

3D MW

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**4F Megafret Container Wagon
Kit, Assembly Instructions.**

Thankyou

Thankyou for purchasing the **4F Megafret Conatiner 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.

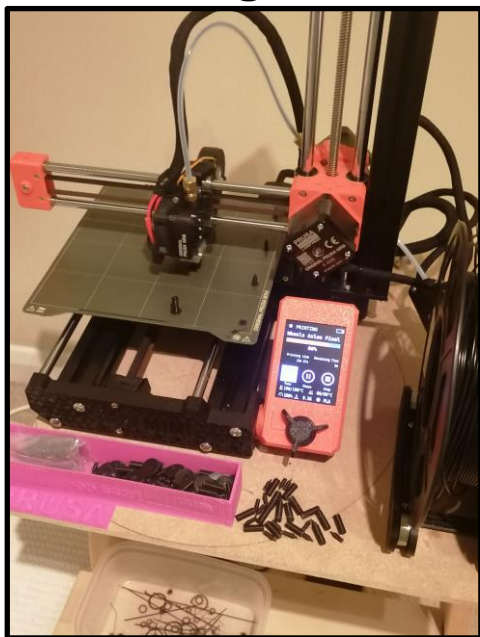
I am also keen to hear back from people about their experiences with my kits and models so I can constantly improve them.

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



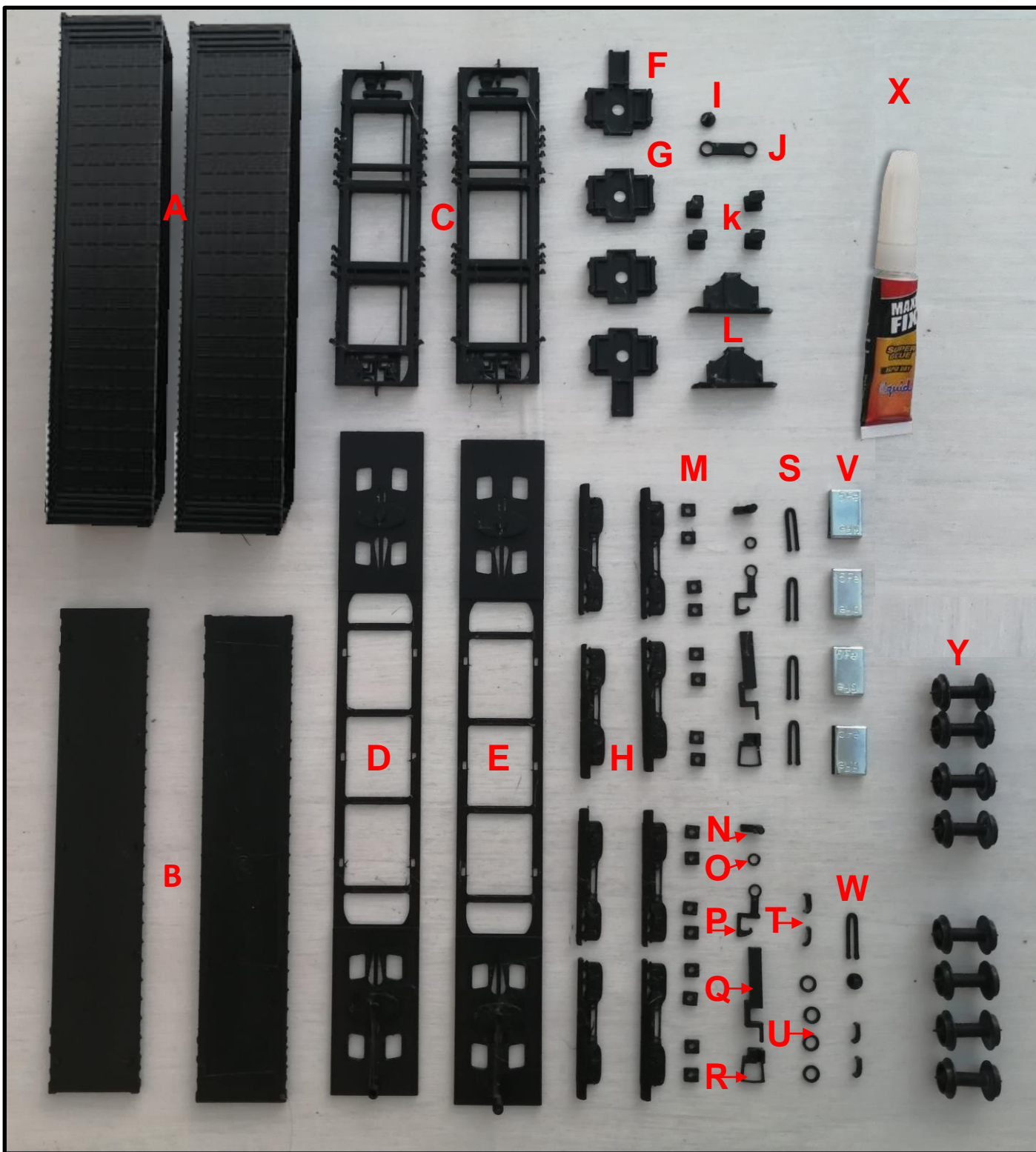
All my models and kits are built from scratch using pictures, resources and related information off the internet. The finished models are then processed and 3D printed. The 3D printing process itself involves taking solid plastic (PLA) heating it up and placing down, layer by layer. Depending on the 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 – 2x Container Body | F – 2x Bogie Base A | K – 4x Buffers | P – 2x Coupling Hooks | U – 4x Bogie Holding Rings |
| B – 2x Container Base | G – 2x Bogie Base B | L – 2x Base Tops | Q – 2x Coupling Supports | V – 4x 5g Weights |
| C – 2x Base Bottom | H – 8x Bogie Sides | M – 16x Wheel Holders | R – 2x Coupling Hoops | W – Spares |
| D – 1x Base B | I – 1x Base Coupling Pin | N – 2x Coupling Holders | S – 4x Base Handrails | X – 1x Super Glue |
| E – 1x Base A | J – 1x Base Coupler | O – 2x Coupling Holding Rings | T – 2x Base Steps | Y – 8x Wheels |

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.

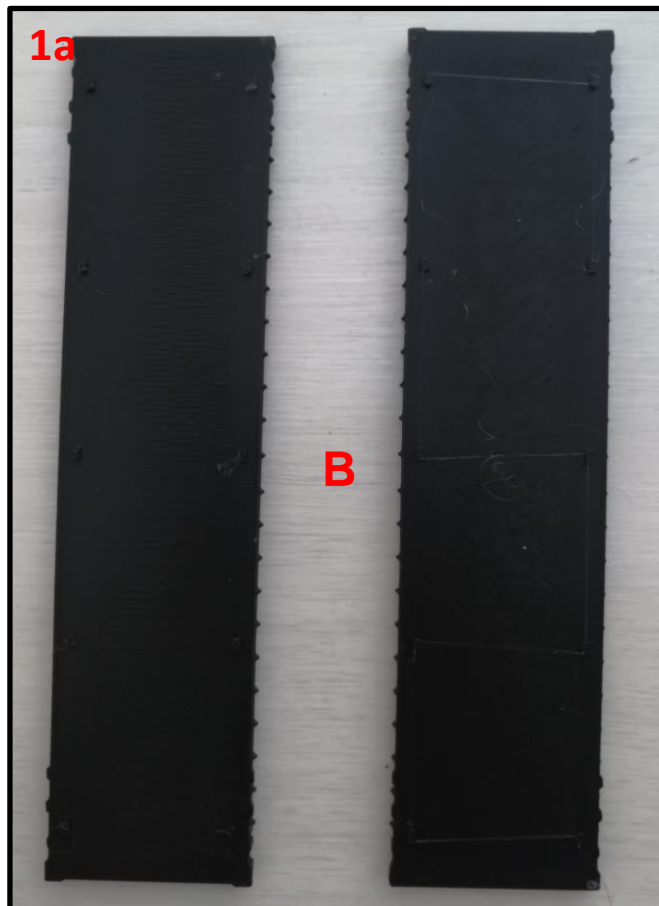
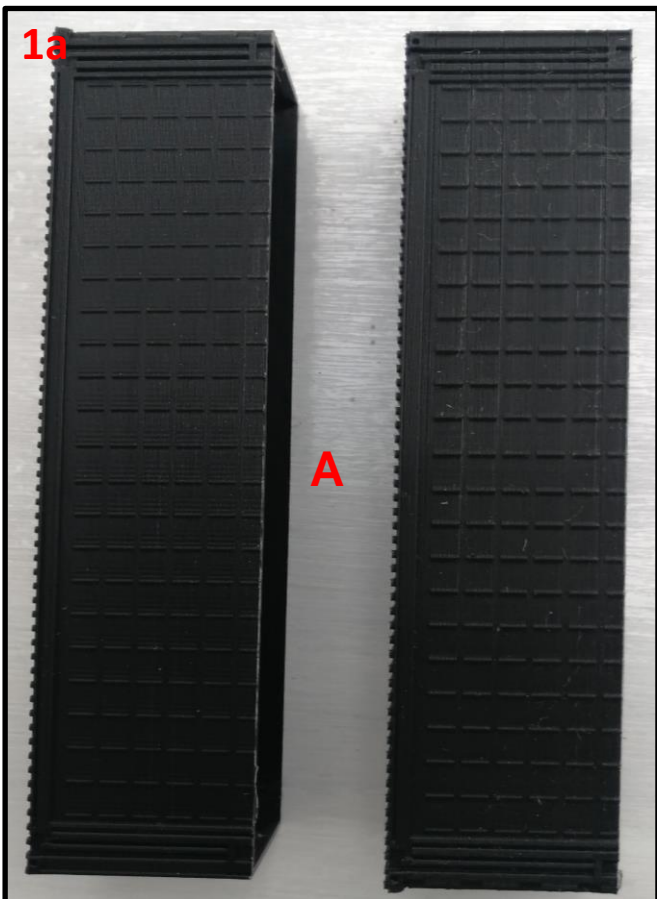
H – Extra Super Glue; in case you run out of the glue in your kit or have any accidents while assembling your kit.

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

Masking Tape/Sellotape and Tweezers may also come in handy

STEP 1: Container Assembly

1a – Prepare the following parts, 2x Part A, Container Body and 2x Part B Container Base.



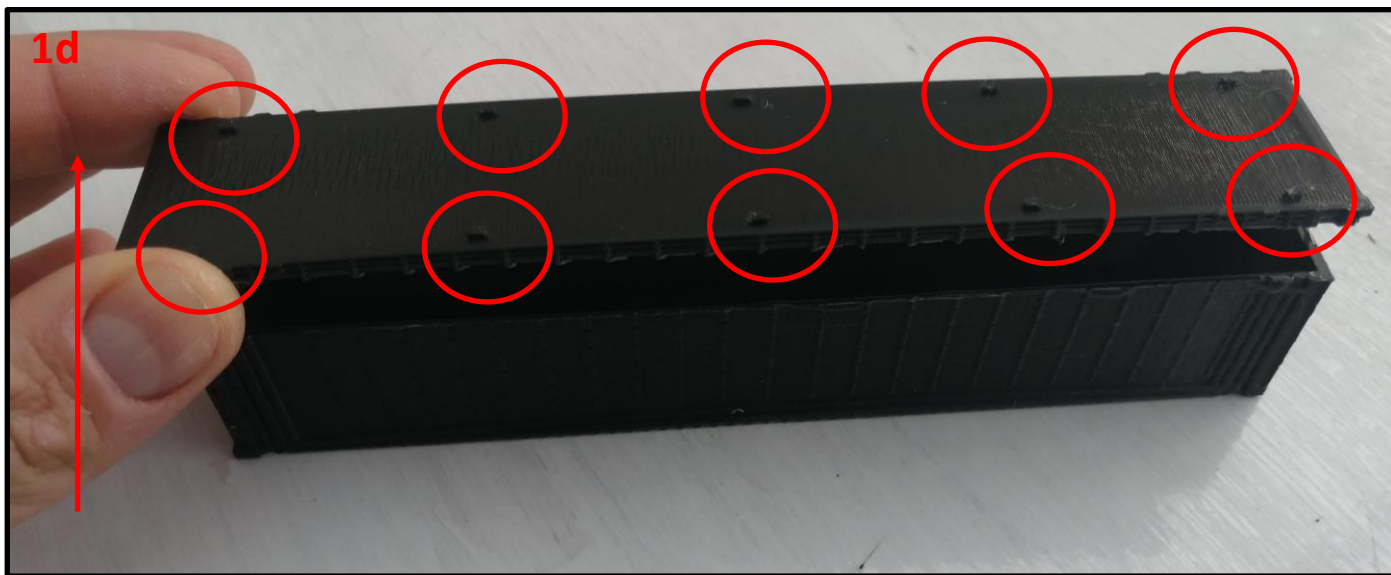
1b – Remove any extra plastic or strings from the edges of the pieces with any of the following tools and equipment listed on page 3.

1c – Take the superglue and carefully apply this all the way round the bottom of container body.

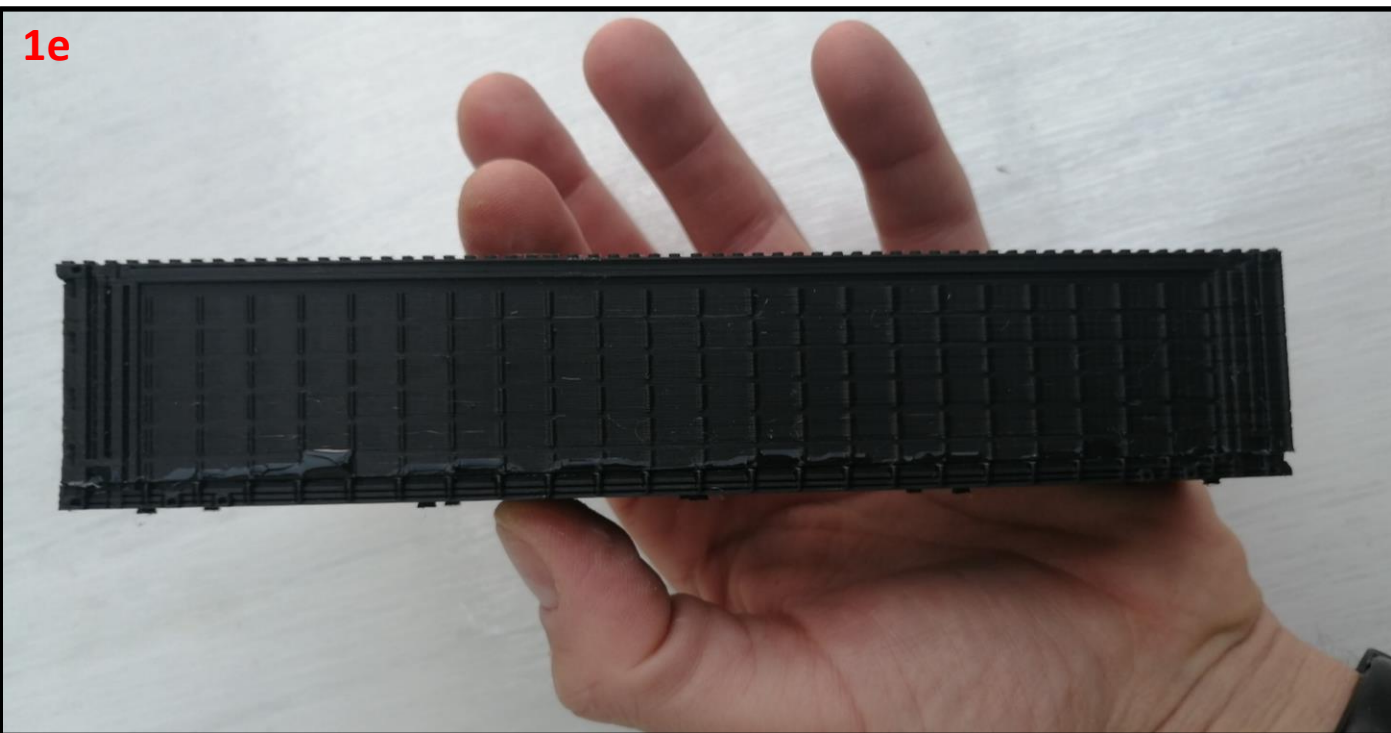


STEP 1: Container Assembly

1d – Take the container base and align this so it matches the container body (this can go anyway round). The small extrudes should point upwards as shown below.



1e - Once happy with the position push this down and hold firmly until the pieces have stuck.



STEP 1: Container Assembly

1f – *Optional* Use masking tape or Sellotape to hold the pieces together till dry.

1g – Repeat this process until both containers have been assembled. Wipe away any excess glue with a damp cloth.

1g

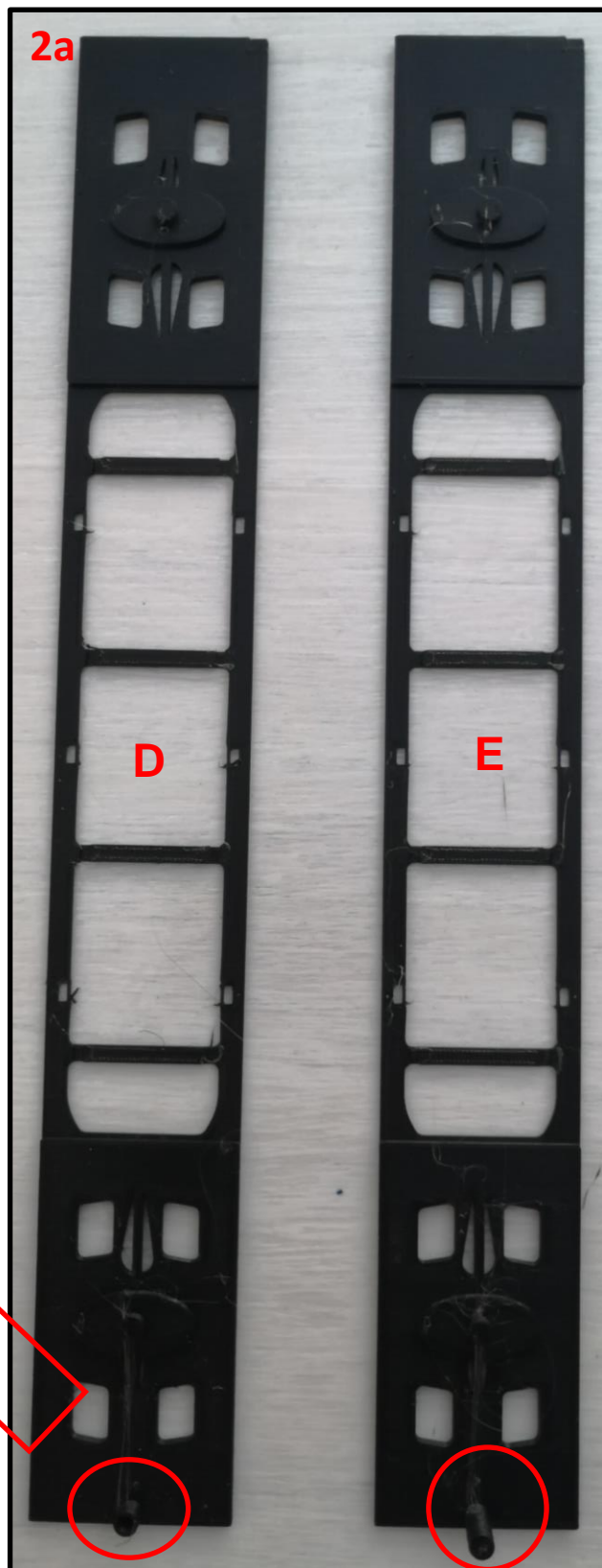
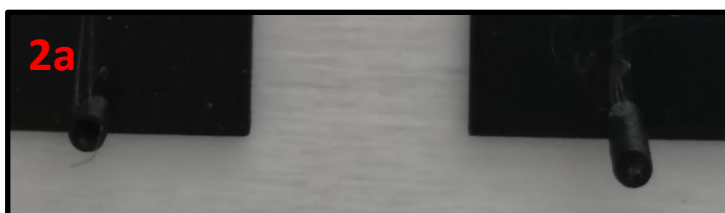


IMPORTANT! PLA Plastic will deform and melt like any other plastic if left on a hot/near a surface such as a radiator. Leave your parts to dry in a warm ventilated area, or at room temperature.

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: Base Assembly

2a – Prepare the following parts, 2x Part C; Base Bottom, 1x Part D; Base B and 1x Part E; Base A. Part D has a small extrude with a hole in it, where Part E has a large solid extrude.



