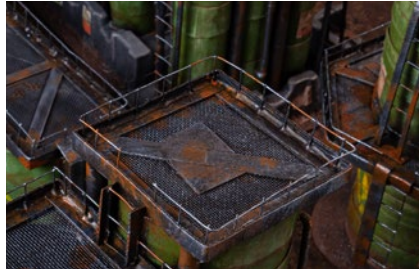# Tutorial – Industrial Complex

INTRODUCTION

In this document I will describe how I did my industrial complex terrain set.

Feel free to either build exact copies or just draw inspiration from it, grabbing certain aspects of the workflow.

Let´s roll up your sleeves and lets build some stuff!

MATERIAL

First things first: I started to collect „hobby-gold", the stuff others call trash.

For this terrain I used:

» cylindrical objects like tin-cans, acryl- or silicone cartridges, pringle-cans and other sorts of tubes. It is recommended that they are capped on one side.

» thick cardboard; I used cardboard from catfood containers, not too thick but very strong

» thin cardboard from cereal packages

» rabbit wire or vole grid with a rectangular mesh

» fly screen > metal or plastic both work

» plastic drinking straws (a lot); plastic pipes

» MDF for bases

» paper and printer for stencils and posters

TOOLS

» hot glue gun with lots of ammunition

» PVA glue

» sharp blade / cutter

» ruler / scissors / pencil

» sidecutter

» jigsaw / fretsaw

» sandpaper (~ grit 60 & 180)

» masking tape / blutack

Building

PREPARATION & LAYOUT

Considering my tube and cylinder collection, I planned out, how some of them would later function as a compound.

I mostly paired objects of the same size and made larger pieces, as I wanted them to provide cover and be LOS-blocking even for a tank. But it certainly depends on the purpose you have in mind and on the material available. You could also make a smaller single piece if that is what you want or need.

I also took into consideration that I wanted a lot of terrain pieces that are big enough to hold a platform that could provide enough space for a full squad of infantry.

I arranged all the compounds and single pieces on the MDF beforehand, bearing in mind that enough space is left for the bases around them. This way I made sure to not waste any more of the MDF than needed for this project.

BASES

When I was ready to go, I glued the cylinders together (1,2), placed them on the MDF and roughly traced their footprint (3). I left space for ladders or pipes to descend into the ground.

I sew out all the bases (4), chamfered the edges with some sanding paper (5,6,7) and hot glued the silos on their bases with the closed side up (8,9).
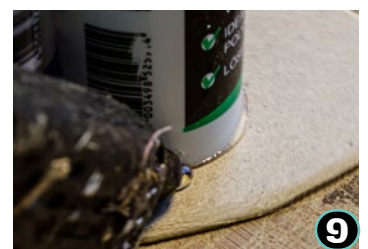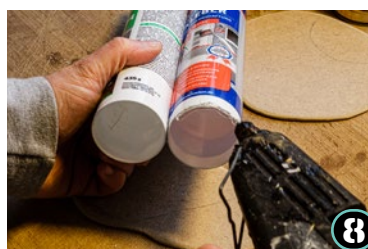
SILOS

I cut stripes of 1cm from the thick cardboard (1,2,3) and made a transition between the cylinders (4,5).

To give the silos some structure, I cut stripes of 2cm width (6,7,8) and wrapped them around the tubes (9,10) - one on the top, one on the bottom and (depending on size) one or two in between.

Voilá! With some basic silos on bases, I reached my first milestone.

TIP

Cut out many stripes to speed up the workflow as you will need many!

