會產生頻繁的反衝和失控。

針對打磨作業的安全警告

a. 只使用為電動工具所推薦的砂輪型號及為所選砂輪專門設計的防護罩。不是專為電動工具設計的砂輪無法得到充分保護，因此不安全。

b. 防護罩必須牢固地裝在電動工具上，且放置在最安全的地方，以便最大限度地降低暴露在操作人員面前的砂輪面積。防護罩有助於保護操作人員免於受到爆裂砂輪碎片和意外觸及砂輪的危險。

c. 砂輪只可用於所推薦的用途。例如，不要使用切割砂輪的側面進行打磨。切割砂輪設計用於圓周打磨，施加到砂輪側面的側力可能會使其碎裂。

d. 始終為所選砂輪選用未損毀、尺寸及形狀正確的砂輪凸緣。 合適的砂輪凸緣可支撐砂輪，從而減小砂輪破裂的可能性。切割砂輪的凸緣可能與打磨砂輪的凸緣不同。

e. 切勿使用大規格電動工具上用剩的磨損砂輪。用於大規格電動工具的砂輪不適於較小規格工具的高速工況並可能會爆裂。

6. 電氣安全

本工具採用雙重絕緣，因此無需接地線。請務必檢查主電壓是否與銘牌上的電壓一致。

警告！若電源線損毀，必須讓製造廠商或授權的 BLACK+DECKER 維修中心或讓類似的合格人員更換以避免發生損壞或傷害。如果您的電源線由非 BLACK+DECKER 所授權的類似合格人員所更換，則保固將無效。

7. 工具上的標籤

您工具上的標籤上可能包含下列符號：

閱讀使用手冊	V	伏特	n	額定速度
佩戴護目鏡	A	安培	.....	II 級結構
佩戴聽力保護裝置	Hz	赫茲	....	接地終端
	W	瓦特	....	安全警告符號
	min	分鐘	.../min..	每分鐘旋轉或鋸切數
	.....	交流電		
	.....	直流電		

製造年份及機號(範例)

2016	23	BM
西元年份	週數	機號

功能部件 (圖 A)

1. 滑動開關
2. 電源線
3. 防護罩
4. 主體握把
5. 側手柄 (2 個位置)
6. 主軸鎖按鈕

操作

操作您的砂輪機 (圖 A)

若要開啓工具電源，請將滑動開關 **(1)** 向前推動。
若要關閉工具電源，請按下滑動開關後端。

安裝切盤 (圖 B 和 C)

請按以下方式進行：

- ► 中斷插頭與電源的連接。
- ► 確保防護罩緊固安裝。將內部凸緣 **(7)** 放置在主軸上。確保其位於機器兩個平頂的上方。
- ► 將砂盤放置在主軸和內部凸緣 **(8)** 上。確保其位於正確位置。
- ► 安裝帶螺紋的外部凸緣 **(9)**，確保其安裝方向與安裝的砂盤類型恰當的方向相符。砂光切盤的凸緣 **(9)** 應以凸起部分朝向切盤放置。切割切盤的凸緣 **(9)** 則應以內部朝切盤之反方向放置。
- ► 握住主軸的扳手平頂以防止切盤旋轉，並使用所提供的扳手擰緊外部凸緣。
- ► 按下主軸鎖按鈕，然後旋轉主軸直到其鎖定 **(圖 C)**。保持按下鎖定按鈕，然後同時使用所提供的扳手擰緊外部凸緣。

安裝砂光切盤 (圖 D)

- ► 以砂輪機執行砂光作業時，請使用附有墊片的砂光切盤。
- ► 中斷插頭與電源的連接。
- ► 卸下防護罩。
- ► 將凸緣放置在主軸上。將墊片放置在主軸和內部凸緣上，確保其位於正確位置。
- ► 將襯有纖維的砂盤安裝在墊片上。
- ► 安裝帶螺紋的外部凸緣，並按「**安裝切盤**」中所述擰緊。

實用提示 (圖 E)

使用一隻手握住砂輪機側手柄，另一隻手握住砂輪機主體。

- ► 安裝防護罩時，始終盡可能將切盤暴露的部分朝向與您身體相反的方向。
- ► 切盤觸及金屬時，小心火花四濺。進行打磨作業時，始終保持切盤與工作檯面 **(圖 D)** 之間的正確角度 (15°)。這將增加切盤的打磨能力，並避免不必要的超負荷。

超負荷

超負荷會導致砂輪機電機損壞。如果砂輪機長時間承受重負荷使用，即有可能會發生這種情況。請勿在任何情況下試圖超負荷使用砂輪機以加快工作進程。砂輪在低壓下運作最為有效，從而確保砂輪機將以最高速度運轉。

維護

盡可能保持防護罩、通風口和電機外殼無任何灰塵和污垢。用乾淨的布擦拭，並用低壓氣流清潔。金屬粉塵過度積聚可能會導致內部零件通電至外露金屬部件。

不要使砂輪機超負荷工作。超負荷將降低運作速度和效率，並導致砂輪機變燙。如果發生這種情況，請空載運轉砂輪機一兩分鐘，直至其冷卻至正常工作溫度。在過載情況下關閉砂輪機將顯著降低開關的工作壽命。

⚠ **重要資訊！**為了確保產品**安全**及**可靠**，所有的維修、維護和調整 (除了本手冊中列出的之外)，都應該由授權的
維修中心或其他的合格維修人員執行，並始終使用相同的替換部件。

保護環境

分類回收。本產品必須與一般家庭廢物分開處置。若您發現需要更換 BLACK+DECKER 產品，或該產品對您再無用處，請勿將其與家庭廢物一併處置。請確保本產品可供分類收集。

透過分開收集用過的產品與包裝，可以實現材料的循環再生利用。重複使用回收的材料有助於防止環境污染，並降低對原材料的需求。當地法規可能要求由市政廢物回收點，或由向您出售新產品的經銷商來提供將電子產品與家庭廢物分開收集的服務。

服務資訊

BLACK+DECKER 在亞洲地區提供覆蓋範圍廣泛的公司隸屬和授權服務地點。所有的 BLACK+DECKER 維修中心都具有訓練有素的人員，為客戶提供高效、可靠的電動工具服務。

若您需要技術建議、維修或原廠替換部件，請聯絡最靠近您的 BLACK+DECKER 地點。

備註

- BLACK+DECKER 秉持不斷改善產品的原則，因此，我們保留隨時變更產品規格而不預先通知的權利。
- 標準設備及配件可能視國家/地區而有所不同。
- 產品規格可能視國家/地區而有所不同。
- 並非在所有的國家/地區都將提供完整的產品系列。請聯絡您當地的 BLACK+DECKER 經銷商以瞭解所提供的產品系列。

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

100mm 앵글 그라인더 G650

사양

전력	650W
디스크 직경	100mm
전압	220~240V~50/60Hz
정격 속도	12000/분(rpm)
스핀들 크기	M10
케이블 길이	2m

일반 안전 규칙

⚠ **경고!** 모든 지침을 읽고 숙지하십시오. 아래 나와 있는 모든 지침을 따르지 않으면 감전, 화재 및/또는 심각한 부상을 초래할 수 있습니다.

본 지침을 잘 보관해 두십시오.

안전 지침
전동 공구에 관한 일반 안전 경고 경고!
모든 안전 경고와 모든 지침을 읽으십시오.
아래 설명한 경고와 지침을 따르지 않으면 감전, 화재 및/또는 심각한 부상을 초래할 수 있습니다.

향후 참고할 수 있도록 모든 경고 및 지침을 보관해두십시오. 아래의 모든 경고에서 사용된 '전동 공구' 라는 용어는 주 공급 전원에 의해 전기가 공급되는(유선) 전동 공구 또는 충전식(무선) 전동 공구를 의미합니다.

1. 작업 영역 안전

a. **작업 영역을 청결하고 밝게 유지하십시오.** 혼잡하고 어두운 작업 영역에서는 사고가 발생하기 쉽습니다.

b. **가연성 액체, 가스 또는 먼지 등 폭발 가능성이 있는 환경에서는 전동 공구를 사용하지 마십시오.** 전동 공구에서 먼지나 가스를 발화시킬 수 있는 불꽃이 튈 수 있습니다.

c. **전동 공구를 사용하는 동안에는 어린이와 주변 사람들이 작업 영역에 가까이 들어오지 못하게 하십시오.** 주변이 산만해지면 통제력을 잃을 수 있습니다.

2. 전기 안전

a. **전동 공구의 플러그는 콘센트와 형식이 일치해야 합니다. 플러그를 어떤 방식으로든 절대 개조하지 마십시오. 접지된(지면 접지) 전동 공구에 어떤 어댑터 플러그도 사용하지 마십시오.** 개조되지 않은 플러그 및 형식이 일치하는 콘센트를 사용하면 감전 위험이 줄어듭니다.

b. **파이프, 라디에이터, 렌지 및 냉장고 등과 같이 접지된 표면에 신체를 접촉하지 않도록 하십시오.** 신체를 접촉하면 감전 위험이 커집니다.

c. **전동 공구를 비 또는 습한 환경에 노출하지 마십시오.** 전동 공구에 물이 들어가면 감전 위험이 커집니다.

d. **코드를 함부로 다루지 마십시오. 코드를 사용하여 전동 공구를 운반하거나 잡아당기거나 플러그를 뽑지 마십시오. 열, 오일, 날카로운 가장자리 또는 움직이는 부품에서 멀리 떨어진 장소에 코드를 보관하십시오.** 코드가 손상되거나 얽혀 있으면 감전 위험이 커집니다.

e. **전동 공구를 실외에서 사용할 때는 실외 사용에 적합한 연장 코드를 사용하십시오.** 실외 사용에 적합한 코드를 사용하면 감전 위험이 줄어듭니다.

f. **불가피하게 전동 공구를 습한 장소에서 사용해야 하는 경우에는 누전 차단기(RCD)로 보호된 전원 공급 장치를 사용하십시오.** RCD를 사용하면 감전 위험이 줄어듭니다.

3. 신체 안전

a. **전동 공구로 작업할 때는 방심하지 말고 작업에 주의하면서 상식을 따르십시오. 피곤한 상태이거나 약물, 술, 치료제를 복용한 상태에서는 전동 공구를 사용하지 마십시오.** 전동 공구를 사용하다 잠깐만 한 눈을 팔아도 심각한 부상을 당할 수 있습니다.

b. **개인 보호 장구를 사용하십시오. 항상 보안경을 착용하십시오.** 적합한 상황에서 방진 마스크, 미끄럼 방지 안전화, 안전모 또는 청력 보호 기구 등의 보호 장구를 사용하면 부상 위험이 줄어듭니다.

c. **의도하지 않은 장비 가동을 방지하십시오. 전원 및/또는 배터리 팩에 연결한 상태로 공구를 선택 또는 운반할 때는 사전에 스위치가 꺼짐 위치에 있는지 반드시 확인하십시오.** 스위치가 켜짐 위치에 있는 상태에서 스위치에 손가락이 닿은 상태로 전동 공구를 운반하거나 전동 공구에 전원을 공급하면 사고가 발생합니다.

d. **전동 공구를 켜기 전에 모든 조정 키 또는 렌치를 제거하십시오.** 전동 공구의 회전 부품에 렌치나 키가 장착되어 있으면 부상을 당할 수 있습니다.

e. **무리하게 팔을 뻗지 마십시오. 항상 바른 자세로 서서 균형을 잡으십시오.** 그러면 예기치 않은 상황에서도 전동 공구를 더욱 잘 제어할 수 있습니다.

f. **적절한 의복을 착용하십시오. 헐렁한 옷을 입거나 장신구를 착용하지 마십시오. 머리카락, 옷 및 장갑이 움직이는 부품에 닿지 않도록 유의하십시오.** 헐렁한 옷, 장신구 또는 긴 머리카락이 움직이는 부품에 낄 수 있습니다.

g. **먼지 배출 및 집진 시설 연결을 위한 장치가 제공된 경우, 이러한 장치가 연결되어 적절히 사용되고 있는지 확인하십시오.** 이러한 장치를 사용하면 먼지와 관련된 위험을 줄일 수 있습니다.

4. **전동 공구 사용 및 관리**

a. **전동 공구에 무리한 힘을 가하지 마십시오. 해당 용도에 맞는 올바른 전동 공구를 사용하십시오.** 올바른 전동 공구를 사용해야 설계된 속도로 작업을 더욱 안전하고 정확하게 수행할 수 있습니다.

b. **스위치로 켜고 끄지 않는 전동 공구는 사용하지 마십시오.** 스위치로 제어되지 않는 전동 공구는 위험하며 수리해야 합니다.

c. **전동 공구를조정하거나 액세서리를 변경하거나 보관하기 전에 전동 공구의** 전원 및/또는 배터리 팩에서 플러그를 빼십시오. 이러한 예방 안전 조치를 따라야 전동 공구가 갑자기 작동하는 위험이 줄어듭니다.

d. **사용하지 않는 전동 공구는 어린이의 손이 닿지 않는 곳에 보관하고, 전동 공구나 본 지침에 익숙하지 않은 사람이 전동 공구를 사용하지 못하게 하십시오.** 전동 공구는 훈련을 받지 않은 사용자가 다루면 위험합니다.

e. **전동 공구를 유지 보수하십시오. 움직이는 부품의 잘못된 정렬이나 얽힘, 부품 파손 및 기타 전동 공구의 작동에 영향을 미칠 수 있는 상태인지 확인하십시오. 손상된 부분이 있는 경우 사용하기 전에 전동 공구를 수리하십시오.** 사고는 전동 공구를 제대로 유지 보수하지 않았을 때 많이 발생합니다.

f. **절삭 공구를 예리하고 깨끗한 상태로 유지하십시오.** 절삭 가장자리를 예리하게 잘 유지하면 절삭기를 사용할 때 얽힘이 적고 다루기가 쉽습니다.

g. **작업 환경과 수행할 작업을 고려하여, 본 지침에 따라 전동 공구,액세서리 및 툴 비트 등을사용하십시오.** 본 사용 설명서의 내용과 다른 용도로 전동 공구를 사용하면 위험한 상황이 발생할 수 있습니다.

5. **수리 서비스**

a. **자격을 갖춘 수리 기술자가 동일 교체 부품을 사용하여 전동 공구를 정비해야 합니다.** 그래야 전동 공구를 안전하게 유지할 수 있습니다.

