

# 11. Tools

Hand tools. Cutters & broaches. Winders and bushing outfits. Cleaning machines. Safety equipment. Pliers and tweezers. Wheel & pinion cutters.

## DRAPER MICROMETERS

Price per unit in £ on 15/08/2017



**DIGITAL EXTERNAL MICROMETER** 0-25mm / 0-1" dual reading. Metric / imperial conversion. 0.001mm / 0.00005" graduations. Enamel frame and heat plates. Supplied with battery compartment key, ball end cap, SR44 type battery and protective storage case.

**1320 000115** 1+ **£108.90**

## PRECISION DIGITAL VERNIER CALIPERS - CM145 FROM CLARKE

Price per unit in £ on 15/08/2017



**DIGITAL VERNIER CALIPERS 150mm / 6"** Precision engineered, stainless steel digital vernier gauge. Large easy to read screen. Micro adjusting thumb wheel, easy one button switch between imperial/metric measurement type. Supplied in carry case. Suitable for measuring internal and external dimensions, depths and steps.

**1617 000115** 1+ **£31.90**

## VERNIER GAUGE

Price per unit in £ on 15/08/2017



**NYLON VERNIER GAUGE** An accurate vernier with easy-to-read dial measurement. Swiss made, in durable nylon. Accurate to 1/10th mm.

**0419 000115** 1+ **N/A**



**STAINLESS STEEL VERNIER** Reading to 0.001" and 1/50mm. Fine adjustment reading. Range 6" x 150mm.

**0419 000215** 1+ **£47.35**

## ENGINEERS SQUARE

Price per unit in £ on 15/08/2017



**ENGINEERS SQUARE** 4" square with solid steel stock.

**0921 000115** 1+ **£18.90**

## MOVEMENT CLAMPS

Price per unit in £ on 15/08/2017



**MOVEMENT CLAMPS** Set of three robust clamps to support a movement while being assembled. Suitable for plates up to 5mm thick. 75mm free space beneath the plate for motion work and shafts. Solid brass and steel construction. Plastic feet. We do not recommend using this type of clamp with a wall hanger.

**0416 000315** 1+ **£14.85**

**MOVEMENT CLAMPS** Simple but effective clamps that ease the dismantling and assembly of mechanical clocks. To hold clock movement plates level with the bench but allowing the arbors and hand shaft to protrude, fit the three clamps to the edges of the lower plate. Always put some thick card or similar onto both sides of the jaws avoid scratching the plate. We do not recommend using these clamps or any other screwed camp as a wall hanger. Clock movements should be supported from beneath or screwed to a board when tested outside the case.

2+ **£13.36**

## AUTOMATIC CENTRE PUNCH

Price per unit in £ on 15/08/2017



**AUTOMATIC CENTRE PUNCH** Delivers a sharp blow to the required point when pressed down. Spring pressure is adjustable for different materials.

**0446 000115** 1+ **£10.68**

## CIRCULAR GLASS CUTTER

Price per unit in £ on 15/08/2017





**CIRCULAR GLASS CUTTER** Cuts circles from 1 1/2" to 10" diameter. Spare cutting wheels in handle.

**0418 000115** 1+ **£20.82**

# 11. Tools


## POCKET SCRIBER, STEEL TIP

Price per unit in £ on 15/08/2017

	<b>POCKET SCRIBER, STEEL TIP</b> For marking watches and clocks after repairs and general scribing. <b>0689 000115</b>	1+	<b>£6.95</b>
	<b>POCKET SCRIBER, DIAMOND TIP</b> For marking watches and clocks after repairs and general scribing. <b>0689 000215</b>	1+	<b>£6.95</b>


## CENTRE FIXING NUT KEY

Price per unit in £ on 15/08/2017

	<b>CENTRE FIXING NUT KEY</b> Adjustable key for centre fixing nuts on modern clocks. Suitable for slots. <b>0435 000115</b>	1+	<b>£5.44</b>
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## 400 DAY SUSPENSION ASSEMBLY JIG

Price per unit in £ on 15/08/2017

	<b>ANNIVERSARY CLOCK SUSPENSION JIG</b> A jig for assembling 400 day clock units. Spring clips hold the component parts of a unit such as the top and bottom blocks in position to facilitate assembly of these delicate items. <b>1302 000115</b>	1+	<b>£24.85</b>
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## 400 DAY BEAT SET TOOL

Price per unit in £ on 15/08/2017

	<b>400 DAY BEAT SET TOOL</b> For final adjustments to the beat without loosening the retainer. Highly recommended <b>0595 040015</b>	1+	<b>£16.96</b>
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## PINVICE

Price per unit in £ on 15/08/2017

	<b>PINVICE</b> Double ended pintongs with reversible chucks. Capacity 0 - 2.35mm <b>0372 000115</b>	1+	<b>£8.33</b>
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## JEWELLERS TINSNIPS

Price per unit in £ on 15/08/2017

	<b>JEWELLERS TINSNIPS</b> Hardened and ground straight blades with lacquered handles. 180mm long. <b>0767 018015</b>	1+	<b>£18.85</b>
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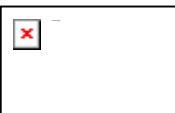
## LATHE BELTING

For driving lathes and small motor drives. Joined by heating with a hot knife.

Price per unit in £ on 15/08/2017

	<b>LATHE BELTING 2mm</b> Sold by the metre. <b>0613 001215</b>	1+	<b>£4.10</b>
	<b>LATHE BELTING 3mm</b> Sold by the metre. <b>0613 001315</b>	1+	<b>£5.70</b>
	<b>LATHE BELTING 4mm</b> Sold by the metre. <b>0613 001415</b>	1+	<b>£5.97</b>
	<b>LATHE BELTING 5mm</b> Sold by the metre. <b>0613 001515</b>	1+	<b>£6.25</b>
	<b>LATHE BELTING 6mm</b> Sold by the metre. <b>0613 001615</b>	1+	<b>£7.30</b>

## CLOCK DIAL CUTTER

1 	2 	3 		<p><b>Call Harvey</b> for <b>Postage free</b> <b>delivery*</b> * Conditions apply</p>	<p>Call <b>HARVEY</b> on <b>0800 328 9435</b></p>	<p><b>M &amp; P</b> Key Suppliers to Clockmakers</p>
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Price per unit in £ on 15/08/2017

<b>1 CLOCK DIAL CUTTER</b> An ingenious tool for cutting circles in card from 1/8" - 24" diameter. Cutter complete <b>0386 000115</b>	1+	<b>£20.80</b>
<b>2 CLOCK DIAL CUTTER BLADES</b> Pack of spare blades <b>0386 000215</b>	1+	<b>£5.55</b>
<b>3 COMPASS CUTTER</b> For cutting card dials 10-150mm in diameter. <b>0386 000315</b>	1+	<b>£7.55</b>





# 11. Tools

## RING CUTTER

Price per unit in £ on 15/08/2017

	<b>RING CUTTER</b> For safely cutting rings from fingers. For emergency use, or when the finger has outgrown the ring. Cuts a neat line that can be easily repaired.	<b>1199 000115</b>	1+	<b>£24.16</b>
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## NEEDLE FILES



1 	2 	3 		<b>Buy Online @ www.m-p.co.uk</b>	<b>Call Harvey 24 Hours</b>	<b>Call Harvey our Automated Sales line</b>
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Price per unit in £ on 15/08/2017

<b>1 SET OF 6 NEEDLE FILES</b> In plastic wallet. High quality needle files, 14cm long, cut 2.	<b>0382 000815</b>	1+	<b>£29.95</b>
<b>2 ECONOMY SET OF 6 NEEDLE FILES</b> Set of 6 assorted needle files.	<b>0382 100615</b>	1+	<b>£8.44</b>
<b>3 12 PIECE NEEDLE FILE SET</b>	<b>1103 001215</b>	1+	<b>£18.50</b>


## MINIATURE NEEDLE FILES

Price per unit in £ on 15/08/2017

	<b>MINIATURE SQUARE NEEDLE FILE</b> For use on seconds hands etc. 3" long.	<b>0606 000215</b>	1+	<b>£43.97</b>
	<b>MINIATURE ROUND NEEDLE FILE</b> For use on seconds hands etc. 3" long.	<b>0606 000115</b>	1+	<b>£18.57</b>


## WOODEN FILE HANDLE

Price per unit in £ on 15/08/2017

	<b>3" WOODEN FILE HANDLE</b> With small hole for most needle files and other general use. Can be used for broaches etc.	<b>0692 000315</b>	1+	<b>£1.15</b>
			3+	<b>£1.03</b>
			Pack of 10	<b>£0.98</b>
	<b>FILE HANDLE, 4" WOODEN</b>	<b>0692 000415</b>	1+	<b>£1.35</b>
			3+	<b>£1.21</b>
			Pack of 10	<b>£1.15</b>
	<b>FILE HANDLE 5" WOODEN</b>	<b>0692 000515</b>	1+	<b>£1.30</b>
			3+	<b>£1.17</b>
			Pack of 10	<b>£1.10</b>



## NEEDLE FILE HOLDER

Price per unit in £ on 15/08/2017

	<b>CHUCK NEEDLE FILE HOLDER</b> Chuck file holder will grip files and tools tightly. Capacity 2-4mm.	<b>0383 000215</b>	1+	<b>£3.98</b>
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## DOUBLE END PIVOT FILE & BURNISHER

Price per unit in £ on 15/08/2017

	<b>DOUBLE END PIVOT FILE &amp; BURNISHER L/H</b> Excellent for fine clock pivots. Left hand. For work on your LEFT hand side or beneath work on your right.	<b>0375 000215</b>	1+	<b>£66.90</b>
	<b>DOUBLE END PIVOT FILE &amp; BURNISHER R/H</b> Excellent for fine clock pivots. Right hand. For work on your RIGHT hand side or beneath work on your left.	<b>0375 000315</b>	1+	<b>£68.90</b>

## INSPECTION MIRROR


Price per unit in £ on 15/08/2017

	<b>INSPECTION MIRROR FIXED STEEL</b>	<b>0596 000215</b>	1+	<b>£4.16</b>
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# 11. Tools


## KEY SIZING GAUGE

Price per unit in £ on 15/08/2017

	<b>KEY SIZING GAUGE</b> Eliminates guesswork when ordering or using up old keys. Solid construction with sizes from 1.75mm - 6.00mm.	<b>0638 000115</b>	1+	<b>£21.64</b>
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## SELF GRIP SCREWDRIVER

Price per unit in £ on 15/08/2017

	<b>SCREW HOLDING SCREWDRIVER SET</b> Plain slot and cross-point screwdrivers that grip the screws whilst being placed in awkward situations. Sold as a pair.	<b>0385 000315</b>	1+	<b>£8.60</b>
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## PIERCING SAWS


Price per unit in £ on 15/08/2017

	<b>PIERCING SAW FRAME</b> Metal saw with wooden handle. Unadjustable.	<b>0421 000115</b>	1+	<b>£19.39</b>
	<b>ADJUSTABLE SAW FRAME.</b> Swiss style aluminium saw frame. Comfortable rubber grip. Quick release blade clamps. Well constructed.	<b>0421 000215</b>	1+	<b>£14.95</b>

## PIERCING SAW BLADES

Bundles of 12. High quality blades. Pitch is teeth/cm.


