

Knocking noises from the extruder stepper motor are usually caused by the stepper motor actually jumping up and down slightly and tapping on the mounting block causing the noise.

This happens when the machine is having feeding difficulties that basically result in the drive wheel turning and “pushing the filament” but the filament not moving forward down the extruder.

This can be caused by:

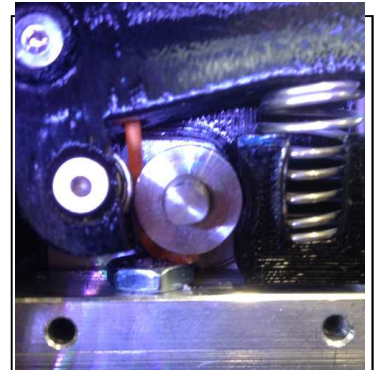
ON LOADING FILAMENT:

1. **The filament curving** so that it misses the barrel and taps into the mounting block. (Fig 1.1)

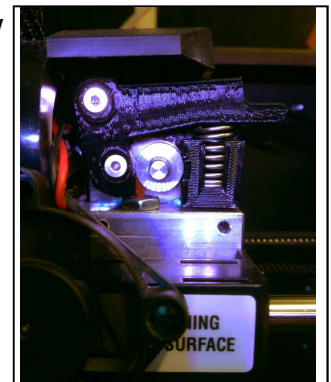
Solution : unload filament, straighten it with your fingers and load again

2. There is a **small broken piece of filament** stopping the new filament from loading – this WILL happen if you ever allow the machine to run out of filament mid print. (Fig1.2)

Solution : remove front fan and heat sink. You will now be able to see around the barrel and remove broken piece. If still on barrel run load and then use pliers to pull the piece up once warm and load in new filament. You can do this with the fan off just make sure it is hanging in such a way as to not damage blades. Make sure when replacing fan that air blows back towards the extruder (there is usually a sticker on the back with fan specs)



1.1 Filament curling and missing barrel



1.2 Barrel blocked by filament

WHEN PRINTING:

1. **A blocked nozzle**

How to diagnose : run load and watch the filament flow.

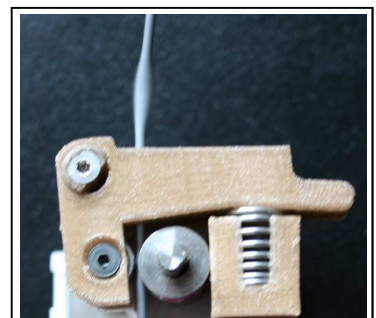
A partial blockage will cause filament to want to come out at 30-45 degree angles

Solution : If you think the nozzle is blocked completely, see “cleaning and replacing your nozzle” Under solutions at support.bilbycnc.com.au

2. **A bulge (or swollen part) in the filament** that stops it from fitting in the barrel. (Fig 1.3)

How to diagnose : unload filament and look at its width consistency from different sides (a bulge may be only evident from one side)

Solution : Cut out bulge, check along filament for 30-60 cm for not more and start again.



1.2 Bulge in filament

3. **A Damaged or faulty thermo cable** that is providing false messages to the mother board resulting the filament not being heated properly

How to diagnose/solve : please see solution on support.bilbycnc.com.au

BilbyCNC hopes you found this helpful. Please visit support.bilbycnc.com.au if you need further assistance