

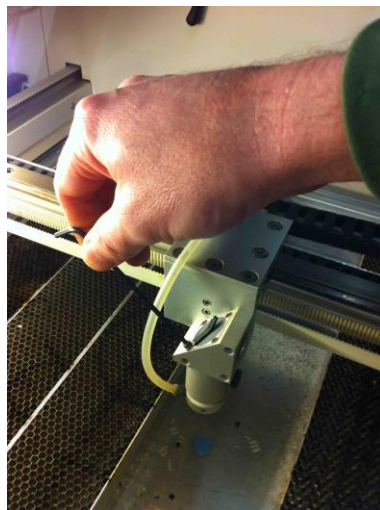
Laser Cutter Maintenance

Your laser cutter will give you many years of service but like any machine it requires regular maintenance and cleaning. As a device using optics it is especially important to keep the glass areas as clean as possible to keep any power loss to a minimum. What follows is a walkthrough of the maintenance procedure. How often this is carried out depends on the materials that are being cut and the amount of use your laser cutter gets. A general rule though would be to clean the optics and rails every 4 to 6 weeks if cutting mainly plastics and every 2 to 3 weeks if cutting mainly woods like MDF and Plywood.



Start by removing the front rail guard. This is fixed in place by two or in some cases four bolts at the front of the machine. This will give you access to the front rail and bearings. Using a 3 inch paint brush, sweep out any debris that may have built up behind the front rail. If left in place this debris could cause an obstruction when the machine homes after switching on. While doing this make a quick inspection of the Kevlar drive belt looking for any damage or wear. Leave the rail guard off for now as we need access to the mirror mount. Next take out all the honeycomb bed slats and Hoover out any debris you can see in there making sure the gauze filter for the extraction hose isn't blocked by dust.

Now remove all the optical parts in readiness for cleaning. The mirrors are held in on small spring clips. Undo the spring clip and rotate until the mirror can be slipped out of the mount. Take care not to move any of the other adjustment screws as this will re-adjust your beam alignment. The primary mirror is located under the left hand side pod and should be removed and cleaned approximately every six months. The pod is removed by unscrewing the 4 bolts and the front, back and side. The lens is removed by completely unscrewing the focal adjustment screw and sliding out the lens carrier tube exposing the lens and the lens retaining nut. Remove the lens by undoing the retaining nut.





With the optical parts out of the way it is now easier to clean down the rails and bearings using the green scrubbing pad provided. This pad can also effectively remove any sticky build up around the bottom of the nozzle normally associated with cutting MDF. Once the rails and bearings have been cleaned apply a thin smear of 3in1 oil to the rails and the bearings. Do not use lightweight oils such as WD-40 as any over spray can end up on the mirrors necessitating a second clean.

Clean the mirrors and lens using Isopropyl only. This is supplied with your machine tool box. This is due to the lens being porous and so needs to be cleaned using an alcohol based cleaning solution. With the optical parts cleaned they can be replaced in the relevant mounts. The lens is placed into the lens carrier tube with the convex surface (raised) facing upwards. This is followed by the O-ring seal and finally the lens retaining nut. Fit the lens carrier tube back into the cutter head and secure with the focal adjustment screw.

Now all that remains is to replace the front guard rails and test the machine.