

# evolution

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# evolution

SDS4 HAMMER DRILL

## Instruction Manual

Read instructions before operating this tool.



G10100



**EC - DECLARATION OF CONFORMITY**

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We, the importer  
 Evolution Power Tools Ltd.  
 Venture One  
 Longacre Close  
 Sheffield  
 S20 3FR

Declare that the product  
 Part numbers: ZIC-SD6A-20  
 Evolution: SDS4  
 SDS 4 Function Hammer Drill

Complies with the essential requirements of the following European Directives:  
 2006/42/EC – Machine Directive  
 2006/95/EC – Low Voltage Directive  
 2004/108/EC – EMC Directive  
 2002/95/EC – Restriction of the use of Certain Hazardous Substances in Electrical and Electric Equipment

Standards and Technical specifications referred to:-

- EN 55014-1:2006**
- EN 55014-2/A1:2001**
- EN 61000-3-2:2006**
- EN 61000-3-3/A2:2005**
- EN 60745-1:2009**
- EN 60745-2-6/A12:2009**

All documentation is held on file at the above address and is available, on request for review.

Authorized Signatory  
 Date: 29/1/2010

Name: Mr Matthew J Gavins  
 Position: Managing Director  
 Year of Manufacture: 2010



**IMPORTANT**

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Please read these operating and safety instructions carefully and completely. For your own safety, before using this equipment check that the voltage is correct and that all handles and parts are firmly secured. If you are uncertain about any aspect of using this equipment, please contact our Technical Helpline.

Technical Helpline UK  
 Technical Helpline USA

0870 609 2297  
 1-866-EVO-TOOL

**SDS HAMMER DRILL**

Congratulations on your purchase of an Evolution Power Tools SDS4 4 Function Hammer Drill. Please complete your product registration on line to validate your machine's warranty period and ensure prompt service if needed. We sincerely thank you for selecting a product from Evolution Power Tools.

**WARRANTY**

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12 MONTH LIMITED WARRANTY. Evolution power tools reserves the right to make improvements and modifications to design without prior notice.

Evolution Power Tools will, within twelve (12) months from the original date of purchase, repair or replace any goods found to be defective in materials or workmanship. This warranty is void if the tool being returned has been used to drill / chisel materials beyond the recommendations in the Instruction Manual or if the drill has been damaged by accident, neglect, or improper service. This warranty does not apply to machines and / or components which have been altered, changed, or modified in any way, or subjected to use beyond recommended capacities and specifications. Electrical components are subject to respective manufacturers' warranties. All goods returned defective shall be returned prepaid freight to Evolution Power Tools. Evolution Power Tools reserves the right to optionally repair or replace it with the same or equivalent item. There is no warranty – written or verbal – for chisel / drill bits. In no event shall Evolution Power Tools be liable for loss or damage resulting directly or indirectly from the use of our merchandise or from any other cause. Evolution Power Tools is not liable for any costs incurred on such goods or consequential damages. No officer, employee or agent of Evolution Power Tools is authorized to make oral representations of fitness or to waive any of the foregoing terms of sale and none shall be binding on Evolution Power Tools. Questions relating to this limited warranty should be directed to the company's head office, or call the appropriate Helpline number.

**IMPORTANT SAFETY INSTRUCTIONS**

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To reduce the risk of electric shock, this equipment is fitted with an approved cord and plug for its intended country of use. Do not change the cord or plug in any way.

**GENERAL SAFETY RULES**

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Read and understand all instructions before operating this product. Failure to follow all instructions listed below, may result in electric shock, fire and / or serious personal injury.

**SAVE THESE INSTRUCTION FOR FUTURE REFERENCE.**  
**WARNING!** When using electric tools basic safety

precautions should always be followed to reduce the risk of fire, electric shock and personal injury including the following.

Read all these instructions before attempting to operate this product and save these instructions.

