

Clarke®

CONTRACTOR®



850W RECIPROCATING SAW

MODEL NO: CON850

PART NO: 6459010

OPERATION & MAINTENANCE INSTRUCTIONS



ORIGINAL INSTRUCTIONS

GC0620 - ISS 5

INTRODUCTION

Thank you for purchasing this CLARKE Reciprocating Saw.

Before attempting to use this product, please read this manual thoroughly and follow the instructions carefully. In doing so you will ensure the safety of yourself and that of others around you, and you can look forward to your purchase giving you long and satisfactory service.

GUARANTEE

This product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt which will be required as proof of purchase.

This guarantee is invalid if the product is found to have been abused or tampered with in any way, or not used for the purpose for which it was intended.

Faulty goods should be returned to their place of purchase, no product can be returned to us without prior permission.

This guarantee does not effect your statutory rights.

ENVIRONMENTAL PROTECTION



Through purchase of this product, the customer is taking on the obligation to deal with the WEEE in accordance with the WEEE regulations in relation to the treatment, recycling & recovery and environmentally sound disposal of the WEEE.

In effect, this means that this product must not be disposed of with general household waste. It must be disposed of according to the laws governing Waste Electrical and Electronic Equipment (WEEE) at a recognised disposal facility

GENERAL SAFETY RULES

WORK AREA

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

ELECTRICAL SAFETY

1. **Power tools must match the power outlet. Never modify the plug in any way. Do not use adaptor plugs with earthed (grounded) power tools.** Correct plugs and outlets will reduce the risk of electric shock.
2. **Do not expose power tools to rain or wet conditions.** Any water entering power tools will increase the risk of electric shock.
3. **Do not abuse the electrical cable. Never use the cord for pulling or unplugging the power tool. Keep the cable away from sources of heat, oil, sharp edges or moving parts.** Damaged or tangled cables increase the risk of electric shock.
4. **Use outdoor extension leads.** If working outdoors, always use an approved cable extension suitable for the power rating of this tool (see specifications), the conductor size should also be at least the same size as that on the machine, or larger. When using a cable reel, always unwind the cable completely. We strongly recommend that this machine is connected to the mains supply via a Residual Current Device (RCD).

PERSONAL SAFETY

1. Stay alert, watch what you are doing and use common sense when you are operating a power tool. Do not operate a power tool when you are tired, ill or under the influence of alcohol, drugs or medication.
2. **Wear personal protective equipment including eye protection.** Safety equipment such as a dust mask, non-skid shoes or hearing protection used for appropriate conditions will reduce personal injuries. Use a face or dust mask if operation is particularly dusty. Wear ear protectors/defenders as the noise level of this machine can exceed 85dB (A).

3. **Do not over-reach.** Keep your proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
4. Concentrate on the job in hand, no matter how trivial it may seem. Be aware that accidents are caused by carelessness due to familiarity.
5. **Dress properly.** Do not wear loose clothing or jewelry which may get caught in moving parts. Wear protective hair covering to contain long hair. For best footing, wear rubber soled footwear. Keep floor clear of oil, scrap wood, etc.
6. **Avoid accidental starting of the machine.** Ensure the switch is in the off position and the locking button disengaged before plugging the machine in to the power supply. Carrying power tools around with your finger on the trigger or plugging in power tools that are switched on invites accidents.
7. Switch the machine OFF immediately after the task is completed.

POWER TOOL USE AND CARE

1. **Do not force the machine.** Use the correct power tool for your application. It will do a better and safer job at the rate for which it was designed.
2. **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.
3. **Disconnect the power tool from the power supply before making any adjustments, changing accessories, or storing the tool.** These measures will reduce the risk of the power tool starting accidentally.
4. **Store power tools out of the reach of children and do not allow persons unfamiliar with these instructions to operate the power tool.** Power tools are potentially dangerous in the hands of untrained users.
5. **Maintain power tools in top condition.** Keep tools/ machines clean for the best and safest performance. Check for misalignment or binding of moving parts, broken parts, or any 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.
6. **Use recommended accessories.** The use of improper accessories could be hazardous.
7. **Machine cleanliness.** Do not allow the ventilation slots in the machine to become blocked with dust.
8. **Check the power tool for damage before using the machine.** Any damaged part should be inspected to ensure that it will operate properly and perform its intended function. Check for alignment of moving parts, breakage of parts, mountings, and any other condition that may affect the machine's operation. Any damage should be properly repaired or the part replaced. If in doubt, **DO NOT** use the machine. Consult your local dealer.

