



ZONE MORTALIS

MAGNETIZING GUIDE

Hi! This is the small guide I put together to help people who are at the beginning of this crazy project that magnetizing Zone Mortalis is. My way is partly of my own invention, but also uses techniques used by [War Hammer Man Studios](#) and some people (won't mention their personal names here) from [Necromunda Worldwide](#) and [Necromunda Terrain Makers](#) Facebook groups as well as Owen Patten's, the designer of the new Zone Mortalis, [Twitter](#). The photos are mine, sometimes a bit blurry.

Crucial parts and information **are in red**. And sometimes **IN CAPITALS**!

CHAPTER ONE

"TRIPLE T" - TIPS, TRICKS AND TOOLS

Here are a few pieces of general advice, tricks and gadgets for magnetizing the whole of Dark Uprising's terrain. Try and follow them and it will be much easier. The tools also make the long, monotonous work quick and monotonous 😊 These are the methods I used on most of the elements.

TIPS

TAKE IT SLOW 🐌 Think about the modularity you want, how do you want to place magnets, how many etc. This way you will know what polarity you need. Remember, not being in a hurry will take you a loooong way.

DO YOUR RESEARCH 🔍 Read this guide. Watch videos, see Owen Patten's Twitter and search the groups for ideas. Check the links in the first paragraph of this guide. Think it through. It's much easier to go through the whole process of magnetizing one element in your head earlier and then just get it done quickly than to stare blankly at the pile of plastic, thinking what to do next. Save yourself the frustration.

MAGNETS INTERFERE WITH EACH OTHER ⚡ Remember, this is one project, not a series of tiny ones. When figuring out the polarity and placing of the magnets, remember to take into account that there might be other magnets nearby. This can result in difficulties when putting magnets in the holes (while other magnets push them out) and even in making magnetizing something impossible, because there is not enough space on the element. So again, plan ahead.

YOU CAN ALWAYS GLUE IT TOGETHER LATER 🛠️ If you want to have it modular, make it as modular as possible. Magnetize everything if you can and want. If later you decide you prefer solid semi-modular pre-build structures, you can always glue the painted, finished pieces together. But you can't unglue them. So again, don't hurry.

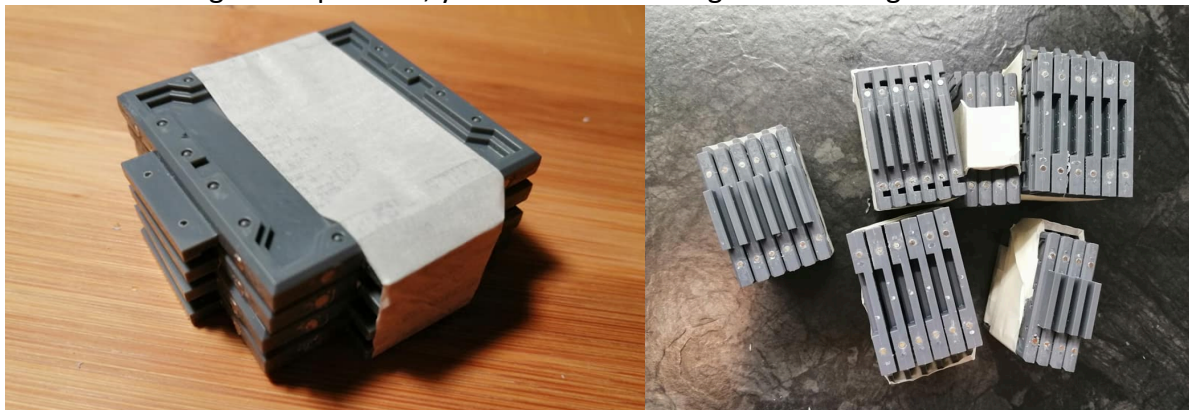
ONE THING AT A TIME 🚧 Avoid cutting all the stuff from the sprues. You will end up with a huge pile of stuff you won't use for another week or two. It's easier to store them on sprues. First magnetize what you can on the sprue (we'll get to it later). Then cut out the walls and columns out, clean them and glue them. Put them away and move to platforms, do the same. Then move to stairs etc. Finish one type of element, move to another.