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

**CAUTION** This is a very powerful machine. When using this drill it is essential that the following rules are followed.

1. When drilling it is common that the drill bit jams in the material being drilled. This will result in the drill trying to rotate around the drill bit and potentially to come out of your grip. This SDS drill has a safety clutch mechanism. This safety clutch mechanism will be activated and stop the drive to the drill, BUT only if you resist the initial forces caused by the jamming, by securely holding the drill with BOTH hands. As this is a powerful machine, these forces are significant.
2. ALWAYS ensure that the front handle is firmly fixed in place and secure.
3. The front and rear handles must be firmly held to resist any movement of the drill when the drill or drill bit becomes jammed.
4. ALWAYS use the drill when standing on a firm and secure platform or on the ground. (DO NOT USE ON LADDERS OR STEPS)
5. NEVER start the drill with the drill bit jammed in position.
6. DO NOT stretch to hold the drill. Do not drill above shoulder height or below knee height, as the drill cannot be securely held.
7. This machine is not suitable for use with TCT core drill bits, diamond core drill bits, and diamond drill bits.

**1) Work Area Safety**

- a) Keep work area clean and well lit. Cluttered or 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 energizing 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 jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry 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 dust collection can reduce dust-related hazards.

**4) Power Tool Use & 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 tool's 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 tool repaired by a qualified person. This electric tool complies with the relevant safety rules. Repairs should only be carried out by qualified persons using original spare parts, otherwise this may result in considerable danger to the user.
- b) When servicing a tool, use only genuine Evolution replacement parts. Follow instructions in the Maintenance section of this manual. Use of unauthorized parts or failure to follow Maintenance Instructions may create a risk of electric shock or injury.

**SPECIFIC SAFETY RULES & SYMBOLS**

**WARNING!**

Do not operate machine if warning and / or instruction labels are missing or damaged. Contact Evolution Power Tools for replacement labels.

Symbole	Description
V	Volts
A	Amperes
Hz	Hertz
Min -1	Revolutions, strokes, surface speed, orbits etc. per minute
~	Alternating Current
no	No Load Speed
	Double Insulated
	Wear Safety Goggles
	Wear Ear Protection

To obtain an additional copy of your manual, please contact Evolution Power Tools at :

UK 0870 609 2297  
 USA 1-866-EVO-TOOL  
 WEB www.evolutionpowertools.com

**ADDITIONAL SPECIFIC SAFETY RULES**

Do not let familiarity with this product (gained from repeated use) replace strict adherence to hammer drill safety rules. If you use this tool incorrectly you could suffer serious personal injury.

1. Hold tools by the insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord. Contact with a 'live' wire will make exposed metal parts of the tool 'live' and shock the operator.
2. Always be sure you have a firm footing. Be sure no one is below you when using the tool in high locations.
3. Hold the tool firmly with both hands. Always use the side grip.
4. Keep hands away from rotating parts.
5. Do not leave the tool running. Operate the tool only when hand-held.
6. Do not touch the bit or the workpiece immediately after operation; they may be extremely hot and could burn your skin.
7. Some materials contain chemicals which may be toxic. Take caution to prevent dust inhalation and skin contact. Follow material supplier safety data.