In the end, it is way more efficient and overall faster, to prepare a few dozen of them in advance and store them in a can for easy access.
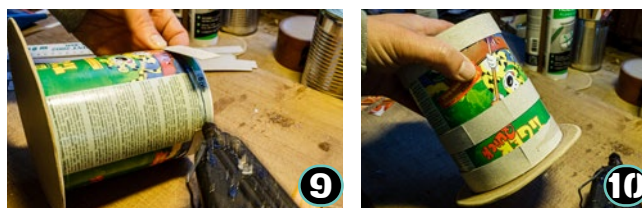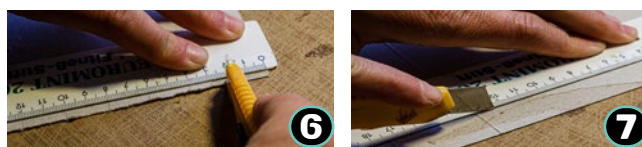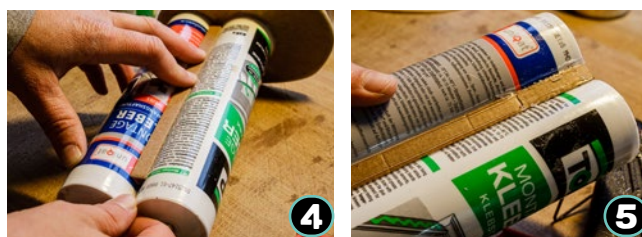
PIPES

I grabbed some drinking straws, extended them (1) and bent them 90° (2). I first cut them behind the bend (3), specified their height (4) and shortened them.

I glued the piping on wherever I wanted to create visual interest (5), keeping in mind to leave space for ladders later on.

I slid two straws into each other by cutting one open, compressing it and pushing it into the other one (6,7,8).

In order to hide the transition between two silos, I glued the bigger pipes in the corners (9).

TIP

I suggest to not have the glue too hot as it could melt the straws. Just unplug the gluegun, wait a few minutes and work with the remaining heat.
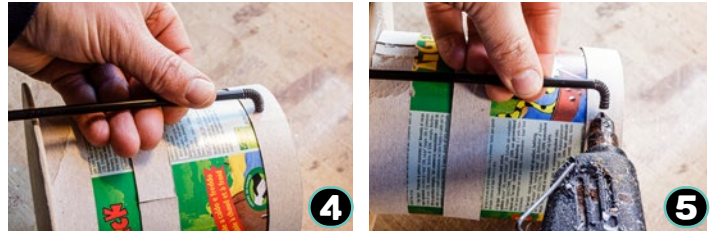
PLATFORMS

As I start, I defined a width for all the metalworks. I chose 1cm.

I cut a good amount of stripes of 1cm from the thicker cardboard.

I worked out a good size for each platform, depending on the silos below and glued the beams to the cylinder (1,2,3).

I covered the joints of cylinders with cardboard stripes too (11).

I cut out a matching piece from the fly screen using the scissors and placed it on top of the platform base structure (4).

I spread glue on the mesh and pressed another cardboard on the structure to fasten the mesh, before I continued the process all around. (5,6,7).

To hide the multiple layers of cardboard, I glued stripes to the outline of the platform (8).

In the next step I cut two stripes to fit inside the mesh area diagonally and glued them on (9).

OVERSIZED PLATFORMS

I built a structure of beams to lay the platform onto (11,12,13,14). Where stairs were later supposed to be, I left gaps.
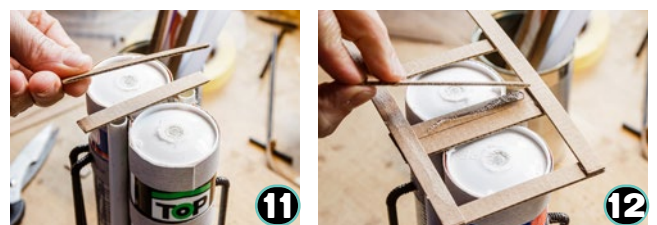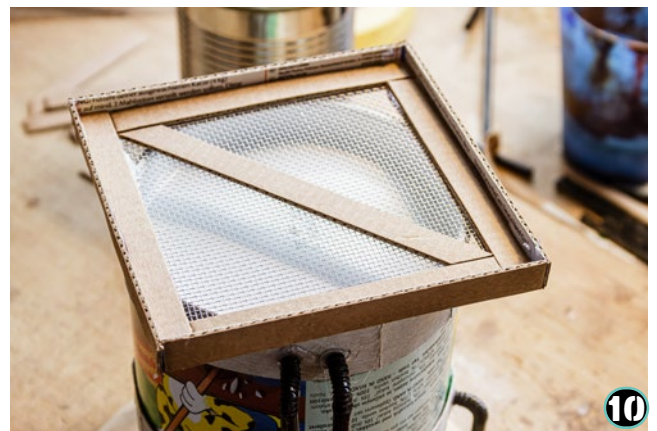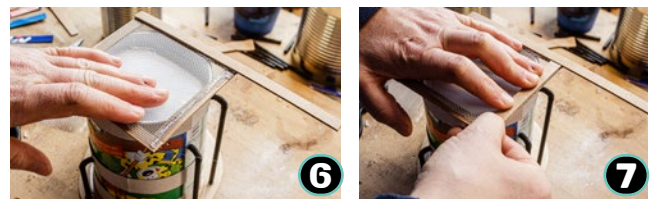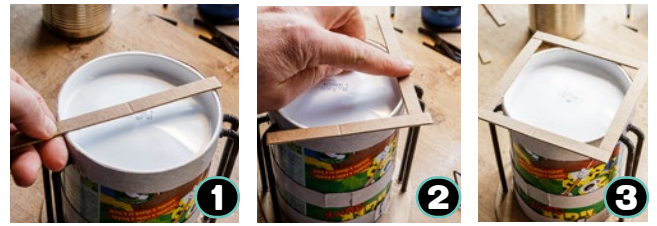
STAIRS