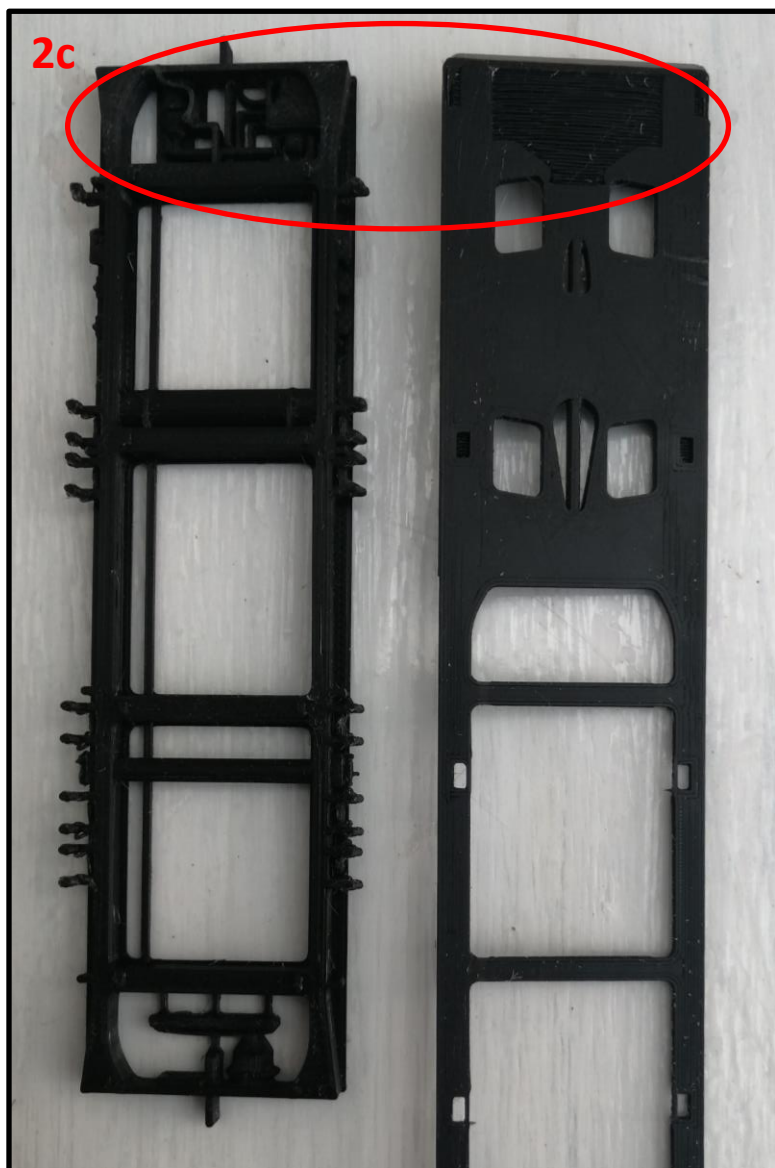
STEP 2: Base Assembly

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



For **Part C; Base Bottom** it is important that if any brush is used, it is used in an up and down motion along its edges. This is to prevent small detail breakages which occur if you use a brush in a diagonal motion. See the picture to the side.

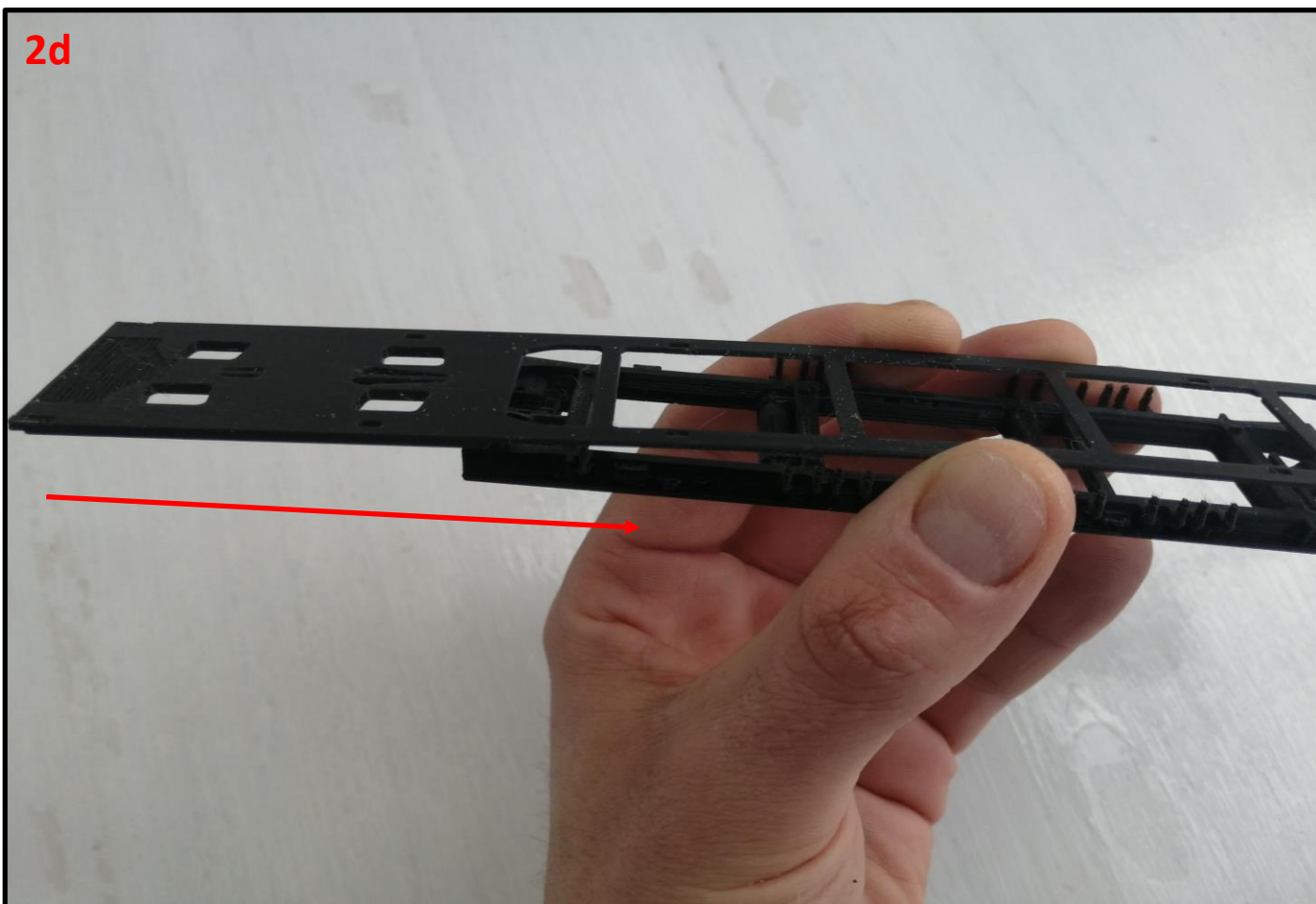
2c – Take **Part C; Base Bottom** and **Part D; Base B** and orientate the two pieces so the more detailed end of Part C matches the cut away shape on Part D. Please see the picture to the right.



STEP 2: Base Assembly

2d – Now take Part C and place it under part D. Move Part C into the middle of Part D and push up until it fits fully into the recessed section. It should clip into place.

2d



2d



STEP 2: Base Assembly

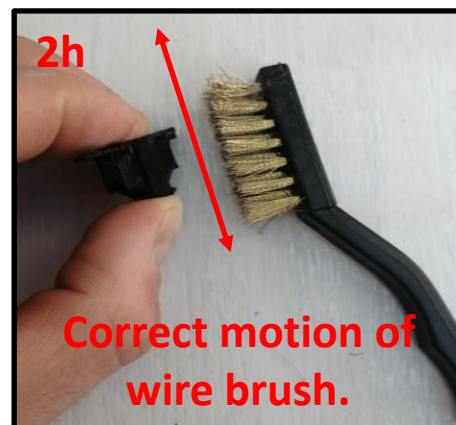
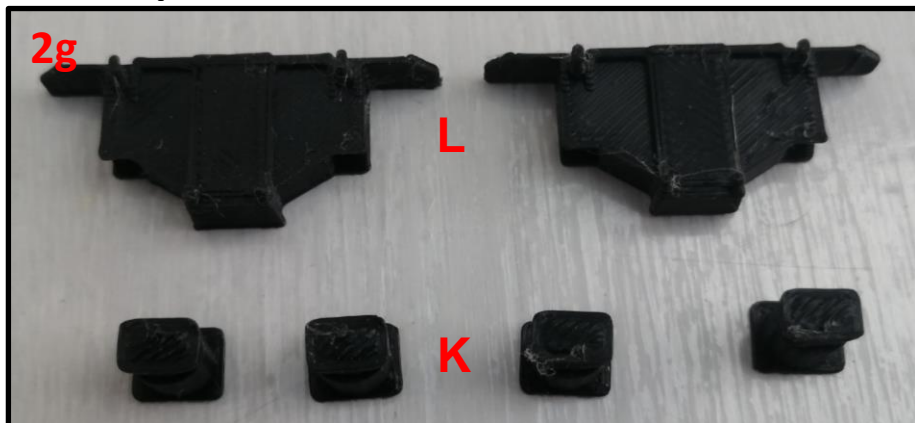
2e – Once you are happy with how parts C and D assemble take them apart and apply glue to the top edges of part C. Place the pieces back together. If you have spring clamps use these to hold the two pieces firmly together. You can also use tape or your fingers. See pictures below.

2e**2e****2e**

2f – Repeat stages 2a to 2e, substituting Part D for **Part E**; **Base A**. Once complete let both assemblies dry at room temperature.

STEP 2: Base Assembly

2g – Prepare the following parts; **4x Part K; Buffers** and, **2x Part L; Base Tops**.



2h – Remove any extra plastic or strings from the pieces with any of the following tools and equipment listed on **page 3**. For **Part L; Base Tops** it is important that if any brush is used, it is used in an up and down motion along its top surface, see picture above.

2i – Find the two slots on the back of **Part L; Base Tops**, once located place a small amount of glue in to the slots and slide the small end of the buffers into position. Test this before gluing the parts together.



2j – Repeat this process until you have attached all 4 buffers to the base tops. Leave both pieces to dry at room temperature.



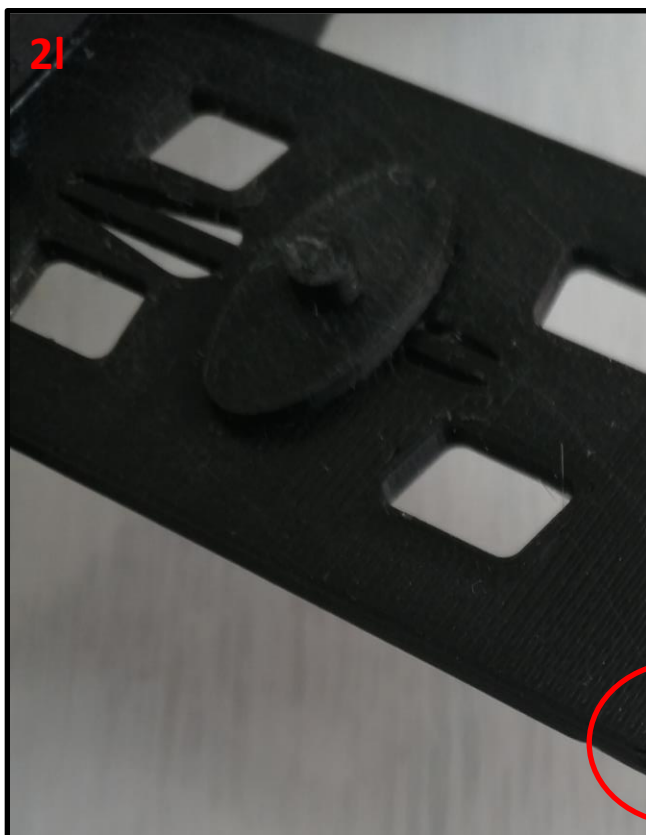
STEP 2: Base Assembly

2k – Prepare the following parts, **2x Part T**; **Base Steps** and the **Base Assemblies** from **Stage 2e** and **Stage 2f**



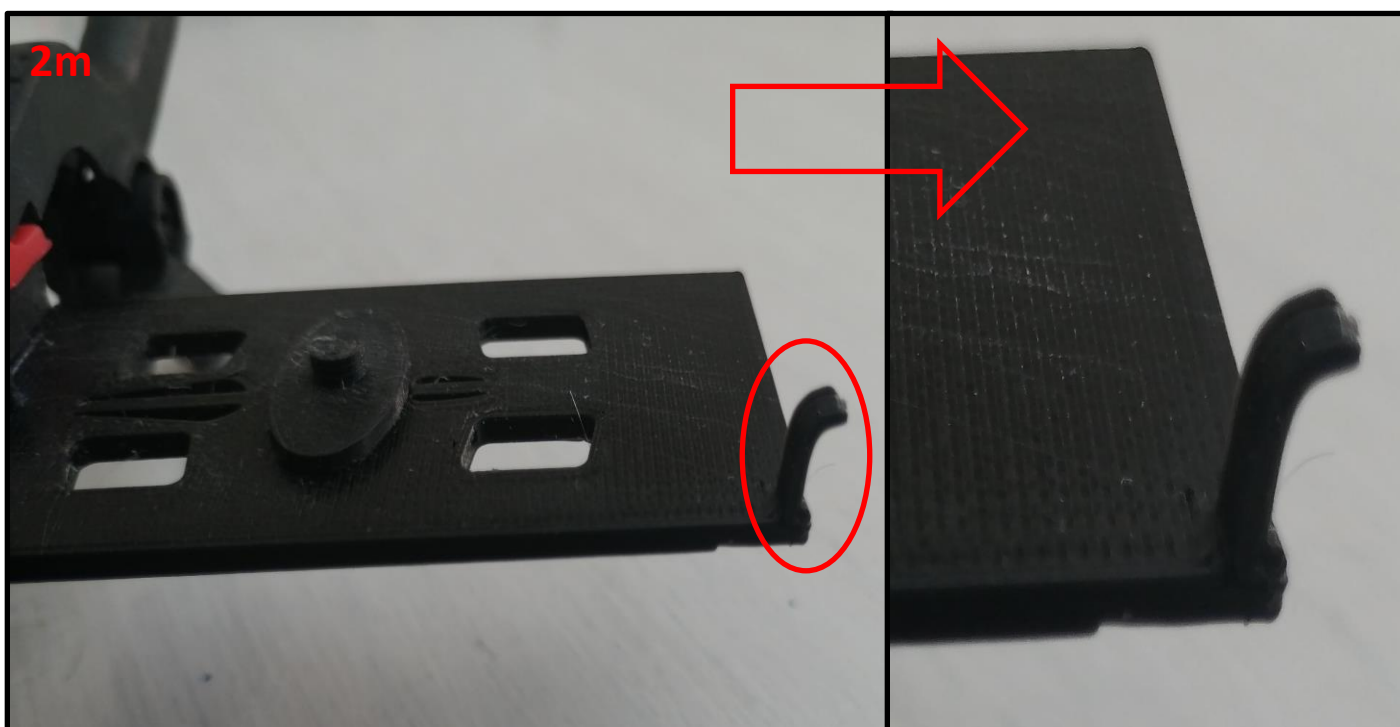
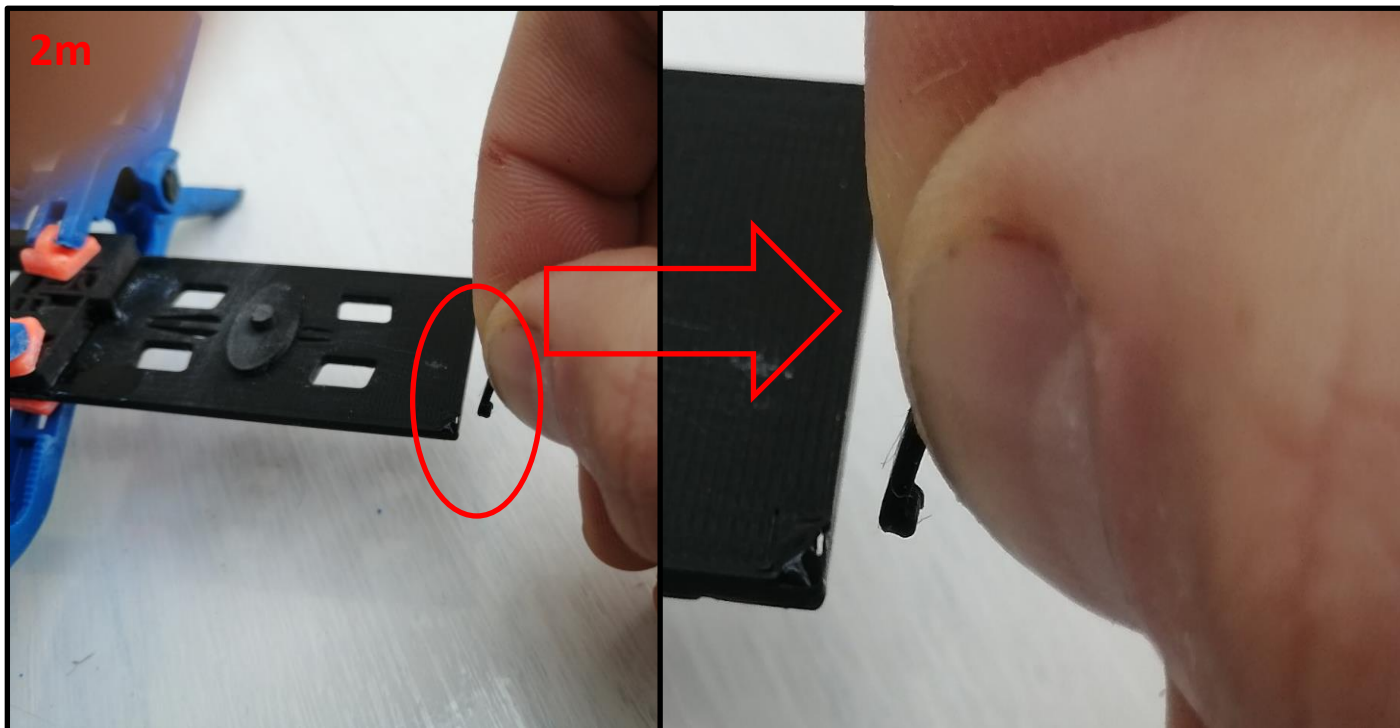
IMPORTANT! The base assemblies will still be drying, please handle them with care.

2l – Twist both base assemblies over and locate the small notch that is missing from one of the corners. There will be only **ONE** notch missing from each of the assemblies.



