Clockmaker: Conservation, Restoration, Repair.

Consumables

Introduction:

Details the operational products needed for a small horological workshop, largely follows the format of the tools list:

Caveats:

• The list was drawn up to be useful to me - research time was limited. As with the tools list, if I had the time I'd make some tweaks to this, but overall it is still useful. However, it should not be considered exhaustive or definitive. Use with caution.

Structure

- Item name, in alphabetical order. This is spread over two columns to allow sub-classification and elimination of repetition.
- Priority when items should be purchased, uses the same classifications as the tools list:
- *Tbx/Wkshp* identifies where the consumables are likely to be needed and follows the tools list conventions.
- Notes contains basic information about the item. Such as: a very brief description, the way it tends to be used, what makes for a good (or bad) example, etc.
- Budget if an item needs to be bought, roughly what will need to be spent.
- Purchasing advice information as to where an item can be bought, which brands are appropriate, and any other specific information.

JON COLOMBO

Item		Priority	Where	Notes	Setup Budget	Purchas
Abras	ive Paper	JIT	Wkshp	3M aluminium oxide, polyester backing. imperial micro finishing film, available in an assorted pack. Do not get the self adhesive pack. 40,30,20 and 9 micron surfaces. Then the lapping film takes over, 9, 12, 3 and 1 micron. When it arrives, sort it out into the different grades and keep separate, otherwise you get cross contamination.	£40	Cousins and Walsh do assorted packs.
Acid F	ree Paper	Base	Tbx	General purpose short-term wrapping, spreading on surfaces for disassembly, even cleaning things. (Use instead of newspaper). If you can find it on a roll, it is easier to carry.	£15	Buy the cheap stuff, buy in a ream, big statione
Bindir	ng Wire	Base	Wkshp	Soft iron wire for use in hardening and tempering small items, tying up items for silver soldering and so on.	£3	Sold for floristry and flower arranging, available
Boxw	ood	Lux	Wkshp	Used for making boxwood chucks to hold wheels whilst boring out concentric centres.	£25	Source from specialist timber suppliers, e.g. from uses only the largest cross-sections of boxwood Fortunately pieces of soft plastic (e.g. nylon) can birchwood) plywood can also be used.
Brass		t	ŧ	Over time aim to build up a stock-cabinet of scrap, these stocks should get you going.	ŧ	lan Coot for short lengths, but be careful it is n wholesale metal supplier e.g. Smith's metals.
	Wire	Base	Tbx	Hard drawn brass wire, comes in 6 inch lengths - need a stock of sizes (note that the useful sizes get used up) between 0.5 and 1.6 the sizes don't seem to relate directly to mm.	£30	Can get individual sizes from HS Walsh, but if y watchmaker's brass wire). Another alternative is to use the old gongs from
	Cast	JIT	Wkshp	Colour of cast brass is yellower, matches antique clocks better than modern brasses. Purchase as and when needed. The ideal is a 'pure' 70/30 mix, but even mixes with some contaminants in will provide better coloration than modern machine brass.	£150	Needs a specialist supplier e.g. Priory Casting
	CZ108	Base	Wkshp	Doesn't have lead in it, so is both malleable and springy once hammer hardened. Keep a small piece, in stock 0.8mm for Fly-springs. Otherwise JIT.	£20	Smiths Metals or local metal supplier if you can
	CZ120	Base	Wkshp	Standard machinable brass, keep a small stock of sizes from 1mm to 3.5mm for wheels. Otherwise, buy as needed.	£30	Smiths Metals or local metal supplier.
	CZ131 Bar	Base	Wkshp	Keep a short stick of each 6, 9, 12, 18mm in stock, otherwise buy as needed.	£30	Smiths Metals or local metal supplier.
Brazir	ng Rod	JIT	Wkshp	Gives brass joint a strong bond without the grey line given by solder. Look for one with no cadmium in it, and not flux coated.	£10	Good DIY or model engineering stores.
Bright	tening Solution	JIT	Wkshp	if you must brighten brass, then do *not* use Horolene, it corrodes! Use Elma Cleaner.	£40	Elma Reingungs-losung-wf.
Bushi	ng Wire	Base	Wkshp	Keep 2.5, 3, 3.5, 4mm in stock, otherwise buy in as needed, as the smaller ones don't get used very often.	£32	c £8 per set, HS Walsh.
Candl	e	Base	Tbx	Small piece of candle for easing rails, runners, and hinges on clock cases.	£0	Hardware store if you can't find some at home
Chain		JIT	Wkshp	To hang weights from.		Buy when needed, there are too many variable Passmore supply.
Clean	ing Fluids	Ŧ	Ŧ	t -	+	
	Acetone	JIT	Wkshp	A more aggressive solvent than white spirit, useful for heavy greasy deposits and as a medium for some conservation grade adhesives, e.g. Paraloid B72.	£2	Can be bought online in larger quantities, wher remover. Alternatively acetone-based nail pol supermarkets at around £1.50 for a 250ml bott
	Brightening Solution	JIT	Wkshp	if you must brighten brass, then do *not* use Horolene, it corrodes! Use Elma cleaner.	£40	Elma Reingungs-losung-wf.
	Distilled Water	Base	Wkshp	General cleaning and flushing out.	£5	Halfords or similar - battery topping up water.
	IMS	JIT	Wkshp	Industrial methalated spirits - for general cleaning - does not have the purple die in it that retail meths has.	£30	(Note you need to register with customs and extension of the there are lots of suppliers, e.g. http://www
	L&R #3 Watch Rinsing Fluid	JIT	Wkshp	Cleaning solution which doesn't leave residue, so can be worth using for the final rinse stage of a cleaning process.	£35	HS Walsh Ref: HF 602.