SERVICE

1. **When necessary, have your power tools serviced or repaired by a qualified person using identical replacement parts.** This will ensure that the safety of the power tool is maintained.

RECIPROCATING SAW SAFETY INSTRUCTIONS

1. **Only use the saw as described in these instructions.**

CHANGING BLADES

1. **Unplug the saw before changing blades,** and take care to prevent entrapment of the fingers between the blade and the shoe. Ensure the blade is secure before use.
2. **Use the appropriate saw blade for the material being cut.** Different blades are available from your Clarke dealer.
3. **Only use saw blades in perfect working condition.** Discard and replace any cracked or bent saw blades.

WHEN SAWING

1. **Use of the mains cable.** Keep the mains cable well away from the saw blade and ensure an adequate electrical supply is close at hand so that the operation is not restricted by the length of the cable.
2. **Working on the bench.** Allow sufficient clearance beneath the work to ensure the blade does not come into contact with the floor, bench etc.
3. **Switching off.** Never place the saw on a table or bench if it has not completely stopped. The saw blade will continue to reciprocate for a short time after the trigger has been released to stop the saw.
4. **Cutting of pipes.** Do not cut hollow pipe and do not cut material above the specified thickness.
5. **Cutting into walls.** Do not cut through walls or cavities before checking for hidden electrical wires or water pipes etc.
6. **Finishing cutting.** Do not remove tool from work until the blade has completely stopped and allow time for it to cool before touching the blade immediately after use.
7. **Use clamps & vices wherever possible.** Use clamps and vices to secure the workpiece.

8. **Cutting sheet materials.** Do not cut work less than at least twice the pitch of the saw blade. i.e. at least two teeth must be in contact with the work at all times.
9. **Beware of foreign objects.** When cutting pre-used wood, ensure all nails have been removed beforehand. Nails will damage the wood saw blade.
10. **Cooling agents.** When cutting metals, always use a cooling agent i.e. cutting/soluble oil.
11. Do not attempt to saw very small objects including those which cannot be properly secured. Always hold the saw with both hands.

Please keep these instructions in a safe place for future reference.

ELECTRICAL CONNECTION



WARNING: READ THESE ELECTRICAL SAFETY INSTRUCTIONS THOROUGHLY BEFORE CONNECTING THE PRODUCT TO THE MAINS SUPPLY.

Before switching the product on, make sure that the voltage of your electricity supply is the same as that indicated on the rating plate. This product is designed to operate on 230VAC 50Hz. Do not connect it to any other power source.

This product may be fitted with a non-rewireable plug. If it is necessary to change the fuse in the plug, the fuse cover must be refitted. If the fuse cover becomes lost or damaged, the plug must not be used until a suitable replacement is obtained.

If the plug has to be changed because it is not suitable for your socket, or due to damage, it should be cut off and a replacement fitted, following the wiring instructions shown below. The old plug must be disposed of safely, as insertion into a mains socket could cause an electrical hazard.



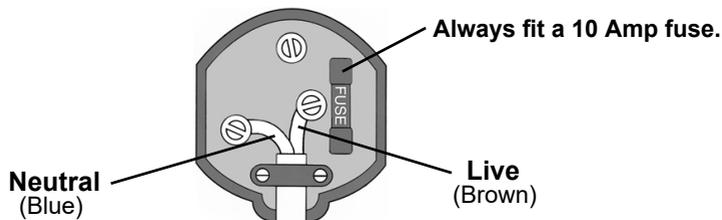
WARNING: The wires in the power cable of this product are coloured in accordance with the following code:

Warning: Blue = Neutral Brown = Live

If the colours of the wires in the power cable of this product do not correspond with the terminal markings of your plug, proceed as follows.

