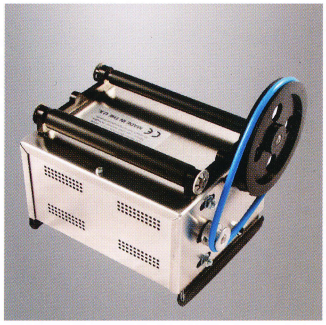
Instructions

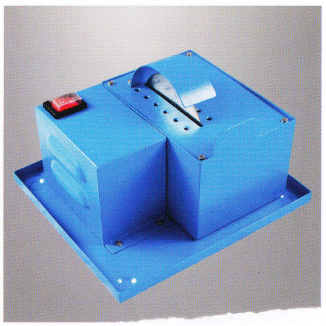
2lb Machine



3lb Machine

5lb Machine

Facet Saw



General Instructions for 2lb and 3lb Machines

These machines will give excellent results if used correctly.
PLEASE read these instructions very carefully and save them for future use.

Opening and Closing the Barrels.

The end caps do not screw on but are a **snug push fit**. When new, leave the barrel in hot water. This will soften the end caps and make them easy to remove. Before putting the end caps back onto the barrel, soak them in very hot water for a couple of minutes. This will soften them, making it easier to push them on. As they cool, they will create a tight fit around the barrel. When replacing the end caps ensure there are no particles around the rim that could stop them sitting squarely and sealing properly. Release excess air by lifting the lip of the end cap as you push it down onto the barrel, leaving it level. (Fig. 1) If the end cap does not look level then you have probably failed to remove all the trapped air. (Fig. 2) This could lead to the barrel leaking or falling off the rollers.

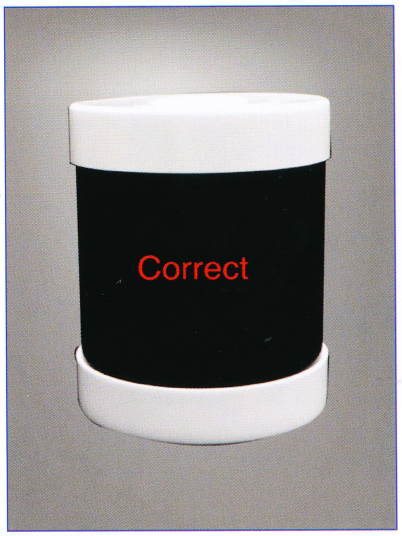


Fig. 1

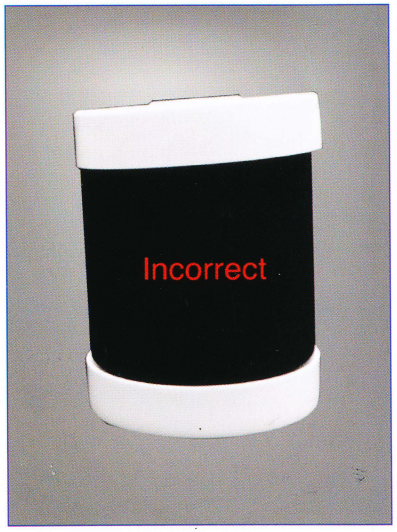


Fig. 2

THIS IS IMPORTANT. When lifting barrels filled with compounds, **ALWAYS** support the bottom cap if you hold it vertically as a heavy load could force the bottom cap off.

If your barrel is leaking, it is probably because you have put the end caps on incorrectly.

The machine is designed to run with a loose drive belt and every machine is carefully adjusted and test run. If the belt is too tight it can badly damage the motor and rob the machine of power. It **MUST** be loose. You may also suspect that the machine runs rather hot to the touch. Again this is a design feature and providing you can comfortably hold your hand on it there is nothing wrong. Do not, however, place the machine inside a box, as it is essential that airflow is maintained. You will notice that the barrel will almost certainly move along the rollers until it touches one end of the machine where there is a plastic stop. This is normal and there is no need to tilt the machine to prevent this from happening.

Oiling and Maintenance.

