E.C. HOPKINS LTD

PG03UW PEANUT GRINDER

OPERATORS MANUAL
AND
PARTS LIST

E.C. HOPKINS LTD
UNIT 82, KETTLES WOOD DRIVE, WOODGATE BUSINESS PARK,
WOODGATE VALLEY, BIRMINGHAM B32 3DB
TEL No. +44 (0)121 506 6095 FAX No. +44 (0)121 421 8286
www.echopkins.co.uk www.underwatertools.co.uk
enquiries@echopkins-bham.co.uk

Version 4 (200819)

Contents

Specification

SPEED MAX.	9450rpm @ 40lpm EHTMA Category ‘E’
	7100rpm @ 30lpm EHTMA Category ‘D’
	4750rpm @ 20lpm EHTMA Category ‘C’
CHUCK / ARBOR	6mm Collet / 1” A/F Nut
ROTATION	CCW (viewed from chuck end)
FLOW RANGE	20 ~ 40lpm (5 ~ 11 US gpm)
MAXIMUM FLOW	40lpm (11 US gpm)
HYDRAULIC OIL	ISO 32 Mineral Oil
OIL IN HANDLE	15W/40
PRESSURE RELIEF	155 Bar (2250 psi) MAX
SYSTEM TYPE	Open Centre (OC)
PORTS	-8 SAE O-ring
HOSE WHIPS	1m Long
CONNECTION	1/2” BSP Flat Face Couplers
LENGTH (less guard)	318mm
LENGTH (with guard)	330mm
WIDTH	60mm
HEIGHT	84mm
DIAMETER (Nose)	50mm
DIAMETER (guard)	90mm
WEIGHT	2.5Kgs (without hoses)
VIBRATION LEVEL	1.37m/s^2
NOISE	TBC

Intended Use

The PG03UW Peanut Grinder is a portable handheld lightweight tool designed to be operated with both hands.

It is intended for deburring, grinding, cutting and cleaning of metal materials.

This Grinder should only be operated by competent, trained operators

WARNING

SERIOUS INJURY OR DEATH COULD RESULT FROM THE IMPROPER REPAIR OR SERVICE OF THIS TOOL

IF IN DOUBT ASK

TECHNICAL HELPLINE +44 (0)121 506 6095

e-mail:- enquiries@echopkins-bham.co.uk

General Safety

The risk of serious injury or even death to yourself or others is a reality when tools and machinery are not operated or maintained correctly.

All operators of this Peanut Grinder must read this manual and fully familiarise themselves with its operation before use.

Ensure the hydraulic power source is compatible for use with this Peanut Grinder (e.g. flow and pressure).

Ensure any accessory being fitted to this tool is compatible and is within the maximum speed.

Only persons who have attended a recognised Abrasive Wheel Course (or equivalent) and holds a valid certificate should fit abrasive wheels.

DO NOT use non-reinforced cutting wheels with this Peanut Grinder.

DO NOT modify or fit non-approved parts without the manufacturer's written consent. Any warranty will become void and could result in injury or even death.

DO NOT reverse the oil flow through the grinder as this will make the chuck rotate in the wrong direction.

NEVER operate this tool when under the influence of drugs, alcohol, on medication, tired or feeling unwell as your judgement becomes impaired and could lead to serious injury or death, not just to yourself but others around you.

YOU HAVE A DUTY NOT JUST TO PROTECT YOURSELF BUT ALSO A DUTY OF CARE TO OTHERS

Safety Precautions

- PPE (Personal Protective Equipment). Always wear approved fire retardant protective garments covering arms and legs if appropriate, protective helmet, suitable eye protection, ear defenders, suitable respiratory mask (in dusty conditions), safety boots, protective gloves.
- Do not operate this tool with loose clothing and tie back long hair. As any loose items becoming entangled may cause serious injury.
- Small jets of pressurized hydraulic oil can penetrate the skin. Never check for leaks using your hands. Should oil penetrate the skin or be inadvertently swallowed seek medical advice immediately. Do not induce vomiting.
- Hydraulic oil along with other lubricants and greases can cause eczema. Should oils etc. come into contact with bare skin, wash off immediately with warm soapy water.
- Inspect the abrasive wheel for damage, cracks, excessive or uneven wear. Discard any wheel that has any defects or has been dropped.
- Do not forcibly fit an abrasive wheel as this will pre-stress the wheel and may lead to premature failure.

