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HISPA BRICK
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HispaBrick magazine®

012

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HISPA BRICK magazine ®

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Frontcover by Mike Doyle

In this issue of HispaBrick Magazine®

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Editorial

by HispaBrick Magazine®

HispaBrick Magazine started in 2008 as an initiative of a few Spanish AFOLs with the underlying idea of preserving some MOCs and articles published in their community for “posterity”. In addition to the warm welcome among Spanish speaking AFOLs, it soon became apparent that there was a lot of interest from people who did not speak (or read) that language. The second edition of the magazine already contained a number of articles in both Spanish and English, and starting with number 003, HispaBrick Magazine has been published in two editions of identical content, one in Spanish and one in English.

As the interest in the magazine has grown, so has the group of people who are directly involved in the project. What started as a small, “local” magazine has been transformed into a project with international projection around which a community has grown. The fact that the project has matured and the evidence that through it we can not only organise our own community, but also provide a medium that is positively valued in the international AFOL community has moved us to reinforce this project in three complementary ways.

First of all, we are delighted to present our new web page. We hope that through this new format, in addition to continue informing of news regarding HispaBrick Magazine, we will be able provide a better service to our readers. To this end we have incorporated new elements to the existing links for downloading past issues and we hope to also convert it into a repository of articles and tools for AFOLs in a similar way to the magazine.

Secondly, and although our community already existed implicitly, it is our pleasure to officially present ourselves as the HispaBrick Magazine Community. As such we want to continue working on our magazine and expand our participation in the AFOL world, participating in some events. You can read more about the first of these (CIFICOM in Madrid) both on our web page and in this issue of the magazine.

Third and finally, we have considered it convenient to give the magazine the corresponding legal backing. This means that HispaBrick Magazine is now a registered trademark. This will insure the stability and legal security of the magazine, although it will have no impact on the format and availability of it.

We hope these actions will provide the foundation for the consolidation of a project that has been going on for a number of years now. We are excited about these new developments and we trust you will continue to notice this excitement both in the magazine and in the complementary activities that will become more and more visible.

Sincerely, the HispaBrick Magazine community
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Abandoned houses by Mike Doyle

Text and pictures by Mike Doyle

For the past year and a half, I have worked with LEGO® as a medium to create these intricate abandoned home sculptures. This was the first time picking up LEGO (besides playing next to my boys) since I, myself, was a young boy. I think I must have stopped when I was 12 or so back then. After recently visiting Legoland California, I caught the LEGO bug through an exhibit where kids build cars to race down a ramp. An hour and a half later, my wife and sister patently waiting outside came in to find me in a frenzy along with my nephews and boys building some crazy car. Well... that was it for me. As soon as we got back to the hotel room, I popped open my computer to see if adults were making anything as good as my crazy car. Oh boy, little did I know there was a whole universe of adult builders building the most fantastic things I have ever seen! I never dreamed so much could be done!!

It was then I knew there was something I could do here. I am an artist and graphic designer by trade and I felt there was something of that which I could infuse into my pieces ... if only I could build as good as these guys I saw online. Studying all the blogs and images I could find and pouring through fan made tutorials, I was able to replicate some more advanced LEGO® techniques.

Why work with LEGO rather than wood or some other more traditional medium? LEGO has many things going for it. It has a vast array of pieces to choose from. The instant gratification of making something (no glue, paint, tape or other messy material needed) is satisfying. Clicking away, piece after piece is mesmerizing and relaxing. Also there is a magic in seeing something that defies our childhood attempts. We all know how LEGO is “supposed” to look and act by our limited interaction with them. However, by applying some advanced techniques, one can create organic shapes that seems to contradict the modular, mechanical nature of LEGO that we know. Also, it really helps that I can do my art work and play with my kids simultaneously in many cases.

LEGO tends to let itself to buildings. They are angular and repetitive with occasional bursts of decoration and detail. Also, there is something magical about seeing things so large miniaturized down to LEGO scale. For me though, something was missing. While such works I saw on the internet were lovely and incredibly clever in technique (far beyond my ability), they seemed a somehow ordinary. I have always loved abandoned, dilapidated buildings and, after checking online, had found that this topic was not really being covered. Also, the topic of decay takes the rigidity of architecture and LEGO and breaks them down organically, which I saw as both a challenge and potentially visually arresting idea. Like a sculpture in a museum – bronze, marble or otherwise – I found that by limiting the color, I could let the eye focus in on the forms and patterns that decay and dilapidation. I began by choosing black as a color, thinking that would be all I would use. But, soon enough, I began integrating white and two grays for contrast.

So began the Abandoned House project. I currently have completed three such houses, each one nearly doubling in scale. My first one, a burned home in the snow, took around 350 hours and 17k pieces. My second one was a Victorian home with overgrown yard and a tree which collapsed on the house. This took around 450 hours or more and around 50k – 60k pieces. The last piece probably took 600 or so hours and 110k – 130k pieces. This one was 5 1/2’ tall by 6’ wide. I work at nights after I get home from work and a little more on the weekends to make these pieces. It tends to take so much time and pieces because I build big. Scale is one of my main techniques. Building big allows for incredible detail which enhances this state of realism you can see in the pictures.

As I work, I look for and develop techniques to capture the organic forms I see in nature and natural states of decay. Since I do not use anything other than LEGO (no glue, paint, tape or otherwise) and don’t alter the pieces, it can be very challenging to manipulate LEGO to this end. This can happen by accident or through lots of try and try again moments. Most all the elements in these pieces are done 2 and 3 times before I get it right. Often, I can come up with a technique while in the shower, walking or going to sleep. I think those moments where the mind wanders can be very fruitful times for innovation.

To me, this Abandoned House series takes on a few meanings. Firstly, I simply love to look at abandoned houses. Rotting wood, collapsed floors, displaced shingles, crumbling stonework all provide a textural experience that is exciting to look at. Decay produces patterns on patterns which is engaging as well. Secondly, I find the experience of looking at destroyed homes interesting because they show past, present and point to a future. One can imagine what a house might

have looked like as well as what it has gone through – that is the past. The mind even flips between past and present taking in dual images of the two.

Decay not only is interesting on a visual level but also as a reflection of the times. Many suggest that these LEGO® buildings are spooky haunted homes. When making them, the notion of haunted and spooky never occurred to me. But I would suggest something far more haunting than any Halloween can bring. That is, the state of our nation and the world. From greedy and corrupt financial practices which unapologetically have brought the world to its knees to deep rooted anger and stagnation in our government, there is this sense that things are in decay. An American dream filled with shiny white spindles and picket fences now seem weathered and beaten down. Vast inequities in our society, reinforced by government, paint a picture of diminishing returns for our children. So when I look at these pieces, this is what I see.

Interview with Mike Doyle:

HBM: Please introduce yourself to our readers.

MD: I'm 44, married with 2 young boys (who love playing with LEGO as well). I also am an artist and graphic designer.

HBM: Looking back, which of the three is your favourite?

MD: With any creative endeavor, I tend to like my most recent project the best. In this case, it's the Victorian on Mud Heap. It has the most detail and lots of places for light to cast interesting shadows. Actually come to think of it, my favorite is the one I have not done – the next piece. In my head, these pieces are absolutely fabulous. :D

HBM: ¿Which of the three has been the most difficult one technically speaking? Have you had to use new techniques for this third project?

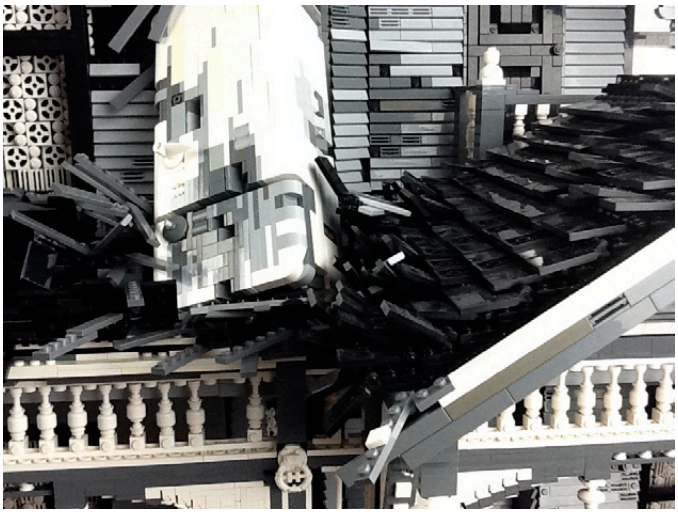
MD: That is somewhat hard to say. Since I had started from scratch with regard to building knowledge (except the basics of course), my first piece was quite difficult. I really didn't know what I was doing. Each time I challenge myself to do something new and so it takes much experimentation and sweat to get where I want to.

The 3rd piece was the most difficult technically, but I had more experience under my belt by then. Some of the biggest challenges for me in this one was the mud, curtains, roof and porch detailing. Oh, also in the beginning the wood siding on the house. I'll describe the process for each of these.

I knew going into this that the detailing of the mud was really important. I had researched what others had done, but unfortunately such techniques really rely on color – brown to be exact. That and other objects like brown colored legs on minifigs to convey mud. Since I don't use colors per se the form needed the most study. I began by using 4x8 plates and such, attaching curved wedge pieces to the surface for the mud detailing. To then get each plate angled, I used hinges. While the look wasn't bad, it proved to be too fragile. Any time I'd apply pressure for a plate, an older one would pop off its hinges. The whole thing was too rigid to work.

Eventually, I stumbled across a more flexible manner of angling the plates by using rigid hoses. I would attach a hose to the base and then another to the back of the plate. There are many pieces that one can use including 2x2 round plates. The holes in the middle fit well. This was enough to get a plate in the air. I would then repeat this with another hose on the back of the same plate. In this way, the combination of two hoses provided enough tension to keep the plate suspended in the air and was flexible enough to allow me to apply any complex angle I wanted. The main advantage to this technique was that it enabled plates to tuck against each other quite well. There was enough flexibility to give a little each time another plate was added to this matrix. I call this a "spongy" application. You could press down on these plates gently and, like a sponge, they could absorb a little pressure and slightly move one way or another. In the end, I'm not sure if the mud is 100% convincing, but no matter. It looks very nice and has a wonderful organic feel to it.

The curtains were another feature that I wanted to highlight in my piece. On flickr, I found a house from Legoland's Miniland in a San Francisco row of houses that had lace curtains. For this, they had used 1x2 grille tiles. This effect was nice but I soon realized there were other pieces that, when added to the grilles could really make a convincing lace curtain. On the bottom floor, I interlaced the grilles with 1x1 round plates. On



the top floor, I interlaced 2x2 turntables with 1x1 round plates and finished the bottom with the grilles (as hanging tassels). However, what I really had wanted to do was somehow convey that the curtains were folding in on themselves. With some experimentation, I found that by creating two levels of the back plate the light would cast a shadow which suggested folding curtains. The process was to take black plates (for contrast) and apply a vertical strip or two of 1x plates for the grilles, turntables and round 1x1s to sit on. Very simple and very effective, I thought.

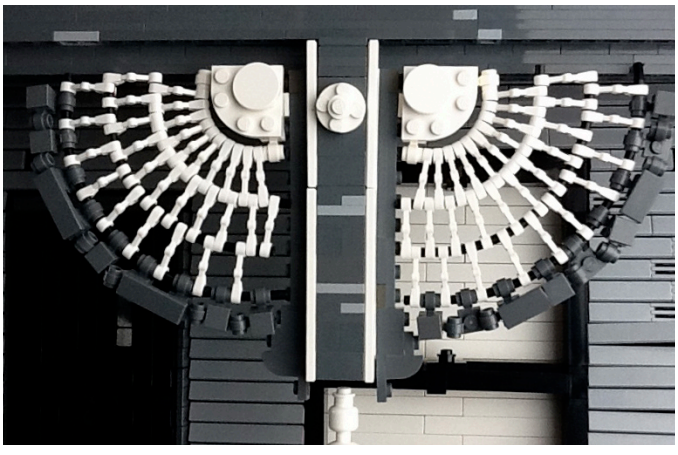
The roof was another challenge. In previous pieces I would use 2x2 tiles offset and stacked in a staircase manner. The problem with this is that I didn't have too much control over the tiles. Either they were pressed on solid or half pressed – which became a bit fragile over large spaces. Fortunately, I work bottom up in general, so I didn't have to deal with the roof right off. During the process of building, I ran across a piece at a LEGO® store pick-a-brick section which seemed perfect for roofing. It was a 2x3 tile with 2 clips. I saw right away that somehow this was just the right size to give proper overlap and had potential to pivot if I wanted (sort of like a half pushed tile, but with more control). Indeed, by attaching these 2x3 tiles to 1x2 plates with handles, I could pivot these shingles up and down as I liked to give a really convincing effect of wind blown shingles.