STEP 2: Base Assembly

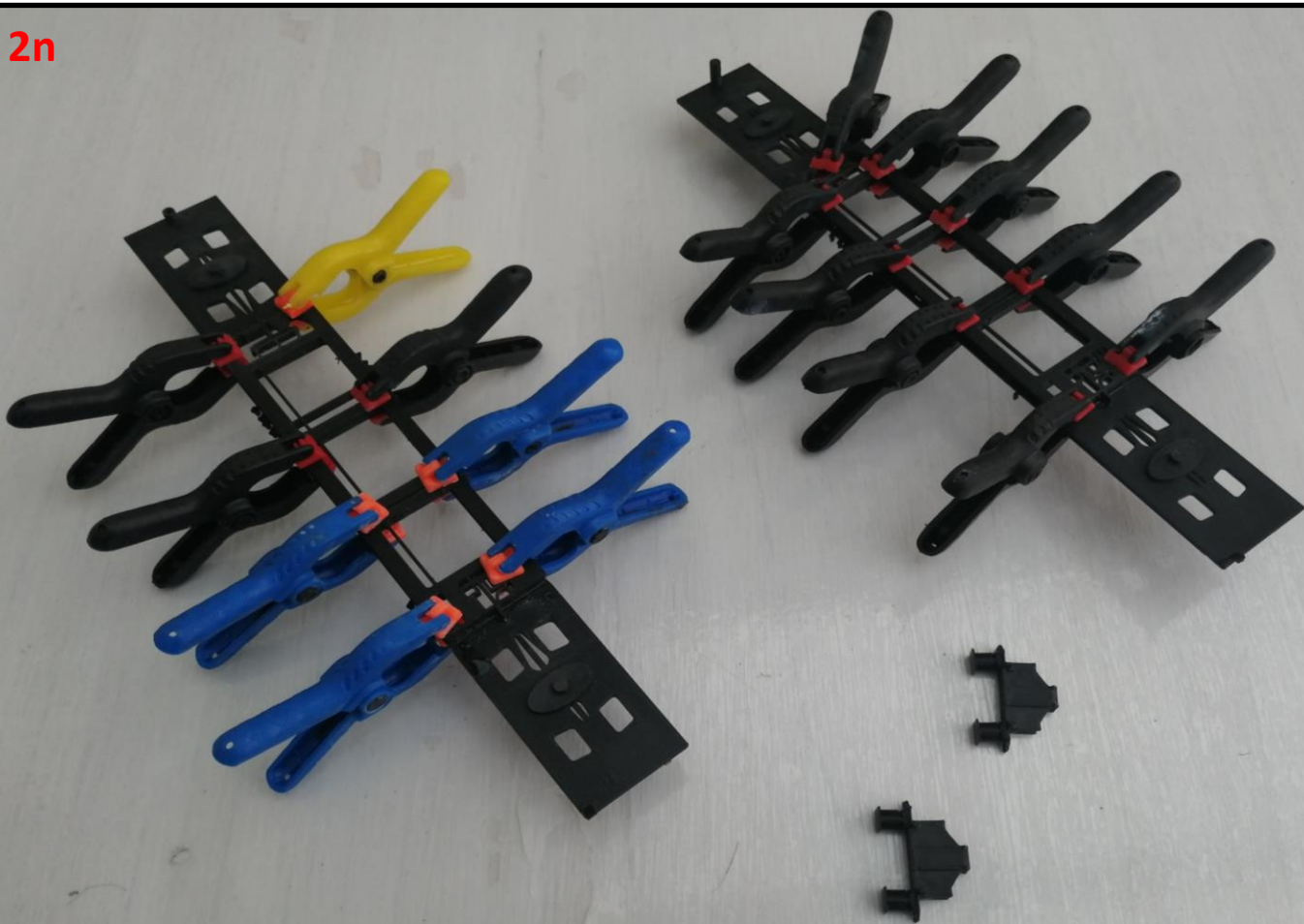
2m – Place a tiny amount of glue into the notch (You may want to use a toothpick to help you do this) and push **Part T** into the notch ensuring it bends outwards like in the picture. As this can be quite a tricky procedure you could also use a pair of tweezers or long nose pliers to help.



STEP 2: Base Assembly

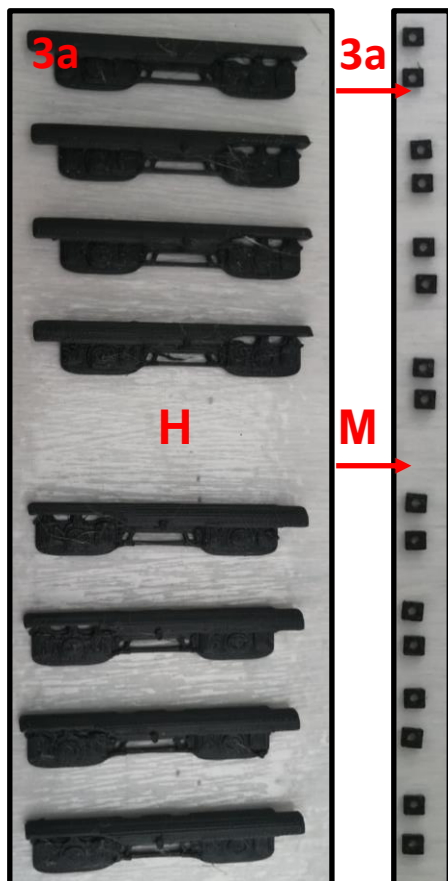
2n – Your base pieces should look similar to the picture below. We are going to move onto the step; Bogie Assembly while these pieces dry a little more.

2n



STEP 3: Bogie Assembly

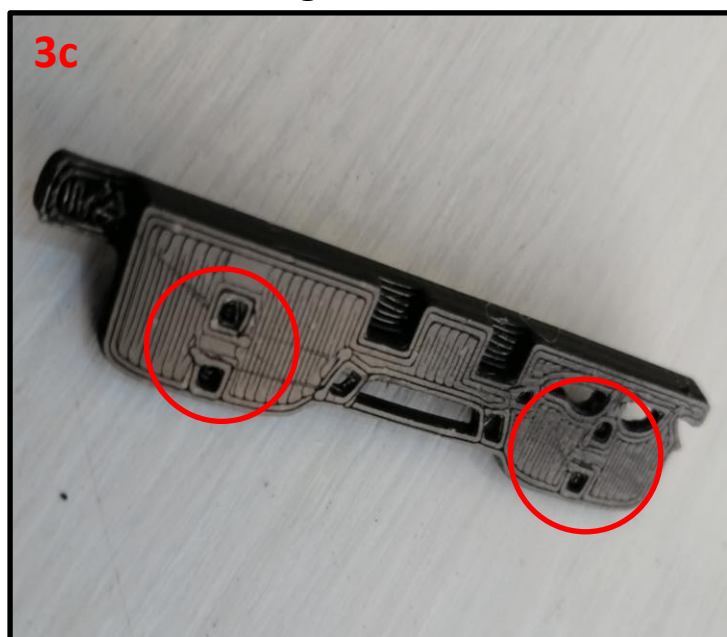
3a – Prepare the following parts, 8x Part H; Bogie Sides and 16x Part M; Wheel Holders.



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 squares that stick out.**

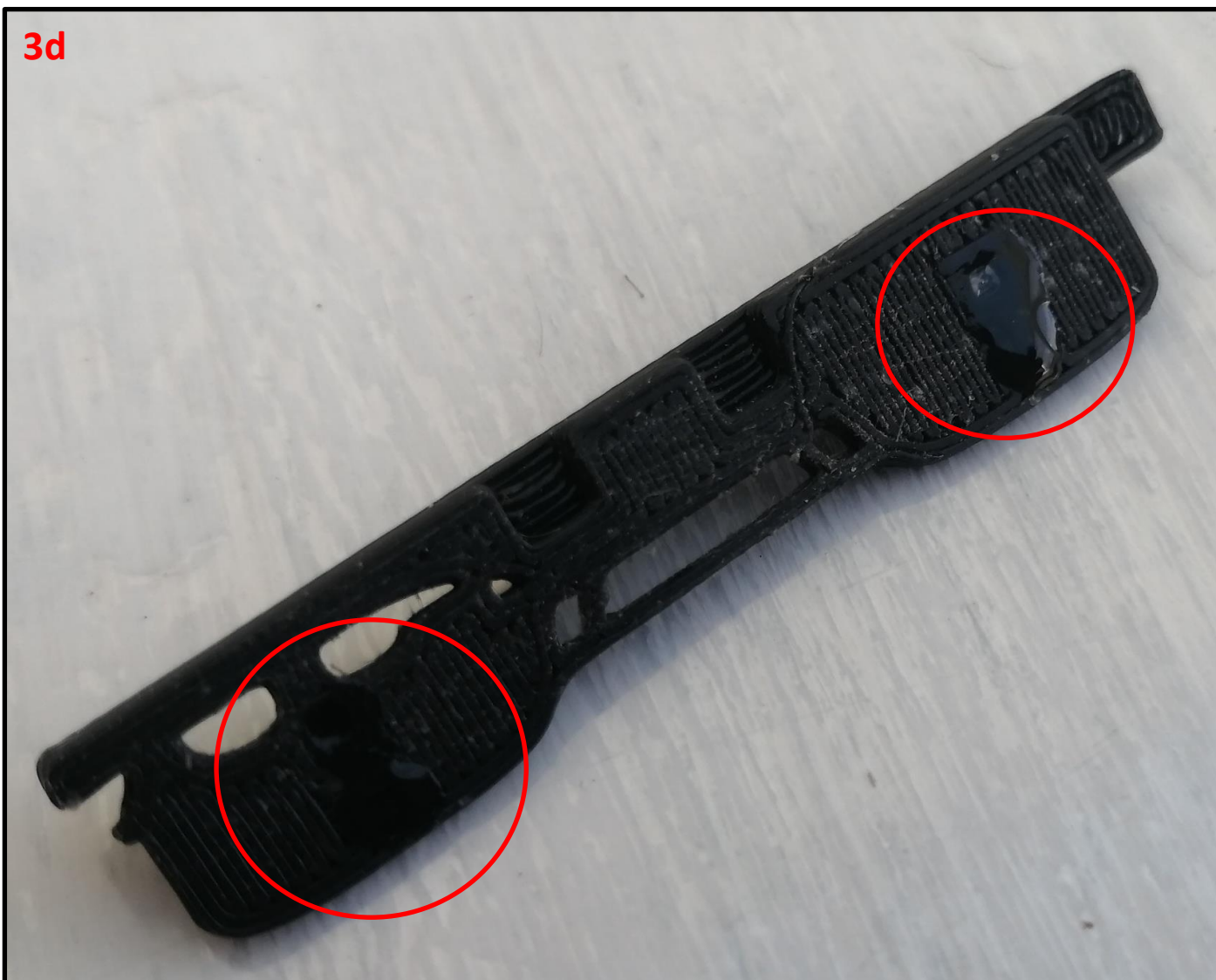
Now twist around each **Bogie Side** (the back with a flat smooth surface) and notice there are 4 small square holes in each. This is to allow the wheel holders and bogie sides to slot together.



STEP 3: Bogie Assembly

3d – Take the bogie sides and place a small amount of glue into the holes and the area between them.

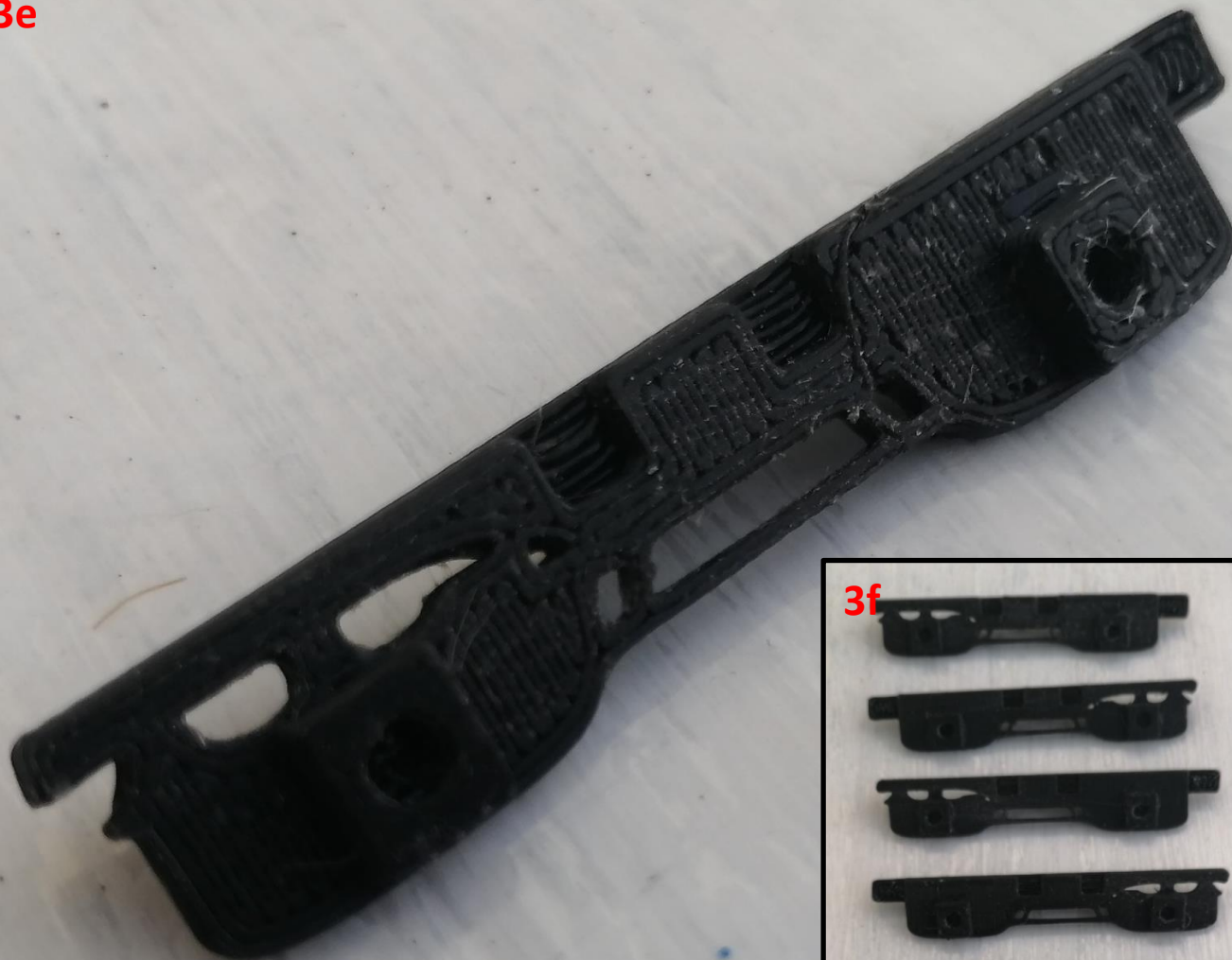
3d



STEP 3: Bogie Assembly



3e – Now take a wheel holder and stick it into place. Ensure the square holes of the bogie side and the square extrudes of the wheel holders match up. This process can be tricky so test without glue first and use tweezers/long nose pliers to help.


3e**3f**

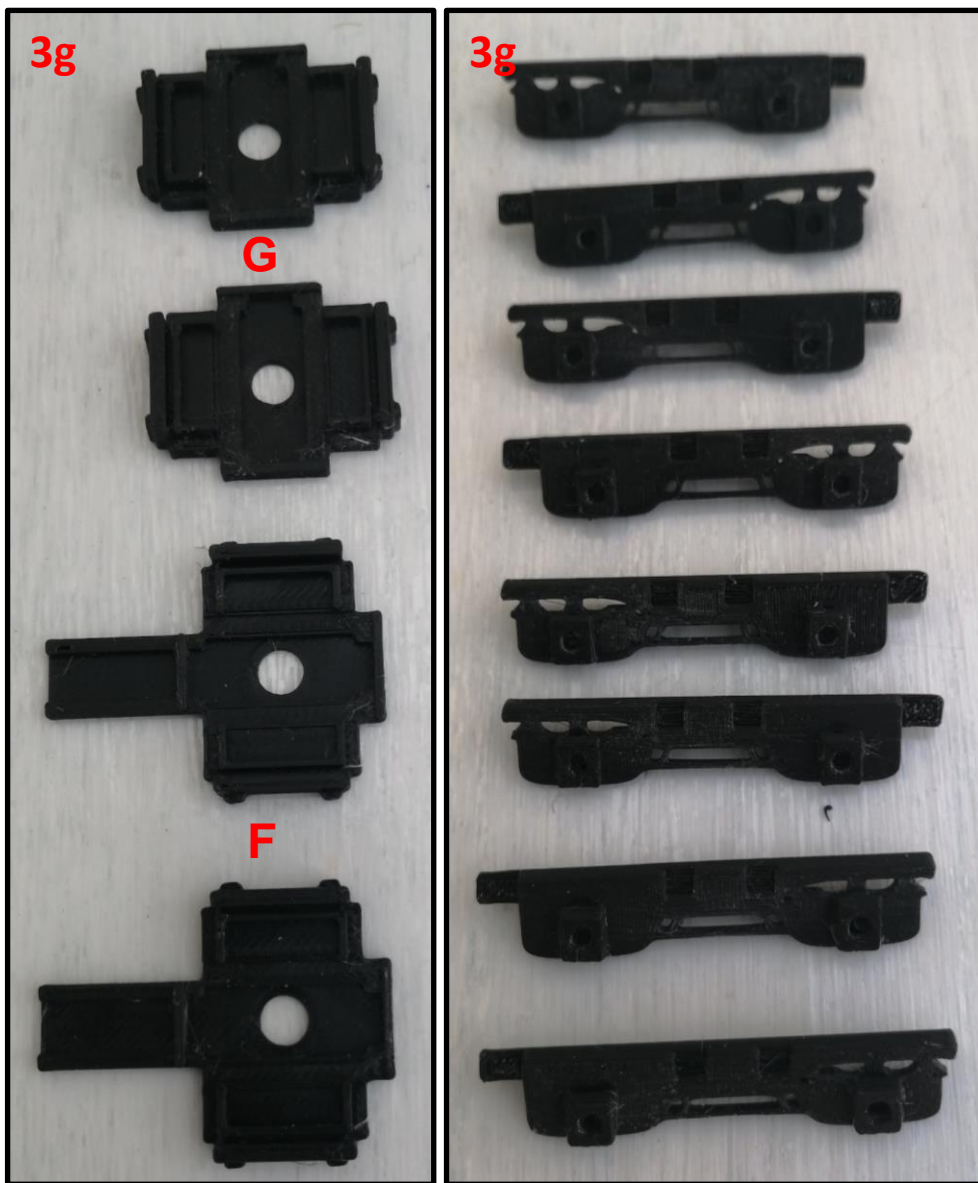
3f – Once you have completed one, take the other 7 bogie sides and the remaining wheel holders and repeat the process. You will end up with 8 assembled bogie sides. Leave these to dry for a few minutes before moving on.

STEP 3: Bogie Assembly

3g – Prepare the following parts, **2x Part F; Bogie Base A** and **2x Part G; Bogie Base B**. Also take the **Assembled Bogie Sides** from stage 3f.

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

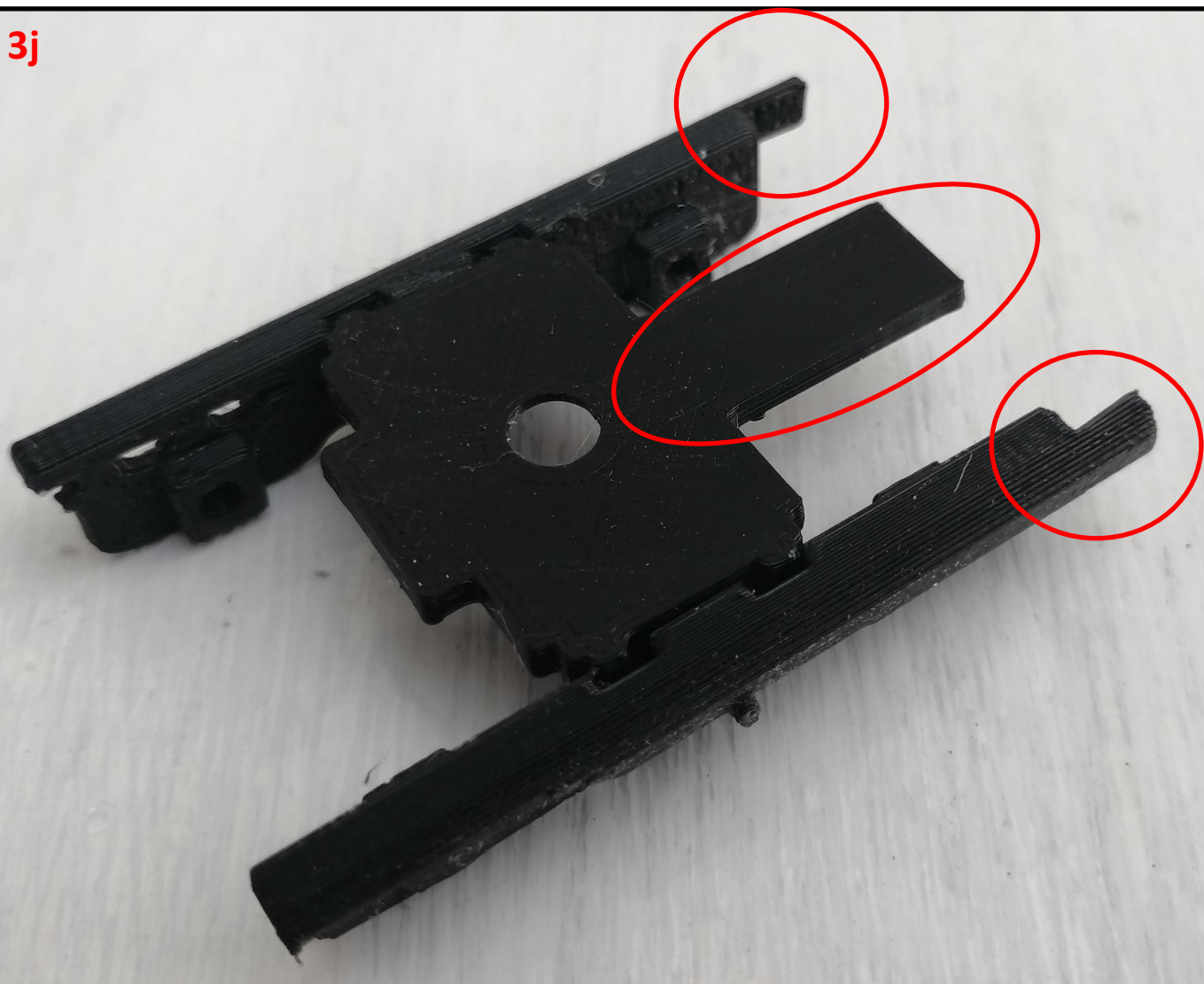
 **IMPORTANT!** It is essential that the assembled bogie sides fit the correct way round to the bogie bases. It is advised you practice and ensure the parts go in the correct places before gluing.