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oners or any packaging materials company.

ble from various internet suppliers.

from the internet. Unfortunately for horological vood are useful.

can be substituted. Fine-grained (e.g.

s not cheaper to buy in long lengths from an

if you can, buy at auctions, ebay (search for

rom westminster striking clocks!

ings, Harting Foundries.

can find one.

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bles to hold a stock of this. Meadows and

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nere it is sold as a professional nail-polish polish removers can be found in most ottle, although this will have a dye in it.

excise before you can buy this, simple process) ww.chemicals.co.uk/denatured-alcohol-ims

Item		Priority	Where	Notes	Setup	Purchasi
	L&R #4 Watch Rinsing	CCJIT	Wkshp	If you have a watch cleaning machine and are brightening carriage clock parts, then this	Budget £35	HS Walsh Ref: HF604.
	Solution			is the solution to use.		
	White Spirit	Base	Tbx	 3 stage cleaning process using white spirit: 1 to clean loose dirt and grease off. 2 to get it pretty clean. 3 to rinse. so keep 3 separate bottles, and will need a few litres on hand. 	£10	For 1) and 2) any cheap white spirit from a DIY For 3) L&R IMS watch rinsing solution or more r
Cloth		Base	Tbx	Supply of clean absorbent rags. Useful for all sorts of things, cleaning, polishing, packing etc. MUST be lint free. Keep a small box.	£0	Selvyt cloth is ideal, but good quality lint free co
Cotto	n Tape	Base	Tbx	General purpose, tying back doors during transport, cleaning holes, tying keys. Go for 12 or 16mm as this is the most useful. Keep several metres in stock.	£10	Try Preservation Equipment Ltd. They do 6, 10
Cork		Ŧ	Ŧ	Ļ	Ļ	-
	Block	Base	Wkshp	Decorators cork block, useful both as a soft rest/holder when working on items and used slightly damp with pumice powder to obtain an even matt surface. Need to keep one or two in stock.	£4	From any decorator's merchant or DIY store.
	Tile	Base	Wkshp	Thin cork tile for holding items on when finishing, filing etc.	£10	DIY Stores. Buy as small a quantity as you can.
	Wine	Base	Tbx	(From wine bottle) used for holding small components, filing things flat, removing burrs etc.	£0	N/A.
Crean	n of Tartar	JIT	Wkshp	Use as mild abrasive for cleaning silvered dials and for prepping them for re-silvering. A small tub lasts a very long time as you only use it a teaspoon at a time.	£3	Supermarket.
Day B	ook	Base	Tbx	Hard-bound notebook, ideally blank pages for recording what has been done to what, how, when and with what. Loose leaf folders do not work well for this.	£7	Worth buying reasonable quality as they last.
Deter	gents/Surficants	Ŧ	Ŧ	Ļ	↓	1
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	Surecare Sensitive	JIT		Easily available mild detergent that is known to have a low salt content, can be used in place of more specialist conservation products.	£4	Large supermarkets, buy by the Litre.
		JIT	Wkshp		•	Large supermarkets, buy by the Litre. Conservation Resources Ltd.
	Surecare Sensitive		Wkshp Wkshp	place of more specialist conservation products. Specialist conservation detergent, mix to 15% by volume. Useful for taking the wax off cases etc.	£4	
	Surecare Sensitive Symperonic A7	JIT	Wkshp Wkshp Wkshp	place of more specialist conservation products.Specialist conservation detergent, mix to 15% by volume. Useful for taking the wax off cases etc.Small quantities only needed.Specialist conservation non-ionic surfactant (wetting agent) for sensitive cleaning of hard materials e.g. dials.	£4 £10	Conservation Resources Ltd.
	Surecare Sensitive Symperonic A7 Triton X	JIT JIT	Wkshp Wkshp Wkshp	place of more specialist conservation products.Specialist conservation detergent, mix to 15% by volume. Useful for taking the wax off cases etc.Small quantities only needed.Specialist conservation non-ionic surfactant (wetting agent) for sensitive cleaning of hard materials e.g. dials.Small quantities only needed.For general cleaning around the workshop. Note that most washing up liquids have both salt and 'shine' products in them, and so should not be used where conservation	£4 £10 £30	Conservation Resources Ltd. Specialist laboratory and dental suppliers.
