3D MW

3Dmodellingworld.com

4 Wheel Wagon kit, Assembly Instructions.

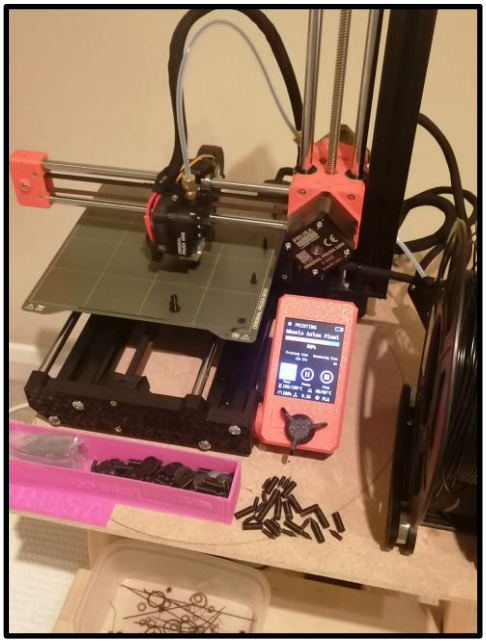
Thankyou

Thankyou for purchasing the **4 Wheel Wagon Kit** and supporting my business ☺ I hope you have fun assembling your model and enjoy running the finished article on your set. I love seeing the finished articles too, so feel free to share your models on Instagram once you have them assembled.
I am also keen to hear back from people about their experiences with my kits and models so I can constantly improve them.
Have fun and thanks again, Mario.

Before you get started

Check that you have all the parts that you should. Some spares have been included just in case you have a little accident. In the event of a part missing feel free to contact me via my email address or my Instagram Account. All the parts are shown on Page 2. Before gluing any parts down double check with the instructions.

3D Printing and Designing Process

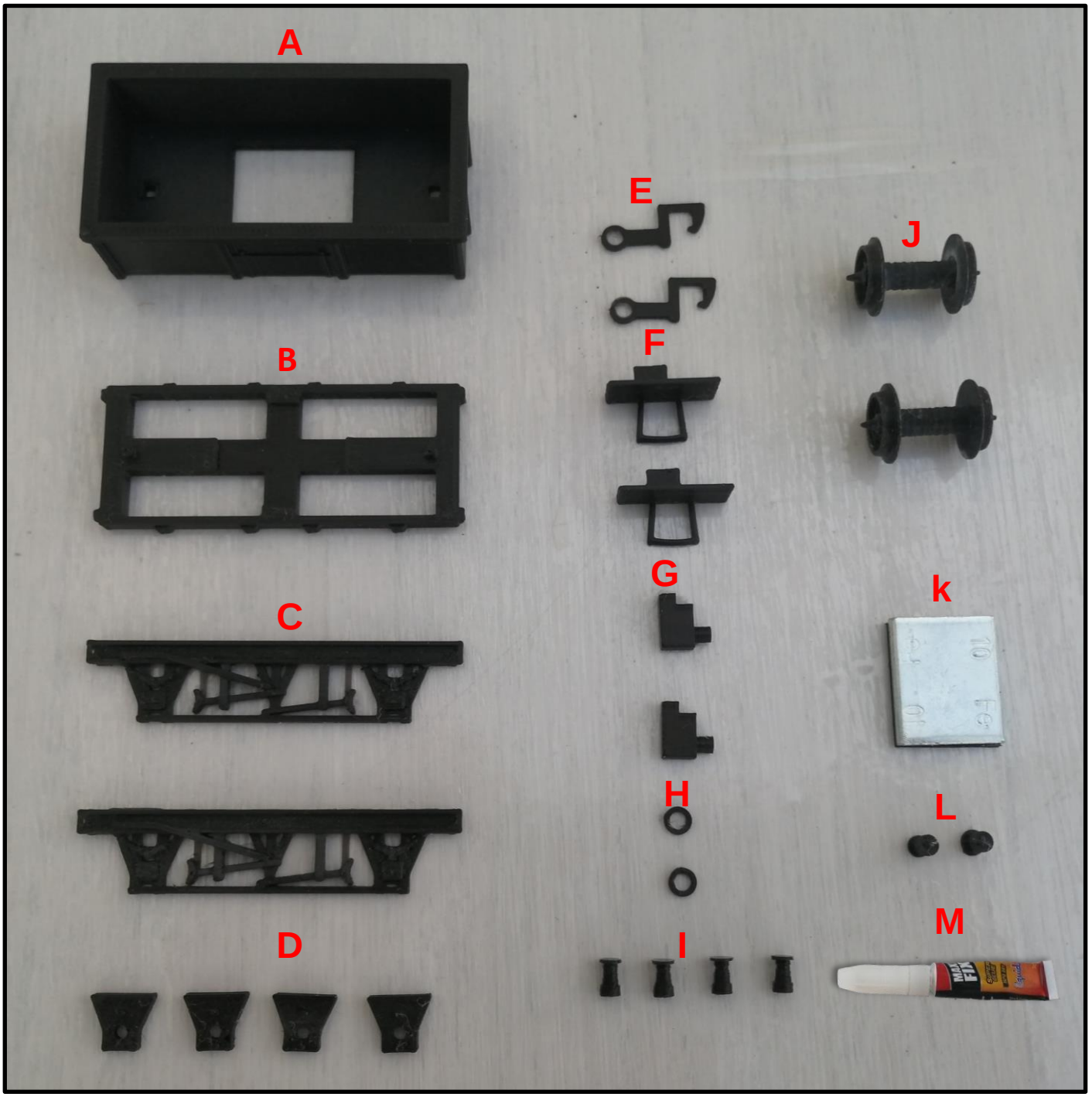


All my models and kits are built from scratch using pictures, resources and related information off the internet. The finished models are then processed and 3D printed. The 3D printing process itself involves taking solid plastic (PLA) heating it up and placing down, layer by layer. Depending on the size of the part been printed it can take either a few minutes or a few hours. Its quite a fascinating manufacturing process to watch.

IMPORTANT! This kit contains some very small parts, please keep them away from babies, young children and animals. The kit is designed to be used for anyone above the age of 12 but adult supervision is recommended for any young teens.

Before you get started

Check that you have all your parts.



A – 1x Wagon Body
B – 1x Wagon Base
C – 2x Wagon Chassis
D – 4x Wheel Holders
E – 2x Coupler Hook
F – 2x Coupler Hoop
G – 2x Coupler Holder
H – 2x Coupler Holding Ring
I – 4x Buffers
J – 2x Wheels
K – 1x 10g Weight
L – Assortment of Spares
M – Super Glue

Before you get started

Extra equipment that may come in handy during the assembly.

A – Spring Clamps; this will help to hold pieces together as they dry. If you don't have any then some masking tape or Sellotape will act as a good substitute.

B – Wire Brush; this will help remove any excess plastic.

C – Nylon Brush; this will help remove any excess strings produced in the 3D printing process

D – Diamond Mini File; to help smooth any rough edges down.

E – Flat Wardle File; to help smooth any flat edges.

F – Round Wardle File; to help smooth any rounded areas.

G – Wet and Dry Paper; to help make surfaces extra smooth and bright.

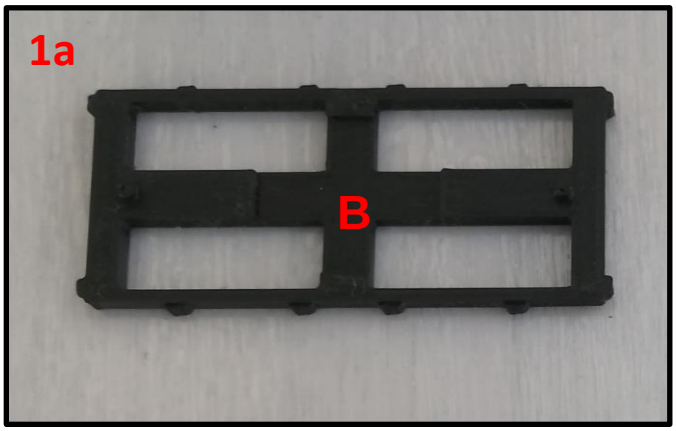
H – Extra Super Glue; in case you run out of the glue in your kit or have any accidents while assembling your kit.

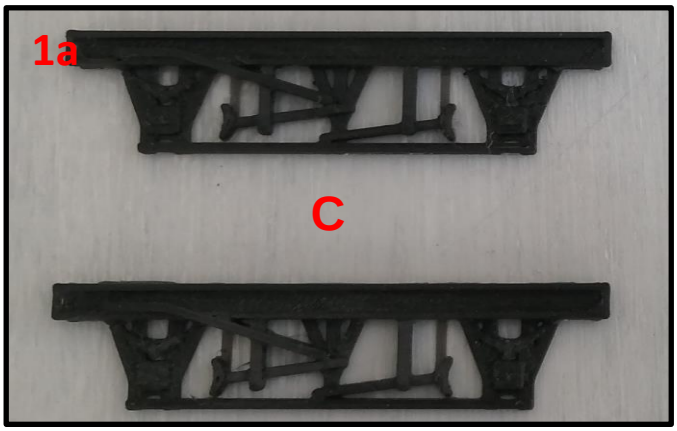
I – Toothpick; to help get the glue into those small extra hard to reach places were accuracy is paramount.

Masking Tape/Sellotape and Tweezers may also come in handy

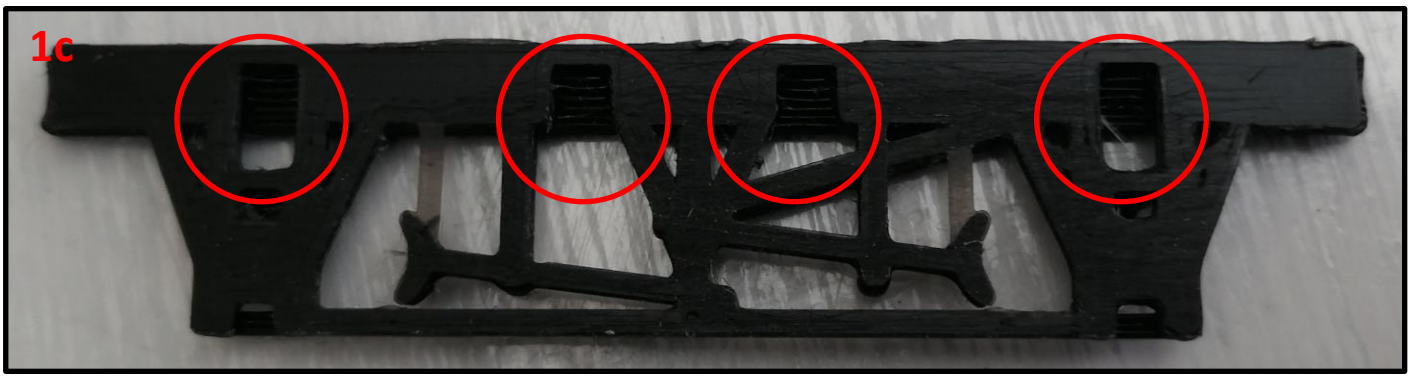
STEP 1: Base/Chassis Assembly

1a – Prepare the following parts, **1x Part B, Wagon Base** and **2x Part C Wagon Chassis.**



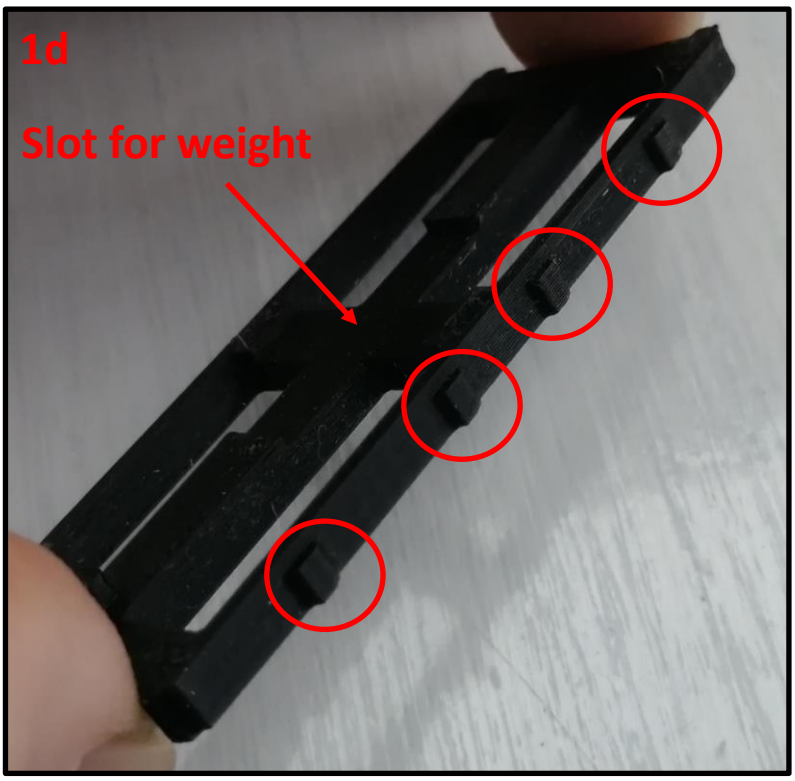


1b – Remove any extra plastic or strings from the edges of the pieces with any of the following tools and equipment listed on **page 3.**



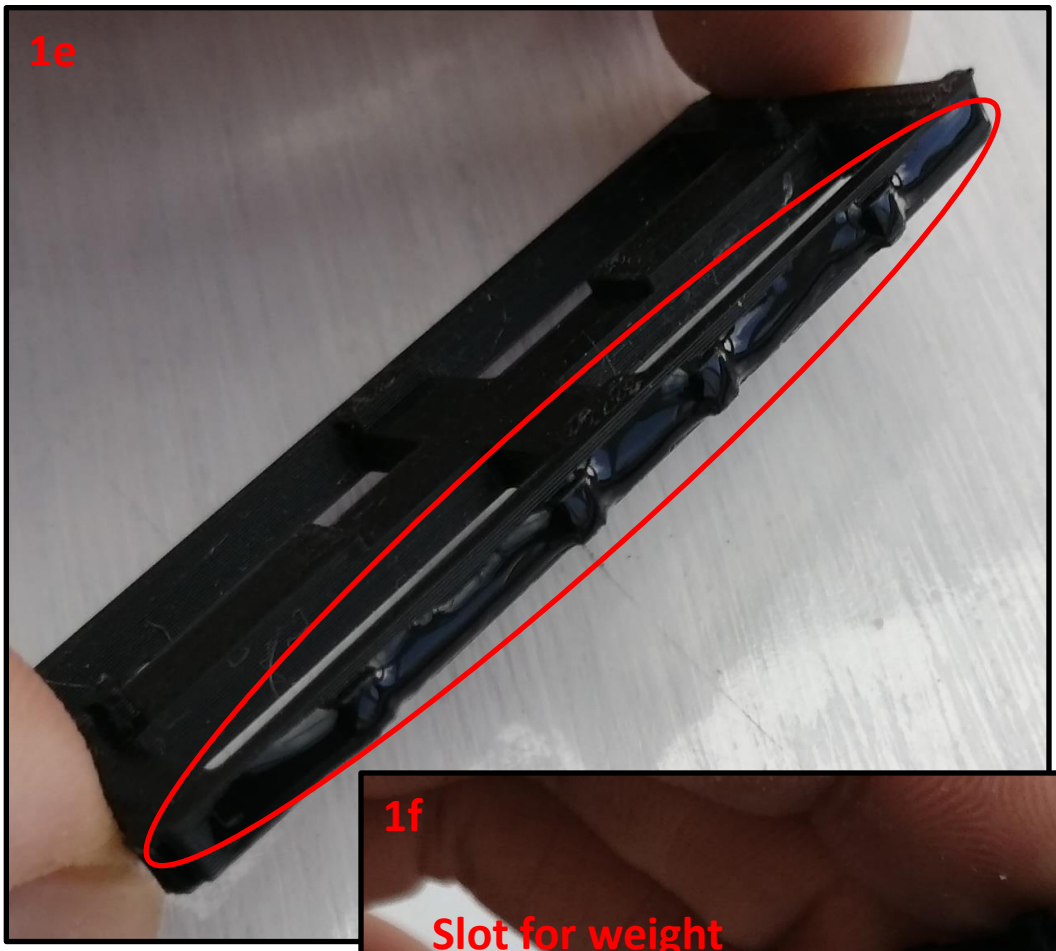
1c – Notice how the back of the chassis has 4 slots missing, see above. This is to allow it to attach to the sides of the base.