3i – Notice how each assembled bogie side has a notch missing on the back.

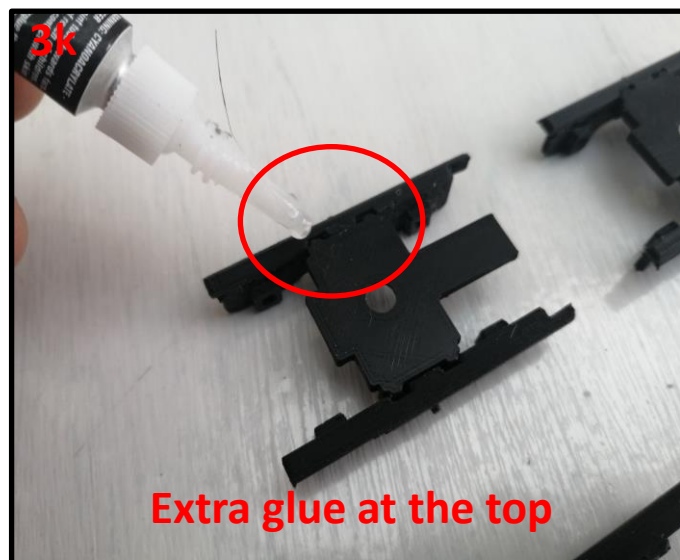
STEP 3: Bogie Assembly

3j – Ensure the notches of the **Assembled Bogie Sides** match and align with the part that sticks out of the **Bogie Base A**. See picture below.



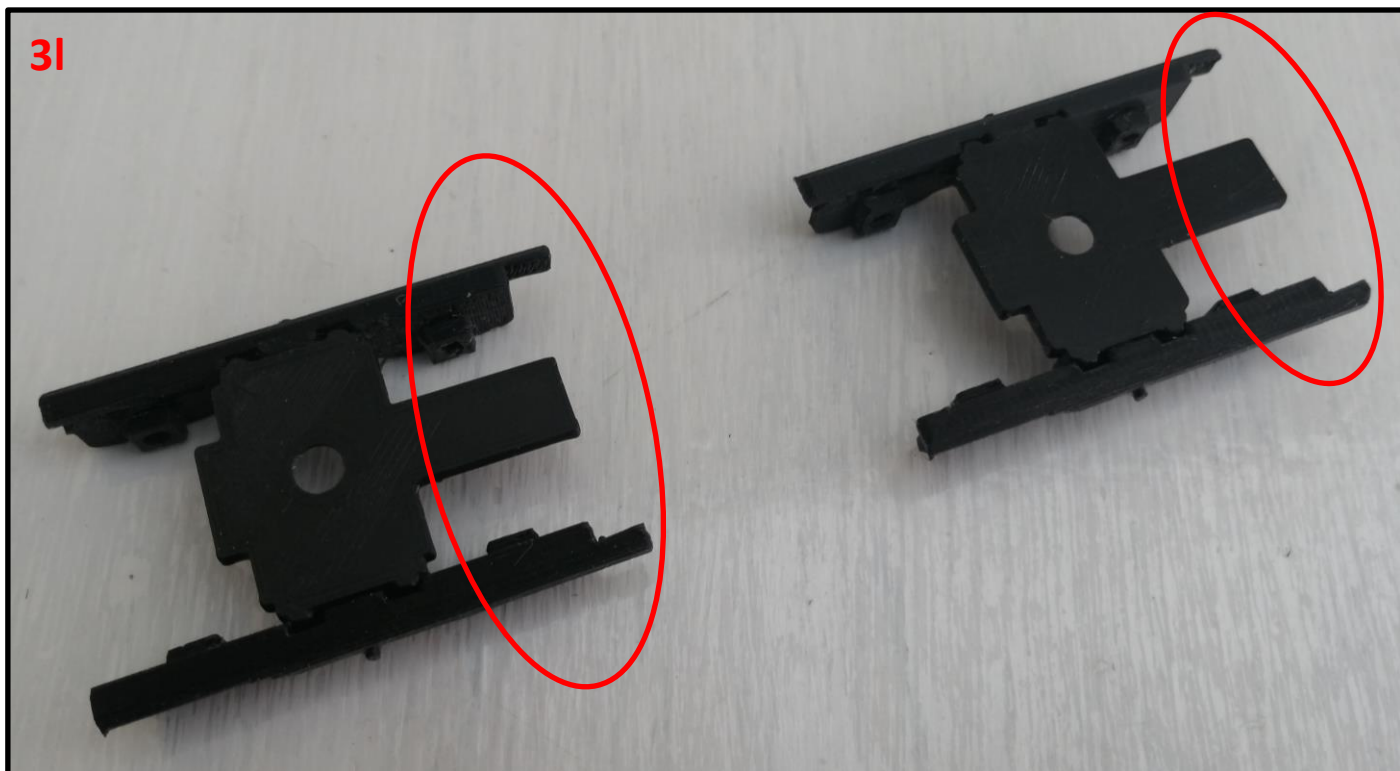
STEP 3: Bogie Assembly

3k – Once you are happy with the position of the **Assembled Bogie Sides** and **Bogie Base A** you can now stick the pieces together. Place the glue on the **Bogie Base A** side (where the two notches stick out) and slide the **Assembled Bogie Side** upwards until you can push it no more. The pieces should sit flush with each other, like in the picture on the previous page. Now hold the pieces firmly in place until it sticks and sets in place. To help strengthen use extra glue by placing it through the gaps at the top of the assembly as shown on the picture in the bottom right.

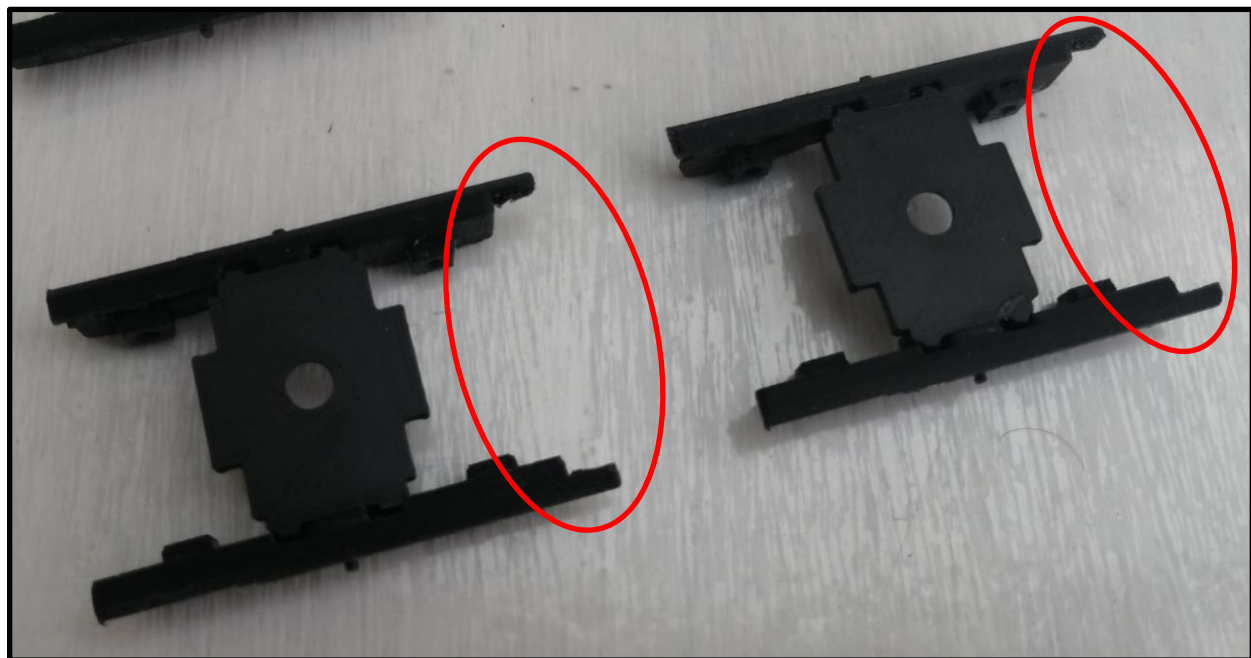


STEP 3: Bogie Assembly

3l – Repeat this process until you have two assembled bogies that resemble the picture below. Again remember to ensure the notches of the assembled bogie sides are in the correct orientation.

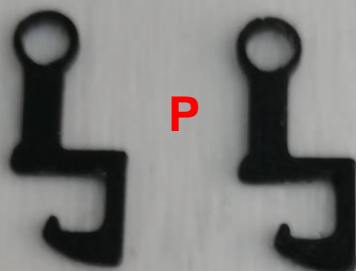


3m – Repeat this process with the **2x Part G; Bogie Base B** pieces and the remaining **Assembled Bogie Sides**. Again ensure the notches are aligned with each other like in the picture below.



STEP 4: Coupling Assembly

4a – Prepare the following parts, 2x Part N; Coupling Holders, 2x Part O; Coupler Holder Rings, 2x Part P, Coupling Hooks, 2x Part Q; Coupling Supports and 2x Part R; Coupling Hoops.



4b – Remove any extra plastic or strings from the edges of the pieces with any of the following tools and equipment listed on page 3.

4c – Take Part R; Coupling Hoop and place a very small amount of glue into the top slit. You may use a tooth pick to help insert the glue.



STEP 4: Coupling Assembly

4d – Take a **Coupling Support** and orientate it so the large notch missing from it is pointing to the right as in the picture below. If you have orientated it correctly it will not sit flat on a surface. Now push the extrusion in the support into the slot until it clicks into place and sits flush.

4d**4d**

Push the Coupling Support down until it clicks into the Coupling Hoop

STEP 4: Coupling Assembly

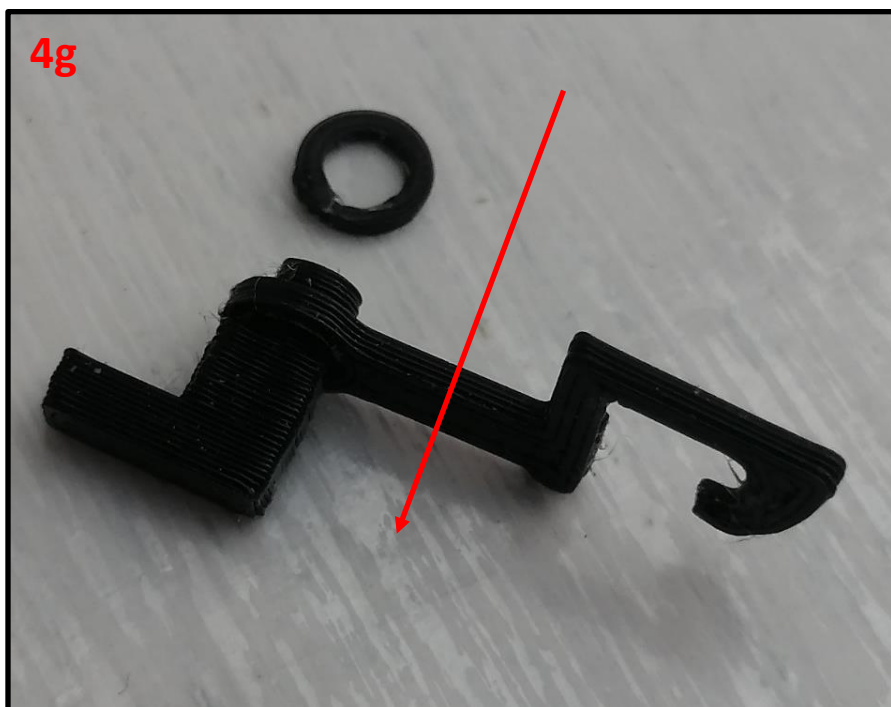
4e – Repeat the process with the other **Coupling Support** and **Coupling Hoop** and leave the pieces to dry.



4f – Take a **Coupling Holder**, a **Coupling Hook** and a **Coupling Holding Ring** and orientate them as in the picture to the side.

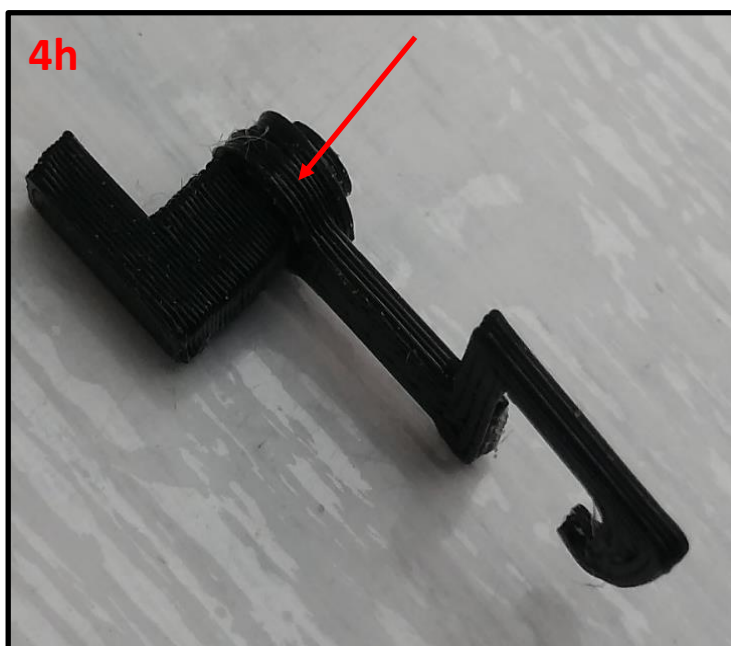


4g – Take the coupling hook and push it onto the round extrude of the coupling holder as in the picture to the side.



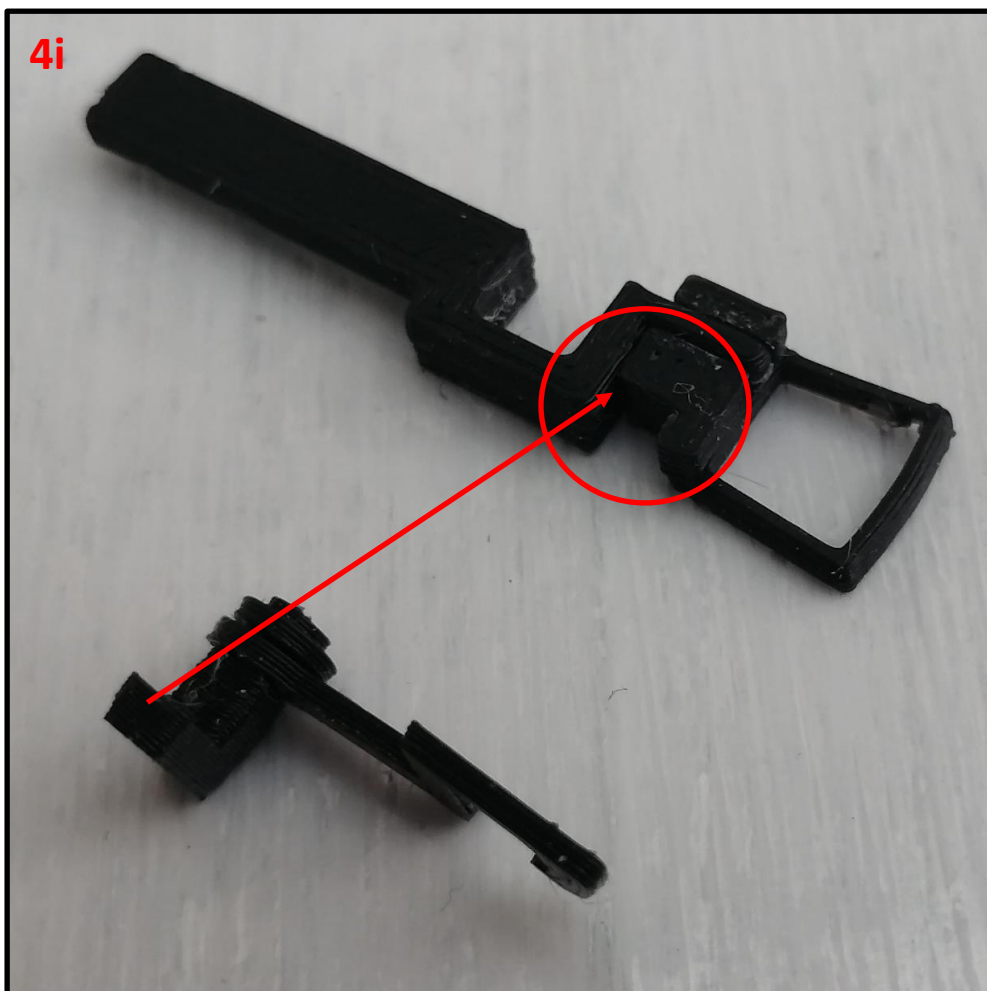
STEP 4: Coupling Assembly

4h – Now take the coupling holding ring and push it onto the round extrude that the coupling 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.



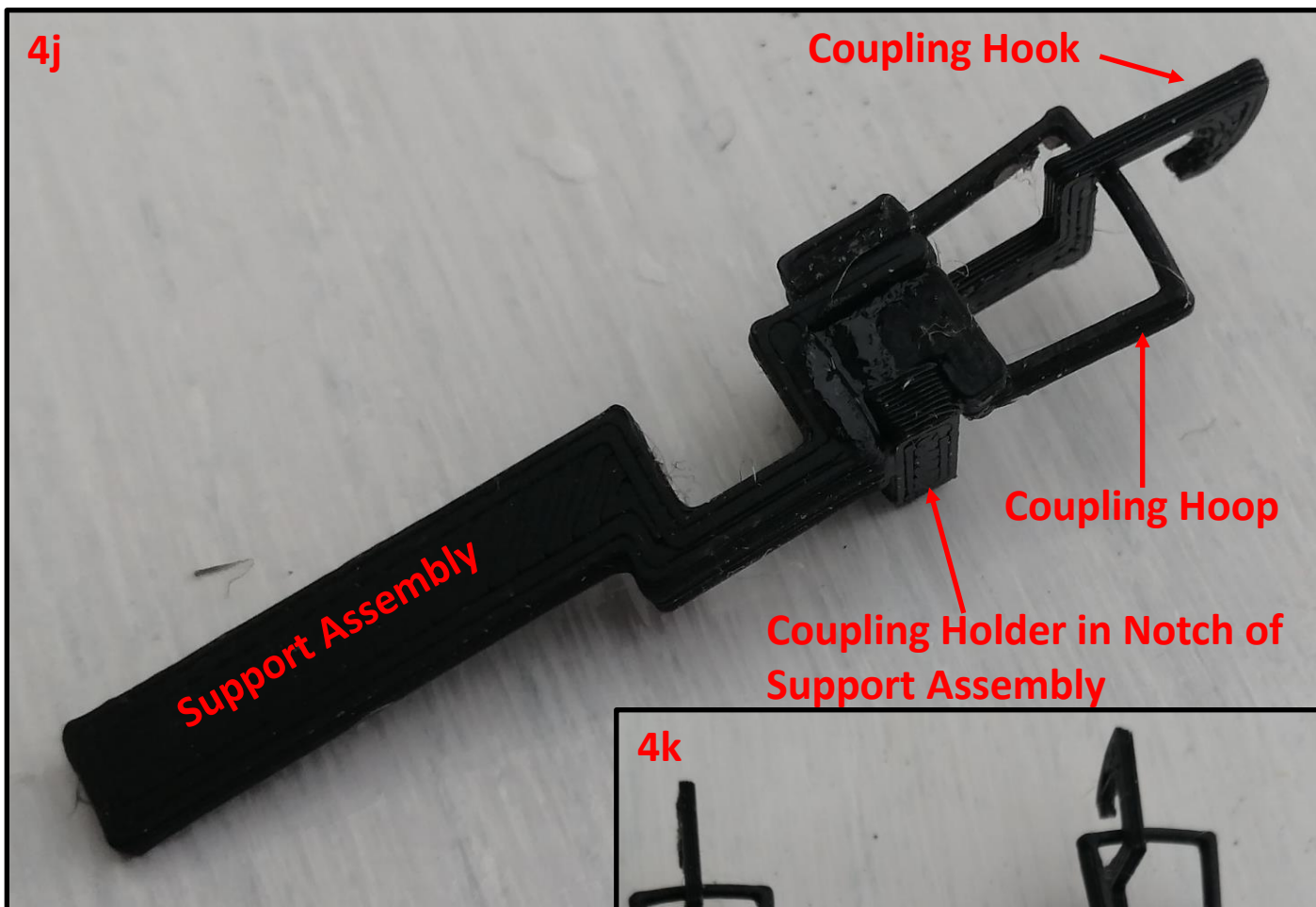
IMPORTANT! Before applying any glue in the next step check that you understand how the coupling assembly and coupling support assembly assemble. Read carefully before hand and refer to the pictures.