- The wire which is coloured Blue must be connected to the terminal which is marked N or coloured Black.
- The wire which is coloured Brown must be connected to the terminal which is marked L or coloured Red. **L**.

Plug must be BS1363/A approved.



Ensure that the outer sheath of the cable is firmly held by the clamp

We strongly recommend that this machine is connected to the mains supply via a Residual Current Device (RCD) If in any doubt, consult a qualified electrician. **DO NOT** attempt any repairs yourself.



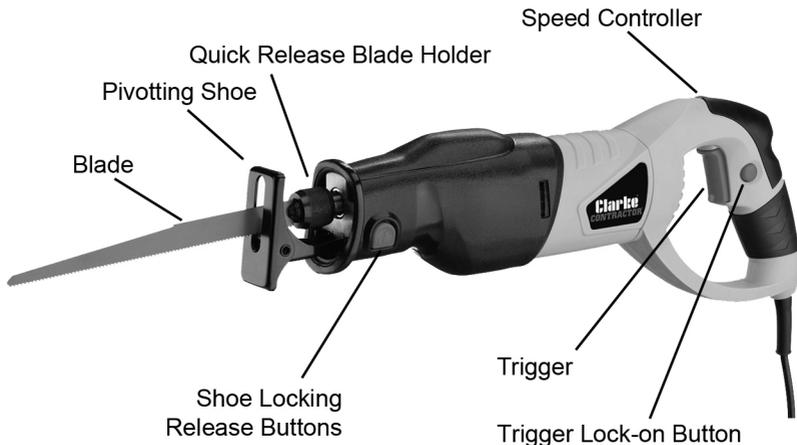
This symbol indicates that this is a Class II product, and does not require an earth connection.

OVERVIEW

The CLARKE CON850 is a variable-speed reciprocating saw fitted with a lock-on button for continuous operation. The saw is equipped with a quick-release blade retention system for convenient replacement of saw blades.

When unpacking, check for damage or shortages etc. Any found should be reported to your CLARKE dealer where the appliance was originally purchased. This CON850 Reciprocating Saw is supplied with the following components:

- 1 x Reciprocating Saw
- 3 x Saw Blades (L=130mm) for cutting wood (other blade lengths available)
- 3 x Saw Blades (L=80mm) for cutting metal (other blade lengths available)
- 1 x Storage Case
- 1 x Instruction Manual (this document)



BEFORE USE



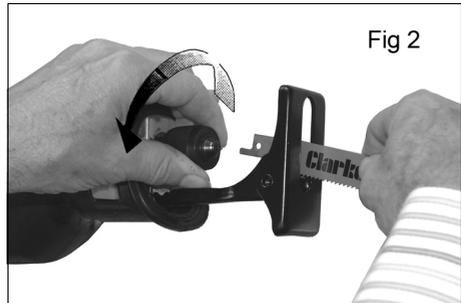
CAUTION: USE ONLY RECIPROCATING SAW BLADES WITH THE CORRECT FITTING AS SHOWN IN FIG 1. ALWAYS ENSURE THE SAW IS DISCONNECTED FROM THE POWER SUPPLY BEFORE INSTALLING/ REMOVING THE BLADE.

INSTALLING/CHANGING BLADES

1. Hold the reciprocating saw as shown in fig 2.
2. Twist the blade holder and insert or remove the blade while keeping the bladeholder open.
 - Never use cracked, blunt or otherwise damaged blades.



3. Release the blade holder when the blade is in position. The blade will now be locked in place.
4. Pull the blade to check that it is secure. If it will not pull out, it is correctly fitted.

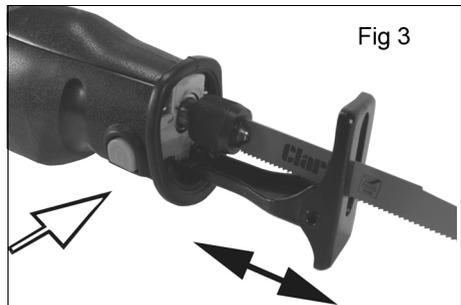


ADJUSTING THE SHOE

Always ensure the saw is disconnected from the power supply before making adjustments.