1d – Notice how both sides of the wheel base have 4 extrudes. This is to allow the chassis pieces to slot in. The top of the base has a large notch missing in it to allow a weight to fit.



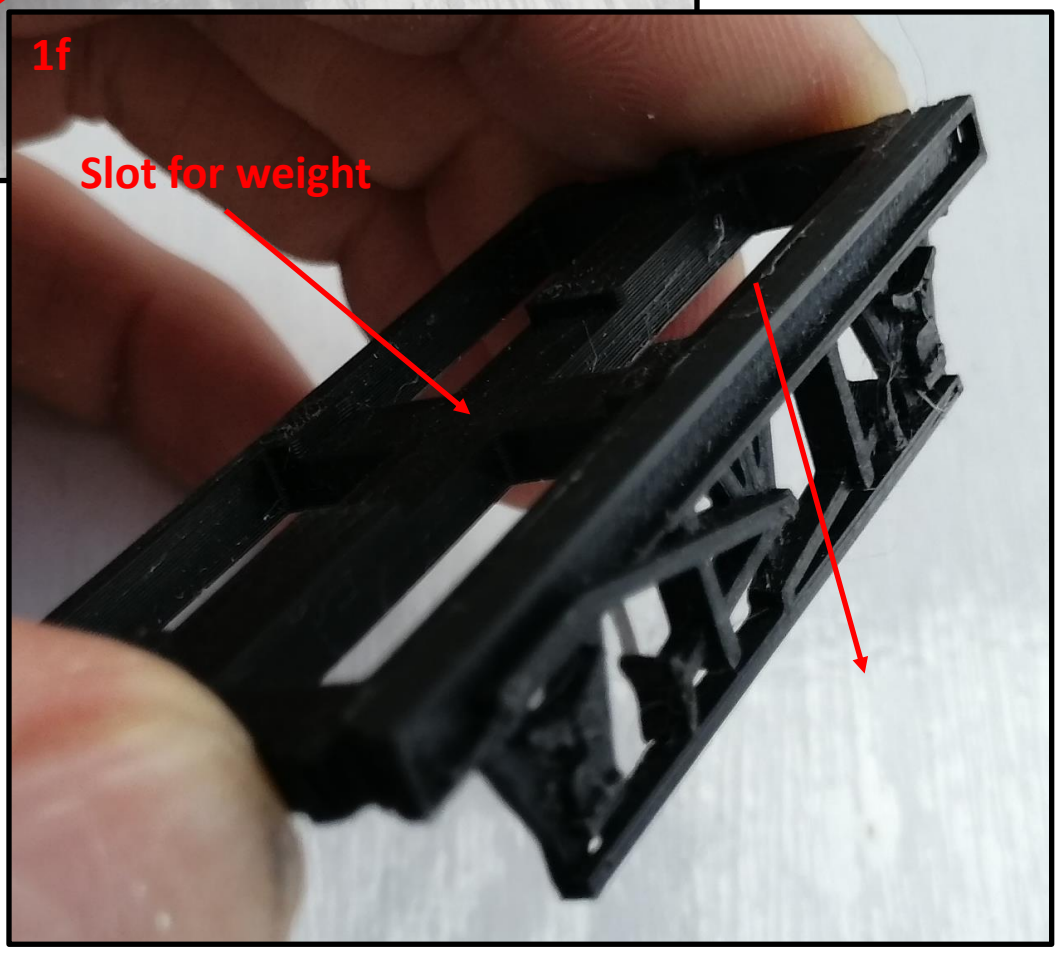
STEP 1: Base/Chassis Assembly

1e – Take the chassis side and place glue along one edge. Make sure you cover the extrudes in glue too.



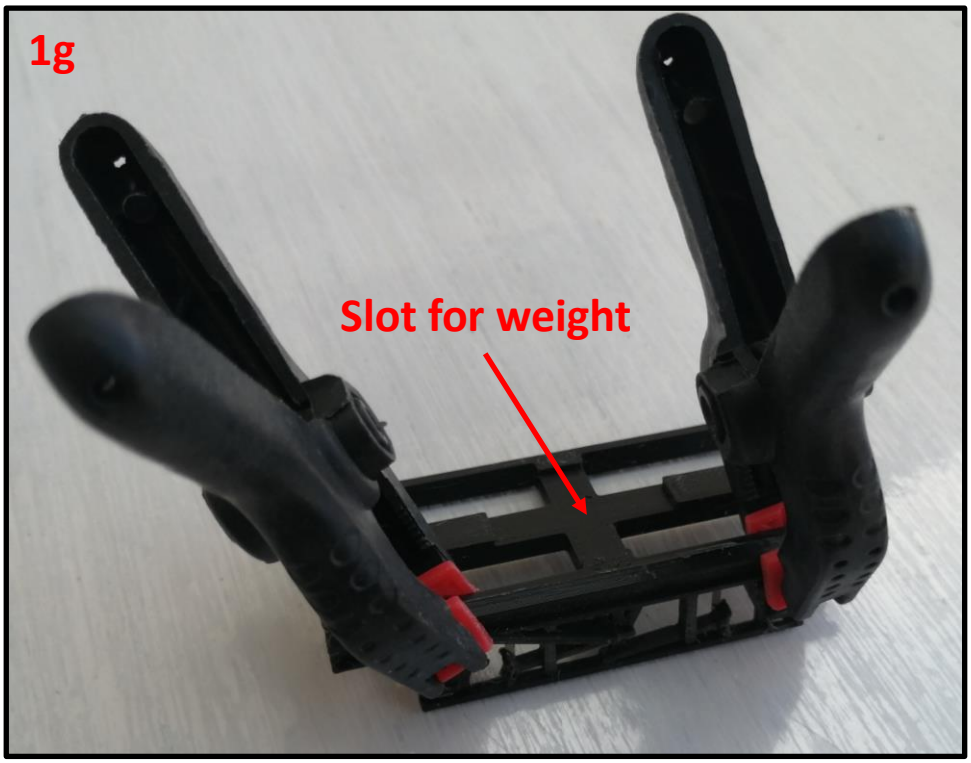
IMPORTANT!
Practice the next stages without glue before permanently attaching the pieces together.

1f – Take the chassis and slide it over the extrudes and push down. The chassis and the base should sit flush with each other. The slot in the base for the weight should be facing upwards.

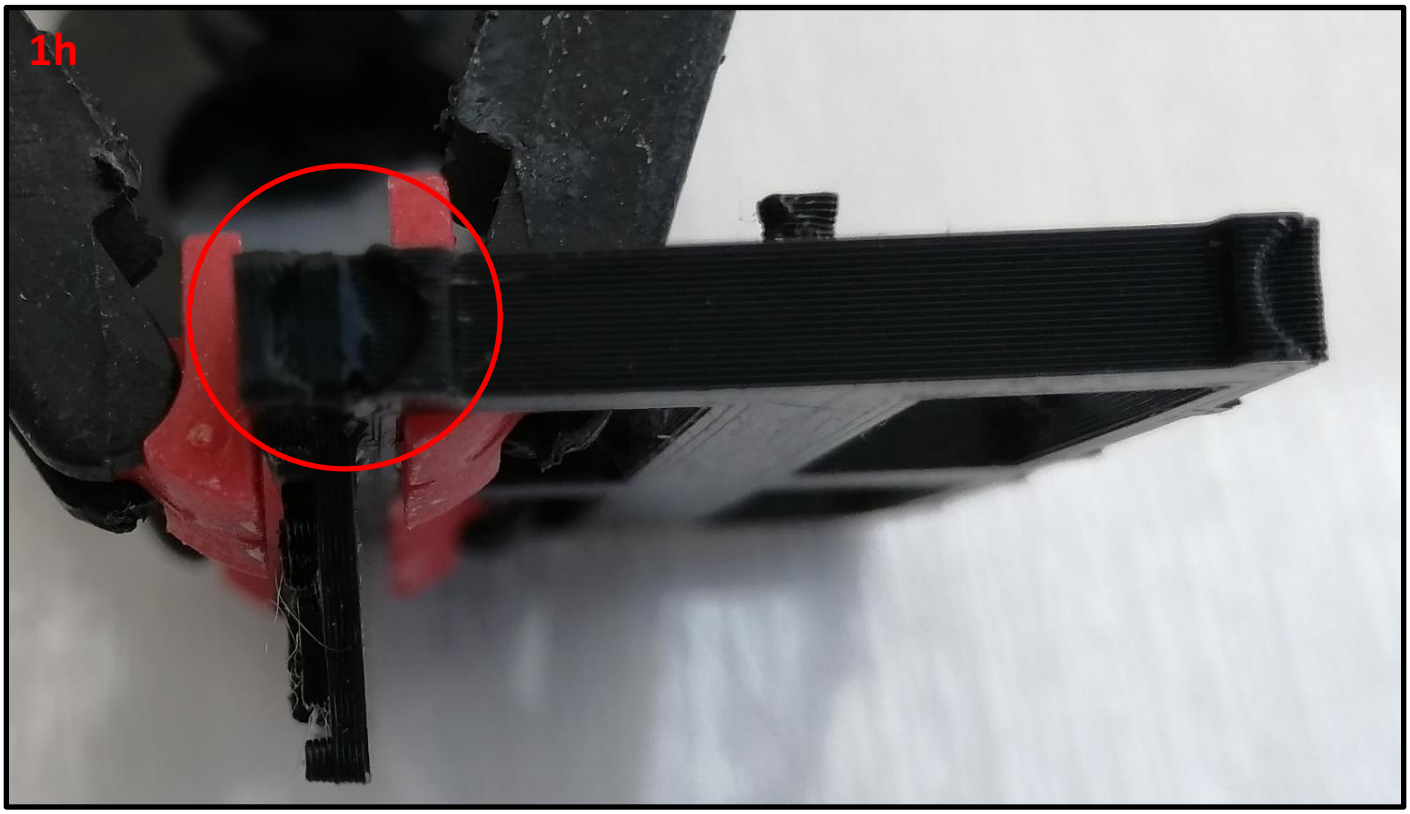


STEP 1: Base/Chassis Assembly

1g – If you have spring clamps you can use two of these to hold the chassis and the base together as it dries. You can also hold it together with your fingers or use tape/masking tape to hold it in place.



1h – Before letting the base and the chassis set twist it onto its end and check that it is correctly aligned. If it is correctly aligned the two parts would of formed a perfect circle in the corner. Adjust if not correctly aligned. This circle is were the buffers will eventually attach.



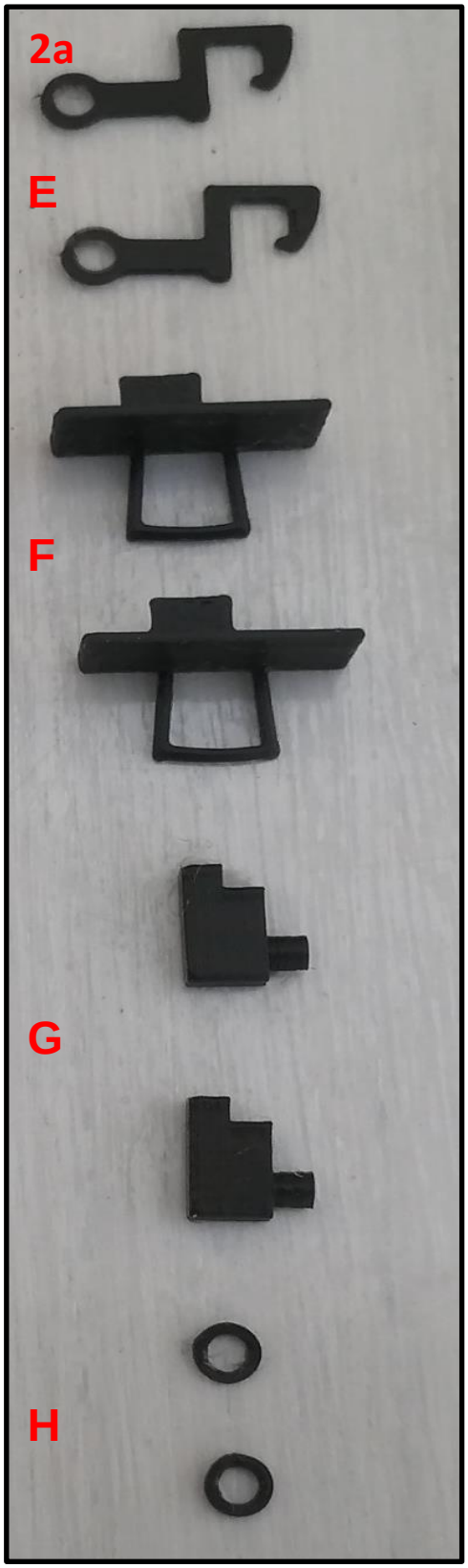
STEP 1: Base/Chassis Assembly

1i – **Repeat stages 1e-1h** with the remaining side. Once happy that all pieces are correctly aligned leave it to dry and move onto the next step.