4i – Take the glue and apply a small amount to the sides of the circled notch. The flat side of the Coupling Assembly will push into this notch and attach. Before doing so you must ensure that the Coupling hook pushes through the coupling hoop. See the next page to how it should look once assembled.



STEP 4: Coupling Assembly

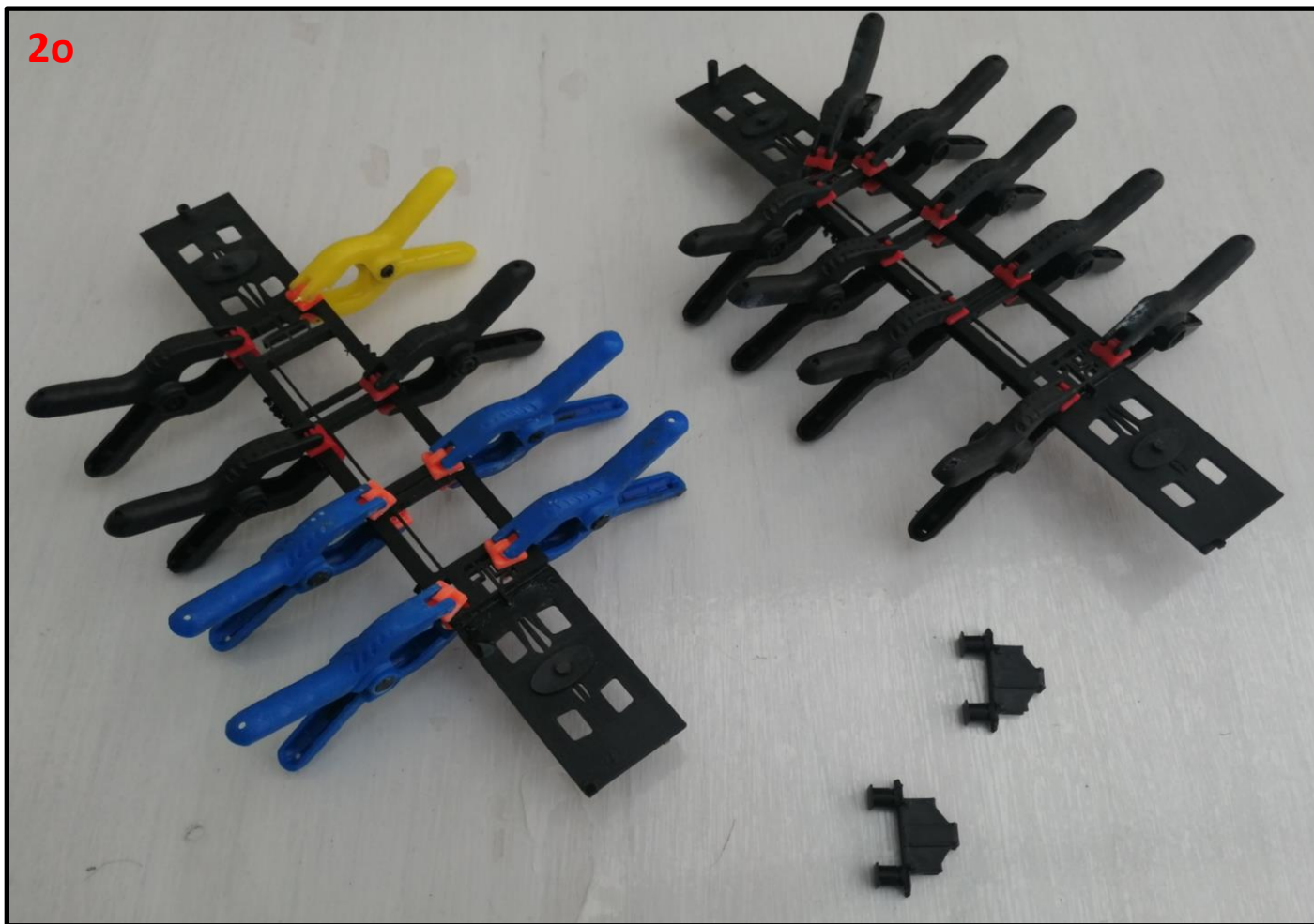
4j – Notice how the coupling hook has been pushed through the coupling hoop first. The flat side of the coupling holder is then pushed into the notch of the coupling support assembly.



4k – Repeat the process until you have two fully assembled couplings. Please ensure no glue gets on moving parts, the coupling hook must be able to swing and move freely. Leave to dry and move onto the next step.

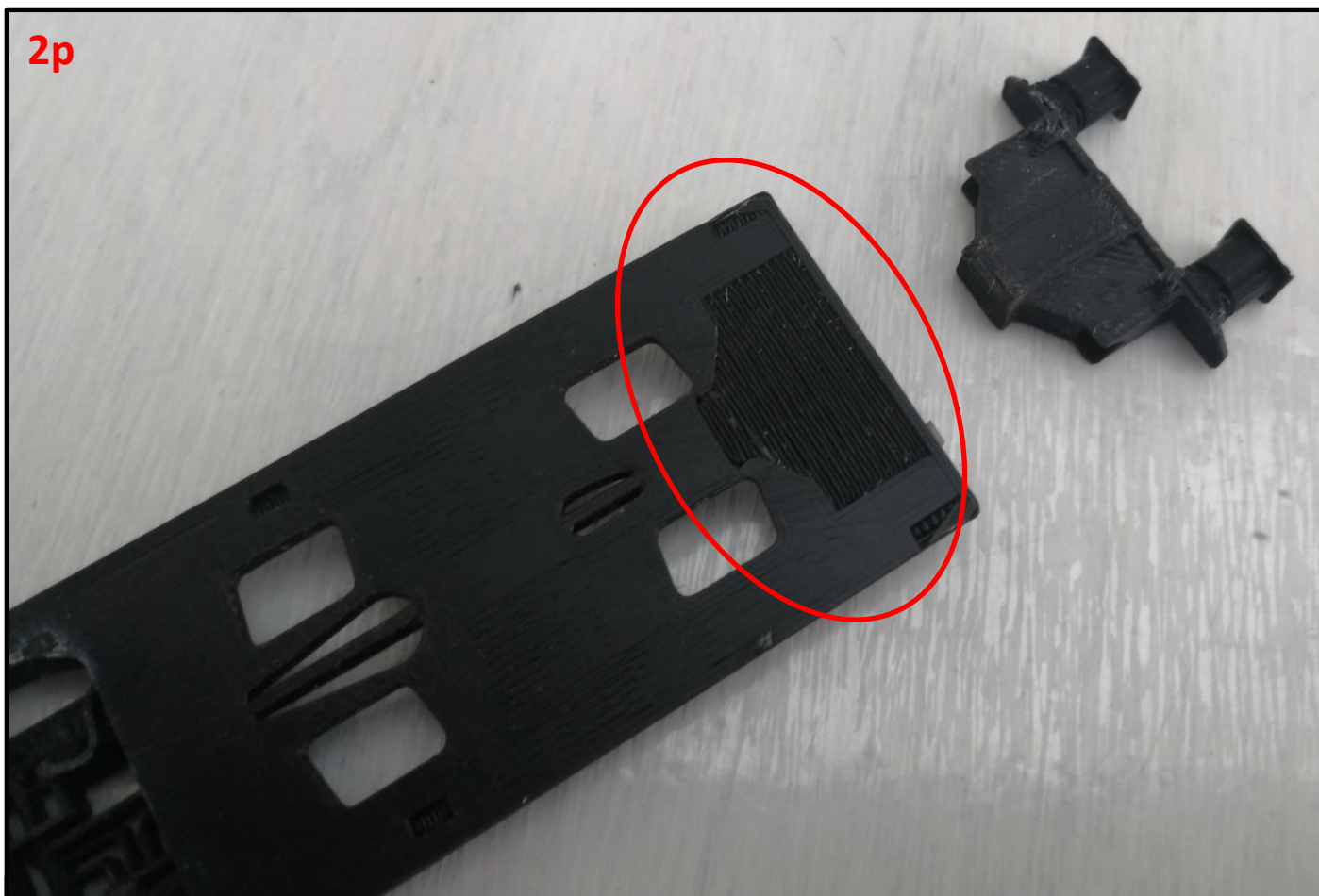
STEP 2: Base Assembly Continued.

2o – We left our base pieces (pictured below) to dry. If they are now dry we can now attach the assembled base tops and handrails to them.



STEP 2: Base Assembly Continued.

2p – Take any part assembled base, look for the cutaway shape on the top of it. Apply glue to this and push the assembled base top into place. You can use the spring clamps to hold it in place.



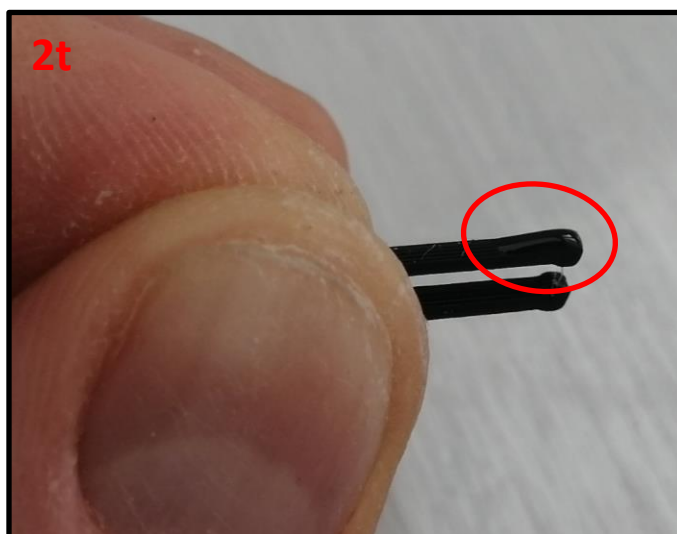
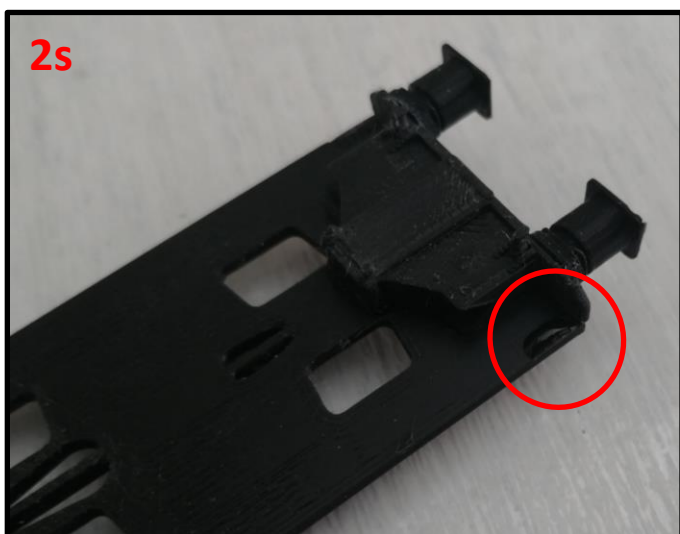
2q – Repeat this process with the other base Top and handrails.

STEP 2: Base Assembly Continued.

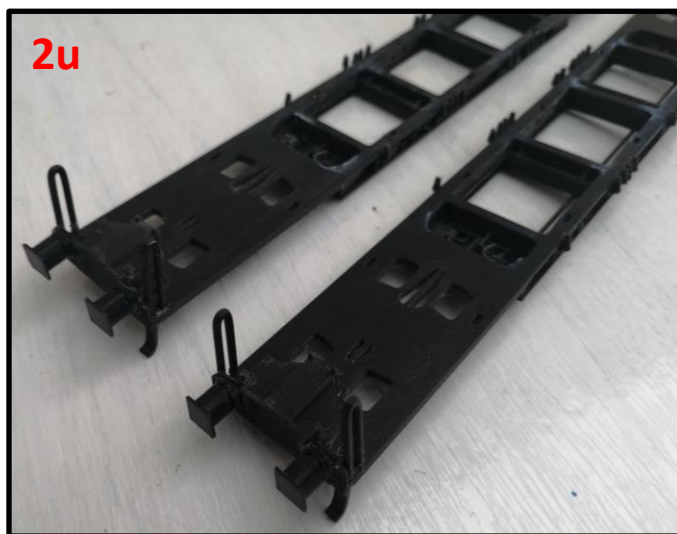
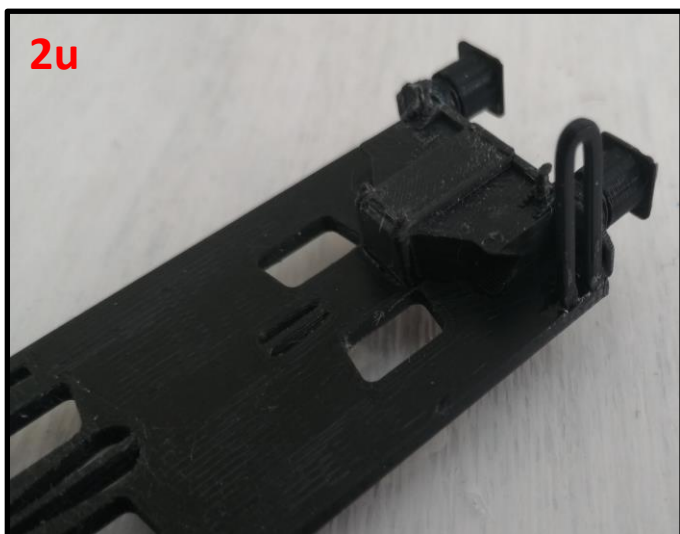
2r – Prepare the following parts, 4x **Part S**; **Base Handrails**.

2s – Apply a small amount of glue to the small cutaway section next to the side of the base top

2t – Apply a small amount of glue to one side of a handrail. This side will attach to the side of the base top.

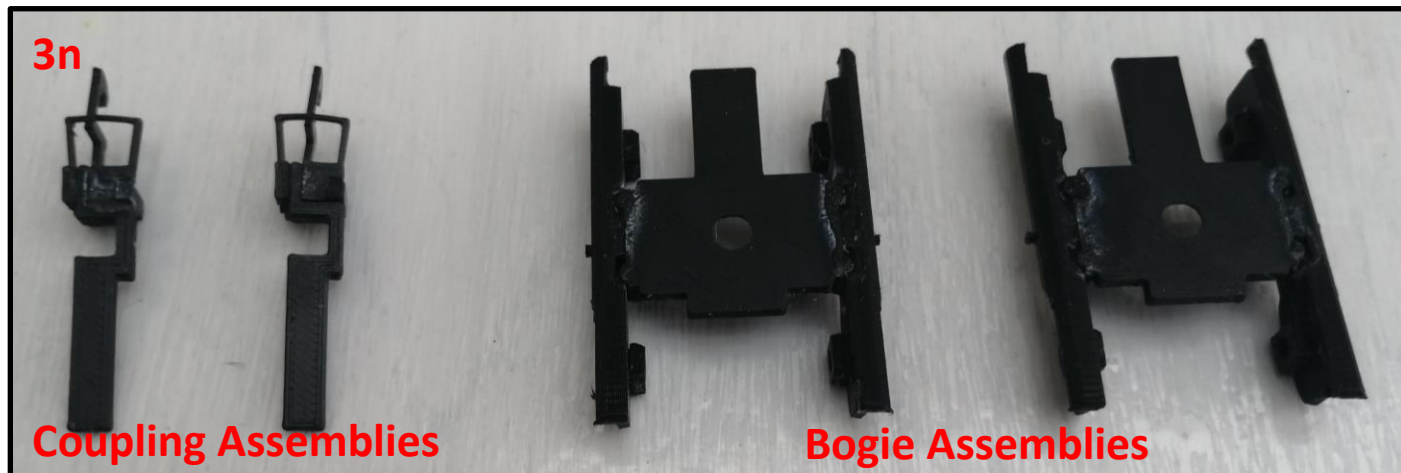


2u – Stick the handrail into the cutaway section, ensuring the side with the glue is in contact with the base top. Use tweezers if you are struggling to grip with your fingers. Repeat the process until all 4 handrails have been attached into position. Leave to dry and move on.

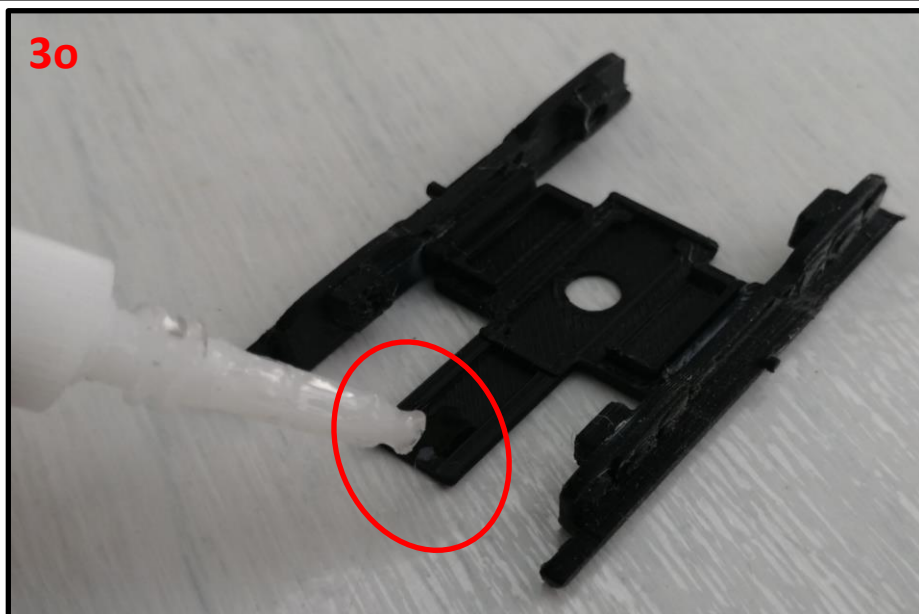


STEP 3: Bogie Assembly Continued

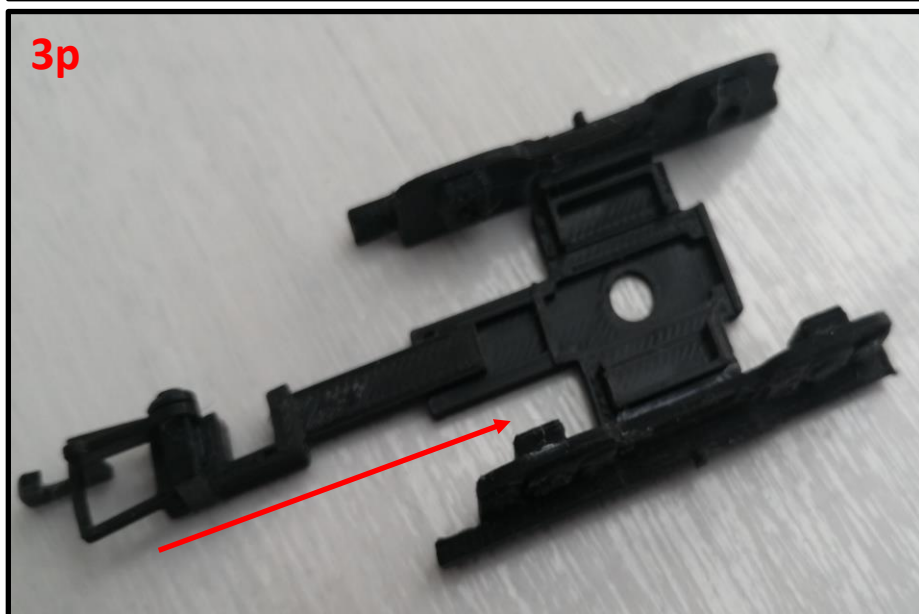
3n – We are going to attach the coupling and the bogie assemblies together. Before doing so ensure the pieces are adequately dry.



