

## TROUBLESHOOTING (CONTINUED)

### **Black finish on metal items**

If your jewellery has turned uniformly dark, it simply means that the dirt or deposits removed has overloaded the amount of burnishing soap compound you used and been uniformly redeposit onto your jewellery. Simply rinse out the black water, scrub and rinse the barrel, put in fresh water and more burnishing soap then tumble again. The darkening of metal pieces is almost always caused by not using the correct amount of burnishing soap for the number of pieces in the barrel and therefore affecting how much deposit the burnishing soap can hold in suspension. Dirty shot, base metal contaminants and even hard water, however, can all cause this too.

### **How to clean dirty shot**

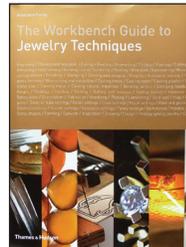
If the shot and shapes mix have taken on a dark appearance they can be cleaned by a simple method: Load the barrel in the normal way with shot/shapes, water and barrelling powder plus 3 or 4 small hard clean garden stones about 10 to 15mm in diameter (these stones must be hard and not prone to breaking up, round gravel stones are best). Run for 1 or 2 hours, wash out and the shot will now be clean, shiny and the normal metallic colour.

## RECOMMENDED READING



### **Stonesetting for Contemporary Jewellery Makers** Melissa Hunt (C308)

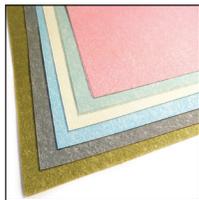
Beautifully illustrated in a step-by-step guide and the skill levelled tutorials are supported by practical tips and advice. It contains 7 chapters dedicated to different stone setting techniques, including rub-over, tube, collet, gypsy, tension, channel and pave. It also explains about different stone types, cuts and how these relate to the settings and mounts plus a useful section on wrapping beads and stringing pearls. With a detailed look at specialist tools and equipment this book reveals professional advice for achieving successful and stunning results in mounting and setting stones.



### **The Workbench Guide to Jewelry Techniques** Anastasia Young (C264)

A fully illustrated step-by-step manual for jewelry making: techniques, materials and design. This comprehensive book will surely become your 'bible' at the workbench. Techniques covered include core techniques (such as piercing, annealing and polishing), casting, making catches, etching, patinas, inlay, enamelling, press forming, granulation, reticulation, plus making a business out of making jewellery. With clear instructions and step-by-step photographs to guide you, this book is suitable for both the experienced jeweller as well as the student and will prove to be a great investment book that you'll continue to learn from for many years.

## YOU MAY ALSO LIKE



### **Pack of Polishing Papers**

High polishing by hand for little touch ups and when you don't want to run your barrelling machine (C173)



### **Jewellery Polishing Cloth**

This impregnated cloth quickly removes tarnish on metals to bring back the sparkle fast! (C49)

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## your BARREL POLISHER FOR METAL

Barrel polishers are also known as tumblers because of the tumbling action used to polish the metal. These machines will give excellent results if used correctly. Please read these instructions very thoroughly and save them for future use. Your barrelling machine is supplied with a three pin plug attached.

### HOW DOES IT WORK?

A barrel polisher works by burnishing your jewellery by tumbling. It's as though your jewellery is being pounded millions of times by tiny little hammers. It does not damage metal in any way at all but will knock off minor burrs and even burnish away mild scratches leaving behind minuscule particles of metal that look like glitter. It will not remove deeper gouges, though it will smooth them and make them very shiny.

Like all forms of burnishing, tumbling hardens the outer layer of the metal. The overall effect can be significant hardening if the metal is very thin, such as headpins, but less dramatic with heavier metals. Tumbling is very gentle and even the most delicate pieces will emerge brilliantly polished. Even thin wire pieces such as headpins will emerge still straight, as long as they don't get tangled with something else and bent as a result. It is a good idea to be careful with the selection of items you tumble together to avoid pieces damaging each other, but the best way to learn about that is with experience.

