

### DO YOUR PRINTS LOOK LIKE A STAIRCASE?

When communication to the X axis, or sticking and slipping occur, your prints can begin to look like a staircase, where the print jumps to the left or right but then continues perfectly. Fig 1.1

### WHAT CAUSES IT?

This is caused by 1 of 5 events :

1. **The Filament fan nozzle dropped or the print lifted (MOST COMMON)**  
The filament fan is the one to the left of the extruder. It has a nozzle that blows air onto your print. This nozzle clips in on the underside of the fan and can unclip partially or completely; so that the fan nozzle bumped into your print and caused the machine to be unable to move in the x axis correctly. This results in a staircase print; often seeing this happen 2-3 times until at last the Fans nozzle is ripped from the unattended machine or the print is shoved off the bed.

Also, if the bed was not properly levelled or the first layers did not lay down correctly, the print can begin to lift off the bed. This can in turn cause the fan nozzle to bump into the print and cause the same event.

2. **Something jammed the x movement on the rod**  
This could be dust or particles on the rod or simply a very dry rod, or event dried out bearing. Lubricate up the rod (Vaseline works a treat)
3. **Something jammed or otherwise stopped one of the x axis pulleys**  
Check that the pulley on the left and right are clean and move freely. The one on your right when facing the machine (aluminium) is the drive pulley. Check that the grub screw is tight and that it is not slipping on the rod.
4. **Belt damaged**  
Check the belt is sitting in the pulley and that there is nothing stick on the belt or that it has otherwise not been damaged.
5. **Stepper motor cable damaged**  
Lastly, and where all the above are ruled out, it must be the stepper motor cable. Check that this cable is firmly connected to the stepper motor at the right side of the gantry, and at the motherboard. Taken that both ends are firmly connected and the problem persists, you will need to replace the stepper motor cable. Unfortunately all 3 axis stepper motors join into one cable at the motherboard and weave around the machine in fiddly to access places. The job is not difficult, but a little fine motor skill work will be required. As a tip; remove the outer fascias! —this makes access ten times easier.

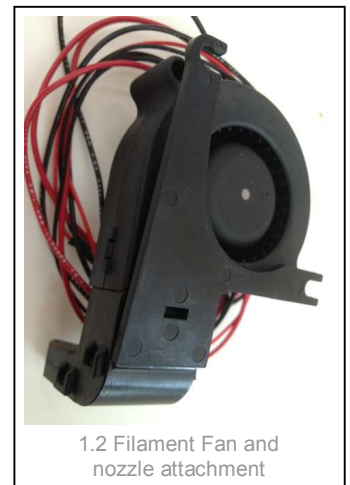
*If you believe this is the problem, and your warranty is through BilbyCNC, just log a ticket through [support.bilbycnc.com.au](mailto:support.bilbycnc.com.au) and report the problem and that you have already used this fact sheet to help with diagnosis.*

### A WORK ABOUT ECHOING

Echoing is where a pattern (say the frame of a window) repeats a number of times across your print. This is not a machine fault, but an error when you rendered the file for printing in Makerware. Re creating the print file, or turning the object on the bed by 5° will usually solve the problem ;)



1.1 Print Stepping / jumping



1.2 Filament Fan and nozzle attachment



1.3 Echoing

*BilbyCNC hopes you found this helpful. Please visit [support.bilbycnc.com.au](mailto:support.bilbycnc.com.au) if you need further assistance*