For the stairs I made use of the rabbit wire.

Utilizing the sidecutter, I cut the stairs from the wireroll. I left two wirelines in the middle and cut the ending sides open (1,2).

I trimmed the stairs to the needed lenght and bent the open sidebeams over (max. 90°) (3,4).

Then I glued the stair to the silo (5). As this bound alone would not have been strong enough, I additionally glued a stripe of the thick cardboard to the sides of the stair and to the silo (6,7).
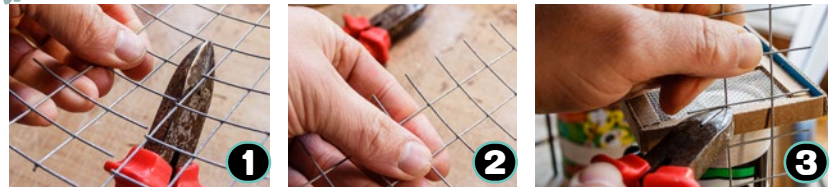
I added a useful crossing to the platform (8).

I designed different styles of stairs (9,10).

RAILING

Again I used the sidecutter to clip one line off the mesh (11).

I stuck the open ends into the cardboard of the platform and fixed it with hotglue (12,13,14).
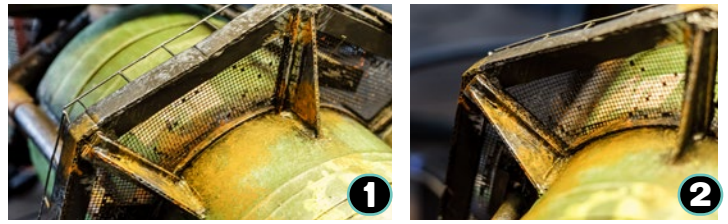
LEVELS

On one really large cylinder I chose to have a separate level.

I created support beams with the thicker cardboard and glued them to the silo (1,2).

From there on I used the platform procedure to create the walkways (3).

I had to keep in mind how fighters will access the next level.
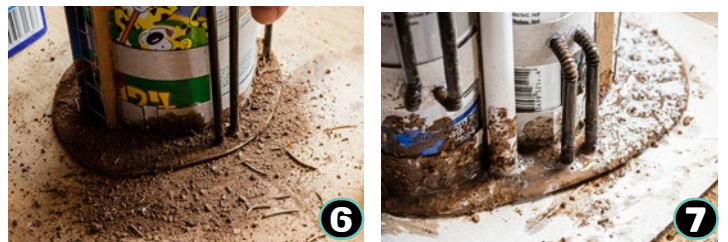
BASING

I put some PVA glue on the base (4), grabbed dirt from the garden and covered the base (6).

In order to ensure a nice transition in the end, I also covered the ground level of the silos with dirt (5).

The whole base was sealed with watered-down PVA glue (~ 70% water / 30% PVA) and gave it some time to dry (7).

My final terrain pieces looked like this before painting:

Painting

At this point I had built some awesome terrain. It was then time to paint it!

For terrain I only use craft paints.
You can get these in a dollar store (e.g. Thomas Phillips in Germany) or in every hardware store.

The process is easy and fast.