LEARN ABOUT MAGNETS 😊 They come in different shapes and sizes. And types, which equal strength. I use N38's, which are close to the weakest, some use stronger and more expensive N52's. As I read online, one "step" of a difference equals 1% stronger magnet. So N42 are 4% stronger than N38. Figure out what you need. I had to pay 4x the price for N52 so I decided that extra 14% are not worth it.

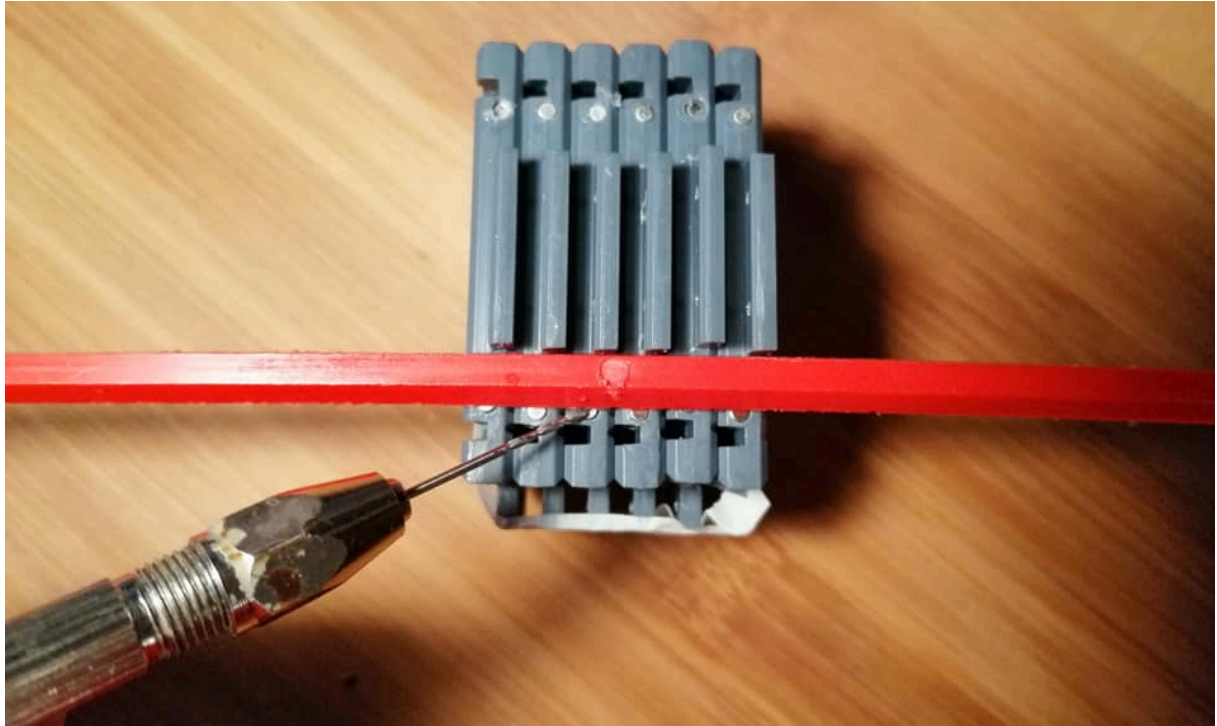
TRICKS

MAKE THE MASTER ELEMENT WHEN MAGNETIZING 🏆 Finish one element to the fullest and then use to check make sure other fit the polarity of the first one. You should not fuck it up this way.