모든 작업에 대한 안전 지침 연삭 작업에 대한 일반 안전 경고

a. **이 전동 공구는 그라인더 공구로 기능하도록 제작되었습니다. 이 전동 공구와 함께 제공된 모든안전 경고, 지침, 그림 및사양을 읽으십시오.** 아래 나와 있는 모든지침을 따르지 않으면 감전, 화재 및/또는 심각한 부상을 초래할 수 있습니다.

b. **이 전동 공구를 사용해 샌딩, 와이어 브러싱, 연마 또는 절삭과 같은 작업을 수행하지 않는 것이 좋습니다.** 이 전동 공구가 설계된 용도에서 벗어난 작업을 수행할 경우 위험한 상황이 발생해 부상을 초래할 수 있습니다.

c. **공구 제조업체가 특별히 설계하고 권장하지 않는 액세서리를 사용하지 마십시오.** 액세서리는 전동 공구에 장착할 수 있으므로 안전한 작동을 보장하지 않습니다.

d. **액세서리의 정격 속도는 적어도 전동 공구에 표시된 최대 속도와 동일해야 합니다.** 액세서리는 정격 속도보다 빠르게 실행할 경우 파손되어 산산조각으로 흩어질 수 있습니다.

e. **액세서리의 외경 및 두께는 전동 공구의 용량 등급에 속해야 합니다.** 크기가 올바르지 않은 액세서리를 사용할 경우 적절하게 보호 또는 제어할 수 없습니다.

f. **나사를 사용해 액세서리를 장착할 경우 그라인더 스핀들 나사와 일치해야 합니다. 플랜지를 사용해 장착하는 액세서리의 경우 액세서리의 아버 구멍이 플랜지의 로케이팅 직경에 맞아야 합니다.** 전동 공구의 장착 장비와일치하지 않는 액세서리는 작동 시균형이 깨져 진동이 심하게 발생하므로 통제력을 잃을 수 있습니다.

g. **손상된 액세서리를 사용하지 마십시오. 사용하기 전에 항상 연삭 휠과 같은 액세서리를 검사해 부스러기, 균열이 있는지 확인하고, 백킹 패드에 균열, 파손 또는 과도한 마모가 있는지 확인하고, 와이어 브러시가 풀리거나 전선이 갈라졌는지 확인하십시오. 전동 공구 또는 액세서리가 떨어진 경우 손상되었는지 확인하거나 손상되지 않은 액세서리를 설치하십시오. 액세서리를 검사 및 설치한 후 작업자와 주변 사람이 회전 액세서리 평면에서 멀리 떨어지면 전동 공구를 최대 무부하 속도로 1분간 실행하십시오.** 손상된 액세서리는 일반적으로 이 테스트 도중 산산조각이 납니다.

h. **개인 보호 장구를 착용하십시오. 용도에 따라 안면 보호대, 안전 고글 또는 보안경을 사용하십시오. 방진 마스크, 청력 보호 장치, 장갑, 작은 연마재 또는 작업물 파편을 막을 수 있는 작업장 앞치마를 적절히 착용하십시오.** 보안경은 다양한 작업에서 튀어나오는 잔해물을 막을 수 있어야 합니다. 방진 마스크 또는 호흡기는 작업에서 발생하는 입자를 여과할 수 있어야 합니다. 고강도 소음에 장시간 노출될 경우 청력이 손상될 수 있습니다.

i. **주변 사람이 작업 영역과 안전거리를 유지하게 하십시오. 작업 영역에 들어오는 사람은 누구든지 개인 보호 장구를 착용해야 합니다**. 작업물 또는 파손된 액세서리의 파편이 작업 영역 바로 바깥으로 날아갈 경우 부상을 입을 수 있습니다.

j. **절삭 액세서리가 숨겨진 배선 또는 자체 코드에 접촉할 수 있는 작업을 수행할 때는 절연된 손잡이로 전동 공구를 잡으십시오.** '전류가 흐르는' 전선에 절삭 공구가 닿을 경우 전동 공구의 금속 부품에 '전류'가 흘러 작업자가 감전될 수 있습니다.

k. **회전 액세서리의 코드를 깔끔하게 정리하십시오.** 통제력을 잃을 경우 코드가 잘리거나 찢어져 작업자의 손 또는 팔이 회전 액세서리에 딸려 들어갈 수 있습니다.

l. **액세서리가 완전히 멈출 때까지 전동 공구를 바닥에 내려놓지 마십시오.** 회전 액세서리가 표면에 부딪혀 전동 공구에 대한 통제력을 잃을 수 있습니다.
m. **전동 공구를 몸 옆쪽에 들고 있을 때는 실행하지 마십시오.** 회전 액세서리가 닿아 옷이 찢어지거나 액세서리가 몸 쪽으로 딸려올 수 있습니다.
n. **전동 공구의 통기구를 정기적으로 청소하십시오.** 모터의 팬이 하우징 안으로 먼지를 빨아들이며 금속 가루가 과도하게 쌓일 경우 전기 위험을 유발할 수 있습니다.
o. **가연성 물질 근처에서 전동 공구를 작동하지 마십시오.** 불꽃이 튀어 가연성 물질에 불이 붙을 수 있습니다.
p. **액체 냉각제가 필요한 액세서리는 사용하지 마십시오.** 물 또는 기타 액체 냉각제를 사용할 경우 감전되거나 감전사할 수 있습니다.

반동 및 관련 경고

반동은 끼거나 걸린 회전 휠, 백킹 패드, 솔 또는 기타 액세서리에 대한 급작스러운 반작용입니다. 끼거나 걸릴 경우 회전 액세서리가 갑자기 멈춰 얽히는 순간에 전동 공구가 작업자의 통제에서 벗어나 액세서리의 회전 방향과 반대 방향으로 움직이게 됩니다.
예를 들어, 연삭 휠이 작업물에 끼거나 걸릴 경우 휠의 가장자리가 끼인 지점으로 끌려들어 가면서 재료의 표면에 파고들어 휠이 벗어나거나 튀어 오를 수 있습니다. 끼인 순간에 휠이 움직이는 방향에 따라 휠이 작업자를 향해 또는 작업자와 반대 방향으로 튀어 오를 수 있습니다. 이러한 상황에서는 연삭 휠이 파손될 수도 있습니다. 반동은 전동 공구의 오용 및/또는 정확하지 않은 작동 절차 또는 조건으로 인한 결과이고 아래에 설명된 대로 적절한 예방 조치를 취하여 피할 수 있습니다.

a. **전동 공구를 단단히 잡고 반동의 힘을 막을 수 있도록 몸과 팔의 위치를 정하십시오. 반동 또는 시동 시 토크 반작용을 최대한 통제할 수 있도록 항상 보조 핸들(제공된 경우)을 사용하십시오.** 적절한 예방 조치를 취할 경우 작업자가 토크 반작용 또는 반동을 통제할 수 있습니다.
b. **회전 액세서리 근처에 손을 두지 마십시오.** 액세서리가 손 위로 튀어 오를 수 있습니다.
c. **반동이 발생할 경우 전동 공구가 움직이는 영역에서 있지 마십시오.** 반동으로 인해 공구가 걸리는 시점에 휠이 움직이는 방향과 반대 방향으로 돌진합니다.
d. **모서리나 날카로운 가장자리 등에 전동 공구를 사용할 경우 각별히 주의하십시오. 액세서리가 튀어 오르거나 얽히지 않도록 주의하십시오.** 모서리, 날카로운 가장자리 또는 공구가 튀어 오를 수 있는 작업물에 공구를 사용할 경우 회전 액세서리가 얽혀 통제력을 잃거나 반동이 발생할 수 있습니다.
e. **톱체인 목각 날 또는 톱날을 장착하지 마십시오.** 그러한 날은 반동과 통제력 상실을 자주 일으킵니다.

연삭 작업 관련 안전 경고

a. **전동 공구에 권장되는 휠 유형과 선택한 휠에 맞게 설계된 특정 가드만 사용하십시오.** 전동 공구에 맞게 설계되지 않은 휠은 적절하게 보호할 수 없으므로 안전하지 않습니다.
b. **작업자를 향해 노출되는 휠 부분이 최소화되도록 가드를 전동 공구에 단단히 장착하고 최대한 안전한 위치로 조정해야 합니다.** 가드는 파손된 휠 파편이 작업자에게 튀어 오르거나 작업자가 실수로 휠에 닿는 것을 막아줍니다.
c. **휠은 권장 용도로만 사용해야 합니다. 예를 들어, 절삭 휠을 옆으로 세워서 연마하지 마십시오.** 연삭 휠은 주변부를 연마하도록 제작되었으므로 이러한 휠의 측면에 힘을 가할 경우 휠은 산산조각이 날 수 있습니다.
d. **항상 선택한 휠에 맞는 올바른 크기와 형태를 갖춘 손상되지 않은 휠 플랜지를 사용하십시오.** 올바른 휠 플랜지를 사용할 경우 휠이 파손될 위험이 줄어듭니다. 연삭 휠에 사용되는 플랜지는 연마 휠 플랜지와 다릅니다.
e. **대형 전동 공구의 마모된 휠을 사용하지 마십시오.** 대형 공구용에 사용되는 휠은 소형 공구를 고속으로 작동하는 데 적합하지 않으므로 파열될 수 있습니다.

6. 전기 안전

이 공구는 이중으로 절연되어 있으므로 접지선이 필요하지 않습니다. 주 전압이 전동기 네임플레이트에 기재된 전압과 일치하는지 항상 확인하십시오.

경고! 전원 코드가 손상된 경우, 제품 손상이나 부상을 방지하기 위해 제조업체, 공인 BLACK+DECKER 서비스 센터 또는 이에 준하는 자격이 있는 기술자가 교체해야 합니다. 자격을 갖추었지만 BLACK+DECKER에서 공인하지 않은 기술자가 전원 코드를 교체하는 경우, 보증이 무효화됩니다.

7. 공구의 라벨

공구에 장착된 라벨에 다음 기호가 포함되어 있습니다.


지침 사용 설명서 읽기


보안경 사용


청력 보호 장구 사용

V ..... 볼트

A ..... 암페어
Hz ..... 헤르츠
W ..... 와트
min ..... 분

..... 교류

..... 직류
n ..... 정격속도

..... 클래스 II 건설용

.... 접지 단자

.... 안전 경고 기호

.../분.. 분당 회전 또는 왕복 수

기능(그림 A)
1. 슬라이더 스위치
2. 케이블
3. 가드
4. 본체 그립
5. 사이드 핸들(2개 위치)
6. 스핀들 로크 버튼

작동
앵글 그라인더(그림 A) 작동
스위치를 켜려면 슬라이더 스위치를 **(1)** 쪽으로 미십시오. 스위치를 끄려면 슬라이더 스위치의 뒤를 누르십시오.

디스크 장착(그림 B 및 C)
다음과 같이 진행하십시오.
- ► 전기 공급장치에서 플러그를 뽑습니다.
- ► 가드가 장착되었는지 확인합니다. 내부 플랜지 **(7)**을 스핀들 위에 놓습니다. 2개의 평평한 표면에 놓였는지 확인합니다.
- ► 스핀들과 내부 플랜지 **(8)** 위에 연삭 디스크를 놓습니다. 연삭 디스크가 올바르게 배치되었는지 확인합니다.
- ► 장착된 디스크 유형에 올바른 방향을 향하도록 나사형 외부 플랜지 **(9)**를 장착합니다. 연마 디스크의 경우 올라온 부분이 디스크 쪽으로 향하도록 플랜지 **(9)**를 장착합니다. 절삭 디스크의 경우 안쪽 부분이 디스크의 반대 방향으로 향하도록 플랜지 **(9)**를 장착합니다.
- ► 스핀들의 평평한 면 위에 스패너를 고정하고 제공된 스패너를 사용해 외부 플랜지를 조입니다.
- ► 스핀들 잠금 버튼을 누르고 스핀들을 잠길 때까지 회전합니다**(그림 C).** 잠금 버튼을 누른 상태에서 제공된 스패너를 사용해 외부 플랜지를 조입니다.

샌딩 디스크 장착(그림 D)
- ► 앵글 그라인더로 샌딩할 수 있도록 백킹 패드가 있는 샌딩 디스크를 사용합니다.
- ► 전기 공급장치에서 플러그를 뽑습니다.
- ► 가드를 제거합니다.
- ► 플랜지를 스핀들 위에 놓습니다. 백킹 패드를 스핀들과 내부 플랜지 위에 올바르게 놓습니다.
- ► 뒷면이 섬유로 된 연삭 디스크를 백킹 패드 위에 장착합니다.
- ► 나사형 외부 플랜지를 장착하고 **'디스크 장착'**에 설명된 대로 조입니다.

유용한 정보(그림 E)
한 손으로 앵글 그라인더의 사이드 핸들을 단단히 잡고 다른 한 손으로는 앵글 그라인더의 본체를 잡습니다.
- ► 항상 노출된 디스크가 최대한 몸 반대쪽으로 향하도록 가드의 위치를 조정합니다.
- ► 디스크가 금속에 닿을 경우 발생하는 불꽃에 대비하십시오.

연마할 때 항상 디스크와 작업 표면의 각도를 올바르게(15°) 유지하십시오**(그림 D).** 올바른 각도를 유지하면 디스크의 제거 용량이 증가해 불필요한 과부하를 피할 수 있습니다.

과부하
과부하는 앵글 그라인더의 모터를 손상시킵니다. 과부하는 앵글 그라인더를 장시간 과도하게 사용할 경우에 발생할 수 있습니다. 어떠한 경우에도 작업 속도를 높이기 위해 앵글 그라인더에 너무 많은 압력을 가하지 마십시오. 가벼운 압력을 가할 경우 연삭 디스크가 더 효율적으로 작동하므로 앵글 그라인더의 속도가 저하되는 것을 피할 수 있습니다.

유지 보수
가드, 통풍구 및 모터 하우징에서 먼지와 오염물을 최대한 제거하십시오. 깨끗한 천으로 닦고 고압 송풍 장치를 사용해 먼지와 오염물을 날려 버리십시오. 금속 먼지가 과도하게 쌓이면 내부 부품의 전류가 노출된 금속 부품으로 흐를 수 있습니다.

앵글 그라인더를 과도하게 작동하지 마십시오. 과부하가 발생하면 속도와 효율성이 저하되어 앵글 그라인더가 뜨거워질 수 있습니다. 이 경우 정상 작동 온도로 돌아갈 때까지 앵글 그라인더를 무부하 상태로 1~2분간 작동하십시오. 부하 상태에서 앵글 그라인더의 스위치를 끄면 스위치의 수명이 단축됩니다.

⚠ **중요!** 제품 **안전**과 **신뢰성**을 보장하기 위해 수리, 유지 보수 및 조정 작업(본 사용 설명서에서 다루지 않은 작업)은 공인 서비스 센터 또는 자격을 갖춘 서비스 직원이 항상 동일한 교체 부품을 사용하여 수행해야 합니다.

환경 보호


분리수거. 본 제품을 일반 가정용 쓰레기와 함께 처리하면 안 됩니다. BLACK+DECKER 제품을 교체해야 하거나 더 이상 사용할 수 없게 되는 경우 본 제품을 가정용 쓰레기와 함께 처리하지 마십시오. 이 제품이 분리수거되도록 하십시오.

사용하던 제품과 포장을 분리수거하면 자원을 재활용하고 재사용할 수 있습니다. 재활용 자원을 재사용하면 환경 오염을 막고 원자재에 대한 수요를 줄일 수 있습니다. 지역 폐기장 또는 판매점(새로운 제품을 구입하는 경우)에서 가정의 가전제품을 분리수거하는 방법이 현지 규정에 안내되어 있을 수 있습니다.

서비스 정보

BLACK+DECKER는 아시아 전역에서 회사 소유의 공인 서비스 센터로 구성된 완전한 네트워크를 제공하고 있습니다. 모든 BLACK+DECKER 서비스 센터는 고객에게 효율적이고 신뢰할 수 있는 제품 서비스를 제공하기 위해 교육을 받은 직원을 갖추고 있습니다.

기술적인 조언, 수리 또는 정품인 공장 초기 상태의 교체 부품이 필요하면 언제든지 가까운 BLACK+DECKER 지점에 문의하십시오.