COLORS

I want terrain to look good and add to the overall atmosphere, but at the same time I do not want it to draw too much of the players' attention. The carefully painted miniatures should always remain the stars. Therefore I chose subtle colors that provide character while maintaining realism.

The following colors have been used in this tutorial:

» white

» black

» green

» yellow

» orange

» silver

» brown

» matte medium

For painting terrain I only use craft brushes:
a big and a normal sized bristle brush for stippeling, a random old hair brush for weathering and a tiny cut of bristle brush for the stencils.

The big brush was cut short and rounded to have more strength and make it easier to fade colors.

If you are a spray can lover ... have a spray can at hand.

PRIMING

I don´t use spraycans for priming. I mixed a primer with brown acrylic, water, PVA glue, a little matte medium and a drop of dish soap. The resulting mix I generously scattered over the terrain pieces and the base (1,2,3).

After one hour of drying, I added another layer of brown primer to surfaces where the coverage was poor (4).

There were spaces I could´t reach, so I had to get out a black primer and gave them a spray (5).

In the end all metal parts got a coat of black primer. I almost forgot to prime the bottom of the platforms (6).
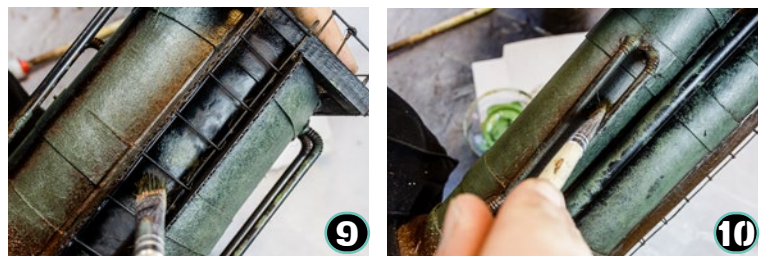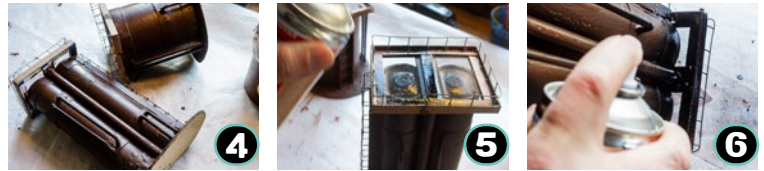
BASECOLORS

It was finally time for the main color. I chose a dimmed green and darkened the color down with some black. I mixed it using a piece of cardboard as a palette (7).

Then I began to stipple the color onto the silos, using not too much color on the brush, while "forcing" it on the surface with a woodpecker motion (8).

I switched to the smaller brush to reach the corners or in between pipes and stairs (9,10).

When it came to painting obstacles like pipes, stairs or the ground I didn´t bother to paint near or beneath them. This led to a transition to the primecolor (11).

The main color was up next. I stippled it over the first layer staying further away from any borders than the underlying darker green (12,13).

Again I switched to the smaller brush in areas where needed. For example I occasionally used it to enhance the transitions.
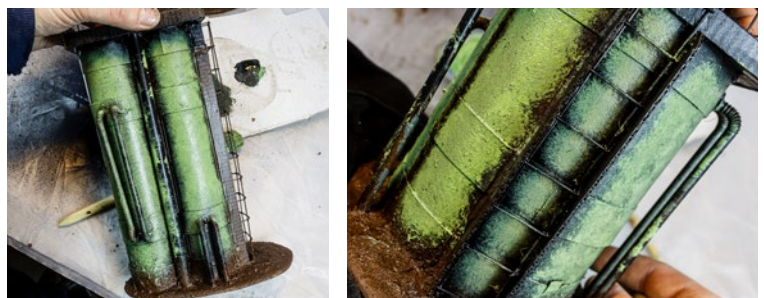
HIGHLIGHTS

Building upon the prime and basecolors, I made a brighter mix of the main color adding some white. I again mixed the color directly on a piece of cardboard (1). I did a mix of stippeling and drybrushing (2,3,4,5). I paid special attention to sharper edges and certain spots that would be exposed to the sun in reality.

There also were areas without color as I couldn´t get there with the big brush. So I used the normal brush instead. I was careful not to over-do these areas. They are hidden and don´t need too many highlights.