3o – Take one bogie assembly and twist it over. Place a small amount of glue at the tip of the long extruded slot.



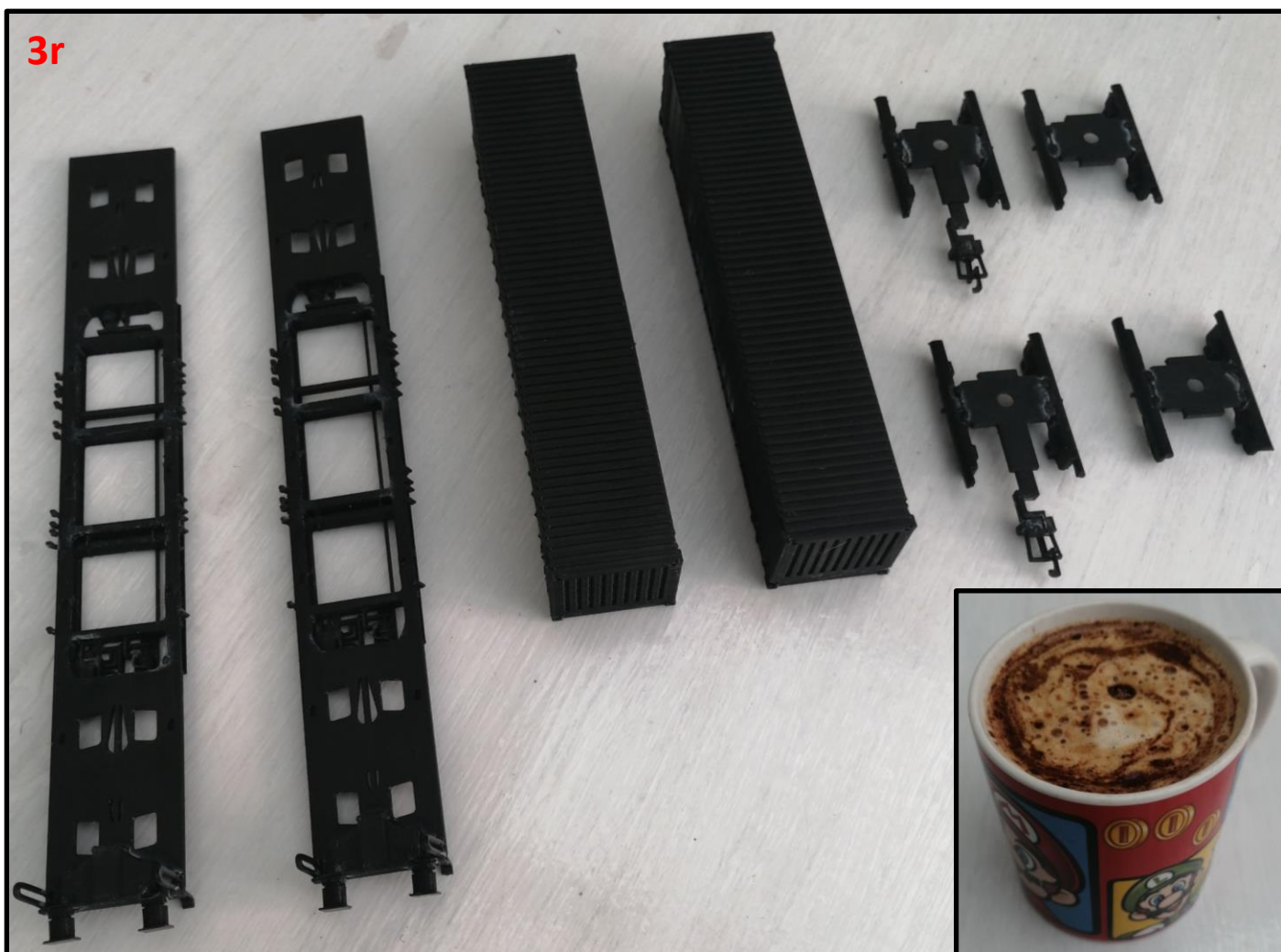
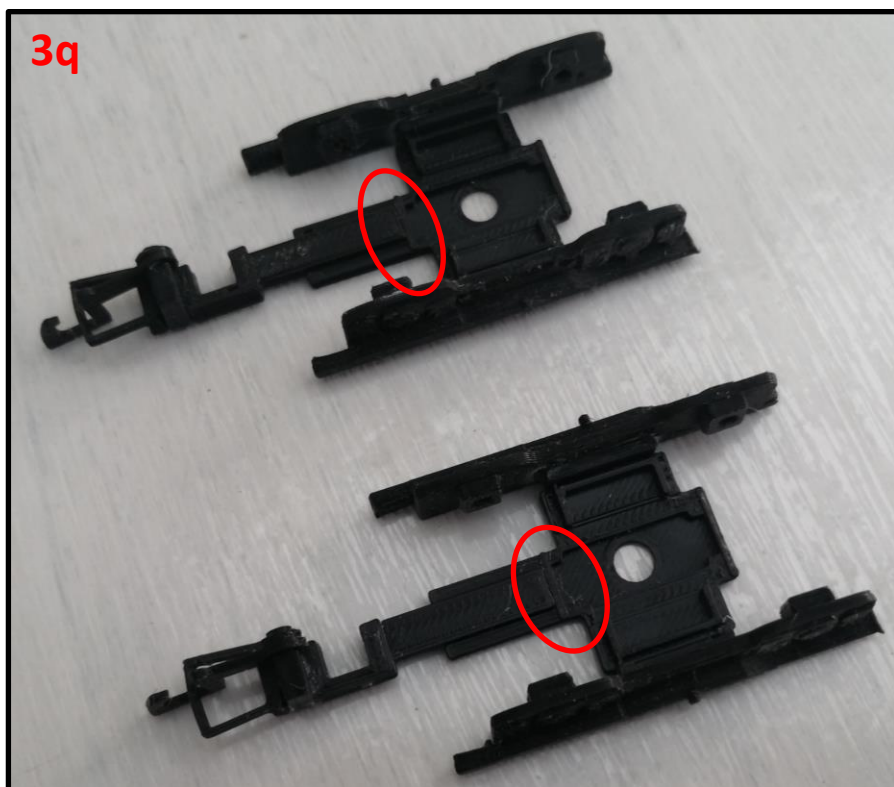
3p – Take an assembled coupling, twist it around (ensuring it is sitting flat on the surface) and push it into the slot until it touches the end.



STEP 3: Bogie Assembly Continued

3q – The end of the coupling assembly should touch the end of the bogie slot. Repeat the process until both bogie assemblies are fully completed.

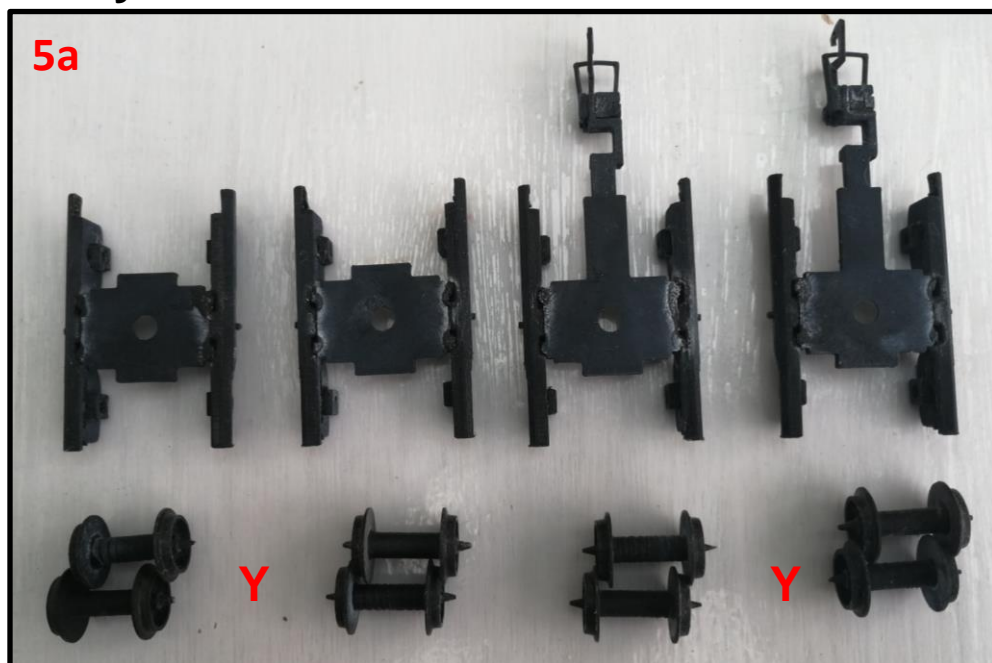
3r – **SUPER!** You're nearly there, just the final assembly left to go. Check the picture below and grab a coffee while your pieces dry.



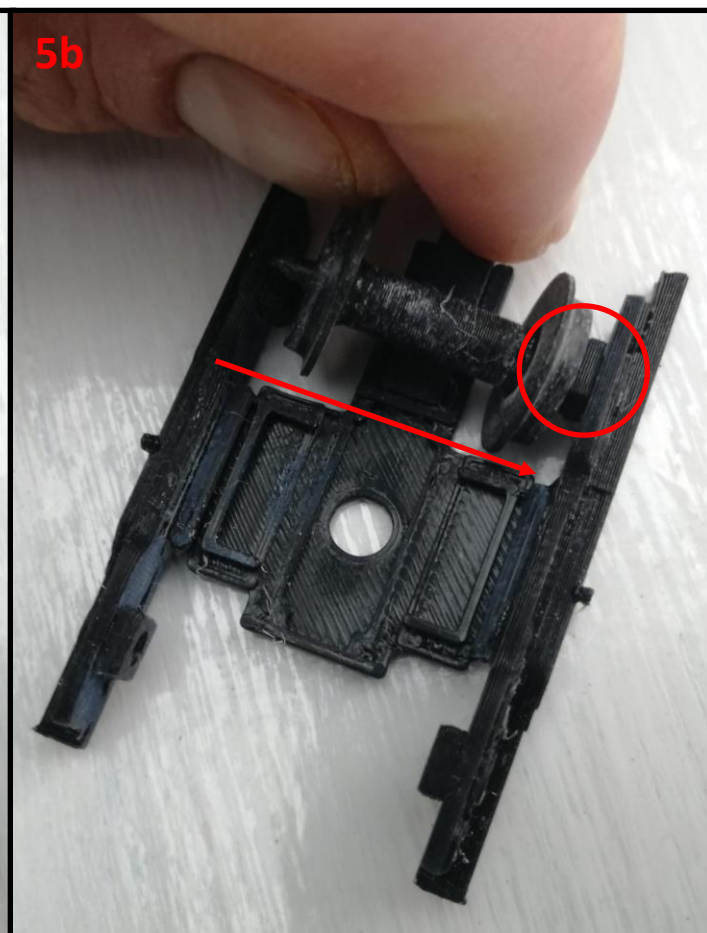
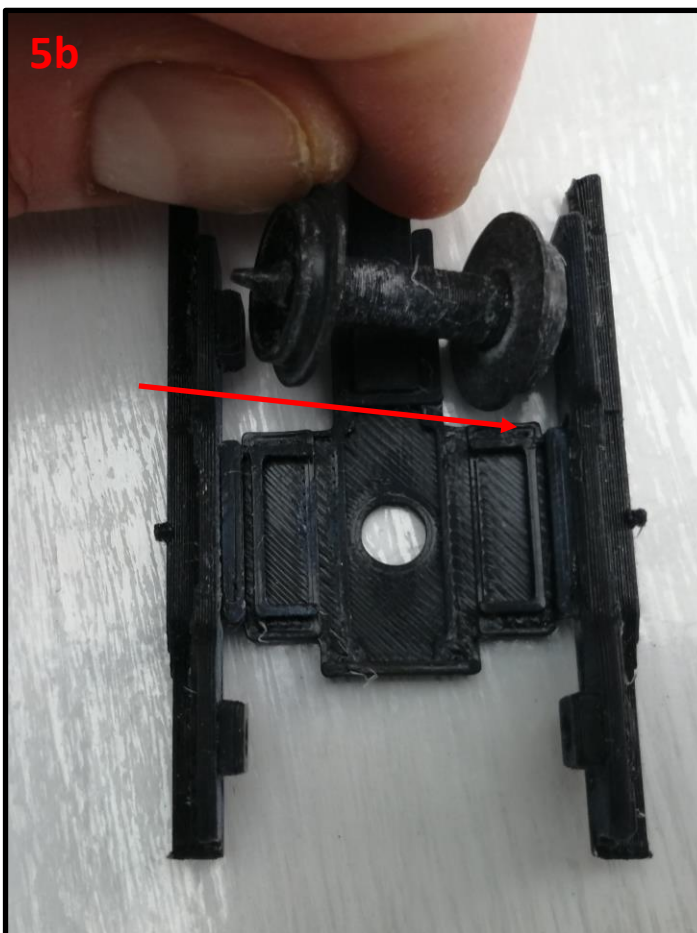
STEP 5: Final Assembly

5a – Prepare 8x Part Y; Wheels.

Take your assembled bogies and the 8 pre assembled wheels from your pack.



5b – Take any assembled bogie 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 gently push open the bogie and push the spindle into the wheel holder.

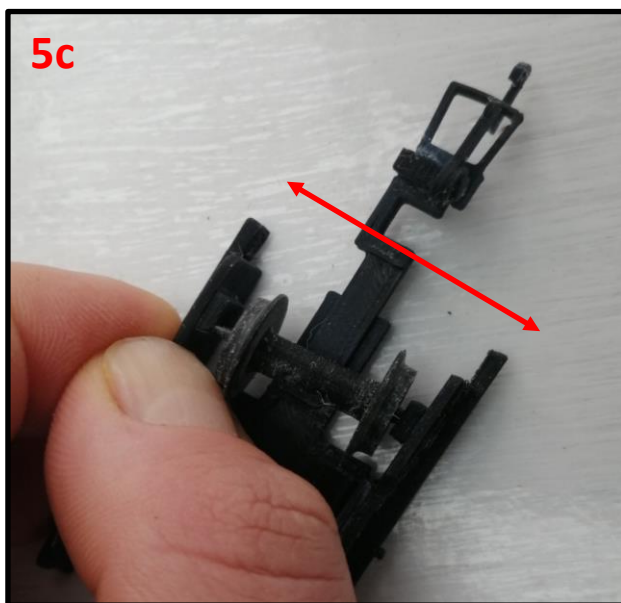


STEP 5: Final Assembly

5c – push the bogie assembly apart while at the same time pushing the spindle into the other wheel holder. If the wheel does not spin freely inside the assembled bogie remove it and take a mini file and gently remove a small amount of material from the spindles.

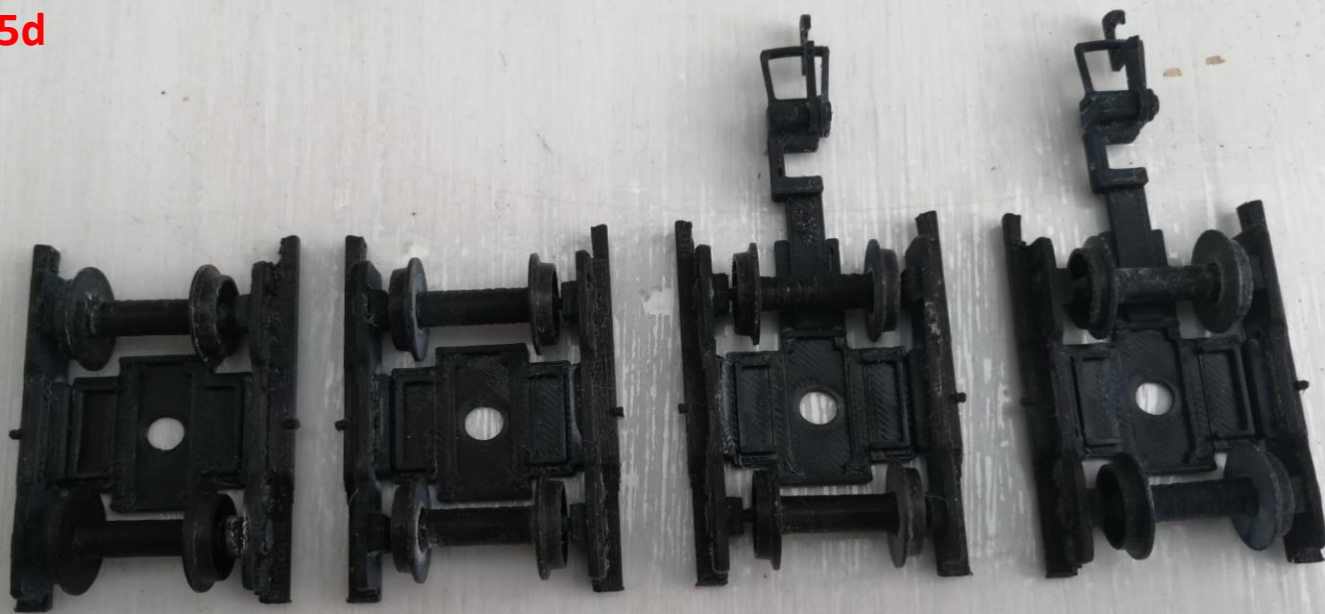


IMPORTANT! If you remove too much material from the spindles of the wheels they will become too small and not fit inside the Bogie. Take small amount off at a time.



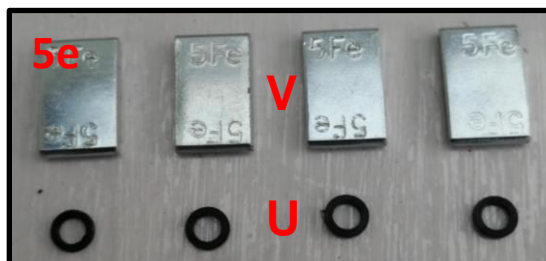
5d – Repeat the process until all 8 wheels have been placed into the 4 assembled bogies.