참고

- BLACK+DECKER의 정책에 따라 제품을 지속적으로 향상하기 위한 정책으로 BLACK+DECKER는 사전 통지 없이 제품 사양을 변경할 권리가 있습니다.
- 표준 장비 및 액세서리는 국가별로 다를 수 있습니다.
- 제품 사양은 국가별로 다를 수 있습니다.
- 일부 국가에서는 전체 제품 범위는 사용할 수 없을 수도 있습니다. 제품 사용 범위에 대해서는 해당 지역의 BLACK+DECKER 판매 대리점에 문의하십시오.

GERINDA TANGAN 100 mm G650

SPESIFIKASI

Daya	650 W
Diameter cakram	100 mm
Tegangan	220-240 V~50/60 Hz
Nilai kecepatan	12.000/mnt (rpm)
Ukuran spindel	M10
Panjang kabel	2 m

ATURAN KESELAMATAN UMUM

⚠ **Peringatan!** Baca dan pahami semua petunjuk. Jika semua petunjuk yang dicantumkan di bawah ini tidak dipatuhi, dapat menimbulkan sengatan listrik, kebakaran, dan/atau cedera parah.

SIMPAN PETUNJUK INI

PETUNJUK KESELAMATAN
Peringatan keselamatan untuk alat listrik umum.

Peringatan! Baca semua petunjuk keselamatan dan instruksi. Jika peringatan dan petunjuk yang dicantumkan di bawah ini tidak dipatuhi, dapat menimbulkan sengatan listrik, kebakaran, dan/atau cedera parah.

Simpan semua peringatan dan petunjuk untuk referensi di masa mendatang. Istilah "alat listrik" dalam semua peringatan yang tercantum di bawah ini mengacu pada alat listrik dengan pengoperasian daya listrik (berkabel) atau alat listrik dengan pengoperasian baterai (tanpa kabel).

1. Keselamatan di Tempat Kerja

a. Jaga tempat kerja agar selalu bersih dan terang. Tempat kerja yang tidak rapi dan gelap akan memicu terjadinya kecelakaan.

b. Jangan operasikan alat listrik di lingkungan yang dapat memicu terjadinya ledakan,misalnya lingkungan yang terdapat cairan mudah terbakar, gas, atau debu. Alat listrik menghasilkan percikan api yang dapat membakar debu atau asap.

c. Jauhkan anak-anak dan orang di sekitar saat Anda mengoperasikan alat listrik. Pengalihan perhatian dapat menyebabkan Anda kehilangan kontrol.

2. Keselamatan Listrik

a. Konektor alat listrik harus sesuai dengan stopkontak. Jangan pernah modifikasi konektor dengan cara apa pun. Jangan gunakan konektor adaptor apa pun dengan alat listrik yang dibumikan (diarde). Konektor yang tidak dimodifikasi dan kecocokan stopkontak akan mengurangi risiko sengatan listrik.

b. Hindari kontak tubuh dengan permukaan yang dibumikan atau diarde seperti pipa, radiator, kompor listrik, dan lemari es. Peningkatan risiko sengatan listrik dapat terjadi jika tubuh Anda dibumikan atau diarde.

c. Jangan biarkan alat listrik terkena hujan atau berada di lingkungan yang basah. Air yang masuk ke dalam alat listrik akan meningkatkan risiko sengatan listrik.

d. Jangan salah gunakan kabel. Jangan pernah gunakan kabel untuk membawa, menarik, atau melepas konektor alat listrik. Jauhkan kabel dari sumber panas, minyak, tepi tajam, atau komponen yang bergerak. Kabel yang rusak atau melilit akan meningkatkan risiko sengatan listrik.

e. Bila mengoperasikan alat listrik di luar ruangan, gunakan kabel ekstensi yang sesuai untuk penggunaan luar ruangan. Penggunaan kabel yang sesuai di luar ruangan akan mengurangi risiko sengatan listrik.

f. Jika terpaksa mengoperasikan alat listrik di lokasi yang lembab, gunakan catu daya yang dilindungi oleh RCD (residual current device). Penggunaan RCD akan mengurangi risiko sengatan listrik.

3. Keselamatan Pribadi

a. Tetap waspada, perhatikan apa yang Anda lakukan, dan gunakan akal sehat saat mengoperasikan alat listrik. Jangan gunakan alat listrik saat Anda sedang lelah atau berada di bawah pengaruh obat-obatan, alkohol, atau pengobatan. Kurangnya perhatian pada saat tertentu sewaktu mengoperasikan alat listrik dapat mengakibatkan cedera parah.

b. Gunakan peralatan pelindung diri. Selalu kenakan alat pelindung mata. Peralatan pelindung seperti masker debu, sepatu pengaman antiselip, helm pelindung, atau pelindung telinga yang digunakan untuk kondisi yang tepat akan mengurangi risiko cedera.

c. Cegah pengaktifan yang tidak terduga. Pastikan sakelar berada dalam posisi tidak aktif sebelum menyambung ke sumber daya dan/atau unit baterai, maupun sebelum mengambil atau membawa alat. Membawa alat listrik dengan jari Anda berada pada sakelar atau mengalirkan daya ke alat listrik yang sakelarnya berada dalam posisi aktif akan memicu terjadinya kecelakaan.

d. Keluarkan kunci setel atau kunci pas apa pun sebelum Anda menghidupkan alat listrik. Kunci pas atau kunci apa pun yang masih terpasang pada komponen yang berputar di alat listrik dapat menyebabkan cedera.

e. Jangan bertindak melampaui batas. Jaga posisi pijakan dan keseimbangan yang baik setiap saat. Tindakan ini akan memungkinkan kontrol lebih baik terhadap alat listrik dalam situasi yang tidak terduga.

f. Coba berpakaian yang sesuai. Jangan kenakan pakaian yang longgar atau perhiasan. Jauhkan rambut, pakaian, dan sarung tangan dari komponen yang bergerak. Pakaian longgar, perhiasan, atau rambut yang panjang dapat tersangkut di komponen yang bergerak.

g. Jika perangkat ditujukan untuk terhubung ke fasilitas penyaringan dan pengumpulan debu, pastikan perangkat ini disambungkan dan digunakan dengan benar. Penggunaan perangkat ini dapat mengurangi risiko bahaya terkait debu.

4. **Penggunaan dan Perawatan Alat Listrik**

a. **Jangan paksakan penggunaan alat listrik. Gunakan alat listrik yang sesuai untuk aplikasi Anda.** Alat listrik yang sesuai akan membantu menyelesaikan pekerjaan dengan lebih baik dan aman sesuai tujuan penggunaannya.

b. **Jangan gunakan alat listrik jika sakelar tidak dapat menghidupkan atau mematikannya.** Alat listrik apa pun yang tidak dapat dikontrol dengan sakelar akan berbahaya dan harus diperbaiki.

c. **Lepaskan konektor dari sumber daya dan/atau unit baterai dari alat listrik sebelum melakukan** penyetelan apa pun, mengganti aksesori, atau menyimpan alat listrik. Tindakan pencegahan untuk keselamatan tersebut akan mengurangi risiko pengaktifan alat listrik secara tidak terduga.

d. **Jauhkan alat listrik yang berada dalam status siaga dari jangkauan anak-anak dan jangan biarkan orang yang tidak memahami penggunaan alat listrik tersebut atau petunjuk ini mengoperasikannya.** Alat listrik dapat menjadi sangat berbahaya bagi pengguna yang belum terlatih.

e. **Jaga kondisi alat listrik. Periksa ketidakselarasan atau pengikatan komponen bergerak, kerusakan komponen, dan kondisi lainnya yang dapat mempengaruhi pengoperasian alat listrik. Jika rusak, perbaiki alat listrik sebelum digunakan.** Banyak kecelakaan terjadi karena pemeliharaan alat listrik yang tidak baik.

f. **Pastikan alat pemotong tetap tajam dan bersih.** Alat pemotong yang dirawat sebaik mungkin dengan tepi pemotongan yang tajam cenderung tidak akan mengikat dan lebih mudah dikontrol.

g. **Gunakan alat listrik, aksesori, mata alat, dsb. sesuai dengan petunjuk ini, dengan mempertimbangkan kondisi kerja dan pekerjaan yang akan dilakukan.** Penggunaan alat listrik untuk pengoperasian selain dari tujuan yang ditetapkan dapat menimbulkan situasi yang berbahaya.

5. **Servis**

a. **Minta teknisi perbaikan resmi untuk menyervis alat listrik Anda hanya dengan menggunakan komponen pengganti yang sama.** Tindakan ini akan memastikan keamanan alat listrik tetap terjaga.

PETUNJUK KESELAMATAN UNTUK SEMUA PENGOPERASIAN PERINGATAN KESELAMATAN UMUM UNTUK MENGGERINDA

a. **Alat listrik ini ditujukan untuk berfungsi sebagai alat gerinda. Baca semua peringatan, petunjuk, ilustrasi, dan spesifikasi terkait keselamatan yang diberikan bersama alat listrik ini.** Jika semua petunjuk yang dicantumkan di bawah ini tidak dipatuhi, dapat menimbulkan sengatan listrik, kebakaran, dan/atau cedera parah.

b. **Operasi seperti pengampelasan, penyikatan kawat, pemolesan, atau pemangkasan tidak disarankan untuk dilakukan menggunakan alat listrik ini. O**perasi yang tidak termasuk dalam tujuan penggunaan alat listrik ini dapat menimbulkan bahaya dan menyebabkan cedera.

c. **Jangan gunakan aksesori yang tidak dirancang secara khusus dan tidak disarankan oleh produsen alat terkait.** Hanya karena aksesori dapat dipasang pada alat listrik, bukan berarti pengoperasian akan aman dilakukan.

d. **Nilai kecepatan aksesori setidaknya harus sama dengan kecepatan maksimum yang tertera pada alat listrik.** Aksesori yang berjalan lebih cepat daripada nilai kecepatannya dapat pecah dan menyebarkan serpihan.

e. **Diameter luar dan ketebalan aksesori harus berada dalam tingkat kapasitas alat listrik.** Aksesori berukuran tidak sesuai tentu tidak dapat dijaga atau dikontrol dengan baik.

f. **Dudukan berulir pada aksesori harus cocok dengan ulir spindel gerinda. Untuk aksesori yang dipasang dengan flensa, lubang arbor aksesori harus cocok dengan diameter penempatan flensa.** Aksesori yang tidak sesuai dengan perangkat keras pemasangan pada alat listrik akan kehilangan keseimbangan, bergetar secara berlebihan, dan dapat menyebabkan kehilangan kontrol.

g. **Jangan gunakan aksesori yang rusak. Setiap kali sebelum akan digunakan, periksa aksesori apakah terdapat keretakan pada roda abrasif; keretakan, kerusakan, atau keausan berlebih pada panel penyangga; atau kelonggaran maupun pecahnya kawat pada sikat kawat. Jika alat listrik atau aksesori terjatuh, periksa apakah terdapat kerusakan atau pasang aksesori yang tidak rusak. Setelah memeriksa dan memasang aksesori, jauhkan diri Anda dan orang lain di sekitar dari pesawat aksesori yang berputar dan jalankan alat listrik pada kecepatan maksimum tanpa muatan selama satu menit.** Aksesori yang rusak biasanya akan patah selama pengujian ini.

h. **Kenakan peralatan pelindung diri. Tergantung pada aplikasi, gunakan pelindung wajah, kacamata pelindung, atau kacamata pengaman. Sebagai prosedur standar, kenakan masker debu, pelindung telinga, sarung tangan, dan baju kerja bengkel yang dapat mencegah pemaparan pecahan kecil ampelas atau materi lainnya.** Alat pelindung mata harus dapat mencegah penyebaran kotoran yang dihasilkan dari berbagai pengoperasian. Masker debu atau alat pernapasan harus dapat menyaring partikel yang dihasilkan dari pengoperasian. Pemaparan dalam waktu lama terhadap kebisingan intensitas tinggi dapat menyebabkan gangguan pendengaran.

i. **Jauhkan orang di sekitar (dalam jarak aman) dari area kerja. Siapa pun yang memasuki area kerja harus mengenakan peralatan pelindung diri**. Pecahan materi kerja atau dari aksesori yang pecah dapat menyebar dan menyebabkan cedera hingga ke luar area pengoperasian langsung.

j. **Pegang alat listrik hanya pada permukaan gagang yang terisolasi saat menjalankan operasi yang memungkinkan aksesori pemotongan menyentuh kabel tersembunyi atau kabelnya sendiri.** Aksesori pemotongan yang menyentuh kabel listrik dapat membuat komponen logam alat listrik dialiri daya dan menyengat operator.

k. **Posisikan kabel jauh dari aksesori yang berputar.** Jika Anda kehilangan kontrol, kabel dapat terpotong atau tersangkut dan tangan atau lengan Anda dapat ditarik ke dalam aksesori yang berputar.

l. **Jangan baringkan alat listrik hingga aksesori benar-benar berhenti beroperasi.** Aksesori yang berputar dapat menangkap permukaan dan menarik alat listrik di luar kendali Anda.
m. **Jangan jalankan alat listrik sambil membawanya di sisi Anda.** Kontak tak terduga dengan aksesori yang berputar dapat merobek pakaian Anda dan menarik aksesori ke arah Anda.
n. **Bersihkan ventilasi udara alat listrik secara rutin.** Kipas motor akan menarik debu ke dalam casing dan akumulasi logam bubuk yang berlebihan dapat menyebabkan bahaya listrik.
o. **Jangan operasikan alat listrik di dekat benda yang mudah terbakar.** Percikan api dapat membakar materi ini.
p. **Jangan gunakan aksesori yang memerlukan cairan pendingin.** Menggunakan air atau cairan pendingin lainnya dapat menimbulkan risiko sengatan listrik atau kematian akibat tersetrum.

SENTAKAN DAN PERINGATAN TERKAIT

Sentakan adalah reaksi mendadak akibat roda putar, panel penyangga, sikat, atau aksesori lainnya yang tersangkut atau terjepit. Kondisi tersangkut atau terjepit akan menyebabkan penolakan cepat dari aksesori putar, sehingga pada akhirnya akan membuat alat listrik tidak terkontrol dipaksa menuju arah yang berlawanan dari rotasi aksesori di titik pengikatan. Misalnya, jika roda abrasif tersangkut atau terjepit karena materi kerja, tepi roda yang masuk ke titik jepit dapat menembus permukaan materi, sehingga menyebabkan roda keluar atau terlepas. Roda dapat terlempar ke arah atau menjauh dari operator, tergantung pada arah pergerakan roda di titik jepit. Roda abrasif juga dapat rusak dalam kondisi ini. Sentakan merupakan hasil penyalahgunaan dan/atau kesalahan prosedur maupun kondisi operasional alat listrik dan dapat dihindari dengan mengambil tindakan pencegahan yang benar seperti yang ditentukan di bawah ini:

a. **Pegang kuat alat listrik dan posisikan lengan dan tubuh Anda sedemikian rupa untuk menahan gaya sentakan. Selalu gunakan pegangan tambahan, jika diberikan, untuk kontrol maksimum atas sentakan maupun reaksi torsi selama pengaktifan.** Operator dapat mengontrol reaksi torsi atau gaya sentakan jika tindakan pencegahan yang benar telah dilakukan.
b. **Jangan letakkan tangan Anda di dekat aksesori yang berputar.** Aksesori dapat menyentak tangan Anda.
c. **Jangan posisikan tubuh di area tempat alat listrik akan bergerak jika sentakan terjadi.** Sentakan akan mendorong alat ke arah yang berlawanan dari arah pergerakan roda pada titik sangkut.
d. **Tangani bagian sudut, tepi tajam, dsb. dengan sangat hati-hati. Cegah agar aksesori tidak memantul dan tersangkut.** Sudut, tepi tajam, atau pantulan cenderung menyebabkan aksesori putar tersangkut dan hilangnya kontrol atau sentakan.
e. **Jangan pasang pisau pemahat kayu atau gergaji bergerigi.** Pisau tersebut akan sering menghasilkan sentakan dan hilangnya kontrol.