Safety Precautions (continued)

- Disconnect from the power source when changing the wheel or working on the grinder. When a new wheel has been fitted run the Grinder for about 15 seconds to ensure the wheel runs true and there is no abnormal vibration.
- Never operate the tool without the wheel guard.
- Before commencing grinding carry out a risk assessment and any procedures put in place are followed.
- Ensure any persons cannot wander in front or to the sides of the operator whilst grinding. To avoid the risk of injury to others cordon off the area.
- Make sure the working floor area is clean so as to avoid any slipping or tripping hazards.
- This Grinder will produce sparks. Remove all flammable liquids and combustible materials from the vicinity.
- Do not use in an explosive environment.
- Hold the Angle Grinder firmly with both hands at all times whilst operating.
- Do not overreach, ensure you keep your balance and sure footing at all times.
- Make sure that the work piece is secured and cannot move whilst grinding or cutting.
- Ensure the wheel guard is positioned correctly (with the closed side towards the operator) and keep all parts of the body away from the rotating wheel.
- Do not start the grinder with the wheel in contact with a surface. Always introduce the free spinning wheel to the work piece to be ground or cut.
- Do not use a cutting wheel to grind with. Side loading the thin wheel will cause the wheel to shatter which may result in injury or death.
- When cutting do not twist or force the wheel to cut, this will cause the wheel to shatter. Guide the wheel in a straight line applying gentle pressure and let the cutting wheel do the work.
- Never walk around with the Grinder running.
- Be sure to check the area for buried utility cables or pipes. Do not operate where you cannot be sure of their presence. It could result in serious injury or death.
- Do not use toothed wood cutting wheels. This type of wheel will increase the risk of kickback which could result in serious injury.
- Do not use worn down wheels from larger tools. They will not be compatible with this Grinder.
- Do not use reducing bushes to enable the fitting of wheels with a larger hub size.
- Replace illegible, damaged or missing safety labels. Keep this manual clean and readily available so it can be referred to by all operators.

KICKBACK WARNING

Be aware of 'Kickback' during operation. This happens when a grinding or cutting wheel is misaligned, binds or is pinched in the work piece. The Grinder reacts violently lifting out of the work piece back towards the operator and could result in serious injury especially if the wheel shatters.

Kickback occurs due to operator error, and injury can be avoided by taking proper precautions and following the procedures listed.

- Grip the Grinder firmly by the side handle and around the trigger / handle. Always use both hands when operating be prepared for the unexpected when using.
- Position your body away from the line of any kickback should it occur.
- When using a cutting wheel always cut in a straight line. Do not twist the wheel or try to cut round corners, this puts a side load on the wheel and it will either jam or shatter causing 'kickback'.
- Do not force the wheel to cut. Only apply light pressure and let the wheel do the work.
- Do not start the Grinder with the wheel in contact with the work piece. Introduce a free spinning wheel slowly to the work piece.

Complacency can be a killer. The attitude of 'I've been using an angle grinder for years I know what I'm doing it's never happened to me' could be your undoing. Stay alert, Stay alive.

Maintenance

Before use:-

1. Check hose whips for damage or exposed wire braid and replace as necessary.
2. Check tightness of all fasteners.
3. Check the trigger safety catch and trigger moves freely.
4. Remove filler plug (32) and make sure the handle housing has the correct amount of lubricating oil (15W/40).

After use:-

1. Ensure any faults with grinder are reported.
2. Wash the grinder off with clean water and work a light oil to the moving parts e.g. valve spool, trigger, safety catch and collet.
3. Store away in a clean dry environment.

Running the peanut grinder

Connect the peanut grinder to a suitable hydraulic power source. Run the grinder for 15 seconds and check for leaks. Should it require a longer test, submerge the front end of the grinder in a bucket of water so as not to overheat the rotary seal.

Operation

1. Make sure that the hydraulic power pack does not exceed a maximum output flow of 40 Litres per Minute and that the maximum system pressure is set no more than 155 Bar (2250 psi).
2. Ensure the hydraulic circuit is of the open centre (OC) type.
3. Wipe the flat face couplings with a clean cloth.
4. Connect the return hose first to the power pack and then the pressure hose. When disconnecting, uncouple the pressure hose first and the return hose last so as to minimize any pressure being trapped in the grinder. If the couplings will not connect due to pressure within the grinder, slowly loosen off one of the couplings allowing some oil to leak out. Re-tighten the coupling and connect to the power pack.
5. Start the power pack and move the ‘ON/OFF’ lever to the ‘ON’ position.
6. Operate the trigger and ensure the chuck rotation is correct (CCW if viewed from the chuck end) and there are no leaks. Do not run the peanut grinder out of water for more than 15 seconds as it will overheat and potentially damage the rotary seal.
7. Do not start the grinder with the cutting tool in contact with the work surface.