The final result gave me a nice texture with rough transitions.

BLACK AGAIN

As many of the metal parts got hit with green color in the process, I again basecoated those black (6,7).
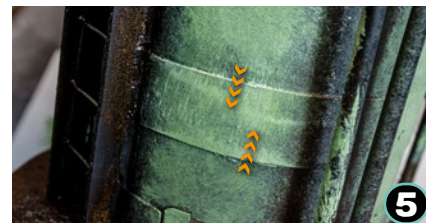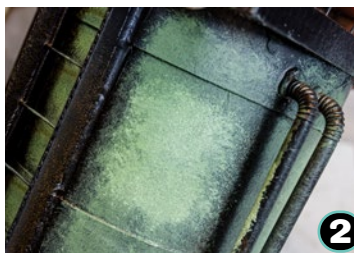
METAL

With the normal bristle brush I stippled all the metal beams on the platforms and stairs (1,3,4).

For pipes, stairs, mesh and railings I used a very rough drybrush. For the bends of the straws I used top down strokes (2).

STENCILS

I printed the Aquila and cut it out with the cutter.

I looked for spots to place the eagle, temporarily fixed the stencil with some blutack/masking tape (5) and started to stipple the Aquila with pure white color (6). The color should be very thick, so I didn´t water it down. I made sure to have a good amount of it on the brush. I always worked from above the stencil, forcing it to align, where it resisted to remain flat on the silo's curved surface.

I thought of a numbering system for all the silos (8) and stamped on numbers in different sizes with yellow and white (7).

» Find a page with stencils in the attachments.

DECALS & POSTERS

I printed and cut out posters, made them moist using a sponge and glued them on with a PVA / water mix (9). I only placed them in heights, where fighters would have easy access (10).

I tore some apart (12), flipped corners (11) and also placed some wrinkled on the ground (13).

Find nice Posters here:
https://whc-cdn.games-workshop.com/wp-content/uploads/2018/08/PeachysPDF.pdf

WEATHERING

Weathering is really important. Apart from making the terrain look more realistic it brings together all the different parts (color, stencils, posters, …).

I grabbed the can of brown primer, filled some into a cup and watered it down about 50%. The consistency should be fluid while the appearance should be slightly transparent like a wash (1).

I grabbed a brush and drew a line beneath and/or above the thin cardboard stripes (2,4). Now I swiftly put away the brush and started pushing the wet wash upwards/downwards with my finger (3). The wash was pushed into the recesses and further onto the silo. I kept repeating this procedure for all the silo's recesses.

TIP

As acrylics dry fast, only draw one line and push it away, then do the next one.

With wiping the wash I had good control where the colors would go.

Sometimes posters needed an extra coat to dimm the white printer paper.

If parts of the silo remained too "clean" I just stippled some of the wash there and smeared it wherever I wanted.

To get rid of paint in between, I dried my fingers with a paper towel.
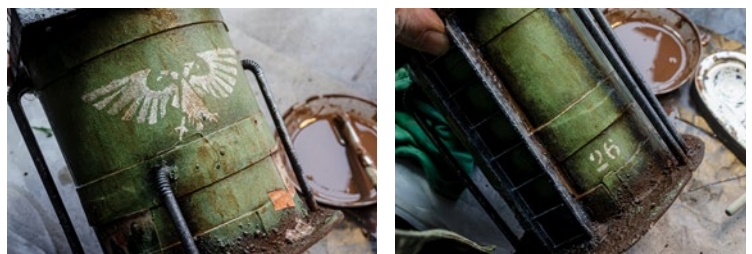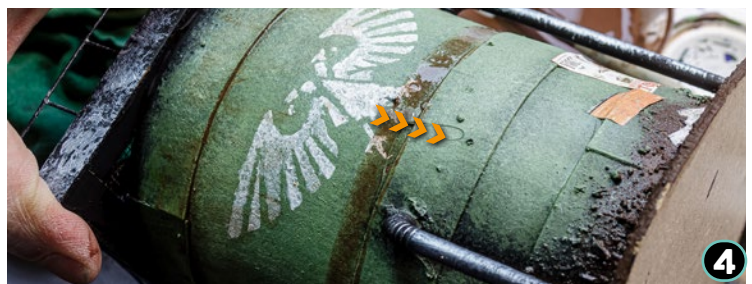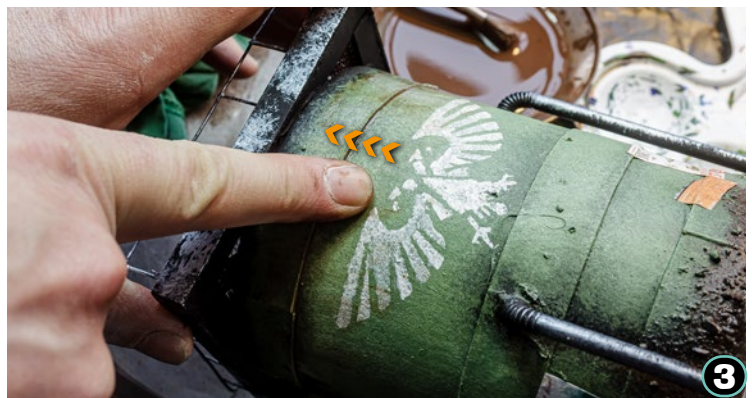
RUST