IMPORTANT! PLA Plastic will deform and melt like any other plastic if left on a hot/near a surface such as a radiator. Leave your parts to dry in a warm ventilated area, or at room temperature. It is also strongly advised that you do not leave parts to dry in a conservatory as the magnification of light can also cause the PLA plastic to deform.

STEP 2: Coupling Assembly

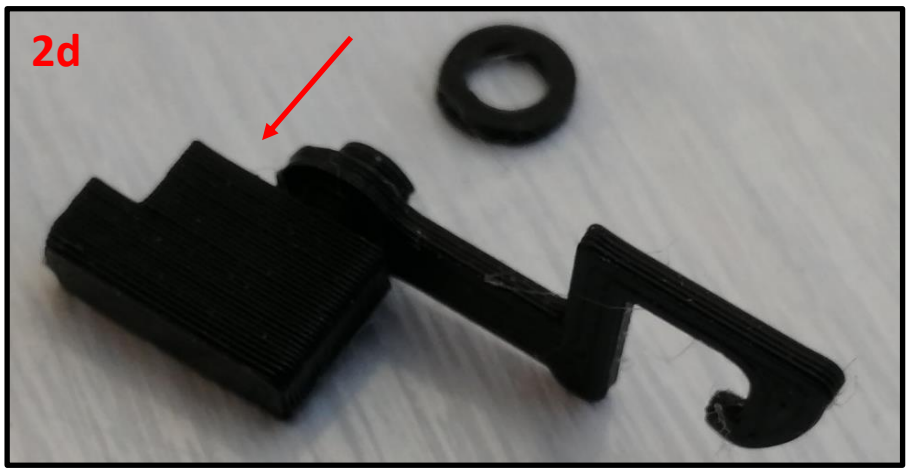
2a – Prepare the following parts, **2x Part E; Coupler Hooks, 2x Part F; Coupler Hoops, 2x Part G; Coupler Holders** and **2x Part H; Coupler Holding Rings.**



2b – Remove any extra plastic or strings from the edges of the pieces with any of the following tools and equipment listed on **page 3.**

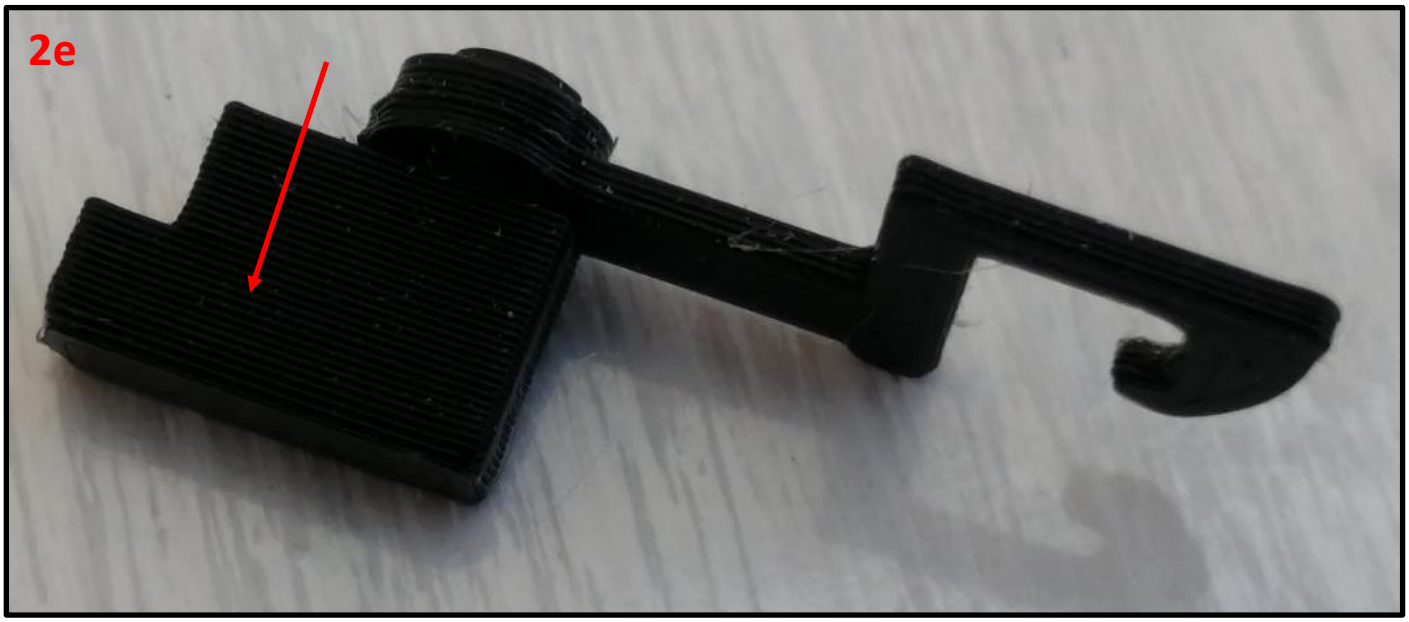
2c – Take a **Coupler Holder, a Coupler Hook and a Coupler Holding Ring** and orientate them as in the picture below

2d – Take the coupler hook and push it onto the round extrude of the coupler holder as in the picture below.

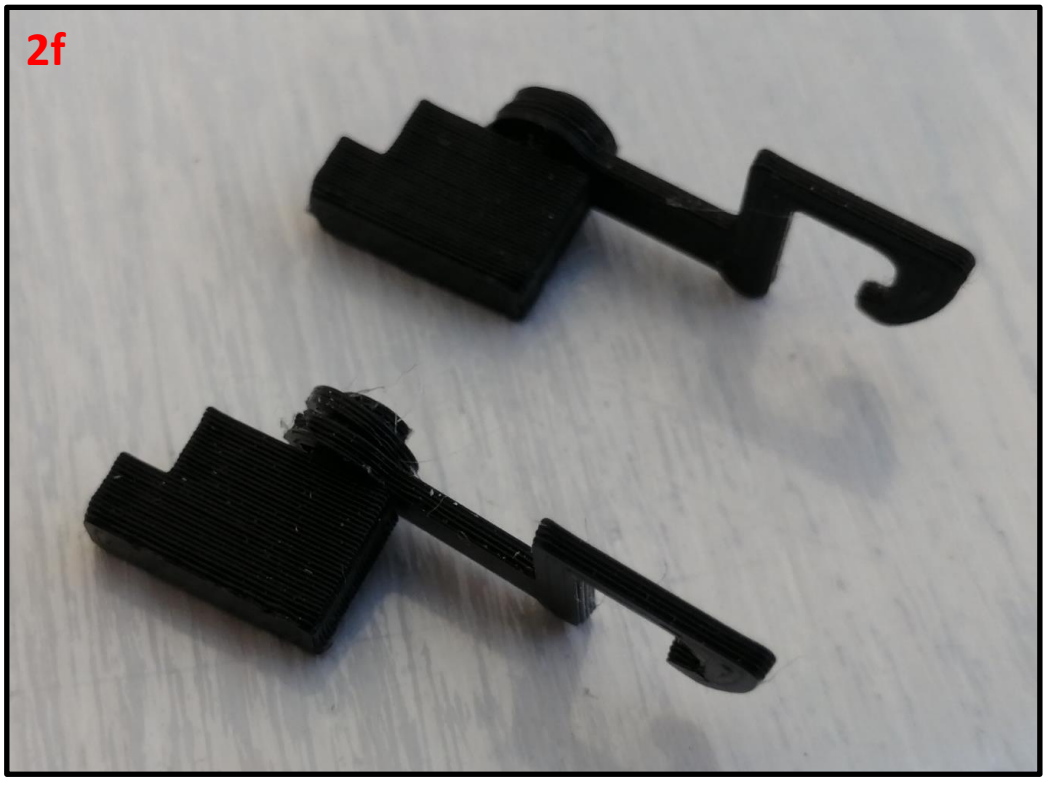


STEP 2: Coupling Assembly

2e – Now take the coupler holding ring and push it onto the round extrude that the coupler hook is on. It should clip into place. Ensure the coupling hook can still move freely. You shouldn't need any glue to keep the ring in place, but if it is loose it is recommended you use a toothpick to help you apply it.

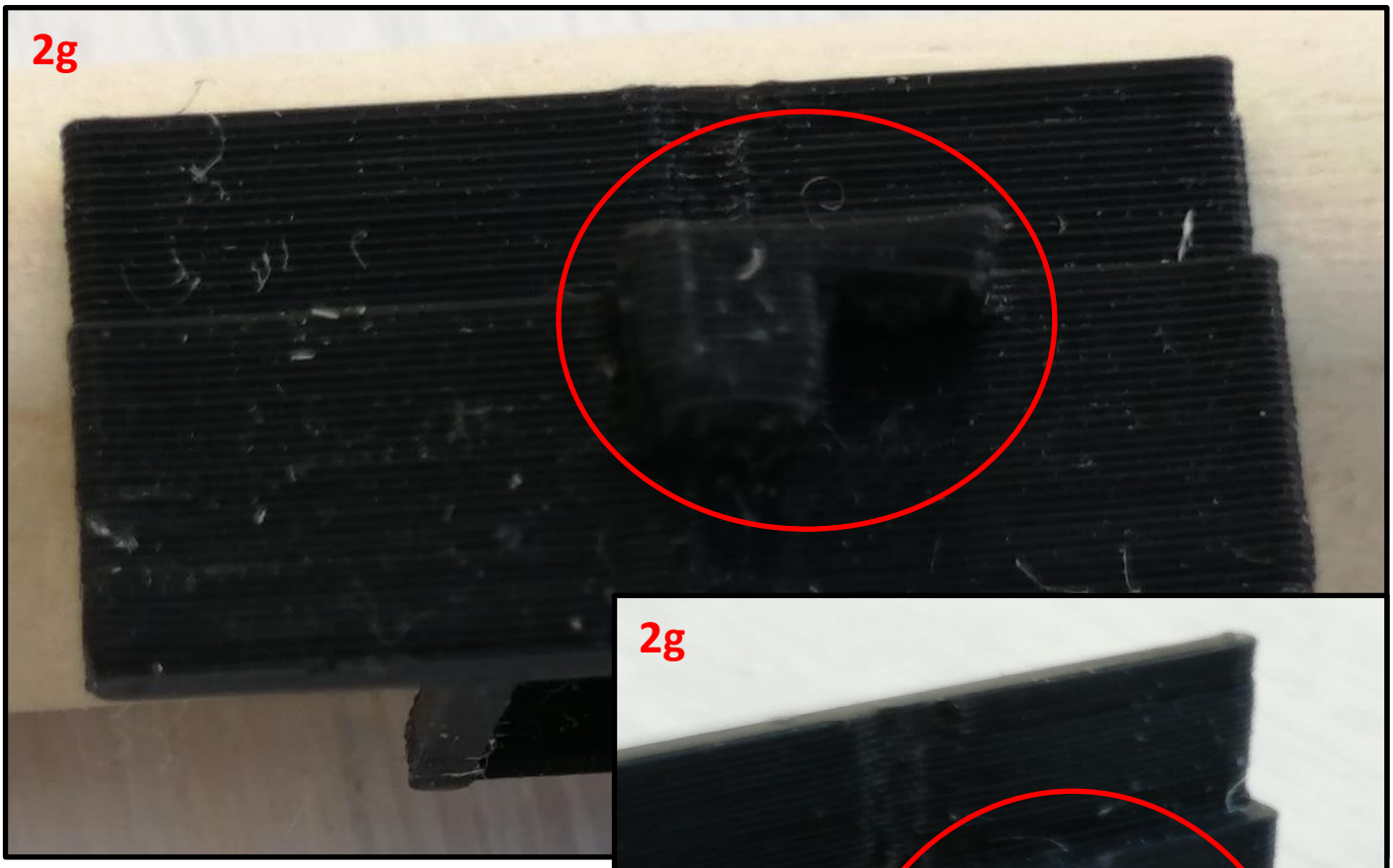


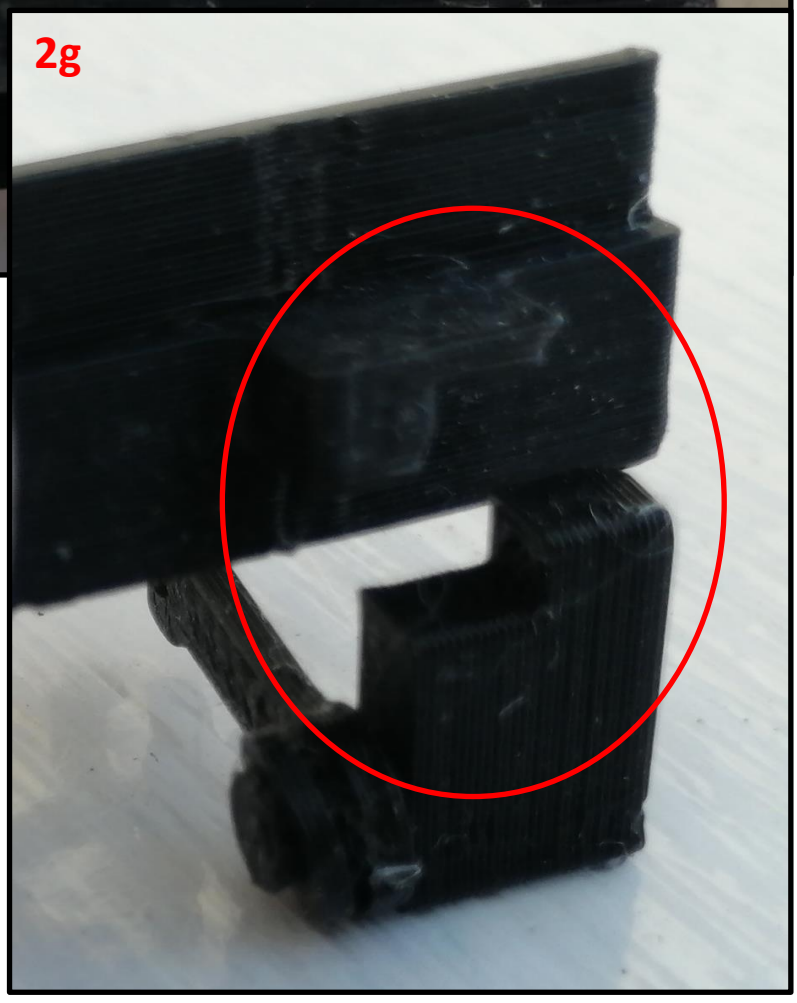
2f – **Repeat stages 2c-2e** with the remaining parts until you have two **Coupling Assemblies**.