Price per unit in £ on 15/08/2017

	<b>SWISS PIERCING SAW BLADES 0.18mm</b> Pitch: 32	<b>0421 001815</b>	1+	<b>£2.99</b>
			2+	<b>£2.69</b>
			Pack of 12	<b>£2.54</b>
	<b>SWISS PIERCING SAW BLADES 0.24mm</b> Pitch: 23.5	<b>0421 002415</b>	1+	<b>£2.91</b>
			2+	<b>£2.62</b>
			Pack of 12	<b>£2.47</b>
	<b>SWISS PIERCING SAW BLADES 0.28mm</b> Grade 3/0	<b>0421 002815</b>	1+	<b>£2.91</b>
			2+	<b>£2.62</b>
			Pack of 12	<b>£2.47</b>
	<b>SWISS PIERCING SAW BLADES 0.30mm</b> Pitch: 19. Grade 2/0	<b>0421 003015</b>	1+	<b>£2.91</b>
			2+	<b>£2.62</b>
			Pack of 12	<b>£2.47</b>
	<b>SWISS PIERCING SAW BLADES 0.34mm</b> Grade 1	<b>0421 003415</b>	1+	<b>£3.44</b>
			2+	<b>£3.10</b>
		Pack of 12	<b>£2.92</b>	
<b>SWISS PIERCING SAW BLADES 0.38mm</b> Pitch: 15 Grade 2	<b>0421 003815</b>	1+	<b>£3.44</b>	
		2+	<b>£3.10</b>	
		Pack of 12	<b>£2.92</b>	
<b>SWISS PIERCING SAW BLADES 0.50mm</b> Pitch: 11	<b>0421 005015</b>	1+	<b>£3.65</b>	
		2+	<b>£3.28</b>	
		Pack of 12	<b>£3.10</b>	

## TORX COMPATIBLE SCREWDRIVER



Plastic handled screwdriver with hardened tip. Compatible with Torx fixing systems. Torx (R) is the registered trademark of Acument Intellectual Properties, LLC

Price per unit in £ on 15/08/2017

	<b>TORX COMPATIBLE SCREWDRIVER NO. 6</b> Tip size 1.67mm.	<b>1025 000615</b>	1+	<b>£4.95</b>
	<b>TORX COMPATIBLE SCREWDRIVER NO. 7</b> Tip size 1.99mm.	<b>1025 000715</b>	1+	<b>£4.95</b>
	<b>TORX COMPATIBLE SCREWDRIVER NO. 8</b> Tip size 2.31mm.	<b>1025 000815</b>	1+	<b>£4.95</b>
	<b>TORX COMPATIBLE SCREWDRIVER NO. 9</b> Tip size 2.50mm.	<b>1025 000915</b>	1+	<b>£4.95</b>

## EYEGGLASS

Price per unit in £ on 15/08/2017


	<b>EYEGGLASS WITH SPECTACLE CLIP</b> 3 1/2" (2.8x) glass lens in non- reflective body and spectacle frame clip. Fits all types of frame.	<b>0371 103515</b>	1+	<b>£4.50</b>
	<b>EYEGGLASS</b> 3 1/2" (2.8x) glass lens in non-reflective body.	<b>0371 003515</b>	1+	<b>£4.16</b>

# 11. Tools

## CUTTING BROACHES


5 sided cutting broach measured in Stubbs wire gauge at about 20mm from the shoulder. Metric equivalents are approximate. 0.01mm taper (the diameter decreases 1mm per 100mm of length). See catalogue appendix for more information

Price per unit in £ on 15/08/2017

	CUTTING BROACH NUMBER 80 Diameter 0.33mm. Length 31mm.	0547 003315	1+	£2.49
	CUTTING BROACH NUMBER 78 Diameter 0.38mm.Length 31mm.	0547 003815	1+	£2.48
	CUTTING BROACH NUMBER 76 Diameter 0.45mm. Length 36mm.	0547 004515	1+	£2.41
	CUTTING BROACH NUMBER 72 Diameter 0.61mm. Length 40mm.	0547 006115	1+	£2.41
	CUTTING BROACH NUMBER 70 Diameter 0.68mm. Length 40mm.	0547 006815	1+	£2.48
	CUTTING BROACH NUMBER 68 Diameter 0.76mm. Length 44mm.	0547 007615	1+	£2.48
	CUTTING BROACH NUMBER 66 Diameter 0.81mm. Length 44mm.	0547 008115	1+	£2.41
	CUTTING BROACH NUMBER 62 Diameter 0.94mm. Length 48mm.	0547 009415	1+	£2.41
	CUTTING BROACH NUMBER 56 Diameter 1.14mm. Length 52mm.	0547 011415	1+	£2.41
	CUTTING BROACH NUMBER 54 Diameter 1.39mm. Length 56mm.	0547 013915	1+	£2.85
	CUTTING BROACH NUMBER 49 Diameter 1.80mm. Length 62mm.	0547 018015	1+	£2.72
	CUTTING BROACH NUMBER 48 Diameter 1.90mm. Length 65mm.	0547 019015	1+	£4.49
	CUTTING BROACH NUMBER 46 Diameter 2.00mm. Length 70mm.	0547 020015	1+	£3.24
	CUTTING BROACH NUMBER 42 Diameter 2.33mm. Length 75mm.	0547 023315	1+	£3.24
	CUTTING BROACH NUMBER 40 Diameter 2.46mm. Length 75mm.	0547 024615	1+	£5.83
	CUTTING BROACH NUMBER 38 Diameter 2.56mm. Length 75mm.	0547 025615	1+	N/A
	CUTTING BROACH NUMBER 36 Diameter 2.69mm. Length 80mm.	0547 026915	1+	£5.44
	CUTTING BROACH NUMBER 32 Diameter 2.92mm. Length 83mm.	0547 029215	1+	£3.99
	CUTTING BROACH NUMBER 26 Diameter 3.70mm. Length 95mm.	0547 037015	1+	£6.58
	CUTTING BROACH NUMBER 22 Diameter 3.98mm. Length 95mm.	0547 039815	1+	£5.61
	CUTTING BROACH NUMBER 18 Diameter 4.26mm. Length 100mm.	0547 042615	1+	£5.72
	CUTTING BROACH NUMBER 16 Diameter 4.44mm. Length 100mm.	0547 044415	1+	£6.55
	CUTTING BROACH NUMBER 12 Diameter 4.70mm. Length 100mm.	0547 047015	1+	£7.87
	CUTTING BROACH NUMBER 8 Diameter 5.00mm. Length 105mm.	0547 050015	1+	£7.88
	CUTTING BROACH NUMBER 2 Diameter 5.56mm. Length 105mm.	0547 055615	1+	£10.21
	CUTTING BROACH NUMBER A Diameter 5.94mm. Length 105mm.	0547 059415	1+	£11.80
	CUTTING BROACH NUMBER C Diameter 6.14mm. Length 110mm.	0547 061415	1+	£11.44
	CUTTING BROACH NUMBER E Diameter 6.35mm. Length 110mm.	0547 063515	1+	£14.63
	CUTTING BROACH NUMBER H Diameter 6.75mm. Length 120mm.	0547 067515	1+	£14.17
	CUTTING BROACH NUMBER I Diameter 6.90mm. Length 120mm	0547 069015	1+	£13.78
CUTTING BROACH NUMBER K Diameter 7.13mm. Length 120mm	0547 071315	1+	£14.35	
CUTTING BROACH NUMBER L Diameter 7.36mm. Length 120mm	0547 073615	1+	£15.12	
CUTTING BROACH NUMBER N Diameter 7.67mm. Length 120mm	0547 076715	1+	£15.95	
CUTTING BROACH NUMBER O Diameter 8.02mm. Length 125mm	0547 080215	1+	£17.05	
CUTTING BROACH NUMBER P Diameter 8.20mm. Length 125mm	0547 082015	1+	£17.78	
CUTTING BROACH NUMBER Q Diameter 8.43mm. Length 125mm	0547 084315	1+	£18.97	
CUTTING BROACH NUMBER R Diameter 8.61mm. Length 130mm	0547 086115	1+	£18.95	
CUTTING BROACH NUMBER S Diameter 8.83mm. Length 130mm	0547 088315	1+	£21.00	
CUTTING BROACH NUMBER U Diameter 9.34mm. Length 130mm	0547 093415	1+	£23.15	
CUTTING BROACH NUMBER V Diameter 9.57mm. Length 130mm.	0547 095715	1+	£22.86	
CUTTING BROACH NUMBER W Diameter 9.80mm. Length 130mm.	0547 098015	1+	£26.44	
CUTTING BROACH NUMBER X Diameter 10.08mm. Length 135mm.	0547 100815	1+	N/A	
CUTTING BROACH NUMBER Y Diameter 10.26mm. Length 135mm.	0547 102615	1+	N/A	
CUTTING BROACH NUMBER Z Diameter 10.48mm. Length 135mm.	0547 104815	1+	£30.36	


## CUTTING BROACHES ASSORTMENTS

Price per unit in £ on 15/08/2017

	CUTTING BROACH ASSORTMENT 34 - 56 Assortment of 12 broaches, by gauge.	0381 345615	1+	£34.20
	CUTTING BROACH ASSORTMENT 58 - 80 Assortment of 12 broaches, by gauge.	0381 588015	1+	£25.44
	BERGEON STARTER KIT Assortment of 6 sizes to suit small Bergeon bushes: No.s 42, 36, 30, 26, 12 & A.	0381 000115	1+	£29.21



## SMOOTHING BROACH ASSORTMENT

Price per unit in £ on 15/08/2017

	SMOOTHING BROACH ASSORTMENT 34 - 56 Assortment of 12 smoothing broaches to achieve an excellent finish.	0702 345615	1+	£35.23
	SMOOTHING BROACH ASSORTMENT 58 - 80 Assortment of 12 smoothing broaches to achieve an excellent finish.	0702 588015	1+	£22.53

## ECONOMY BROACH SETS

Price per unit in £ on 15/08/2017

	ECONOMY BROACH SET: 6 PIECES 0.80mm to 2.30mm	1317 000115	1+	£7.95
	ECONOMY BROACH SET: 6 PIECES 2.40mm to 6.20mm	1317 000215	1+	£15.95


# 11. Tools

## WHICH BROACHES TO BUY?





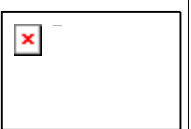
Our bush list shows the internal and external diameters. The clocks you specialise in will often need bushing in the same places, and will use similar bushes. The outside diameters rise in regular steps so select broaches just larger than the bushes you use. The assortments should cover most internal adjustments.

## UNIVERSAL STAKE

Price per unit in £ on 15/08/2017

	<b>UNIVERSAL STAKE</b> Steel bench stake with numerous holes, slots & grooves for riveting etc. 40 x 40 x 40mm. <b>0594 404015</b>	1+	<b>£200.87</b>
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## CLOCKMAKERS STAKE


1 	2 	3 		<b>Call Harvey for Same day dispatch*</b> * Conditions apply		<b>Call Harvey for Postage free delivery*</b> * Conditions apply
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Price per unit in £ on 15/08/2017

<b>1 FLAT ROUND CLOCKMAKERS STAKE</b> Round stake with 9 holes.	<b>0757 000115</b>	1+	<b>£7.95</b>
<b>2 FLAT RECTANGULAR STAKE</b> Rectangular stake with 36 holes	<b>0757 000215</b>	1+	<b>£7.95</b>
<b>3 BRASS SPLIT STAKE</b> Adjustable brass split stake with 9 holes.	<b>0757 000315</b>	1+	<b>£10.43</b>


## ROLLER CUTTERS OR SINKERS

Price per unit in £ on 15/08/2017

	<b>ROLLER CUTTERS OR SINKERS</b> Set of 6 double ended roller cutters, to create oil sinks in freshly inserted bushes.	<b>0374 000615</b>	1+	<b>£86.73</b>
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## BURR REMOVER

Price per unit in £ on 15/08/2017

	<b>BURR REMOVER</b> Hollow centred, with four cutting edges. Insert a pin to locate the cutter when removing excess bushing.	<b>0373 000115</b>	1+	<b>£42.00</b>
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## MAINSRING CLAMPS

Price per unit in £ on 15/08/2017

	<b>MAINSRING CLAMPS</b> For holding loop ended springs whilst working on movements. The spring will lift off as if it were in a barrel. Sold in pairs, to fit most American 8 day movements.	<b>0249 000215</b>	1+ 2+	<b>£9.01</b> <b>£8.11</b>
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## TRIPLE-S CLOCK MAINSPRING WINDER

1 	2 	3 	4 	5 	<b>Call HARVEY on 0800 328 9435</b>	<b>M &amp; P Key Suppliers to Clockmakers</b>
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Price per unit in £ on 15/08/2017