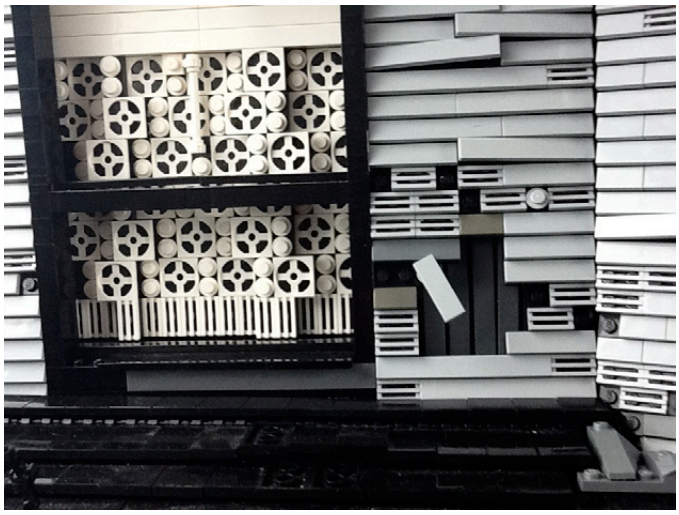
For the wood siding on the house, I did a lot of experimentation only to find out the answer to this is incredibly simple. Simply stacking (stair step style) 2x plates and then applying 1x tiles on top of this. Then I would take this entire wall and angle it so that the stair stepping would go straight up. I allowed the tiles to extent 1 stud on each side (right and left) of the walls so that when I butted another wall along side them, they would remain very tight.

HBM: What piece is repeated most in your constructions? Did you miss a particular type of piece that you wish LEGO would make?

MD: I definitely rely on 1x1 headlights and jumpers for all sorts of things. Also, I have really grown to love rigid hoses. There is so much one can do with them in terms of "spongy" design to create an organic feel. Finally, I love droid arms. They make excellent weeds and tree branches. Also, I found a great use for them on the two "fans" in the last piece (around the second story). Droid arms connected to hoses make fantastic wireframes as well, which I've yet to integrate in my pieces.

I can't think of a piece offhand that I would like, but I know when building, I constantly am thinking how a certain piece would be perfect for given situations.





HBM: Have you had to leave out any detail of your constructions because you could not recreate it in LEGO?

MD: Absolutely! :D In the last piece, Victorian on Mud Heap, the roof had a decorative shingle detail that I couldn't get right. Basically, shingles were a different shade and turned at a 45° angle to form a line and pattern.

I can't think of anything else for now, but I can say that working with decaying houses does have an advantage working with pristine structures. That is, if something isn't matching up exactly or working out well, I can just punch a hole in it or somehow distress to look like it was purposefully messed up. Hey, why kill myself here to get something "right". If it looks good in the end, that is all that matters. The downside to creating a distressed moc is that one constantly has to stop a routine process to add some decay into the piece. It's fun, but time consuming.

HBM: Have you ever been tempted to add a touch of colour to your creations, to simulate rust, moss, dead plants...?

MD: No not really. I must admit it is frustrating at times not being able to readily use color to help describe surface detailing. For instance, the mud which I previously spoke of. On the other hand, I know in the end, the piece will be stronger for lack of color. This is my style and vision for these pieces. By removing color, only texture is left. That is what I want the eye to pour over.

HBM: In the fantastic interview Marcos Bessa did with you I read that although you built with LEGO as a child, your first contact as n AFOL was "Two Story with basement". Where do you find the strength to stat such a project basically starting from scratch?

MD: Ha, thanks! Believe me, if I had known what I was getting into, I would not have done it. But I was naive and everyone in the community does such wonderful work, it didn't seem like it would be that hard. To most, that house probably would not have been much challenge. To me, everything we take for granted was a new discovery to me.

HBM: Taking into account the amount of time this can take up, what do your family and friends think of this hobby?

MD: I think they think I'm a little nuts. My wife has been extraordinarily patient with me. In particular, with the costs. As you know LEGO isn't exactly.... cheap. It also is the sort of thing that I can't really tell people I do. I have to show it to

them. When they see it, their notion of building with LEGO® is changed.

HBM: Will you continue your series of buildings or do you have other projects in mind?

MD: That's a good question. Every couple of weeks I seem to change focus. I have wanted, from the beginning, to create minerals. These would be built large, and, like my houses photographed to get incredible detail. Corals interest me too as well as mushrooms. Things that have interesting texture and an organic feel attract me.

While I hope to continue the abandoned house series in the future, my next project will be of 3rd world slums. Here, again, you have decaying materials and an environment rich with textural detailing. Surfaces break unevenly providing all sorts of movement within the space. Interestingly enough though, while the previous series speaks toward abandonment, this series is made, in part, by habitation – habitation of those things abandoned. The pieces will continue to be monochromatic, large and very organic. I'm extremely excited to get started on this.

Websites:

http://marcosbessa.blogspot.com/2011/02/en-mike-doyle-artist-of-moment.html (interview by Marcos Bessa)
http://mikedoylesnap.blogspot.com/ (where I show my work, talk about LEGO and how I make things)
http://bumbleandbramble.blogspot.com/ (place to buy fine art prints of the work)
http://mikedoylesnap.blogspot.com/2010/10/lego-primer.html (a great introduction on getting into the hobby)
http://www.remocable.blogspot.com/ (a gallery of LEGO work done by folks all over the world that I curate)
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The Texas Brick Railroad

by Anthony Sava

It's been nearly five years to the day since I began, quite by accident, building the locomotives, equipment, and buildings of the Texas State Railroad. I didn't set off to start some massive project, nor did I even intend to build but the one locomotive. Somehow fate stepped in, and I now find myself with a huge number of train MOCs of which I am exceedingly proud.

Perhaps first I should preface all of this by explaining just what the Texas State Railroad is. The TSRR was founded in 1881 as an extension of the Texas prison system, built by inmates to transport timber to the Rusk Penitentiary and the prison operated iron smelter. The furnace supplied the State of Texas with iron products, including the columns and dome structure for the capitol building in Austin. The railroad continued in one form or another until 1972, when it was handed over to the Texas Parks and Wildlife department. On July 4th 1976, as a part of the Bicenntenial Celebration of the United States, the Texas State Railroad was opened to the public as a State historic park.

Budget cuts forced Texas to nearly close the railroad in 2007, but instead it was given new life as a private railroad. Currently the Texas State Railroad is owned by the cities of Rusk and Palestine (pronounced Pahlesteen), Texas, and operated by the American Heritage Railways company. The railroad boasts an impressive collection of four operating steam locomotives, one display steam engine, four diesels, and a large assortment of open air, climate controlled, and dining coaches. Leaving from one of two stations at either end, the train carries passengers through the beautiful and wild Piney Woods of east Texas.

I have been building with LEGO® as an adult for quite some time now, and in 2006 I was no stranger to building custom MOCs. However, at the time I was quite the novice at building trains, and was looking to build my third train MOC. I had seen pictures of the Blue Mountain and Reading's locomotive #425, a Pacific class steam engine with four pilot wheels, six driving wheels, and two trailing wheels, or a 4-6-2 arrangement. It's a very striking locomotive painted almost entirely blue from boiler to wheels. However at the time Big Ben Bricks, the premier provider of custom Steam Engine wheels, did not offer blue wheels. So I began searching the Internet for another Pacific class steam engine that wasn't all black, which I find to be very boring.

This is when I discovered the Texas State Railroad (or rather, rediscovered it as it turns out, but I was only three years old). The TSRR owns locomotive #500, painted in green with a red roof and white pinstripes. I started construction immediately, and in looking for more photos I also found the TSRR's #300, a Consolidation 2-8-0 painted in red. I built the #500 in 7-wide and the #300 as a 6-wide, both constructed very simply using

#300

standard slopes and exposed studs. Looking back I cringe at the designs, but at the time they were complete I was very pleased with the results.

Several years and MOCs later, including finally building the Blue Mountain and Reading's #425 complete with blue wheels, my abilities and experience with LEGO® trains had grown and matured quite a bit. In fall of 2009 I learned the TSRR was hosting its first annual Railfest, but more importantly (to me) they were unveiling the newly refurbished and repainted locomotive #300. I had never really paid much attention to #300, I much preferred the larger #500, but on a whim I decided to drive the family north and pay the TSRR a visit. When I finally stood next to the real #300, seeing this huge, breathing, living machine, hearing it's whistle echoing through the piney woods, I fell in love immediately. Just for fun I had brought my MOC of the locomotive with me, and took a picture of them together. Seeing the two side by side made me realize I had built my MOC completely wrong. Things were out of place, the scale was all wrong, and there were many details completely left out.

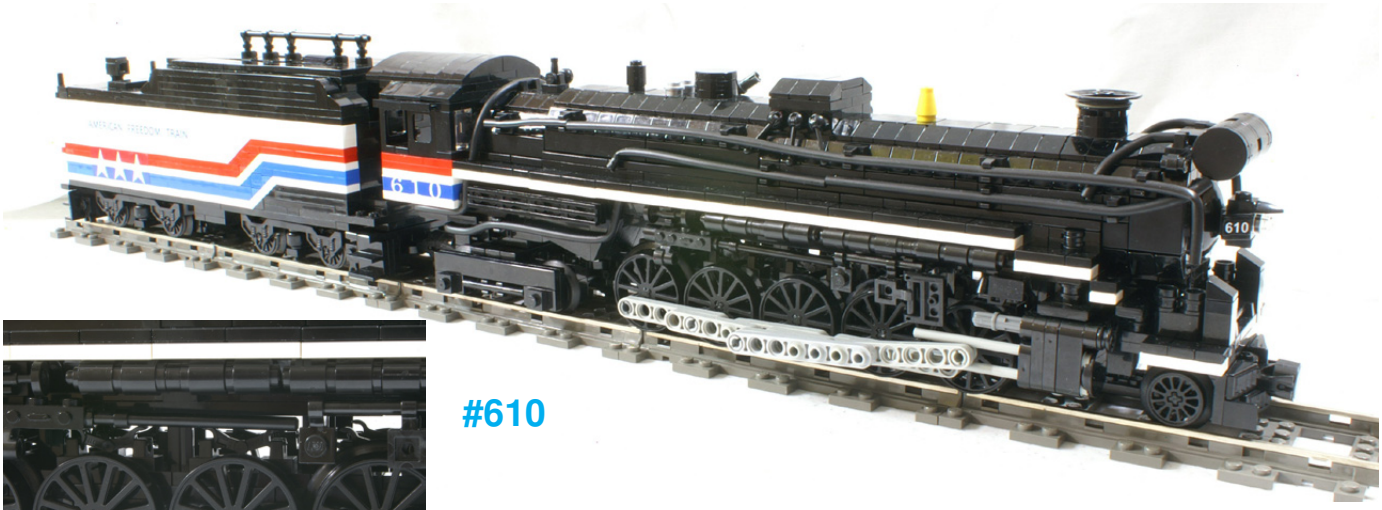
I've built several train MOCs in 8-wide before, but never to some sort of particular scale. Usually I decided to build 8-wide because of the particular size of a steam engine's boiler, and I didn't want the cab and the boiler to be the same width. But standing next to the real locomotive, and then looking back at my photographs, I knew that building 6-wide just wasn't doing #300 justice. I started working on calculating all the appropriate dimensions, using the Big Ben Bricks drivers as a reference, and came up with what an 8-wide #300 should be. I also went back and did the same with #500. It turns out that not only was #300 two studs too thin, but it was two studs too short and the boiler needed an extra stud in diameter. #500 was even more out of scale, needing the extra width both in body and boiler, and seven studs more in length.

Using the cheese slope boiler I designed for the BM&R #425, and the piston design ingeniously built by Cale Leiphart, I began the process of rebuilding both #300 and #500 in 8-wide; making the necessary changes, and adding extra details I didn't originally include such as some of the hoses and the handrails. It took several months of trial and error, but when complete they were fantastic. So proud was I, in fact, that I decided from then on to only model train MOCs to the exact same scale, which turns out to be just about 1:48.

A second visit to the Texas State Railroad, this time to see the traveling Thomas the Tank Engine show, inspired me to try another TSRR locomotive, this time my very first diesel MOC. I decided on locomotive #7, an ALCO RS-2, partially because I had been able to see it first hand at Railfest, and partially because I loved it's color scheme – black with orange and light grey stripes on either end and a red pinstripe down the base. I had built mockups of designs in LDraw before, but I had never attempted to build an entire MOC start to finish. Part and financial limitations, however, necessitated the LDraw only build. Inspired by the work of Gerrit Carstensen, I eventually finished #7, and went on to build the other three diesels similarly in LDraw.

A month later I was invited by the Texas State Railroad to put up a display of my TSRR MOCs at Railfest 2010. I decided to step up my timeline on building another physical locomotive, and began ordering parts to build #7. I also decided to order parts for a pair of climate controlled TSRR coaches, so my locomotives would have something recognizable to pull. The coaches didn't turn out as well as I'd hoped, but #7

#7



#610

was fantastic; and I was able to get a shot of it and its real life counterpart together. I also was able to take a picture of the little TSRR motor car with it's LEGO® doppelganger, which I had built on a complete whim.