PERINGATAN KESELAMATAN KHUSUS UNTUK MENGGERINDA

a. **Gunakan hanya jenis roda yang disarankan untuk alat listrik dan pengaman yang dirancang khusus untuk roda tertentu.** Roda yang tidak dirancang untuk alat listrik tidak dapat dikontrol dengan baik dan tidak aman digunakan.
b. **Pengaman harus dipasang dengan benar pada alat listrik dan diposisikan sedemikian rupa untuk keselamatan maksimum, sehingga hanya sedikit bagian roda yang terpapar ke arah operator.** Pengaman akan membantu melindungi operator dari serpihan roda yang rusak dan kontak tak terduga dengan roda.
c. **Roda harus digunakan hanya untuk aplikasi yang disarankan. Misalnya: jangan gerinda dengan bagian samping roda pangkas.** Roda pangkas abrasif ditujukan untuk gerinda periferal; gaya samping yang diterapkan pada roda ini dapat menyebabkannya hancur.
d. **Selalu gunakan flensa roda yang tidak rusak dengan ukuran dan bentuk yang sesuai untuk roda pilihan Anda.** Flensa roda yang sesuai akan mendukung roda, sehingga akan mengurangi kemungkinan kerusakan roda. Flensa untuk roda pangkas mungkin berbeda dari flensa roda gerinda.
e. **Jangan gunakan roda aus dari alat listrik yang lebih besar.** Roda yang ditujukan untuk alat listrik lebih besar tidak sesuai untuk kecepatan lebih tinggi pada alat yang lebih kecil dan dapat meledak.

6. Keselamatan listrik

Alat ini berisolasi ganda, sehingga kabel pengardean tidak diperlukan. Selalu pastikan tegangan utama telah sesuai dengan tegangan pada pelat nilai arus.

Peringatan! Jika kabel daya rusak, kabel tersebutharus diganti oleh produsen, teknisi resmi dari Pusat Servis BLACK+DECKER, atau teknisi yang memenuhi syarat agar tidak terjadi kerusakan atau cedera. Jika kabel daya diganti oleh teknisi yang memenuhi syarat, namun bukan teknisi resmi dari BLACK+DECKER, garansi tidak akan berlaku.

7. Label pada alat

Label pada alat dapat mencakup simbol berikut:

Baca Buku Petunjuk

Gunakan Pelindung Mata

Gunakan Pelindung Telinga

V ..... Volt

A ..... Ampere

Hz ..... Hertz

W ..... Watt

mnt..... menit

 ..... Arus Bolak-Balik

 ..... Arus Searah

n ..... Nilai Kecepatan

 ..... Konstruksi Kelas II

 .... Terminal Pengardean

 .... Simbol Peringatan Keselamatan

.../mnt.. Revolusi atau Resiprokasi per menit

FITUR (Gambar A)

1. Sakelar geser
2. Kabel
3. Pengaman
4. Gagang
5. Pegangan samping (2 posisi)
6. Kunci tombol spindel

PENGOPERASIAN

Mengoperasikan gerinda tangan (Gambar A)

Untuk menghidupkan, dorong maju sakelar geser **(1).** Untuk mematikan, tekan bagian belakang sakelar geser.

Memasang cakram (Gambar B dan C)

Lanjutkan sebagai berikut:

- ► Lepaskan konektor dari catu daya.
- ► Pastikan pengaman telah disesuaikan. Pasang flensa dalam **(7)** pada spindel. Pastikan berada di kedua wadah.
- ► Pasang cakram abrasif pada spindel dan flensa dalam **(8).** Pastikan terpasang dengan benar.
- ► Cocokkan flensa luar berulir **(9),** dengan memastikannya menghadap arah yang tepat untuk jenis cakram yang dipasang. Untuk cakram gerinda, flensa **(9)** dicocokkan dengan bagian yang tinggi menghadap ke arah cakram. Untuk cakram potong, flensa **(9)** dicocokkan dengan bagian dalam menjauhi cakram.
- ► Pegang kunci pas pada wadah spindel agar tidak terjadi rotasi cakram dan kencangkan flensa luar dengan kunci pas yang disediakan.
- ► Tekan tombol kunci spindel dan putar spindel hingga terkunci **(Gambar C).** Sambil tetap menekan tombol kunci, kencangkan flensa luar dengan kunci pas yang disediakan.

Memasang cakram pengampelasan (Gambar D)

- ► Gunakan cakram pengampelasan dengan panel penyangga untuk mengampelas dengan gerinda tangan.
- ► Lepaskan konektor dari catu daya.
- ► Lepaskan pengaman.
- ► Pasang flensa pada spindel. Pasang panel penyangga pada spindel dan flensa dalam, dan pastikan telah terpasang dengan benar.
- ► Pasang cakram abrasif dengan bagian belakang berserat pada panel penyangga.
- ► Cocokkan flensa luar berulir dan kencangkan seperti dijelaskan dalam **'Memasang cakram'.**

Petunjuk praktis (Gambar E)

Pegang gerinda tangan dengan kuat menggunakan satu tangan di sekitar pegangan samping dan tangan lainnya di sekeliling badan gerinda tangan.

- ► Selalu posisikan pengaman sedemikian rupa agar sebagian besar badan cakram menjauhi Anda.
- ► Bersiaplah mengatasi serangkaian percikan api saat cakram menyentuh logam.

Saat menggerinda, selalu pertahankan sudut yang tepat antara cakram dan permukaan bidang kerja (15°)**(Gambar D).** Hal ini akan meningkatkan kapasitas pelepasan cakram dan menghindari kelebihan beban.

Beban berlebih

Beban berlebih akan menyebabkan kerusakan pada motor gerinda tangan. Hal ini dapat terjadi jika gerinda tangan digunakan untuk melakukan tugas berat dalam waktu lama. Dalam kondisi apa pun, jangan coba gunakan tekanan terlalu besar pada gerinda tangan untuk mempercepat pekerjaan. Cakram abrasif beroperasi secara lebih efisien bila tekanan ringan diterapkan, sehingga mencegah terjadinya penurunan kecepatan gerinda tangan.

PEMELIHARAAN

Bebaskan pengaman, ventilasi udara, dan casing motor sebaik mungkin dari debu dan kotoran. Seka dengan kain bersih dan embuskan udara bertekanan rendah. Tumpukan debu logam berlebih dapat menimbulkan jejak arus listrik dari komponen internal ke komponen logam yang terbuka.

Jangan berikan beban berlebih pada gerinda tangan. Beban berlebih akan menyebabkan penurunan kecepatan dan efisiensi, sehingga membuat gerinda tangan menjadi terlalu panas. Jika kondisi ini terjadi, operasikan gerinda tangan tanpa beban apa pun selama satu atau dua menit hingga suhu pengoperasian menjadi normal. Mematikan gerinda tangan yang memiliki beban akan mengurangi masa pakai sakelar.

⚠ **Penting!** Untuk memastikan **KEAMANAN** dan **KEANDALAN** produk, perbaikan, pemeliharaan, dan penyetelan (selain yang tercantum dalam panduan ini) harus dilakukan oleh teknisi pusat servis resmi atau teknisi servis lain yang memenuhi syarat, dengan selalu menggunakan komponen pengganti yang sama.

MELINDUNGI LINGKUNGAN

Pengumpulan terpisah. Produk ini tidak boleh dibuang bersama limbah rumah tangga biasa. Jika suatu saat produk BLACK+DECKER harus diganti atau jika Anda tidak lagi menggunakannya, jangan buang bersama dengan limbah rumah tangga. Kumpulkan produk ini secara terpisah.

Pengumpulan produk dan kemasan bekas secara terpisah memungkinkan bahan untuk didaur ulang serta digunakan kembali. Penggunaan kembali bahan yang didaur ulang membantu mencegah pencemaran lingkungan dan mengurangi kebutuhan bahan baku. Peraturan setempat mungkin mengatur pengumpulan terpisah produk elektronik dari limbah rumah tangga, di tempat pembuangan sampah kota, atau di toko peritel saat Anda membeli produk baru.

INFORMASI SERVIS

BLACK+DECKER menawarkan jaringan lengkap lokasi servis resmi milik perusahaan di seluruh Asia. Semua Pusat Servis BLACK+DECKER memiliki staf terlatih agar dapat memberikan layanan produk yang efisien dan andal kepada konsumen. Bila Anda membutuhkan saran teknis, perbaikan, atau suku cadang pengganti asli pabrik, hubungi lokasi BLACK+DECKER terdekat.

CATATAN

- BLACK+DECKER memiliki kebijakan untuk terus meningkatkan produk dan karenanya, kami berhak mengubah spesifikasi produk tanpa pemberitahuan sebelumnya.
- Peralatan dan aksesori standar dapat beragam menurut negara.
- Spesifikasi produk mungkin beragam menurut negara.
- Rangkaian produk lengkap mungkin tidak tersedia di semua negara. Untuk mengetahui ketersediaan produk, hubungi dealer BLACK+DECKER setempat Anda.

Di Impor oleh : PT. Stanley BLACK+DECKER
Alamat : Menara Standard Chartered Level 31
Jl. Prof. Dr. Satrio No. 164 RT/RW 003/004 Kel. Karet, Kec. Setiabudi
Jakarta Selatan, 12930 - Indonesia

เครื่องเจียรไฟฟ้า 100 มม. G650

ข้อมูลจำเพาะ

กำลังไฟ	650W
เส้นผ่านศูนย์กลางของแผ่นเจียร	100 มม.
แรงดันไฟฟ้า	220-240V ~ 50/60Hz
ความเร็วตามพิกัด	12,000 รอบ/นาที (rpm)
ขนาดแกนหมุน	M10
ความยาวของสายไฟฟ้า	2 ม.

กฎความปลอดภัยทั่วไป

⚠ **คำเตือน!** โปรดอ่านและทำความเข้าใจข้อปฏิบัติทั้งหมด การไม่ปฏิบัติตามข้อปฏิบัติทั้งหมดด้านล่างนี้ อาจทำให้ถูกไฟฟ้าดูด เกิดเพลิงไหม้ และ/หรือบาดเจ็บสาหัสได้

เก็บรักษาคำแนะนำเหล่านี้ไว้

ข้อปฏิบัติเพื่อความปลอดภัย คำเตือนด้านความปลอดภัยสำหรับการใช้เครื่องมือไฟฟ้าทั่วไป

คำเตือน! โปรดอ่านคำเตือนเพื่อความปลอดภัยและข้อปฏิบัติทั้งหมด การไม่ปฏิบัติตามคำเตือนและคำแนะนำเหล่านี้ อาจทำให้ถูกไฟฟ้าดูด เกิดเพลิงไหม้ และ/หรือบาดเจ็บสาหัสได้

โปรดเก็บรักษาคำเตือนและข้อปฏิบัติทั้งหมดนี้ไว้เพื่อการอ้างอิงในภายหลัง คำว่า "เครื่องมือไฟฟ้า" ในคำเตือนทั้งหมดที่แสดงไว้ด้านล่างหมายถึงเครื่องมือไฟฟ้าที่ทำงานผ่านสายเมน (แบบมีสาย) หรือเครื่องมือไฟฟ้าที่ทำงานด้วยแบตเตอรี่ (แบบไร้สาย)

1. ความปลอดภัยในบริเวณที่ทำงาน

ก) **พื้นที่ทำงานจะต้องสะอาดและมีแสงสว่างเพียงพอ** บริเวณที่มืดและมีของวางระเกะระกะทำให้เกิดอุบัติเหตุได้

ข) **ห้ามใช้เครื่องมือไฟฟ้าในบริเวณที่อาจเกิดการระเบิด เช่น ในสถานที่ที่มีของเหลว แก๊ส หรือฝุ่นผงที่มีคุณสมบัติไวไฟ** เครื่องมือไฟฟ้าจะทำให้เกิดประกายไฟที่อาจเป็นสาเหตุให้เกิดละอองไฟหรือเปลวไฟได้

ค) **ระวังไม่ให้เด็กเล็กและผู้ที่อยู่ใกล้เคียงเข้าใกล้ในขณะที่ใช้งานเครื่องมือไฟฟ้า** สิ่งรบกวนอาจทำให้คุณเสียสมาธิได้

2. ความปลอดภัยทางไฟฟ้า

ก) **ปลั๊กไฟของเครื่องมือไฟฟ้าต้องเป็นชนิดเดียวกับเต้ารับ ห้ามดัดแปลงปลั๊กไม่ว่าด้วยวิธีใด ห้ามใช้ปลั๊กอะแดปเตอร์ใดๆ กับเครื่องมือไฟฟ้าที่ต่อสายดิน (ลงกราวด์)** ปลั๊กที่ไม่มีการดัดแปลงและเต้ารับชนิดเดียวกันจะช่วยลดความเสี่ยงจากการเกิดไฟฟ้าดูดได้

ข) **หลีกเลี่ยงการสัมผัสพื้นผิวที่ต่อสายดินหรือลงกราวด์ เช่น ท่อ หม้อน้ำ เตาหุงต้ม และตู้เย็น** หากร่างกายของคุณเป็นสื่อเชื่อมต่อลงดินจะมีความเสี่ยงเพิ่มขึ้นที่จะเกิดไฟฟ้าดูด

ค) **อย่าให้เครื่องมือไฟฟ้าถูกฝนหรือเปียกน้ำ** หากน้ำเข้าเครื่องมือไฟฟ้าจะมีความเสี่ยงเกิดไฟฟ้าดูดมากขึ้น

ง) **ห้ามใช้สายไฟฟ้าผิดวัตถุประสงค์ ห้ามใช้สายไฟฟ้าเพื่อการหิ้ว ดึง หรือถอดปลั๊กเครื่องมือไฟฟ้า เก็บสายไฟฟ้าให้ห่างจากความร้อน น้ำมัน ของมีคม หรือชิ้นส่วนที่กำลังหมุน** หากสายไฟฟ้าชำรุดหรือพันกันจะเพิ่มความเสี่ยงเกิดไฟฟ้าดูดมากขึ้น

จ) **เมื่อใช้เครื่องมือไฟฟ้านอกอาคาร ให้ใช้สายต่อพ่วงที่เหมาะสมสำหรับการใช้งานนอกอาคาร** การใช้สายไฟฟ้าที่เหมาะกับการใช้นอกอาคารจะช่วยลดความเสี่ยงจากการเกิดไฟฟ้าดูดได้

ฉ) **หากไม่สามารถหลีกเลี่ยงการใช้เครื่องมือไฟฟ้าในบริเวณที่ชื้นแฉะได้ ให้ใช้แหล่งจ่ายไฟฟ้าที่มีอุปกรณ์ป้องกันไฟฟ้าดูด (RCD)** การใช้สายไฟฟ้า RCD จะช่วยลดความเสี่ยงจาก การถูกไฟฟ้าดูด