The machine is oiled when it leaves our workshop and can be used immediately. However, it will need lubrication whilst in use. (Fig. 3)

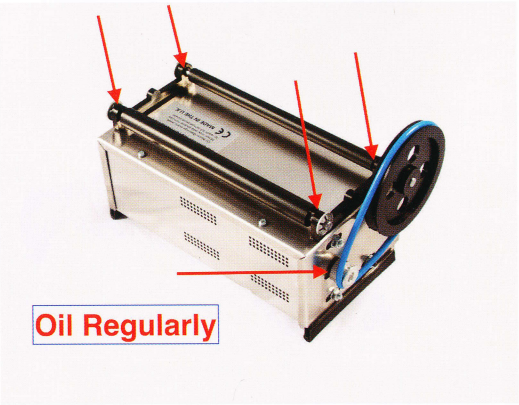


Fig.3

EVERY WEEK:
Apply one drop of oil to the steel shafts on the rollers where they pass through the plastic bearing blocks.

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. Also, if the barrel seems to be rubbing rather hard against the stop at either end of the machine, apply one drop of oil to the stop. Use motorcar grade oil for oiling this machine. Lighter grades are not suitable

Problem solving.

If barrel does not rotate:

1. Dry the rollers & barrel thoroughly.
2. If the rollers or barrel are glazed, rub lightly with coarse sandpaper
3. Ensure there is no oil on the rollers or barrel
4. Check the barrel is not under-loaded or over-loaded

If the belt slips:

1. Remove, wash, de-grease and dry thoroughly.
2. Do not tighten the belt. Replace if worn. Spare drive belts can be purchased.

If the rollers do not rotate:

1. **Unplug the machine from the mains** and clean thoroughly. Pay special attention to where the rollers sit in the black plastic bearings.

General Instructions for 5lb Machines

When fitting the rubber lid onto the barrel, ensure that the lid engages all the way round. (Fig. 5) Place the rubber pressure ring around the top of the barrel in the groove. This creates the seal. To open the barrel, roll the pressure ring down the side of the barrel. Squeeze one side of the barrel and the lid should be easy to remove.

DO NOT use a sharp instrument.

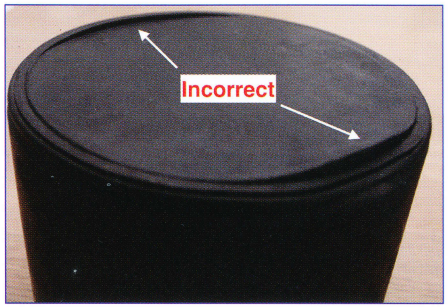


Fig. 4

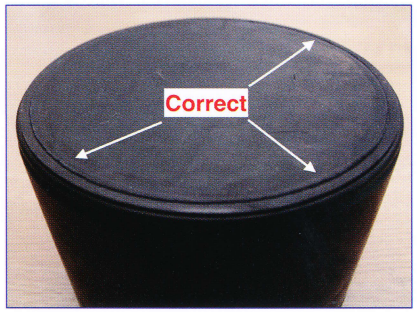


Fig. 5

Do not start the machine from cold with a fully loaded barrel. Let the motor run freely for two minutes to warm up and then drop the barrel onto the spinning rods.
The machine is designed to run with a loose drive belt and every machine is carefully adjusted and test run. If the belt is too tight you can badly damage the motor and rob the machine of power. It **MUST** be loose. You may also suspect the machine runs rather hot to the touch. Again this is a design feature and providing you can comfortably hold your hand on it there is nothing wrong. Do not, however, place the machine inside a box, as it is essential that airflow is maintained.

Oiling and Maintenance.

The machine is oiled when it leaves our workshops and can be used immediately. However, it will need lubrication whilst in use. (Fig. 6)

EVERY WEEK:
Apply one drop of oil to the steel shafts of the rollers where they pass through the plastic bearing blocks.

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 motorcar grade oil for oiling this machine. Lighter grades are not suitable.

Fig. 6

Problem solving.

If barrel does not rotate:

1. Start the machine without the barrel to let the motor get up to speed and then place the barrel on the rollers. Alternatively give the barrel a little push to get it going.
2. Ensure there is no oil on the rollers or barrel
3. Check the barrel is not under-loaded or over-loaded

If the belt slips:

1. Remove, wash, de-grease and dry thoroughly.
2. Do not tighten the belt. Replace if worn. Spare drive belts can be purchased.