DO IT IN A BUNCH 💰 Most of the elements, especially platforms, can be done in a bunch. Just get some masking tape and tape similar elements together tightly to form a block. Make it as firm and regular as possible, you will be measuring it and drilling into it.



MAKE PILOT HOLES 🛠️ Use a small drill to make pilot holes, then deepen them using a drill on an electric screw driver (more on that later) and make sure you have holes deep enough. Careful, once you “check” it with a magnet, it might be hard to dig it out later, even with no glue. This example is using the Warhammer measuring stick to get equal distances.



MARKING MALE-FEMALE CONNECTIONS 🧑🏫 This enigmatic advice is simple. You will need magnets in right places so they overlap and hold (I go for at least 2/3 overlapping) . This is usually not as easy as it seems. When magnetizing male-female connections (like on platforms) you can drill one “male” piece with small drill and make pilot holes in all the “female” elements. Then you can drill one of the marked “female” elements and use it to mark all the male ones. This method will sometimes force you to “jump” to the next chapter to use some element from the previous one to mark one from the next. It will be **highlighted**.



PILOT, DRILL, GLUE, HAMMER 🛠️ This is the order of doing things. Put elements together, mark all the pilot holes, drill all of them and glue the magnets (not all at the same time, glue can dry pretty quickly). The hammering part is referring to using something flat and hard to push (or beat, if needed) the magnet inside the hole.

MAKE SURE THE MAGNETS ARE FLAT AND LEVELLED! 🌐 If they are not, you won’t get a nice, firm connection because of bumps.

SLIDE, DON'T PULL 🦶 When gluing magnets into the holes, put it half inside, wait a moment or two for the glue to take hold then slide it to the side. This way you should not pull it out of the hole.

USE STACKS OF MAGNETS 🧲 You will be magnetizing a lot of elements on sprues or en massé and on 99% of the cases you will be doing the same polarity repeatedly. It's best if you just grab a long stack of magnets, hold it like a pen and get moving.

MARK THE POLARITY 🔴 This is essential and connected to the previous one. When you make a stack, mark one end, the one that you will NOT be using. I use either a piece of tape or a bigger magnet. This way you will not make a mistake and when you need to switch, just put the marker magnet on the other side of the stack.



TOOLS

LOW SPEED SCREWDRIVER 🧰 This thing sped up the process thousandfold. Don't even try it without it. I have the cheapest one there was (10\$) in my local construction store. (HomeDepot, Castorama, Obi etc.)



DRILLS ON BITS 🔩 Get some drills in the size you need that are compatible with the screwdriver you have. The hexagonal ones, probably. Get some bigger regular drills also, they will be used at least once to "widen" the hole's entrance.



HOBBY DRILL OR A PIN 📌 Use the smallest drill you have or even a pin to make pilot holes. Drills can be used to dig out fucked up magnets, though you will make some damage to the element. But it's Necromunda, who cares?

HOBBY STUFF 🛠 The usual. Knives, glue, pliers.

CHAPTER TWO

WALLS AND COLUMNS

This will be a fairly quick chapter, it's pretty straightforward. Just do Owen Patten's tricks. The walls already have marked sockets for the magnets. Owen recommends 6x2 mm, I used **6x3 mm** to make sure they hold through the plastic.

Remember, these magnets **DO NOT** hold walls together. They are used to put the pipes and other elements on walls.

Grab **ALL THE SPRUES** with walls and columns, get stacks of magnets and put glue in each of the marked places. You can do it in groups of 5-10 so the glue will not dry. The photo shows the effect, but you can easily do it on sprues. If you're gluing add-ons as well, remember they have reverse polarity to stick to walls.



CHAPTER THREE

PLATFORM CONNECTIONS

There are two general types of connections between platforms. Both use **male-female** connections system, so polarity should not be an issue. Remember that if you put magnets on one element one way, be it on the edge or on the connector, use the reverse polarity on the other. It's really simple.