5d

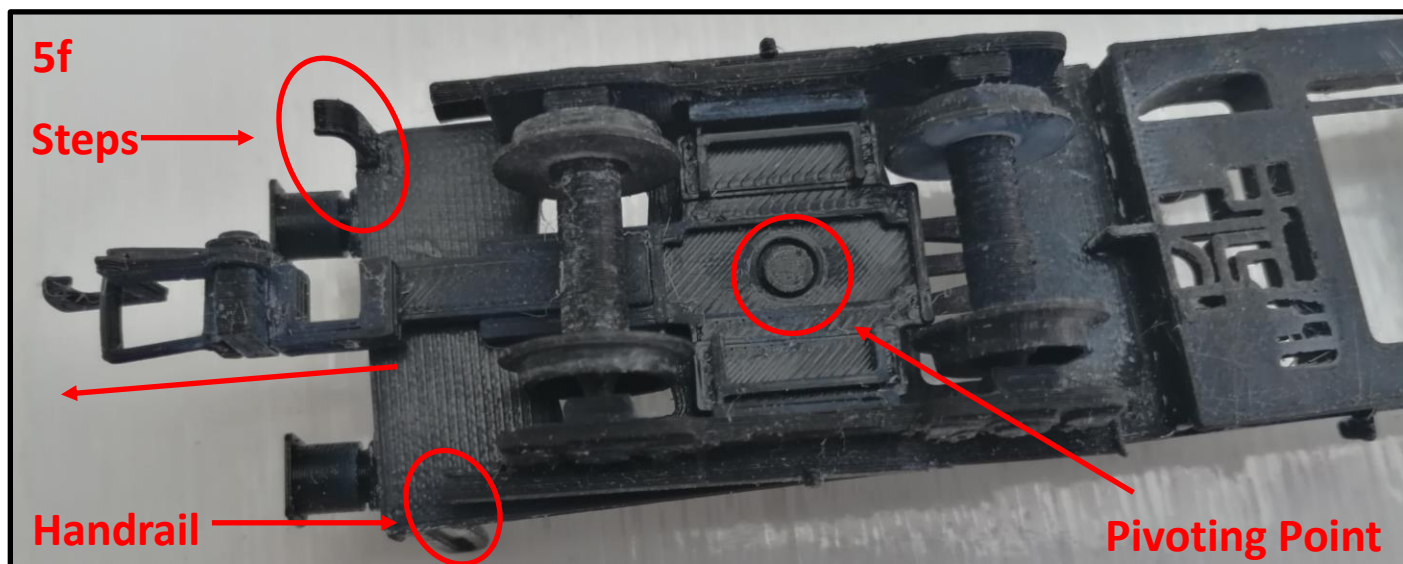


STEP 5: Final Assembly

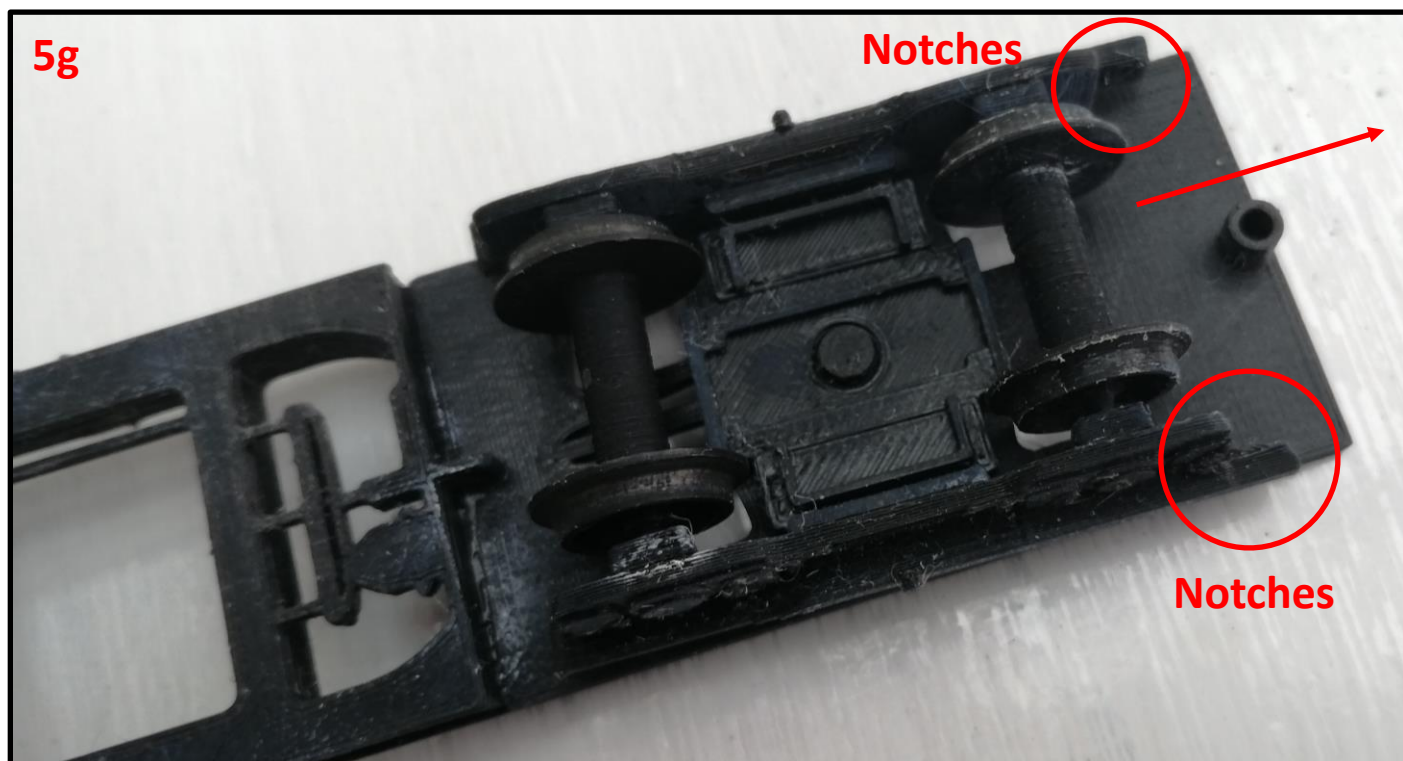
5e – Prepare the following parts, **4x Part U**; **Bogie Holding Rings** and **4x Part V**; **5g Weights**.



5f – Take one assembled base and twist it around. Put an assembled bogie (with a coupling) on the pivoting point. The handrails and steps should be to the left of the point. The coupling should point outwards.



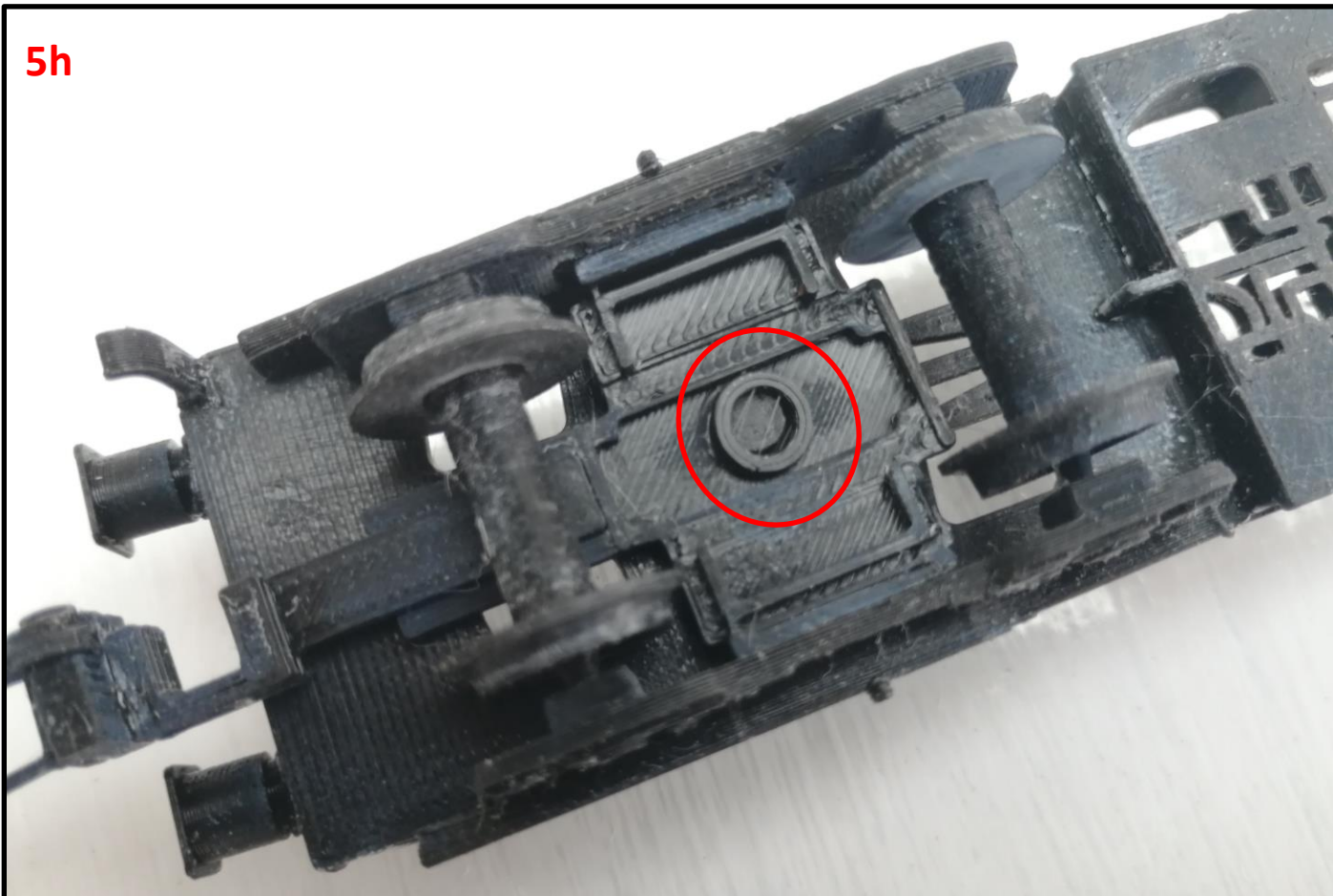
5g – Repeat on the opposite end with an assembled bogie without a coupling. The notches of the bogie should point outwards.



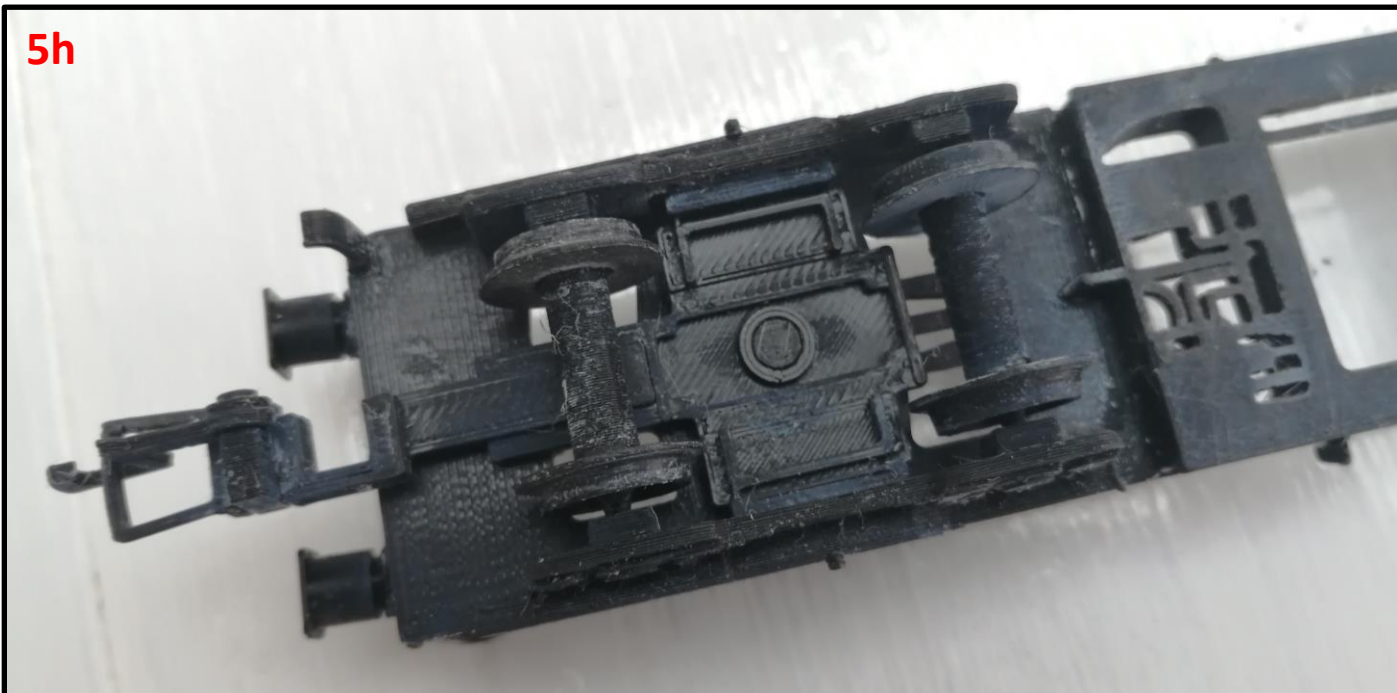
STEP 5: Final Assembly

5h – Take a bogie holding ring and push it over the pivoting point where each bogie is held in position. It should be a firm fit but the bogie should still be able to freely rotate and move up and down.


5h

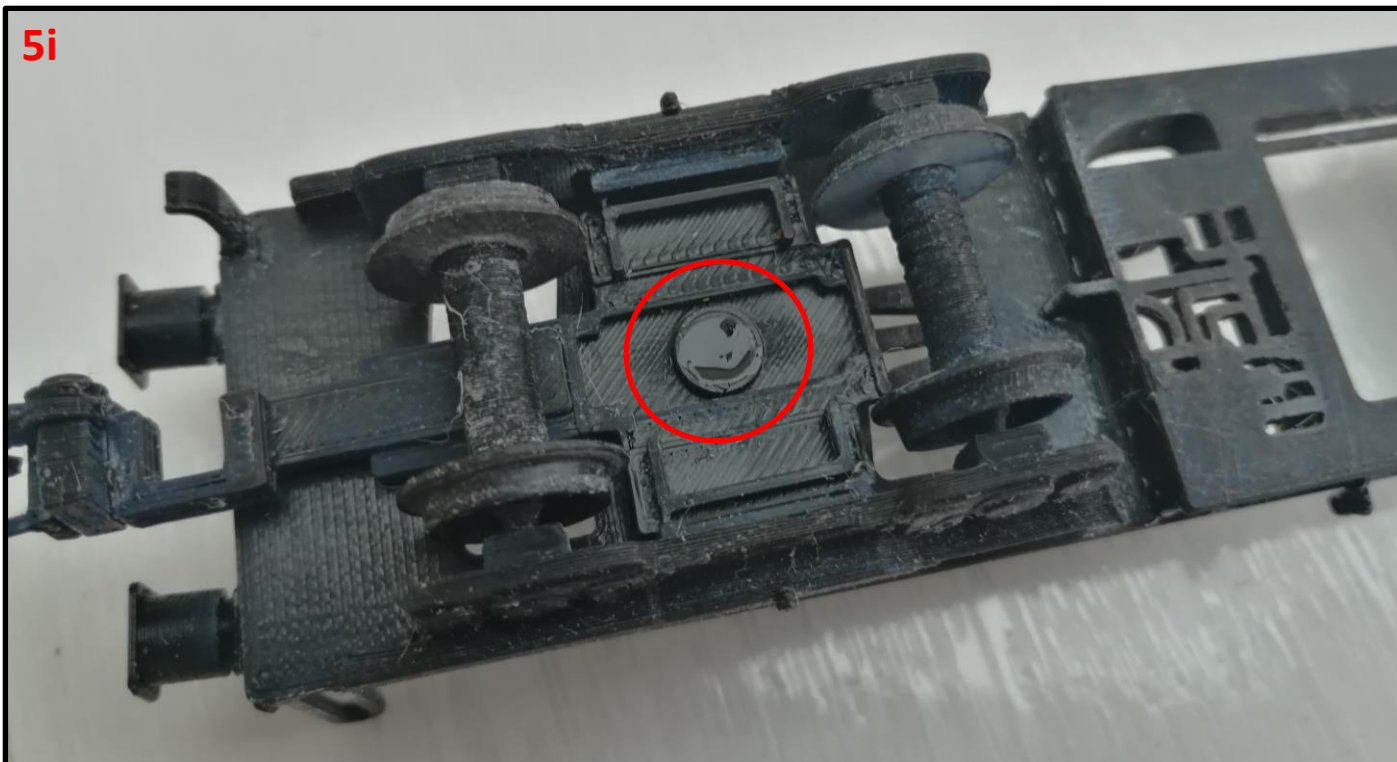


5h

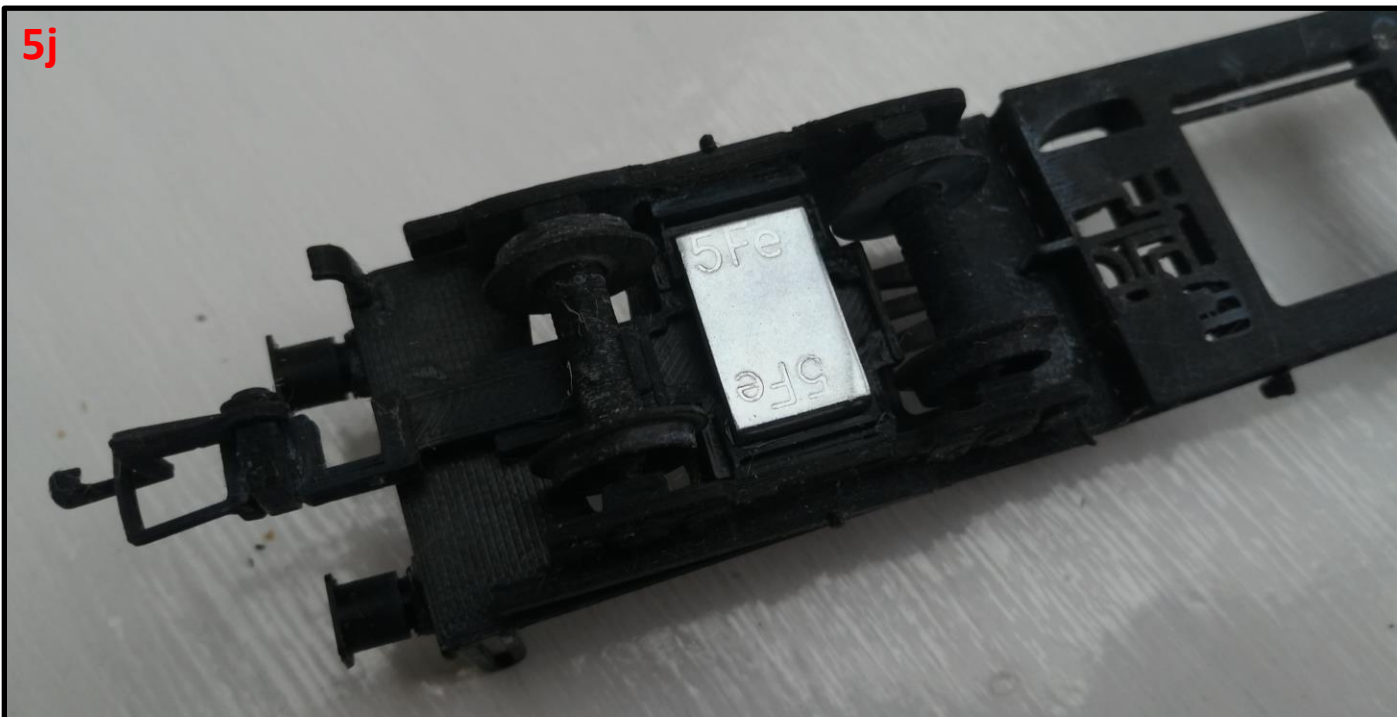


STEP 5: Final Assembly

 **5i** - Take a small amount of glue and place this onto Bogie Coupling Ring. A tooth pick may help. **IMPORTANT!** If you put too much glue on and it runs it will set and lock the Bogie into position.

5i

5j – The 5g weight will clip over the bogie holding ring onto the brackets. First test that the weight will clip into the brackets.

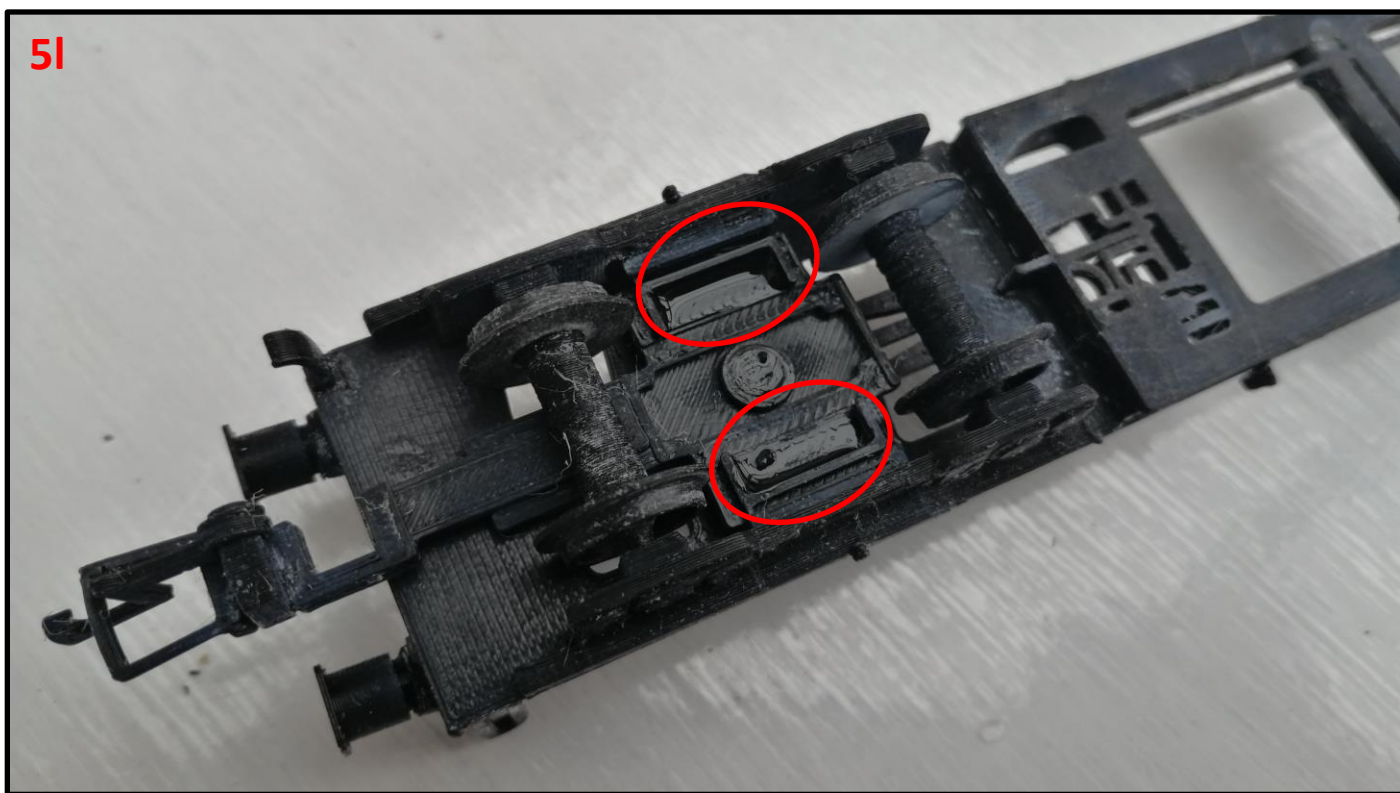
5j

STEP 5: Final Assembly

5k – If the weight is not clicking in then take a small file and remove some material from both of its longer edges. Ensure the edges are smooth as it will help the weight click into position.



