Makespace Surgical Mask Clip Production: Guidance for Production Supervisors

# Who Can Be a Production Supervisor?

The production supervisor should:

* Be familiar with every process involved in manufacturing, i.e. have been a volunteer on at least one previous shift
* Be a current Makespace member.
* Be trained on the laser-cutter, or have someone present who is.

# Planning

First-time supervisors should be supported by someone who has supervised a shift, or is familiar with most of the processes, e.g. Alaric or Jonathan. It may not be necessary for that person to be there for the whole time, but make sure you know who will be supporting you, and have contact numbers for arising issues.

Many people have worked extremely hard to set up production of the clips. You will be aware that part of the reason you are supervising a shift is so that they can have a rest. You should therefore be aware of common issues which are likely to arise, so you can handle them without contacting people outside the space. Equally, we have an obligation to manufacture to an acceptable standard, and if you’re not confident that can be achieved, it is better to call someone and get help than risk producing an unacceptable product.

## Issues that May Arise

The following things are the most likely, and you should know what to do or who to contact if they happen:

* Fire in the laser cutter, and or setting off the fire alarm
  + As per standard laser cutter practice, If the fire can be safely dealt with, blow it out (remember to remove mask), or use the fire extinguisher under the desk between the laser cutters. Otherwise raise the alarm with the break glass next to the exit door. The fire assembly point is in the main carpark out the front.
  + If the fire alarm goes off but the fire has been extinguished, call the estates department and let them know, so that the fire crew isn’t called out.
* Needing something from the office (e.g. packing tape, nitrile gloves). Will there be someone on shift with access (directors, some equipment owners)?
* Questions about the process, e.g. what quality issues are acceptable. You should be familiar with most of the things that can go wrong, e.g.smoke stains, burn marks Familiarise yourself with the [operating procedures (SOP).](https://drive.google.com/open?id=1OLOXmGqOo-xyjaSSg0BIGB7wWn_eqW5IFoa0JmBFgyE) Try to answer most questions yourself, remember if it’s only one or two clips affected, it’s safer to reject them. Don’t worry about the occasional false-reject.
* Errors with data entry. Volunteers will sometimes make errors, e.g. forgetting to retire jobs, selecting the wrong job etc. If Dan is there, he can correct those. If you are confident to do so, you can correct them yourself in the [production spreadsheet](https://drive.google.com/open?id=1U6qBrt-kxL_5vciE0YUX_pbPlAORHrKN3EtSc_qxcnQ).
* Process Changes. Volunteers may suggest process changes and improvements. If they can be included within the existing SOPs, they may be acceptable. If not, they should be rejected or approved by Mark Mellors.

# Running the Shift

1. Try to speak with the production supervisor for the previous shift before that shift ends, so you understand any issues such as shortages before your shift starts.
2. Arrive about 30-60 minutes before the shift starts to give time for reviewing the state of the workplace, cleaning, and any corrective actions needed. If you’re running an afternoon shift after a morning shift has run, you should be able to speak with the previous supervisor then.
3. When the volunteers arrive, brief them on:
   1. Building issues: Fire safety - fire extinguisher location, break glass, locations of exits; Toilets; Breakroom. Clean area and dirty area.
   2. Check if they are symptomatic or have been exposed. Send home if exposed in the last 14 days.
   3. Procedure for cleaning and doffing PPE. check no-one is wearing a valved mask - replace with a cotton one or cover the valve
   4. How to use the IT system, and why (medical manufacturing, traceability).
4. Anyone who arrives early can start on any outstanding cleaning.
5. Assign people to workstations, and ensure they are trained, either by another volunteer, or yourself. After a few minutes, check on them to make sure they’re happy with what they’re doing, and following procedures. Periodically check in with people, and check that they’re retiring cards correctly.
6. Try to keep work flowing consistently through the process. There should be roughly equal numbers of batches queued at each station. If one process is getting ahead or behind, move volunteers around to balance it out. This will help to minimise work in progress (WIP).
7. Encourage volunteers to work in full batches, and not stop mid-batch. Organising a tea-break in the middle of the shift is usually welcome!
8. Keep an eye on stock levels, both of WIP and input materials, to avoid bottlenecks.
9. At the end of the shift, all workstations should be tidied ready for the next shift. Ensure that there are no partially-completed batches. Warn volunteers before the end of the shift, so that they don’t start batches without time to complete them.
10. Ensure all the volunteers sign out when they leave.

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# Production Database Cheat Sheet

The Chrome-books which are set up at each station for production tracking feed into this database: [production spreadshee](https://drive.google.com/open?id=1L1GX-7yRM-hOOdorrYTUK3-CFr-ufjhGhRJ_fhcEF2Y)t, on the ‘JobLog’ tab. Further details about the spreadsheet will be documented in the [README](https://github.com/axiomsofchoice/jobcardsystem) of the published source code

Key operations you should be aware of:

1. Comments can always be added in the comments column, separated by a ‘;’. E.g. if there is already a comment, add a ‘;’, then your comments.
2. If you make a change, add a comment, e.g. Fixed consumed job, used 101, not 100.
3. Sometimes volunteers put in the wrong ‘consumed lots’ information. If you know what they did, you can correct the lots consumed by changing the numbers in this column.
4. Periodically check the contents of each of the tabs in the spreadsheet in case there is an issue that needs to be brought to someone’s attention (e.g. someone ticks yes for has symptoms) or there is a data entry issue that needs correcting. **Important: values in the comments column are not automatically used for traceability, they are only for humans, so ensure the values in the “Lots Consumed” column accurately reflect what occurred.**
5. The values recorded in “Worker”, “Additional Worker 1”, “Additional Worker 2” and “Retired by” **must** correspond precisely to the values given in the “Workers” sheet, including case and spelling.
6. Often, volunteers forget to retire jobs after they have been consumed. You can retire a job by going to the home page and selecting “Retire Job Card”.
7. If a volunteer forgets to mark a job as complete there is currently no way to correct this in the UI and it must be corrected via the spreadsheet.
8. If a volunteer accidentally retires a job, you can ‘unretire’ it by clearing the “Lot Consumed Time” and “Retired by” entries for that job.
9. Duplicate jobs sometimes occur although now less frequently. If this happens, identify the job that should not be there and change the workstation to “Void”, appending a note in the comment field.
10. At the end of a shift, a backup should be made of the spreadsheet, which can be done by going to File > Download.
11. Any bugs can be raised on the [Github issue tracker](https://github.com/axiomsofchoice/jobcardsystem/issues).