It all snowballed from there. In January of 2011 I began designing Texas type 2-10-4 locomotive #610, the massive steam engine the Texas State Railroad keeps as a display. #610 is the earliest known surviving example of Lima's "Superpower" steam locomotives. It was from these designs that Lima began to design very large and ultra powerful steam engines capable of pulling the heaviest loads at speed. #610 also has the distinction of being one of the three locomotives to pull the 1976 American Freedom Train, when it wore a striking red, white, and blue livery. I decided to build her with that livery, rather than her all black coat she wears today. After all, all black is boring.

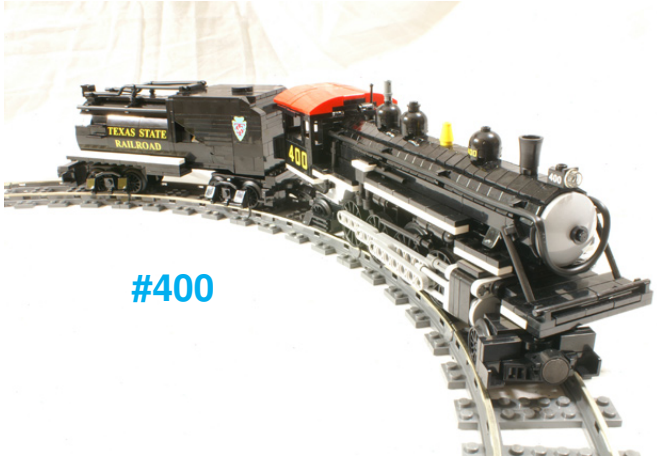
At the same time I built #8, the ALCO MRS-1 diesel that I saw on that first trip to see Thomas the Tank Engine. However, for the first time building trains I designed her to be completely unpowered, focusing instead on capturing all the detail I could in her three axled trucks. Before construction on either the #610 or #8 was complete, while waiting on parts, I began designing locomotive #400.

Locomotive #400, a Mikado class 2-8-2 steam engine, didn't inspire me much - everything on the locomotive itself was something I had already done in some form or another on the other three TSRR steam engines. However, #400's tender was new – a Vanderbilt style tender. Not only was this something I'd never attempted before, it's something very few people have ever attempted in LEGO, and certainly not at this small size. #400 was also fun to design because it, without its Vanderbilt tender, was featured in the movie "How the West Was Won", where it can be seen smashing through a barricade placed across the tracks.

A few months later and I was able to render #400 in LEGO. Only a few months after that, the two remaining diesels #1 and #22, also found themselves rendered in plastic bricks; both being GE built switchers. #1 is a 45 ton siderod switcher, one of the earliest diesels, and #22 is a 70 ton switcher that is no longer operational but still owned by the Texas State Railroad. Both of these locomotives, along with #400, were either too small or too complex to include motors. However, I plan to fix this at a later date by building a motorized concession car, which has very few windows to reveal the motors and battery boxes within.

Finally in August 2011 I finished work on #201, the oldest and smallest of the TSRR's steam locomotives. Like with #400, most of #201's design challenges had already been overcome with my previous locomotives. But like #400, #201 also had one design challenge left for me with which to struggle. The pistons of the other four locomotives were all more or less the same, and were all built with similar designs. Cale Leiphart's design provided flawless performance and high clearance, allowing #500 to have a fully functional and sturdy 4 wheeled pony truck. But while #201 was a Ten Wheeler class 4-6-0

#8



#400

#1

#22

engine and would have a 4 wheeled pony truck as well, the pistons were an older, box-topped design that prevented me using Cale's design. Reimagining the design to match the real #201 was easy, but getting a low slung, sturdy pony truck was the real challenge. Using a combination of technic pins and light sabre blades, I was able to build a chain of 1x1 technic bricks that holds the pony truck together, and allows the #201 full track compatibility.

With #201 finished, I had completed my MOC marathon that had begun so many years before. All nine locomotives of the Texas State Railroad rendered in LEGO®. I tried to keep certain design elements throughout the different locomotives to tie them all together. For example, all of the steam engines use cheese slopes for boilers, and the two GE built diesels, and the two ALCO built diesels, share the same basic cab design between the companies. None of them are finished, though. Not to sound full of myself, but to quote Leonardo da Vinci – "Art is never finished, only abandoned." Since their rebuild, I have gone back and made changes to all of my engines at least once. #500 alone has gone through at least six different revisions.

My thoughts then turned to building the train station at the Palestine depot. There are two stations owned by the TSRR, one in Palestine and one in Rusk. The Rusk, Texas station is made up of large irregular stone and thick mortar, which does not lend itself to easy LEGO construction. The Palestine station, however, is a European inspired timber frame construction, which not only is easier to build in LEGO, but I find more attractive as well.

I had already designed the exterior of the station in LDraw many months before, but the interior and the large water tower would have to be built outside of the computer, though I did use a photo to scale out the tower in studs and bricks like I do my locomotives. The water tower was built first, using design elements I found on Brickshelf. The roof is made up of 16 panels of 32 right handed wedge plates, placed on 1x2 brick hinges. Eight of the sixteen are designed to slip below the center radar dish, the other eight above, to minimize daylight escaping through the spaces between. Each layer of the tower is made up of alternating 16 1x2 log bricks and 16 1x1 round bricks, which remarkably form a 16 stud diameter circle.

The station started soon after. With the majority already built in LDraw, I was able to make progress quickly, stopping only when a decision needed to be made as to the layout of the interior. To be honest I wasn't going to build the interior of the station at first, but I decided to go the extra mile, and I think it paid off nicely. The roof was a bit of a challenge, but thanks to more wedge plates I was able to fashion the octagonal roof design reasonably well. There are some holes around the small sections of roof I feel should be smaller, but I've yet to

#201

figure out a solution. The overall design of my station doesn't exactly match the real thing, but I made the changes to make it easier to build, as well as easier to display at TexLUG events.

So am I finished? Not hardly! At the Palestine Depot there's also an Engine shed, home to locomotive #610 and #22. Once complete I plan to assemble an entire Texas State Railroad at Palestine diorama, complete with the engine shed, the station, and the wye that surrounds the station. If I can manage it, I plan to debut it at Brickworld 2012 next year. I still need to build more passenger coaches, as well. I have two climate controlled coaches, I would like to build a few of the open air coaches, a dining coach, the deluxe observation car, and the aforementioned powered concession car. And of course there's the Rusk depot… but its irregular stone construction frightens me a bit. The only solution I've come up with so far is to build the entire thing out of different shades of 1x2 plates and "fake" the irregular stone façade.

I've been asked several times now "Does the Texas State Railroad pay you to do this?" No, nor have I ever asked for anything from them except information. Sure, I'd accept whatever they would offer, but I think of myself more of an unofficial goodwill ambassador to the TSRR. Their gorgeous machines are a sight to behold, and it has become something my five year old son and I share. I have to admit, I really enjoy driving up to the Texas State Railroad and hearing him say "Let's go visit Daddy's trains!"

For more photos of my creations visit my Flickr account:
http://www.flickr.com/photos/savatheaggie/

For more information on the Texas State Railroad, visit their website:
http://www.texasstaterr.com/
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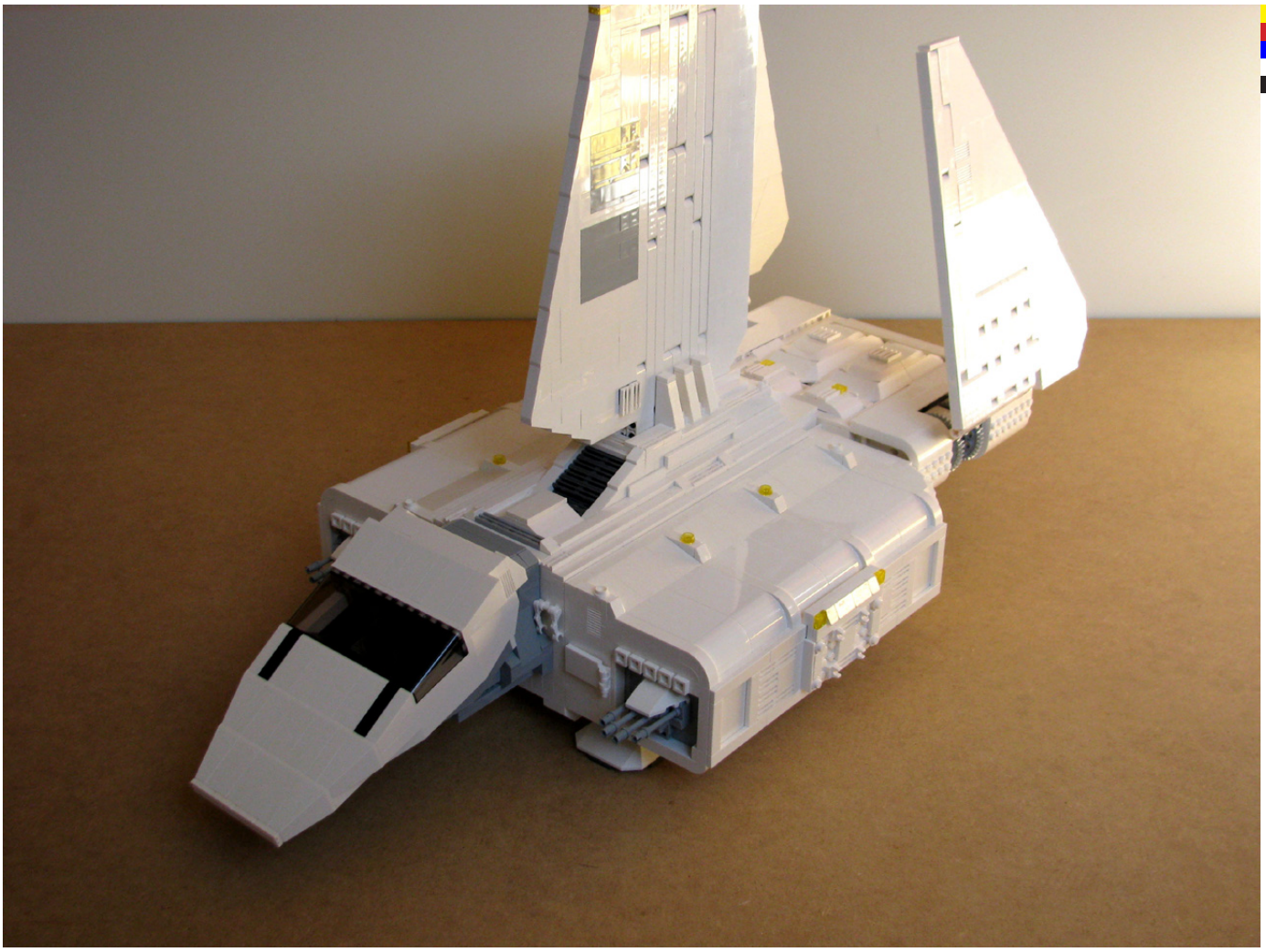


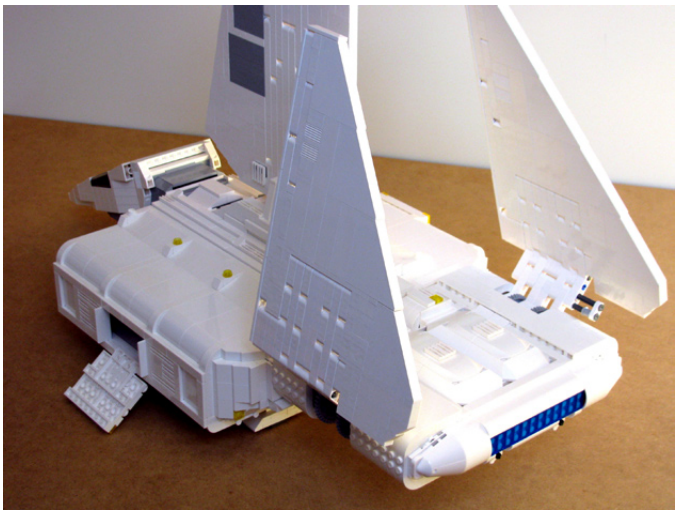
Imperial Sentinel-Class Shuttle

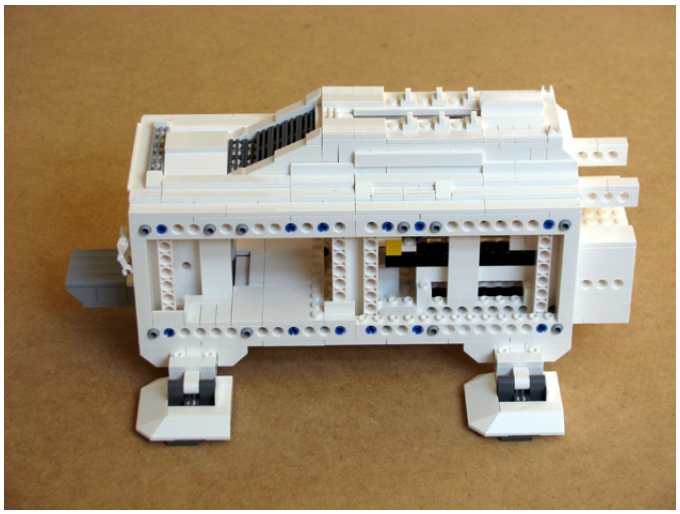
by Legotron

After purchasing and assembling the magnificent set 10212 Imperial Shuttle, I considered the possibility of using the parts to build its bigger sister, the Imperial Sentinel-Class Shuttle. This is a brief description of that building process.