For each connection (whatever type) of two elements a total of 8 magnets are used, 4 per element. Four of them (**2x2 mm**) go into the edges of the platforms and four go into the male-female connectors (two in male, two in female). Using thicker magnets when you can adds to the strength of the connection.

The “male” element use **2x1 mm** and the element is not drilled all the way to avoid magnet being visible from the top. You have to be **careful drilling** with the power tool. Nothing happens if you drill through though, it's just cosmetic. If you drill through, you can fit **2x2 mm** magnet.

The “female” element use **2x2 mm** and it's drilled all the way through, it's not visible.

The **long platforms** and **column platforms** have both type of connections.

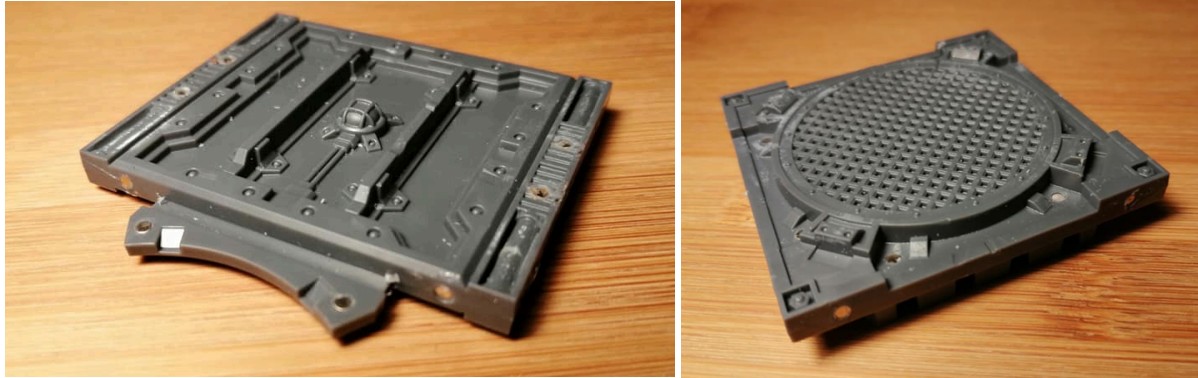
CURVED CONNECTIONS

The first type of connection is the top of the columns and adjacent platforms. They use the **curved connection** slot.



Mark the distance between a magnet on the edge and the dent/protruding piece of the connector. Then make pilot holes and drill.

For male-female connectors you need to pick a place on the elements that it will be a bit away from the edge so it won't get damaged. Best not to place it on the guiding "pins" inside the connection. Use the trick from previous chapter to mark the correct places of the magnets.



The **long platform** have a central piece that has to be magnetized this way.

RECTANGULAR CONNECTIONS

These are the one with rectangular male-female connectors. Most of them have two connectors. You will see that this type of platform has only male connectors, as the female connectors are on the column platforms and the long platform.



Female connectors (on long and column platforms) can be magnetized with **2x2 mm** magnets. I recommend starting with the male connector. It has stripes on top. Just drill pilot holes in the middle of third stripe from each side, drill through and start marking the female connectors using this piece, like I described in the tricks chapter.

The main rule is the same as in the curved connection. Use a rod on the pack of platforms, drill pilot holes, drill, glue and level the magnets. **You can mark the STAIRS CONNECTIONS now** (more info in the next chapter).

ONE IMPORTANT THING!

One piece is different, it's the platform dedicated to stairs. It has three connectors and stripes on the top. I will be calling it a **stairs platform**. Do these first!!!



You **NEED** to start magnetizing **edges** of square connectors with stairs platform. If you don't they might not be compatible.

On the bottom of the stairs platform there are additional slots that stair pillars go into. You need to place your magnets in such a way to **avoid damaging or covering those slots**. Then you can place the rest of the magnets on other platforms in corresponding places.