<b>1 TRIPLE-S CLOCK MAINSPRING WINDER. PROFESSIONAL MODEL</b> A revolutionary new clock mainspring winder designed by Mervyn Passmore. Built with Safety, Strength and Simplicity in mind, this new style of winder has been tried and tested as part of the spring manufacturing process at Meadows & Passmore and now brings commercial spring winding into the workshop. Image is representative of complete winder. Each winder package has a specific inventory, please call for full details of included items.	<b>1618 000115</b>	1+	<b>N/A</b>
<b>2 TRIPLE-S CLOCK MAINSPRING WINDER. TRADE MODEL</b> A revolutionary new clock mainspring winder designed by Mervyn Passmore. Built with Safety, Strength and Simplicity in mind, this new style of winder has been tried and tested as part of the spring manufacturing process at Meadows & Passmore. Reduced Self-assembly model. Wooden base included. Image is representative of complete winder. Each winder package has a specific inventory, please call for full details of included items.	<b>1618 000215</b>	1+	<b>N/A</b>
<b>3 TRIPLE-S CLOCK MAINSPRING WINDER. HOBBY MODEL</b> A revolutionary new clock mainspring winder designed by Mervyn Passmore. Built with Safety, Strength and Simplicity in mind, this new style of winder has been tried and tested as part of the spring manufacturing process at Meadows & Passmore. Reduced, self-assembly model. Timber not included. Image is representative of complete winder. Each winder package has a specific inventory, please call for full details of included items.	<b>1618 000315</b>	1+	<b>N/A</b>
<b>4 TRIPLE-S CLOCK MAINSPRING WINDER. KIT VERSION</b> A revolutionary new clock mainspring winder designed by Mervyn Passmore. Built with Safety, Strength and Simplicity in mind, this new style of winder has been tried and tested as part of the spring manufacturing process at Meadows & Passmore. Kit only. Blanks need drilling and forming. No timber inc. Image is representative of complete winder. Each winder package has a specific inventory, please call for full details of included items.	<b>1618 000415</b>	1+	<b>N/A</b>
<b>5 TRIPLE-S CLOCK MAINSPRING WINDER. PLANS LICENSE</b> A revolutionary new clock mainspring winder designed by Mervyn Passmore. Built with Safety, Strength and Simplicity in mind, this new style of winder has been tried and tested as part of the spring manufacturing process at Meadows & Passmore. Plans only. No parts included. License agreement required. Image is representative of complete winder and is not included with this item. This includes plan license only.	<b>1618 000515</b>	1+	<b>N/A</b>

# 11. Tools

## BERGEON MAINSPRING WINDER

Price per unit in £ on 15/08/2017



**BERGEON MAINSPRING WINDER** This cast iron frame winder that fits in a bench vice is one of the few that can be considered suitable for inserting very large springs with safety and ease. The boxed kit comes with 2 cranks and 8 barrels. A 9th barrel is also available for giant springs. 18,25,30,35,40,48,57,65mm barrels are included.

0714 000115	1+	N/A
	1+	N/A

## BERGEON CLOCK BUSHING OUTFIT

Although it's quite possible to fit bushes by hand, this bushing tool enables you to fit a new bush quickly, easily and above all, accurately. When a pivot wears its hole, it generally wears it into an elongated one. It is vital to get the replacement bush centred on the original position. This robust tool is ideal for the job. Suitable for bushing plates from 50 - 220mm with a pillar height of 70mm. The tool is available as the full outfit, or as a reduced set to make it more affordable for the smaller workshop. Both sets include main tool with 2 arms & 2 chucks, and 1 broach with hand wheel. The full set includes a wooden box containing: 3 driving punches, 1 centring bit, 1 undrilled stake, 4 drilled stakes, 2 centring stakes, 10 reamers (1.20mm - 8.47mm), 2 chamfering tools, 5 pivot cutters & 1 jacobs chuck. The reduced set includes a cardboard box containing: 3 driving punches, 1 centring bit, 1 undrilled stake, 4 drilled stakes, 1 centring stake, 10 reamers (1.20mm - 8.47mm) and 1 chamfering tool.

Brief instructions on use:

Fit a stake in base and secure the clock plate between the chucks. Fit centring point no. 6 in the broach. Locate the position of the original hole and tighten. Remove the point and fit a reamer corresponding to the size of bush to fit. Slowly turn the flywheel, lifting from time to time to clear any swarf. Remove the reamer and fit a punch slightly larger than the bush. Press down on the wheel to eliminate spring-back and tap lightly with a brass hammer. Use the plates assembled to locate the correct point for bushing an oval hole using the centring stake. Full instructions are supplied with the tools.

Price per unit in £ on 15/08/2017



<b>BERGEON CLOCK BUSHING OUTFIT</b>	0605 000115	1+	£805.60
<b>BUSHING OUTFIT BERGEON REDUCED</b>	0605 000215	1+	£577.70
		1+	£577.70

## REAMERS FOR BERGEON BUSHING OUTFIT

Price per unit in £ on 15/08/2017



<b>BERGEON BUSHING OUTFIT REAMER 1.20mm</b> Replacement reamer only.	0605 012015	1+	£15.69
<b>BERGEON BUSHING OUTFIT REAMER 1.78mm</b> Replacement reamer only.	0605 017815	1+	£23.70
<b>BERGEON BUSHING OUTFIT REAMER 1.97mm</b> Replacement reamer only.	0605 019715	1+	£15.66
<b>BERGEON BUSHING OUTFIT REAMER 2.47mm</b> Replacement reamer only.	0605 024715	1+	£16.29
<b>BERGEON BUSHING OUTFIT REAMER 2.68mm</b> Replacement reamer only.	0605 026815	1+	£31.28
<b>BERGEON BUSHING OUTFIT REAMER 2.97mm</b> Replacement reamer only.	0605 029715	1+	£14.78
<b>BERGEON BUSHING OUTFIT REAMER 3.47mm</b> Replacement reamer only.	0605 034715	1+	£16.11
<b>BERGEON BUSHING OUTFIT REAMER 3.97mm</b> Replacement reamer only.	0605 039715	1+	£23.70
<b>BERGEON BUSHING OUTFIT REAMER 4.47mm</b> Replacement reamer only.	0605 044715	1+	£16.99
<b>BERGEON BUSHING OUTFIT REAMER 4.66mm</b> Replacement reamer only.	0605 046615	1+	£22.79
<b>BERGEON BUSHING OUTFIT REAMER 4.97mm</b> Replacement reamer only.	0605 049715	1+	£24.91
<b>BERGEON BUSHING OUTFIT REAMER 5.47mm</b> Replacement reamer only.	0605 054715	1+	£16.47
<b>BERGEON BUSHING OUTFIT REAMER 5.85mm</b> Replacement reamer only.	0605 058515	1+	£22.79
<b>BERGEON BUSHING OUTFIT REAMER 5.97mm</b> Replacement reamer only.	0605 059715	1+	£22.79
<b>BERGEON BUSHING OUTFIT REAMER 6.47mm</b> Replacement reamer only.	0605 064715	1+	£16.47
<b>BERGEON BUSHING OUTFIT REAMER 6.97mm</b> Replacement reamer only.	0605 069715	1+	£23.25
<b>BERGEON BUSHING OUTFIT REAMER 7.47mm</b> Replacement reamer only.	0605 074715	1+	£17.02
<b>BERGEON BUSHING OUTFIT REAMER 7.97mm</b> Replacement reamer only.	0605 079715	1+	£23.25
<b>BERGEON BUSHING OUTFIT REAMER 8.47mm</b> Replacement reamer only.	0605 084715	1+	£17.57
<b>BERGEON BUSHING OUTFIT REAMER 8.64mm</b> Replacement reamer only.	0605 086415	1+	£22.79
<b>REAMER ASSORTMENT, 5pcs, 1.78mm - 8.64mm</b>	0605 000415	1+	£128.26
<b>REAMER ASSORTMENT, 5pcs, 3.97mm - 7.97mm</b>	0605 000515	1+	£163.98

## CUTTERS FOR BERGEON BUSHING OUTFIT

Price per unit in £ on 15/08/2017



<b>PIVOT CUTTER 2.20mm PIVOT 0.40mm</b>	0605 100215	1+	£35.40
<b>PIVOT CUTTER 3.00mm PIVOT 0.70mm</b>	0605 100315	1+	£29.41
<b>PIVOT CUTTER 5.00mm PIVOT 1.50mm</b>	0605 100515	1+	£32.05
<b>PIVOT CUTTER 6.00mm PIVOT 3.00mm</b>	0605 100615	1+	£35.16
<b>PIVOT CUTTER 9.00mm PIVOT 5.00mm</b>	0605 100915	1+	£34.87

## ACCESSORIES FOR BERGEON BUSHING OUTFIT

1	2	3		Buy Online @ www.m-p.co.uk	Call Harvey 24 Hours	Call Harvey our Automated Sales line
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Price per unit in £ on 15/08/2017

<b>1 CHAMFERING TOOL 10mm</b>	0605 001015	1+	£20.67
<b>2 CENTERING STAKE 16mm POINT 4mm</b>	0605 001615	1+	£24.69
<b>3 JACOBS CHUCK 26mm OPENING 0-4mm</b>	0605 002615	1+	£147.87

# 11. Tools


## WHEEL CHUCK

Price per unit in £ on 15/08/2017

	<b>WHEEL CHUCK 3mm</b> Chuck for holding wheels to be cut in lathes such as Bergeon, Boley, Star, Favourite etc. For cutters up to 3mm thick	<b>0716 000315</b>	1+	<b>£93.28</b>
	<b>WHEEL CHUCK 5mm</b> Chuck for holding wheels to be cut in lathes such as Bergeon, Boley, Star, Favourite etc. For cutters up to 5mm thick	<b>0716 000515</b>	1+	<b>£93.28</b>


## ULTRASONIC CLEANING TANK

Price per unit in £ on 15/08/2017

	<b>ULTRASONIC CLEANING TANK</b> Manufactured in the U.K by Walkers, who have over 35 years expertise in the field. Model 80T is best suited to the low volume user who needs a good sized tank. Its stainless steel & aluminium construction means that it will withstand the cleaning fluids used by the clock trade. Cheaper plastic cased machines can quickly get damaged by the drips of fluid that inevitably drop on the case. Ultrasonic Cleaners function by generating powerful sound waves in the fluid. Dirt is dislodged by this rapid movement, and you can see the contamination and grime literally being pulled away from the movement. Many modern movements can be cleaned without the need for dismantling, because the dirt is drawn out of the tiniest places. The speed and efficiency of cleaning using these units, even when the clock has been dismantled and put in a wire basket (optional) is amazing. Opticians, dentists and jewellers also use these machines by filling them with more gentle water based solutions. After cleaning in specialist cleaners such as Horotech, the item should be rinsed in a suitable rinse. There is no need to use rinse in the tank. Busy workshops maintain more than one rinse bath. By initially rinsing in last month's old rinse, contamination of the final rinse is minimised. An old saucepan with a lid makes a good rinse bath in the amateur workshop! Specifications: 4.7 litre capacity, 300x151x150mm deep internal. PZT transducers. Lid included. 240v. Timer. Automatic heating. No drain tap because ultrasonics eventually damage the weld, causing leaks.	<b>0713 000115</b>	1+	<b>£494.97</b>
	<b>ULTRA 7010 ULTRASONIC CLEANING MACHINE</b> This compact ultrasonic cleaner effectively cleans a whole range of products including small parts, watch straps, jewellery, eye glasses and even cd's. Ext. size 216 x 174 x 139mm. Stainless steel tank. Auto timer cut-off. 50w 240v Frequency 42,000Hz. Capacity 550ml. Weight 1kg.	<b>0713 000315</b>	1+	<b>£45.47</b>

## MESH BASKET



Price per unit in £ on 15/08/2017

	<b>MESH BASKET for holding small parts. 70mm diameter. 50mm deep. 100mm handle.</b> When cleaning a dismantled clock it is vital that no small parts are lost. This galvanised fine mesh basket keeps them safe, while being easy to agitate in fluid etc.	<b>1492 000115</b>	1+	<b>£8.95</b>
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## ULTRA-VIOLET MARKERS


A large proportion of burglaries involve antiques, jewellery, clocks and other such items. Many of the articles recovered by the police are never traced to their rightful owners, and yet all the police forces in the country have access to ultra-violet lamps to show up postcode marking. A sensible way of protecting property is by postcode marking, in addition to any photographic recording you may do. Likewise, the use of lamps by antique dealers can serve as a double check on vendor's claims. The range of products available to protect your valuable property includes the UV detector lamp, fine tipped UV felt pen and broad tipped UV felt tip marker, plus scribe. The scribe is particularly useful on metal objects such as silver, where ordinary markings would be polished off.