3. ความปลอดภัยทางร่างกาย

ก) **ตื่นตัว และมีสมาธิกับสิ่งที่คุณกำลังทำ และใช้สามัญสำนึกในขณะที่กำลังใช้เครื่องมือไฟฟ้า ห้ามใช้เครื่องมือไฟฟ้าขณะที่คุณเหนื่อยหรือได้รับอิทธิพลจากยา แอลกอฮอล์ หรือการรักษา** การขาดความระมัดระวังในการใช้เครื่องมือไฟฟ้าแม้เพียงชั่วขณะก็อาจทำให้ได้รับบาดเจ็บสาหัสได้

ข) **ใช้อุปกรณ์ป้องกันร่างกาย สวมอุปกรณ์ป้องกันดวงตาเสมอ** อุปกรณ์ป้องกัน เช่น หน้ากากกันฝุ่น รองเท้านิรภัยกันลื่น หมวกนิรภัย หรืออุปกรณ์ป้องกันเสียงดังที่ใช้ในสภาวะที่เหมาะสมจะช่วยลดอาการบาดเจ็บทางร่างกาย

ค) **ป้องกันเครื่องเปิดทำงานโดยไม่ตั้งใจ สวิตช์ต้องอยู่ในตำแหน่งปิดก่อนเชื่อมต่อเข้ากับแหล่งจ่ายไฟฟ้าและ/หรือชุดแบตเตอรี่ หรือก่อนยกหรือหิ้วเครื่องมือ** การยกเครื่องมือไฟฟ้าในขณะที่นิ้วอยู่ที่สวิตช์หรือการจ่ายไฟให้เครื่องมือโดยที่สวิตช์เปิดอยู่ อาจทำให้เกิดอุบัติเหตุได้

ง) **ถอดกุญแจปรับตั้งหรือประแจออกก่อนเปิดสวิตช์เครื่องมือไฟฟ้า** ประแจหรือกุญแจที่เสียบค้างอยู่ในชิ้นส่วนที่หมุนได้ของเครื่องมือไฟฟ้าอาจทำให้ได้รับบาดเจ็บได้

จ) **ห้ามยืนเขย่งเท้าขณะใช้เครื่อง ควรยืนในท่าที่เหมาะสมและสมดุลตลอดเวลา** ซึ่งจะช่วยในการควบคุมเครื่องมือไฟฟ้าได้ดียิ่งขึ้นในสถานการณ์ที่ไม่คาดคิด

ฉ) **แต่งกายให้เหมาะสม ห้ามสวมเสื้อผ้าหลวมหรือใส่เครื่องประดับ รวบผม ชายเสื้อ และถุงมือให้ห่างจากชิ้นส่วนที่กำลังหมุน** เสื้อผ้าที่หลวมหรือยาวรุ่มร่าม เครื่องประดับ หรือผมที่ยาวอาจเข้าไปพันกับชิ้นส่วนที่กำลังหมุนได้

ช) **หากมีอุปกรณ์สำหรับดูดและเก็บฝุ่น ต้องตรวจสอบให้แน่ใจว่า ได้เชื่อมต่อและใช้งานอุปกรณ์นั้นอย่างเหมาะสม** การใช้อุปกรณ์เหล่านี้จะช่วยลดอันตรายที่เกี่ยวข้องกับฝุ่นได้

4. การใช้และการดูแลรักษาเครื่องมือไฟฟ้า

ก) **ห้ามฝืนใช้เครื่องมือไฟฟ้า เลือกใช้เครื่องมือไฟฟ้าที่ถูกต้องตรงกับลักษณะการใช้งานของคุณ** เครื่องมือไฟฟ้าที่เหมาะสมย่อมทำงานได้ดีกว่าและปลอดภัยกว่าเมื่อใช้งานตามพิกัดที่ได้รับการออกแบบมา

ข) **ห้ามใช้เครื่องมือไฟฟ้าถ้าสวิตช์เปิดปิดเครื่องไม่**

ทำงาน เครื่องมือไฟฟ้าที่ไม่สามารถควบคุมด้วยสวิตช์ได้ถือว่ามีอันตรายและต้องส่งซ่อม

ค) ถอดปลั๊กของเครื่องมือไฟฟ้าออกจากแหล่งจ่ายไฟฟ้าและ/หรือแบตเตอรี่ก่อนทำการปรับตั้ง เปลี่ยนอุปกรณ์เสริม หรือจัดเก็บเครื่องมือไฟฟ้า มาตรการเพื่อความปลอดภัยเชิงป้องกันนี้จะช่วยลดความเสี่ยงในการเผลอเปิดเครื่องให้ทำงานโดยไม่ตั้งใจ

ง) เก็บเครื่องมือไฟฟ้าที่พร้อมใช้งานไว้ให้พ้นมือเด็กและไม่อนุญาตให้บุคคลที่ไม่คุ้นเคยกับเครื่องมือไฟฟ้าหรือคำแนะนำเหล่านี้เป็นผู้ใช้เครื่องมือ เครื่องมือไฟฟ้าจะเป็นอันตรายหากอยู่ในมือผู้ใช้ที่ไม่มีความชำนาญ

จ) บำรุงรักษาเครื่องมือไฟฟ้า ตรวจสอบว่าชิ้นส่วนที่หมุนได้มีการวางไม่ตรงแนวหรือติดขัดหรือไม่ หรือมีชิ้นส่วนที่แตกหักและสภาพอื่นใดที่อาจส่งผลต่อการทำงานของเครื่องมือไฟฟ้าหรือไม่ หากชำรุดเสียหายให้นำเครื่องมือไฟฟ้าส่งซ่อมก่อนการใช้งาน อุบัติเหตุจำนวนมากเกิดจากการดูแลรักษาเครื่องมือไฟฟ้าไม่ดีพอ

ฉ) เครื่องมือต้องคมและสะอาดอยู่เสมอ เครื่องมือตัดที่ได้รับการดูแลรักษาที่เหมาะสมและมีขอบตัดที่คมจะมีโอกาสติดขัดน้อยลง และควบคุมได้ง่ายขึ้น

ช) ใช้เครื่องมือไฟฟ้า อุปกรณ์เสริม หรือชิ้นส่วนของเครื่องมือ ฯลฯ ตามข้อปฏิบัติเหล่านี้โดยคำนึงถึงสภาพการทำงานและงานที่ จะต้องปฏิบัติ การใช้เครื่องมือไฟฟ้าในการปฏิบัติงานที่แตกต่างจากวัตถุประสงค์เหล่านี้อาจทำให้เกิดสถานการณ์อันตรายได้

5. การบริการ

ก) ให้ช่างซ่อมที่มีความเชี่ยวชาญเป็นผู้ซ่อมเครื่องมือและใช้อะไหล่แท้เท่านั้น ซึ่งจะช่วยรับประกันได้ว่าเครื่องมือไฟฟ้ายังมีความปลอดภัยอยู่

ข้อปฏิบัติเพื่อความปลอดภัยสำหรับการใช้งานทุกประเภท
คำเตือนเพื่อความปลอดภัยทั่วไปสำหรับการเจียร

ก) เครื่องมือไฟฟ้านี้มีวัตถุประสงค์เพื่อการใช้งานเป็น เครื่องเจียร อ่านคำเตือน ข้อปฏิบัติเพื่อความปลอดภัยทั้งหมด รวมทั้งภาพประกอบและข้อมูลจำเพาะ ที่ให้มากับเครื่องมือไฟฟ้านี้ การไม่ปฏิบัติตามข้อปฏิบัติทั้งหมดในด้านล่างนี้ อาจทำให้ถูกไฟฟ้าดูด ไฟไหม้ และ/หรือบาดเจ็บสาหัสได้

ข) ไม่แนะนำให้ใช้เครื่องมือไฟฟ้านี้กับการทำงานประเภทการขัดด้วยกระดาษทราย การขัดด้วยแปรงลวด การขัดเงา หรือ การตัด การทำงานที่ไม่ตรง ตามที่เครื่องมือได้รับการออกแบบมาอาจทำให้เกิด อันตรายและการบาดเจ็บได้

ค) ห้ามใช้อุปกรณ์เสริมซึ่งไม่ได้รับการออกแบบมาโดยเฉพาะหรือไม่ได้รับการแนะนำจากผู้ผลิตเครื่องมือ การที่อุปกรณ์เสริมสามารถ ต่อเข้ากับเครื่องมือไฟฟ้าของคุณได้นั้น ไม่ได้รับประกันว่าอุปกรณ์เสริมนั้นจะทำงานอย่างปลอดภัย

ง) ความเร็วตามพิกัดของอุปกรณ์เสริมต้องเท่ากับความเร็วสูงสุดที่กำกับไว้บนเครื่องมือไฟฟ้าเป็นอย่างน้อย อุปกรณ์เสริมที่ต้องทำงานด้วยความเร็วมากกว่าพิกัดความเร็วของอุปกรณ์ อาจแตกหักและกระเด็นหลุดออกได้

จ) เส้นผ่าศูนย์กลางภายนอกและความหนาของอุปกรณ์เสริมต้องอยู่ภายในพิกัดความสามารถของเครื่องมือไฟฟ้า อุปกรณ์เสริมที่มีขนาดไม่เหมาะสมจะไม่สามารถให้การป้องกันหรือควบคุมได้เพียงพอ

ฉ) ส่วนที่เป็นเกลียวยึดสำหรับติดตั้งของอุปกรณ์เสริมต้องมีเกลียวตรงกันกับเกลียวของแกนหมุนของเครื่องเจียร สำหรับอุปกรณ์เสริมที่ยึดด้วยหน้าแปลน รูยึดของอุปกรณ์เสริมต้องพอดีกับเส้นผ่าศูนย์กลางกำหนดตำแหน่งของหน้าแปลน อุปกรณ์เสริมที่ไม่ตรงกันกับส่วนที่ใช้ยึด ของเครื่องมือไฟฟ้าจะทำให้ขาดความสมดุล มีอาการสั่นมากเกินไป และอาจทำให้สูญเสียการควบคุมได้

ช) ห้ามใช้อุปกรณ์เสริมที่ชำรุดเสียหาย ก่อนการใช้งานทุกครั้ง ให้ตรวจสอบอุปกรณ์เสริม เช่น แผ่นเจียร เพื่อหาเศษวัสดุและรอยร้าว ตรวจดูแผ่นรองหลังเพื่อหารอยร้าว การฉีกขาด หรือการสึกหรอที่มากเกินไป ตรวจดูแปรงลวดเพื่อหาเส้นลวดที่หลวมหรือแตกหัก ถ้าเครื่องมือไฟฟ้าหรืออุปกรณ์เสริมตกหล่น ให้ตรวจหาความชำรุดเสียหาย หรือติดตั้งอุปกรณ์เสริมที่ไม่ชำรุด หลังจากการตรวจสอบและติดตั้งอุปกรณ์เสริมแล้ว ตัวคุณและผู้ที่อยู่ใกล้เคียงต้องออกห่างจากแนวระนาบของอุปกรณ์เสริมที่กำลังหมุน และเปิดเครื่องมือไฟฟ้าที่ความเร็วสูงสุดโดยไม่มีภาระโหลดเป็นเวลาหนึ่งนาที โดยปกติอุปกรณ์เสริมที่ชำรุดจะแตกออกในระหว่างการทดสอบนี้

ช) สวมอุปกรณ์ป้องกันร่างกาย ใช้หน้ากากป้องกันแว่นตานิรภัย หรืออุปกรณ์ป้องกันตาอื่นๆ โดยขึ้นอยู่กับการทำงาน ให้สวมหน้ากากกันฝุ่น อุปกรณ์ป้องกันเสียงดัง ถุงมือ และผ้ากันเปื้อนที่สามารถป้องกันเศษทรายขัดหรือเศษชิ้นส่วนของชิ้นงานได้โดยขึ้นอยู่กับความเหมาะสมในการใช้งาน อุปกรณ์ป้องกันดวงตาต้องสามารถกันเศษชิ้นงานที่ปลิวออกมาซึ่งเกิดจากการทำงานประเภทต่างๆ หน้ากากกันฝุ่นหรือหน้ากากป้องกันต้องสามารถกรองฝุ่นที่เกิดจากการทำงานได้ การอยู่กับเสียงดังมากๆ เป็นเวลานานอาจทำให้สูญเสียความสามารถในการได้ยิน

ฌ) กันผู้ที่อยู่ใกล้เคียงให้ออกห่างจาก บริเวณพื้นที่ทำงานในระยะที่ปลอดภัย ผู้ที่เข้ามาในพื้นที่ทำงานจะต้องสวมใส่อุปกรณ์ป้องกันร่างกาย เศษชิ้นส่วนของชิ้นงานหรือของอุปกรณ์เสริมอาจหลุดกระเด็นออกมาและอาจทำให้ได้รับบาดเจ็บในระยะเกินกว่าพื้นที่ทำงานโดยตรง

ญ) เมื่อทำงานประเภทใดก็ตามที่อุปกรณ์เสริมที่ใช้กับงานตัดอาจสัมผัสกับสายไฟฟ้าที่ซ่อนอยู่หรือสายไฟฟ้าของตัวเครื่องเอง ให้จับเครื่องมือไฟฟ้าที่พื้นผิวส่วนที่ใช้จับซึ่งมีฉนวนป้องกันเท่านั้น อุปกรณ์เสริมที่ใช้กับงานตัดที่สัมผัสกับสายไฟฟ้าที่ "มีไฟฟ้า" อาจทำให้ส่วนของโลหะที่ถูกสัมผัส "มีไฟฟ้า" และทำให้ผู้ใช้เครื่องมือถูกไฟฟ้าดูดได้

ฏ) วางสายไฟฟ้าให้ห่างจากอุปกรณ์เสริมที่กำลังหมุน หากคุณสูญเสียการควบคุม สายไฟฟ้าอาจถูกตัดหรือติดขัด และอาจดึงมือหรือแขนของคุณเข้าไปหาอุปกรณ์เสริมที่กำลังหมุนอยู่ได้

ฐ) อย่าวางเครื่องมือไฟฟ้าจนกว่าอุปกรณ์เสริมจะหยุดหมุนแล้ว อุปกรณ์เสริมที่กำลังหมุนอยู่อาจจับยึดพื้นผิวไว้และดึงเครื่องมือไฟฟ้าออกจากการควบคุมของคุณ

ฐ) ไม่ควรเปิดใช้เครื่องมือไฟฟ้าขณะที่ถือเครื่องมือไว้ใกล้ตัว หากสัมผัสโดนอุปกรณ์เสริมที่กำลังหมุนโดยไม่ได้ตั้งใจ อาจไปเกี่ยวโดนเสื้อผ้าของคุณ และดึงอุปกรณ์เสริมเข้าหาตัวคุณได้

ฑ) ทำความสะอาดช่องระบายอากาศของเครื่องมือไฟฟ้าเป็นประจำ พัดลมของมอเตอร์จะดูดฝุ่นละอองเข้าไปในตัวเรือนและการสะสมของผงโลหะมากเกินไปอาจทำให้เกิดอันตรายทางไฟฟ้าได้

ฒ) ห้ามใช้เครื่องมือไฟฟ้าใกล้วัสดุติดไฟ ประกายไฟอาจทำให้วัสดุเหล่านี้ติดไฟได้

ณ) ห้ามใช้อุปกรณ์เสริมที่ต้องเติมสารหล่อเย็นที่เป็นของเหลว การใช้น้ำหรือของเหลวอื่นในการหล่อเย็น อาจทำให้ไฟฟ้าดูดหรือลัดวงจรได้

