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1039 & 1040 BEAD MILL INSTRUCTIONS

DESCRIPTION

Covington's bead mill makes beads from 5/16" to 3/4" in diameter. The single-speed bead mill turns at 380rpm; the two-speed mill turns at 380rpm and 250rpm. The fast speed is best suited for producing beads from hard materials such as agate, jasper, and jade. The slower speed reduces the abrasive action and should be used when processing softer materials such as malachite, rhodochrosite, and turquoise. Softer materials require close attention during the milling process. Remember, soft materials require light mill head pressure and finer abrasive grit. Making beads from material softer than 5 (Mohs Hardness Scale) is difficult because of the fast abrasive action of the mill. The bowl and milling head can be quickly removed for easy cleaning.



PREFORMING OF BEADS

Cut the material into cubes, slightly larger than the desired bead size. Cut cubes accurately to produce beads of uniform size, which reduces grinding time. Complete the preforming process by grinding off all corners and sharp edges until the cube is a rough sphere. The preforms must be spherical to ensure rotation during milling and approximately the same size to keep the milling head level.

OPERATION

Prior to using your machine, make sure that you have a clean, usable workspace with access to a power source. Read the Covington Safety Demands Sheet. Place the unit on a sturdy, level bench. Before using, remove the 1/2" collar on center vertical, it is installed for shipping only.

LOAD: Turn the mill head upside down and fill groove about 80% full of preforms. Load this quantity into the bowl.

GRIT: Place the preformed beads in the bowl with several tablespoons of silicon carbide grit and enough water to make a slurry. For agate, jasper, and jade 80-grit is recommended. For softer materials such as malachite, rhodochrosite, and turquoise, start with 220 or 400-grit. Use enough water to keep the slurry liquid. For hard materials, do a second grind with 400-grit.

Install milling head, let it rest on the preforms, and run for a minute; beads will automatically find the groove. Remove head and check load. To provide additional abrasive action, add 1 or 2 pound weights to the milling head by placing weight on center post.

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OPERATION CONTINUED

Preformed beads should be checked frequently at the start of milling or at 10 minute intervals. Any broken pieces should be removed, as a bead rolling over broken pieces will break also. Grit has a tendency to drift into the center of the bowl, stir and spread occasionally. When beads are round and to size, remove from bowl.

FOR GRADUATED BEADS: First remove one bead when rounded for center bead in strand, then every few minutes remove two beads that match in size but are slightly smaller than one removed previously. The smaller the beads get, the faster they will grind. DO NOT remove too many beads so the top grooved plate remains level.

CLEANING

Remove bowl and plug ends of hole in bottom to protect sleeve bearing. Wash bowl in water and scrub with brush to remove all traces of grit. Wipe bead unit clean of residue and dust. Never dispose of grit in a sink or sewer because it will clog the drain.

PRE-POLISH GRIND

Place beads back in the bowl with several tablespoons of 600-grit and enough water to make a slurry. Grind and check frequently, adding water as necessary until the beads are smooth and ready to polish. Do not allow the slurry to become dry.

POLISHING

Tumble the beads in a small tumbler using cerium oxide polish. Thin polish with water to a texture of light cream. Add tumbling media to make an effective load. Take care to tumble only beads of the same hardness together. Tumble beads before drilling any holes.