Price per unit in £ on 15/08/2017

	<b>ULTRA-VIOLET MARKER, BROAD TIP</b>	<b>0620 000115</b>	1+	<b>£2.18</b>
	<b>ULTRA-VIOLET MARKER, FINE TIP</b>	<b>0620 000215</b>	1+	<b>£2.18</b>


## BENCH VICE

Price per unit in £ on 15/08/2017

	<b>BENCH VICE</b> Smooth jawed bench vice with 1 1/4" jaws. Anvil at rear for riveting.	<b>0593 000115</b>	1+	<b>£11.91</b>
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## AUTOMATIC OILER

Price per unit in £ on 15/08/2017

	<b>AUTOMATIC OIL DISPENSER PEN - REFILLABLE</b> Oil is automatically released when pressure is applied to the tip of this refillable 'pen' oiler. Filled with quality Swiss oil. We also sell a suitable standard of oil for refilling this item, see part no. 0329 012515.	<b>0591 000215</b>	1+	<b>£6.95</b>
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# 11. Tools

## WATCH OILER SET

Price per unit in £ on 15/08/2017



**WATCH OILER SET** Set of oilers with plastic handles. Excellent for applying small but precise quantities of oil. (Oil not included - for watch oil see part no. 0657 000115)

**0592 000115** 1+ £7.95

## WASHING OUT BRUSHES

Price per unit in £ on 15/08/2017



**WASHING OUT BRUSH** Plastic handle with 4 rows of bristles. Resistant to almost any clockmakers' solvent.

**0599 000415** 1+ £7.60

## BRISTLE BRUSHES

With excellent quality hardwood handles and natural bristles.

Price per unit in £ on 15/08/2017



'GLASGOW' WHITE BRISTLE BRUSH EXTRA SOFT	<b>0598 000115</b>	1+	£5.94
'GLASGOW' WHITE BRISTLE BRUSH SOFT	<b>0598 000215</b>	1+	£5.28
'GLASGOW' WHITE BRISTLE BRUSH SEMI HARD	<b>0598 000315</b>	1+	£4.77
'GLASGOW' WHITE BRISTLE BRUSH HARD	<b>0598 000415</b>	1+	£5.45
'GLASGOW' WHITE BRISTLE BRUSH EXTRA HARD	<b>0598 000515</b>	1+	£5.55
<b>BLACK BRISTLE BRUSH 4 ROWS</b> Wooden handles, with pure black bristles.	<b>0597 000402</b>	1+	£4.29
<b>BLACK BRISTLE BRUSH 6 ROWS</b> Wooden handles, with pure black bristles.	<b>0597 000602</b>	1+	£5.88

## BRASS SCRATCH BRUSHES

Price per unit in £ on 15/08/2017



<b>BRASS SCRATCH BRUSH 4 ROWS</b> Standard brush with four rows	<b>0600 000115</b>	1+	£8.95
<b>BRASS SCRATCH BRUSH 6 ROWS</b> With 6 rows of extra hard brass 'bristles'.	<b>0600 000615</b>	1+	£12.45

## HAND REMOVER

Price per unit in £ on 15/08/2017



**HAND REMOVER** Screw action hand remover that will not damage the dial. Ideal for drum movements etc. Distance between 'jaws' 6mm.

**0378 000115** 1+ £10.90



**HAND REMOVER AND PULLER**

**0378 000215** 1+ £9.95

## SPIRIT LAMP

Price per unit in £ on 15/08/2017



**SPIRIT LAMP** Heavy glass base for safety. Safety cap. Ideal for re-waxing silvered dials.

**0485 000115** 1+ £6.95



**SPIRIT LAMP WICKS** Spare wicks x 2

**0485 000615** 1+ £1.49  
3+ £1.34

## GLASSFIBRE SCRATCH PENCIL

Price per unit in £ on 15/08/2017



**GLASSFIBRE SCRATCH PENCIL** Propelling type scratch brush for removing rust and scratches.

**0658 000115** 1+ £9.35

**PACK OF 12 REFILS FOR PENCIL TYPE SCRATCH BRUSH.**

**0658 001215** 1+ £22.85

## HOLE PUNCHES

Price per unit in £ on 15/08/2017




**6 PIECE HOLLOW PUNCH SET** Sizes include 3/16, 1/4, 5/16, 3/8, 7/16 & 1/2. Complete with handy storage case.

**1321 000115** 1+ £15.86

# 11. Tools

## TOOL CLAMP

Price per unit in £ on 15/08/2017

	<b>TOOL CLAMPS - PAIR</b> An excellent pair of parallel jawed clamps with almost infinite uses in the workshop. 2.5" long jaws. Clarke - ET 117	<b>0752 020015</b>	1+	<b>£10.07</b>
			2+	<b>£9.06</b>



## DUST BLOWER

Price per unit in £ on 15/08/2017

	<b>DUST BLOWER 4"</b> . With non-return valve.	<b>0756 000115</b>	1+	<b>£6.95</b>
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## ANVILS


Price per unit in £ on 15/08/2017

	<b>MINIATURE BENCH ANVIL</b> 3 1/2" long.	<b>0753 000215</b>	1+	<b>£11.77</b>
	<b>ANVIL 4.5KG</b> 120 x 65 x 210mm. Bolt down.	<b>1319 000115</b>	1+	<b>£41.94</b>

## CLOCKMAKERS HAMMERS



Steel head with wooden handle. Weight is hammer head.

Price per unit in £ on 15/08/2017

	<b>ROUND CLOCKMAKERS HAMMER 45g</b>	<b>0754 004515</b>	1+	<b>£19.85</b>
	<b>ROUND CLOCKMAKERS HAMMER 55g</b>	<b>0754 005515</b>	1+	<b>£20.95</b>



## STEEL RULERS

Price per unit in £ on 15/08/2017

	<b>STEEL RULER 12"</b> steel ruler with metric and inches permanently etched into the surface.	<b>0766 001215</b>	1+	<b>£4.72</b>
	<b>POCKET STEEL RULER.</b> Stainless steel pocket ruler. 150mm - 6 inches Well etched marking ensures long life. Pocket clip acts as a depth gauge and a means of recording a dimension temporarily. Quality stainless steel.	<b>0766 000615</b>	1+ 2+	<b>£2.95</b> <b>£2.65</b>





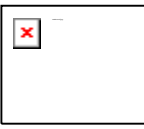
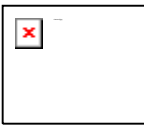
## LET DOWN KEYS, DOUBLE ENDED

Price per unit in £ on 15/08/2017


	<b>LET DOWN KEYS, DOUBLE ENDED</b> Set of six double-ended steel keys with a plastic handle for letting down the power of wound mainsprings safely. Sizes 1-8, 10, 12, 14 & 16.	<b>0774 000115</b>	1+	<b>£56.50</b>
	<b>LET DOWN TOOL FOR BUTTERFLY KEYS</b> Butterfly type that fits over most kinds of butterfly clock key (often with a little modification). Only use steel keys! Handle plus one double ended key holder.	<b>0774 000215</b>	1+	<b>£25.95</b>

# 11. Tools


## GLOVES

					<p><b>Call Harvey</b> for <b>Same day dispatch*</b></p> <p>* Conditions apply</p>	
Price per unit in £ on 15/08/2017						
<b>1 STRONG LEATHER GLOVES</b> Protect your hands against the cuts and bruises associated with clock mainsprings, and from sparks whilst grinding or cutting. Made from tough leather.	<b>0772 000315</b>	1+	£5.09	3+	£4.07	
<b>2 COTTON GLOVES</b> 12 Pairs of disposable cotton gloves to prevent finger-marks on polished surfaces etc.	<b>1032 000115</b>	1+	£10.32	3+	£9.29	
<b>3 BOX OF 100 NITRILE GLOVES</b> Disposable gloves that withstand most spirit based cleaning solutions such as Horotech.	<b>1410 010015</b>	1+	£10.10	2+	£9.59	
<b>4 BOX OF 100 LATEX GLOVES</b> 100% pure latex gloves, starch powdered for easy pull on. Ambidextrous fit. One size. Handy dispenser carton.	<b>1176 010015</b>	1+	£17.89	2+	£17.00	


## DUST MASKS

	<b>DUST MASK 5pc PACK</b> Pack of 5 masks for protection against non toxic dusts and powders. NOT A RESPIRATORY PROTECTIVE DEVICE, unsuitable for fine particles, vapour etc.	<b>1174 000515</b>	1+	£3.16
Price per unit in £ on 15/08/2017				


## SAFETY SPECTACLES

	<b>SAFETY SPECTACLES</b> Protect your eyes when using machinery or fluids which, if splashed, could ruin your eyesight. Can be used over spectacles. Made from impact resistant polycarbonate to BS.2092, Grade 2, giving clear distortion free viewing.	<b>0773 000115</b>	1+	£8.28
Price per unit in £ on 15/08/2017				

## SAFETY GOGGLES







	<b>SAFETY GOGGLES (TO BS2092 GRI)</b> Soft lightweight frame incorporating direct ventilation, soft face flange and spectacle recess. Polycarbonate lens. Ideal for potentially hazardous jobs involving a risk of eye injury.	<b>1175 000115</b>	1+	£4.55
Price per unit in £ on 15/08/2017				

## PIVOT LOCATOR






	<b>PIVOT LOCATOR</b> An excellent tool for aligning pivots with their holes during assembly. 7" long.	<b>0755 000115</b>	1+	£4.95
Price per unit in £ on 15/08/2017				

## PLIERS











Good quality pliers suitable for all types of clock work. Suitable for cutting small gauge hard wire.

						<p><b>Call Harvey</b> for <b>Postage free delivery*</b></p> <p>* Conditions apply</p>
Price per unit in £ on 15/08/2017						
<b>1 PLIERS, SIDE CUTTING</b>	<b>0443 000115</b>	1+	P.O.A.			
<b>2 PLIERS, NEEDLE NOSED</b> Smooth jaw for a firm grip in very awkward places.	<b>0941 000215</b>	1+	P.O.A.			
<b>3 PLIERS, END CUTTING</b>	<b>0442 000115</b>	1+	£14.74			
<b>4 PLIERS, FLAT NOSED.</b> With strong smooth jaws.	<b>0433 000115</b>	1+	£27.70			
<b>5 PLIERS, STRONG END CUTTING</b> For galvanised wire line, piano wire etc. Very strong design.	<b>0442 000215</b>	1+	P.O.A.			
<b>6 PLIERS, ROUND BLUNT NOSED</b> Round blunt nosed, smooth jaw for a firm grip in awkward places.	<b>0941 000115</b>	1+	£17.50			

## TWEEZERS

					<p><b>Call HARVEY</b> on <b>0800 328 9435</b></p>	<p><b>M &amp; P</b> Key Suppliers to Clockmakers</p>
Price per unit in £ on 15/08/2017						
<b>1 STEEL TWEEZERS 255mm PLASTIC COATED ENDS</b>	<b>0380 025515</b>	1+	£6.81			
<b>2 PLASTIC TWEEZERS</b> A pair of nylon tweezers for handling watch batteries and for working on quartz movements in general. 110mm long. Serrated jaws and fine tips for a secure grip.	<b>0380 000515</b>	1+	£1.37			
<b>3 STAINLESS TWEEZERS AA</b> Quality stainless tweezers.	<b>0380 000215</b>	1+	£5.32			
<b>4 GIANT TWEEZERS</b> Ideal for moving and locating large parts without touching them. 165mm long.	<b>0380 000415</b>	1+	£5.19			
<b>5 STELLA TWEEZERS: SET OF 8</b> Anti-Acid, Stainless, Anti-Magnetic	<b>0380 000815</b>	1+	£12.95			