	Surecare Sensitive Symperonic A7 Triton X Washing up liquid	JIT JIT Base	Wkshp Wkshp Wkshp Wkshp	place of more specialist conservation products.Specialist conservation detergent, mix to 15% by volume. Useful for taking the wax off cases etc.Small quantities only needed.Specialist conservation non-ionic surfactant (wetting agent) for sensitive cleaning of hard materials e.g. dials.Small quantities only needed.For general cleaning around the workshop. Note that most washing up liquids have both salt and 'shine' products in them, and so should not be used where conservation is a requirement.Specialist non-corrosive, non-foaming, germicidal cleaning agent, soluable in both	£4 £10 £30 £3	Conservation Resources Ltd. Specialist laboratory and dental suppliers. Any supermarket, buy by the litre.
	Surecare Sensitive Symperonic A7 Triton X Washing up liquid Vulpex Spirit Soap	JIT JIT Base JIT	Wkshp Wkshp Wkshp Wkshp	place of more specialist conservation products.Specialist conservation detergent, mix to 15% by volume. Useful for taking the wax off cases etc.Small quantities only needed.Specialist conservation non-ionic surfactant (wetting agent) for sensitive cleaning of hard materials e.g. dials.Small quantities only needed.For general cleaning around the workshop. Note that most washing up liquids have both salt and 'shine' products in them, and so should not be used where conservation is a requirement.Specialist non-corrosive, non-foaming, germicidal cleaning agent, soluable in both water and white spirits. Suitable for use on iron and other metals.Paste fine-finishing carriage clocks, chronometers etc. aka diamantine, comes in 3	£4 £10 £30 £3 £10	Conservation Resources Ltd. Specialist laboratory and dental suppliers. Any supermarket, buy by the litre. Conservation Resources Ltd.
Diamo	Surecare Sensitive Symperonic A7 Triton X Washing up liquid Vulpex Spirit Soap	JIT JIT Base JIT CCJIT	Wkshp Wkshp Wkshp Wkshp Wkshp Tbx	place of more specialist conservation products.Specialist conservation detergent, mix to 15% by volume. Useful for taking the wax off cases etc.Small quantities only needed.Specialist conservation non-ionic surfactant (wetting agent) for sensitive cleaning of hard materials e.g. dials.Small quantities only needed.For general cleaning around the workshop. Note that most washing up liquids have both salt and 'shine' products in them, and so should not be used where conservation is a requirement.Specialist non-corrosive, non-foaming, germicidal cleaning agent, soluable in both water and white spirits. Suitable for use on iron and other metals.Paste fine-finishing carriage clocks, chronometers etc. aka diamantine, comes in 3 grades.	£4 £10 £30 £3 £10 £8	Conservation Resources Ltd. Specialist laboratory and dental suppliers. Any supermarket, buy by the litre. Conservation Resources Ltd. Cousins.
Diamo Erase Film, I	Surecare Sensitive Symperonic A7 Triton X Washing up liquid Vulpex Spirit Soap ond Powder/Polish	JIT JIT Base JIT CCJIT Base	Wkshp Wkshp Wkshp Wkshp Wkshp Tbx Wkshp	place of more specialist conservation products.Specialist conservation detergent, mix to 15% by volume. Useful for taking the wax off cases etc.Small quantities only needed.Specialist conservation non-ionic surfactant (wetting agent) for sensitive cleaning of hard materials e.g. dials.Small quantities only needed.For general cleaning around the workshop. Note that most washing up liquids have both salt and 'shine' products in them, and so should not be used where conservation is a requirement.Specialist non-corrosive, non-foaming, germicidal cleaning agent, soluable in both water and white spirits. Suitable for use on iron and other metals.Paste fine-finishing carriage clocks, chronometers etc. aka diamantine, comes in 3 grades.For correcting pencil.Small sheet(s) of clear plastic film, e.g. overhead projector film, or florist's wrapping paper. Used for filing projections flat on a surface that needs to be protected - for	£4 £10 £30 £3 £10 £8 £1	Conservation Resources Ltd. Specialist laboratory and dental suppliers. Any supermarket, buy by the litre. Conservation Resources Ltd. Cousins. Stationers.