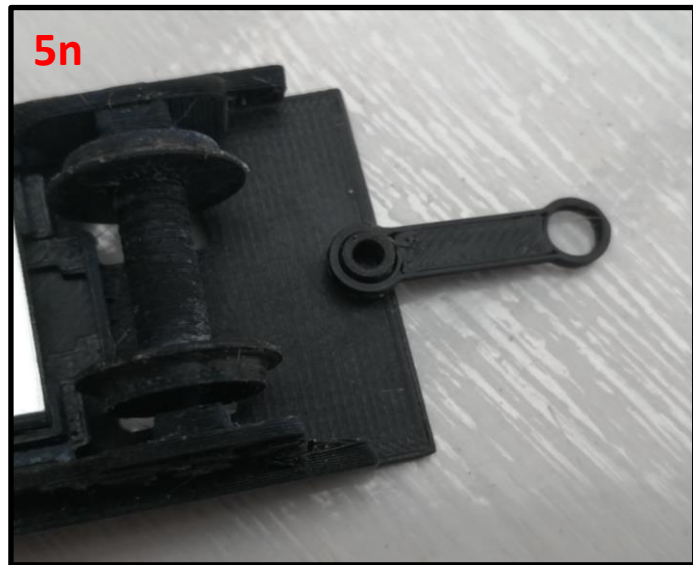
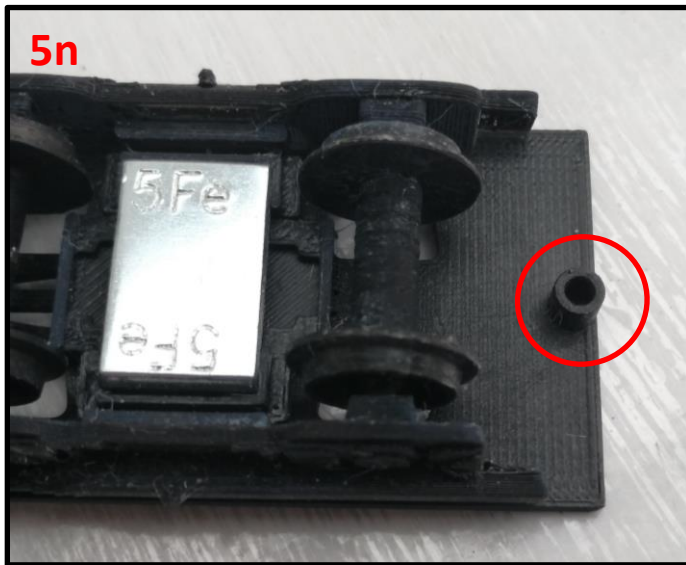
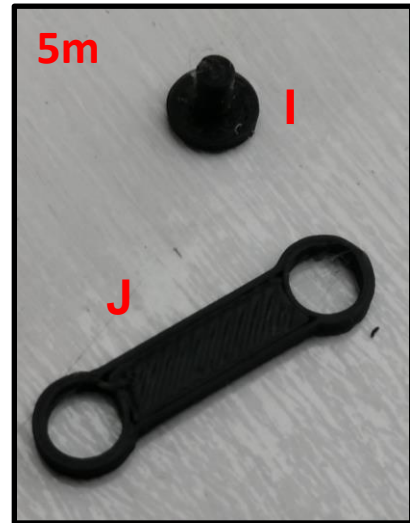
5l – Test that the weight fits into the bracket and if so remove once again. Apply small amounts of glue into the holding bracket and push the weight in. **Repeat stages 5e – 5l** until all bogies, holding rings and weights have been attached and assembled to the Bases.



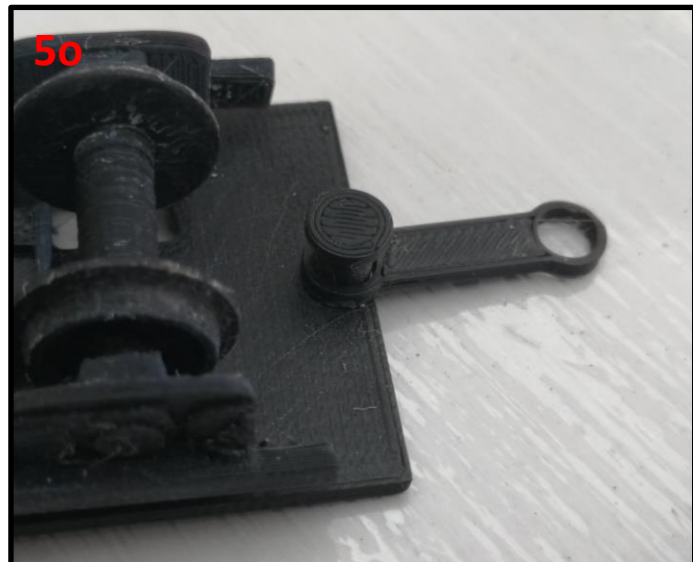
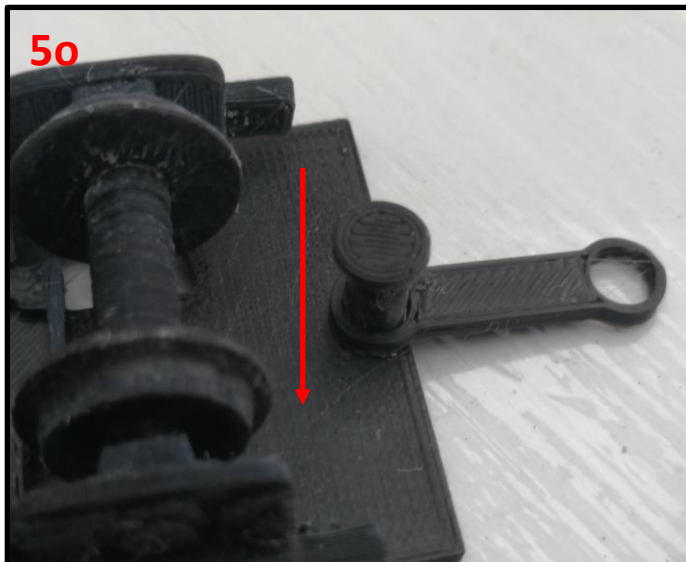
STEP 5: Final Assembly

5m – Prepare 1x Part I; Base Coupling Pin and 1x Part J; Base Coupler. The Base Coupling is designed to allow you to connect/disconnect both sides of your container wagons without the need for screws and screw drivers.

5n – Locate the container wagon with the end with a small extrude and hole. Place the base coupler over it.



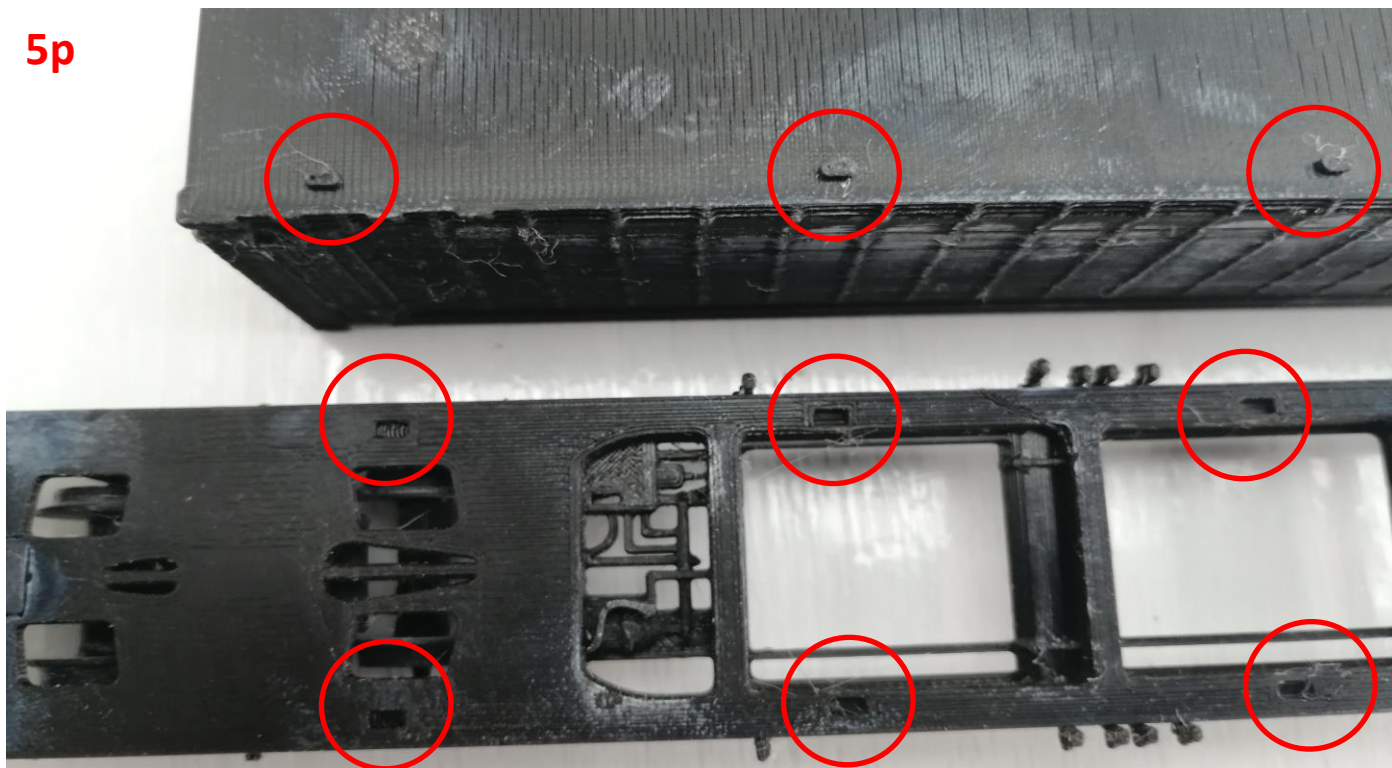
5o – Take the coupling pin and place it into the hole. Now with force push and clip the pin into place. Ensure you push vertically down as not doing so could cause the pin to break. You will not need any glue to hold this down. The base Coupler Should swing freely.



STEP 5: Final Assembly

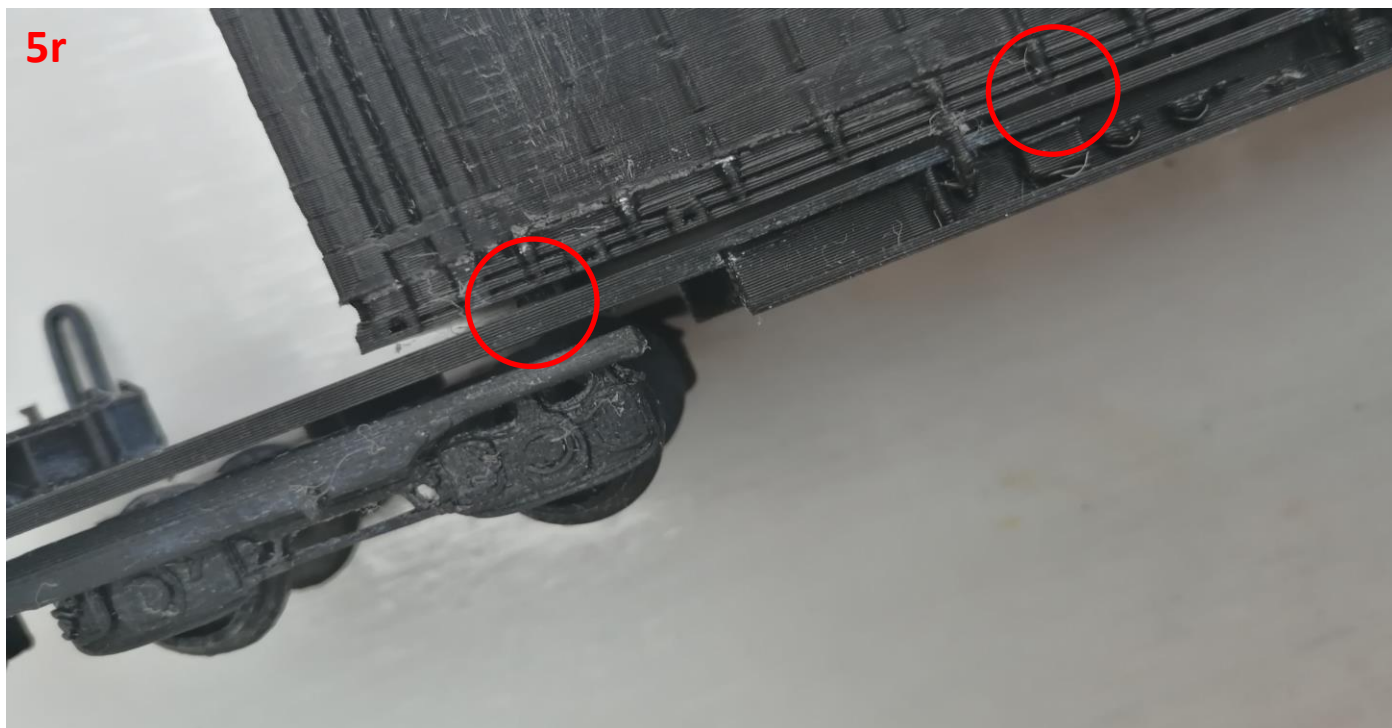
5p – The Container is designed to clip on and off the Container Wagons using Square Extrudes on the bottom of the container and Square Holes in the Container Wagon.

5p



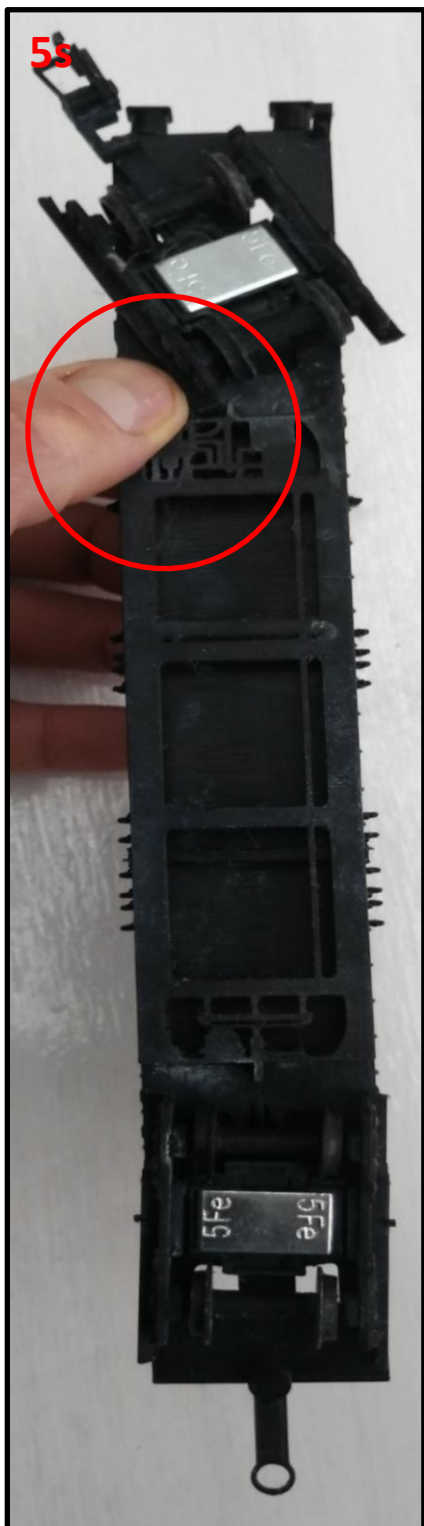
5r – To clip the Container into Place flip both pieces onto their sides and align the Extrudes and the Square Holes.

5r



STEP 5: Final Assembly

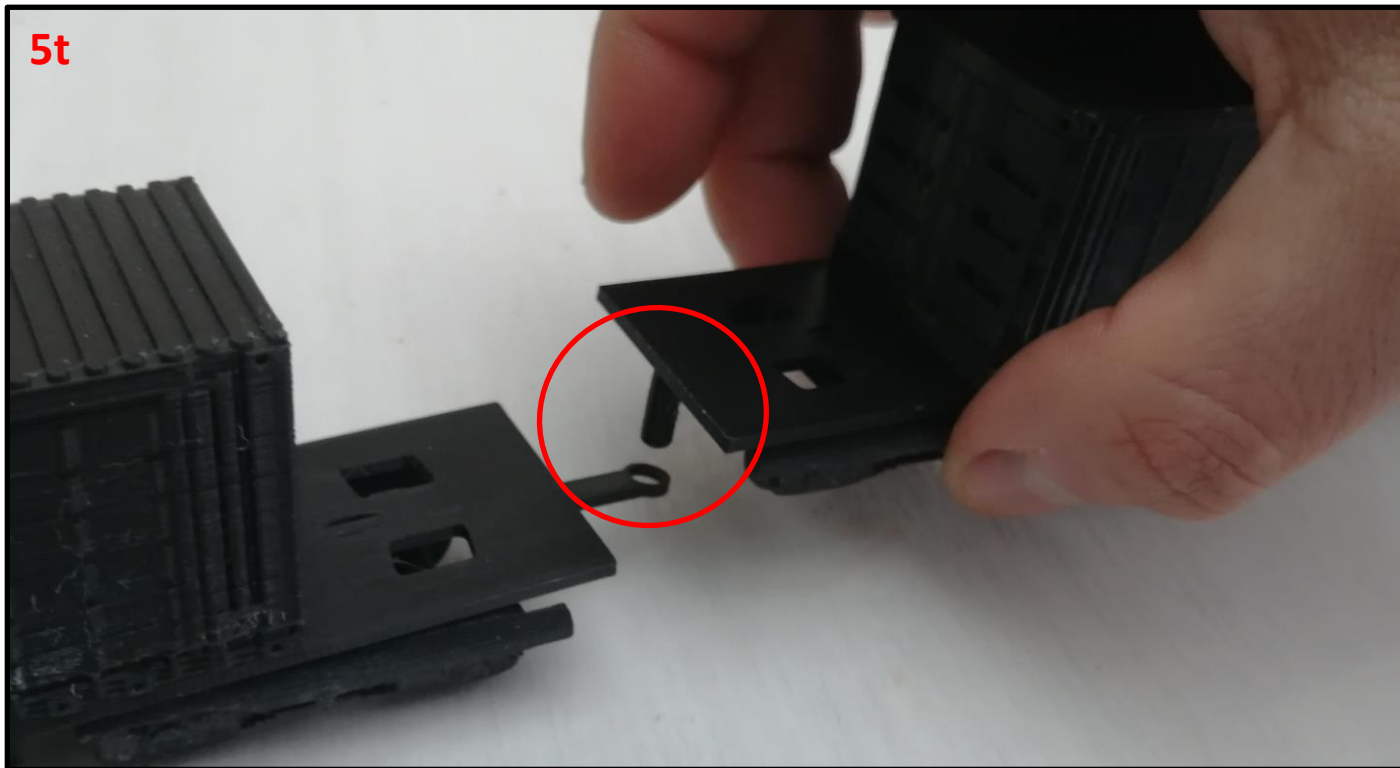
5s – Twist the container and container wagon over. Squeeze both parts together until they click into place. Start at the top and work your way down until all extrudes have been clipped into the holes. There should be no gaps between the two pieces. Repeat this process with the other parts. To take them apart simply pull them apart.



STEP 5: Final Assembly

5t – Hooray the last stage! Simply take both Container Wagons and place the large extrude of one into the Base Coupler of the other.

5t



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.