การดีดกลับและคำเตือนที่เกี่ยวข้อง

การดีดกลับคือปฏิกิริยาที่เกิดขึ้นแบบทันทีทันใดต่อแผ่นเจียรที่กำลังหมุน แผ่นรอง แปรง หรืออุปกรณ์เสริมอื่นๆ ที่ถูกหนีบหรือติดขัด การหนีบหรือการติดขัดจะทำให้อุปกรณ์เสริมที่กำลังหมุนหยุดอย่างรวดเร็ว ซึ่งจะทำให้เครื่องมือไฟฟ้าที่ไม่มีการควบคุมถูกดึงไปในทิศทางที่ตรงกันข้ามกับการหมุนของอุปกรณ์เสริมในจุดที่ติดขัด ตัวอย่างเช่น ถ้าแผ่นเจียรติดขัดหรือถูกหนีบโดยชิ้นงาน ขอบของแผ่นเจียรที่กำลังเข้าไปสู่จุดหนีบอาจดันเข้าไปสู่พื้นผิวของวัสดุ ซึ่งจะทำให้แผ่นเจียรปีนออกหรือหลุดออก แผ่นเจียรอาจกระเด็นไปหาหรือกระเด็นออกจากผู้ปฏิบัติงาน ทั้งนี้ขึ้นอยู่กับทิศทางการหมุนของแผ่นเจียรในจุดที่ถูกหนีบ แผ่นเจียรยังอาจแตกหักภายใต้สภาวะเหล่านี้ได้อีกด้วย การดีดกลับเป็นผลจากการใช้งานเครื่องมือผิดวิธีและ/หรือขั้นตอนหรือสภาพการใช้งานที่ไม่ถูกต้อง ซึ่งสามารถหลีกเลี่ยงได้โดยการปฏิบัติตามคำเตือนที่เหมาะสมที่ระบุไว้ด้านล่างนี้

ก) จับยึดเครื่องมือไฟฟ้าให้แน่นตลอดเวลา และวางตำแหน่งตัวและแขนเพื่อให้สามารถต้านแรงดีดกลับได้ ใช้มือจับเสริมด้วยเสมอหากมีให้มา เพื่อทำให้สามารถควบคุมการดีดกลับหรือควบคุมผลจากแรงบิดได้อย่างเต็มที่ในระหว่างเริ่มเปิดเครื่อง ผู้ปฏิบัติงานสามารถควบคุมปฏิกิริยาของแรงบิดหรือแรงดีดกลับได้ ถ้าดำเนินมาตรการป้องกันที่เหมาะสม

ข) ห้ามยื่นมือเข้าใกล้อุปกรณ์เสริมที่กำลังหมุน อุปกรณ์เสริมอาจดีดใส่มือได้

ค) อย่าให้ร่างกายของคุณอยู่ในบริเวณที่เครื่องมือไฟฟ้าจะเคลื่อนที่ไปได้ในกรณีที่มีการดีดกลับเกิดขึ้น การดีดกลับจะทำให้เครื่องมือเหวี่ยงกลับในทิศทางตรงกันข้ามกับการหมุนของแผ่นเจียร ณ ตำแหน่งที่ติดขัด

ง) ใช้ความระมัดระวังเป็นพิเศษขณะทำงานกับมุม ขอบที่คม หรืออื่นๆ หลีกเลี่ยงการทำให้อุปกรณ์เสริมกระดอนไปมาหรือติดขัด มุมต่างๆ ขอบที่คม หรือการกระดอนไปมามีแนวโน้มจะทำให้สูญเสียการควบคุมหรือดีดกลับได้

จ) ห้ามติดใบเลื่อยไม้แบบโซ่เลื่อยหรือใบเลื่อยแบบมีฟัน ใบเลื่อยดังกล่าวจะทำให้เกิดการดีดกลับบ่อยครั้งและสูญเสียการควบคุม

คำเตือนเพื่อความปลอดภัยสำหรับการเจียร

ก) ใช้แผ่นเจียรชนิดที่แนะนำสำหรับเครื่องมือไฟฟ้าของคุณ และอุปกรณ์ป้องกันที่ออกแบบมาสำหรับแผ่นเจียรที่เลือกโดยเฉพาะ แผ่นเจียรที่ไม่ได้ออกแบบมาให้เข้ากับเครื่องมือไฟฟ้าจะไม่ได้รับการป้องกันอย่างเพียงพอและไม่ปลอดภัย

ข) ตัวครอบป้องกันต้องได้รับการติดตั้งเข้ากับเครื่องมือไฟฟ้าอย่างแน่นหนาและอยู่ในตำแหน่งที่มีความปลอดภัยสูงสุด เพื่อทำให้มีส่วนของแผ่นเจียรหันเข้าหาผู้ทำงานได้น้อยที่สุด ตัวครอบป้องกันนี้จะช่วยปกป้องผู้ทำงานจากชิ้นส่วนของแผ่นเจียรที่แตกหักและการสัมผัสกับแผ่นเจียรโดยไม่ตั้งใจ

ค) ต้องใช้แผ่นเจียรสำหรับการใช้งาน ที่แนะนำเท่านั้น ตัวอย่างเช่น ห้ามใช้ด้านข้างของ แผ่นตัดกับงานเจียร แผ่นเจียรแบบตัดมีวัตถุประสงค์เพื่อการเจียรแนวด้านข้าง แรงด้านข้างที่กระทำกับจานเหล่านี้อาจทำให้แผ่นแตกออกได้

ง) ใช้หน้าแปลนแผ่นเจียรที่ไม่ชำรุดเสียหาย และมีขนาด รูปร่างที่ถูกต้องเหมาะสำหรับแผ่นเจียรที่คุณเลือกใช้ทุกครั้ง หน้าแปลนแผ่นเจียรที่เหมาะสมจะช่วยรองรับแผ่นเจียรไว้ ดังนั้นจึงลดโอกาสการแตกหักของแผ่นเจียรได้ หน้าแปลนสำหรับแผ่นตัดอาจแตกต่างจากหน้าแปลนสำหรับแผ่นเจียร

จ) ห้ามใช้แผ่นเก่าที่สึกมาจากเครื่องมือไฟฟ้าที่มีขนาดใหญ่กว่า แผ่นที่มีไว้สำหรับเครื่องมือไฟฟ้าขนาดใหญ่ไม่สามารถใช้ได้กับเครื่องมือที่มีความเร็วสูงกว่าหรือเครื่องมือที่เล็กกว่า และอาจแตกหักได้

6. ความปลอดภัยทางไฟฟ้า

เครื่องมือของคุณมีฉนวนสองชั้น ดังนั้นจึงไม่จำเป็นต้องต่อสายดิน ต้องตรวจสอบว่าแรงดันจากแหล่งจ่ายไฟฟ้าตรงกับแรงดันบนแผ่นแสดงพิกัดเสมอ

คำเตือน! ถ้าสายไฟฟ้าชำรุดเสียหาย จะต้องทำการเปลี่ยนโดยผู้ผลิต ศูนย์บริการ BLACK+DECKER ที่ได้รับอนุญาต หรือบุคคลที่มีคุณสมบัติเทียบเท่าเพื่อหลีกเลี่ยงความเสียหายหรือการบาดเจ็บ หากผู้เปลี่ยนสายไฟฟ้าของตัวเครื่องเป็นบุคคลที่มีคุณสมบัติเทียบเท่าแต่ไม่ได้รับอนุญาตจาก BLACK+DECKER การรับประกันจะถือเป็นโมฆะ

7. สัญลักษณ์บนเครื่องมือ

ป้ายบนเครื่องมือของคุณอาจมีสัญลักษณ์ต่อไปนี้

อ่านคู่มือการใช้งาน

ใช้อุปกรณ์ป้องกันดวงตา

ใช้เครื่องป้องกันหู

V ..... โวลต์
A ..... แอมแปร์

Hz ..... เฮิรตซ์
W ..... วัตต์
min ..... นาที
~ ..... ไฟกระแสสลับ
⎓ ..... ไฟกระแสตรง
n ..... ความเร็วตามพิกัด

..... โครงสร้างชั้น II

.... สายดิน

.... สัญลักษณ์แจ้งเตือนความปลอดภัย

.../min.. จำนวนรอบหรือรอบการทำงานต่อนาที

ส่วนประกอบสำคัญ (รูป A)

1. สวิตช์เลื่อน
2. สายไฟฟ้า
3. ตัวครอบป้องกัน
4. ส่วนยึดจับที่ตัวเครื่อง
5. มือจับเสริมด้านข้าง (2 ตำแหน่ง)
6. ปุ่มล็อคแกนหมุน

การใช้งาน
การใช้งานเครื่องเจียรไฟฟ้า (รูป A)

เมื่อจะเปิดสวิตช์ ให้ดันสวิตช์เลื่อนไปข้างหน้า**(1)** ถ้าจะปิดสวิตช์ ให้กดด้านหลังของสวิตช์เลื่อน

การติดตั้งแผ่น (รูป B และ C)

ปฏิบัติตามขั้นตอนต่อไปนี้

- ถอดปลั๊กออกจากแหล่งจ่ายไฟฟ้า
- ตรวจสอบให้แน่ใจว่าติดตั้งตัวครอบป้องกันแล้ว วางหน้าแปลนด้านใน **(7)** สวมลงบนแกนหมุน ตรวจสอบให้แน่ใจว่าหน้าแปลนด้านในวางอยู่บนด้านเรียบทั้งสองด้าน
- วางแผ่นเจียรลงบนแกนหมุนและหน้าแปลนด้านใน **(8)** ตรวจสอบให้แน่ใจว่าวางถูกตำแหน่ง
- ติดตั้งหน้าแปลนด้านนอกซึ่งเป็นแบบมีเกลียว **(9)** และตรวจดูให้แน่ใจว่า ประเภทของแผ่นที่ติดตั้งหันไปในทิศทางที่ถูกต้อง กรณีที่เป็นแผ่นเจียร ให้ติดตั้งหน้าแปลน **(9)** โดยให้ส่วนนูนหันไปทางแผ่น ส่วนกรณีที่เป็นแผ่นตัด ให้ติดตั้งหน้าแปลน **(9)** โดยให้ส่วนด้านในหันออกจากแผ่น
- ใช้ประแจสลักจับที่ด้านเรียบของแกนหมุนเพื่อป้องกันแผ่นไม่ให้หมุน และขันหน้าแปลนด้านนอกด้วยประแจสลักที่ให้มา
- กดปุ่มล็อคแกนหมุน และหมุนแกนหมุนจนล็อคเข้าตำแหน่ง **(รูป C)** กดปุ่มล็อคค้างไว้ ขันหน้าแปลนด้านนอกด้วยประแจสลักที่ให้มา

การติดตั้งแผ่นเจียรกระดาษทราย (รูป D)

- ใช้แผ่นเจียรกระดาษทรายที่มีแผ่นรองเพื่อใช้เครื่องเจียรมุมแคบในการขัด
- ถอดปลั๊กออกจากแหล่งจ่ายไฟฟ้า
- ถอดตัวครอบป้องกันออก
- วางหน้าแปลนโดยสวมลงบนแกนหมุน วางแผ่นรองลงบนแกนหมุนและหน้าแปลนด้านใน ตรวจสอบว่าอยู่ในตำแหน่งที่ถูกต้อง
- ติดตั้งแผ่นเจียรรองด้วยใยลงบนแผ่นรอง
- ติดตั้งหน้าแปลนด้านนอกซึ่งเป็นแบบมีเกลียวและขันให้แน่นตามที่อธิบายไว้ใน **'การติดตั้งแผ่น'**

ข้อแนะนำที่มีประโยชน์ (รูป E)

จับเครื่องเจียรโดยให้มือข้างหนึ่งกำรอบมือจับเสริมด้านข้างให้แน่น และมืออีกข้างหนึ่งจับรอบตัวเครื่องเจียร

- จัดวางตำแหน่งตัวครอบป้องกันในลักษณะที่ส่วนของแผ่นที่ไม่ได้ถูกคลุมปิดหันออกจากคุณมากที่สุดเท่าที่จะมากได้
- เตรียมพร้อมหากมีประกายไฟเกิดขึ้นจำนวนมากในขณะที่แผ่นเจียรสัมผัสโลหะ

ขณะที่กำลังเจียร ให้รักษามุมระหว่างแผ่นกับพื้นผิวงานให้ถูกต้อง (15°)**(รูป D)** ซึ่งจะช่วยให้สามารถถอดแผ่นออกได้ง่ายขึ้น และหลีกเลี่ยงการใช้งานหนักเกินไปโดยไม่จำเป็น

ใช้งานเกินกำลัง

การใช้งานเกินกำลังจะทำให้เกิดความเสียหายต่อมอเตอร์ของเครื่องเจียร ซึ่งอาจเกิดขึ้นได้หากเครื่องเจียรต้องทำงานหนักเป็นเวลานาน ดังนั้น ไม่ว่ากรณีใดๆ ห้ามออกแรงกดมากเกินไปที่เครื่องเจียรเพื่อเร่งให้งานเร็วขึ้น แผ่นเจียรจะทำงานมีประสิทธิภาพมากขึ้นเมื่อออกแรงกดเบาๆ ซึ่งจะทำให้ความเร็วของเครื่องเจียรไม่ตก

การบำรุงรักษา

หมั่นดูแลตัวครอบป้องกัน ช่องอากาศ และตัวเรือนมอเตอร์ให้ปราศจากฝุ่นและสิ่งสกปรกเท่าที่จะทำได้ เช็ดด้วยผ้าสะอาดและเป่าลมเบาๆ หากมีฝุ่นโลหะสะสมมากเกินไป อาจเกิดการเชื่อมเส้นทางกระแสไฟฟ้าจากส่วนภายในไปยังส่วนของโลหะที่โผล่พ้นออกมา

ห้ามใช้งานเครื่องเจียรเกินกำลัง การใช้งานเกินกำลังจะทำให้ความเร็วและประสิทธิภาพลดลง ซึ่งจะทำให้เครื่องเจียรร้อนเกินไป ถ้าเกิดกรณีนี้ขึ้น ให้ปล่อยเครื่องเจียรให้ทำงานโดยไม่โหลดสัก 1-2 นาทีจนเครื่องเย็นลงเท่ากับอุณหภูมิการทำงานปกติ การปิดเครื่องเจียรขณะที่ยังมีโหลดจะทำให้อายุการใช้งานของสวิตช์ลดลง

⚠ **ข้อสำคัญ!** เพื่อให้มั่นใจใน**ความปลอดภัย**และ**ความไว้วางใจ**ในตัวผลิตภัณฑ์ การซ่อมแซม การบำรุงรักษา และการปรับตั้งต่างๆ (นอกเหนือจากที่ระบุไว้ในคู่มือนี้) จะต้องดำเนินการโดยศูนย์บริการ
ที่ได้รับอนุญาต หรือบุคคลอื่นๆ ที่มีคุณสมบัติ โดยจะต้องใช้อะไหล่ที่เหมือนกันเท่านั้น