Diamo Erase Film, I Fire E	Surecare Sensitive Symperonic A7 Triton X Washing up liquid Vulpex Spirit Soap ond Powder/Polish	JIT JIT Base JIT CCJIT Base Base	Wkshp Wkshp Wkshp Wkshp Wkshp Tbx Wkshp Wkshp	place of more specialist conservation products.Specialist conservation detergent, mix to 15% by volume. Useful for taking the wax off cases etc.Small quantities only needed.Specialist conservation non-ionic surfactant (wetting agent) for sensitive cleaning of hard materials e.g. dials.Small quantities only needed.For general cleaning around the workshop. Note that most washing up liquids have both salt and 'shine' products in them, and so should not be used where conservation is a requirement.Specialist non-corrosive, non-foaming, germicidal cleaning agent, soluable in both water and white spirits. Suitable for use on iron and other metals.Paste fine-finishing carriage clocks, chronometers etc. aka diamantine, comes in 3 grades.For correcting pencil.Small sheet(s) of clear plastic film, e.g. overhead projector film, or florist's wrapping paper. Used for filing projections flat on a surface that needs to be protected - for instance when filing a bushing flat.Needs to be suitable for oil and electricity. Carbon dioxide as powder would make a	£4 £10 £30 £3 £10 £8 £1 £0 £110 £110 £110 £20	Conservation Resources Ltd. Specialist laboratory and dental suppliers. Any supermarket, buy by the litre. Conservation Resources Ltd. Cousins. Stationers. Stationers or rooting through rubbish bins.
Diamo Erase Film, I Fire E	Surecare Sensitive Symperonic A7 Triton X Washing up liquid Vulpex Spirit Soap ond Powder/Polish r Polyester xtinguisher	JIT JIT Base JIT CCJIT Base Base Base Base	Wkshp Wkshp Wkshp Wkshp Wkshp Tbx Wkshp	place of more specialist conservation products.Specialist conservation detergent, mix to 15% by volume. Useful for taking the wax off cases etc.Small quantities only needed.Specialist conservation non-ionic surfactant (wetting agent) for sensitive cleaning of hard materials e.g. dials.Small quantities only needed.For general cleaning around the workshop. Note that most washing up liquids have both salt and 'shine' products in them, and so should not be used where conservation is a requirement.Specialist non-corrosive, non-foaming, germicidal cleaning agent, soluable in both water and white spirits. Suitable for use on iron and other metals.Paste fine-finishing carriage clocks, chronometers etc. aka diamantine, comes in 3 grades.For correcting pencil.Small sheet(s) of clear plastic film, e.g. overhead projector film, or florist's wrapping paper. Used for filing projections flat on a surface that needs to be protected - for instance when filing a bushing flat.Needs to be suitable for oil and electricity. Carbon dioxide as powder would make a crisis into a disaster - the powder from these gets everywhere and kills clocks.	£4 £10 £30 £3 £10 £8 £1 £0 £110 £110 £110 £20 €20	Conservation Resources Ltd. Specialist laboratory and dental suppliers. Any supermarket, buy by the litre. Conservation Resources Ltd. Cousins. Stationers. Stationers or rooting through rubbish bins. Buy the largest you can manage. Budget based Look for one that is BS-8599-1 compliant. Som
Diamo Erase Film, I Fire E First /	Surecare Sensitive Symperonic A7 Triton X Washing up liquid Vulpex Spirit Soap ond Powder/Polish r Polyester	JIT JIT Base JIT CCJIT Base Base Base	Wkshp Wkshp Wkshp Wkshp Wkshp Tbx Wkshp Wkshp	place of more specialist conservation products.Specialist conservation detergent, mix to 15% by volume. Useful for taking the wax off cases etc.Small quantities only needed.Specialist conservation non-ionic surfactant (wetting agent) for sensitive cleaning of hard materials e.g. dials.Small quantities only needed.For general cleaning around the workshop. Note that most washing up liquids have both salt and 'shine' products in them, and so should not be used where conservation is a requirement.Specialist non-corrosive, non-foaming, germicidal cleaning agent, soluable in both water and white spirits. Suitable for use on iron and other metals.Paste fine-finishing carriage clocks, chronometers etc. aka diamantine, comes in 3 grades.For correcting pencil.Small sheet(s) of clear plastic film, e.g. overhead projector film, or florist's wrapping paper. Used for filing projections flat on a surface that needs to be protected - for instance when filing a bushing flat.Needs to be suitable for oil and electricity. Carbon dioxide as powder would make a crisis into a disaster - the powder from these gets everywhere and kills clocks.	£4 £10 £30 £3 £10 £8 £1 £0 £110 £110 £110 £20	Conservation Resources Ltd. Specialist laboratory and dental suppliers. Any supermarket, buy by the litre. Conservation Resources Ltd. Cousins. Stationers. Stationers or rooting through rubbish bins. Buy the largest you can manage. Budget base