A long time ago I started the building process of a Star Wars™ Imperial Hangar[1], in minifig scale, depicting the arrival of Lord Vader to his command ship, the Super Star Destroyer “Executor”. When I acquired the set 10212 I got the idea to build the Imperial Sentinel-Class Shuttle with the pieces from this LEGO® set to add the new ship to the hangar display in order to make that display far more spectacular. So I started to work and began to prepare the design of the ship. Since the different pictures of this ship that can be found on Internet have many ship design differences, I decided to use the image of a computer videogame to get views from all angles of the ship as a reference. The resulting design is a little more bulky, but it is perfect for a LEGO build.

The idea for the building process of the Sentinel Shuttle was to make a modular design, so that the whole ship could be disassembled into individual elements to make transportation easier. All these elements were to be constructed independently and to be assembled with axles and pins. Furthermore, this allowed me to design each module separately, making corrections in the design easier than in an single part design. The first part of the construction began with the pilot cabin, for which I used the 10212 set design for reference, with small changes in its appearance and anchoring system to the main body. It was very simple and cheap, as it only needed a dozen additional pieces. The next step was the main engine deck area. This module was more complicated, as it contained all the engine features as well as the two folding wings, with the possibility of raising and lowering them. Following in the footsteps of the original set of the Imperial Shuttle, I built all the gear assemblies and systems to move the wings up and down. It was difficult, because I wanted to use all possible pieces of the set in order to save costs. Although the base sizes of gears and anchor system of the wings were different, I built it without using a single additional piece. Then I covered the structure to give it the desired appearanc. This ended the building process of this module. After that, one problem I saw in the module was its weight, which was significantly higher than that of the pilot cabi. This could be a problem, as the whole ship would collapse towards the engine side if the central module design didn´t counteract this.





The next part was the main structure of the ship, the central module that was the most complex paart to design and build. On the one hand I wanted to include detailed interiors, and on the other hand this module had to cope with the weight of the whole ship. The first attempt involved the construction of a single module with traditional brick construction techniques. But after much testing it proved to be to weak to withstand the weight of the engine module. After many attempts I decided to split the main module into three parts, a central technic brick and liftarm built module, able to withstand the weight of all the modules, but without any interiors, and two side modules that would have detailed interiors and would cover all the technic structure of the central module. Although the original set contained a great number of technic bricks and liftarms I had to buy a few more. The new module needed to be very robust and I constructed it with 4 rows of technic bricks and liftarms to ensure it will be strong enough. It was a question of patience, as I had to make many attemps to achieve the desired result. When I though everything was right, I discovered a new problem: I forgot the holes for the landing gear when it was retracted. Once again I rebuilt the whole module, it was fun but after so many attempts I nearly lost my patience. Then I made the test to know how good the module design was, and the results were everything but good. The module itself could cope with the weight of the whole thing, as I added about a hundred additional hundred bricks to the finished modules, but after several minutes the landing gear collapsed, resulting in several pieces breaking away. I had to stop for several days, I needed new ideas for the project to continue with it. Finally I decided to use a static landing gear. The ship was supposed to be part of my Imperial Hangar display, so there was no need to design a working landing gear. I preferred a working landing gear, but I wanted to finish the ship, so I took the easy way. With only some minor changes the central module was finished and I was able to start the final process of the exterior appearance.

It was easy to build up the top wing, I used the available pieces from the original and I scaled it down a little, so that the new wing fitted perfectly in its place. Then I began with the two side modules. I wanted them to look big and heavy, in order to show the cargo role of the ship. Furthermore, these modules should have detailed interiors, with racks of seats and weapon holders for the troops. At this step I ran out of the useful parts of the original set, so I was forced to buy many others to finish the ship. They were used to complete the greebles and many details, and the final result was worth it. After some minor changes to get the desired look, the Imperial Sentinel-Class Shuttle was finished. All the modules were assembled and the structure was able to withstand the weight for several days, so the ship was ready to be placed in the Imperial Hangar display.

The ship needed more than 2800 pieces, and it was a real challenge and a pleasure to complete it, with so many hours of fun, designing and building. I hope you like it.

References:

[1] Imperial Hangar Pictures http://www.brickshelf.com/cgi-bin/gallery.cgi?f=238941.

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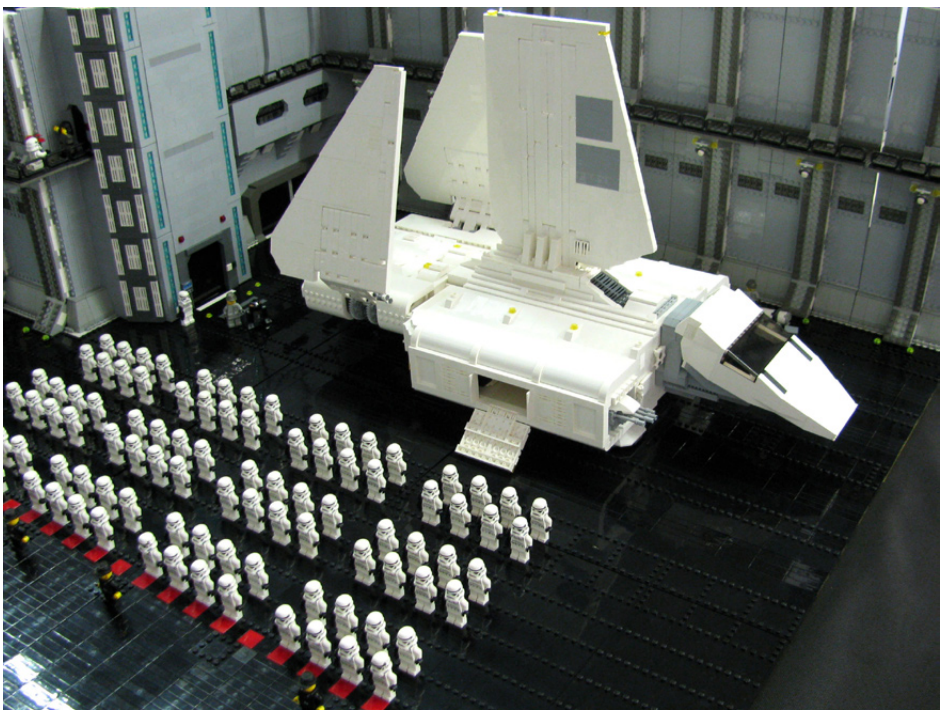
LSW Imperial



Meet George

Building large LEGO® Robots

By Simon Burfield

As a child who loved Sci-Fi, I have always dreamed of building massive robots but never had the funds or skills to build anything. When I reached a grand old age of 23, my girlfriend at the time took me to LegoLand Windsor and bought me the LEGO® MINDSTORMS RIS 2.0 set. Boy was this a great set to get my imagination going. I worked as a programmer and so the concept of programming a LEGO Robot via my PC was a must!.

George V1

After a few years of playing, buying a house and collecting more LEGO than most, I decided to start building George (V1) which was a full size human shaped robot. I soon hit the massive issue that building a full size humanoid robot just can't be done (with my skill at the time). The leg joins where just snapping on me and that was just trying to make him stand in place. I had not even put arms or a head on him. George was retired while moving house.

T1 (Bob)

One of the robots that really fascinated me that I thought I could build was a T1 from Terminator 3. It was a tracked robot with twin mini-guns (another thing I wanted to build). So I went about building a rather large LEGO version for the 2010 Great Western LEGO Show which is our club's (Brickish) largest event.

More pictures can be found here:
http://www.flickr.com/photos/43790182@N04/sets/72157627744750853/

Bob suffered from a few major issues.

Weight

Due to its weight (well over 20KG) it could only turn on low friction floors. The base of it was nearly a meter square running double tracks each side powered by 4 XL motors (directly linked to sprockets). Going forward was very quick but turning just did not work well. I only actually found this out on the day of the show where I discovered the floor was anti-slip carpet.

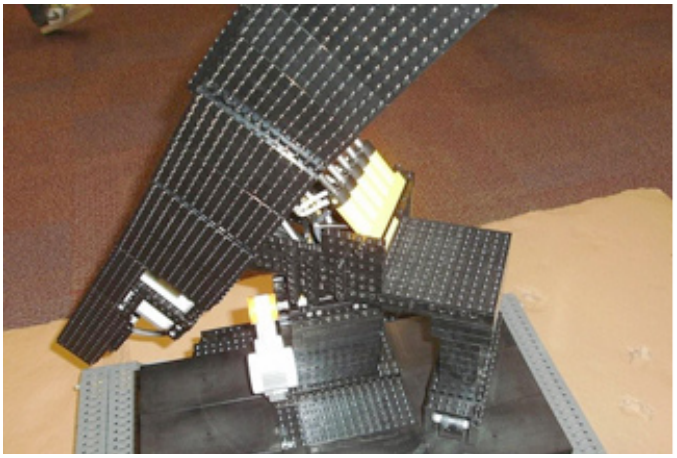
Communications

The robot had very clever communications in my opinion. It used 4 NXT's (2 slave, 2 master) which communicated via bluetooth. One set of NXT's had an accelerometer which when moved, would move one of the robots arms so that it would mimic the users moments. The other set of NXT's also had an accelerometer to control the other arm however it also had a mode button so that you could control the robot's other functions (moving, body rotation and lift, head movement) via the same accelerometer but in different modes. Each master NXT also had a fire button to fire the Zamor launchers on each arm.

The problem was that the bluetooth communication just was not stable enough and also suffered from lag and loss of data. You would put it in arm movement mode and it would instead move the tracks. There there would be a large amount of lag which meant the robot was always a few seconds behind. In practice, this caused the robot to drive itself in to a table 30 minutes after the show opened causing a partial rebuild in front of many people! Quite embarrassing.

The robot also had a large main body beam (around 4ft long) that had to be counter balanced via many boat/train weights which caused even more weight issues. This main beam actually snapped a few technic beams while it was being built. The main beam could rise up via 5 pneumatic rams. However it required over 30psi to start it off (see below). This caused other issues.

I also completely covered Bob in black plate, which had a habit of falling off and also added more weight.



George v2

After Bob, I decided to adapt the KISS approach (Keep it simple stupid)! My objective for the Great Western LEGO® Show 2011 was to make a Robot that worked, and worked well! It had to move and be able to turn on anti-slip carpet, easy to control and be strong enough to take knocks / drive in to tables without breaking.

George is a fully functional 5 foot 7" robot. Controlled via a PlayStation 2 controller, he can move about, rotate his upper body, move his arms / shoulders and grab items. His head also rotates, moves up and down and if you get too close, his eyes will roll.

More pictures can be found here:
http://www.flickr.com/photos/43790182@N04/sets/72157627552952944/

Videos:
http://www.youtube.com/watch?v=BHdphmqNR94&feature=mfu_in_order&list=UL

Communications

This time round I decided to scrap having multiply NXT's and went with the brilliant Mindsensors wireless Playstation 2 controller sensor pack. This allows you to control your NXT via a Playstation 2 controller which has a huge number of buttons / controls on it. Then I linked the NXT to a hiTechnic IR link so that the NXT could send commands to power functions infrared receivers (all 4 channels). This setup gave me a large number of possible functions (11 different motor channels). I used RobotC to program the NXT as I find it an amazing programming language.

Weight

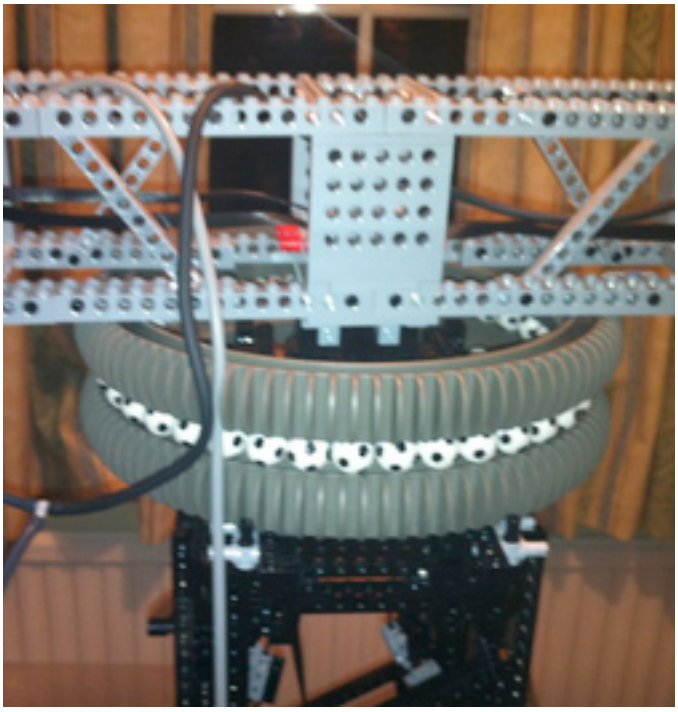
This robot had a large upright body beam. However it did not rise up and down so it did not require any counter balance weight. Also, it was not plated and only carried 1 NXT. This probably cut down a 3rd of the total weight of the robot, even though it was bigger than Bob (5 ft 7" tall).