If the rollers do not rotate or are very noisy:

1. Check that the four bearings are in place. If the machine has been turned upside down the black plastic bearings can come loose. If they have fallen into the motor compartment you can retrieve them by first **unplugging the machine from the mains power** and then removing the base plate by unscrewing the small screws. (Fig. 8) Be sure to replace the base plate before plugging the machine back into the mains power.
2. Make sure there is some left/right play in the metal rollers. (Fig. 7) If there is no play, remove the bearing from one end, clean it thoroughly and rotate it so that the shorter end holds the metal roller.

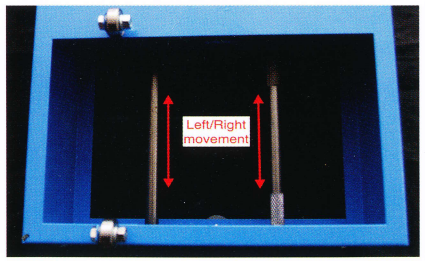


Fig. 7

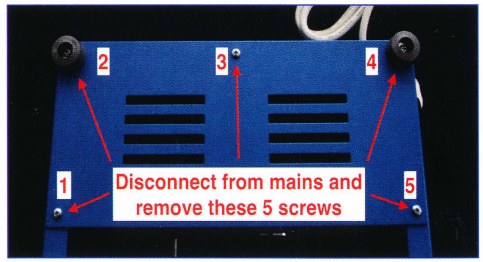


Fig.8

Out of balance barrels:

1. If barrels are overloaded or very irregular shaped items are being processed it is possible the heavy items will catch on the internal paddles. When the barrel rotates, the load on one side will unbalance the barrel and it will not rotate properly. Either reduce the workload or if it is essential that the item is processed it may be worth trying a barrel without paddles. Spare barrels can be purchased separately. The proportion of compounds may then need adjusting for optimum results.

Stone Tumbling Instructions

STEP ONE.

Select stones that are generally 2cm in diameter or smaller. One or two larger stones may be polished in a load that consists primarily of smaller stones. Fill barrel ¾ full with stones and shake to settle. DO NOT USE LESS. It will not work as there is no tumbling action unless the barrel is filled sufficiently. Add water to just over the top of the stones and one heaped tablespoon of coarse silicon carbide grit for the 1½ and 2lb barrels. Two heaped tablespoons for the 3lb barrel and three heaped tablespoons for the 5lb rubber barrel. For this step 60-100 grade grit is most suitable. Run the machine for a few days and nights while occasionally examining the stones. Fairly smooth pebbles might need only about three days to become nicely rounded, while very jagged ones may need ten or more days running and the grit topping up to get the same effect. Seven days is a reasonable average.

STEP TWO. (Optional)

Medium Grind 220 Grit
Thoroughly clean the stones and barrel. Proceed as before using 220 silicon carbide grit. It should only be necessary to run this grade for about 5-6 days.

STEP THREE.

Thoroughly clean the stones and barrel. Proceed as before using the same proportions of grit and water but this time use 300-400 silicon carbide grit. Please note this stage is very significant and determines the final polish, it is **VITAL** you do not cut it short. Allow at least seven days and do not top up with fresh grit, as this will re-roughen the stones. Each day on this stage will create a smoother finish as the grit breaks down and progressively changes the stones, making it far simpler when proceeding with the next step.

STEP FOUR.

Very, very thoroughly clean the stones and barrel. It is advisable to have a separate barrel specifically for polishing, because of the difficulty of cleaning grits completely from the sides of the barrel. Additional barrels can be purchased separately. Examine the stones very carefully and make sure that they are very smooth. Discard any stones that are badly cracked or have jagged edges. They can be re-tumbled with your next load. Repeat steps as before using similar amount of water but two level tablespoons of zinc oxide polish for the 1½ and 2lb barrels. Three level tablespoons for the 3lb barrel and four level tablespoons for the 5lb rubber barrel. If the barrel has been cleaned properly and the previous steps carried out correctly, seven days running should produce gleaming gems or pebbles.

Warning: Do not put any of the resulting slurry down the sink.

Metal Barrelling Instructions

The items to be processed are rotated in the barrel in a controlled mixture to give the desired results. Selection of the best compound is to some extent aided by practical tests and the following notes are intended as an initial guide only.

