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INSTRUCTIONS FOR AUTOMATIC VIBRATING LAP
392, 394, & 396

INTRODUCTION

The vibrating lap is designed to abrade and polish automatically. The inertia of the heavy stone slab holds it relatively still while the lap pan vibrates underneath. This action replaces the circular rotation used by conventional lapping machines.

DESCRIPTION

This unit is made of a heavy cast aluminum pan and base. Sold in 10”, 12” or 16” sizes, the Vibrating Lap Unit is designed to abrade and polish automatically. This unit comes with a bumper ring that prevents gemstone damage, as well as a polish pad, 110v 50/60hz motor, instructions and guarantee.
10” Unit: 12”L X 12”W X 10”H, 20 lbs.
12” Unit: 14”L X 14”W X 10”H, 25 lbs.
16” Unit: 18”L X 18”W X 10”H, 35 lbs.

INSTALLATION

Place your automatic vibrating lap on a sturdy work bench, table or flat surface. To ensure safety, secure your lap base to prevent it from vibrating from your work area. Use a level to ensure the bottom of the pan is level. This unit comes with an 110V, 60 cycle motor, switch and 3-prong electric cord. Before plugging into your electric supply, read the Covington Safety Demands Sheet.

MAINTENANCE

MOTOR: No lubrication of motor is necessary. The motor’s interior should be “blown out” occasionally by using an air hose. This cleans out lint and dust which collects inside the motor. DO NOT obstruct the space at the bottom of the unit as a flow of air is necessary to cool the

motor. Keep the unit clean. DO NOT allow abrasives or polishing powders to run down onto the adapter plate or drop into the motor.

PAN AND RUBBER/PLASTIC BUMPER: Wash clean before storing and before each cycle. When installing pan, make certain the hold down screw with the tri-knob is securely tightened and holding the pan in place.

POLLISH PAD: IMPORTANT - Keep polish pad free of all grit and grit dust.

PREPARATION OF MATERIAL

Bevel grind rough edges and remove the saw cut nub from the slab. This will reduce chipping.

REMEMBER - The smaller or thinner the piece to be ground, the more important weight becomes. Weight can be applied to the slab by the use of double back carpet tape, dop wax, or Fiber-glass tape on a dry surface. The weight should be evenly distributed over the bottom surface of the stone to be lapped. Weight in the center of the stone slab will cause an irregular lapped surface to be ground.

REMEMBER - It is necessary to lap three or more pieces so each will move the others around. If a work piece stops in one place, it will cause excessive wear to the pan at that location. If the work pieces are fragile, surround each piece with plastic or rubber bands. DO NOT allow stone chips to remain in the pan.

GRIT SLURRY

To start the operation, apply two or three tablespoons of grit over the surface of the metal pan. Apply 1/3 cup of water slowly to the pan to form slurry. Water acts as a lubricant. Have the grit slurry as dry as possible while still retaining movement of the work pieces.

CAUTION: DO NOT use excessive amounts of grit and water. Should grit splash take place, stop and dry out excess water using newspaper or sponge. Clean machine before re-starting operation.

ROUGH GRIND

Run stone slab using 80 grit until surface has been ground completely across the face of the slab. Clean slab. Be sure any holes have been purged of grit. Remove pan and bumper ring and clean thoroughly. Use a brush. Check corners and grit recesses.

IT IS IMPORTANT TO REMOVE ALL GRIT RESIDUE. As a general rule, 80 grit abrades twice as fast as 220 grit, which abrades twice as fast as 400 grit.

OTHER GRINDS

Run stone slab using 220 grit. To check finish and flatness, remove and wash slab. Then, using a soft lead pencil, make square marks across the face of the slab. Run Stone again for two minutes. If all marks are not removed, continue grind and repeat test.

When rock slab has passed the test, clean slab, pan and bumper thoroughly and repeat grind using 400 grit.

Suggested sequence of grinds depends on the hardness of the material. The harder the material, the more steps of the grind must be made to obtain a smooth semi-gloss surface. A grind of 600 grit may be in order. A good polish can only be had when all marks of the coarser grind have been removed.

POLISH

IMPORTANT- Rock slab, pan and bumper ring must be completely clean. Insert polish pad into pan. Slowly add water until pad is saturated. Add then polish (usually cerium oxide) and water until a light surface of polish is on the pad. Polish should be the consistency of cream. If polishing two or more pieces, protect the slab's edges. Remember water acts as a lubricant. Too much will lengthen the polishing time.

HINTS FOR SUCCESS

Again DO NOT add too much grit or polish. DO NOT allow the grit or polish in the pan to dry out during operation. It is better to lap three or more pieces rather than one.

The rock slabs should turn in a circle as they move around the pan. If the circular motion is not obtained, check the level of the pan. There may be too much water or too much grit. The slurry may be dry, or mud from the abrasive action may be slowing the movement.

LAPPING TIME

The hardness of glass is 5 to 5-1/2.
Based on a slab of onyx (hardness 7) under ideal conditions.

Grit or Polish	Grind or Polish Time
80 Grit	2 to 3 hours
220 Grit	1 to 2 hours
400 Grit	1 to 2 hours
Polish	1 to 2 hours

Harder material will take longer for each lapping operation. Softer material may take less time.