การปกป้องสิ่งแวดล้อม

การเก็บรวบรวมเพื่อคัดแยก ห้ามทิ้งผลิตภัณฑ์นี้รวมกับขยะในครัวเรือนปกติ หากเมื่อใดก็ตามที่จำเป็นต้องเปลี่ยนผลิตภัณฑ์ BLACK+DECKER หรือถ้าคุณไม่ได้ใช้งานเครื่องมือนี้อีกต่อไป อย่าทิ้งผลิตภัณฑ์นี้รวมกับขยะในครัวเรือน จัดการกับผลิตภัณฑ์นี้เพื่อให้พร้อมสำหรับการคัดแยกขยะ

การคัดแยกผลิตภัณฑ์และบรรจุภัณฑ์ที่ใช้แล้วช่วยให้สามารถรีไซเคิลและนำวัสดุกลับมาใช้งานได้อีก การนำวัสดุรีไซเคิลมาใช้อีกครั้งจะช่วงป้องกันมลพิษต่อสิ่งแวดล้อมและลดความต้องการวัตถุดิบได้ กฎระเบียบท้องถิ่นอาจมีการจัดเตรียมสถานที่สำหรับการเก็บรวบรวมแบบคัดแยกอุปกรณ์ไฟฟ้าที่ใช้ภายในครัวเรือนไว้ ณ แหล่งรับขยะของเทศบาล หรืออาจมีการรับอุปกรณ์ใช้แล้วจากผู้ค้าปลีกในกรณีที่คุณซื้อผลิตภัณฑ์ชิ้นใหม่

ข้อมูลการบริการ

BLACK+DECKER มีเครือข่ายแบบเต็มรูปแบบของศูนย์บริการทั้งที่ของบริษัทเองและศูนย์บริการที่ได้รับอนุญาตมากมายทั่วเอเชีย ศูนย์บริการของ BLACK+DECKER ทุกแห่งมีบุคลากรที่ผ่านการอบรมเพื่อให้บริการลูกค้าเกี่ยวกับผลิตภัณฑ์อย่างมีประสิทธิภาพและเชื่อถือได้

โปรดติดต่อศูนย์ของ BLACK+DECKER ใกล้บ้านหากคุณต้องการคำแนะนำด้านเทคนิค การซ่อมแซม หรืออะไหล่แท้จากโรงงาน

หมายเหตุ

- เนื่องจาก BLACK+DECKER มีนโยบายพัฒนาปรับปรุงผลิตภัณฑ์อย่างต่อเนื่อง ดังนั้น เราจึงขอสงวนสิทธิ์ในการเปลี่ยนแปลงข้อมูลจำเพาะของผลิตภัณฑ์โดยไม่ต้องแจ้งให้ทราบล่วงหน้า
- อุปกรณ์มาตรฐานและอุปกรณ์เสริมอาจแตกต่างกันในแต่ละประเทศ
- ข้อมูลจำเพาะของผลิตภัณฑ์อาจแตกต่างกันในแต่ละประเทศ
- ตัวเลือกผลิตภัณฑ์อาจมีจำหน่ายไม่ครบทุกรายการในบางประเทศ โปรดติดต่อตัวแทน BLACK+DECKER ในท้องถิ่นของคุณเพื่อสอบถามความพร้อมจำหน่ายของผลิตภัณฑ์

MÁY MÀI GÓC 100mm G650

THÔNG SỐ KỸ THUẬT

Công suất	650W
Đường kính đĩa	100mm
Điện áp	220-240V ~ 50/60Hz
Tốc độ định mức	12000/phút (rpm)
Kích thước trục quay	M10
Chiều dài của dây	2m

QUY ĐỊNH CHUNG VỀ AN TOÀN

⚠ **Cảnh báo!** Đọc kỹ và hiểu toàn bộ các hướng dẫn. Việc không tuân theo tất cả các hướng dẫn được liệt kê bên dưới có thể dẫn đến điện giật, cháy và/hoặc chấn thương nghiêm trọng.

LƯU LẠI NHỮNG HƯỚNG DẪN NÀY

HƯỚNG DẪN AN TOÀN

Cảnh báo chung về an toàn các dụng cụ điện cầm tay.Cảnh báo! Hãy đọc tất cả các cảnh báo và hướng dẫn về an toàn. Việc không tuân theo các cảnh báo và hướng dẫn được liệt kê dưới đây có thể dẫn đến điện giật, cháy và/hoặc chấn thương nghiêm trọng.

Giữ lại tất cả các cảnh báo và hướng dẫn để tham khảo về sau. Thuật ngữ "dụng cụ điện cầm tay" trong tất cả các phần cảnh báo bên dưới chỉ dụng cụ chạy bằng điện nguồn (có dây điện) hoặc dụng cụ chạy bằng pin (không có dây điện).

1. An toàn tại nơi làm việc

a. **Khu vực làm việc phải sạch sẽ và đủ ánh sáng.** Những khu vực bừa bộn và thiếu ánh sáng dễ gây tai nạn.

b. **Không vận hành dụng cụ điện cầm tay trong môi trường dễ cháy nổ như môi trường có chất lỏng, khí hoặc bụi dễ cháy.**Dụng cụ điện cầm tay tạo ra các tia lửa điện có thể gây cháy bụi hoặc bốc khói.

c. **Không cho trẻ em và những người không liên quan lại gần trong khi đang vận hành dụng cụ điện cầm tay.**Những lúc xao lãng có thể khiến bạn mất kiểm soát.

2. An toàn điện

a. **Phích cắm của dụng cụ điện cầm tay phải vừa với ổ cắm. Không được sửa đổi phích cắm dưới bất kỳ hình thức nào. Không được sử dụng bất kỳ phích cắm tiếp hợp nào với những dụng cụ điện cầm tay có nối đất.**Phích cắm nguyên gốc và ổ cắm phù hợp sẽ giảm nguy cơ bị điện giật.

b. **Tránh tiếp xúc với các bề mặt được nối đất như đường ống, lò sưởi, bếp nướng và tủ lạnh.**Nguy cơ bị điện giật sẽ cao hơn nếu cơ thể bạn nối đất.

c. **Không để các dụng cụ điện cầm tay ngoài trời mưa hoặc ở nơi ẩm ướt.** Nước vào trong dụng cụ điện cầm tay sẽ làm tăng nguy cơ bị điện giật.

d. **Không sử dụng dây điện vào các mục đích khác. Tuyệt đối không sử dụng dây điện để mang, kéo hoặc rút phích cắm dụng cụ điện cầm tay. Để dây điện cách xa nguồn nhiệt, dầu mỡ, các cạnh sắc hoặc các bộ phận chuyển động.**Dây điện bị hỏng hoặc bị vướng sẽ làm tăng nguy cơ bị điện giật.

e. **Khi sử dụng dụng cụ điện cầm tay ngoài trời, sử dụng dây nối dài phù hợp với điều kiện sử dụng ngoài trời.**Sử dụng dây điện phù hợp để sử dụng ngoài trời sẽ giảm nguy cơ bị điện giật.

f. **Nếu bắt buộc phải vận hành dụng cụ điện cầm tay ở nơi ẩm ướt,hãy sử dụng nguồn điện bảo vệ thiết bị dòng điện dư (RCD).**Sử dụng RCD giúp giảm nguy cơ bị điện giật.

3. An toàn cá nhân

a. **Hãy tập trung, chú ý vào những gì bạn đang làm và tỉnh táo khi vận hành dụng cụ điện cầm tay. Không sử dụng cụ điện cầm tay khi bạn đang mệt hoặc uống rượu bia, sử dụng ma túy hoặc chất kích thích.**Một khoảnh khắc mất tập trung trong khi vận hành dụng cụ điện cầm tay có thể dẫn đến chấn thương cá nhân nghiêm trọng.

b. **Sử dụng các thiết bị bảo hộ cá nhân. Luôn đeo kính bảo hộ.**Thiết bị bảo hộ như mặt nạ chống bụi, giày chống trượt, mũ cứng hoặc bộ phận bảo vệ tai nếu được sử dụng trong những điều kiện phù hợp sẽ giảm chấn thương cá nhân.

c. **Tránh bật máy không chủ định. Đảm bảo công tắc ở vị trí tắt trước khi nối với nguồn điện và/ hoặc pin, khi cầm hoặc mang dụng cụ.**Việc cầm dụng cụ điện cầm tay khi ngón tay đặt vào công tắc hoặc sạc pin cho dụng cụ điện cầm tay khi công tắc đang bật có thể gây tai nạn.

d. **Hãy tháo hết khóa điều chỉnh hoặc cờ lê trước khi bật dụng cụ điện cầm tay.**Cờ lê hoặc khóa vẫn để ở bộ phận quay của dụng cụ điện cầm tay có thể dẫn đến chấn thương cá nhân.

e. **Không được với tay. Hãy đứng ở tư thế thích hợp và luôn giữ thăng bằng.**Điều đó giúp kiểm soát dụng cụ điện cầm tay tốt hơn trong các tình huống không thể lường trước.

f. **Mặc quần áo phù hợp. Không mặc quần áo rộng hoặc đeo đồ trang sức. Giữ cho tóc, quần áo và găng tay tránh xa khỏi các bộ phận chuyển động.**Quần áo rộng, đồ trang sức hoặc tóc dài có thể bị mắc vào các bộ phận chuyển động.

g. **Nếu các thiết bị được cung cấp để nối các phương tiện hút hoặc gom bụi, hãy đảm bảo những thiết bị này được nối và sử dụng đúng cách.**Sử dụng các thiết bị này có thể giảm các nguy cơ liên quan đến bụi.

4. Sử dụng và bảo quản dụng cụ điện cầm tay

a. **Không sử dụng dụng cụ điện cầm tay trái với công năng. Sử dụng dụng cụ điện cầm tay phù hợp với ứng dụng của bạn.**Dụng cụ điện cầm tay

phù hợp sẽ giúp công việc tốt hơn và an toàn hơn theo đúng tốc độ được thiết kế.

b. **Không sử dụng dụng cụ điện cầm tay nếu công tắc không bật và tắt được.**Những dụng cụ điện cầm tay không thể điều khiển bằng công tắc rất nguy hiểm và cần phải được sửa chữa.

c. **Rút phích cắm của dụng cụ điện cầm tay ra khỏi nguồn điện và/hoặc tháo pin trước khi thực hiện** điều chỉnh, thay phụ kiện, hoặc cất giữ dụng cụ điện cầm tay. Các biện pháp an toàn phòng ngừa này giúp giảm nguy cơ vô tình khởi động dụng cụ điện cầm tay.

d. **Bảo quản các dụng cụ điện cầm tay không sử dụng tránh xa tầm tay trẻ em và không cho phép những người không quen với dụng cụ điện cầm tay hoặc những hướng dẫn này vận hành dụng cụ điện cầm tay.** Dụng cụ điện cầm tay sẽ rất nguy hiểm khi được sử dụng bởi những người chưa được đào tạo.

e. **Bảo trì dụng cụ điện cầm tay. Kiểm tra các bộ phận chuyển động xem có bị lắp lệch hoặc kẹt không, các bộ phận có bị vỡ không và bất kỳ tình trạng nào khác có thể ảnh hưởng đến việc vận hành dụng cụ điện. Nếu dụng cụ điện cầm tay bị hỏng, hãy sửa chữa trước khi sử dụng.** Rất nhiều tai nạn xảy ra do công tác bảo trì dụng cụ điện cầm tay kém.

f. **Đảm bảo các dụng cụ cắt luôn sắc và sạch sẽ.** Các dụng cụ cưa được bảo trì đúng cách với các lưỡi cưa sắc sẽ ít bị kẹt hơn và dễ điều khiển hơn.

g. **Sử dụng dụng cụ điện cầm tay, phụ tùng và các lưỡi dụng cụ theo những hướng dẫn được nêu ở đây, lưu ý đến điều kiện làm việc và công việc cần thực hiện.** Sử dụng dụng cụ điện cầm tay cho những công việc trái với mục đích thiết kế có thể dẫn đến tình huống nguy hiểm.

5. Bảo dưỡng

a. **Hãy mang dụng cụ điện cầm tay đi bảo dưỡng bởi nhân viên bảo dưỡng có chuyên môn, chỉ sử dụng các phụ kiện thay thế chính hãng.** Điều đó giúp đảm bảo độ an toàn của dụng cụ điện cầm tay.

HƯỚNG DẪN AN TOÀN TRONG MỌI HOẠT ĐỘNG CẢNH BÁO AN TOÀN CHUNG KHI MÀI

a. **Dụng cụ điện cầm tay này được thiết kế để hoạt động như máy mài nhẵn. Đọc kỹ mọi cảnh báo an toàn, hướng dẫn, minh họa và thông số kỹ thuật đi kèm theo dụng cụ điện cầm tay này.** Việc không tuân theo các hướng dẫn bên dưới có thể dẫn đến điện giật, cháy và/hoặc chấn thương nghiêm trọng.

b. **Không nên dùng dụng cụ điện cầm tay này để đánh bóng bằng cát, đánh bóng bằng chổi sắt, hoặc cắt rời .** Các thao tác vận hành không được thiết kế cho dụng cụ điện cầm tay này có thể tạo ra nguy hiểm và gây chấn thương cá nhân.

c. **Không sử dụng các phụ kiện không được thiết kế chuyên biệt và không được nhà sản xuất dụng cụ khuyên dùng.** Bởi vì phụ kiện có thể được gắn vào dụng cụ điện cầm tay, nên không đảm bảo nó sẽ vận hành n toàn.

d. **Tốc độ định mức của phụ kiện tối thiểu phải bằng với tốc độ tối đa được ghi trên dụng cụ điện cầm tay.** Các phụ kiện chạy nhanh hơn tốc độ định mức có thể vỡ và văng ra xa.

e. **Đường kính ngoài và độ dày của phụ kiện phải nằm trong định mức công suất của dụng cụ điện cầm tay.** Các phụ kiện có kích cỡ không chính xác không được bảo vệ và kiểm soát thích đáng.

f. **Việc gắn ren các phụ kiện phải khớp với ren trục chính của máy mài. Đối với các phụ kiện gắn bằng mặt bích, lỗ tâm của phụ kiện phải vừa với đường kính định vị của mặt bích.** Các phụ kiện không khớp với vòng gá của dụng cụ điện cầm tay sẽ gây mất cân bằng, rung quá mức và có thể gây mất kiểm soát.

g. **Không sử dụng phụ kiện bị hỏng. Trước khi sử dụng phải kiểm tra phụ kiện như đĩa mài có bị mòn không, có bị nứt không, có mạt không, bạc lót có bị nứt, rách hoặc quá mòn không, đĩa đánh sét có bị lòng hay dây có bị rạn nứt không. Nếu để rơi dụng cụ điện cầm tay, phải kiểm tra xem dụng cụ có bị hỏng không, và lắp lại phần phụ kiện chưa bị hỏng. Sau khi kiểm tra và lắp phụ kiện, bạn và những người quan sát nên đứng tránh xa mặt phẳng quay của phụ kiện và chạy dụng cụ điện cầm tay ở tốc độ không tải tối đa trong một phút.** Các phụ kiện bị hỏng thường vỡ thành từng mảnh trong thời gian chạy thử này.