ising advice
IY store. re refined white spirit.
cotton will do, shirts, sheets etc.
10 and 16 mm tapes.
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sed on a 5kg CO2 extinguisher from Screwfix.
omething like a 'small workplace kit' from St John's

	Where	Notes	Setup Budget	Purchasi
Base	Wkshp	Fry's or similar.	£15	From any DIY or Plumbing store.
Base	Wkshp	Propane tank to suit the burner purchased, between 5kg and 15kg dependant on space. Larger sizes provide cheaper gas.	£40	Refills from local camp shop, large hardware sto sourced here, but it may be cheaper to source to (new c \pounds 60, second hand c \pounds 15)
Base	Tbx	For removing fingerprints and grime from clock dials - use carefully as it is usually acidic.	£3	Any Supermarket.
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Base	Tbx	Disposable nitrile gloves. Don't buy powdered gloves - almost all rubber gloves are as the powder will get into pivots. NEVER use cotton gloves, some people expect them, but they leave fibres in the works.	£4	Expensive ones in jazzy colours at c £11 per bo box from Amazon or any number of internet su
Base	Tbx	Green nitrile gauntlets, as robust as possible (not Marigold!). They do wear out so it is worth getting several pairs.	£10	Solvex. brand are between £2-5 per pair. Scre
Base	Tbx	Good leather gardening gloves. Aim for those that fit.	£15	Try Garden Centres, find a brand you like and li
JIT	Tbx	As 'B' as possible, can be used as a diagnostic to see if a particular bearing is sticking plus for large bearings.	£3	Art Shop, sold as a drawing tool.
ŧ	ŧ	ţ	+	1
JIT	Wkshp	24 hour one. Better to get a specialist one as the consumer brands tend to yellow. e.g. 'the West System'	£25	Axminster Tools.
JIT	Wkshp	Commercially available Paraloid B72 glue in a tube, sensible way of purchasing it if the need is only occasional or for small repairs.	£3	Restoration Supplies or similar.
Base	Tbx	The strong stuff (Threadlocker 243, or 603-oil resistant) use where a screw is dodgy but doesn't quite need re-cutting. Lasts for a long time, so can buy a reasonable sized bottle and keep it.	£6	Amazon or similar.
Base	Tbx	222 grade, gap filling for stuff you want to remove.	£6	Internet, Amazon or similar.
Base	Wkshp	"Dead useful" for glueing stuff together. But be aware that it off-gasses, and these gasses are both poisonous and corrosive.	£1	Buy a card of tubes from a pound shop.
JIT	Wkshp	General use. e.g, For attaching print-outs of photographs to card so that screws, pins etc can be placed in holes and subsequently returned to the place they came from.	£7	Stationers.
Base	Tbx	Reversible, in a liquid form for gluing mouldings, veneer, filling in small holes in cases etc.	£9	e.g. from Axminster Tools or from internet searc
ŧ	Ŧ	Use natural gut-line, synthetics seem to stretch and/or are much harsher so create damage.	ŧ	1
JIT	Wkshp	For vienna regulators, use 'natural gut music strings'.	£10	Order as needed. Bow Brand International.
JIT	Wkshp	For vienna regulators, use 'natural gut music strings'.		Order as needed from Bow Brand International
Base	Wkshp	For long-case clocks, use 'unvarnished harp strings'.	£51	12ft x 1.45 mm harp strings, Bow Brand Interna
JIT	Wkshp	Keep 1 complete set in stock, sell them to customers when they need them and then replace them as they are used. If you can, stamp or engrave them with your business name.	£100	Depends on the services offered, philosophy, a
JIT	Wkshp	Size for the clock repair, but avoid stainless steel ones, they tend to be too strong.	£50	Triffix from Cousins work well - the .25 ones are power output. (Don't use for a fusee barrel).