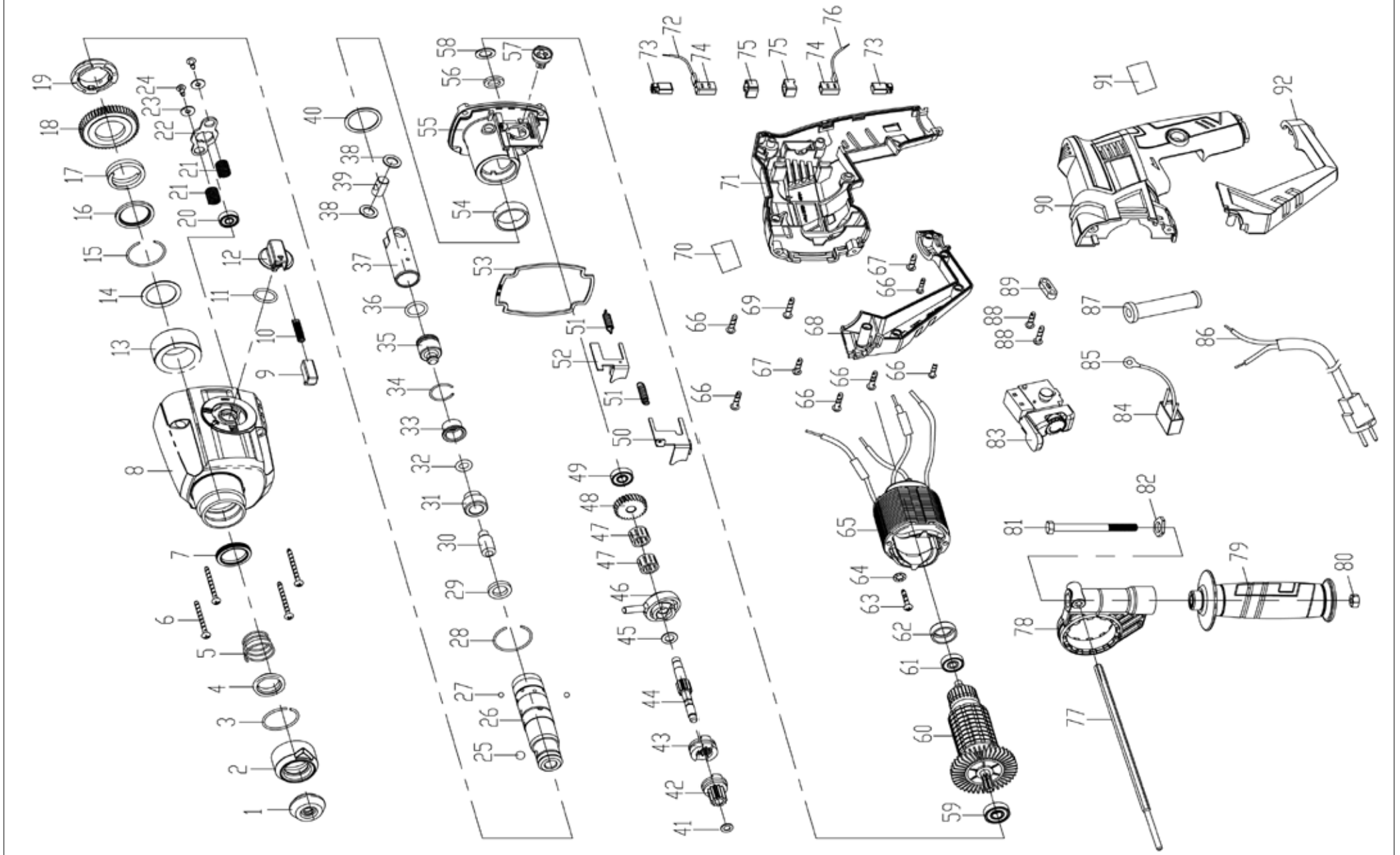
**Caution!**

Always unplug drill from the mains supply before changing the drill bit, servicing, cleaning or adjusting the drill.