To adjust the shoe, unlock by pressing the locking button on the left side of the saw. Adjust the shoe to the desired position and then push the locking button on the right hand side back in to secure the shoe in position.

- Note that the shoe can slide fully in and out of the saw body.



OPERATION

IMPORTANT: DO NOT plug in to the mains, unless you have ensured the saw is switched OFF. To do this, squeeze the trigger fully, then release it.

PRIOR TO CUTTING

1. Ensure that the workpiece is securely held in place and that the cut line is clearly marked.
2. Ensure the blade is not striking anything below the workpiece and that the power cable is well away from the moving blade before starting the saw.
 - Let the blade work naturally. If cutting out an aperture, it will be necessary to drill a suitably sized hole in the workpiece for use as a starting point.
 - The blade should emerge from the work at every point of the cut.
3. Check that any previously used timber being sawn does not contain any nails or other metal objects which would damage the blade.

STARTING & STOPPING

1. To start the saw, squeeze the trigger.
2. Maintain the saw at a constant speed by pressing in the lock button.
 - You can then release your finger pressure on the trigger.
3. To stop the saw if the lock button is used, squeeze the trigger fully in, then release it and the motor will stop. Always switch off before unplugging.

USING THE SAW



CAUTION: ALWAYS KEEP YOUR HANDS AND FINGERS AWAY FROM THE SHOE LOCKING BUTTON WHEN USING YOUR SAW. DEPRESSING THE LOCK BUTTON DURING USE MAY RESULT IN THE SHOE BECOMING UNLOCKED AND MOVING DURING USE.

1. Place the shoe against the workpiece and squeeze the trigger to run the saw before letting the blade touch the cut line on the work. To make your cut, move the saw slowly forward along the cutting line.
2. Take care not to allow the saw to bounce on the workpiece. Ensure the shoe remains in contact with the workpiece.

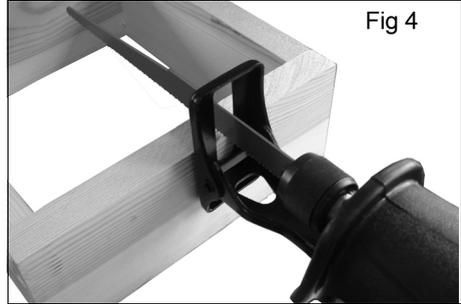


Fig 4

3. **Always hold the saw with both hands on the body and handle.**
4. Take extra care when cutting curves - move slowly to avoid stress on the blade.
5. Avoid putting unnecessary pressure on the blade and avoid applying lateral pressure. Let the blade work naturally.
6. Never try to start the tool if the blade becomes jammed in the workpiece.
7. If the blade becomes blunt in one section of its cutting edge, reposition the shoe to utilise a sharper, unused portion of the blade. Fig 3 shows the adjustable shoe which can be positioned close to the blade holder and then extended to optimise the use of the blades & extend their useful life.

CUTTING DIFFERENT MATERIALS

Adjust the speed controller to suit the material being cut using the following suggested settings as a starting point. However, the optimum speed will be determined with practice.

- Plastic 1 - 3
- Steel 2 - 4
- Hardboard 3 - 4
- Ceramics, aluminium 3 - 6 (max)
- Wood 4 - 6 (max)



Fig 5

CUTTING WOOD

PLUNGE CUTTING IN WOOD

- Rest the saw shoe on the workpiece in such a position that the blade forms an appropriate angle for the plunge cut.
- Switch the tool on and slowly feed in the blade. Make sure that the saw shoe remains in contact with the workpiece at all times.

POCKET CUTS IN WOOD

- Measure and mark out the pocket cut. Using a narrow blade, rest the bottom of the shoe on the workpiece ensuring the blade is on the cutting line. If necessary, e.g. in confined spaces, use the outer edge of the saw shoe as your guideline.