Base	Wkshp	For drying components after cleaning - these can get stuck in smaller components, so the medium size is recommended. It is also suggested that items are chalk dusted after being immersed in grit-o-cobs in case any acidic residues are left.	£5	HS Walsh sell either in £1kg or 25kg bags at ab Kobs')
JIT	Wkshp	Big problem when coming to old clocks, need to buy old stock, but pointless holding small quantities as the chances of them fitting a clock on the bench are very low, so don't hold stock unless available en mass and there is time to sort it.	£50	Individually on ebay or through contacts in the
	Base Base Base Base JIT JIT Base Base Base JIT Base JIT Base JIT Base JIT	BaseWkshpBaseTbxImage: BaseTbxBaseTbxBaseTbxJITWkshpJITWkshpBaseTbxJITWkshpBaseTbxJITWkshpBaseTbxJITWkshpJITWkshpJITWkshpJITWkshpJITWkshpJITWkshpJITWkshpJITWkshpJITWkshpJITWkshpJITWkshpJITWkshpJITWkshpMaseWkshpJITWkshpJITWkshpMaseWkshpJITWkshpMaseWkshpJITWkshpMaseWkshpMaseWkshp	Base Wkshp Propare tank to suit the burner purchased, between 5kg and 15kg dependant on space. Larger sizes provide cheaper gas. Base Tbx For removing fingerprints and grime from clock dials - use carefully as it is usually acidic. Image: the powder will get into pivots. Image: the powder will get into pivots. NEVEFL use cotton gloves, some people expect them, but they leave fibres in the works. Base Tbx Green nitrile gloves. Am for those that fit. JIT Tbx As 'B' as possible, can be used as a diagnostic to see if a particular bearing is sticking, plus for large bearings. JIT Wkshp 24 hour one. Better to get a specialist one as the consumer brands tend to yellow. e.g. 'the West System' JIT Wkshp Commercially available Paraloid B72 glue in a tube, sensible way of purchasing it if the need is only occasional or for small repairs. Base Tbx Tbx Tor glutif (Theraedlocker 243, or 603-oil resistant) use where a screw is dodgy but doesn't quite need re-cutting. Lasts for a long time, for sub you are asonable sized bottle and keep it. Base Tbx Tbx Que and the search in our sub subsequently returned to the place they came from. Base Tbx Reversible, in a liquid form for gluing mouldings, veneer, filling in small holes in cases etc. JIT Wkshp Por vienna regulators, use 'natural gut music strings'. <	Base Wishp Fry's or similar. C15 Base Wishp Propane tank to suit the burner purchased, between 5kg and 15kg dependant on space. Larger sizes provide cheaper gas. C40 Base Tbx For removing fingerprints and grime from clock dials - use carefully as it is usually acidic. Image: Comparison of the powdered gloves - almost all rubber gloves are as the powder will get into pivots. Base Tbx Green nitrile gloves. Don't buy powdered gloves - almost all rubber gloves are as the powder will get into pivots. Base Tbx Green nitrile gauntiets, as robust as possible (not Margold). They do wear out so it is worth getting several pairs. Base Tbx Good leather gardening gloves. Aim for those that fit. C15 JIT Tbx A 'B' as possible, can be used as a diagnostic to see if a particular bearing is sticking plus for large bearings. Image: Comparison of the West System' JIT Wkshp Commercially available Paraloid B72 glue in a tube, sensible way of purchasing it if the meed is only occasional or for small repairs. C25 JIT Wkshp Commercially available Paraloid B72 glue in a tube, sensible way of purchasing it if the meed is only occasional or for small repairs. C66 Base Tbx Tb store along time, so can buy a reasonable sized bottle and keep it. C16 Base Tbx