Drive

The main base of the robot was smaller than the one on the previous robot which would naturally make it move a little easier, especially being lighter. Also the 4 XL motor driving it where geared down via a 8 to 24 tooth gearing. First time round, this just snapped the gears in half. The way around this was to use 2 sets of 8 to 24 tooth gears in parallel on the same axle per motor. Also, as a backup, in case the robot did not work on the show carpet, I could swap the 24 tooth gears for 40 tooth gears very easily which would give it even more driving power but at a cost to speed.

On the day

George was a huge success with the members of the public. Most people did not realise it moved and so jumped quite a bit when they released it did. This was very funny except for the odd small child that got rather scared. People even started getting pictures next to it and a few people tried to hug it.



Issues

Issues we a minimum really. After transporting George in more pieces than I hoped, I had to do a small tweak to the neck as the gears were slipping. Sadly I only had red technic with me for another one of my models and so it looked a little odd if you saw George from behind.

The main body bearing, as shown below just did not work on the day (well 2 days). I am not sure why it worked at home and then stopped but I could only get it to turn 1 way. Also the footballs kept falling out! I have since swapped them out and made a better version using wheels.

The only other issue which, to be fair, I already knew about, where that the large linear actuators (x3) in each shoulder joint made horrible noises (the built in clutches) and sometimes got jammed. LEGO® have made improvements to these actuators, but I have not got the newer version yet. I did try using pneumatics for the shoulder but that gives you little control.

The Future

I have already started work on 2 more large robots for next year (while also keeping George). The first will be called wheeler and is a giant wheeled robot. The start of it can be seen below.

The second robot will be based on Bob (T1) but avoiding all of the downfalls of it. I am looking forward to seeing people's faces when there are 3 giant robots running around.

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City Stories

Text by lluisgib
Pictures from www.brickset.com

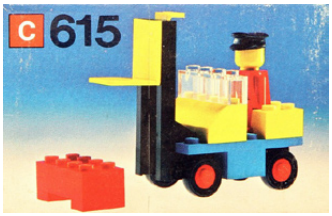
In 1978 the LEGO® universe suffered a revolution: the appearance of the minifig as we know it today. In that first year three themes were launched that contained minifigs, Castle, Space and City.

In previous editions of HispaBrick Magazine® we have talked about the story of Castle (HBM 006) and Space (HBM 008 and 011), but so far we had never dedicated an article to what is probably the theme with the most fans (children and adults) in the world. In order to address that pending matter, we will travel through time, from the distant 1978 till the present to see the evolution of this theme. This is not meant to be an exhaustive analysis, year by year, set by set. We just want to see how this theme has evolved over the years.

The beginning (1978 – 1985)

Let's go back to 1978 As mentioned before, the appearance of the LEGO 'dolls' started a revolution in the LEGO system and, of course, also meant a change in what until then were considered city sets. In 1975 a precursor to the minifig had appeared, without arms or moving legs, without hands or facial expression. They came with some vehicles and buildings, like the police station (370 - Police Headquarters in 1976)

but the vehicles were designed without room inside so the minifigs could not be introduced in the close vehicles. Some open vehicles (like the 615 - Fork Lift with Driver in 1975) did allow the minifig to be placed in the vehicle, but the play options were rather limited.



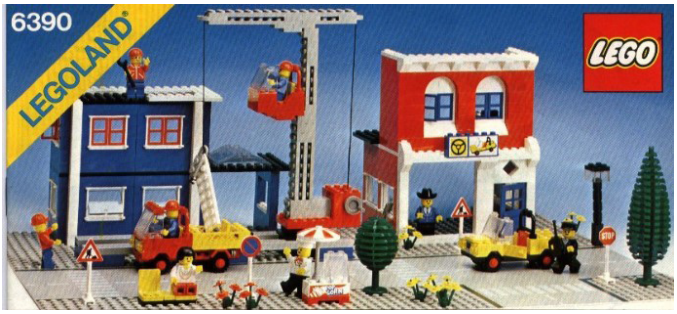
In 1978 there was a curious mix of city sets. Many of them included a minifig, but still without the possibility of introducing it in a vehicle. For example, the 606 - Ambulance, consisting in a paramedic and a vehicle. On the other hand, there were some sets that did allow the new minifig to be completely integrated in the set, like in the case of the 640 - Fire Truck and Trailer. There were also the first minifig accessories like the axe, pick and shovel. Some designs were still evolutions of earlier sets, like the motorbikes, which were built with bricks instead of being a specific piece like the one that appeared in 1983. This mix lasted only till 1979 which still featured the 608 - Taxi, which did not have room for minifig inside.

Also in 1978, there was the first house with its little inhabitants (376 - Town House with garden). This house was quite complete and had some interesting functions, like the hinges that allowed for two different configurations of the house.

In 1979 the city started to grow, not only with additional vehicles, but with the first complements, like the 361 - Garage, the 379 - Bus Station and the 675 - Snack Bar. These sets allowed the kids of that time to start building their own town with services and props. Also during 1979 a set was launched that has been modernised more times than any other in the city theme: the police station; in this case the 381 - Police Headquarters. It was a very complete set with 4 minifigs, a car, a motor, a helicopter and a building. It was a delight for the

kids of that time since a single set provided many play option.

1980 featured the first “explosion” of creativity on the part of the designers and the market was flooded with sets and complements that indicated that



the LEGO® Town line was to be taken serious. Aside from the many civil, construction and service vehicles, a number of now legendary sets were launched, like the marvellous 6390 - Main Street (which was re-released in the Legends series) or the 6364 - paramedic. It was a small Red Cross post with an emergency vehicle. I would also like to highlight two very interesting sets with accessories, the 6305 - Trees and Flowers, a plants “battlepack” or the first set with traffic signs: 6306 - Road Signs. Another element that stood out in 1980 was the 6000 -LEGOLAND Idea Book, which became the bedside book for thousands of kids and made them dream of a city without limits.

The fact that I’m writing this article today is a result of a small set of that time that requires a small personal reference. 1981 was a special year for me. I was 6 years old (almost 7) when my parents were about to change my life forever. My father used to travel to Germany for work and there he had seen some LEGO sets so he knew the toy. He had even brought a catalogue (which I would find many years later) that I had never seen. In Spain, LEGO wasn’t very well known, although some toy shops and book shops were stating to sell it. One day my parents gave me a little box. It contained a little plastic girl and two pumps for a petrol station that you had to build It was none other than the 6610 - Gas Pumps. On that day a world opened before my eyes, and here I am, 30 (or more) years later, hooked like the first day. Set number 6610 from 1981 has the essence of a small set with few pieces that could win the heart of almost any child and it is the perfect example of the sets of the early 80s: small, no frills, but charming.

In the following years, quantity, quality, and variety in design improved. More houses, vehicles, buildings, complements... but following the same line. Simplicity in the models and all the playability you can get with a few pieces.

In 1983 the first revision of the police station was launched with number 6384 - Police Station. It was a more elaborate design than the previous one but followed the same guidelines with a car, motor, helicopter and main building. Another set that stands out in 1983 is the 6374 - Holiday home. That was the best house that has been designed in the Town theme. Besides it beautiful design and the large number of complements, there is the cypress tree that appears in this set and in very few others, like the 6390 - Main Street (but not in the LEGO Legends re-edition) and the 1592 - Town Square.

1985 saw the launch of the first model of another classic theme: the airport. With reference number 6392 - Airport, LEGO® gave us a beautiful yellow and black

building, a red and white plane, a helicopter and the necessary complements for an airport, like the cart for the suitcases and the windsock to indicate speed and direction of the wind. As a complement to this set, there was the 6368 - Jet Airliner, a somewhat smaller plane with a completely different colour scheme. Standing out among the rest of the sets from that year are the fourth house in the theme, and several vehicles, like the 6682 Cement Mixer or the exquisite 6601 - ice Cream Cart.

The Golden Years (1986 – 1996)

1986 brought (at least in my opinion) the most prolific stage in all the history of this theme. The continuous appearance of new parts led to less “square” designs without losing the essence of the beginning.

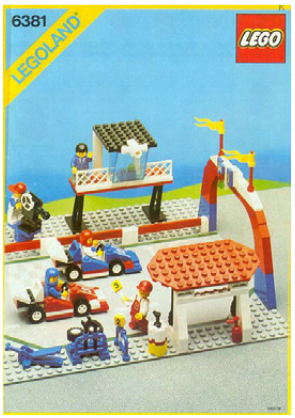
There were revisions of earlier sets, like the third police station (6386 - Command Base) which showed a more modern and attractive design without going too far the base upon which the earlier designs were built. There is also the first revision of the 6371 petrol station from 1983, the 6378 - Service Station. The Octan Brand, the ‘official’ LEGO petrol company had not yet made its appearance, so this particular one was a Shell station (in the USA there was an Exxon station, 6375 - Gas Station).

Other new sets appeared in the catalogue, like the 6379 - Riding Stables, the first construction crane (6361 - Mobile Crane) or as an example of complements, a small phone booth with a cyclist (6613 - Telephone Booth).

Also in 1986 a new system was implemented that would make the city more lively. The Light & Sound system brought vehicles that incorporated a 9V battery box and a number of electric plates that powered lights and sirens. The first two sets in this system were the 6450 - Mobile Police Truck and the 6480 - Hook and Ladder Truck.

In 1987 the city continued to grow. This year saw the first hospital (6380 - Emergency Treatment Center), the first race course (6381 - Motor Speedway) and the first garbage truck (6693 - Refuse Collection Truck).

1988 brought another of the mythical sets. The 6394 - Metro Park & Service Tower was a set that contained a petrol station and a parking lot. It was one of those big, complete sets that allowed for hours of play, as well as incorporating new elements to the city (in this case a parking lot). The 6395 - Victory Lap Raceway was another of those rather large sets that would make the 639X references legendary. Although the best of those was still a couple of years away.



Allow me to make a small aside here before I continue, to mention a side effect of so many diverse sets. The catalogues of those years showed dioramas that set off the dreams of any child. There were sets upon sets to create a city, airports or racing circuits that were at least as good as their real life counterparts. The great variety of sets of different styles allowed for this luxury that is missing today.

I will mention 1989 only in passing, simply mentioning the appearance of new Light & Sound sets and a few interesting vehicles like the 6661 - Mobile TV Studio, and I’ll concentrate on 1990 which saw the appearance of a singular set that is considered by many the myth of this theme.

LEGO launched many revisions of earlier sets, like the 6389 - Fire Control Center, or a new airport (6396 - International Jetport). That airport, with a much more modern design than its predecessor, came with a big surprise that stole the hearts (and continues to do so) of thousands of children. It was the 6399 - Airport Shuttle, better known as the monorail. It was a

shuttle service that connected the city to the airport by means of a monorail. It contained not only the shuttle, but also two stations, one of them on an elevation. It was a set that in those years was not for the average Spanish family (it cost 16,000, about 100€). Today that would be cheap, but then it was a lot of money.

Personally I have an anecdote with this monorail set. In the village were we used to spend our holidays (a little place with 4800 inhabitants) there was a monorail in the shop-window of the bookshop. It was there for several years as nobody bought it due to its high price. In 1995 I asked the shop owner to set it aside for me so I could buy the set after I had saved up the necessary money. As we were by then well known in the village, I came out of the bookshop not only with the monorail, but also with the 6389 - Fire Control Center and the 6398 - Central Precinct HQ, with the promise to pay the 25,000 pesetas (150€) in “easy instalments” of 1,000 pesetas (6€) every week. Thanks to the confidence of that shop keeper I managed to get that set and I can never thank him enough.

Aside from personal anecdotes, 1990 is the perfect example of a “golden year”. The sets of the previous years (1988 and 1989) together with those of that year made a perfect mix and were highly desirable.

1991 was another year to remember. The first accessories for the monorail appeared which included switch points (6347 - Monorail Accessory Track) and three(!!) harbour sets. The 6540 - Pier Police, the 6541 - Intercoastal Seaport and the 6542 - Launch & Load Seaport. Quite a display of maritime power which allowed you to build a complete harbour to channel the transport of goods from the harbour to the city, with the inclusion of harbour cranes, boats and many accessories. In addition to these sets the city received more services since that year saw the first street sweeper (6645), a small but beautiful and necessary set.

In 1992, while Barcelona celebrated the Olympic Games, LEGO® surprised us with a new sub-theme that was rather... surprising. It was Paradisa, sets with colours that had never been seen before (or after) and a design that was supposedly more focussed on girls. In this first year there were some special, or at least novel sets, a horse riding club (6419 - Rolling Arches Ranch), and two very novel sets: the 6416 - Poolside Paradise which featured a swimming pool and a restaurant and the 6411 - Sand Dollar Café, a beach bar. The baseplate simulated the beach, and there was a life guard a hammock and shade and other details that were completely new elements in the LEGO city.