Disassembly

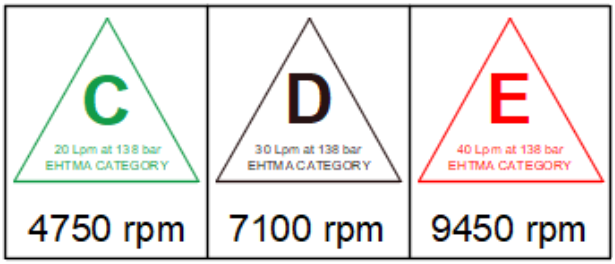
1. Remove the tool chuck nut (1) and collet (2). Using an impact wrench and 1" socket, undo the tool chuck (3). Should the chuck not come undone, it can be removed later using service tool N00084.
2. Remove the hose whips and allow them to drain into a suitable container.
3. Remove the filler plug (32) and drain the oil from the handle housing (4).
4. Undo the cap screw (13) and remove the trigger assembly (9).
5. The valve spool (16) needs to be drawn out of the body from the trigger side. Using a 5mm hexagon key push the button head screw (19) to compress the valve spring so the valve spool extends beyond the valve body. Clamp the valve spool with a pair of grips and undo screw (19) Remove the valve spring washer (20) and valve spring (21) and withdraw the valve spool out through the trigger side of the valve block.
6. Remove the eight button head screws (31) and the peanut grinder will separate into three sections: valve block (18), gear housing (23) & handle c/w handle housing (4 & 27).
7. Remove the two gears (15 & 24). Clamp the handle housing (27) in a vice and unscrew the handle (4) using 1" A/F Spanner.
8. Remove circlip (12) and take out the seal housing (10). Split the two halves of the housing to remove the shaft seal (11).
9. If the tool chuck did not undo as mentioned in para (1), clamp the service tool N00084 in a vice and locate the tang on the slot in the end of the drive shaft (33). The tool chuck can now be undone.
10. Slide out the drive shaft (33) from the handle.
11. To remove bearings (14 & 34) it is best to warm up the housings first then tap them out using a suitable drift. Fit new bearings whilst the housings are still warm.
12. Remove all seals and discard.

Assembly

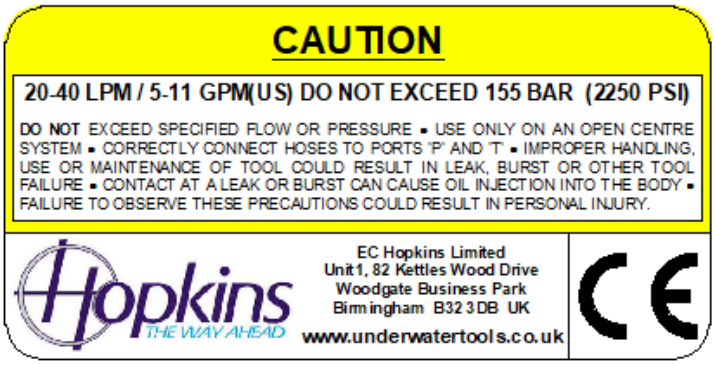
1. Assembly is the reverse procedure of the above.
2. With new bearings fitted, replace all the seals.
3. When fitting a new rotary seal (35) be careful not to mark the mirrored face of the stationary half when pushing it in. Smear some silicon grease inside the housing in front of the bearing where the seal sits and on the O-ring. Place the seal in position inside the housing with the mirrored finish uppermost. Utilizing the piece of protecting card in with the rotary seal, place it on top of the seal and using a piece of nylon bar or an equivalent material push down until the stationary seal sits against the bearing.
4. When doing up the eight button head screws (31), Tighten them in an opposite sequence in stages making sure the shaft still rotates freely.
5. Fit new O-rings (39) onto the tail hoses. The tail hose with the female coupling (knurled sleeve) connects to the 'P' port and the hose with the male coupling connects to the 'T' port.
6. Lie the assembled grinder on its side with the filler plug (32) uppermost and pour in 20ml of 15W/40 oil. Re-fit the filler plug.
7. Finally run the peanut grinder and check for any oil leaks. Remember DO NOT run out of water for longer than 15 seconds.

Remember, a badly maintained or repaired tool could lead to serious injury.