# 11. Tools

MAGNIFYING TWEEZER		Price per unit in £ on 15/08/2017	
	<b>MAGNIFYING TWEEZER</b> Combined eyeglass and stainless steel tweezers. Easily adjusted for best focus.	1096 000115	1+ £4.96
DE MAGNETISER		Price per unit in £ on 15/08/2017	
	<b>MAGNETISER / DE-MAGNETISER</b> Unit for magnetising & de-magnetising tweezers, screwdrivers etc and most small steel tools.	1037 000215	1+ £4.50
MICRO GAS TORCH		Price per unit in £ on 15/08/2017	
	<b>HEAVY DUTY GAS TORCH</b> Automatic ignition using ordinary lighter refill. Flame temperature of 1300C. Size 175mm (l) x 53mm (w) approx. Runs up to 50mins on one 15ml fill of gas! Free standing or hand held, this is an excellent and economical torch for jewellery, clocks and model engineering. Butane not included.	0690 000115	1+ £49.95
MOVEMENT STANDS		Price per unit in £ on 15/08/2017	
	<b>MOVEMENT STAND FOR FRENCH STRIKING CLOCKS.</b> This traditional style of test stand was made by French apprentice clockmakers as part of their training, and are still used today. Solid wood. Dowelled, screwed and glued for strength. Suitable for movements with a plate pillar between the barrels. Not suitable for non-striking or very early movements.	1619 000115	1+ £14.78 1+ £14.78
VICE WITH VACUUM SUCTION BASE		Price per unit in £ on 15/08/2017	
	<b>VICE WITH VACUUM SUCTION BASE</b> Ideal for smaller bench or table top tasks. Removable soft rubber jaw covers. Precision machined slide rods assure equally applied jaw pressure. Multi-positional ball swivel. Powerful suction base. To work satisfactorily, it must be used on a smooth flat laminated surface or on a plastic surface such as that used on kitchen worktops. 3" Jaws.	1016 000115	1+ £54.04
MAGNETIC PICK-UP TOOL TELESCOPIC		Price per unit in £ on 15/08/2017	
	<b>MAGNETIC PICK-UP TOOL TELESCOPIC</b> A fully extendable pick up tool with magnetic end. Ideal for the retrieval of nuts, screws and objects lost in remote places.	1172 000115	1+ £7.95
ENGRAVER		Price per unit in £ on 15/08/2017	
	<b>ENGRAVER</b> Battery-powered diamond tipped engraver suitable for engraving most surfaces including glass, ceramics and metal. Belt-clip and 1.75M power lead. Runs off 6xAA type batteries(not supplied).	1105 000115	1+ £22.40
COTTON APRON		Price per unit in £ on 15/08/2017	
	<b>COTTON APRON</b> Heavy duty cotton with neck loop, extra long waist ties and large front pocket. Packed in polythene bag with display card.	1173 000115	1+ £8.48 2+ £8.06
6 PIECE MEASURING SET		Price per unit in £ on 15/08/2017	
	<b>6 PIECE MEASURING SET</b> Useful set of precision measuring instruments.	1104 000615	1+ £34.29
MAGNIFIERS		Price per unit in £ on 15/08/2017	
	<b>HELPING HANDS HOLDER /MAGNIFIER</b> Useful bracket suitable for electronic work, model and jewellery making. Complete with fully adjustable holding clips and a 50mm magnifying lens(x 2.5 magnification). The solid cast base improves stability.	1171 000115	1+ £8.95

# 11. Tools

## MAGNIFYING LAMP

Price per unit in £ on 15/08/2017



**22w/230v Fluorescent magnifying lamp supplied with plug and 2m (approx.) cable.** 120mm dioptrex 1.75 magnification lens Long reach spring arm with 3 integral pivots with locking facility. Ideal for professional and domestic use.

1311 000115 1+ £112.95

## LED HEADLIGHT

Price per unit in £ on 15/08/2017



**ULTRA BRIGHT LED HEADLIGHT** High intensity LED light with adjustable head strap. Keeps lamp focussed inline with vision without excessive bouncing. Adjustable strap and inclination. Takes 3 x 1.5 AA batteries (not included).

1613 000115 1+ £14.10

## CYCLOIDAL CLOCK & WATCH WHEEL & PINION CUTTERS

(See appendix for details)

A range of finest quality cutters made from high speed steel hardened and treble tempered under vacuum. This steel, with a hardness circa 68 Rockwell C. maintains a good cutting edge which offers long periods between sharpenings. Brass for wheels should be hard or half-hard, with a typical composition of 61-64% copper, 1-2% lead and the balance zinc. Soft brass will clog the cutter. Steel for pinions should be free cutting silver steel with a typical composition including 1% Carbon, 0.55% Manganese and 0.20 Selenium.

### PINION CUTTERS, 6 LEAVES FLAT BOTTOM

M = module in mm. D = Diametral pitch in teeth/inch. O = Outside diameter (nominal). T = Thickness (mm). All cutters have 12 teeth and a Bore Diameter of 7.00 mm except pinion cutters with a modulus smaller than or equal to 0.35mm which have a bore diameter of 3.5mm.

Price per unit in £ on 15/08/2017



PINION CUTTER M:0.20, D:127, O:14.0, T:2.00.	1091 200615	1+	£84.38
PINION CUTTER M:0.25, D:101.6, O:14.0, T:2.00.	1091 250615	1+	£84.38
PINION CUTTER M:0.30, D:84.7, O:14.0, T:2.00.	1091 300615	1+	£84.38
PINION CUTTER M:0.35, D:72.5, O:14.0, T:2.00.	1091 350615	1+	£84.38
PINION CUTTER M:0.40, D:63.5, O:25.0, T:3.25.	1091 400615	1+	£84.38
PINION CUTTER M:0.45, D:56.4, O:25.0, T:3.25.	1091 450615	1+	£84.38
PINION CUTTER M:0.50, D:50.8, O:25.0, T:3.25.	1091 500615	1+	£84.38
PINION CUTTER M:0.55, D:46.2, O:25.0, T:3.25.	1091 550615	1+	£84.38
PINION CUTTER M:0.60, D:42.3, O:25.0, T:3.25.	1091 600615	1+	£84.38
PINION CUTTER M:0.65, D:39.1, O:25.0, T:3.25.	1091 650615	1+	£84.38
PINION CUTTER M:0.70, D:36.3, O:25.0, T:3.25.	1091 700615	1+	£105.47
PINION CUTTER M:0.75, D:33.9, O:25.5, T:4.50.	1091 750615	1+	£90.66
PINION CUTTER M:0.80, D:31.8, O:25.5, T:4.50.	1091 800615	1+	£84.38
PINION CUTTER M:0.85, D:29.9, O:25.5, T:4.50.	1091 850615	1+	£84.38
PINION CUTTER M:0.90, D:28.2, O:25.5, T:4.50.	1091 900615	1+	£90.66
PINION CUTTER M:0.95, D:26.7, O:25.5, T:4.50.	1091 950615	1+	£84.38
PINION CUTTER M:1.00, D:25.4, O:25.5, T:4.50.	1091 100615	1+	£84.38
PINION CUTTER M:1.10, D:23.09, O:28.0, T:7.00.	1091 110615	1+	£105.76
PINION CUTTER M:1.20, D:21.16, O:28.0, T:7.00.	1091 120615	1+	£105.76
PINION CUTTER M:1.30, D:19.53, O:28.0, T:7.00.	1091 130615	1+	£105.76
PINION CUTTER M:1.40, D:18.14, O:28.0, T:7.00.	1091 140615	1+	£105.76
PINION CUTTER M:1.50, D:16.93, O:28.0, T:7.00.	1091 150615	1+	£105.76

### PINION CUTTERS, 7 LEAVES FLAT BOTTOM

M = module in mm. D = Diametral pitch in teeth/inch. O = Outside diameter (nominal). T = Thickness (mm). All cutters have 12 teeth and a Bore Diameter of 7.00 mm except pinion cutters with a modulus smaller than or equal to 0.35mm which have a bore diameter of 3.5mm.

Price per unit in £ on 15/08/2017



PINION CUTTER M:0.20, D:127, O:14.0, T:2.00.	1091 200715	1+	£84.38
PINION CUTTER M:0.25, D:101.6, O:14.0, T:2.00.	1091 250715	1+	£84.38
PINION CUTTER M:0.30, D:84.7, O:14.0, T:2.00.	1091 300715	1+	£84.38
PINION CUTTER M:0.35, D:72.5, O:14.0, T:2.00.	1091 350715	1+	£84.38
PINION CUTTER M:0.40, D:63.5, O:25.0, T:3.25.	1091 400715	1+	£84.38
PINION CUTTER M:0.45, D:56.4, O:25.0, T:3.25.	1091 450715	1+	£84.38
PINION CUTTER M:0.50, D:50.8, O:25.0, T:3.25.	1091 500715	1+	£84.38
PINION CUTTER M:0.55, D:46.2, O:25.0, T:3.25.	1091 550715	1+	£84.38
PINION CUTTER M:0.60, D:42.3, O:25.0, T:3.25.	1091 600715	1+	£84.38
PINION CUTTER M:0.65, D:39.1, O:25.0, T:3.25.	1091 650715	1+	£84.38
PINION CUTTER M:0.70, D:36.3, O:25.0, T:3.25.	1091 700715	1+	£84.38
PINION CUTTER M:0.75, D:33.9, O:25.5, T:4.50.	1091 750715	1+	£84.38
PINION CUTTER M:0.80, D:31.8, O:25.5, T:4.50.	1091 800715	1+	£105.47
PINION CUTTER M:0.85, D:29.9, O:25.5, T:4.50.	1091 850715	1+	£84.38
PINION CUTTER M:0.90, D:28.2, O:25.5, T:4.50.	1091 900715	1+	£84.38
PINION CUTTER M:0.95, D:26.7, O:25.5, T:4.50.	1091 950715	1+	£84.38
PINION CUTTER M:1.00, D:25.4, O:25.5, T:4.50.	1091 100715	1+	£84.84
PINION CUTTER M:1.10, D:23.09, O:28.0, T:7.00.	1091 110715	1+	£105.76
PINION CUTTER M:1.20, D:21.16, O:28.0, T:7.00.	1091 120715	1+	£105.76
PINION CUTTER M:1.30, D:19.53, O:28.0, T:7.00.	1091 130715	1+	£105.76
PINION CUTTER M:1.40, D:18.14, O:28.0, T:7.00.	1091 140715	1+	£105.76
PINION CUTTER M:1.50, D:16.93, O:28.0, T:7.00.	1091 150715	1+	£105.76

# 11. Tools

## PINION CUTTERS, 8 LEAVES FLAT BOTTOM

M = module in mm. D = Diametral pitch in teeth/inch. O = Outside diameter (nominal). T = Thickness (mm). All cutters have 12 teeth and a Bore Diameter of 7.00 mm except pinion cutters with a modulus smaller than or equal to 0.35mm which have a bore diameter of 3.5mm.