The appearance of Paradisa did not stop the launch of “classic” town sets and in 1992 another icon from this theme appears. In this case it is neither a set nor a piece. It was the Octan brand for LEGO petrol. Up to that moment Shell had been the reference, but (although this is just a supposition) it is possible that Shell in some way held LEGO back from evolving or from bringing out new complements. Using OCTAN, LEGO was free to include new elements in the petrol station without depending on anyone. That does not mean that Shell was completely eliminated since in later years there were still a many sets in collaboration with Shell.

The first appearance of OCTAN was in the petrol station 6397 - Gas ´N Wash Express, together with a tank truck, the 6594 - Gas Transit. In other sets like the 6648 - Mag Racer, OCTAN appeared as a sponsor of a dune buggy.

From 1993 to 1995 both Town and Paradisa sets (supposing we can consider it a separate theme) coexisted peacefully. There were very good sets, some very original, that prolonged the “golden years” for the city, like the 6552 - Rocky River Retreat from town, a riverside cabin, or the 6409 - Island Arcade, a Paradisa water park. Other stellar sets from those years are pizza place with its delivery truck (6350 - Pizza To Go), a new and bigger airport (6597 - Century Skyway) or the Paradisa lighthouse 6414 - Dolphin Point. I would also like

to highlight as a novelty in the general catalogue the Space Shuttle in the 6339 - Shuttle Launch Pad together with its complementary sets. This set was an example of realistic design and detail that any town fan just could pass up on.

1996 was the last year in which town stood out (in my opinion) above any other LEGO® theme. Another good selection of new design and themes or revisions of sets that made for a last great year with excellent sets - it was the confirmation of what I was without knowing it yet: an AFOL. Personally I would like to highlight the 6337 - Fast Track Finish, a complete race circuit that together with the 6335 - Indy Transport was a delight for any racing fan.

Decadence (1997 – 2002)

Always when someone in the company talks about this time, the general comment is that there was a change in strategy that focussed the efforts on other tasks different from model design. But there is something I don't quite understand and the main effect was on the Town theme. During these years some marvellous sets and themes were launched like Adventurers or some sub themes of Town itself like Divers (for example the 6441- Deep Reef Refuge) and at the same time the classic town was incredibly abandoned. The models were juniorised in an alarming way. There were sets with less than 30 pieces that consisted of a vehicle with complements (like the 6325 - Package Pick-up that contained only 29 pieces).

Large pieces and models with only few functions. It looked like the age level, building difficulty and even the company's requirements had been lowered. As an example, if we compare the last fire brigade from 1994 (6571 - Flame Fighters) with the one launched in 1997 (6554 - Blaze Brigade). The former set contained 439 pieces, two vehicles, a helicopter and a main building; the new one just 258 pieces (40% less) with the same elements. However, in the same year we find a marvellous 6547 - Fun Fair in the Paradisa theme that is full of details.

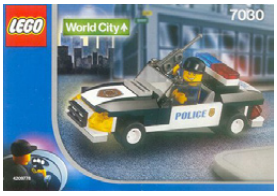
As the years went by, Town deteriorated and there were fewer and simpler sets. Only a few are worth mentioning. To highlight something, there was a small impulse set, 6420 - Mail Carrier in 1998 with a postman on a bike and a letter box. Looking for a larger set with some quality there is the 6456 - Mission Control from 1999. It was a space launch pad with a notable level of detail and design.

This decadence went on to such a level that in 2001 and 2002 there wasn't a single new set for the town theme, although there were some new themes that could mix with Town, like Island Xtreme or Sports.

I don't have a lot to say about those years, as I focussed on other themes and I found virtually nothing of what was launched interesting. I did get a set occasionally, but my collection of sets from those years is rather thin.

The Renaissance (2003)

2003 brought a first attempt to re-launch the theme with World City. During this year a series of sets was launched under this name that included police sets with a daring design and some train sets and complements. Maybe the most interesting set from those years, with a design that was completely different from what we had come to expect, was the 7030 - Squad Car. A small police vehicle with a very American design which, curiously, was quite OK, but that did not fit in very well with everything that had come before.
The police station from this year (7035 - Police HQ) also had a peculiar design, although it must be said that it was quite a lot better than that of the previous years as it did not use too many large pieces nor have a too simplistic design.



Although throughout this article I have refrained from going into the world of special sets, there is a World City set that would become the nexus with classic Town. It was a set that was exclusively sold by airline companies, the 4032 passenger plane. The plane had the essence of the classic sets and some building solutions of the new design (like the orientation of the wings) which made it more attractive. Using a rather romantic metaphor, I would say that 4032 took off from a more glorious past to take us to a more promising future.

Getting ready for the future (2004 – now)

In 2004 I think the faces of many of us lit up when we saw the introduction of town sets with the City theme name. The first City sets were for the fire brigade. The new 7240 - Fire Station was more elaborate and included more details than the 1997 version despite the fact that the piece count was still quite low since it had fewer vehicles. Together with this set there were some accessories, like the 7239 - Fire Truck, which in 2011 is

still in the catalogue, making it one of the longest lived sets in the history of the LEGO® city, and others like a helicopter, a boat or a speedboat..

Those sets were a breath of fresh air for city lovers and offered good perspectives for the future, perspectives that were confirmed in the following years.

2005 started with a new police station (7237), a great set with 582 pieces that featured a complete station with a large number of accessories and novelties, like a new motorbike, which would also appear by itself in the 7235 - Police Motorcycle. This police station, in its first version, came with a unique minifig. A policeman with a lantern that could light up. The next year the set was re-launched without this minifig as it didn't have the expected success (although in my opinion today it is a rarity and success because of the innovative system).

In addition to the police sets, there were new construction sets, like the 7243 - Construction Site and a new version of the street sweeper (7242).

2006 brought a new hospital (7892) with its accessory sets and a new airport (7894)) also with accessory sets. The airplanes for this new airport have grown enormously in comparison with the planes that were launched up to now and they appeared to be a return to juniorisation, because of some big pieces. But in my opinion, aside from the size, these are not juniorised sets as they have a good number of details in the interior that do not in any way remind me of the sets for the end of the 90s.

So far so good. Police, fire brigade, construction, airport... but the more "civilian" sets were still missing. In 2007 this new facet began to appear with a new Garbage Truck - 7991 and the brilliant 7993 - Service Station. Finally a set that looked like a shop where our minifigs could start to buy some basic consumer goods. Also in 2007, as a novelty, the cargo harbour

(7994 - Harbor) with its complementary sets and the renovation of the fire brigade (7945 - Fire Station) with 617 pieces and all the charm or the old-time sets, but with a more modern design.

In 2008 the increase of interesting out-of-the typical-theme sets continued. The 7731 - Mail Van, or a transport truck (7733 - Truck & Forklift) are two examples. Also a new sub-theme appeared: the coastguard. A series of vehicles and buildings that had not been seen before, like the 7726 - Coast Guard Truck & Speed Boat or the 4210 - Coast Guard Platform. They are interesting not only for their design, but also for the bright colour scheme.

As you can imagine, after the redesign of the fire station in 2007, during 2008 the police station was revised with set number 7744 - Police Station and it complementary sets.

But there was still something missing. It was impossible to build a town without certain services and characteristic elements. A city cannot be made up just of police, firemen, cargo transport and construction sites. Finally, in 2009 the catalogue announced what we had been waiting for. the 7641 - City Corner added a bicycle shop, a pizza restaurant and a bus to the city. Something that had been unheard of for many years. In addition there was a Camper (7639) and a sub-theme dedicated to farming. What a luxury for our eyes. Of course this year the construction sets were up for renovation, but there are some things that should always be present in a City catalogue and that should be renewed since children identify with certain social patterns and roles.

2010 put the icing on the cake. Finally a City House (8403) Just what was missing in our city,: a house for our minifigs to live in. There was also a new Small Car (3177) and other novel sets like the 3222 - Helicopter and Limousine: For the first time a limo to transport VIP minifigs or the LEGO truck which is a must-have for any LEGO collector.

In 2011 some sets have been renewed and a new space sub theme has appeared, in collaboration with NASA. In addition there was a new bank set (3661 - Bank & Money Transfer).

By now we already know some of the new sets that will appear in 2012 which I believe will be much in the same line as these last years. Renewal and new appearances.

The City theme was and continues to be the heart of LEGO. The toy with which children start to learn the roles they can play in life and create real-life or imaginary situations that help in their development towards adulthood, and the model we adults use to satisfy our desire to build collaborate and imagine.

Bibliography: FANTASIA VERLAG, LEGO Collector book, second edition, Dreieich / Sprendlingen, 2011

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LEGO® Train: The story of an obsession (I)

1966-1986

By Manticore
Pictures by www.brickset.com, www.bricklink.com and LEGO Systems A/S

For a Spanish child in the 70s and 80s, talking about LEGO® with other kids of his own age was pretty much mission impossible. If in addition to that you wanted to talk about TRAIN, the results were even more tragic. In those days we had N - scale model trains and little else. But LEGO trains? What are you talking about? But they did exist, boy did they exist!

In 1985 I was so lucky as to get a German catalogue which showed the 4.5V and 12V TRAIN sets of that time. To give you an idea, the look on my face was that of a child who discovers toy paradise:

Trains, engines, switches, crosses, lights... INCREDIBLE!! Unfortunately, in the 80s it was impossible to buy TRAIN sets in Spain. And anyway, the weekly pocket money I got from my parents wouldn't have allowed for much. That's what you get when you grow up in a big family.

As time went by and on-line shopping became possible I have been able to mitigate my childhood desires and wishes. So much so that at present I consider myself a fashion victim of this theme and I'm considering legal action against the LEGO Company for designing such spectacular and at the same time charming sets.

As a tribute to this theme, in this special CITY issue of our magazine, we will have a closer look at the different TRAIN systems and their most emblematic sets. Due to the huge number of sets and pictures the article will be divided into two parts: The first, from the beginnings till 1986 will cover the 4.5V and 12V systems. The second, for the next issue of this magazine, will include the 9V, RC and more recent Power Functions systems.

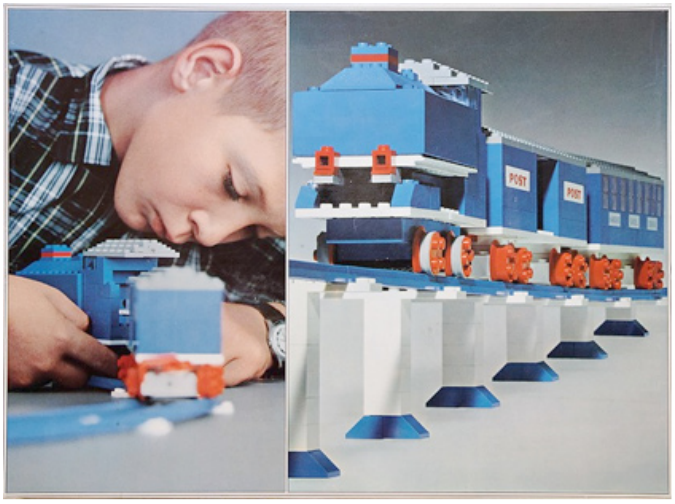
For this first part I have used some pictures from www.brickset.com and www.bricklink.com

But lets' start at the beginning.

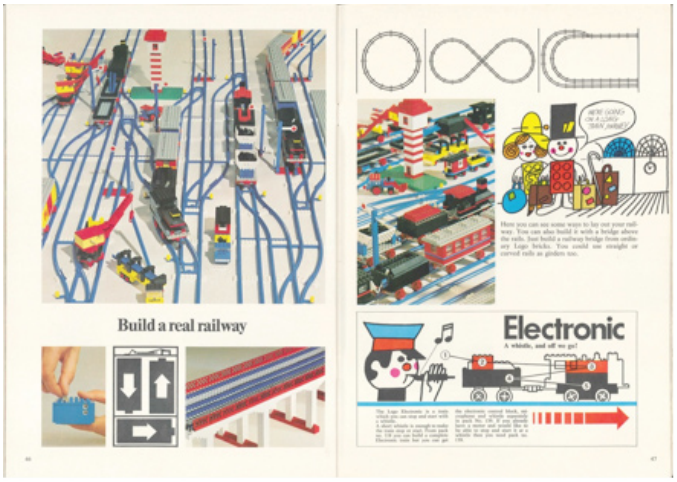
THE 4.5V SYSTEM

As a matter of fact, the first trains LEGO designed didn't include a motor. If you wanted it to move you had to push the engine and/or wagons. It was the 111 set from 1966, with a rather simple design that laid the foundations of everything that was to come after. Te width of the tracks for example: 6 studs. It has been kept that way from the very beginning and has been used in all the systems that have been developed later.

Except for this exception, TRAIN sets included a 4.5V motor for traction on the wheels of the engine, which used to have a rubber band to improve traction. The battery box for these motors was heavy cargo for a freight train. Take a look at the first set (113) with a 4.5V motor:



That same year (1966) and with the first sets that included a 4.5V motor, sets with straight and curved tracks were launched to make larger circuits. A year later switches and crossings were available.