This process requires some back and forth work.

I used the wash from the weathering step and a bright orange color (1). The wash was spread on the metals (2,3,6). Into the wet wash I stippeld orange paint with the normal bristle brush (4,7).

On the pipes I again used my fingers to wipe the wash-color-mix away as I wanted some metal to still shine through (5).

Other parts were also in need of some rust: Links where pipes meet the silo, spots where pipes go into the ground, … I thought about how the water would run and located spots predestined for rust to appear.

FINISHING

I repainted the bases with brown, where they got hit with other colors and gave them a subtle drybrush with a brighter brown (8,9).

CONCLUSION

If you made it that far: CONGRATULATIONS! You should have a nice terrain-set looking similar to mine.

Enjoy using it in your tabletop battles.

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Battlescribe UI Mod is a tool, which generates an ergonomic view of Battlescribe HTML-files.

Convert your HTML export, download the pimped list and open it on your mobile device.

Currently available for Warhammer 40000 and Warcry.
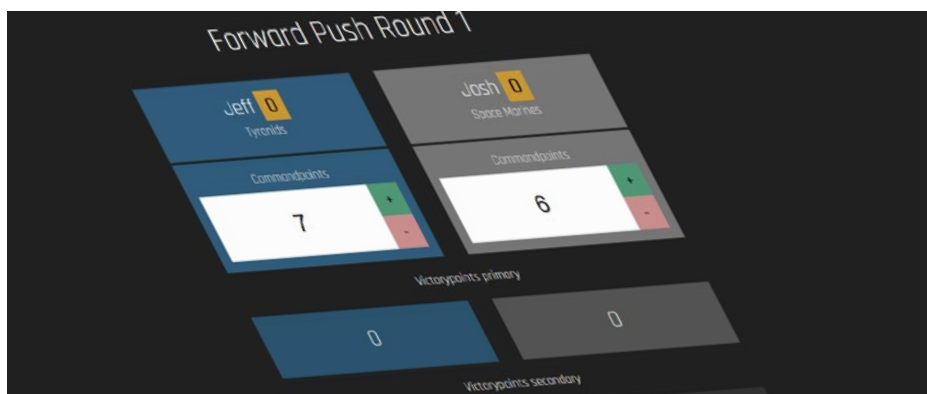
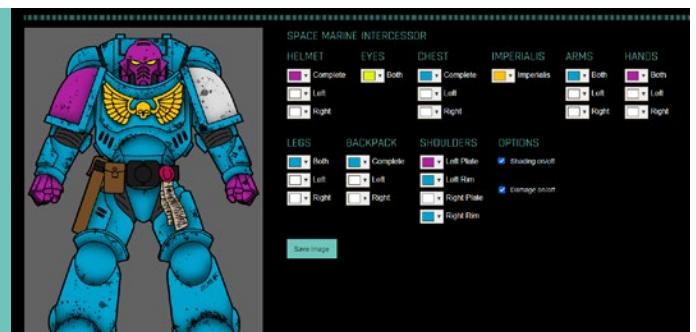## SCORECHART

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0 1 2 3 4 5 6 7 8 9

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