### WHAT CAN BE POLISHED IN THE BARREL?

Most metals can be tumbled including: sterling silver, fine silver, Argentinum silver, gold, copper, bronze, palladium and platinum. Different metals can be mixed and tumbled together but it is not recommended to tumble any jewellery which includes gemstones as the shot can scratch the polished surface, making them appear dull.

### PREPARATION PRIOR TO BARRELLING

It is very important to finish your items to a point suitable for barrelling. As with all types of polishing items must be prepared properly so that large pieces of excess metal are removed, deep scratches are filed or sanded away and the whole surface is smoothed and prepared with abrasives where necessary. Barrelling is for polishing, not grinding so although it will soften any plier marks and metal burrs, it will not completely remove them.

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## STAINLESS STEEL SHOT

Our metal barrelling machine comes with stainless steel shot, this is a much better option than the more commonly supplied steel shot which can be prone to rusting. It is a mixture of small, specially-formed stainless steel shapes (planetoids and balls) which reach into tiny spaces to give great polishing results.

It is important to take good care of your shot and keep it clean as even stainless steel can eventually rust without proper care. You can either dry your shot thoroughly after use or you can keep it completely submerged in water (see below for more detail on care of shot).

The burnishing soap we supply with your kit is Barrelbrite and it will need to be used each time you use the machine. In a 3lb barrel, use 500g of stainless steel shot, a level teaspoonful of burnishing soap and the fill the barrel half full of cold water or until the items to be polished are just covered.

## OPENING & CLOSING THE BARRELS

The end caps do not screw on but are a snug push-fit so they may be difficult to remove and replace. If this is the case, simply submerge the lid end in hot water for 30-40 seconds and it should come off easily. When replacing the lid, ensure there are no particles around the rim that could stop it sitting squarely and sealing properly and make sure you release any excess air by lifting the side as you slide them down - any air trapped can prevent a proper seal. When lifting barrels filled vertically with compounds inside always support the bottom cap as a heavy load could force the bottom cap off causing the contents to spill.

## OBJECT SIZE, QUANTITY & PROCESSING TIME

The best results are obtained when the proportion of compound and work items are correctly balanced. At most, the items to be tumbled should be around 30% of the barrel volume. As the range of items that can be processed is broad it is hard to be precise about quantities and times. As a guide for a selection of intricate coin sized pieces, try about ten items and expect a processing time of around 4 to 12 hours depending on the hardness of the metal you wish to burnish. If you are burnishing silver metal clay items it is a good idea to start checking the finish after 2 hours and to keep checking every 30 minutes as the softer nature of fine silver can mean that detail may wear away quicker than you expect.

The finish can be varied by altering the water content; more water gives a gentler action. However when your water looks dirty the results will not be as good, so if your water looks black it is time to change it. Clean the shot and if necessary scrub and rinse the barrel. If longer processing times are used, check the barrel for gas build-up. This is very unlikely as normally a negative pressure is obtained when working and there is a slight inrush of air when the end caps are removed. However a gas build up could push the end caps off so be aware of this and check by lifting the side of the cap to reduce pressure.

## IMPORTANT INITIAL OPERATING TIPS

When you first use the machine it may appear as if the belt is too loose but it is essential that it runs as loose as possible without slipping. Every machine is carefully adjusted and tested before it leaves the manufacturer. If you attempt to tighten the belt it can badly damage the motor and rob the machine of power so it must be loose.

You may also notice that the machine feels rather hot to the touch when running; again this is a perfectly normal and providing you can comfortably hold your hand on it there is nothing amiss. Do not however, place the machine inside a box or very close to other things as it is essential that air can flow around it. We advise placing it on an old tray as this makes any cleaning far easier. The barrel will almost certainly move along the rollers until it touches one end of the machine - this is nothing to worry about and you will see there is a stopper which is specially designed so the barrel will gently rub against. Do not try to tilt the machine in an attempt to correct this barrel movement.