STEP 2: Coupling Assembly

IMPORTANT! Before applying any glue in the next stages check that you understand how the **Coupling Assembly** and **Coupler Hoop** assemble together. Read carefully before hand and refer to the pictures.

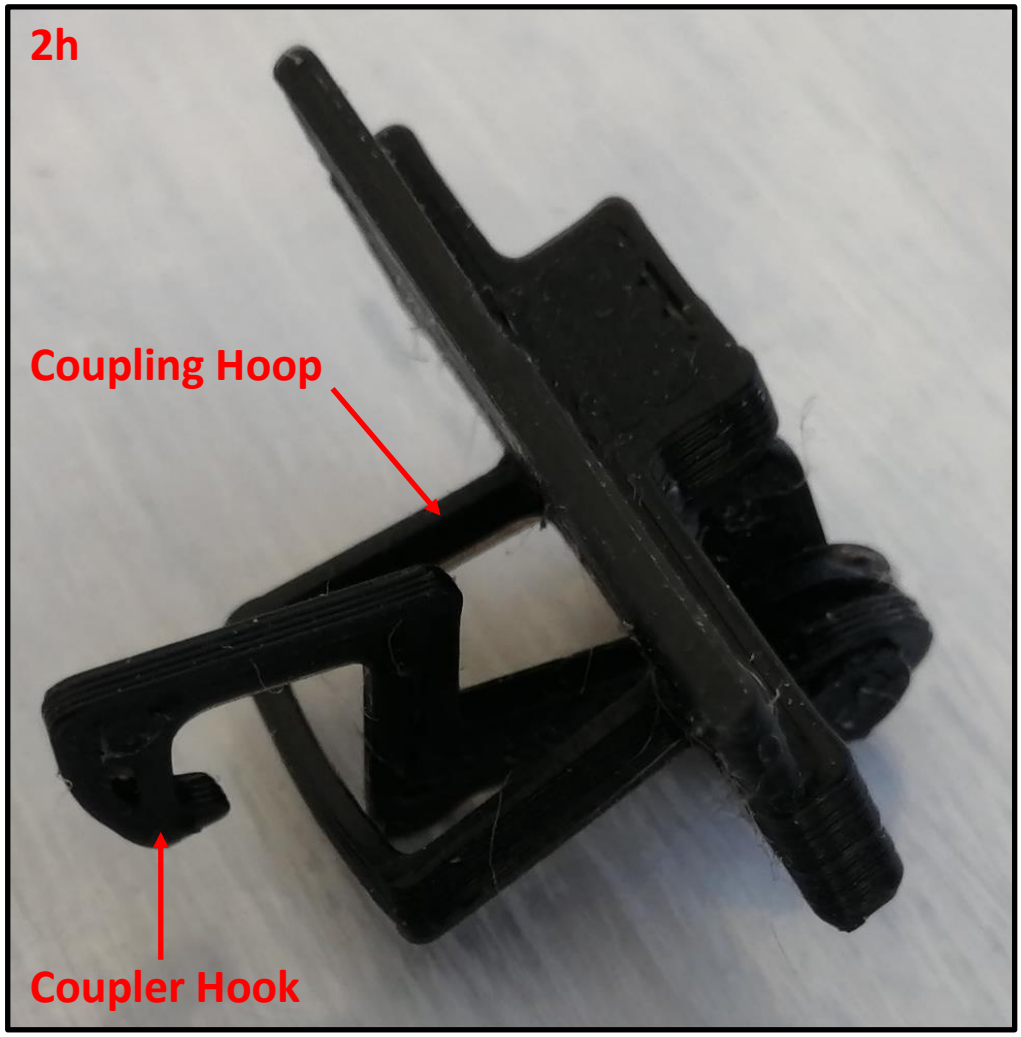




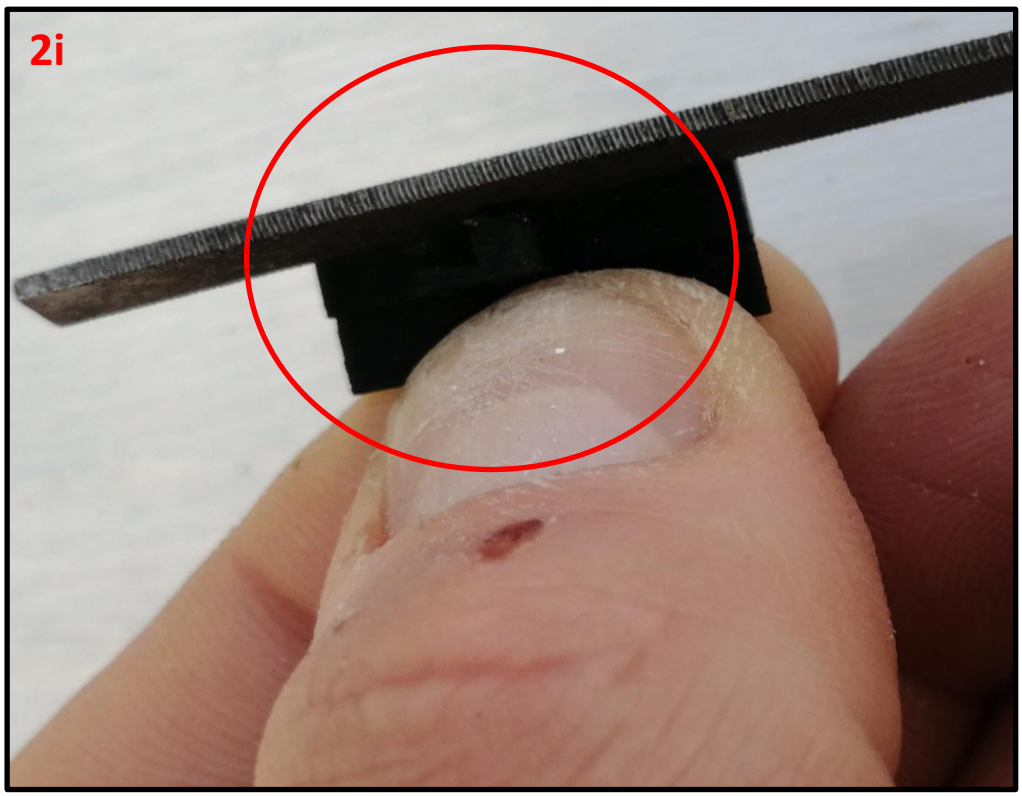
2g – Notice how the back of the coupler hook has an upside down letter “L” extrude. This is to allow the coupler holder to slot into it. The coupler holder has missing notches that allow it to only slot into the coupler hoop a particular way.

STEP 2: Coupling Assembly

2h – Before applying any glue notice how the coupler hook has been pushed through the coupler hoop first. The coupler holder is then pushed upwards into the upside down letter "L" of the hoop.

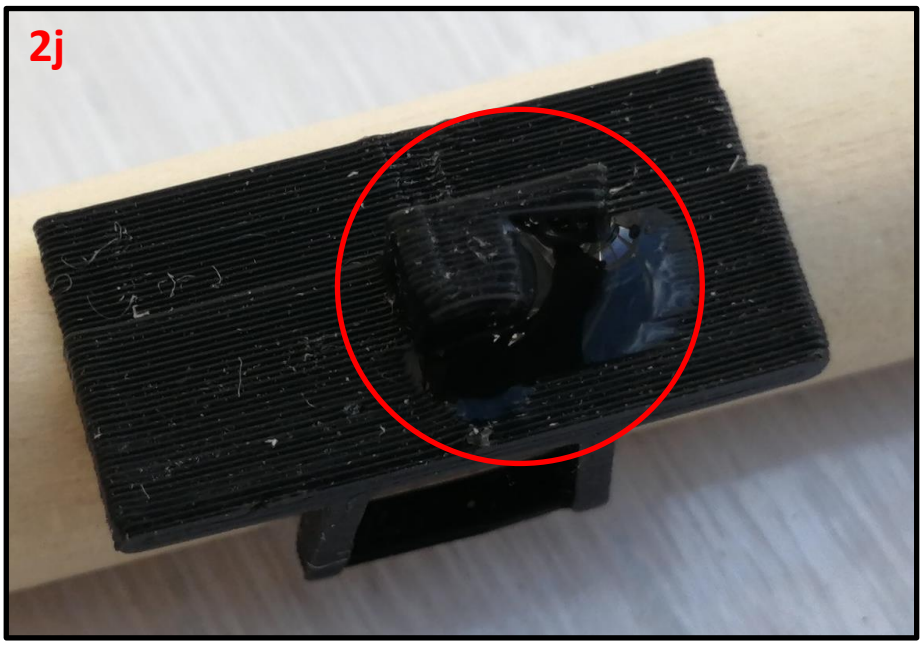


2i – Also check that the edges of the upside down letter "L" on the coupler hoop are flat and smooth. If they are not use a flat file to smooth the edges down.

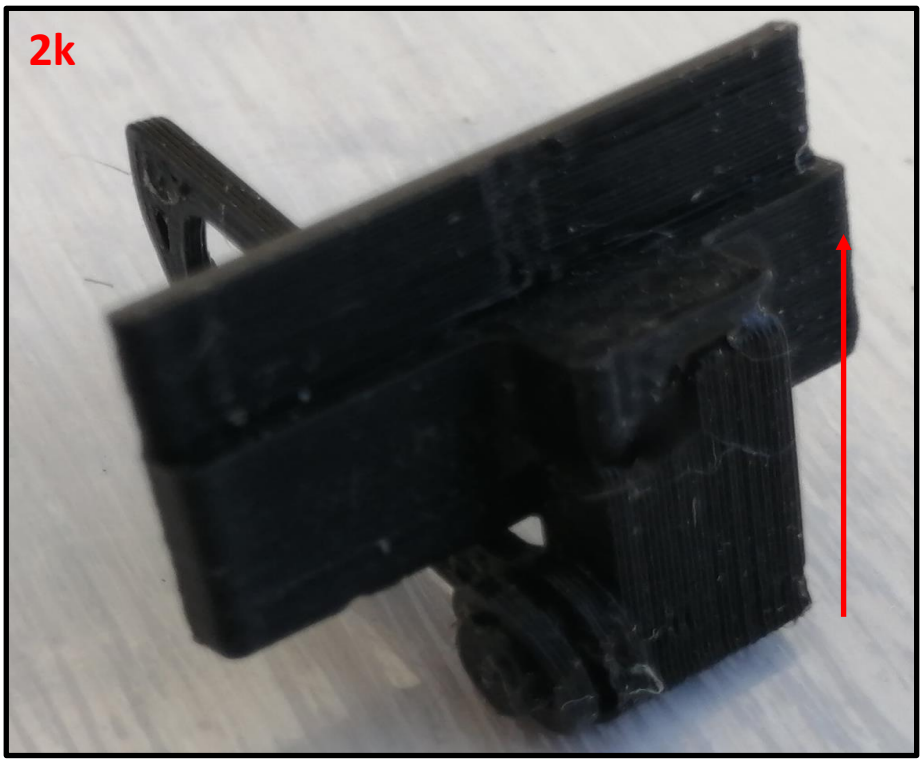


STEP 2: Coupling Assembly

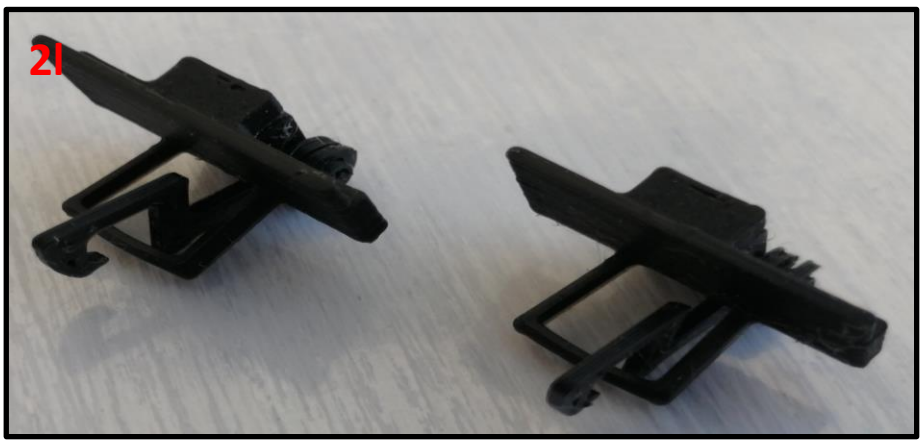
2j – Once happy with how the coupling assembly attaches to the coupler hoop place a small amount of glue on the upside down letter “L”. Using too much glue could result in the glue running which could cause the hook to jam in place.



2k – Ensure that the coupler hook goes through the hoop and push the holder up into the upside down letter “L”. Apply pressure with your fingers and don’t let go until the two parts have fused. Ensure that the coupler hook can still move and rotate freely.

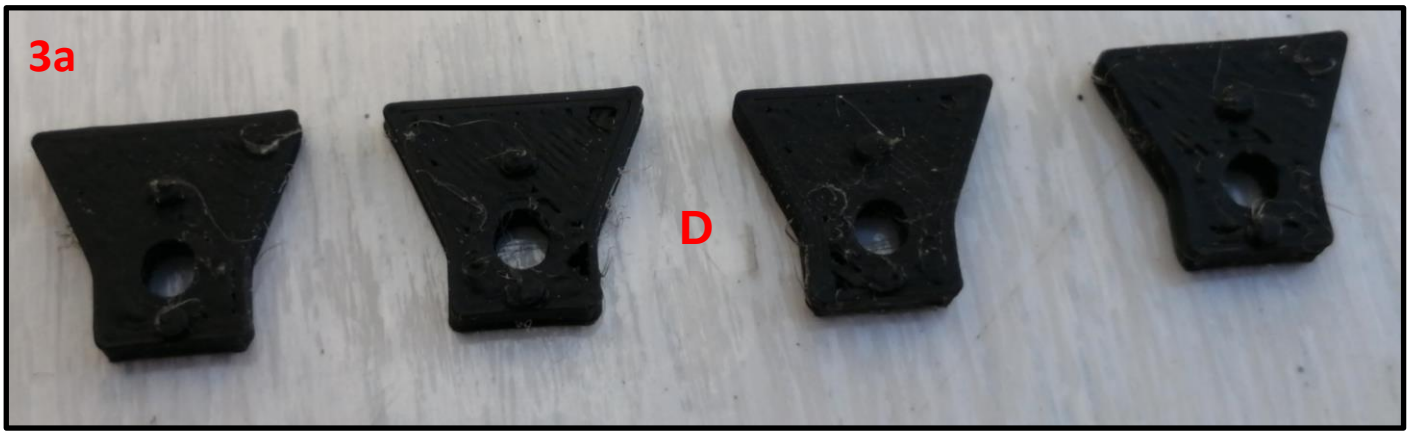


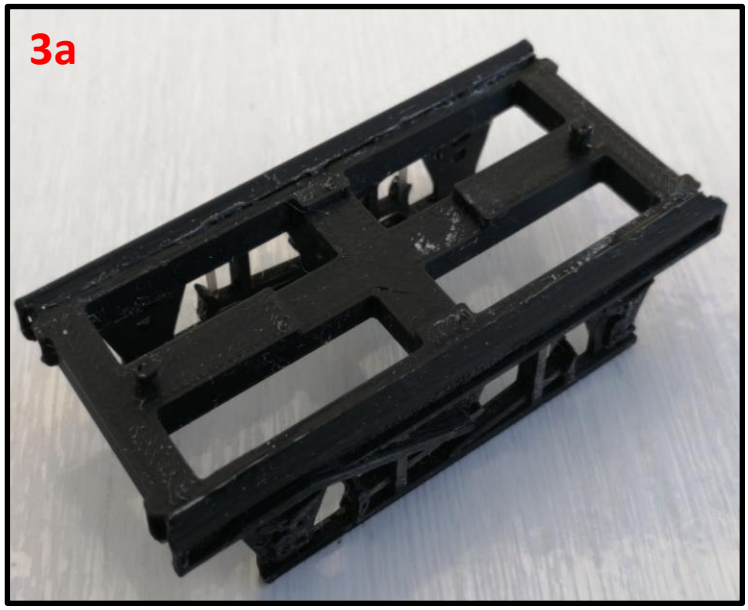
2l – Repeat the process with the remaining parts until you have two fully assembled coupling assemblies. Leave to dry and move onto the next step.