Price per unit in £ on 15/08/2017



PINION CUTTER M:0.20, D:127, O:14.0, T:2.00.	1091 200815	1+	£84.38
PINION CUTTER M:0.25, D:101.6, O:14.0, T:2.00.	1091 250815	1+	£84.38
PINION CUTTER M:0.30, D:84.7, O:14.0, T:2.00.	1091 300815	1+	£84.38
PINION CUTTER M:0.35, D:72.5, O:14.0, T:2.00.	1091 350815	1+	£84.38
PINION CUTTER M:0.40, D:63.5, O:25.0, T:3.25.	1091 400815	1+	£84.38
PINION CUTTER M:0.45, D:56.4, O:25.0, T:3.25.	1091 450815	1+	£84.38
PINION CUTTER M:0.50, D:50.8, O:25.0, T:3.25.	1091 500815	1+	£84.38
PINION CUTTER M:0.55, D:46.2, O:25.0, T:3.25.	1091 550815	1+	£84.38
PINION CUTTER M:0.60, D:42.3, O:25.0, T:3.25.	1091 600815	1+	£84.38
PINION CUTTER M:0.65, D:39.1, O:25.0, T:3.25.	1091 650815	1+	£84.38
PINION CUTTER M:0.70, D:36.3, O:25.0, T:3.25.	1091 700815	1+	£84.38
PINION CUTTER M:0.75, D:33.9, O:25.5, T:4.50.	1091 750815	1+	£84.38
PINION CUTTER M:0.80, D:31.8, O:25.5, T:4.50.	1091 800815	1+	£84.38
PINION CUTTER M:0.85, D:29.9, O:25.5, T:4.50.	1091 850815	1+	£84.38
PINION CUTTER M:0.90, D:28.2, O:25.5, T:4.50.	1091 900815	1+	£84.38
PINION CUTTER M:0.95, D:26.7, O:25.5, T:4.50.	1091 950815	1+	£84.38
PINION CUTTER M:1.00, D:25.4, O:25.5, T:4.50.	1091 100815	1+	£84.84
PINION CUTTER M:1.10, D:23.09, O:28.0, T:7.00.	1091 110815	1+	£105.76
PINION CUTTER M:1.20, D:21.16, O:28.0, T:7.00.	1091 120815	1+	£105.76
PINION CUTTER M:1.30, D:19.53, O:28.0, T:7.00.	1091 130815	1+	£105.76
PINION CUTTER M:1.40, D:18.14, O:28.0, T:7.00.	1091 140815	1+	£105.76
PINION CUTTER M:1.50, D:16.93, O:28.0, T:7.00.	1091 150815	1+	£105.76

## PINION CUTTERS, 10 LEAVES FLAT BOTTOM

M = module in mm. D = Diametral pitch in teeth/inch. O = Outside diameter (nominal). T = Thickness (mm). All cutters have 12 teeth and a Bore Diameter of 7.00 mm except pinion cutters with a modulus smaller than or equal to 0.35mm which have a bore diameter of 3.5mm.

Price per unit in £ on 15/08/2017



PINION CUTTER M:0.20, D:127, O:14.0, T:2.00.	1091 201015	1+	£84.38
PINION CUTTER M:0.25, D:101.6, O:14.0, T:2.00.	1091 251015	1+	£84.38
PINION CUTTER M:0.30, D:84.7, O:14.0, T:2.00.	1091 301015	1+	£84.38
PINION CUTTER M:0.35, D:72.5, O:14.0, T:2.00.	1091 351015	1+	£84.38
PINION CUTTER M:0.40, D:63.5, O:25.0, T:3.25.	1091 401015	1+	£84.38
PINION CUTTER M:0.45, D:56.4, O:25.0, T:3.25.	1091 451015	1+	£84.38
PINION CUTTER M:0.50, D:50.8, O:25.0, T:3.25.	1091 501015	1+	£84.38
PINION CUTTER M:0.55, D:46.2, O:25.0, T:3.25.	1091 551015	1+	£84.38
PINION CUTTER M:0.60, D:42.3, O:25.0, T:3.25.	1091 601015	1+	£84.38
PINION CUTTER M:0.65, D:39.1, O:25.0, T:3.25.	1091 651015	1+	£84.38
PINION CUTTER M:0.70, D:36.3, O:25.0, T:3.25.	1091 701015	1+	£84.38
PINION CUTTER M:0.75, D:33.9, O:25.5, T:4.50.	1091 751015	1+	£84.38
PINION CUTTER M:0.80, D:31.8, O:25.5, T:4.50.	1091 801015	1+	£84.38
PINION CUTTER M:0.85, D:29.9, O:25.5, T:4.50.	1091 851015	1+	£84.38
PINION CUTTER M:0.90, D:28.2, O:25.5, T:4.50.	1091 901015	1+	£84.38
PINION CUTTER M:0.95, D:26.7, O:25.5, T:4.50.	1091 951015	1+	£84.38
PINION CUTTER M:1.00, D:25.4, O:25.5, T:4.50.	1091 101015	1+	£84.84
PINION CUTTER M:1.10, D:23.09, O:28.0, T:7.00.	1091 111015	1+	£105.76
PINION CUTTER M:1.20, D:21.16, O:28.0, T:7.00.	1091 121015	1+	£105.76
PINION CUTTER M:1.30, D:19.53, O:28.0, T:7.00.	1091 131015	1+	£105.76
PINION CUTTER M:1.40, D:18.14, O:28.0, T:7.00.	1091 141015	1+	£105.76
PINION CUTTER M:1.50, D:16.93, O:28.0, T:7.00.	1091 151015	1+	£111.04

## PINION CUTTERS, 12 LEAVES FLAT BOTTOM

M = module in mm. D = Diametral pitch in teeth/inch. O = Outside diameter (nominal). T = Thickness (mm). All cutters have 12 teeth and a Bore Diameter of 7.00 mm except pinion cutters with a modulus smaller than or equal to 0.35mm which have a bore diameter of 3.5mm.

Price per unit in £ on 15/08/2017




PINION CUTTER M:0.20, D:127, O:14.0, T:2.00.	1091 201215	1+	£84.38
PINION CUTTER M:0.25, D:101.6, O:14.0, T:2.00.	1091 251215	1+	£84.38
PINION CUTTER M:0.30, D:84.7, O:14.0, T:2.00.	1091 301215	1+	£84.38
PINION CUTTER M:0.35, D:72.5, O:14.0, T:2.00.	1091 351215	1+	£84.38
PINION CUTTER M:0.40, D:63.5, O:25.0, T:3.25.	1091 401215	1+	£84.38
PINION CUTTER M:0.45, D:56.4, O:25.0, T:3.25.	1091 451215	1+	£84.38
PINION CUTTER M:0.50, D:50.8, O:25.0, T:3.25.	1091 501215	1+	£84.38
PINION CUTTER M:0.55, D:46.2, O:25.0, T:3.25.	1091 551215	1+	£84.38
PINION CUTTER M:0.60, D:42.3, O:25.0, T:3.25.	1091 601215	1+	£84.38
PINION CUTTER M:0.65, D:39.1, O:25.0, T:3.25.	1091 651215	1+	£84.38
PINION CUTTER M:0.70, D:36.3, O:25.0, T:3.25.	1091 701215	1+	£84.38
PINION CUTTER M:0.75, D:33.9, O:25.5, T:4.50.	1091 751215	1+	£84.38
PINION CUTTER M:0.80, D:31.8, O:25.5, T:4.50.	1091 801215	1+	£84.38
PINION CUTTER M:0.85, D:29.9, O:25.5, T:4.50.	1091 851215	1+	£84.38
PINION CUTTER M:0.90, D:28.2, O:25.5, T:4.50.	1091 901215	1+	£84.38
PINION CUTTER M:0.95, D:26.7, O:25.5, T:4.50.	1091 951215	1+	£84.38
PINION CUTTER M:1.00, D:25.4, O:25.5, T:4.50.	1091 101215	1+	£84.84
PINION CUTTER M:1.10, D:23.09, O:28.0, T:7.00.	1091 111215	1+	£105.76
PINION CUTTER M:1.20, D:21.16, O:28.0, T:7.00.	1091 121215	1+	£105.76
PINION CUTTER M:1.30, D:19.53, O:28.0, T:7.00.	1091 131215	1+	£105.76
PINION CUTTER M:1.40, D:18.14, O:28.0, T:7.00.	1091 141215	1+	£105.76
PINION CUTTER M:1.50, D:16.93, O:28.0, T:7.00.	1091 151215	1+	£105.76

# 11. Tools

## PINION CUTTERS, 16 LEAVES FLAT BOTTOM

M = module in mm. D = Diametral pitch in teeth/inch. O = Outside diameter (nominal). T = Thickness (mm). All cutters have 12 teeth and a Bore Diameter of 7.00 mm except pinion cutters with a modulus smaller than or equal to 0.35mm which have a bore diameter of 3.5mm.


Price per unit in £ on 15/08/2017

	PINION CUTTER M:0.20, D:127, O:14.0, T:2.00.	1091 201615	1+	£84.38
	PINION CUTTER M:0.25, D:101.6, O:14.0, T:2.00.	1091 251615	1+	£84.38
	PINION CUTTER M:0.30, D:84.7, O:14.0, T:2.00.	1091 301615	1+	£84.38
	PINION CUTTER M:0.35, D:72.5, O:14.0, T:2.00.	1091 351615	1+	£84.38
	PINION CUTTER M:0.40, D:63.5, O:25.0, T:3.25.	1091 401615	1+	£84.38
	PINION CUTTER M:0.45, D:56.4, O:25.0, T:3.25.	1091 451615	1+	£84.38
	PINION CUTTER M:0.50, D:50.8, O:25.0, T:3.25.	1091 501615	1+	£84.38
	PINION CUTTER M:0.55, D:46.2, O:25.0, T:3.25.	1091 551615	1+	£84.38
	PINION CUTTER M:0.60, D:42.3, O:25.0, T:3.25.	1091 601615	1+	£84.38
	PINION CUTTER M:0.65, D:39.1, O:25.0, T:3.25.	1091 651615	1+	£84.38
	PINION CUTTER M:0.70, D:36.3, O:25.0, T:3.25.	1091 701615	1+	£84.38
	PINION CUTTER M:0.75, D:33.9, O:25.5, T:4.50.	1091 751615	1+	£84.38
	PINION CUTTER M:0.80, D:31.8, O:25.5, T:4.50.	1091 801615	1+	£84.38
	PINION CUTTER M:0.85, D:29.9, O:25.5, T:4.50.	1091 851615	1+	£84.38
	PINION CUTTER M:0.90, D:28.2, O:25.5, T:4.50.	1091 901615	1+	£84.38
	PINION CUTTER M:0.95, D:26.7, O:25.5, T:4.50.	1091 951615	1+	£56.97
	PINION CUTTER M:1.00, D:25.4, O:25.5, T:4.50.	1091 102115	1+	£84.38
	PINION CUTTER M:1.00, D:25.4, O:25.5, T:4.50.	1091 101615	1+	£84.84
	PINION CUTTER M:1.10, D:23.09, O:28.0, T:7.00.	1091 111615	1+	£105.76
	PINION CUTTER M:1.20, D:21.16, O:28.0, T:7.00.	1091 121615	1+	£105.76
PINION CUTTER M:1.30, D:19.53, O:28.0, T:7.00.	1091 131615	1+	£105.76	
PINION CUTTER M:1.40, D:18.14, O:28.0, T:7.00.	1091 141615	1+	£105.76	
PINION CUTTER M:1.50, D:16.93, O:28.0, T:7.00.	1091 151615	1+	£105.76	

## WHEEL CUTTERS, ROUND BOTTOM

M = module in mm. D = Diametral pitch in teeth/inch. O = Outside diameter (nominal). T = Thickness (mm). All cutters have 12 teeth and a Bore Diameter of 7.00 mm except pinion cutters with a modulus smaller than or equal to 0.35mm which have a bore diameter of 3.5mm.