CUTTING METAL

1. Choose the correct blade for cutting metal. Support the workpiece with wooden blocks on either side.
2. Apply a thin film of lubricant along the cutting line to prevent the tool from overheating.

CUTTING PLASTICS

- Always work at reduced speed and carry out a test cut to see if the material is sensitive to heat.

MAINTENANCE

CLEANING

1. To ensure constant air circulation, always keep air vents clear of blockages, (use compressed air to clean the machine if possible).
2. After use, clean all dust and wood chippings from the reciprocating saw.
 - Clean all of the ventilation slots on the motor housing.
3. The blade holder should be kept clean and occasionally be lightly oiled.
4. Keep the handle clean and free from oil and grease.
5. Resin and glue on the blade causes poor cutting results. Clean the blade after use if necessary.

GENERAL MAINTENANCE

1. Check the power cable to ensure it is sound and free from cracks, bare wires etc. Avoid using solvents when cleaning plastic parts, most plastics are susceptible to damage from the various types of commercial solvents.
2. Ensure all nuts, bolts and screws remain tight at all times.
 - All bearings etc, in this power tool are lubricated with a sufficient amount of high grade lubricant for the tools lifetime under normal operating conditions, therefore no further lubrication is required.
 - Only use the replacement blades specified for this product (consult your CLARKE dealer).
 - Refer to your CLARKE dealer if internal maintenance is required.

FAULT FINDING

Problem	Possible Cause	Remedy
Tool will not operate.	No power supply.	Check supply and correct.
	Switch is faulty.	Consult your Clarke dealer
	Fuse blown.	Check and replace
	Motor is faulty	Consult your Clarke dealer
Motor becomes hot.	Unduly heavy use	Reduce the force applied to the tool. Let the tool do the work.
	Air vents have become blocked.	Clean out the air vents using compressed air or clean with a dry cloth
	Low supply voltage.	Ensure supply voltage is correct. If an extension cable is used, ensure it is of the correct rating & fully unwound.
Motor runs but blade does not move.	Blade fastening not tight.	Secure blade.
	Drive gear broken	Return to your Clarke dealer.
Internal sparking	Faulty motor	Return to your Clarke dealer.
Excessive vibration	Blade not mounted correctly	Check and correct.
	Machine bearings worn	Return to your Clarke dealer.

SPECIFICATIONS

MODEL CON850

Weight	3.28 kg
Dimensions (L x W x H)	300 x 65 x 200 mm
Voltage	230 V AC @ 50Hz
Fuse rating	10 Amp
Motor power	850 Watts
Speed Control Type	Variable
No-load speed	1300-3000 Strokes Per Min
Stroke Length	24 mm
Max Cutting capacity	Wood:210, Mild Steel:10 Aluminium:20mm
Maximum Blade Length	Wood 130 mm, Metal 80 mm
Sound Pressure Level (LPA)	88 dB(A)
Sound Power Level (LWA)	99 dB(A)
Sound Uncertainty Value (K)	3 dB(A)
Vibration	14 m/s ²
Vibration Uncertainty Value (K)	1.5 m/s ²