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stores, some garages. Canisters can also be e these from ebay, gumtree or car-boot sales
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box are no better than the cheap ones at £4 per suppliers.
rewfix do 10 pairs for c£20.
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al.
mational. Buy 2 or 3 and re-order when used.
and budget.
are of good quality and provide appropriately low
about 10 times the price (but spell it 'Grit o
e trade.

Item		Priority	Where	Notes	Setup Budget	Purchasi
Jiffy Fo	oam	JIT	Tbx	Practical conservation alternative to bubble wrap. Doesn't have bubbles that a) go down over time when under pressure, and b) can give off acid gas.	£10	Many internet suppliers, in various thicknesses.
Labels, Tie on		Base	Tbx	c 30x50 mm strung tags - look for good strong craft card, long string that is not going to fray.	£15	e.g. Merit Strung.
Lacqu	er	JIT	Wkshp	Commercial silver lacquer (cellulose base) or a shellac based one to match the existing finishes.	£10	Ironmongers or specialist clock repair suppliers
Lubric	ants	Ŧ	ŧ	↓ ↓	ŧ	1
	Baby Oil	Lux	Wkshp	Use as a lubricant for oil stones. A pure oil of the perfect consistency for this job. One, that does not degrade or smell, and which is considerably cheaper than 'specialist' items. It can also be used to clean oily deposits from hands!	£2	High street chemists or supermarket.
	Clock Oil	Base	Tbx	 3 different kinds of oils: Natural. Moebius D series, are mineral (c £25) for clocks need grades 3, 4 and 5. Blue bottle, synthetic oil (c£70). Note these were developed for jewel bearings, probably not worth using for clocks as they'll get dirty long before the oil starts to degrade and NEVER, EVER, dip into the bottle, ALWAYS use an oil stand. 	£75	HS Walsh, or good clock suppliers.
	Cutting compound	Base	Wkshp	Use when cutting threads smoother cleaner threads and saves taps.	£18	Rocol RTD Metal cutting compound, in 500g ca internet stores.
	Lathe	Base	Wkshp	Whatever is needed for the lathe.	£15	General oil from auto-factors.
	Mainspring	Base	Wkshp	Chemodex CDL (Chain & Drive Lubricant).	£5	Buy one can, that will last many years. Availabl www.chemodex.co.uk.
	Paraffin	Base	Wkshp	Used as cutting lubricant to produce fine finishes and when drilling small holes.	£7	Hardware store.
	Turpentine (Spirits of)	Lux	Wkshp	Mix 50:50 by volume with Paraffin to make a superior cutting lubricant. A requirement when engraving brass.	£7	Available from Decorators or Artists suppliers. expensive in the latter. Look for 'genuine turpe similar phrasing). Do not buy turps substitute, t
Markir	ng Pen	Base	Tbx	For assistance when filing and fitting objects into holes etc shows where contact is made (non permanent type for preference).	£2	Any Stationer's
Maski	ng Tape	Base	Tbx	For general light sticking. Go for a low-tack version e.g. Frog-tape.	£4	Any DIY shop, but avoid the very cheap items,
Match	ies	Start	Tbx	For burning ends of gut lines, melting wax and so forth.	£1	Small box, ideally in tin box to keep from damp
Microo	crystaline Wax	Base	Tbx	Stable whereas Beeswax yellows and goes sticky. Use as a lubricant for sticky calendar wheels for polishing casework etc. Tip! The top will go fill with dirt, threads etc but it can be cleaned. Put the wax in a pan of water, bring to boil, the wax will melt and float to the top, Leave over night. All the steel/brass filings will have sunk to the bottom)	£15	e.g Renaissance Wax budget price is for a sma Alternative strategies are to buy a decorator's p form and soften it with white spirits.
Oilstoi	ne Powder	JIT	Wkshp	For fine-finishing brass, mix with oil and use on a glass sheet.	£8	Difficult to find occasionally different grades of sell Liberion Rottenstone powder but this is <i>not</i> powder (circa micron) can be used.
Paper	Towelling	Base	Wkshp	Not for use on clocks, but has many uses for cleaning and drying around the workshop.	£3	Any supermarket or trade suppliers.
Peg W	lood	Base	Tbx	Close grained, soft wood, for cleaning out pivot holes etc. (Google reckons it should be Dogwood.) Something like beech is too coarse, bamboo is too coarse. Tip! Can be used to find details of an unknown thread - sharpen pegwood and screw into the hole - lubricating with graphite as necessary - establishes (broadly) the size and pitch of the thread.	£0	Dog-wood from the garden makes excellent pe for 3 months). Otherwise buy from Cousins - Avoid the stuff m
Pencil	(s)	Base	Tbx	Real wooden pencil, as the lead doesn't run out. Look for good quality wood as generally the lead inside will be robust. B is a good compromise as that will mark brass.	£1	Tombo, Staedler,

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cans available from Amazon and many other
able directly from the manufacturer, at
 Generally it is the same product, but more pentine', 'gum turpentine', 'pure turpentine' (or e, this is white spirits.
s, the glue can come off the tape. np.
mall c200ml container. s pack and split between several or buy in solid
of oilstone powder do come up. Axminster Tools not the same, however a coarse diamantene
peg wood! (cut and stick in the airing cupboard
f made from bamboo which a lot of places sell.