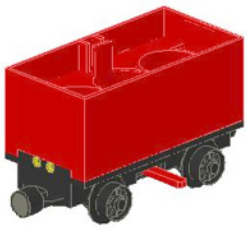


From then on, as you may imagine, the number of sets increased; and the design of those sets become more and more realistic. Just compare the set 116, from 1967:

with set 7722 from 1985, the last one with the 4.5V system:

The 4.5V motor colour changed from blue to black; and the 4 brick height of the first motor (in 1967) was reduced to 3 1/3 a year later.

The battery box also evolved. From 1972 onwards wagons were designed to include it.



In 1969 set no 139 appeared on the market, allowing you to reverse the direction of the engine with the sound of a whistle. Quite a pre-MINDSTORMS experience.

Another, more rudimentary option was given in set 157.

With a system that LEGO® would re-use years later in the MONORAIL sets, the engine direction was inverted when passing over these tracks with direction changer.

Apart from that there was only a change in the colour of the rails, which went from blue in the first sets to a more realistic grey in 1980.

The 4.5V system lasted almost 20 years. However it wasn't the only system for long, as it shared much of is12V system. In 1969 the first 12V motor appeared on the market and with it a complete revolution for model train lovers.

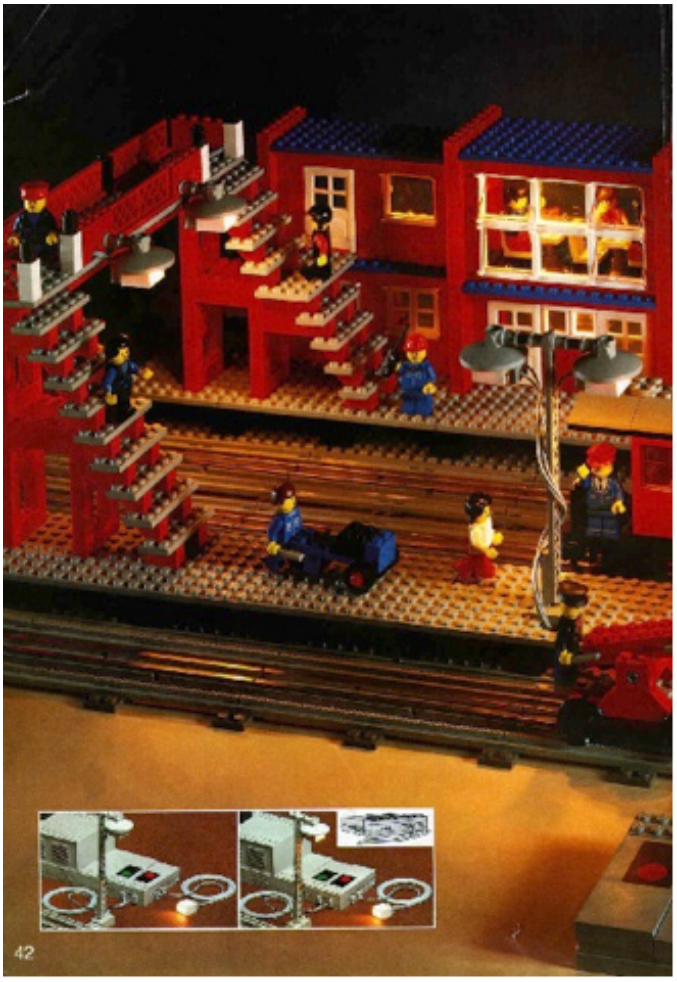
THE 12V SYSTEM

Unlike the 4.5V system, the 12V system motors got current directly from a metallic rail that was placed right in the centre of the tracks. This rail in turn was connected to a transformer that served as speed regulator. As an example, set 724, from 1972:

The first advantage was that the battery box, which was inexorable, pulled by any 4.5V train, was no longer necessary. The 12V system, thanks to its higher voltage, allowed several trains to run on the same tracks with a single transformer. Finally there was a way to control the speed of a train with a simple turn of the regulator.

But the main advantage became apparent in 1980. That was when the 12V extension sets appeared. Switches, signals, lights and even a wagon uncoupler (a year later)... and all of it remote controlled!!! Finally the dream of having a LEGO train layout with a central control station for EVERYTHING came true. In the following two images from the 7777 book, you can see the amount of control that was possible with the 12V system. and how with a single transformer you could supply current to a number of light bricks, allowing a more realistic appearance of night scenes.

Set 7750 (1980): Steam engine I still think this set is marvellous, even though it only contains the “basic” pieces from that time (especially bricks, plates and slopes). Today we have a wide palette of pieces to create almost any object, but I insist that this set was a small work of art.



Set 7755 (1983): Diesel locomotive Together with another diesel engine (7760 from 1980) they make a veritable collectors duo. I don’t even want to have a look at what a set like this goes for almost 30 years after it was launched.

After praising the technical possibilities of this system I realise I haven’t mentioned the 12V train sets themselves. This is when I start to feel dizzy. The first sets were not very different from the 4.5V system as far as design and style were concerned. But from 1980 till the end of the 12Vsystem (in 1986), LEGO® came up with new must have TRAIN set every year.

Set 7740 (1980): Inter-City Passenger Train The style is more similar to the 80s sets (although the design of the pantograph is still a long way off from what we have today). It is very similar to set 7725, another passenger train, but in red which was launched one year later.

Set 7745 (1985): High-Speed City Express Passenger Train For me this is THE 12V set. This is something very personal, and probably the result of the hours, days, months, even years I spent poring over the 1985 catalogue I mentioned at the start of this article. Although the younger ones among you may think this set is excessively “retro”, its simple design and the wedge shape have always fascinated me. The pantograph is better and the red-white-black colour combination is spot on. Getting this train isn’t just hard because of the price, but because of its availability.

And I almost forget the cargo trains, 7730, 7727 and 7735. Now let's have a look at some other important elements in any TRAIN display: train station, level crossings, cargo stations and wagons.

TRAIN STATIONS (4.5V and 12V)

With respect to the stations, the difference between the two systems was rather unclear. It is simply a case of changing the tracks that come in the set to make a station that was officially catalogued for one system belongs to the other.

However, this article will respect the criteria of the LEGO® Company, which included 4.5V rails in all pre-1986 sets, and no electric rails, so they are all considered 4.5V train stations.

Let's start with the first one, set 148 (1975):

Of a rather simple and minimalistic pre-minifig design, the set was a clear starting point for later stations.

In 1980 LEGO launched the 7822 set, a cosy station that is not in any way inferior to any of the better known ones.

The footbridge that crosses the tracks gives it a special touch that has been recovered recently (in 2010) in set nº 7937. The height of the station is quite limited in my opinion. It may have been due to this footbridge that the height of the station itself was limited to a single floor. An extra level would have made it almost perfect.

I love the boxes of these sets, especially the rear part, which, just like the B-sides of the old 45 rpm vinyl disks (singles), used to hide little treasures. In our case that would come in the shape of images of alternative constructions.

And three years later, in 1983, LEGO launched the 7824, another 4.5V station, once again red, once again full of minifigs which must have been the delight of the kids of that time... and currently of one AFOLs or two:

The footbridge from the previous model was eliminated, but an additional floor was added, making the station more realistic. With its nine minifigs it was impossible to get bored.

As you can see, LEGO only considered including 4.5V system rails in each case. By simply adding the central electric rail you could use the 12V motors.

LEVEL CROSSINGS (4.5V and 12V)

Another key element of any TRAIN layout is the level crossing with barriers. If we go back to its origin, we find the first set that contained one, 158, which was launched in 1969.

A simple mechanism that incorporated a platform for the rails. As can be seen, the central part came prepared for inserting a 12V electric rail.

Another quite similar set (the barriers are the same as in set 158) but which included a little house for the man in charge of changing the switch, is 146 from the year 1976.

A special mention for set 7834, which in my opinion was the most charming one of its kind:

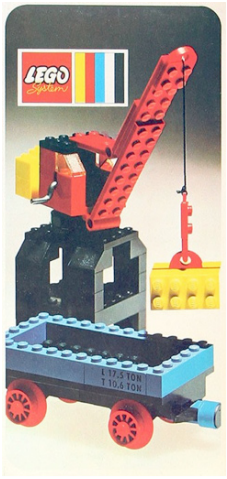
The house captures the essence of the 80s which marked my childhood, with only 30-40 pieces. It was launched in 1980 and in this case came with an electrified 12V switch. The cypress tree makes the set even more expensive nowadays.

Another similar set is the 7835 from 1985, but the real totem of the level crossings appeared one year earlier. That was set #7866:

The true value of this set is not its looks (I prefer 7834, but the fact that the barriers could be remote controlled: an exclusive feature of the 12V system. Additionally it is the first level crossing to include two parallel tracks.

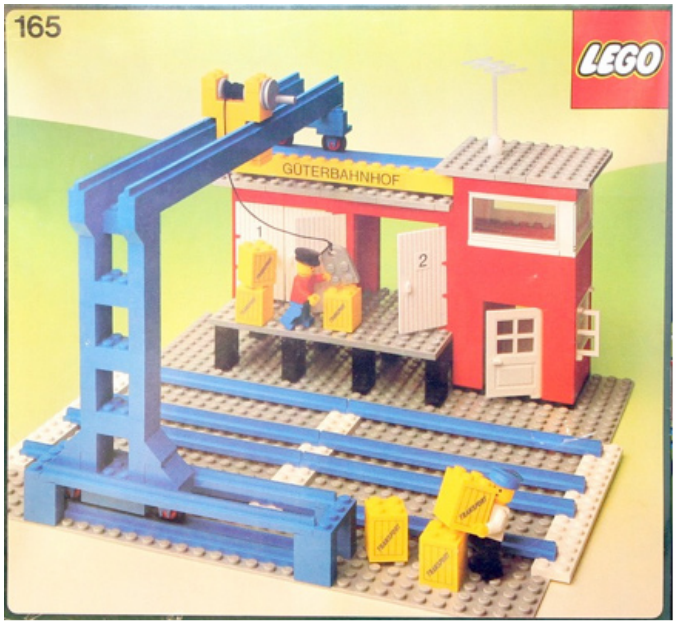
CARGO STATIONS (4.5V and 12V)

Another very typical set in a TRAIN layout is a cargo station. With a crane and a special cargo wagon and you have a cargo station. The first set of this kind appeared in 1972 and recreates a harbour crane. The set number is 132:



A few years later in 1976, set number 149 was released; a simple refinery or cargo station for fuels:

But the authentic cargo station had its origin in 1978 with this model of a cargo station, set number 165:



As you can see, we still have the typical blue rails of the older 4.5V system, but the design of the crane is maintained for several years. For example in set 7823, which appeared in 1986, but still had the essence of 165?

However, although I have never hidden my preference for sets from the 80s, in this case I must recognise that the best cargo station appeared in 1995: it was the 4555, from the 9V which we will have a closer look at in the next issue.

Another type of station that doesn't include the typical harbour crane on rails can be seen in these two sets: 7838 (from 1983) and 7839 (from 1986).

This last one recreates a cargo station for vehicles; and although the wagon the cars are loaded onto is rather discreet, the set itself is really nice.

SPECIAL WAGONS (4.5V and 12V)

We'll end this first TRAIN article with the extension sets that consisted in individual wagons to expand our relatively short trains. Of course a complete train set can only include one or two wagons in addition to the engine or locomotive. If we want a more realistic train, the extension sets are the way to go.

Like in the previous sections, let's start with the oldest set, even though their style is quite retro. In 1966 we find set numbers 152 and 153, which consisted of a simple platform with wheels so you could design your own wagon.

The first true wagon as an individual set arrived in 1969 with set numbers 123, 124 and 125. Set 123 recreated a passenger wagon.

As you can see, the aesthetics of that time were quite different from those used now, but it serves as a reference.

Years later a simple wagon with crane appeared in set 128.

It of course doesn't look much like the unsurpassable 4552 (in the next issue...), but again this is a pioneer set. Another very typical wagon is the tank wagon; and although the first one appeared in set 136, I can't pass up the opportunity to show you the most beautiful one of all, the 7813:

To finish off this article, what better than choosing the most beautiful and endearing wagons of all. They are, of course, from the 80s, and although nearly 30 years have passed since then, they would still fit in nicely with any current train. A

passenger wagon and two mail wagons.

The 7815: passenger carriage

The 7819 and 7820: mail wagons

With these little beauties I finish this “review”. In order to know if this article has truly reached your heart, there is an infallible test. On seeing a LEGO® set with a number starting with 77 or 78, a deep feeling of emotion and nostalgia should warm your AFOL heart. If it does you are lost: there is no cure for the TRAIN virus.

In 1986 TRAIN disappeared for 5 long years. The 4.5V system maybe due to its excessive simplicity; the 12V system possibly due to the need for maintenance on the central electrified rail. The fact of the matter is that we had to wait until 1991 to see new LEGO trains. But that, my friend, is another story...
#

Panzerbricks

Panzerbricks 2008-2011 III Anniversary

By HispaBrick Magazine
Pictures by Legotron

Although there is no specific line of military constructions, the design of MOCs of military vehicles built with LEGO® pieces is very widespread among LEGO fans, due to their spectacularity and the endless possibilities offered by LEGO® parts.