Tool Stickers and Labels

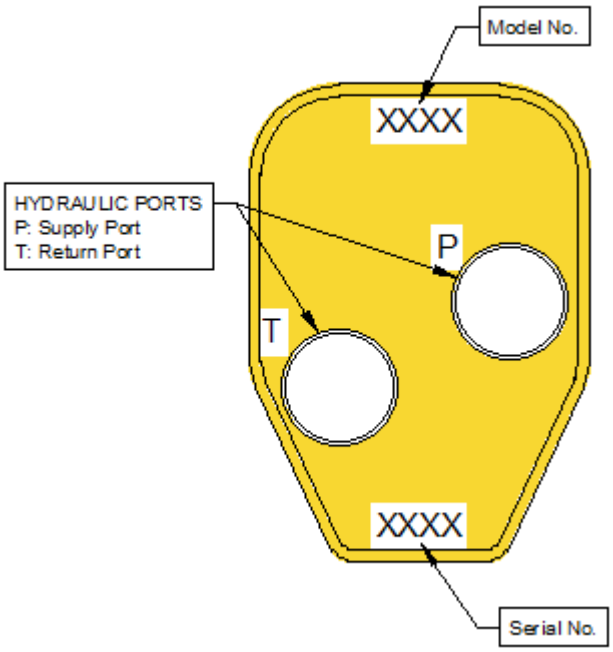


N00004 EHTMA Category

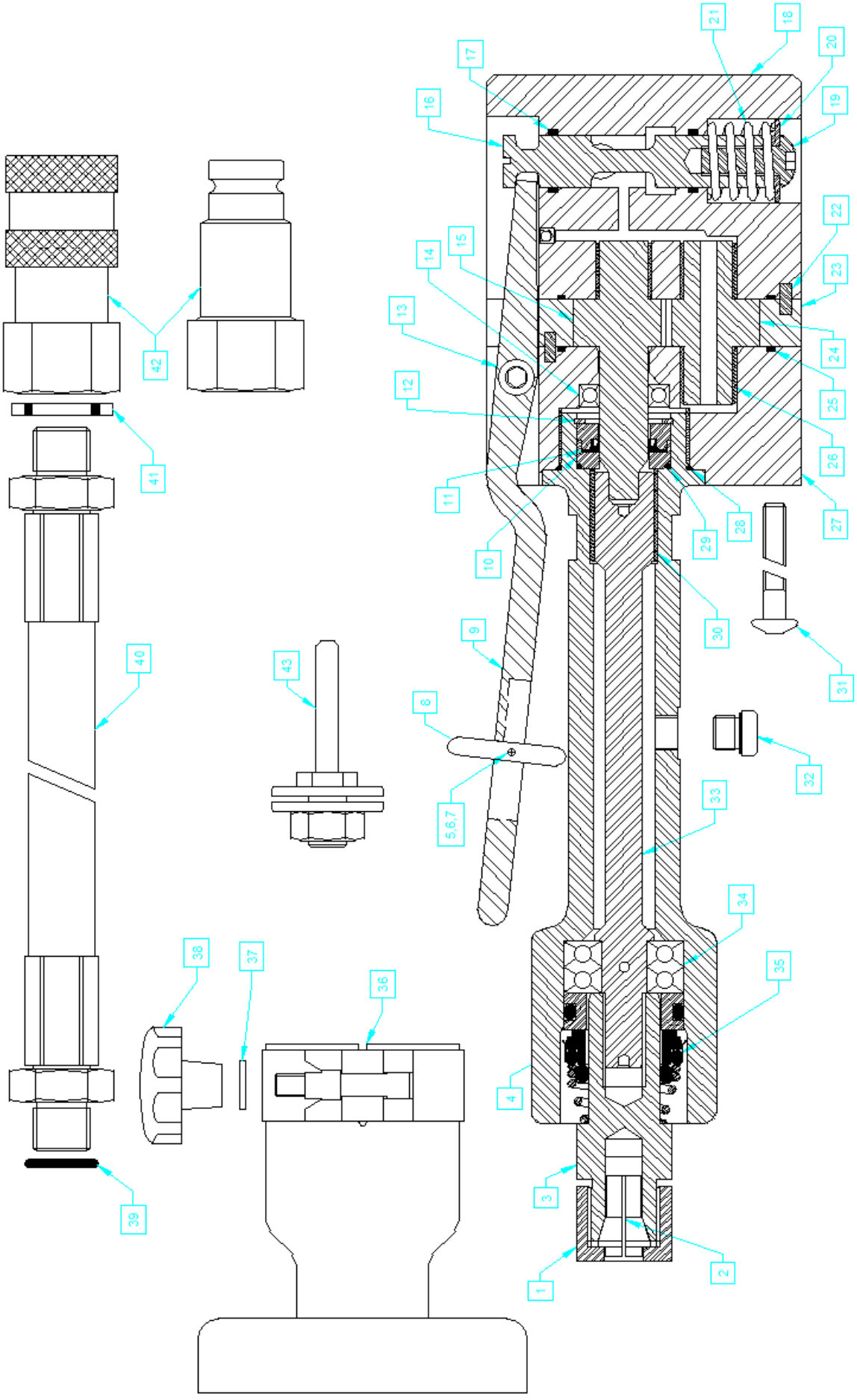


N00005 Caution

N00006 Safety



PG03UW Parts Illustration



PG03UW Parts List

Item No.	Description	Part No.	Qty	Remarks
1	Tool Chuck Nut	N00020	1	
2	Collet 6mm	N00022	1	Standard
	Collet 1/4”	N00099	1	Optional
3	Tool Chuck Holder	N00019	1	7/16-20 UNF Torque to 15Nm
4	Handle Assy	N00026	1	Inc. 30
5	Roll Pin	N00002	1	
6	Spacer	N00001	1	
7	Spring	N00008	1	
8	Safety Catch	N00010	1	
9	Trigger	N00037	1	
10	Seal Housing	N00038	1	
11	Shaft Seal	N00047	1	part of seal kit
12	Circlip Internal	N00003	1	
13	Cap Screw	N00011	1	M5 Torque to 3Nm
14	Drive Gear Bearing	N00015	1	
15	Drive Gear	N00016	1	
16	Valve Spool	N00030	1	
17	Quad Ring	N00052	2	part of seal kit
18	Valve Block Assy	N00035	1	Inc. 16,17,19,20,21,22,26
19	Button Head Screw	N00013	1	M8 Torque to 5Nm
20	Valve Spring Washer	N00021	1	
21	Valve Spring	N00007	1	
22	Dowel Pin	N00009	4	
23	Gear Housing	N00039	1	
24	Idler Gear	N00017	1	
25	O-Ring	N00051	2	part of seal kit
26	Bushing	N00028	3	
27	Handle Housing Assy	N00029	1	Inc. 26,22
28	O-Ring	N00049	1	part of seal kit
29	O-Ring	N00050	1	part of seal kit
30	Bushing - Drive Shaft	N00025	1	
31	Button Head Screw	N00012	8	M6 Torque to 5Nm
32	Oil Filler Plug	N00018	1	
33	Drive Shaft	N00036	1	
34	Bearing	N00014	1	
35	Rotary Seal	N00023	1	part of seal kit
36	Guard Assy	N00046	1	Inc. 37,38
37	Washer	N00045	1	
38	Guard Clamp Knob	N00044	1	