Price per unit in £ on 15/08/2017

	PINION CUTTER M:0.20, D:127, O:14.0, T:2.00.	1091 202315	1+	£84.38
	PINION CUTTER M:0.25, D:101.6, O:14.0, T:2.00.	1091 252315	1+	£84.38
	PINION CUTTER M:0.30, D:84.7, O:14.0, T:2.00.	1091 302315	1+	£84.38
	PINION CUTTER M:0.35, D:72.5, O:14.0, T:2.00.	1091 352315	1+	£84.38
	PINION CUTTER M:0.40, D:63.5, O:25.0, T:3.25.	1091 402315	1+	£84.38
	PINION CUTTER M:0.45, D:56.4, O:25.0, T:3.25.	1091 452315	1+	£84.38
	PINION CUTTER M:0.50, D:50.8, O:25.0, T:3.25.	1091 502315	1+	£84.38
	PINION CUTTER M:0.55, D:46.2, O:25.0, T:3.25.	1091 552315	1+	£84.38
	PINION CUTTER M:0.60, D:42.3, O:25.0, T:3.25.	1091 602315	1+	£84.38
	PINION CUTTER M:0.65, D:39.1, O:25.0, T:3.25.	1091 652315	1+	£84.38
	PINION CUTTER M:0.70, D:36.3, O:25.0, T:3.25.	1091 702315	1+	£88.12
	PINION CUTTER M:0.75, D:33.9, O:25.5, T:4.50.	1091 752315	1+	£84.38
	PINION CUTTER M:0.80, D:31.8, O:25.5, T:4.50.	1091 802315	1+	£92.53
	PINION CUTTER M:0.85, D:29.9, O:25.5, T:4.50.	1091 852315	1+	£84.38
	PINION CUTTER M:0.90, D:28.2, O:25.5, T:4.50.	1091 902315	1+	£84.38
	PINION CUTTER M:0.95, D:26.7, O:25.5, T:4.50.	1091 952315	1+	£84.38
	PINION CUTTER M:1.00, D:25.4, O:25.5, T:4.50.	1091 102315	1+	£84.38

## WHEEL CUTTERS, FLAT BOTTOM

M = module in mm. D = Diametral pitch in teeth/inch. O = Outside diameter (nominal). T = Thickness (mm). All cutters have 12 teeth and a Bore Diameter of 7.00 mm except pinion cutters with a modulus smaller than or equal to 0.35mm which have a bore diameter of 3.5mm.

Price per unit in £ on 15/08/2017


	PINION CUTTER M:0.20, D:127, O:14.0, T:2.00.	1091 202115	1+	£84.38
	PINION CUTTER M:0.25, D:101.6, O:14.0, T:2.00.	1091 252115	1+	£84.38
	PINION CUTTER M:0.30, D:84.7, O:14.0, T:2.00.	1091 302115	1+	£84.38
	PINION CUTTER M:0.35, D:72.5, O:14.0, T:2.00.	1091 352115	1+	£84.38
	PINION CUTTER M:0.40, D:63.5, O:25.0, T:3.25.	1091 402115	1+	£84.38
	PINION CUTTER M:0.45, D:56.4, O:25.0, T:3.25.	1091 452115	1+	£84.38
	PINION CUTTER M:0.50, D:50.8, O:25.0, T:3.25.	1091 502115	1+	£84.38
	PINION CUTTER M:0.55, D:46.2, O:25.0, T:3.25.	1091 552115	1+	£84.38
	PINION CUTTER M:0.60, D:42.3, O:25.0, T:3.25.	1091 602115	1+	£84.38
	PINION CUTTER M:0.65, D:39.1, O:25.0, T:3.25.	1091 652115	1+	£84.38
	PINION CUTTER M:0.70, D:36.3, O:25.0, T:3.25.	1091 702115	1+	£84.38
	PINION CUTTER M:0.75, D:33.9, O:25.5, T:4.50.	1091 752115	1+	£84.38
	PINION CUTTER M:0.80, D:31.8, O:25.5, T:4.50.	1091 802115	1+	£84.38
	PINION CUTTER M:0.85, D:29.9, O:25.5, T:4.50.	1091 852115	1+	£90.76
	PINION CUTTER M:0.90, D:28.2, O:25.5, T:4.50.	1091 902115	1+	£84.38
	PINION CUTTER M:0.95, D:26.7, O:25.5, T:4.50.	1091 952115	1+	£84.38
	PINION CUTTER M:1.10, D:23.09, O:28.0, T:7.00.	1091 112115	1+	£111.04
	PINION CUTTER M:1.20, D:21.16, O:28.0, T:7.00.	1091 122115	1+	£105.76
	PINION CUTTER M:1.30, D:19.53, O:28.0, T:7.00.	1091 132115	1+	£105.76
	PINION CUTTER M:1.40, D:18.14, O:28.0, T:7.00.	1091 142115	1+	£105.76
PINION CUTTER M:1.50, D:16.93, O:28.0, T:7.00.	1091 152115	1+	£105.76	

# 11. Tools

## WHEEL CUTTERS, SHORT FORM

M = module in mm. D = Diametral pitch in teeth/inch. O = Outside diameter (nominal). T = Thickness (mm). All cutters have 12 teeth and a Bore Diameter of 7.00 mm except pinion cutters with a modulus smaller than or equal to 0.35mm which have a bore diameter of 3.5mm.

Price per unit in £ on 15/08/2017


	PINION CUTTER M:0.20, D:127, O:14.0, T:2.00.	1091 202215	1+	£88.12
	PINION CUTTER M:0.25, D:101.6, O:14.0, T:2.00.	1091 252215	1+	£88.12
	PINION CUTTER M:0.30, D:84.7, O:14.0, T:2.00.	1091 302215	1+	£88.12
	PINION CUTTER M:0.35, D:72.5, O:14.0, T:2.00.	1091 352215	1+	£88.12
	PINION CUTTER M:0.40, D:63.5, O:25.0, T:3.25.	1091 402215	1+	£88.12
	PINION CUTTER M:0.45, D:56.4, O:25.0, T:3.25.	1091 452215	1+	£88.12
	PINION CUTTER M:0.50, D:50.8, O:25.0, T:3.25.	1091 502215	1+	£88.12
	PINION CUTTER M:0.55, D:46.2, O:25.0, T:3.25.	1091 552215	1+	£88.12
	PINION CUTTER M:0.60, D:42.3, O:25.0, T:3.25.	1091 602215	1+	£88.12
	PINION CUTTER M:0.65, D:39.1, O:25.0, T:3.25.	1091 652215	1+	£88.12
	PINION CUTTER M:0.70, D:36.3, O:25.0, T:3.25.	1091 702215	1+	£88.12
	PINION CUTTER M:0.75, D:33.9, O:25.5, T:4.50.	1091 752215	1+	£88.12
	PINION CUTTER M:0.80, D:31.8, O:25.5, T:4.50.	1091 802215	1+	£92.53
	PINION CUTTER M:0.85, D:29.9, O:25.5, T:4.50.	1091 852215	1+	£88.12
	PINION CUTTER M:0.90, D:28.2, O:25.5, T:4.50.	1091 902215	1+	£88.12
PINION CUTTER M:0.95, D:26.7, O:25.5, T:4.50.	1091 952215	1+	£88.12	
PINION CUTTER M:1.00, D:25.4, O:25.5, T:4.50.	1091 102215	1+	£88.12	

## ESCAPEMENT WHEEL CUTTER

Diameter 26mm. Bore 7.00mm. No. of teeth on cutter: 60. R:Radius. P:Pitchless tooth tip thickness. T: Thickness nominal. All dimensions in mm. Fine tooth series, cannot be sharpened.

To calculate the escape wheel tooth pitch in order to select the right cutter: multiply the tip diameter D by 'pi' then divide by the number of teeth. Example: for a tip diameter D = 1.375" and a No. of teeth N = 29; Pitch = 3.142x1.375/29 = 0.148". Use cutter size B Dead Beat.

Price per unit in £ on 15/08/2017


	RECOIL ESCAPEMENT WHEEL CUTTER 1E R:3.28, P:1.31, T:1.64.	1150 328115	1+	£78.46
	RECOIL ESCAPEMENT WHEEL CUTTER 2E R:4.10, P:1.64, T:2.05.	1150 410115	1+	£78.46
	RECOIL ESCAPEMENT WHEEL CUTTER 3E R:5.12, P:2.05, T:2.56.	1150 512215	1+	£78.46
	RECOIL ESCAPEMENT WHEEL CUTTER 4E R:6.40, P:2.50, T:3.20.	1150 640215	1+	N/A
	RECOIL ESCAPEMENT WHEEL CUTTER 5E R:8.00, P:3.20, T:4.00.	1150 803215	1+	£78.46
	RECOIL ESCAPEMENT WHEEL CUTTER 6E R:10.00, P:4.00, T:4.50.	1150 104015	1+	£78.46
	RECOIL ESCAPEMENT WHEEL CUTTER 7E R:12.50, P:5.00, T:5.80.	1150 122515	1+	£78.46

## DEAD BEAT ESCAPEMENT WHEEL CUTTER

Diameter 30mm. Bore 7.00mm. No. of teeth on cutter: 60. O:Outside diameter of escape wheel. P: Pitchless tooth tip thickness. T: Thickness nominal. D:Diameter nominal. All Dimensions are in inches.

To calculate the escape wheel tooth pitch in order to select the right cutter: multiply the tip diameter D by 'pi' then divide by the number of teeth. Example: for a tip diameter D = 1.375" and a No. of teeth N = 29; Pitch = 3.142x1.375/29 = 0.148". Use cutter size B Dead Beat.

Price per unit in £ on 15/08/2017


	DEAD BEAT ESCAPEMENT WHEEL CUTTER A O:1.75, P:0.183, T:0.200, D:1.181.	1151 175015	1+	£74.72
	DEAD BEAT ESCAPEMENT WHEEL CUTTER B O:1.42, P:0.148, T:0.162, D:1.181.	1151 142015	1+	£78.46
	DEAD BEAT ESCAPEMENT WHEEL CUTTER C O:1.08, P:0.113, T:0.123, D:1.181.	1151 108015	1+	£78.46
	DEAD BEAT ESCAPEMENT WHEEL CUTTER D O:0.75, P:0.078, T:0.086, D:1.181.	1151 075015	1+	£92.58

## RADIUSED TOOTH RATCH CUTTER

Diameter 26mm. No. of teeth on cutter: 60. R:Radius. D:Diameter of ratchet. T:Thickness. All Dimensions are in mm.

To calculate the escape wheel tooth pitch in order to select the right cutter: multiply the tip diameter D by 'pi' then divide by the number of teeth. Example: for a tip diameter D = 1.375" and a No. of teeth N = 29; Pitch = 3.142x1.375/29 = 0.148". Use cutter size B Dead Beat.

Price per unit in £ on 15/08/2017


	RADIUSED TOOTH RATCH CUTTER R:4.00, D:8.00, T:2.70.	1152 040815	1+	£78.46
	RADIUSED TOOTH RATCH CUTTER R:6.00, D:12.00, T:4.00.	1152 061215	1+	£78.46
	RADIUSED TOOTH RATCH CUTTER R:9.00, D:18.00, T:6.00.	1152 091815	1+	£78.46
	RADIUSED TOOTH RATCH CUTTER R:13.50, D:27.00, T:9.00.	1152 132715	1+	£78.46

## STRAIGHT TOOTH RATCH CUTTER

Diameter 28mm. Bore 7.00mm. No. of teeth on cutter:12. Angles of 60 and 70 degrees. All dimensions are in mm.

To calculate the escape wheel tooth pitch in order to select the right cutter: multiply the tip diameter D by 'pi' then divide by the number of teeth. Example: for a tip diameter D = 1.375" and a No. of teeth N = 29; Pitch = 3.142x1.375/29 = 0.148". Use cutter size B Dead Beat.

Price per unit in £ on 15/08/2017


	STRAIGHT TOOTH RATCH CUTTER 60 DEGREE ANGLE	1153 600715	1+	£84.38
	STRAIGHT TOOTH RATCH CUTTER 70 DEGREE ANGLE	1153 700715	1+	£84.38

## MUSICAL BOX WORM WHEEL CUTTER

Diameter 25mm. Bore 7.00mm. No. of teeth on cutter: 12. SP:Standard pitch. SD:Standard depth. MP:Max pitch. MD:Max depth. T:Tip width of cutter. All dimensions are in mm.

To calculate the escape wheel tooth pitch in order to select the right cutter: multiply the tip diameter D by 'pi' then divide by the number of teeth. Example: for a tip diameter D = 1.375" and a No. of teeth N = 29; Pitch = 3.142x1.375/29 = 0.148". Use cutter size B Dead Beat.