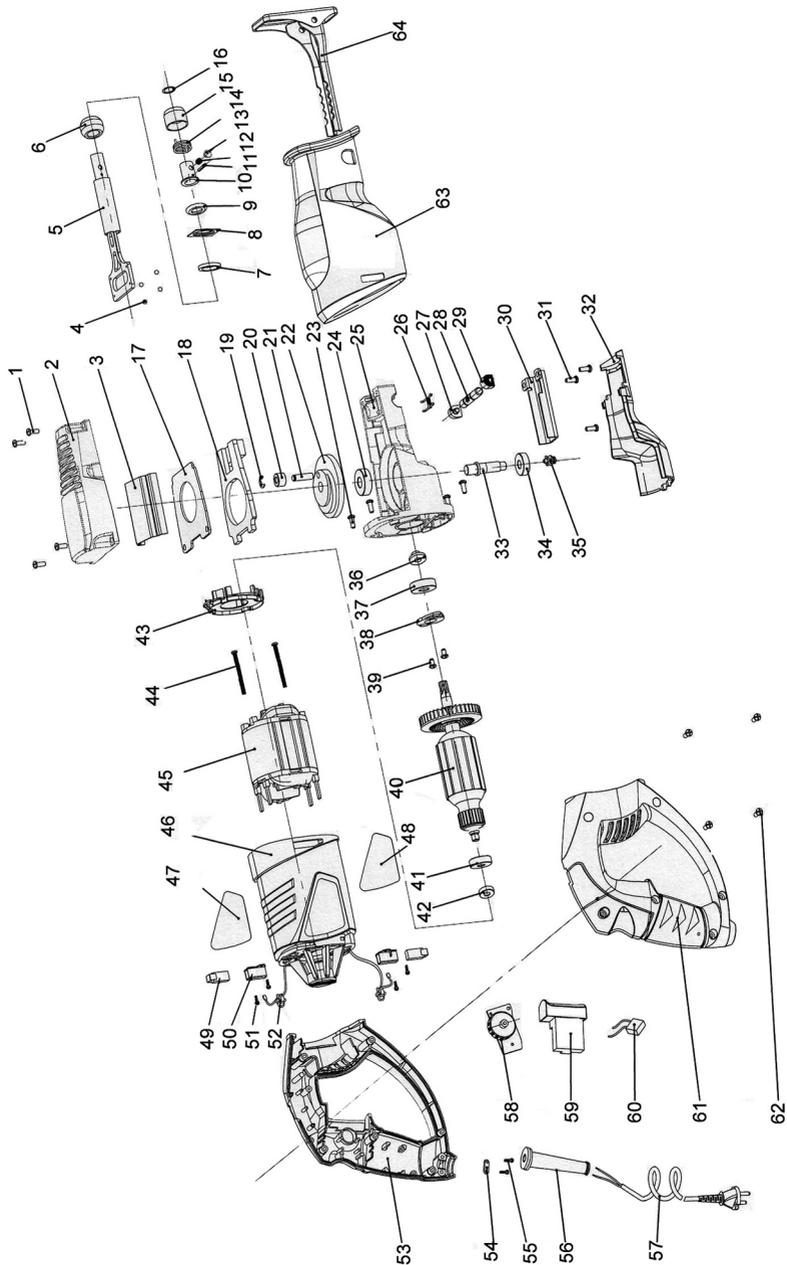
Please note that the details and specifications contained herein, are correct at the time of going to print. However, CLARKE International reserve the right to change specifications at any time without prior notice.

CONSUMABLE SPARES

Replacement blades are available from your CLARKE dealer. Please quote the following part numbers

Logs/rough wood:	Part No:6462027
Prepared timber	Part No:6462028
Metal:	Part No:6462029

PARTS DIAGRAM



PARTS LIST

PART NO	DESCRIPTION	PART NO	DESCRIPTION
1	Screw	33	Gear Spindle
2	Gearbox Cover	34	Ball Bearing 608
3	Alignment Plate	35	Screw M5 x 14
4	Steel Ball	36	Dust Seal
5	Reciprocating Shaft	37	Ball Bearing 6000
6	Ball Bearing	38	Compression Disc
7	Sealing Ring	39	Screw M4 x 8
8	Washer	40	Rotor
9	O-ring	41	Ball Bearing 607
10	Inner Collet	42	Bearing Sleeve
11	Roll Pin (3 x 16)	43	End Plate
12	Spring	44	Screw st 4.2 x 65
13	Pin	45	Motor Stator
14	Spring	46	Housing
15	Outer Collet	47	Label (L/H)
16	O-Ring	48	Label (R/H)
17	Gear Plate	49	Brush
18	Balance Block	50	Brush Holder
19	Circlip	51	Screw
20	Needle Bearing K061208	52	Inductor
21	Pin	53	Handle (LH)
22	Gear	54	Cable Clamp
23	Screw	55	Screw
24	Ball Bearing 6000	56	Cable Guard
25	Gear Housing	57	Power Cable & Plug
26	Spring	58	Speed Controller
27	Left Button	59	Trigger
28	Pin	60	Capacitor 0.22mF
29	Right Button	61	Handle (R/H)
30	Retaining Plate	62	Screw st 4.2 x 16
31	Screw M5 x 10	63	Rubber Sleeve
32	Plastic Protector	64	Support Shoe

VIBRATION EMISSIONS

HAND-ARM VIBRATION

Employers are advised to refer to the HSE publication "Guide for Employers".