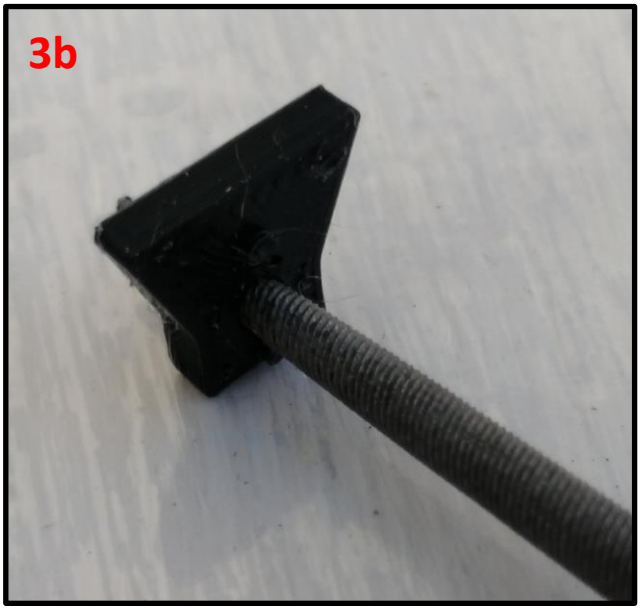


STEP 3: Wheel Holder Attachment

3a – Prepare the following parts, **4x Part D; Wheel Holders** and the **Assembled Chassis/Base** from Step 1.

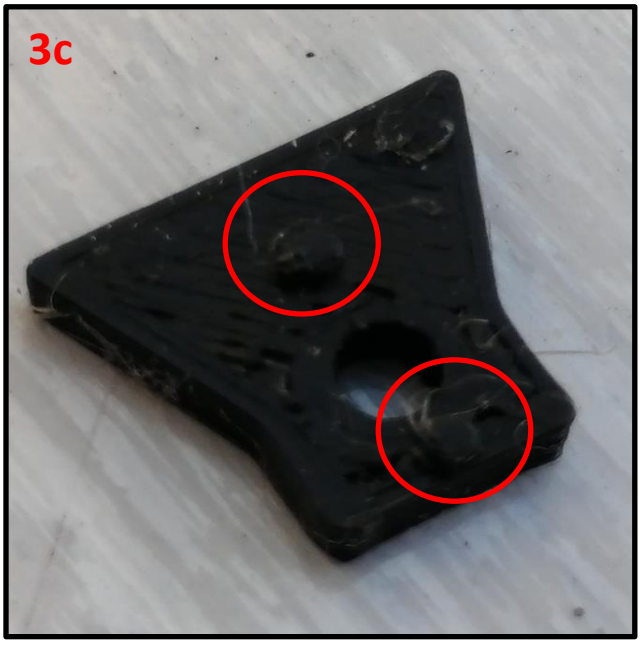






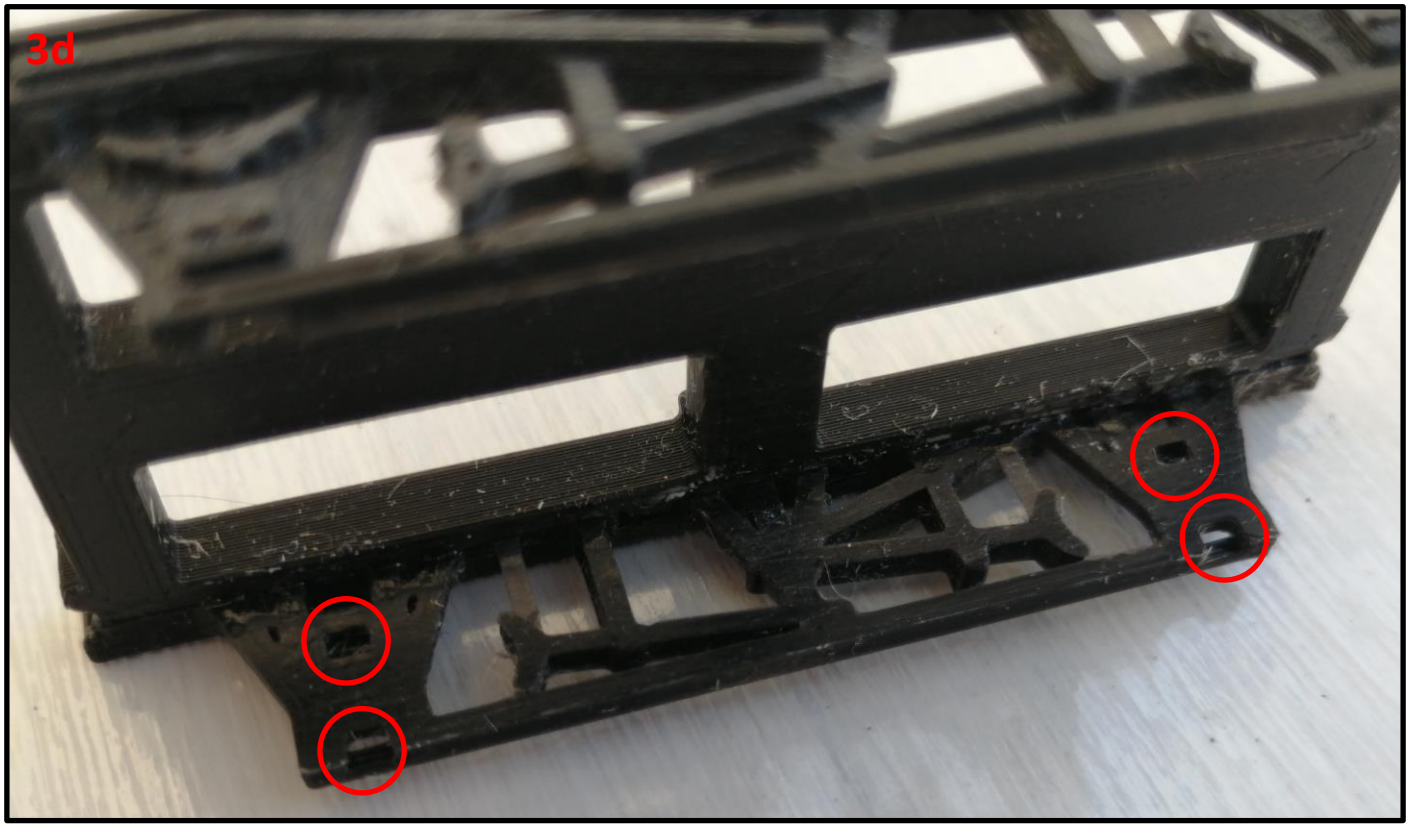
3b – Remove any extra plastic or strings from the pieces with any of the following tools and equipment listed on **page 3**. You may also want to use a small round file to remove any debris in the wheels holders, see above.

3c – Notice that one side of each **Wheel Holder** has 2 small extrudes that stick out.

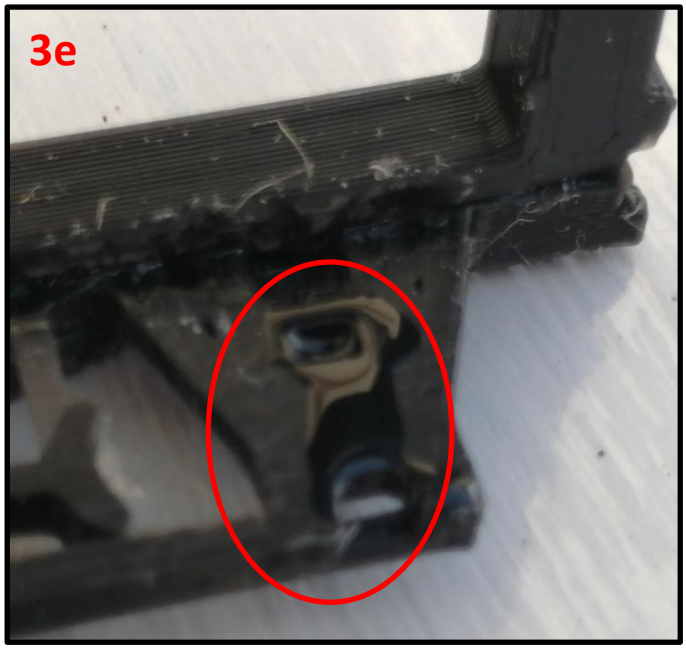


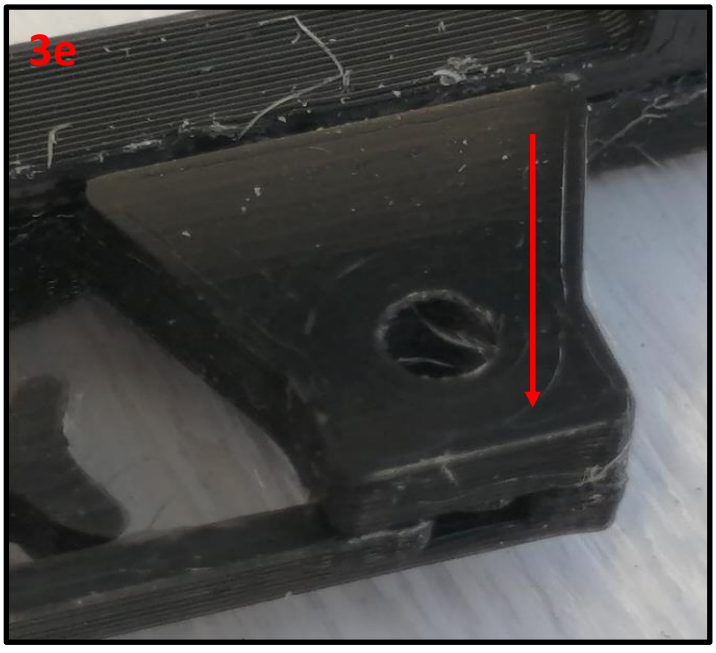
STEP 3: Wheel Holder Attachment

3d – Take the chassis/base assembly and twist it onto its side. Notice there are small slots that allow the wheel holders to align into.



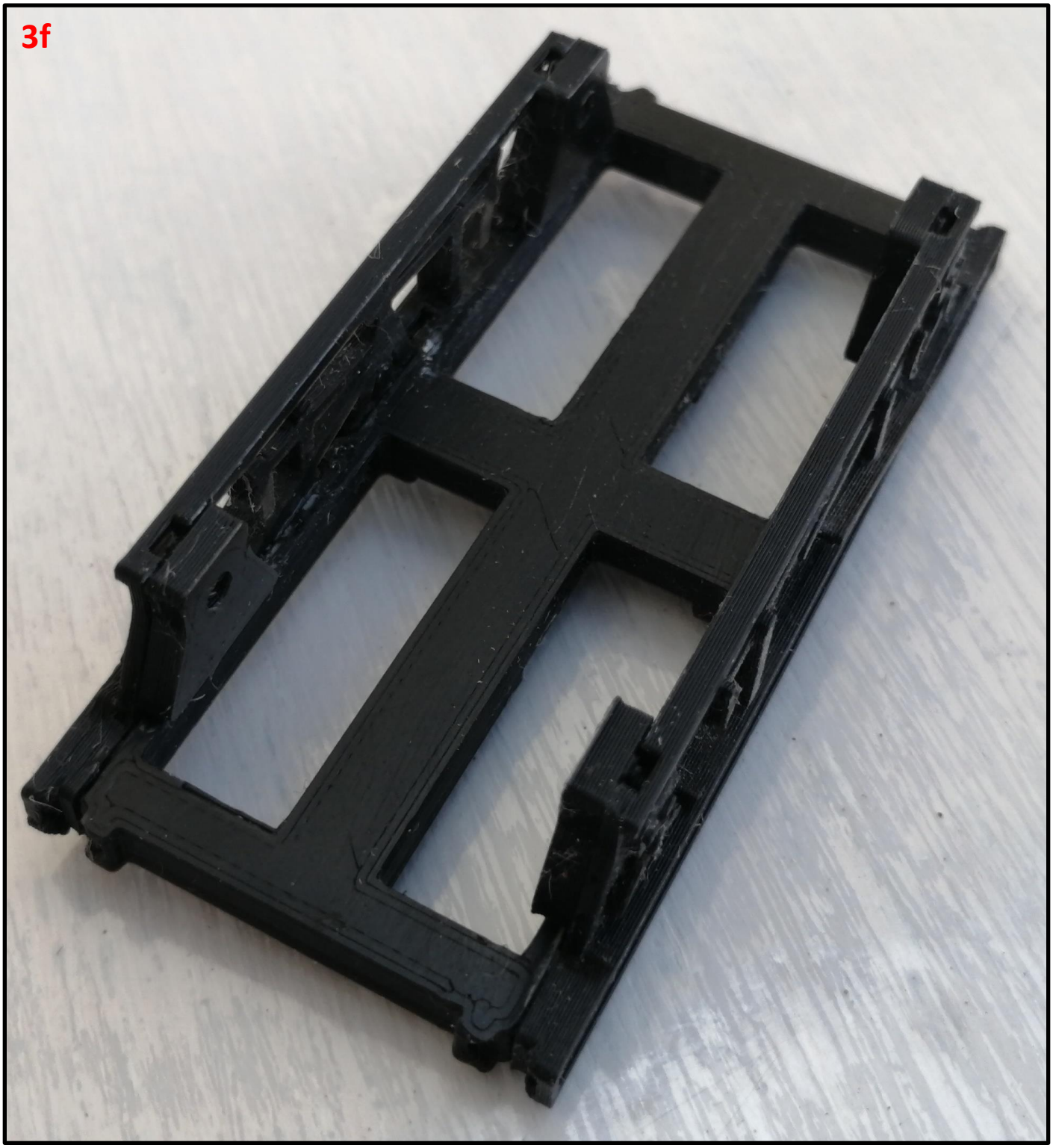
3e – Place a small amount of glue into the holes and the area between them. Take a wheel holder and push it into place. Make sure it is aligned as shown in the picture below and apply pressure until it holds in place.