39	O-Ring	N00048	2	part of seal kit
40	Hose Whip Set 1m	HW1M8R17S8B8	1	
41	Bonded Seal	RB00-08	2	part of seal kit
42	FF Hyd Coupler Set 1/2 BSP	FIRG12BSP	1	
43	Fixing Spindle Kit 6mm x M10	N00085	1	
	Seal Kit	N00078	1	Inc. 11,17,25,28,29,35,39,41
	Service Tool	N00084	1	

Troubleshooting

Below are various types of faults that may be encountered. Should a fault persist please call our technical helpline +44 (0)121 506 6095 for assistance.

Problem	Probable Cause	Remedy
Grinder runs slow	Incorrect hydraulic flow Excessive back pressure Hydraulic oil viscosity too thick	Flow test power pack Check return line for restrictions Raise oil temperature Change oil to a thinner viscosity
Grinder gets hot	Incorrect hydraulic flow Oil Cooler not working Oil Cooler matrix blocked Hydraulic Pump is worn	Flow test power pack Check cooler electrics Clean with compressed air Replace pump
Leaking oil around tool chuck	Rotary seal worn	Fit new seal
Grinder runs in reverse	Pressure and return hoses on the wrong way	Check system for correct flow path and rectify
Oil leaking from valve spool	Seals worn	Remove valve spool and replace seals
Grinder not working	Power pack not switched on Coupling blocked Mechanical failure	Switch power pack on Check couplings and remove blockage Disassemble grinder and check for damage

Warranty

This product is guaranteed (subject to normal wear and tear) against defective parts and faulty workmanship for a period of 12 months from date of purchase.