CHAPTER FOUR

PLATFORM EDGES AND RAILINGS

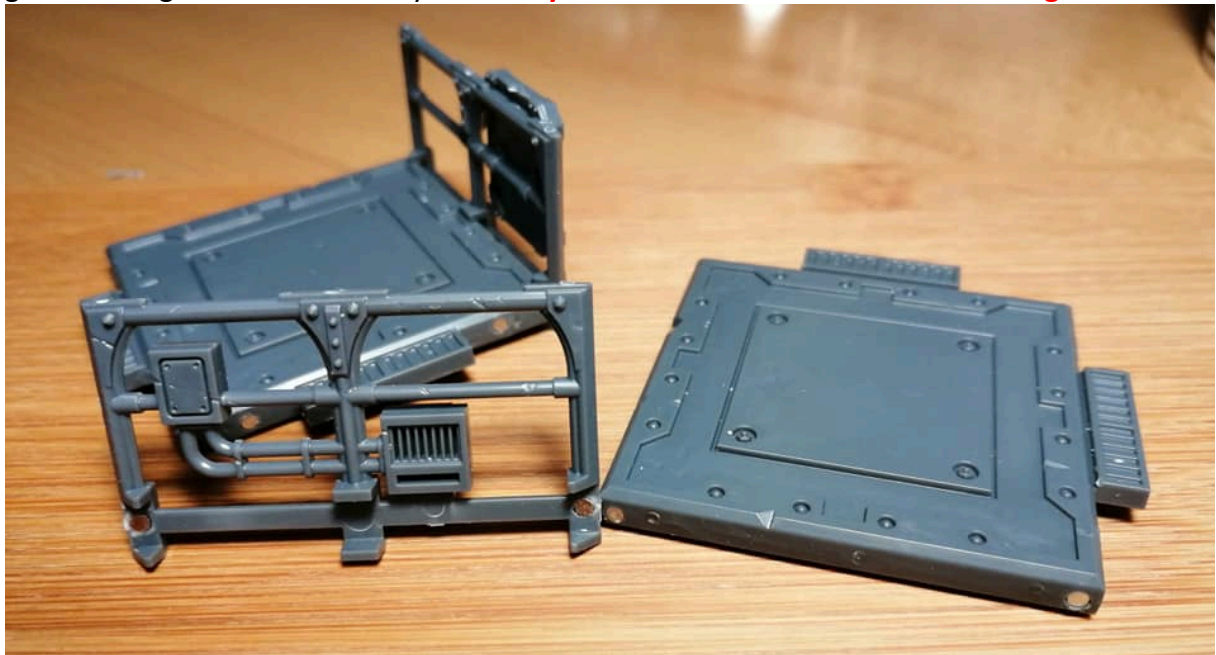
Empty edges of the platforms are magnetized for two reasons. One is to help them connect better to themselves and provide more sturdy platforms and the other is to better connect railings. Thanks to the platforms having a top side, all the edges of the platform can be oriented only in one way. So if you place them with the edge facing you, each of them will have a right and a left side.



The key is to face the magnets one way on the right and the other way on the left, the polarity has to be reversed. This way when you put them together, they will connect. Use **2x2 mm** magnets in the edges using the **same distance** between them as between the **two edges of the railing**.

This might be **impossible on the stairs platform** because of some magnets placement, see the Stairs chapter, pillars section.

The same goes with the railings. Left side and right side have to have different polarity, of course connecting to the edges. Drill very carefully and use **2x1 mm** magnets inside the railings. It's best to do it **by hand** and place a hard surface on the outer rim of element and press it together, because drill tend to tear the thin plastic apart. You sometimes can still glue the magnet in but it's tricky. **This is by far the most difficult element to magnetize.**