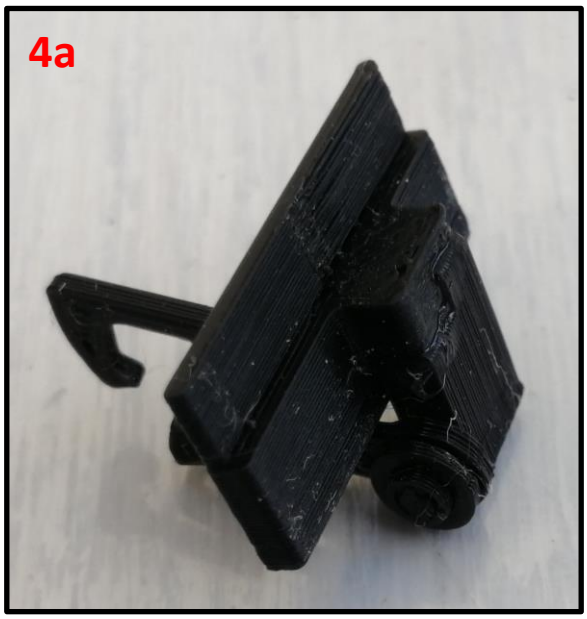
STEP 3: Wheel Holder Attachment

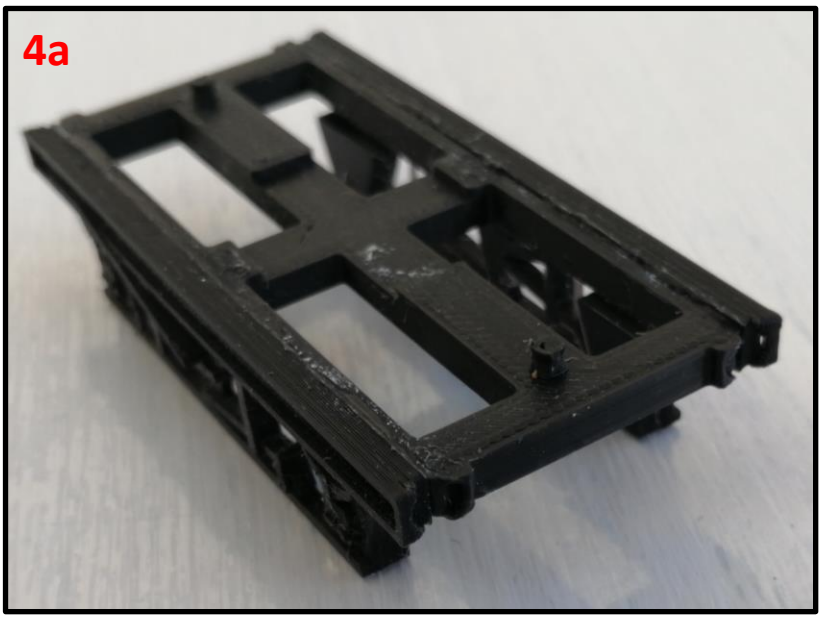
3f – Once you have attached one, take the remaining wheel holders and glue them into place.



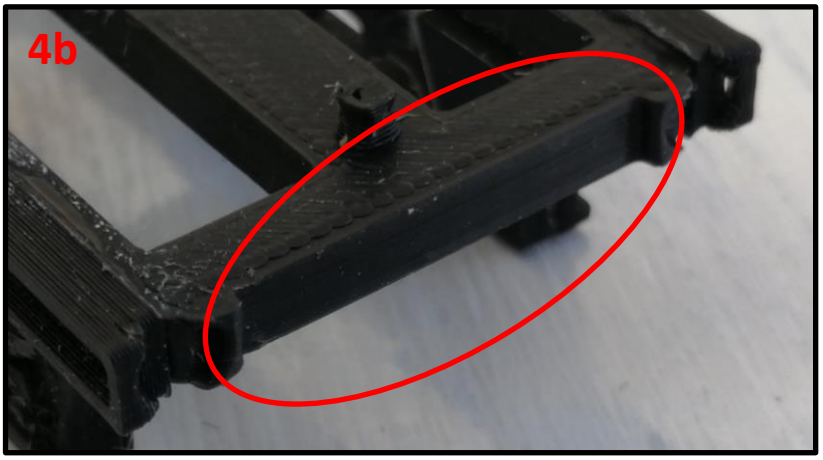
STEP 4: Coupling Assembly Attachment

4a – Prepare the chassis/base assembly from the previous step and the coupling assembly.

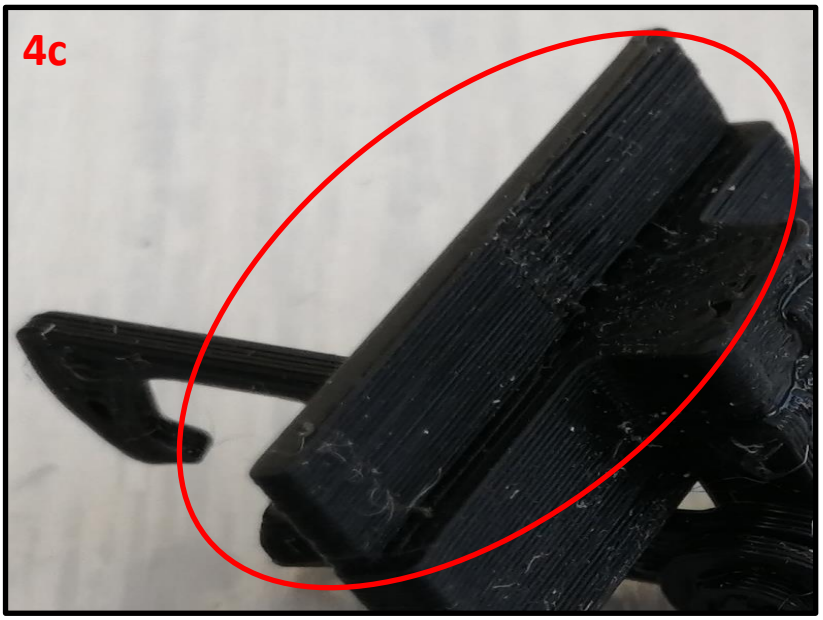




4b – Look at the end of the chassis/base assembly. Notice there is a long narrow slot. This is to allow the coupling assembly to push into it.

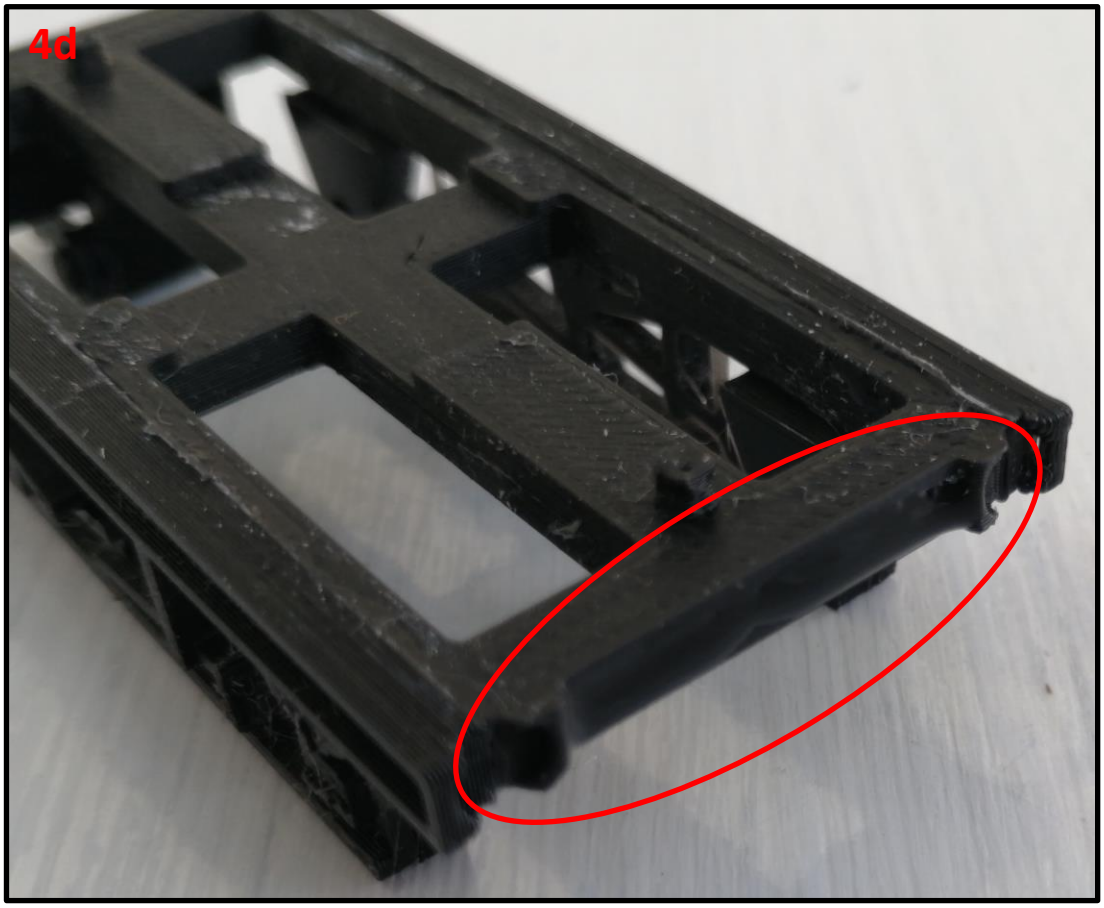


4c – Look carefully at the back of the coupling assembly. Notice that the top part of it is slightly narrower than the rest. This is to allow it to attach to the chassis/base assembly.

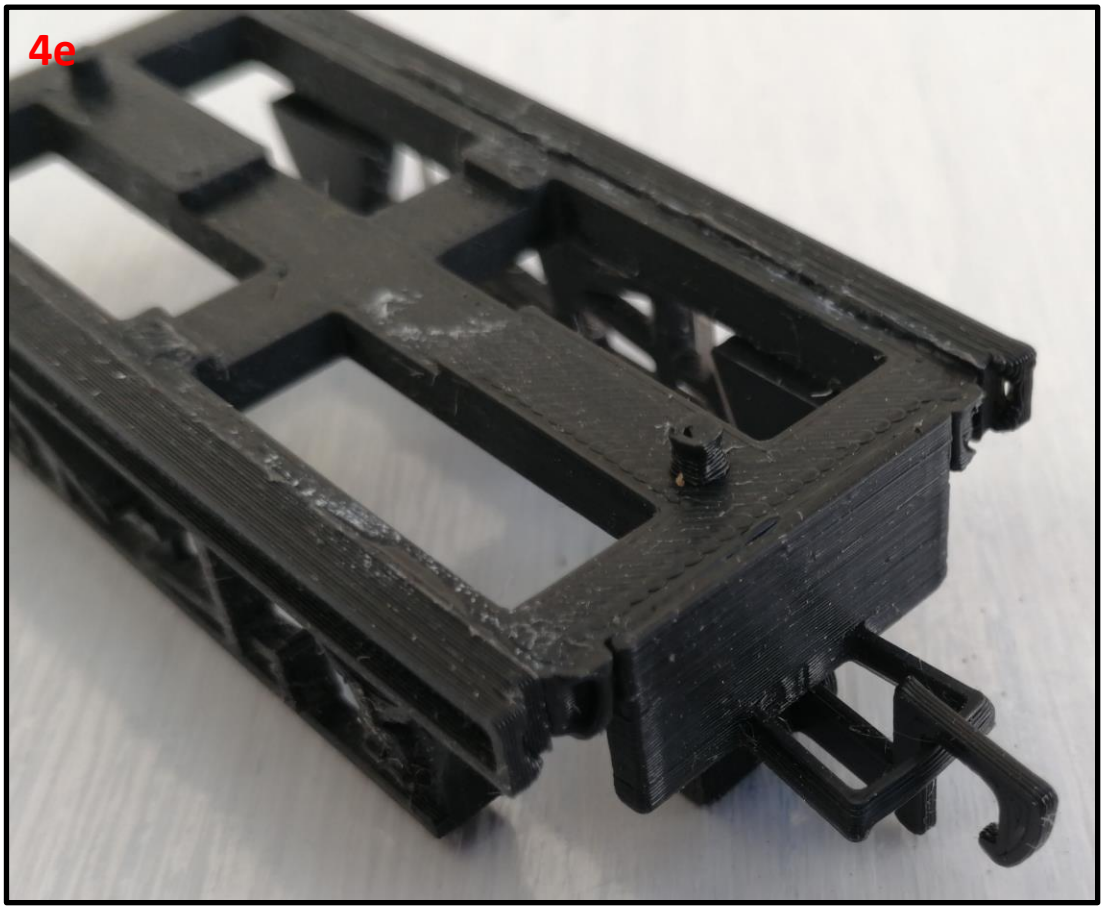


STEP 4: Coupling Assembly Attachment

4d – Place a small amount of glue along the slot on the chassis/base assembly.