h. **Mang thiết bị bảo hộ cá nhân. Tùy thuộc vào ứng dụng, sử dụng tấm che mặt, kính bảo hộ hoặc kính an toàn. Nếu thích hợp, hãy đeo khẩu trang tránh bụi bộ phận bảo vệ tai, găng tay và tấm chắn có khả năng chặn được những mảnh phôi mài nhỏ.** Dụng cụ bảo vệ mắt phải có khả năng cản các mảnh vụn văng ra được tạo ra từ nhiều thao tác khác nhau. Mặt nạ chống bụi hoặc khẩu trang phải có khả năng lọc các hạt phát sinh ra từ quá trình vận hành. Phơi nhiễm kéo dài với tiếng ồn cường độ cao có thể dẫn đến mất thính lực.

i. **Giữ những người quan sát ở khoảng cách an toàn, cách xakhu vực làm việc. Bất cứ người nào vào khu vực làm việc phải mang thiết bị bảo vệ cá nhân**. Mảnh vụncủa phôi gia công hoặc phụ kiện vỡ, hỏng có thể bắn ra và gây chấn chương ngay trong khu vực vận hành.

j. **Chỉ cầm dụng cụ điện cầm tay ở phần bề mặt tay cầm cách điện khi thực hiện thao tác mà phụ kiện cắt có thể tiếp xúc với hệ thống dây điện chìm hoặc dây điện của chính công cụ.** Phụ kiện cắt tiếp xúc với dây điện “có điện” có thể truyền điện cho các bộ phận kim loại hở của dụng cụ điện cầm tay “có điện” và khiến nhân viên vận hành bị điện giật.

k. **Để dây điện ở vị trí tránh xa phụ kiện đang quay.** Nếu bạn mất kiểm soát, dây điện có thể bị cắt hoặc bị vướng và cánh tay hoặc bàn tay của bạn có thể bị cuốn vào phụ kiện đang quay.

l. **Tuyệt đối không đặt dụng cụ điện cầm tay xuống cho đến khi phụ kiện đã dừng quay hẳn.** Phụ kiện đang quay có thể găm vào bề mặt và kéo dụng cụ điện cầm tay ra khỏi tầm kiểm soát của bạn.

m. **Không chạy dụng cụ điện cầm tay khi bạn cầm nó sát người.** Vô tình tiếp xúc với phụ kiện đang quay có thể làm quần áo bị vướng vào, kéo phụ kiện vào người.

n. **Thường xuyên lau chùi các lỗ thông khí trong dụng cụ điện cầm tay.** Quạt của động cơ hút bụi bên trong vỏ dụng cụ và tích tụ quá nhiều bột kim loại sẽ có thể gây nguy hiểm về điện.

o. **Không vận hành dụng cụ điện cầm tay gần các vật liệu dễ cháy.** Tia lửa có thể làm các vật liệu này bốc cháy.

p. **Không sử dụng các phụ kiện cần có chất làm mát dạng lỏng.** Sử dụng nước hoặc chất làm mát dạng lỏng khác có thể dẫn đến bị điện giật hoặc sốc điện.

LỰC GIẬT LẠI VÀ CÁC CẢNH BÁO LIÊN QUAN

Lực giật lại là phản lực bất ngờ của đĩa mài, tấm đỡ sau, chổi than hoặc bất kỳ phụ kiện đang quay nào khác bị kẹt hoặc bị vướng. Khi bị vướng hoặc kẹt, phụ kiện đangquay nhanh sẽ bị kẹt và khiến ta không thể kiểm soát được máy bị buộc phải làm việc theo chiều ngược lại với chiều quay của phụ kiện tại điểm kẹt.Ví dụ, nếu đĩa bị vướng hoặc bị kẹt vào phôi gia công, cạnh của đĩa đang vào kiểm kẹt có thể cắm sâu vào bề mặt của vật liệu khiến cho đĩa nảy lên hoặc văng ra. Máy mài có thể bắn vào hoặc bắn ra khỏi người vận hành, tùy thuộc vào phương chuyển động của đĩa tại thời điểm bị kẹt. Đĩa cũng có thể vỡ ra trong điều kiện này. Lực giật là kết quả của việc sử dụng sai dụng cụ điện cầm tay và/hoặc quy trình hoặc điều kiện vận hành không chính xác và có thể tránh được bằng cách thực hiện các biện pháp phòng ngừa thích hợp như được trình bày bên dưới:

a. **Cầm chắc dụng cụ điện cầm tay đồng thời định vị người và tay để bạn có thể cản được lực giật lại. Luôn sử dụng tay cầm phụ, nếu có, để kiểm soát tối đa lực giật lại hoặc phản lực mô men xoắn trong quá trình khởi động.** Người vận hành có thể kiểm soát phản lực mô men xoắn hoặc lực giật lại nếu thực hiện các biện pháp phòng ngừa thích hợp.

b. **Tuyệt đối không để tay gần phụ kiện đang quay.** Phụ kiện có thể đẩy ngược vào tay bạn.

c. **Không đứng trong khu vực mà dụng cụ điện cầm tay có thể sẽ chuyển động tới khi xảy ra hiện tượng đẩy ngược.** Lực giật lại sẽ đẩy dụng cụ theo hướng ngược lại với hướng chuyển động của đĩa mài tại điểm bị phá.

d. **Đặc biệt cẩn thận khi làm việc với các góc, cạnh sắc, v.v... Tránh làm nảy và làm kẹt phụ kiện.** Các góc, cạnh sắc hoặc gờ nối có xu hướng làm kẹt phụ kiện đang quay và gây mất kiểm soát hoặc lực giật lại.

e. **Không gắn lưỡi cưa gỗ dạng xích hoặc lưỡi cưa có răng.** Những lưỡi cưa này thường xuyên tạo ra lực giật lại và gây mất kiểm soát.

CẢNH BÁO AN TOÀN CỤ THỂ TRONG KHI MÀI

a. **Chỉ sử dụng loại đĩa mài được khuyên dùng cho dụng cụ điện cầm tay của bạn và vành chắn riêng được thiết kế cho đĩa mài đã chọn.** Đĩa mài không được thiết kế cho dụng cụ điện cầm tay sẽ không được bảo vệ thích đáng và không an toàn.

b. **Vành chắn phải được gắn chắc chắn vào dụng cụ điện cầm tayvà định vị để đảm bảo an toàn đối đa, sao cho phần đĩa mài ngoài lộ ra ngoài hướng về người vận hành là nhỏ nhất.** Vành chắn giúp bảo vệ người vận hành khỏi mảnh vụn của đĩa mài bị vỡ và tránh vô tình tiếp xúc với đĩa mài.

c. **Chỉ sử dụng đĩa mài cho cácứng dụng được khuyến nghị. Ví dụ: không mài bằng cạnh của đĩa cắt.** Đĩa cắt được sử dụng để cắt cạnh biên; lực bên tác dụng vào những đĩa cắt này có thể làm cho đĩa cắt bị vỡ.

d. **Luôn sử dụng mặt bích đĩa mài còn tốt có kích thước và hình dạng phù hợp với đĩa mài đã chọn.** Mặt bích đĩa phù hợp sẽ đỡ được đĩa, do đó làm giảm nguy cơ vỡ đĩa. Mặt bích cho đĩa mài cắt có thể khác với mặt bích đĩa mài nhẵn.

e. **Không sử dụng đĩa mài đã mòn cho các dụng cụ điện cầm tay lớn hơn.** Đĩa mài được sử dụng cho dụng cụ điện cầm tay lớn hơn không thích hợp với tốc độ cao hơn của dụng cụ nhỏ hơn và có thể bị vỡ.

6. An toàn điện

Dụng cụ của bạn đã được cách điện kép; do vậy không cần dây nối đất. Luôn kiểm tra xem điện áp nguồn có tương ứng với mức điện áp trên nhãn thông số định mức hay không.

Cảnh báo! Nếu dây điện bị hỏng, phải yêu cầu nhà sản xuất, hoặc Trung tâm dịch vụ BLACK+DECKER được ủy quyền hoặc cá nhân có chuyên môn thích hợp theo yêu cầu thay thế dây để tránh bị hỏng hoặc bị thương. Nếu dây nguồn do một cá nhân có chuyên môn thích hợp thay thế, nhưng không được BLACK+DECKER ủy quyền thì bảo hành sẽ không còn hiệu lực.

7. Ký hiệu trên dụng cụ

Nhãn hiệu trên dụng cụ có thể có những ký hiệu sau:


Đọc hướng dẫn sử dụng


Đeo kính bảo hộ


Đeo bộ phận bảo vệ tai

V..... Volt

A..... Ampe

Hz..... Hertz

W..... Watt

tối thiểu ..phút

..... Dòng điện xoay chiều

..... Dòng điện một chiều

n..... Tốc độđịnh mức


..... Kết cấu cấp II


.... Cực nối đất


.... Biểu tượng cảnh báo an toàn

.../phút.. Số vòng quay hoặc tịnh tiếntrên phút

ĐẶC ĐIỂM (HÌNH A)

1. Công tắc trượt
2. Dây điện
3. Vành chắn
4. Thân máy
5. Tay cầm bên cạnh (2 vị trí)
6. Nút khóa trục chính

VẬN HÀNH

Vận hành máy mài góc (Hình A)

Để bật dụng cụ, gạt công tắc trượt về phía **(1).** Để tắt dụng cụ, ấn vào phần sau của công tắc trượt.

Lắp đĩa (Hình B và C)

Thực hiện như sau:

- ► Tháo phích điện ra khỏi nguồn cấp điện.
- ► Đảm bảo vành chắn đã được gắn vào. Gắn vòng đệm trong **(7)** vào trục máy. Đảm bảo nó nằm trên hai mặt phẳng.
- ► Đặt máy mài lên trên trục và mặt bích trong **(8).** Đảm bảo nó nằm đúng vị trí.
- ► Đảm bảo rằng mặt bích ngoài **(9),** quay đúng hướng phù hợp với loại đĩa được sử dụng. Đối với đĩa mài, mặt bích **(9)** được gắn với phần nhô lên cùng với phía đĩa. Đối với đĩa cắt, mặt bích **(9)** được gắn vào phần bên ngược phía với đĩa.
- ► Giữ cờ lê trên các bề mặt phẳng của trục chính để ngăn đĩa quay và siết chặt mặt bích ngoài bằng cờ lê được trang bị.
- ► Nhấn nút khóa hãm trục và quay trục cho tới khi đã khóa **(Hình C).** Nhấn giữ nút khóa siết chặt mặt bích có ren bằng cờ lê được trang bị.

Lắp đĩa mài (Hình D)

- ► Dùng đĩa mài có tấm đệm mài đi cùng máy mài góc.
- ► Tháo phích điện ra khỏi nguồn cấp điện.
- ► Tháo vành chắn.
- ► Gắn mặt bích vào trục máy. Gắn tấm đệm lót vào trục máy và mặt bích trong, đảm bảo nó nằm đúng vị trí.
- ► Gắn đĩa mài sợi trên tấm đệm lót.
- ► Gắn mặt bích ngoài có ren và siết chặt như giải thích ở phần **'Lắp đĩa'.**

Gợi ý cần thiết (Hình E)

Giữ chắc máy mài bằng cách một tay giữ phần tay cầm cạnh và tay kia đặt trên phần thân của máy mài góc.

- ► Luôn đặt vành chắn sao cho phần đĩa lộ ra ít hướng về phía người sử dụng nhất.
- ► Luôn cẩn thận với chùm tia lửa điện khi đĩa chạm vào kim loại.

Khi mài, luôn duy trì một góc chính xác giữa đĩa mài và bề mặt cần mài (15°)**(Hình D).** Điều này làm tăng khả năng di chuyển của đĩa mài và tránh việc quá tải không cần thiết.

Quá tải

Việc quá tải sẽ làm hư hỏng động cơ của máy mài góc. Quá tải xảy ra khi sử dụng máy mài góc với công suất lớn trong một thời gian kéo dài. Trong bất kỳ hoàn cảnh nào, không được sử dụng hết công suất của máy mài nhằm mục đích đẩy nhanh tiến độ công việc. Đĩa mài vận hành hiệu quả hơn khi sử dụng lực nhẹ, do đó tránh sử dụng máy mài với tốc độ quá nhanh.

BẢO TRÌ

Luôn giữ cho vành chắn, lỗ thông khí và vỏ động cơ sạch sẽ nhất có thể. Lau bằng khăn sạch và thổi qua bằng máy nén khí áp lực thấp. Việc tích tụ quá nhiều bụi kim loại có thể gây ra nhiễm điện từ các bộ phận bên trong tới các bộ phận kim loại hở.

Không được để máy mài góc chạy quá tải. Việc chạy quá tải có thể gây giảm tốc độ và tính hiệu quả, làm cho máy mài quá nóng. Nếu máy mài trở nên quá nóng, dừng vận hành máy trong khoảng từ một đến hai phút cho đến khi máy trở lại nhiệt độ vận hành bình thường. Tắt máy khi đang chạy tải sẽ làm giảm đáng kể tuổi thọ công tắc.

⚠ **Lưu ý quan trọng!** Để đảm bảo **ĐỘ AN TOÀN** và **ĐỘ TIN CẬY của sản phẩm,** việc sửa chữa, bảo trì và điều chỉnh (không được liệt kê trong sách hướng dẫn này) thường được thực hiện bởicác trung tâm dịch vụ được ủy quyền hoặc những nhân viên bảo trì có tay nghề cao, luôn sử dụng các bộ phận thay thế chính hãng.

BẢO VỆ MÔI TRƯỜNG

Thu gom riêng. Không được vứt bỏ sản phẩm này với rác thải sinh hoạt thông thường. Nếu bạn thấy sản phẩm BLACK+DECKER của mình cần phải thay thế, hoặc bạn không còn cần sử dụng nữa, đừng thải bỏ cùng với rác thải sinh hoạt. Sản phẩm phải được thu gom có lựa chọn.

Thu gom riêng sản phẩm đã qua sử dụng và đóng gói lại sẽ cho phép tái chế và tái sử dụng vật liệu. Tái sử dụng vật liệu tái sinh giúp ngăn chặn ô nhiễm môi trường và giảm nhu cầu đối với nguyên liệu thô. Luật lệ địa phương có thể quy định việc thu gom riêng các sản phẩm điện gia dụng tại các bãi rác thải đô thị hoặc bởi các nhà bán lẻ khi bạn mua sản phẩm mới.

THÔNG TIN DỊCH VỤ

BLACK+DECKER có một mạng lưới đầy đủ các điểm dịch vụ trực thuộc công ty và được ủy quyền trên khắp châu Á. Tất cả các Trung tâm dịch vụ của BLACK+DECKER đều có đội ngũ nhân viên được đào tạo nhằm cung cấp cho khách hàng các dịch vụ về sản phẩm hiệu quả và đáng tin cậy.

Khi bạn cần lời khuyên về kỹ thuật, sửa chữa hay bộ phận thay thế chính hãng, hãy liên hệ với BLACK+DECKER gần nhất.

LƯU Ý

- Chính sách của BLACK+DECKER là không ngừng cải tiến sản phẩm và do đó, chúng tôi bảo lưu quyền thay đổi thông số kỹ thuật sản phẩm mà không cần thông báo trước.
- Các thiết bị và phụ kiện tiêu chuẩn có thể khác nhau tùy theo quốc gia.
- Thông số kỹ thuật sản phẩm có thể khác nhau tùy theo quốc gia.
- Danh mục sản phẩm hoàn chỉnh có thể không có tại tất cả các quốc gia. Liên hệ với các đại lý của BLACK+DECKER tại địa phương để được cung cấp danh mục sản phẩm.