CHAPTER FIVE

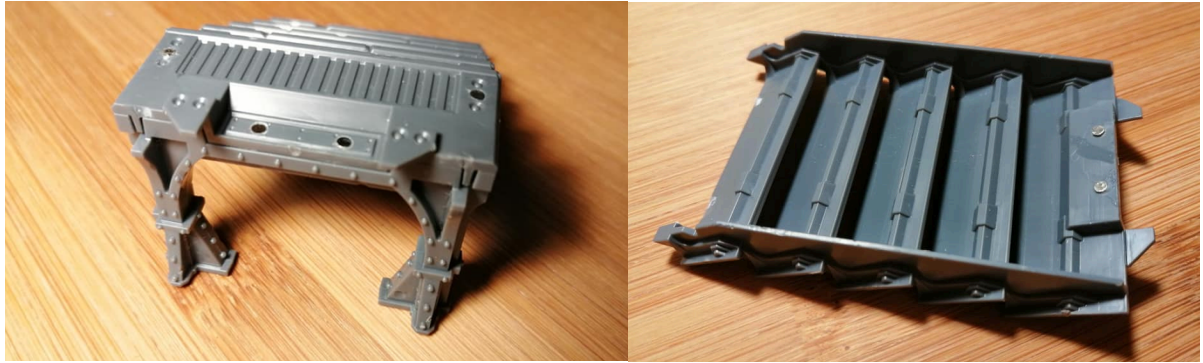
STAIRS

Stair are for me the most fun element of the Zone Mortalis set. I went crazy and magnetized it to the fullest. There are a few elements here to magnetize. Two types of pillars, connector and railings, if you want.

CONNECTORS

On the top of the stairs there is a female rectangular connector. You can either use one of the male ones to mark the magnet placing or just try to place it correctly.

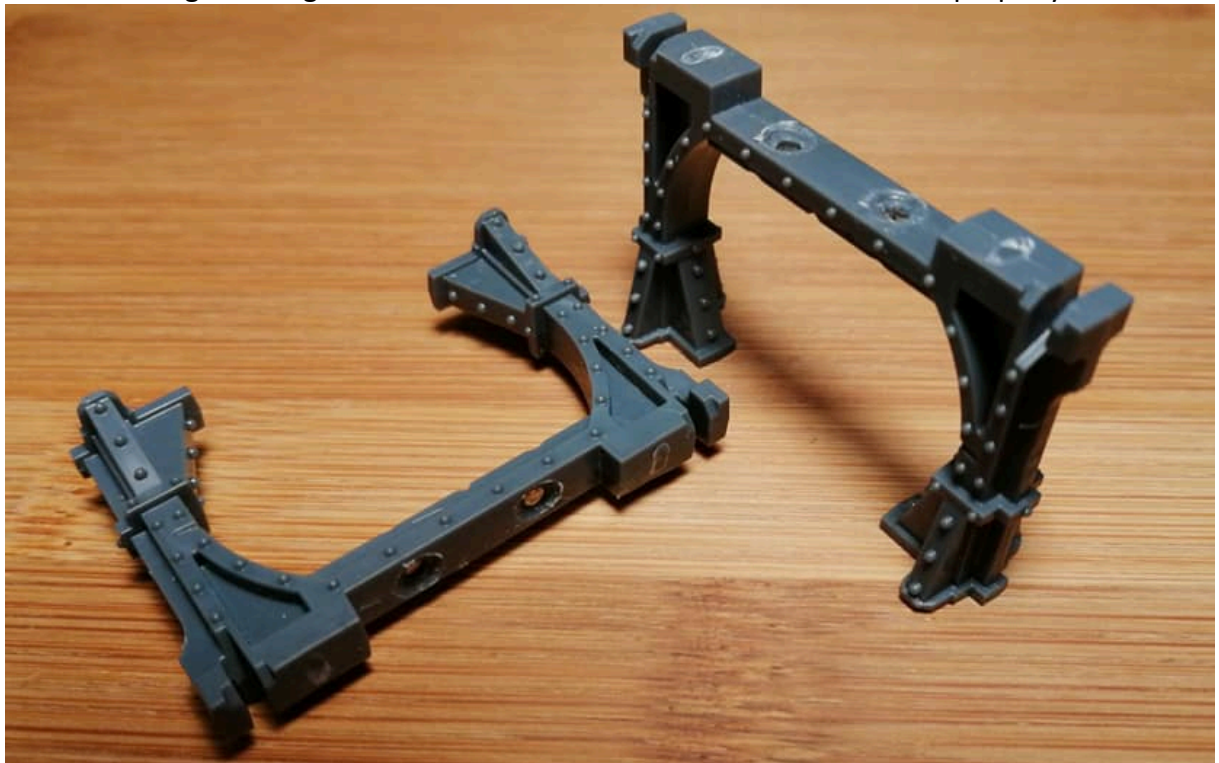
When you drill holes for magnets, **this is the time to mark correct pillar!** (see the next point). What's important it's to use **2x2 mm** magnets and push them so they are flat on top, levelled with the surface of the connector. This will make them stick out a bit on the bottom, as the magnet is thicker than the element. **This is ok**. Remember to use the right polarity. Check it with the master element.