**SPECIFICATIONS**

**Evolution SDS4**  
 Motor (110v/230v - 50Hz/60Hz): 650W  
 Impact Energy: 1.6J  
 Speed Range: 0-1100 min -1  
 Machine Weight: 2.8 kg  
 Product Dimensions (HxWxD): 210mm x 320mm x 85mm  
 Recommended Maximum Duty Cycle: 30 mins  
 Max. Drill Diameter (Steel): 13mm  
 Max. Drill Diameter (Concrete): 20mm  
 Max. Drill Diameter (Wood): 30mm  
 Sound Pressure Level (Under Load): Lpa = 88.6dB (A)  
 Lwa = 99.6dB (A)  
 K = 3dB (A)  
 Vibration: ah 14.015 m/s<sup>2</sup>  
 K 1.5 m/s<sup>2</sup>  
 Packaging  
 Gross Weight : 4.9kg

PARTS DIAGRAM



Packaging Weight: 0.3kg  
 Packaging Dimensions (HxWxL): 310mm x 125mm x 380mm

**ASSEMBLY**

Your Evolution Power Tools saw is shipped complete. Remove all contents from the box and inspect to ensure no damage was incurred during shipping, and that the items listed below are included.

Description	Qty
Instruction Manual	1
Side Handle	1
Depth Gauge	1
SDS Drills	3
SDS Chisels	2
Carry Case	1

**GETTING STARTED**

**CAUTION! ALWAYS DISCONNECT THE DRILL FROM POWER SOURCE BEFORE MAKING ADJUSTMENTS.**

Refer to the "Service Parts List Drawing".

**FUNCTIONAL DESCRIPTION** GB

**CAUTION**

Always be sure that the tool is switched off and unplugged before adjusting or checking a function on the tool.

**Switch action (FIG1)**

**CAUTION**

- Before plugging in the tool, always check to see that the switch trigger actuates properly and returns to the 'OFF' position when released.
- The switch can be locked in the 'ON' position for ease of operator comfort during extended use. Apply caution when locking the tool in the 'ON' position and maintain a firm grip on the tool.

To start the tool, simply pull the switch trigger. Tool speed is increased by increasing pressure on the switch trigger. Release the switch trigger to stop the drill.

For continuous operation, pull the switch trigger and then push in the lock button.

To stop the tool from the locked position, pull the switch trigger fully, then release it.

A speed control screw is provided so that the maximum tool speed can be limited (variable). Turn the speed control screw clockwise for higher speed, and counterclockwise for lower speed.

**Reversing switch action**

This drill has a reversing switch to change the direction of rotation. Move the reversing switch lever to the required position (clockwise or counterclockwise rotation) as indicated by the arrows on the drill body.

**CAUTION**

- Always check the direction of rotation before operation.
- Use the reversing switch only after the tool comes to a complete stop. Changing the direction of rotation before the tool stops may damage the tool.

**Selecting the action mode (FIG2)**

This tool has a 4 position action mode selecting switch. Push in the locking button on the switch lever and rotate the switch to the desired position. Release the locking button and ensure that the button has locked the switch in the required position.

The 4 positions are:

- Drill • Hammer Drill • Chisel (unlocked) • Chisel (locked)

**Installing the side handle (FIG3)**

**CAUTION**

Always be sure that the tool is switched off and unplugged before carrying out any work on the tool.

Always use the side grip handle to ensure operating safety. Install the side grip handle onto the drill collar and secure in place by tightening the handle. Note that the handle may be swung through 360°. Ensure that the side handle is pushed fully home against the drill body before tightening.

**Depth Gauge**

The depth gauge is convenient for drilling holes of uniform depth. To install, loosen the side grip handle and insert the depth gauge into the hexagonal hole. Adjust to suit and tighten the side grip handle to lock both the handle and depth gauge into the desired position.

**Installing or removing a drill bit or chisel (FIG4)**

**CAUTION**

Always be sure that the tool is switched off and unplugged before carrying out any work on the tool.

Carefully insert the SDS chisel or bit into the SDS chuck. Gently pull the bit into the chuck whilst rotating the bit slowly. Pull back on the chuck collar and continue pulling the bit gently until positive location is felt and the bit slides fully home into the chuck.

Only remove the bit when operations have finished and the bit has completely cooled down.

To remove the bit, slide the chuck collar rearward and carefully pull the bit out of the chuck

**OPERATION**

**Standard Drilling Operation**

Ensure that the action mode selecting switch is set on the standard drill mode.