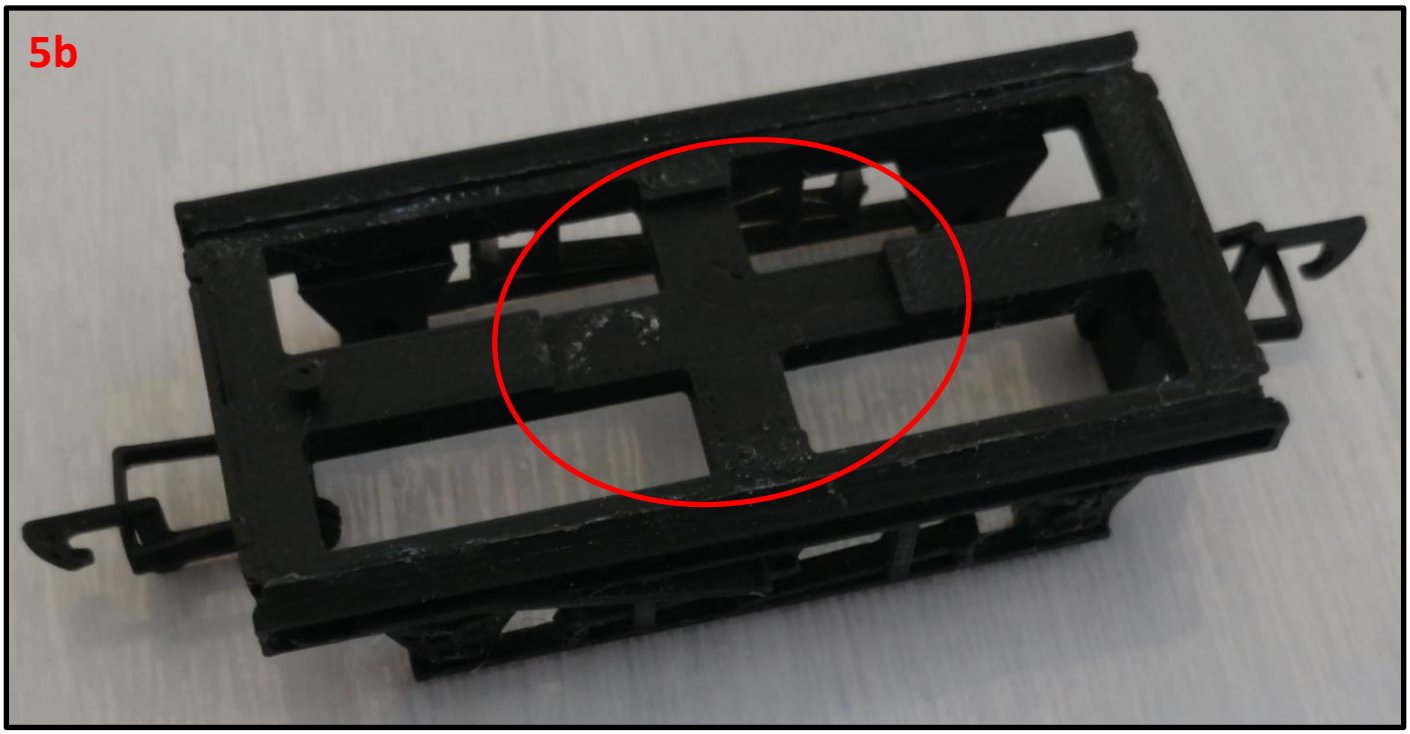
4e – Take the coupling assembly and push it into the slot on the chassis/base assembly. Apply pressure and hold it in place until it holds.



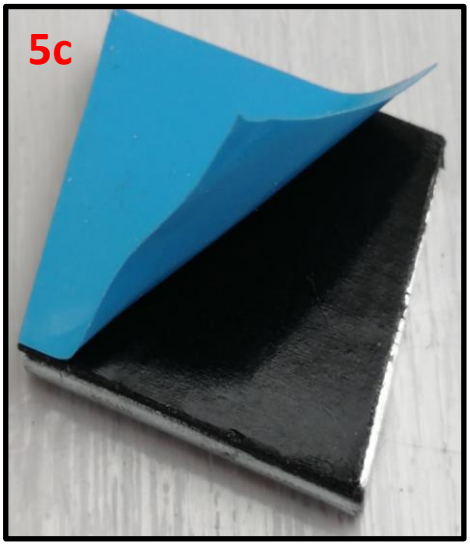
STEP 5: Weight and Body Attachment

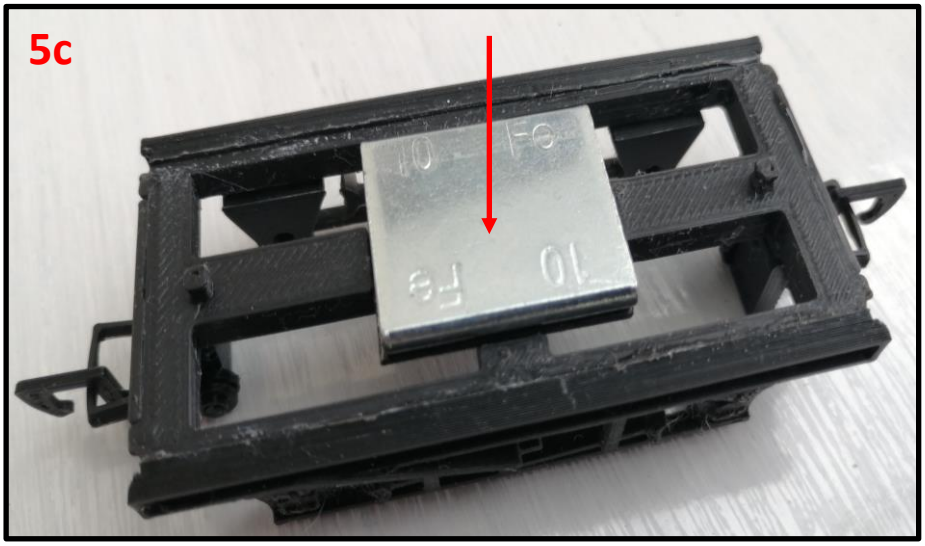
5a – Prepare the following parts, **1x Part K; 10g Weight** and the **Assembled Chassis/Base** from the previous step.

5b – Notice the slot missing in the top of the chassis/base assembly for the weight to fit.



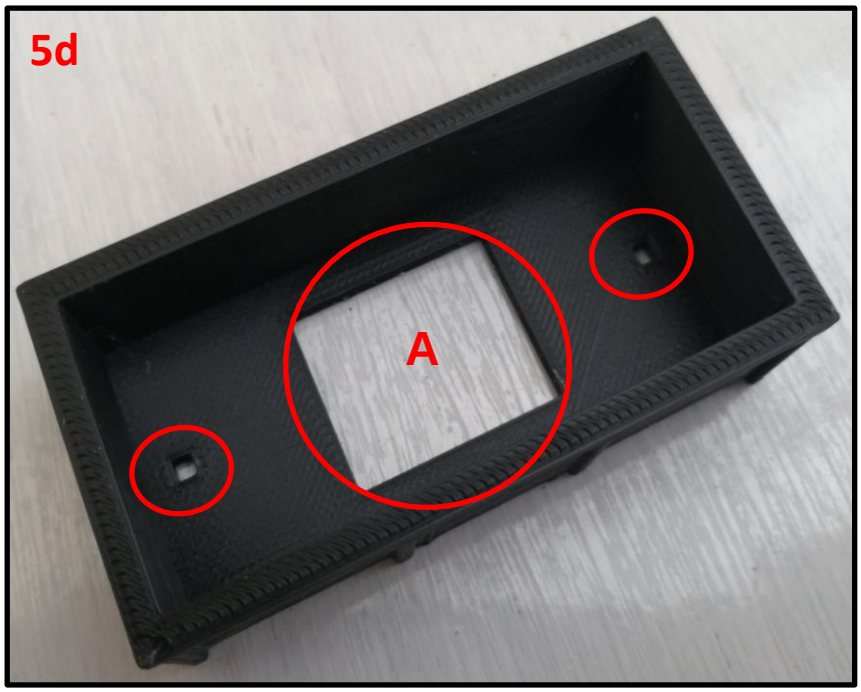
5c – Twist the weight over and peel off the plastic, this will reveal the sticky adhesive. Take the weight and push this down into the slot of the chassis/base assembly.



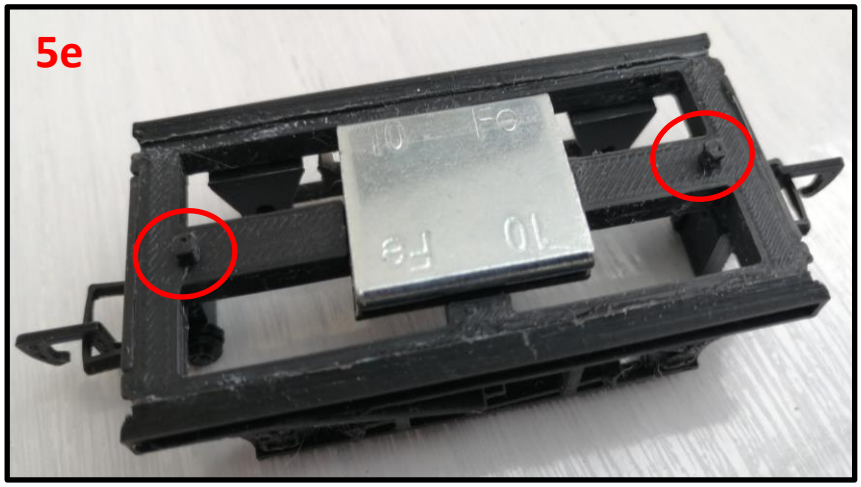


STEP 5: Weight and Body Attachment

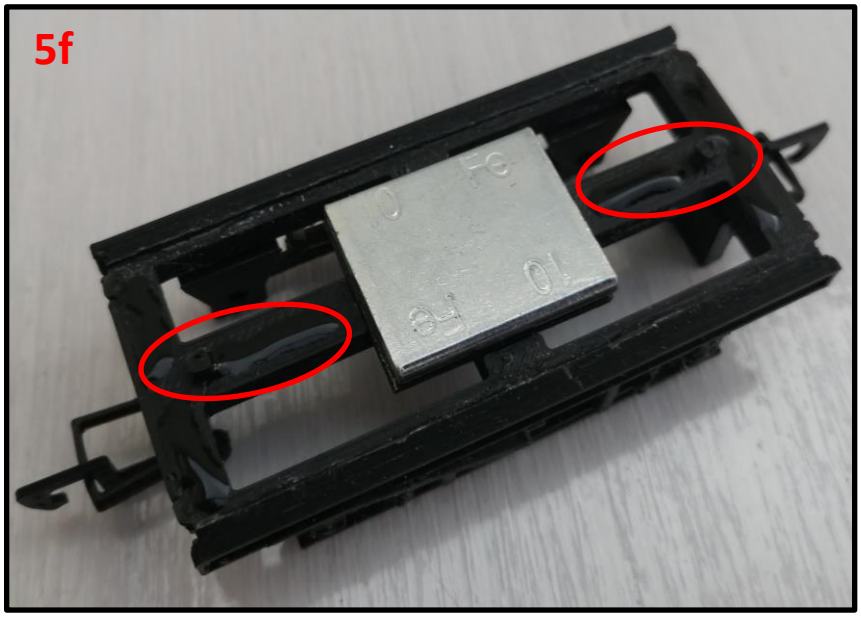
5d – Prepare the following parts, **1x Part A; Wagon Body.** Notice that it has a large slot in the middle (for the weight) and two others to allow the chassis/base assembly to attach to it.



5e – Notice the chassis/base has extrudes in it that allow it to attach to the wagon body.

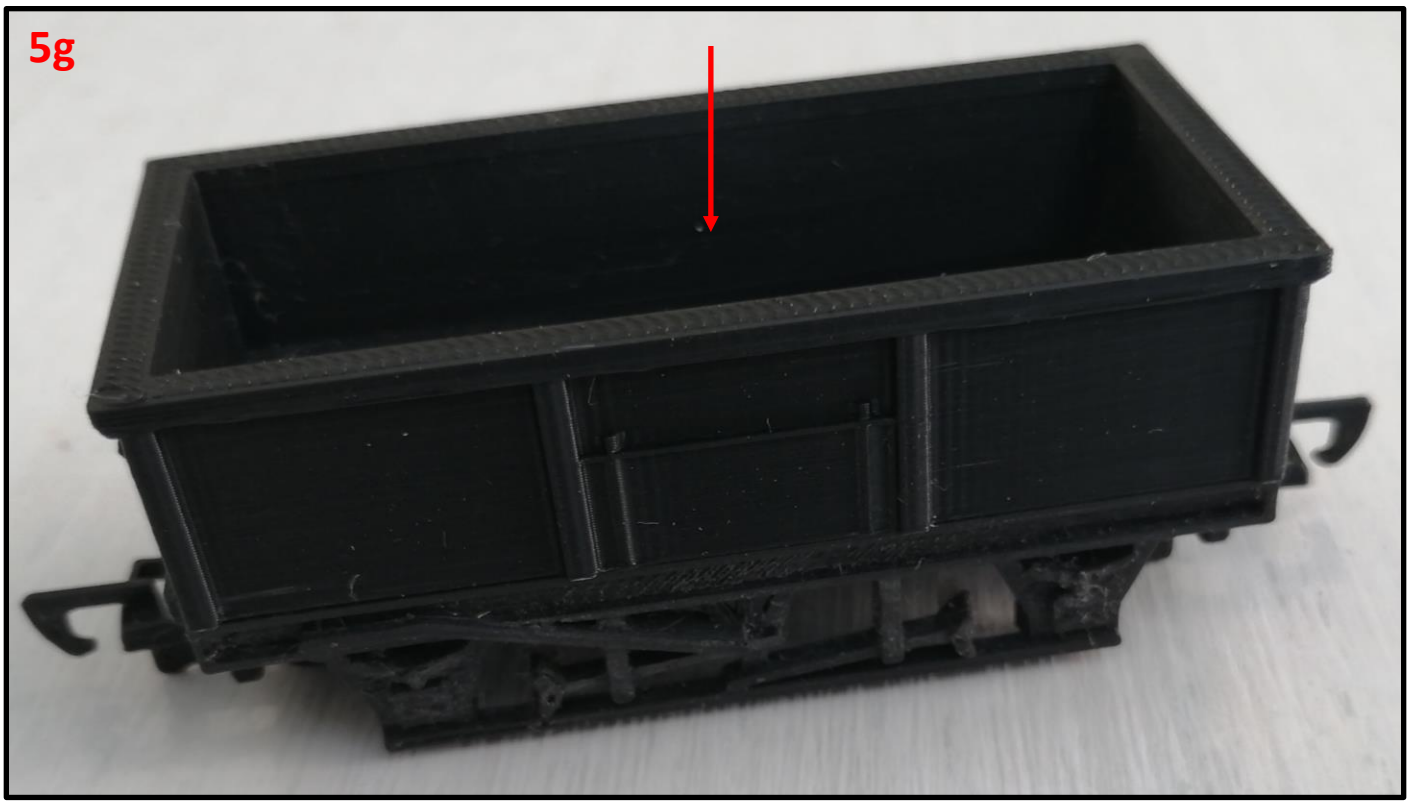


5f – Place glue around the two small extrudes on the chassis/base. Aim not to apply to much as when you push the wagon body down it may squirt out.



