



715 West Colton Avenue
Redlands, CA 92374
Toll Free: (877) 793-6636 US Only
Phone: (909) 793-6636
FAX: (909) 793-7641
Email: sales@covington-engineering.com

8" & 10" MAXI LAPS #5070 - 5076

DESCRIPTION

The Maxi Lap is a fast-cutting, versatile unit with complete accessories designed to shape, smooth, pre-polish, and polish glass or stone material.

This unit is constructed of a heavy cast aluminum chassis, a ½"-20RH arbor with precision ball bearings, neoprene sealed and greased for life, and a heavy-duty 1/3hp motor to drive the aluminum disc head at 1725rpm. The base unit remains the same on all units however accessories will vary. All units feature the above mentioned pieces, a water manifold with adjustable loc-line® water feed, and product guarantee.



INSTALLATION

*Before plugging unit into electrical supply, read the **Covington Safety Demands** sheet.*

Place unit on a sturdy, level workbench to avoid vibration. For unobstructed access to work head, install 3/8" thick spacer on arbor shaft before mounting lapping head (this will raise the head above the chassis edges and may cause water splash).

8" STANDARD OR STANDARD DIAMOND MAXI LAP

All units are shipped with discs already attached to aluminum disc head with "Stick-N-Peel" adhesive, which permits easy removal of old disc and installation of new. Wet sanding disc thoroughly before working glass or other material. Do most shaping with 80g or 100g disc; smooth with 400g and 600g. Polishing is the final step; this step does not remove any material therefore it is impossible to remove any blemishes. If scratches develop the material must be re-sanded.

Polish: Mix cerium oxide with water until creamy. Brush mixture onto the felt disc. Work the piece using light pressure. Occasionally add powder to the felt disc (use sparingly).

Remember: Do not allow the work piece to get too hot because it will damage it.

8” – 10” SUPER DIAMOND MAXI LAP

Perforated Diamond Disc System: This magnetic mounting system allows you to use one head for all grinding operations. Simply attach the adhesive-backed, flexible magnetic holder to the grinding head. No additional adhesive, or shaft nuts, are required. The grinding head is now ready for the diamond cutting discs. When finished with one grit size, simply lift off and position the next disc. Thoroughly wet the diamond cutting disc with water before abrading. Do not use oil based Koolerants because they react with the adhesive backing.

Pressure: The grinding rate is directly proportional to the pressure applied to the piece. Doubling the pressure will double the rate of surface removal. Most metal bonded diamond surfaces work best in a range of 5 to 30 psi (pounds per square inch). Pressure is also important in keeping the diamond sharp. Too low a pressure will tend to dull the diamond and very high pressure will crush the diamond and reduce the normal life of the disc.

Caution: the edge of the diamond disc is a sharp cutting surface and should be used and handled with care.

Grit Size: Use the coarse disc (100g) to remove large amounts of material such as saw marks or grinding the part to shape. Because of the large diamond size, the grinding rate is high and the disc life is long. Use the medium disc (220g) to quickly improve the surface finish of the coarse grit surface and prepare the sample for the finer grits. This disc extends the life of the fine grit disc because of the smoother surface finish. The fine disc (600g) quickly removes the medium finish and prepares the surface for pre-polish.

Pre-Dressing: For diamond mesh sizes smaller than 220 it is often beneficial to dress the disc before using it the first time. Run a dressing stick lightly over the new disc with plenty of water to remove any high spots and prepare the disc for regular use.

Dressing: Occasionally a fine disc will load up and leave gross scratches on the sample. If excessive pressures are used or too little water the soft mounting materials will load the disc and leave "nuggets" of material and residue which will severely scratch the surface of the specimen. This appears on the disc as specs in a shiny area. Once this condition has developed the disc will have to be dressed in order to remove the excess material.

Dress the disc with a fine grain (220g) dressing stick and floods of water. A soft "tick" will be heard when dressing is first started which will gradually disappear as the excess material is removed. The entire surface should be dressed to be sure all nuggets are removed before the specimens are re-ground.

After dressing the disc, thoroughly washed before re-grinding. In order to be sure all damaged surfaces are repaired, the specimen should be re-ground starting with the previous disc.

715 West Colton Avenue
Redlands, CA 92374
Toll Free: (877) 793-6636 US Only
Phone: (909) 793-6636
FAX: (909) 793-7641
Email: sales@covington-engineering.com

Smoothing: Use light pressure fine mesh disc. Because of the rapid removal rate and fine particle size of the abrasive, fragments of material will load up between the particles and sample causing scratches and tears in the sample and disc. Lighter pressure gives a better surface finish to the sample.

Feathering: Feathering consists of applying pressures in the order of 5 to 30 psi until the previous grit scratches have been removed; then gradually decrease the pressure on the surface until only a very light pressure is applied. Continually move the sample during the entire feathering operation and use plenty of water. Once this technique has been mastered, the time required to final polish the surface will be greatly reduced.

Storage: As with any abrasive, the disc should be stored in a dust-free area to prevent contamination. This is especially important on the fine grit sizes where scratches are very noticeable. As an extra precaution, rinse and clean before use.

Cork Polishing Disc: The cork disc is mounted on the aluminum head with “Stick-N-Peel” adhesive. Use pumice powder and add water to make a paste. Brush the mixture onto the cork disc. This is primarily used as a pre-polish for glass.

Felt Polishing Disc: The felt disc is mounted on the aluminum head using “Stick-N-Peel” adhesive. Apply cerium oxide and use as previously described to obtain a final polish.

Diamond compound is available in syringes that make it easy to apply (for use with leather disc heads). Along the sides of the syringes are graduated marks that let you know how much to use. Apply the compound in tiny dots. After the dots have been applied, spread them evenly across the pad with your fingertip. To finish spreading the diamond, add a few drops of diamond extender fluid and spread it with your fingertip. Rotate the part being ground and check frequently for overheating. You can make the work surface cooler by adding an occasional drop of extender fluid and moving the part toward the center of the plate. Re-charge the leather only when necessary. The diamond lasts a long time.