We recommend that the barrel is conditioned before use. Load with shot, water and 10g of barrelling powder and run for 3 hours. Clean the barrel and repeat with shot and 5g of barrelling powder for 2 hours. If the water is a beige colour the barrel is ready for use.

Steel media

These are a mixture of small steel pins, balls and ball cones and are probably the most useful of all the barrelling compounds. These are used with Barrelbrite powder or burnishing B liquid soap. In a 3lb barrel and 5lb rubber barrel use 500g of Steel media, a level teaspoonful of burnishing powder or a desert spoon of Burnishing B liquid soap and then fill the barrel half full of cold water. A slightly smaller amount of Barrelbrite or liquid soap can be used in smaller barrels. Adjust the amounts for smaller loads. Steel media will rust so it must be kept in the soapy water or dried completely before storing. The alternative is to upgrade to stainless steel media that does not rust.

Object Size/Quantity/Processing Time

Highest efficiency is obtained when the proportion of compound and work items is correctly balanced. Maximum size should be around 30% of barrel volume. As the range of items that can be processed is so large we can only suggest a starting point. For instance, for a selection of intricate coin sized objects in brass, steel or alloy try about ten items or less using steel media, Barrelbrite powder or Burnishing B liquid soap. Expect a processing time of around 4 to 12 hours. Altering the water content can vary the finish. More water gives a gentler action. If items are very dirty, wash out the barrel thoroughly and replace the Barrelbrite powder or Burnishing B liquid soap. Items will not clean properly in dirty compounds. If extended processing times are used, check barrel for gas build-up. This can push the end caps off so be alert to this and check by lifting the side of the cap to reduce pressure.

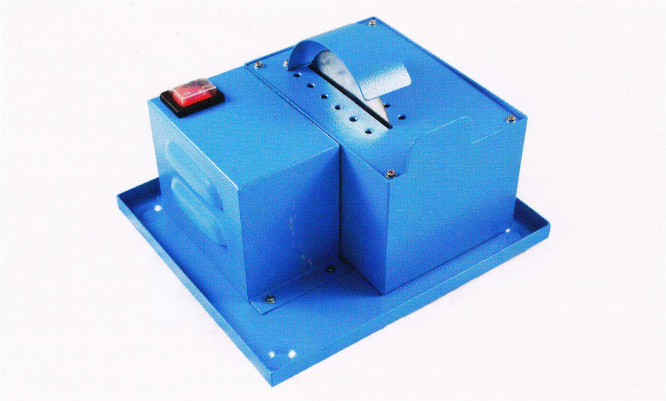
Work Items with Holes/Threads/Assemblies

Many of the items you will be cleaning will have holes and crevices in them that the compounds will explore when in use. If any of the items have blind holes, the compounds (steel pins are especially prone to this) will work their way in and may be very difficult to remove. Insert a plug into the hole if you expect problems. If the item is threaded it is possible that the thread form may be altered very slightly. If the work is close tolerance protect vulnerable parts as necessary. If you put an assembled item in the barrel it will almost certainly be dismantled by the tumbling action.

Other Barrelling Compounds

Apart from the compounds we have described there are many others that are used for specialist work. For instance sawdust, nylon pellets, wood fragments and ceramic shapes are all used for cleaning.

General Instructions for the Cab 1 Facet Saw



Remember this is a trim saw used for cutting facets and should not be used for cutting boulders.

The CAB 1 saw is designed for cutting small or precious stones.

Take care. The blade is very sharp. We recommend you wear suitable protective gloves and eye protection.

Fill water container with 600ml of water or soluble oil so that it covers approximately 3mm of the bottom of the blade.

As you cut the stone, the water will travel up the blade and drop onto the stone to assist with cooling and lubrication. If there is too much water coming from the machine then you have put too much into the reservoir.

Let the saw cut the stone slowly. Do not apply too much force when pushing the stone onto the saw, as this will stop the saw from spinning

A variety of stones will keep the blade sharper. Replacement blades can be purchased.

The motor has a thermal overload. The machine automatically cuts out if it overheats. **It will restart once it has cooled sufficiently**.

KEEP IT CLEAN, an oily rag works wonders and stops corrosion.