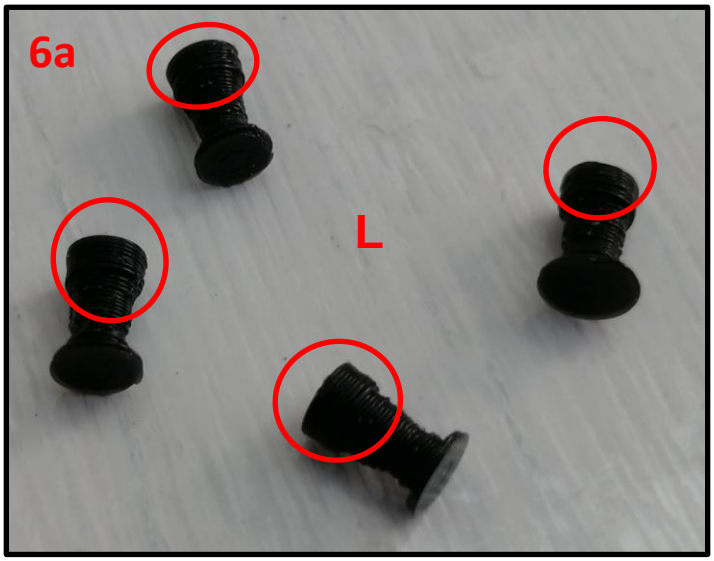
STEP 5: Weight and Body Attachment

5g – Take the wagon body, align it with the extrudes and the weight on the chassis/base assembly and push it down into place. You may have to use some pressure to get the wagon body to slot down.

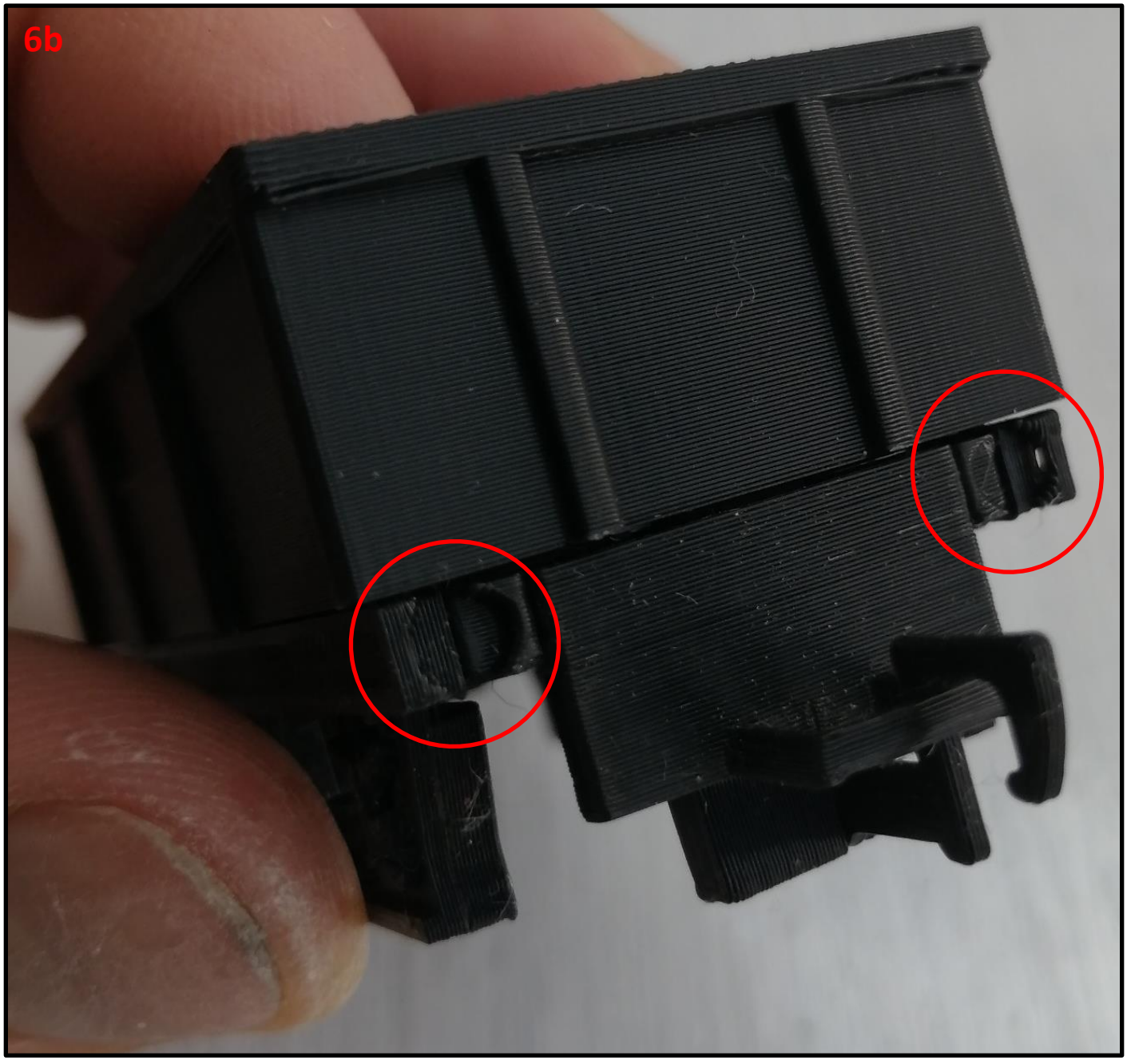


STEP 6: Buffer Attachment

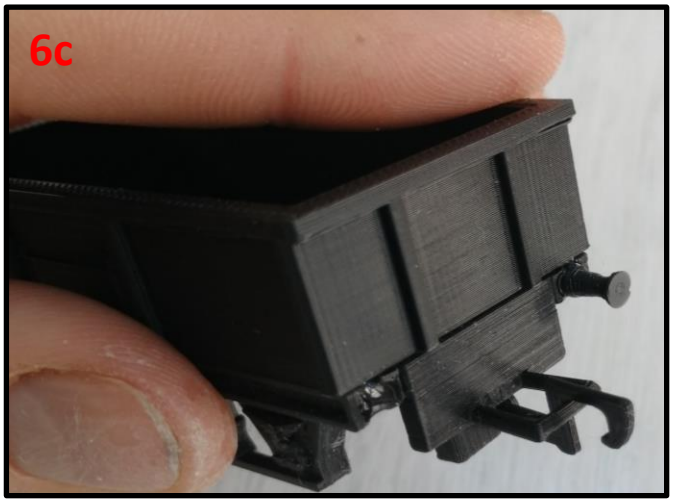
6a – Prepare the following parts, **4x Part L; Buffers.** Notice the flat end of the buffers, these ends slot into the chassis/base assembly.



6b – Find the holes on the chassis/base assembly. Place a small amount of glue into them and push the buffers into them.



STEP 6: Buffer Attachment

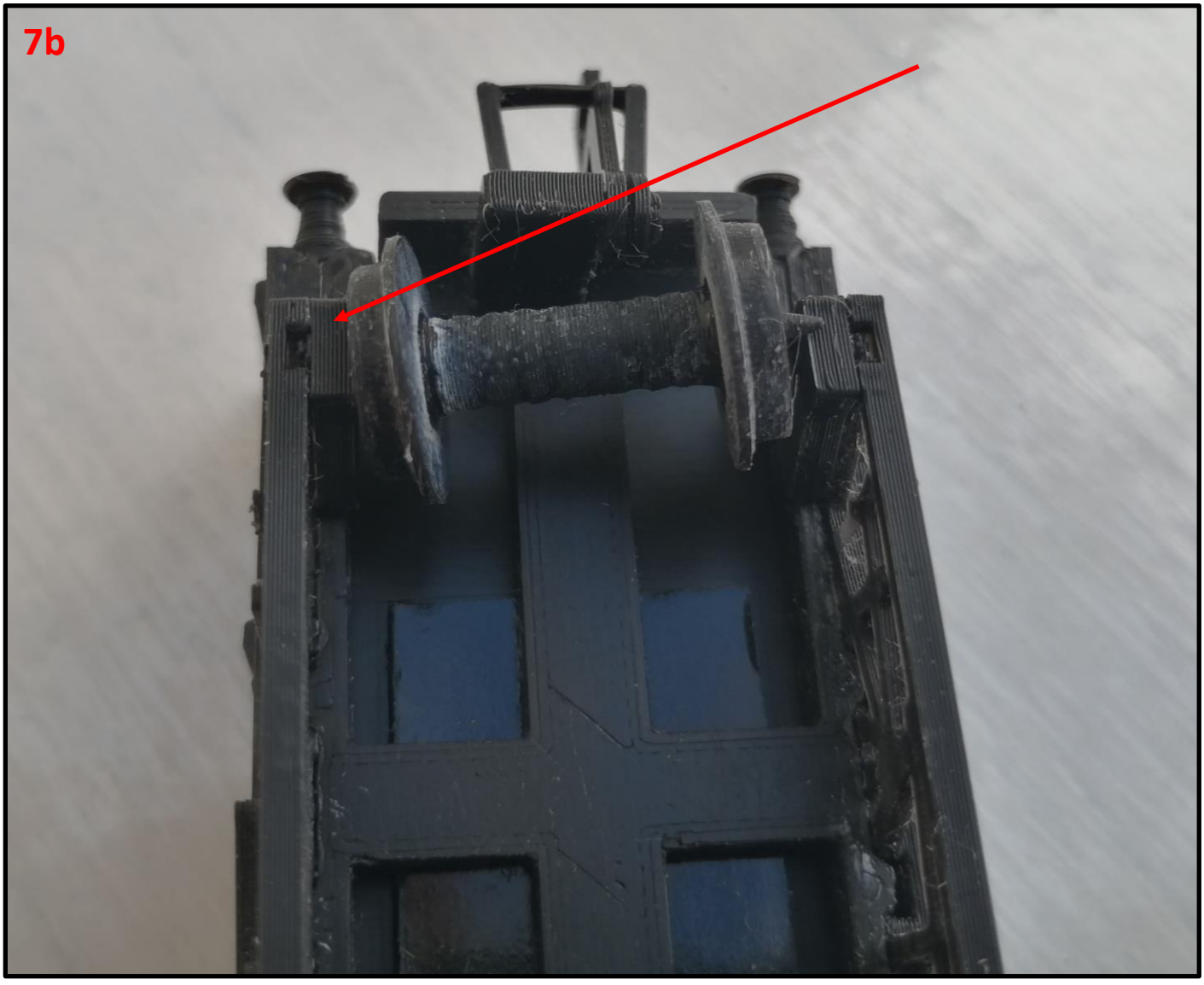


6c – Once you have inserted one buffer into place repeat this until all 4 buffers are in place. You may need to apply pressure to keep the buffers in place. Your wagon is nearly complete, just the wheels to insert next.

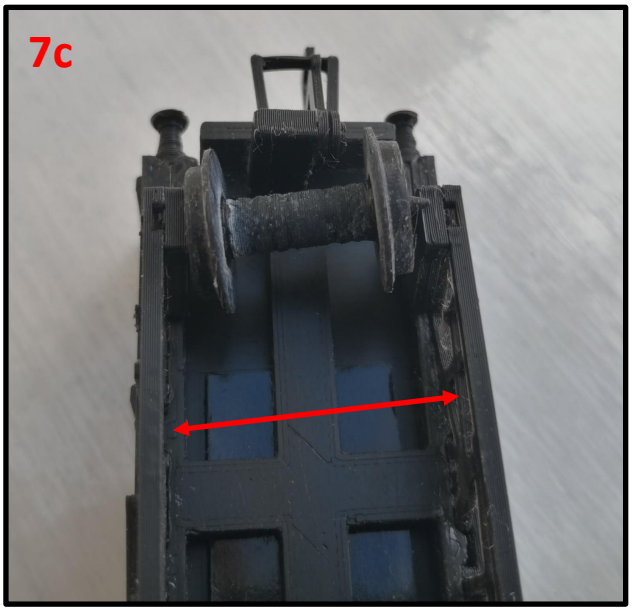
STEP 7: Wheel Attachment

7a – Prepare **2x Part J; Wheels.**
Take your assembled wagon and the 2 pre assembled wheels.

7b – Take the assembled wagon and twist it upside down. Take any wheel and slot one of the spindles of the wheel into the wheel holder hole. To put the opposite spindle into place you have to gentle push open the sides and push the spindle into the wheel holder.



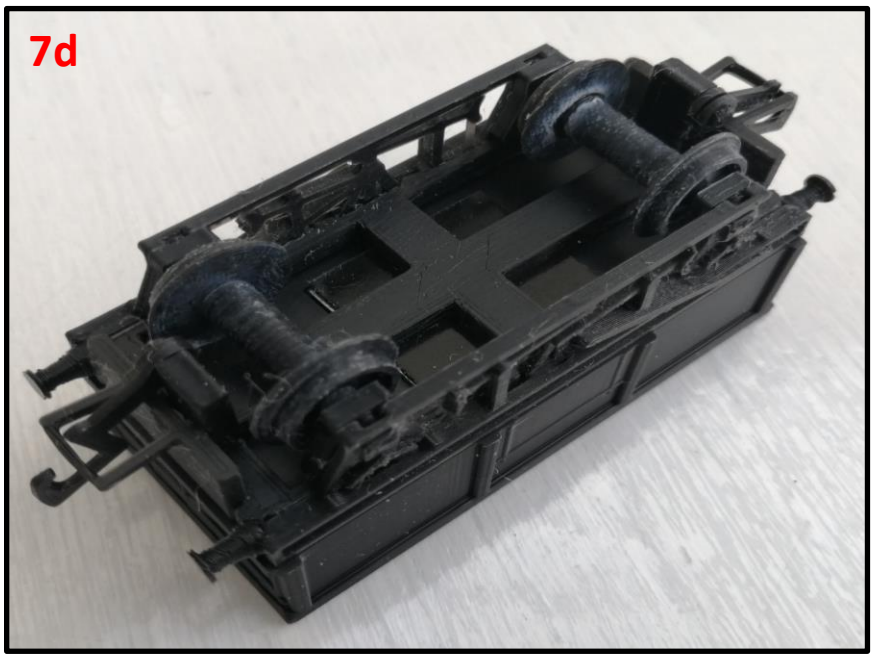
STEP 7: Wheel Attachment



7c – Push the chassis sides apart while at the same time pushing the spindle into the other wheel holder. If the wheel does not spin freely inside the assembled wagon remove it and take a mini file and gently remove a small amount of material from the spindles.

IMPORTANT! If you remove too much material from the spindles of the wheels they will become too small and not fit inside the Bogie. Take small amount off at a time.

7d – Repeat the process until the other wheel has been slotted into position.



Congratulations

You have finished assembling your model. Before spray painting and adding any acrylic/oil paints give your model adequate time to dry. You may also want to clean it more with files and a brush. Also test it on your own layout before adding paints and other details.