It does not cover:-

Parts already covered by original equipment manufacturers own warranties already in place

Failure of parts due to lack of maintenance and services

Any failure due to non-genuine parts fitted

Rubber products

Product subjected to misuse/abuse or being neglected in any way

Being modified in any way without prior consent of E.C. Hopkins Ltd

In case of disagreement between parties as to whether it is warranty or not, the failed part will be returned to the supplier for inspection at the customers cost. The findings by that supplier as to why the part failed will be binding.

With an ongoing design and development program E.C. Hopkins Ltd reserve the right to alter the design or specification of any product without prior notice.

Declaration of Conformity

I M.J. Newman

Of Newcat Plant Services Ltd Unit 1, Beta Block, Orchard Trading Estate, Toddington, Cheltenham, Glos. GL54 5EB

Declare that:

Equipment	*HYDRAULIC PEANUT GRINDER*
Model	*PG03UW*
Serial Numbers	*All*

In accordance with the following directives:

2006/42/EC Machinery Directive.

Has been designed and manufactured to the following specifications:

BS EN ISO 12100:2010	Safety of Machinery: Basic Concepts, General Principles for design
BS EN ISO 4413:2010	Safety Requirements for Fluid Power Systems Hydraulics

I hereby declare that the equipment named above has been tested and found to comply with the relevant sections of the above referenced specifications. The unit complies with all essential requirements of the Directives. The technical document is kept by: M.J. Newman, Newcat Plant Services Ltd, Unit 1, Beta Block, Orchard Trading Estate, Toddington, Cheltenham, Gloucestershire GL54 5EB

Signed: 

Name: M. J. Newman

Position: Design & Technical Director Date: 27th April 2017

PG03UW Accessories

· **Description** · **Part Number** · **Size** · **Shank Size**	**Cylinder with end cut (Double / Diamond Cut)** GT1702D-1 12mm Head Diameter x 25mm Length 6mm	
· **Description** · **Part Number** · **Size** · **Shank Size**	**Cone (Double / Diamond Cut)** GT2700D-1 12mm Head Diameter x 22mm Length 6mm	
· **Description** · **Part Number** · **Size** · **Shank Size**	**Ball Nosed Cylinder (Double / Diamond Cut)** GT3700D-1 12mm Head Diameter x 25mm Length 6mm	
· **Description** · **Part Number** · **Size** · **Shank Size**	**Ball (Double / Diamond Cut)** GT7700D 12mm Head Diameter x 10.8mm Length 6mm	
· **Description** · **Part Number** · **Size** · **Shank Size**	**Ball Nosed Tree (Double / Diamond Cut)** GT9700D 12mm Head Diameter x 25mm Length 6mm	
· **Description** · **Part Number** · **Size** · **Shank Size**	**Ball Nosed Cone (Double / Diamond Cut)** GT4700D 12mm Head Diameter x 30mm Length 6mm	

PG03UW Accessories

· **Description** · **Contents** · **Part Number**	**Burr Set (5 Piece) 12mm Head Diameter** 5 x 12mm Diameter Burrs: Cylinder (with end cut), Ball nosed cylinder, Cone, Ball, Ball nosed tree. GGB KIT 3
· **Description** · **Contents** · **Part Number**	**Burr Set (10 Piece) 10 & 12mm Head Diameter** 4 x 10mm Diameter Burrs: Cylinder (with end cut), Ball nosed cylinder, Oval, Tree 6 x 12mm Diameter Burrs: Cylinder (with end cut), Ball nosed Cone, Ball, Tree, Ball nosed tree. GGB KIT 1-P
· **Description** · **Application** · **Materials** · **Part Number** · **Size**	**Abrasive Cutting Disc** Cutting disc with high cutting performance Steel, Stainless Steel, Castings 329101 76mm Diameter x 1.6mm Thick x 10mm Bore size
· **Description** · **Application** · **Materials** · **Part Number** · **Size**	**All-Cut Diamond Disc** Diamond Grit Cutting disc with high cutting performance Steel, Stainless Steel, Castings, Concrete, Stone, Rubber, Composite AC075-10 75mm Diameter x 2.0mm Thick x 10mm Bore size
· **Description** · **Part Number** · **Size**	**Fixing Spindle for Abrasive & Diamond Wheels** N00085 10mm centre mounting hole for cutting discs 6mm Spigot

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