Item	Priority	Where	Notes	Setup Budget	Purchasi
Photographic Background Pa	Base	Tbx	17% grey, an industry standard tone. For taking pictures of parts of clocks - forms the background - if you are doing condition reports.	£62	Ebay, Amazon etc. Search for Colorama 'storm and saw it into 3 90cm strips, this will last for a
Pickle (Safety)	JIT	Wkshp	For cleaning materials prior to silvering.		Buy when needed.
Plastic Bags	Base	Wkshp	Mini-grip bags 8x12cm for bagging components during repairs and to hand them back to clients.	£10	Available all over the internet at about £3.50 for
Plastazote	JIT	Wkshp	Inert closed cell nitrogen expanded foam for packing and in the workshop for holding screws and small components. Typically will use the 20mm, 6mm and 3 mm.	£20	Available from many internet suppliers, a search Circa £15-25 per sheet, so make this project sp speculatively.
Pith Wood	Base	Tbx	(From the inside of an elder tree) used for soaking up oil, an essential for the workshop.	£7	Small bundle from Walsh's or Cousins.
Pumice Powder	JIT	Wkshp	Used for putting a surface on pendulums, and other such surfaces.	£5	Walsh's or Cousins, available in 1kg or 25kg qu
Retouch Crayons	Base	Tbx	Used for covering up minor scratches in cases etc.	£18	Liberon by preference, available in small sets fr
Rodico	Base	Tbx	Putty type stuff for removing oil and finger-prints from small components.	£10	Cousins, HS Walsh etc.
Rope	JIT	Wkshp	30 hour rope, 4 or 5 mm as appropriate for the clock.	£15	HS Walsh, Cousins or similar.
Salt	JIT	Wkshp	Used in the re-silvering process, ordinary table salt will do.	£1	Supermarket.
Sealing Wax (Black)	JIT	Wkshp	For blacking in the numerals on dials etc.	£10	Art suppliers, or internet (e.g. Amazon).
Silvering Powder	JIT	Wkshp	For dials, chapter rings etc. NOTE. This needs to be kept in the dark as it is light sensitive.	£40	Time Restored. 'FP11'. Buy the first time you ne
Solder	Ŧ	ŧ	t -	ŧ	1
Hard	Base	Wkshp	For robust joints, where the temperature is not going to cause damage.	£18	Easy flow rods, c£6 each, HS Walsh.
Soft	Base	Wkshp	General fixing, collets etc. Use standard lead-free plumber's solder.	£10	B&Q or similar.
Spill Kit	Base	Wkshp	A sensible precaution once quantities of solvents are being stored.	£11	Screwfix offer a 15 litre kit, more than enough f
Steel Stock	ŧ	t	As for brass, over time a scrap stock will be built up, the list here is a start-up kit and should be seen as minimum stock levels.	ŧ	4
Blued Pivot Steel	Base	Tbx	For replacing pivots and making spade drills in small sizes. Comes in 6 inch lengths - need a stock of sizes (note that the useful sizes get used up) between 0.5 and 1.6 the sizes don't seem to relate directly to mm.	£25	Comes in watch auctions in blue tubes, if you s alternative.
EN8	Base	Wkshp	For making pinions, arbors etc. Comes in foot-long lengths, need a stick of each of 6, 9, 12, 18 mm.	£35	lan Coot for short lengths, but be careful it is no wholesale metal supplier e.g. Smith's metals.
Mild Steel	JIT	Wkshp	Softer than EN8 or Silver steel, doesn't harden. Buy for specific projects.	£0	Ebay, or identify local metal supplier who will peperture postage.
Silver Steel	JIT	Wkshp	For making ad-hoc tools, hardens well fly-cutters, scribes, etc. A stick each of 6 and 3 mm will get you going	£10	Ebay, or local metal suppliers.
Spring Steel	Base	Wkshp	For facing pallets, making hard shims etc. French Clock mainspring is ideal. Note modern spring steel will not solder.	£20	Horological auction or second hand store - scra
Tool Steel	Base	Wkshp	For making lathe tools, both standard and non-standard shapes.	£20	Internet/ ebay.
Steel Wool	Base	Tbx	Grade 0000, have to buy a good brand as the cheaper stuff will have bigger pieces in it. Must be oil free, cheaper stuff is not and you will end up contaminating whatever you are trying to clean. Keep it inside a plastic box as it is very inflammable. Health and safety warning, always cut this scissors, never tear it off with your hands as	£10	Liberon, or if you can find it Trollul is better - bu
Suspension Spring	Base	Wkshp	it can rip your fingers open. For hanging pendulums. Need a range of springs, 0.08mm to 0.15mm in standard width, (3 or 4 steps), plus some french suspension springs. Keep a small stock and re- order when used.	£20	Meadows and Passmore or Time Restored.ltd.
Tannic Acid	JIT	Wkshp	For treating rusty ironwork.	£0	Can be obtained from tea-bag left to stew!

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rm grey'a lot cheaper to buy it in 2.72 metres a long long time.
for 100.
rch for 'plastazote sheet' brings up options. specific, and re-cycle rather than buying this
quantities. The smaller will last years.
from specialist stores on the internet.
need it as it does have a shelf life.
t
n for most horological spills.
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u see it buy it, it is like gold dust. HS Walsh
not cheaper to buy in long lengths from an
provide small quantities as this will save on
crap clocks.
buy from local hardware store or from internet.
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Item	Priority	Where	Notes	Setup Budget	Purchasi
Taper Pins	Base		Look for universal pins (Steel), which come in 3 sizes, fine, medium, large. Get all 3, 50 each as a minimum. Secret for all taper pins, is that you need to draw file them before fitting.	£50	Time Restored Ltd, budget is for 500.
				£1,874	

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