STAIR PILLARS

There are two types of pillars.

One type support the part of the stairs with the female rectangular connector and it should be placed directly under it. You will see that the magnets protruding from the bottom of the stairs connector will be in the way. You need to place the magnets in the pillars **deeper**. To do it just mark the places using the method above. Then use the bigger drill to drill around the hole to make a dent around it. Then place the **2x1 mm** magnet deeper inside, level with the bottom of the dent and not with the surface. This way the protruding connector magnet will go into the dent and the whole connection will fit properly.

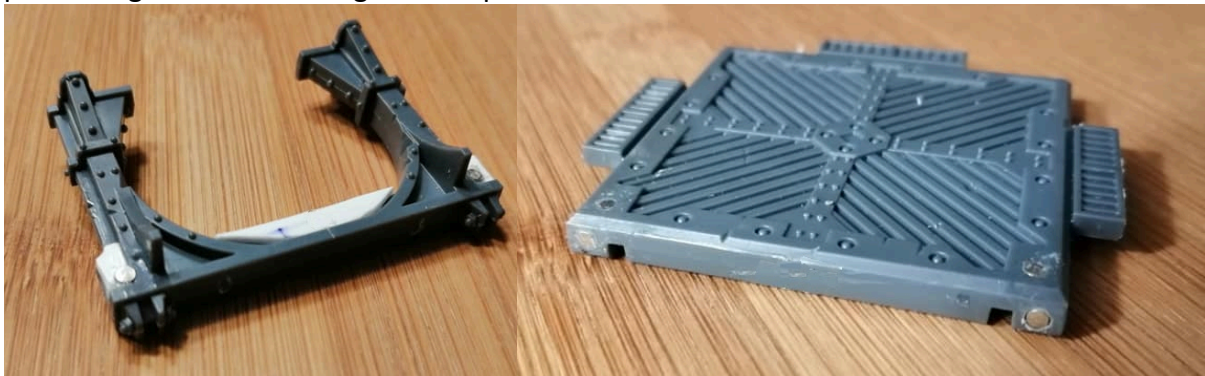


Second type is placed under the bottom part of the stairs and will grab “into” the stairs platform edge. Yup, **the platform with the dents** I spoke of in the platforms chapter. When you dry-fit the pillar, bottom of the stairs and platform’s edge, you will notice that the stairs always touch the platform in the same spots. **This is where we’re magnetizing**. You need two **2x2 mm** magnets inside the platform and two **2x1 mm** magnets in the very end of the stairs, at the bottom. Drill carefully. Those are the magnets interfering with railings.



