

# Workshop extraction system

Neil Lawton's latest workshop installation is like a breath of fresh air...

One of my main sources of income is teaching woodturning and to that end we have a garden building, known as the atelier, that can be used for lessons. The original idea was to have all the machinery portable to allow the space to be multi-functional, and it still can be to a degree but I had a dilemma.

I have had a considerable increase in couples, whether it was husband

and wife, father and son, or father and daughter, wanting to attend bowl turning courses. I only had one bowl lathe I could transport up there so I had to teach these in the far less glamorous main garage workshop. There was also the tricky point of who got the big lathe and who got the small one, so a bit of an investment was required to rectify that with some more permanent fixtures.

**1** Once deciding on the more permanent layout, the new lathes and main extractor were approximately positioned.

**2** After pricing up individual parts it became apparent that buying a kit of parts and then adding to it to customise it, was more economical.



PHOTOGRAPHS BY NEIL LAWTON

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**3** Masking tape was applied to the tubing and the cut line marked on using one of the mounting brackets as a guide.

**4** The tube was cut by a hacksaw then a piece of abrasive was used to remove the burr.

**5** Starting at the furthest point from the extractor the tube was fixed to the wall. The kit contains the bracket screws and wallplugs if required.



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**6** Some effort can be required when cold to fully push the tubes into the supplied connectors, but this can be alleviated by heating them slightly with a heat gun.

**7** It still is easier to push them together before trying to level them up though.

**8** At the business end, a T-junction was fitted to connect the extractor and a blast gate and reducer to connect the small bandsaw.

**9** Pose-able hose and hoods were then added for the lathes. ▶



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**10** A short length of old vacuum cleaner tube was added to connect the port from the bandsaw.

**11** Any extractor this powerful can be quite noisy. Removing the exhaust tops and using hose to dampen this is approved by the manufacturer. In this case I used a couple of bought reducers and some old vacuum cleaner hose. Venting outside would reduce the internal volume more, but I must think of the neighbours.

**12** I originally placed a blast gate after the corner piece and intended it to go straight to the pen-turning lathes. After realising there was another gate and tee piece in the kit I made a small 'sweep point' out of softwood and ply. Blocking the front entirely makes the extractor try to suck the floor up so there is a 25mm gap at the bottom of the flap in the closed position.

**13** The pen-turning lathes are not permanently set up and are only brought in for those courses, so I needed something that could extract from more than one source but could also be put away.

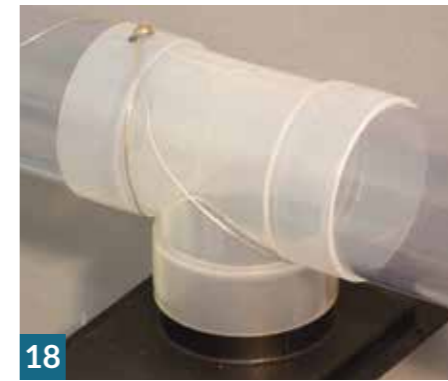
**14** A piece of drainpipe was capped with an aerosol lid and drilled to accept two funnels that were hot-glued in, with the flexible tube attached, to connect to the main system.

**15** I had a spring clip I'd saved from a redundant fire extinguisher and, along with a bit of reclaimed oak, it made the perfect storage solution for the pen-turning extraction.

**16** Static build-up can be a problem with a plastic tubed system so I decided to earth it. After a bit of internet research I chose this method. I stripped the insulation from some solid core wire and crimped a terminal on the end.



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**17** A small hole is drilled in the tube and the wire attached with a self-tapping screw. The screw is long enough to protrude through the tube and into the airflow.

**18** The wire is then wrapped around the tube, linked with a crimp and screwed on at each connection point.

**19** The earthed tubing was then connected to the main extractor by a piece of flexible wire and connected to the main earth point via a small crocodile clip. This provides a good connection without involving any electrical work and also means it's easy to disconnect when removing the top to empty the extractor.



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**20** A quick check with a test meter shows good continuity between the tubing and the extractor.

**21** A second check shows a good earth all the way to the plug.

**22** The completed installation, all ready to go. ■



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