Price per unit in £ on 15/08/2017


	MUSICAL BOX WORM WHEEL CUTTER '00' SP:0.63, SD:0.52, MP:0.80, MD:0.89, T:0.20.	1154 635215	1+	£84.38
	MUSICAL BOX WORM WHEEL CUTTER '0' SP:0.82, SD:0.67, MP:1.04, MD:1.15, T:0.26.	1154 826715	1+	£84.38
	MUSICAL BOX WORM WHEEL CUTTER '1' SP:1.10, SD:0.90, MP:1.40, MD:1.55, T:0.35.	1154 110915	1+	£84.38
	MUSICAL BOX WORM WHEEL CUTTER '2' SP:1.40, SD:1.55, MP:1.80, MD:1.98, T:0.45.	1154 141115	1+	£80.37
	MUSICAL BOX WORM WHEEL CUTTER '3' SP:1.80, SD:1.47, MP:2.30, MD:2.54, T:0.57.	1154 181415	1+	£80.37
	MUSICAL BOX WORM WHEEL CUTTER '4' SP:2.30, SD:1.88, MP:2.90, MD:3.24, T:0.73.	1154 231815	1+	£80.37



# 11. Tools


## HAND DRILLS

Price per unit in £ on 15/08/2017

	<b>BIT BRACE MINI DRILL</b> Hand held drill tool, compatible with all mini HSS drill bits. Has capacity for drill bits from 0.30mm to 1mm. Adjustable metal twist chuck, hard plastic body.	<b>1621 000115</b>	1+	£7.36
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## AMPLITIC BEAT AMPLIFIERS

Price per unit in £ on 15/08/2017

	<b>AMPLITIC BEAT AMPLIFIER Personal</b> Ideal for listening to the escapement of any mechanical clock, using the pickup and earphones. In other words, the 'Clockmakers stethoscope' TM. Supplied with audio cable, to play the output via a PC or other aux. amplifier.	<b>1496 000115</b>	1+ 10+	£25.85 £23.26
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## CLARKE LATHE AND ACCESSORIES - AUTHENTIC CLARKE ACCESSORIES



Price per unit in £ on 15/08/2017

<b>1 METAL LATHE</b> This superb precision mini lathe is designed to perform a wide variety of tasks. Solidly manufactured, the CL300M has a cast iron bedway and many features usually found on machines twice its size and price. This machine can be used to turn mini precision parts and in model making, using the power feed, imperial screw cutting and includes a four way tool post and compound mitre slide. The lathe comes complete with a gear change kit and the spanners and allen keys needed for setting up and there are many optional extras available, enabling you to up-grade your machine to suit your individual needs. 300 watt, 230v 1ph electric motor with variable speed control 100-2500rpm Power feed operation with imperial screw cutting left & right hand threads. Includes compound mitre slide, 4 way tool post, self centering 3 jaw 80mm chuck, splashguard & undertray. Spindle taper MT3 - Bore 20mm Safety features include prominent emergency stop button & chuck guard. Dimensions (LWH) 820x295x300mm. Weight 40Kg	<b>1614 700115</b>	1+ 1+	£634.94 £634.94
<b>2 5 PIECE CUTTING TOOL SET</b> A five piece P30 grade drop forged steel cutting tools with tungsten carbide cutting tips. Includes bar turning tool, straight finishing tool, 2 x cranked knife tool and parting-off tool. Tool body sizes are all 8 x 8mm. Genuine Clarke accessories. This 5 piece set is also available alongside the 6 piece set (1614 730115) in the complete 11 piece tool set (1614 731115).	<b>1614 729115</b>	1+	£14.65
<b>3 6 PIECE CUTTING TOOL SET</b> A six piece P30 grade drop forged steel cutting tools with tungsten carbide cutting tips. Includes cranked turning & facing tool, rough boring tool, inside corner tool, recessing tool, cranked facing tool & cranked knife tool. Tool body sizes are all 8 x 8mm. For use with Clarke CL300M Lathe. This 6 piece set is also available alongside the 5 piece set (1614 729115) in the complete 11 piece tool set (1614 731115).	<b>1614 730115</b>	1+	£16.85
<b>4 METRIC THREAD CONVERSION KIT</b> A popular accessory for the CL300M metal cutting lathe that enables metric threads to be cut in addition to imperial threads which features as standard on the CL 300M. Genuine Clarke accessories.	<b>1614 720115</b>	1+	£27.50
<b>5 11 PIECE CUTTING TOOL SET</b> An eleven piece P30 grade drop forged steel cutting set with tungsten carbide cutting tips. Includes bar turning, cranked turning & facing, rough boring, inside corner, straight finishing, recessing, cranked facing, 3 x cranked knife and parting-off tools. Tool body sizes are all 8 x 8mm. Genuine Clarke. This 11 piece set combines all of the tools available in the smaller 5 piece set (1614 729115) and the 6 piece set (1614 730115).	<b>1614 731115</b>	1+	£28.56
<b>6 4 JAW INDEPENDENT CHUCK</b> A popular accessory for the CL 300M metal working lathe as an alternative to the standard 3-jaw chuck supplied. 4 independent reversible jaws mean a wide variety of odd shaped work pieces can be securely gripped. Genuine Clarke accessories.	<b>1614 721115</b>	1+	£79.44
<b>7 REVOLVING CENTRE MT2</b> A popular accessory for the CL300M metal lathe to fit the tailstock. Provides additional support and centring for the workpiece. Genuine Clarke accessories.	<b>1614 727115</b>	1+	£13.72
<b>8 MOVING STEADY</b> A popular accessory for the CL300M metal lathe providing travelling support for the workpiece. Genuine Clarke accessories.	<b>1614 724115</b>	1+	£27.50
<b>9 DIGITAL SPINDLE SPEED DISPLAY</b> For use with the Clarke CL300M Lathe, this digital display provides a reading of the RPM of the workpiece. Genuine Clarke accessories.	<b>1614 812115</b>	1+	£68.84
<b>10 HEADSTOCK CENTRE</b> A popular accessory for the CL300M metal lathe, the headstock centre is gripped by the lathe chuck and is used to secure the workpiece to ensure that it does not rotate out of true. Genuine Clarke accessories.	<b>1614 726115</b>	1+	£6.30
<b>11 6 POINT TURNING SET</b> A popular accessory for the CL300M metal lathe. Genuine Clarke accessories.	<b>1614 728115</b>	1+	£29.62
<b>12 TAILSTOCK CHUCK</b> A popular accessory for the CL300M metal lathe, the tailstock chuck provides improved support for the workpiece at the tailstock end. Supplied complete with chuck key. Genuine Clarke accessories.	<b>1614 725115</b>	1+	£25.38
<b>13 FIXED STEADY</b> A popular accessory for the CL300M metal cutting lathe providing static support for the workpiece. Genuine Clarke accessories.	<b>1614 722115</b>	1+	£33.86
<b>14 160mm FACE PLATE</b> The Clarke 160mm diameter face plate mounts to the lathe's headstock and is machined with multiple fixing slots to allow larger diameter workpieces to be successfully mounted and supported. For use with the CL300M metal lathe. Genuine Clarke accessories.	<b>1614 723115</b>	1+	£24.36

# 11. Tools

## CLARKE MILLING MACHINE AND ACCESSORIES - AUTHENTIC CLARKE ACCESSORIES



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8			<b>Buy Online @ www.m-p.co.uk</b>	<b>Call Harvey 24 Hours</b>	<b>Call Harvey our Automated Sales line</b>		<b>Call Harvey for Same day dispatch*</b>  * Conditions apply						

Price per unit in £ on 15/08/2017

<b>1</b>	<b>MILLING DRILLING MACHINE</b> Highly precise drilling & milling machine, ideal perhaps for a smaller or more compact workshop, or simply where space is an issue. Bench mountable, the CMD300 has a head that tilts 45° left & right (from vertical), is robustly constructed from steel. It also comes with all the necessary tools & accessories to successfully use and maintain it. Such accessories include a drill chuck & taper shank plus lubricating oil, fixing pin, hex keys, a 'C' spanner, 3 wrenches, drill chuck key, drill handles, table adjusting wheels, 'T'-Nuts and draw bar for the spindle lock. Table cross / longitudinal travel - 100 / 187mm Spindle speeds - 0 to 2500rpm Spindle Speeds: 0-2500 470w, 230v motor Spindle Taper: MT3 Table Effective Size LxW(mm): 92mm x 400mm Dimensions depth x width x height: 514 x 506 x 756mm.	<b>1615 860015</b>	1+	N/A
<b>2</b>	<b>MILL CHUCK SET</b> Set includes: 2pce milling chuck with integral MT3 Taper spindle; 7 collets - 4, 6, 8, 10, 12, 14, & 16mm dia (MT3); 'C' spanner (38 to 42mm jaw opening). For use with Clarke CMD300 mill/drill machine.	<b>1615 866115</b>	1+	N/A
<b>3</b>	<b>42 PIECE CLAMPING SET MILL/DRILL</b> A 42 piece clamping set secured to a slotted worktable prior to drilling or milling. For use with the CMD300 miller driller. Full set contains: • 12 stepped clamp wedges (3 sizes) • 12 nuts (4 each of the following with M10 threads) - 17mm shouldered nut, 27x17mm long nut & 12mm 'T' nut • 6 slotted clamps in 3 sizes (2 of each) • 12 double-ended M10 studs (2 each 75, 100, 125, 150, 175 & 200mm long)	<b>1615 872115</b>	1+	N/A
<b>4</b>	<b>QUICK RELEASE VICE</b> 98.5x22.5 (WxD) jaw size. Jaws Open to 91mm. For Clarke milling drilling machine CMD300.	<b>1615 868115</b>	1+	N/A
<b>5</b>	<b>CARBIDE END MILL</b> A 30mm long, MT3 tapered indexable carbide tipped End Mill Cutter to fit the Clarke CMD300 Mill Drill. Genuine Clarke.	<b>1615 870115</b>	1+	N/A
<b>6</b>	<b>7 PIECE MT3 TAPER COLLET SET</b> A useful 7 piece MT Taper Collet set for the Clarke CMD300 Mill Drill. Includes 4, 6, 8, 10, 12, 14 & 16mm diameter collets.	<b>1615 864115</b>	1+	N/A
<b>7</b>	<b>7 PIECE FLUTE END MILL SET</b> A useful 7 piece set of 2 Flute End Mill Cutters for use with the Clarke CMD300 milling drilling machine. Sizes included 4, 6, 8, 10, 12, 14, 16mm. Genuine Clarke accessories.	<b>1615 874115</b>	1+	N/A
<b>8</b>	<b>DRILL PRESS VICE.</b> Tough cast iron vice ideal for use with drill resses, can also be used as a bench vice. Genuine Clarke accessories. Jaw width 76mm, Max opening 78mm, Depth 19mm, Weight 2.1kg.	<b>1615 001915</b>	1+	£9.48

## THE EMCO UNIMAT 4 LATHE & ACCESSORIES

The Unimat has been the standard lathe for clockmakers for decades. A wide range of accessories and tools is available, as are several books specifically written about its use.

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Price per unit in £ on 15/08/2017

<b>1</b>	<b>3 JAW CHUCK FOR UNIMAT 4</b> Ideal for holding drills etc. Simply screws onto the tailstock nose.	<b>1475 000215</b>	1+	£19.08
<b>2</b>	<b>4 JAW CHUCK FOR EMCO LATHE</b> The four jaw chuck can hold square bar stock but also asymmetric workpieces. Reversible jaws allows for holding awkward pieces. Each jaw independantly adjustable and reversible.	<b>1475 150420</b>	1+	£106.15
<b>3</b>	<b>SET OF 6 TURNING TOOLS FOR UNIMAT LATHE</b> 6 assorted general purpose tools.	<b>1475 000315</b>	1+	£56.07
<b>4</b>	<b>TOOL ASSORTMENT FOR MILLING AND DRILLING.</b>	<b>1475 172020</b>	1+	£58.45
<b>5</b>	<b>CENTRE FOR UNIMAT LATHE</b> Simply screws onto the tailstock nose and provides a free running centre to support long work etc. You should not work on material that extends past the chuck more than three times its diameter without a support.	<b>1475 000415</b>	1+	£22.68
<b>6</b>	<b>MOUNTING BASE FOR UNIMAT 4</b> This purpose made wooden base make an excellent platform to mount the lathe, and includes a tool drawer. The lathe needs to be secured when in use and this makes the unit truly portable around the workshop.	<b>1475 000515</b>	1+	£41.76