You can drill the same places in other platforms if you plan to fit the stairs on them. Do the same with the top of the stairs, if you want to be able to connect stairs without platform in between. **Remember**, there will sometimes be a **pillar underneath that part of the stairs**, so **drill a shallow hole** and use the smallest magnet possible (**2x1 mm**). Try not to use too much glue. I flooded it a bit and now my stair pillars connects to stairs top in a bit wobbly way and **lose stability** and “perfect fit”. I had to shave some plastic from the pillars to regain it ☹️

You can also magnetize the pillar itself, **it’s gonna be tricky**. This is the only moment so far that you have to modify an element using plasticard. Locate the arch on the pillar (the one with **flat top**, with no “female” connector) element. There are two sides, one has two protruding elements that “grab” the platform.



You need to cut two bits of **plasticard** on both outer corners of the pillar arch to make it thicker on the platform side. Then drill **two holes** in them and glue in two **2x2 mm** magnets with **different polarities**. Do not push it in all the way. **PS**. Ignore the central white plasticard, it’s reinforcement after a previous mistake.

Why two and why different? To be able both to connect the pillar to the platform and two of the platforms to themselves, the same way you’re magnetizing empty edges of other platforms. A single magnet would interfere with polarity.

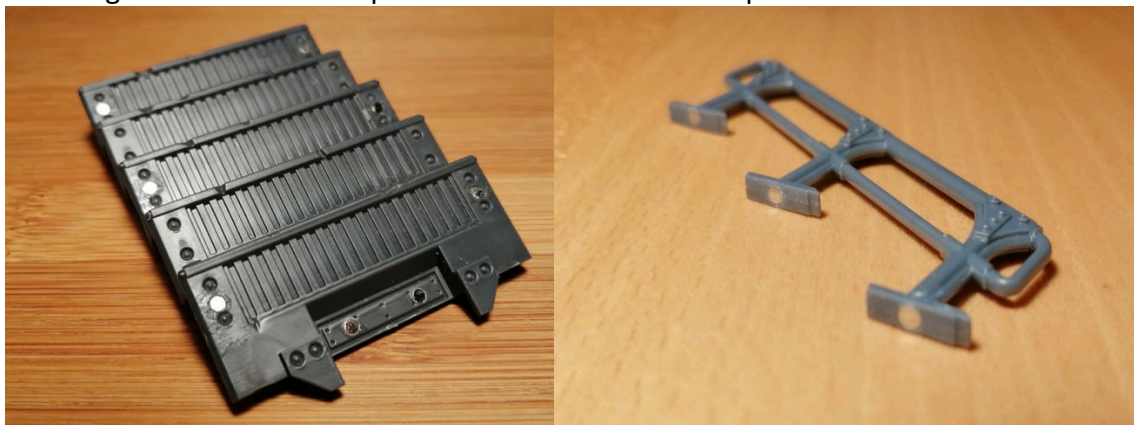
Then place two **2x2 mm** magnets with **different polarities** accordingly on the edges of the empty side of the **stair platform**. It will connect to the pillar when attaching stairs. Remember to **polarize the magnets the same way as you polarize the empty edges**. This way that platform will connect both to the pillar, platform railings and other empty edges as well.

RAILINGS

Stair railings can be magnetized to avoid breaking them or to keep it flexible. Beware, because it weakens the plastic quite a lot.

First you need to drill the railings. Place the pilot hole on the very center of each of three “legs” of the railing. If you misplace it and do not keep it centered, you will **probably break** the element. I really recommend **not using** the electric drill for this and instead use your hands, it gives you more control. Place the **2x1 mm** inside and keep it levelled, as usual. Just **be gentle** pushing the magnets in.

Placing the railings magnets in the stairs is easy. You need to drill the holes right between two screws on both (or either) sides on the top, bottom and middle stairs. Then place **2x2 mm** magnets inside and keep it levelled and flat at the top. That’s it.



CHAPTER SIX

PIPES

Magnetizing Promethium Pipes is tied to magnetizing the wall connectors from the wall sprues. The ends have to be magnetized so they stick to walls.

PIPE CONNECTORS AND WALL ADD-ONS

To be continued.