**CAUTION**

- Using excessive force on the tool will not speed up the drilling. Excessive pressure will only serve to damage the tip

of your bit, decrease the tool performance and shorten the service life of the tool.

- There is force exerted on the tool / bit at the time of hole break-through. Hold the tool firmly and take care when the bit begins to break through the workpiece.
- Always secure small workpieces in a vice or other hold down device.

**Drilling Wood**

When drilling wood the best results will be obtained by using dedicated wood bits equipped with a guide screw. The guide screw makes drilling easier by pulling the bit into the workpiece.

**Drilling Metal**

To prevent the bit from slipping when starting a hole, make an indentation with a centre-punch and hammer at the point to be drilled. Place the point of the bit into the indentation and begin drilling.

Use an appropriate lubricant for the material being drilled with the exception of iron and brass which should be drilled dry.

**Hammer Drilling Operation**

Select the hammer drill function on the mode selection switch.

**CAUTION**

There is a sudden twisting force exerted on the tool / bit at the time of hole break-through, when the hole becomes clogged with chips and particles, or when striking reinforcing rods embedded in concrete. Always use the side grip handle and firmly hold the tool by both the side handle and the switch handle during hammer drilling operations. Failure to do so could result in loss of control of the tool and potential injury to the operator.

Be sure to use a dedicated tungsten-carbide tipped drill bit. Position the bit at the desired location for the hole, then pull the switch trigger. Do not force the tool. Consistent light pressure gives the best results. Keep the tool in position and prevent it from slipping away from the hole.

Do not apply extra pressure if the hole becomes clogged with chips or particles. Instead allow the tool to run at idle and then partially remove the bit from the hole. By repeating this several times the hole will be cleaned out and normal drilling may be resumed.

**Chiselling Operations**

Set the mode selection switch to the preferred operator position, either chisel (locked) or chisel (unlocked).

**CAUTION**

When using the tool for chiselling operations it is very important that the operator wears all the appropriate safety

equipment. Safety glasses and dust masks are essential and other apparel such as gloves, safety shoes, ear protectors etc should be worn as necessary.

Ensure that all marking out is completed before any chiselling is attempted. Insert the required chisel into the SDS chuck and ensure positive location. Offer the chisel up to the worksurface and holding the tool firmly with both hands begin the chiselling operation. Switch on the tool and begin to cut.

Do not force the tool. Gentle consistent pressure works best. Do not try to remove too much material in one pass. Several repeat passes may be needed to achieve the required results.

**MAINTENANCE**

**Maintenance & Troubleshooting**

Keep tool, cord, and carry case clean and free from chips. Avoid using cleaning products, which include benzene, trichloroethylene, chloride, or ammonia as these can damage plastic parts. In case of electrical or mechanical malfunction, immediately switch off the tool and disconnect the plug. Excessive sparking may indicate the presence of dirt in the motor or worn out carbon brushes. Check for wear and replace when they reach 6mm (1/4"). For all other service take machine to your local dealer, or to Evolution Power Tools USA, Iowa, if bought in the USA.

**Lubrication**

Your machine gearbox is lubricated at the factory. To check and / or add lubricant, it is necessary to dismantle the tool. This operation should always be handled by the nearest SERVICE CENTER or Evolution Power Tools USA, Iowa, if in the USA. All repairs and servicing made by these centres are fully guaranteed against defective materials and workmanship.

**Notice:**

Fair wear and tear and damage caused by misuse is not covered under the 12-Month guarantee.

**ENVIRONMENTAL PROTECTION** GB

Recycle unwanted materials instead of disposing of them as waste. All tools, hoses and packaging should be sorted, taken to the local recycling centre and disposed of in an environmentally safe way.

**Accessories – Genuine Evolution Supplied**

HTA 155	SDS to Chuck Adaptor
HTA 153	13mm Chuck and Key

