

# MEGA-CONSTRUCTIONS

## *Logistics and building techniques*

*By Manticore*

### **Why choose this type of construction and not simpler ones?**

A very good question. I hope I can answer it at the end of this article.

A priori this type of construction creates many problems. Starting with the obvious, the number of parts invested grows exponentially. It is never big enough and you can always add more and more items. There are no limits except the imagination, which by now is pretty battered.

Apart from this, the logistics gets very complicated. The place where you build must be large. But do not forget that apart from the surface for the construction you need to have the pieces handy, which becomes the dream of any traumatologist who needs to treat you. Boxes of parts start to invade the ground and you end up with back pain. Perhaps the younger ones won't understand it, but give it time ...

Well, suppose you have the money and / or sufficient parts and a large construction area. Obviously, the construction should be modular, unless you're willing to tear a wall down just to take the construction through the window. Every now and then you complete a module and have to start another. Where do you keep the modules you have completed?. The best option is to invade the higher areas of the house, where your wife cannot reach them, so she cannot throw them at your head.

Another complication is that this kind of project requires a lot of constancy. If we do not have time and we lack enthusiasm, it is easy to get tired and give up before the MOC is finished.

If after all you manage to finish all the modules of your mega-construction, it's time to transport them to the event. You can start reading van rental companies advertisements because it is the best option. And I forgot to mention the epic moment of taking each module down the elevator. Since that day my neighbors do not look at me the same way...

That said, I will briefly describe the process that I use in the construction of my mega-constructions.

### **FROM THE BEGINNING**

Given the size of the project I don't use computer design programs. Sometimes I draw an initial sketch, but I have most of the construction in my fevered imagination.

Obviously the amount and variety of parts you have will determine the choice of what you want to build. Unless you have plenty of money, you can not build a gigantic mountain without gray, green or brown parts. In my case I have a

stockpile of gray and white parts, which is why I focus on space cruisers.

But it doesn't mind how many pieces you have, you will have to make monstrous part orders. As I said before, in these constructions there is no limit.

Once you have all the material, you have to spread boxes, suitcases, bags, Tupperware and even egg cups filled with bricks along the largest shipyards in the galaxy. And we're ready to build ...

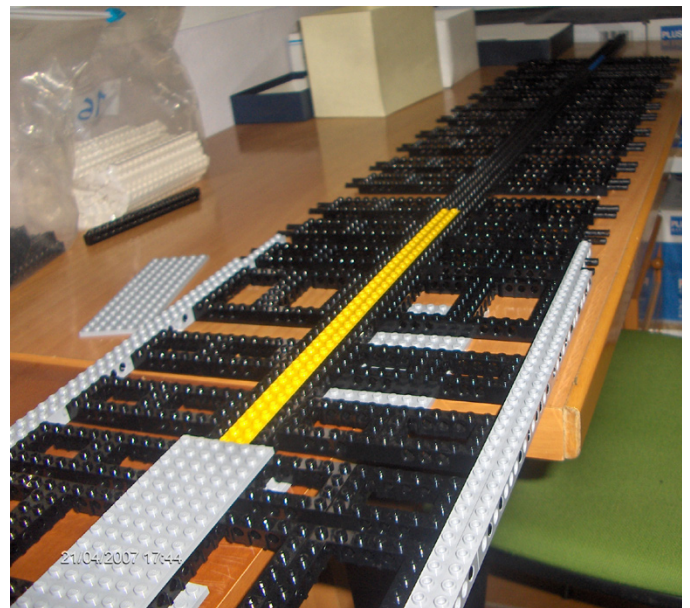
### **CONSTRUCTION TECHNIQUES**

Without trying to make a treatise of a good mega-builder, I will try to provide some of the techniques I use for these mastodons don't to collapsing like a house of cards.

The most important thing is to create an internal structure that is as sturdy as possible and then fill it with whatever you want, including monorail tracks. For all this there is a magic number: 16. I call it the MU megaconstruction unit, and it's equivalent to 16 studs. Why? Very simple, because there are essential parts that I use to tons of, like 1x16 TECHNIC bricks, 8x16 bricks and 2x16 and 6x16 plates

It's not strange that in all my constructions have the standard width of 32 studs. At least the central structure.

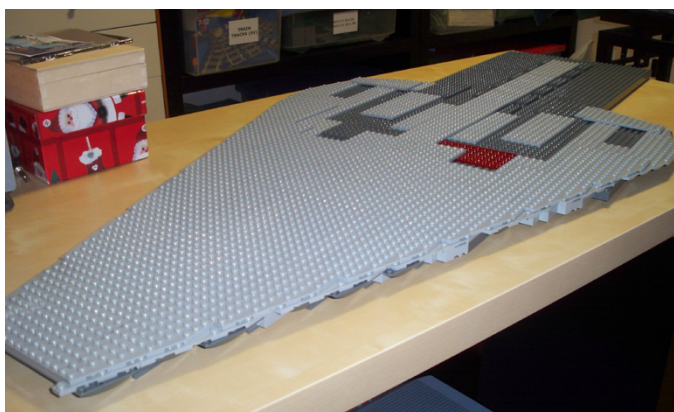
A picture is worth a thousand words:



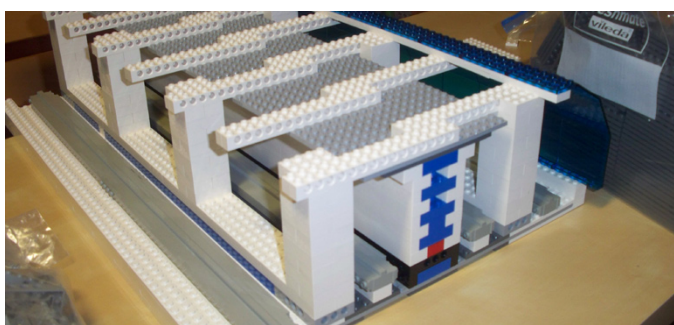
(Two MU wide, 32 studs) This isn't a good example because it wasn't a modular construction and for the transportation I had to do things like this:



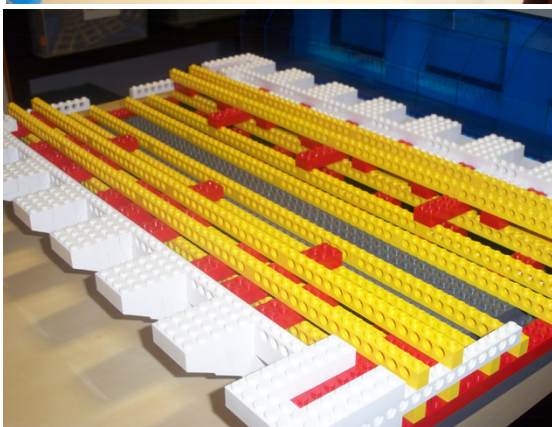
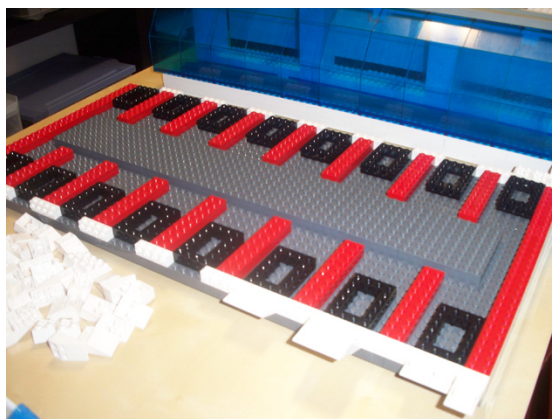
Once you have a structure of considerable size, it is important strengthen it. In my case I usually add three or four levels of plates on either side, and you get very long structures that don't warped:



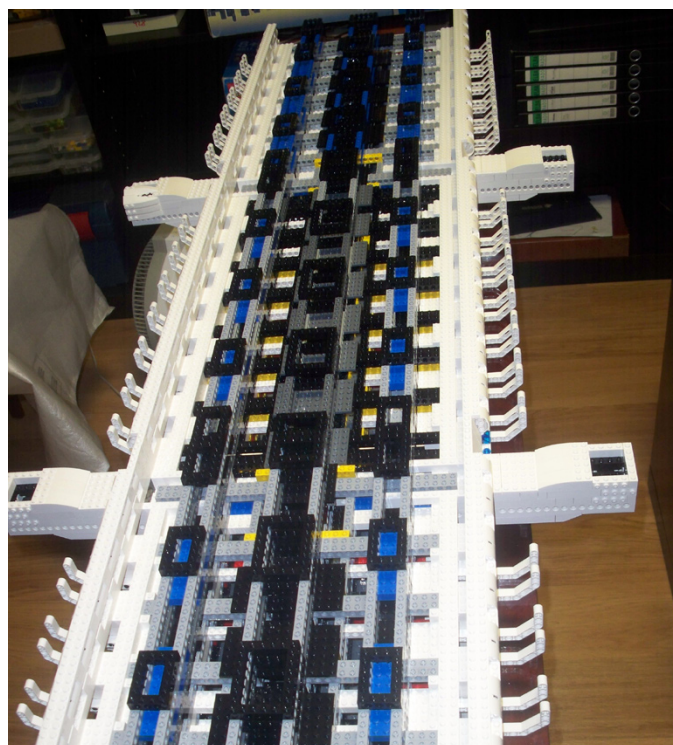
On this structure you build the central beam, as solid as possible and always 6 or 8 studs wide. Then you build two lateral beams of 4 studs wide minimum:



But how can you fill it up to the chosen height?. You are talking about many bricks, if you do not give consistency to the construction, it would not withstand even the move, but filling the entire volume with bricks would turn it into a weapon of mass destruction. The solution is obvious: raise small columns of three or four bricks and then use 1x16 TECHNIC bricks to join them. An example of the process:



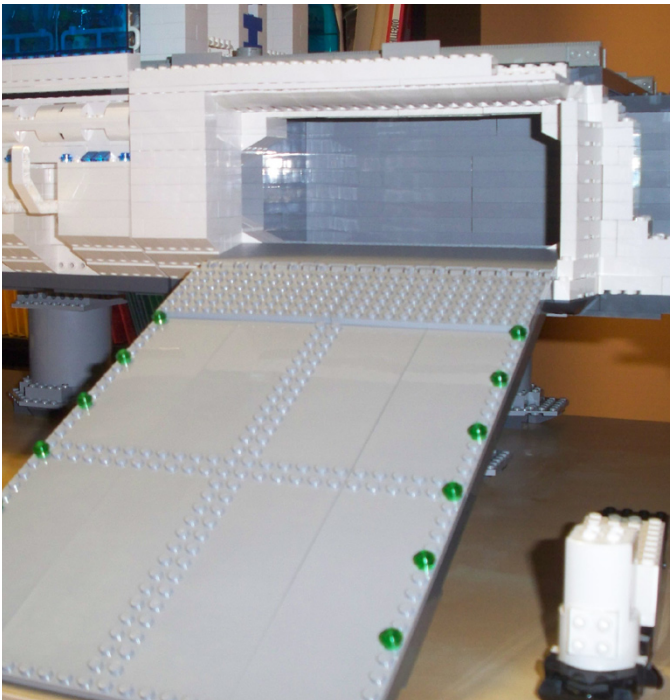
Very important are the (6x8 and 4x6) Technic Bricks with open center. You get to cover an area that is not achieved with 1x16 technic bricks. And prepare to spend 2x4, 2x8 and 2x10 bricks at discretion (blessed LUGBULK).



It is also vital to use 1x16 interlocking bricks to attach the two side beams with the central one:



A problem arises when the side beam must be “avoided”, for example in this case where I wanted to add an entry to a hangar:

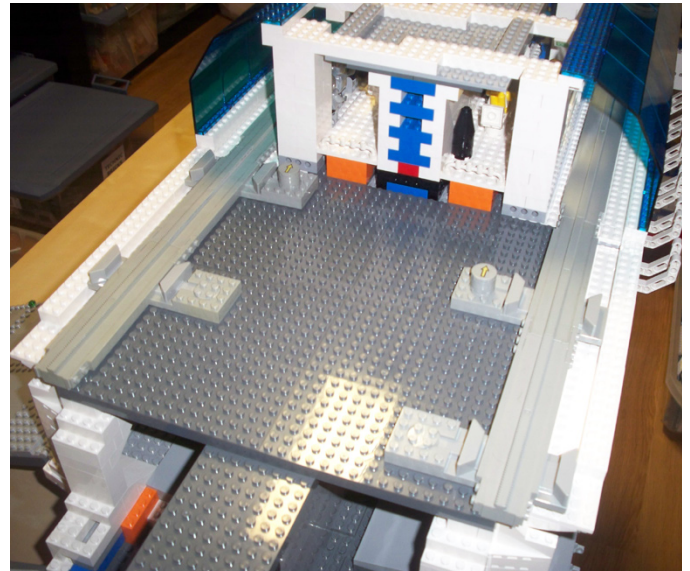


When LEGO® markets 2x48 bricks 2x48 everything will be all right ...

### BASIC COMPONENTS

16 studs. That is the fetish and magic measure that can do anything. In my first two monsters I used a structure with Technic bricks together with pins and then reinforced with numerous plates (three levels at least) ... disassembling everything became a true madness. It ended with my fingers as an Ecce Homo.

For my latest project, the Sulaco III, it was clear that I should change the strategy. It was then that I invested enough money to purchase several hundred 8x16 bricks. With these pieces you can make structures with an enormous construction surface and quite solid:



Another piece I use a lot in all kinds of space constructions are 6x10x11 Panels. In the above picture you can see they leave the perfect hole to insert a monorail circuit. Travelling those distances tired all the minifigs and the Classic Spacemen Union demanded me.

### PARTS DESIGN

When designing any MOC you realize that a particular part would be perfect. The pity is that that particular part usually doesn't exist. To shape the underside of the ship I had to employ hundreds of inverted slopes. Except 6x5x3 slopes, it is very difficult to give a curve to the underside of the ship:



I thought using Sport ramps upside down, but they did not meet the essential premise: an interesting quantity / price rate.

Another piece that would be ideal for columns is the 4x4 brick. They would be great for building Pillars of 4x4 studs. Also the 2x16 brick. Yes, I know that by joining two 1x16 you get the same thing, but when you have to put several hundred of them in, it is nice to think that they could be reduced by half.

You can use other more complex techniques that exist for sure. What I have described in this article is only the simple tricks I

use. I hope you find them useful. But before ending, let's make a final balance.

## CONCLUSIONS

- Complex logistics
- Astronomical orders
- Where do you keep the modules already built?
- Difficult to transport
- Requires much perseverance.
- It's easy to get tired and quit

Then we have to answer the original question ... is it worth it?

**YES!**

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