## CONDITIONING THE BARREL AND SHOT

Before you first use with your jewellery designs we would recommend that the following procedure be carried out on new barrels to condition both the barrel and the shot shapes mix. Often the steel shot and shapes mix are protected with an oil-based rust preventative whilst in storage. This is often not necessary but following this simple procedure will ensure that when you use your barrelling machine for the first time, your jewellery designs come out clean.

1. Load the barrels in the normal way with shot and water but no jewellery items, add double the amount of barrelling

powder. (about 10 grams) then run for at least 3 hours. The water in the barrel will probably be dark.

2. Wash barrel and shot and reload with fresh water, approximately 5g of barrelling powder, the same shot but no jewellery items. Run for another 2 hours. Water may be grey to beige in colour. If the water is beige the barrel is ready for normal use with jewellery items. If still dark, repeat Stage 2.

## ITEMS WITH HOLES & ASSEMBLIES

Many of the items you will be barrelling will have holes and crevices in them that the compounds will explore during polishing. If any of the items have blind holes the compounds will work their way in and may be very difficult to remove so it may be a good idea to insert a plug in the hole if you expect problems. If you put an assembled item in the barrel it will almost certainly be dismantled by the tumbling action! You can polish multiple pieces together, but be aware that fine chains will tangle themselves and earring wires will tangle with chain.

## EMPTYING THE BARREL OF SHOT

Use great caution when draining your shot over the sink. Use a good, strong sieve that can take the weight of the shot to prevent losing any down the plughole. If you use your barrel polisher occasionally we would recommend drying it thoroughly. Place the shot in a washing-up bowl or similar and use a hair dryer to blow it dry whilst moving the shot around in the bowl. If there is moisture on the shot, you will see residue on the bottom of the washing-up bowl but as soon as the shot is dry, this will disappear.

Store your dry shot in an airtight container to keep it nice and dry. If you use your barrel polisher very frequently, you may wish to keep the shot completely submerged in water between uses - as long as no air can get to it, this should also prevent it from rusting. Rinse and dry the barrel between uses if it appears to be dirty.

## OILING & MAINTENANCE

The machine is oiled when it leaves the manufacturer and can be used immediately. However, it will need lubricating so use the following procedure:

**Weekly** - Apply one drop of oil to the steel shafts of the rollers where they pass through the plastic/brass bearing blocks. This is important as the most common cause of problems with barrelling machines is a tight roller which robs the barrel of power.

**Every month** - Apply one drop of oil to the motor shaft where it protrudes through the side of the machine - this will run into the motor bearing. Use motor car grade oil for oiling the machine as lighter grades are not suitable.

## TROUBLESHOOTING

### *If barrel does not rotate*

- 1 Dry rollers and barrel thoroughly.
- 2 If the rollers appear glazed, rub lightly with sandpaper.
- 3 Ensure there is no oil on the rollers or barrel.
- 4 Check that the barrel is not under-loaded or overloaded.

### *If the belt slips*

- 1 Remove the belt, wash and de-grease it, then dry it thoroughly and replace it.
- 2 Replace the belt if it looks worn. Do not attempt to tighten it as they are precisely tensioned before leaving the manufacturers.

### *Out of balance barrels*

If the barrel is overloaded, or very large or irregular shaped items are being tumbled it is possible the heavy

items will catch on the internal paddles when the barrel rotates. This can cause the load to be mostly on one side and can unbalance the barrel so it will not rotate properly. Either reduce the work load or if it is essential that the item is processed it may be worth trying a barrel without paddles (the proportion of shot may then need adjusting for optimum results).

### *Difficulty removing & putting on the lid of the barrel*

The lids / end caps are a snug push-fit to ensure water doesn't leak during the tumbling action. To remove the lid submerge the lid end in hot water for 30-40 seconds and it should come off easily. When replacing the lid, ensure there are no particles around the rim that could stop it sitting squarely and sealing properly and make sure you release any excess air by lifting the side as you slide them down. This is important as any air trapped can prevent a proper seal.

*(continued overleaf)*

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