All hand held power tools vibrate to some extent, and this vibration is transmitted to the operator via the handle, or hand used to steady the tool. Vibration from about 2 to 1500 hertz is potentially damaging and is most hazardous in the range from about 5 to 20 hertz.

Operators who are regularly exposed to vibration may suffer from Hand Arm Vibration Syndrome (HAVS), which includes 'dead hand', 'dead finger', and 'white finger'. These are painful conditions and are widespread in industries where vibrating tools are used.

The health risk depends upon the vibration level and the length of time of exposure to it.....in effect, a daily vibration dose.

Tools are tested using specialised equipment, to approximate the vibration level generated under normal, acceptable operating conditions for the tool in question. For example, a grinder used at 45° on mild steel plate, or a sander on softwood in a horizontal plane etc.

These tests produce a value 'a', expressed in metres per second per second, which represents the average vibration level of all tests taken, in three axes where necessary, and a second figure 'K', which represents the uncertainty factor, i.e. a value in excess of 'a', to which the tool could vibrate under normal conditions. These values appear in the specification panel below.

MODEL No: CON850
DESCRIPTION: RECIPROCATING SAW

Declared vibration emission value in accordance with EN12096

Measured vibration emission value - a : 14 m/s²

Uncertainty value - K : 1.5 m/s²

Values determined according to EN28622-1

You will note that a third value is given in the specification - the highest measured reading in a single plane. This is the maximum level of vibration measured during testing in one of the axes, and this should also be taken into account when making a risk assessment.

'a' values in excess of 2.5 m/s² are considered hazardous when used for prolonged periods. A tool with a vibration value of 2.8 m/s² may be used for up to 8 hours (cumulative) per day, whereas a tool with a value of 11.2 m/s² may be used for ½ hour per day only.

The graph below shows the vibration value against the maximum time the respective tool may be used, per day.



The uncertainty factor should also be taken into account when assessing a risk. The two figures 'a' and 'K' may be added together and the resultant value used to assess the risk.

It should be noted that if a tool is used under abnormal, or unusual conditions, then the vibration level could possibly increase significantly. Users must always take this into account and make their own risk assessment, using the graph above as a reference.

Some tools with a high vibration value, such as impact wrenches, are generally used for a few seconds at a time, therefore the cumulative time may only be in the order of a few minutes per day. Nevertheless, the cumulative effect, particularly when added to that of other hand held power tools that may be used, must always be taken into account when the total daily dose rate is determined.

DECLARATION OF CONFORMITY



Clarke[®]
INTERNATIONAL

Hemnall Street, Epping, Essex CM16 4LG

DECLARATION OF CONFORMITY

This is an important document and should be retained.

We hereby declare that this product(s) complies with the following directive(s):

2014/30/EU *Electromagnetic Compatibility Directive.*

2006/42/EC *Machinery Directive.*

2011/65/EU *Restriction of Hazardous Substances, (amended by 2015/863).*

The following standards have been applied to the product(s):

EN 62841-1:2015+AC:15, EN 62841-2-11:2016, EN 61000-3-2:2014, EN 61000-3-3:2013,

EN 55014-1:2017, EN 55014-2:2015.

The technical documentation required to demonstrate that the product(s) meet(s) the requirement(s) of the aforementioned directive(s) has been compiled and is available for inspection by the relevant enforcement authorities.

The CE mark was first applied in: 2008

Product Description: Reciprocating Saw (850W)

Model number(s): CON850

Serial / batch Number: N/A

Date of Issue: 17/06/2020

Signed:

J.A. Clarke
Director

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