

GY-ROC “A” Lapping Plate

Instructions for the Model A Flat-Lap Attachment

Supplied by the manufacturer TAGIT and edited by Aussie Sapphire for Australian users.

A) Preparation

Wash up the interior of the cast aluminium flat lap with dish washing liquid and water to remove oils and dirt. You do not need to dry the flat lap.

Attach flat lap to the top of the properly charged rock tumbling bowl and fasten in place with the spring cover retainers.

IMPORTANT NOTE: bowl should contain a normal load of rocks when using the flat lap – do not run with an empty bowl.

Place a spirit level in the empty flat bowl and shim the Gy-Roc legs until the flat lap “waffle” surface is level. Can add packing to one or more of the rubber leg stoppers to level the tumbler.

B) STAGE 1. Coarse Grind - #220

1. Add water to the flat lap approximately 1/16” deep (just under 2mm) until water is at the level of the “waffle flats”. Insert the perimeter tubing around the base of lap to prevent the slabs from bumping the metal sides of the lap. Do not use the round black polishing pad with silicon carbide – use only for the polishing stage.
2. Sprinkle about 2 tablespoons of #220 silicon carbide grit evenly over the lap, followed by around 2 tablespoons of liquid dishwashing soap. The lap is now charged and ready for the slab(s).
3. Prepare on or more slabs by grinding off the “ear” left by the saw. Use a permanent marker (texta) to mark each slab with hash marks on the side you wish to polish. These hash marks will be your gauge to determine when each grinding stage is complete and the slab is flat. Put one or more slabs on the lap (hash marks down and making contact with the metal waffles), install the bowl-cover to retain moisture and start the tumbler.
4. Allow the flat lapping operation to proceed non-stop for 24 hours. At the end of that period, examine the slabs and see if the hash marks are gone. If you can still see portions of the hash marks, let the machine run for another 8 hours and check again for hash marks. When the hash marks are completely gone, Stage 1 of the lapping process is complete.

NOTE: if you place weights on the individual slabs, you will speed up the flat lapping process considerably (especially for thinner slabs). The action of the machine is so gentle, there should be no need to cushion the rocks from hitting each other to keep them from spalling and chipping.

It is a good idea to keep a log throughout the entire process to record results and methods. This applies to your general tumbling as well.

C) STAGE 2. Fine Grind - #600 to #800

1. Wash everything up thoroughly (do not wash contents down the sink as the slurry can block drains!) and recharge the flat lap as before but this time with #600 silicon carbide + dishwashing liquid. Mark the slabs again as above and start the machine for Stage 2.
2. Check the slabs every 8 to 10 hours until the hash marks are gone, at which point Stage 2 is complete.

NOTE: any time you re-start the machine, you should check the rocks in the tumbling bowl to see if the slurry has hardened up or “set”. If it has, stir up the rocks in the bowl and adjust slurry consistency as required before proceeding. This will insure that both your “products” will be processing efficiently during the next stage.

3. Optional: If the slab(s) are really soft (eg. Obsidian), wash up the lap and slabs again and run one more stage using #1200 grit + dishwashing liquid. With harder rocks, proceed directly to the polish stage.

D) Polish Stage

Start out with everything super clean! Better to wash everything up out in the garden as slurry can block your drains if washed down the sink.

Install the round black polishing pad and the perimeter tubing. Charge the lap with 1 tablespoon of cerium oxide + 2 tablespoons of dishwashing liquid + only ½ cup of water. The polish slurry should be a little thicker than the silicon carbide slurry.

Polish options – polishing can be done with Cerium Oxide, Levigated Aluminium Oxide, Tin Oxide or Chrome Oxide. One of these four will almost certainly produce a spectacular finish. Note that Levigated Aluminium Oxide is a specialised lapping polish of approx 3-5 micron in size.

There is no need to hash-mark the slabs as the quality of the polish will tell you when this final stage is complete.

Check slabs every 24 hours until they are gorgeous. Good Luck!!

WARNING: Do not use excessive amount of water as it can cause splashing, resulting in ruined bearings and burned out motor. Please ensure that the lid is snapped on tight before operating unit.

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