HispaBrick Magazine: August 2011 marked the third anniversary of Panzerbricks, a project about construction of military vehicles that year after year has grown in number of followers, and MOCs. We talked about Panzerbricks to the person behind this project, A. Bellon (Legotron). So, how would you summarize these three years?

Antonio Bellón: Three years is a long way. As we told in Hispabrick Magazine 004, when we were interviewed for the first time, it all started in the Hispabrick 2007 event. This was a collaborative work with another great builder of military vehicles, Carlos Encinas (Henry_Chinasky). The Blog Panzerbricks and the whole idea of the project, as it has come so far, was born in August 2008, but this time as a personal project, since I could not count on the help of Carlos. From then until now its evolution can be divided into two parts, one referring to the construction of vehicles and the other referring to spreading Panzerbricks on the Internet.

Regarding the construction of all those new vehicles, it has undoubtedly been very entertaining. The project has grown from half a dozen designs to more than 30 that exist now. Even some of the early models have had an update to include new features that were not possible with the parts and techniques I used when I started. All the early models were updated except the first one, which remains unchanged. As I learnt more different techniques that allowed me to deal with more complex designs, I have created more types of vehicles, and no doubt it has been really fun and rewarding.

Regarding the Internet, it has been something totally unexpected and it has required a great deal of work to keep the project up to date. The Blog was written only in Spanish, and it was expected to be something with very little significance, but after 6 months visits and messages from outside Spain outnumbered those form Spain. So I considered doing the Blog both in Spanish and in English, but having to maintain two parallel Blogs meant a lot of work. Due to the experience I have with my Web LWSImperial with the result that everything is doubled, and therefore I have to do everything twice, that idea was all but good. After thinking about that I decided to open a gallery at Flickr for the pictures spotted in Panzerbricks where I could answer in both Spanish or in English, depending on the question, without having to do everything twice. As new vehicles were finished there was an increasing number of people who wanted to contact me, giving me the opportunity to meet people from many countries. That was a nice way to talk about our MOCs and ultimately share our hobby. Over time I spent more time on “social relationships” than on building, but I must admit it’s has been a real pleasure. Everything built for Panzerbricks is posted in the Blog and I like to talk to my contacts on what they think of my last MOCs.

HM: Why did you choose the name of Panzerbricks?

AB: I wanted to give the project a specific name, and to make some other projects like Alliedbricks or ruskybricks in the future. The word Panzer is the term used for the German tanks, which was the part I wanted to do, so that’s the reason the project was called Panzerbricks. When I had to face the whole project alone, I decided to discard the others and I focused all my efforts only on Panzerbricks, until today.

HM: It is a little contradictory to build these MOCs so sharply related to warfare with a toy like LEGO, isn’t it?

AB: Well, I reproduce historic vehicles but not the ideas or attitudes they may have related to. So far in all the pictures I've been posting in Panzerbricks, I have focused on the vehicles only. I try to be careful not to include certain "inadequate" symbols or distasteful scenes. It's just a LEGO® construction. From that point of view a pirate ship or a tank are the same military related thing, so you have to focus on the MOCs and not its historical connotation.

HM: Is there any way to know how you choose the models you are going to build?

AB: It is something that is difficult to explain. It could be said that there is a list (secret) that is based on the 1/72 scale kits I have. It is also influenced by the fact that there are some vehicles I like more and others that aren't interesting to build. I know a lot about military vehicles from World War II so I know most of the vehicles and there are many to choose from. So those two parameters are the most important ones when choosing the next vehicle I want to try to build with LEGO pieces. There are even times when I'm building a vehicle suddenly some ideas come to my mind for building another one, and if the new idea is more interesting than the current build, I leave it and I begin to work on the new design, so that I always have some unfinished models in my work area.

HM: Are there any of your favourite vehicles yet to be built? Or do you think all expected models to be built are finished?

AB: Yes there are several of my favourite ones waiting to be built. Among those ones whose designs are finished there are three of my top five list: the battle tank Panzer IV, undoubtedly my favourite one. The SdKfz 251 half-track and the Opel Blitz truck. The two missing ones are the Stug III assault gun and the Panzer VI Tiger I battle tank. I have designed a Stug IV instead of Stug III; they are very similar but not the same, so it is an outstanding issue. The Tiger is almost ready, barring some details. Therefore, the Stug III design would the last of my top five favourites pending to be built. When I design a model I like to explore all its variants, so until I finish all the Panzer IV variants I want to build I'm not going to start with the Panzer III (the stug III belongs to the Panzer III vehicles family) and therefore it is a long-term project.

Regarding how many models I'm going to build, I think there are a lot of different models to design, but there is a limit: when I get bored of tank designs I will finish the construction of new vehicles. Now I like to do it because it is fun and entertaining. I like to build unknown vehicles as they are a great surprise and there are many of them to build.

HM: Are there many other builders who build tanks and military vehicles. Do any of them catch your eye?

AB: Yes, many. I'm interested in those builders who mainly use minifig similar scale. When I say similar I mean compatible with minifigs, sometimes a little oversized (that's my case) and sometimes not, but always consistent with the minifigs. It's nice to see how people make different designs of the same model, to discover how they use some of my techniques or learn how to use their own ones. It is just curious to see how some of the pieces you've never used can have applications in most unexpected ways.

Among all those builders the one I like most is Daniel Siskind, especially for the way he has evolved his models, some of them up to 3 or 4 times, and also the great variety of his constructions. He adds many features to the vehicles, including detailed interiors, which are not visible unless you dismantle some parts of the vehicle. He isn't the only one; there are many builders who are truly exceptional builders. You could say that in the past two years the increase both in quality and in quantity of tanks and military vehicles of LEGO parts has been enormous.

Although there is no specific line of LEGO about tanks and military vehicles there are many people who design and build this type of vehicles. Although not as spectacular as a 6 meters ship, 2 meter high skyscrapers, or a 200,000 piece castle, there is no doubt for those who like the construction of military

vehicles, that the availability of them that can be found on Internet, both in quantity and quality, is amazing.

HM: There is something that stands out in your MOCs. You never build detailed interiors, do you?

AB: Yes, it's true. I only make detailed interiors when you can see them without removing any part of the vehicle. That's one of my ideas, if you do not see it why add them? The main reason is because you save a lot of money on those parts needed to build detailed interiors, and thus I'm able to use that money for new vehicles.

Every time I build a new tank or other vehicle is not intending to be dismantled and integrate it into the collection. That forces me to buy more parts every time I make a new vehicle. Even sometimes you can omit some details of the original vehicle to get a nicer reproduction in LEGO®. Indeed, sometimes you have to add or remove details of the original vehicle, because the LEGO MOC is not that good. This is the case of the SdKfz 251 half-tracks, which only had one headlight on one side, but this detail in the model of LEGO pieces is really bad and it is preferable to place two headlights.

HM: But, construction of LEGO parts can be disassembled to use the parts in other constructions, that's the essence of LEGO. Why do you worry about it?

AB: Well, I couldn't do it. Once the vehicles are built I don't want to disassemble them, they are a part of my construction effort, and I want to preserve them all. The idea of Panzerbricks is to gather a collection of vehicles so that it can be expanded and improved with new ones year after year. The Panzerbricks project, In addition to its webcasting, has been made so that it can be shown at events related to LEGO or military vehicles. The fact that Panzerbricks has been displayed at six events in the last three years is evidence of what I mean. This project goes on, and will continue as I continue having fun with it. Furthermore, I have met a lot of people thanks to Panzerbricks and this is very important and a good reason not to give up.

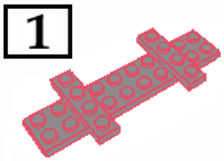
The fact of not disassembling the vehicles forces me to slow down the building process, because my stock of available parts falls to zero many times. I have to wait until I buy new parts, and I have to compete with other projects such as castles and the Star Wars hangar, as they all need a lot of light bluish-gray parts.

HM: And finally, are there any anecdotes you can tell us?

AB: Now I can say that I now have 4188 track links (Technic Chain Link 3711) in the collection, I've just checked one by one.

On the other hand, to celebrate this milestone I've decided to publish here in Hispabrick Magazine the only instructions of a Panzerbrick vehicle I've ever made, so that readers can enjoy the small Kübelwagen passenger car.
#

1



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2 x Plate 1x4 (LBG)

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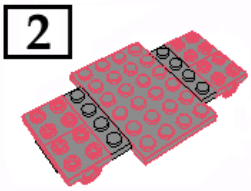

1 x Plate 4x6 (LBG)
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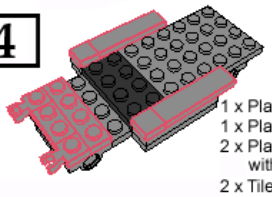
4



1 x Plate 1x2 (LBG)
1 x Plate 1x4 (LBG)
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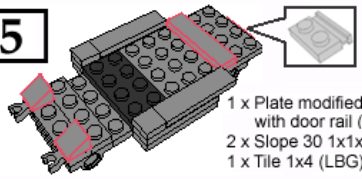
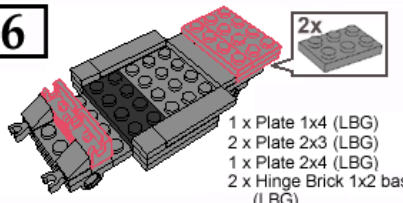


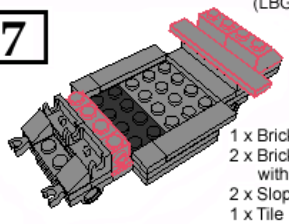
1 x Plate modified 1x2 with door rail (LBG)
2 x Slope 30 1x1x2/3 (LBG)
1 x Tile 1x4 (LBG)

6



1 x Plate 1x4 (LBG)
2 x Plate 2x3 (LBG)
1 x Plate 2x4 (LBG)
2 x Hinge Brick 1x2 base (LBG)

7



1 x Brick 1x2 (LBG)
2 x Brick modified 1x2 with headlight (LBG)
2 x Slope 45 2x2 (LBG)
1 x Tile 1x6 (LBG)

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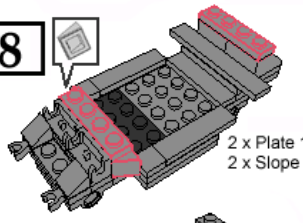
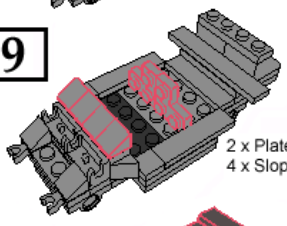


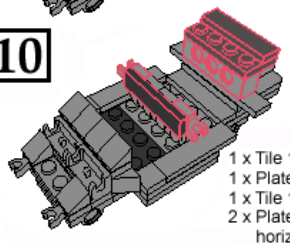
2 x Plate 1x4 (LBG)
2 x Slope 30 1x1x2/3 (LBG)

9



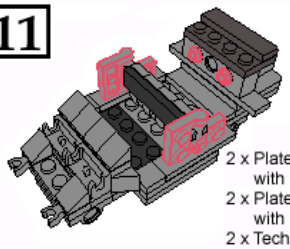
2 x Plate 2x2 corner (LBG)
4 x Slope 30 1x1x2/3 (LBG)

10



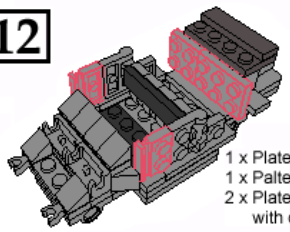
1 x Tile 1x4 (Black)
1 x Plate 2x4 corner (DBG)
1 x Tile 1x4 (DBG)
2 x Plate modified 1x1 with horizontal clip (LBG)
1 x Technic Brick 1x4 (LBG)

11



2 x Plate modified 1x1 with horizontal clip (LBG)
2 x Plate modified 1x2 with handle type 2 (LBG)
2 x Technic Pin 1/2 (LBG)

12



1 x Plate 2x2 (LBG)
1 x Palte 2x3 (LBG)
2 x Plate modified 1x1 with door rail (LBG)

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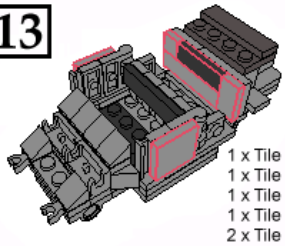
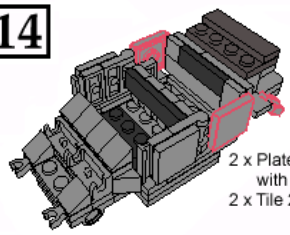


1 x Tile 1x3 (Black)
1 x Tile 1x1 (LBG)
1 x Tile 1x2 (LBG)
1 x Tile 1x4 (LBG)
2 x Tile 2x2 (LBG)

14

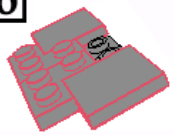


2 x Plate modified 1x2 with horizontal clip (LBG)
2 x Tile 2x2 (LBG)

15

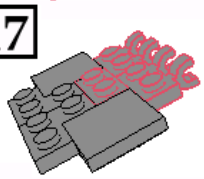
2 x Hinge Brick 2x2 top plate thin (LBG)
1 x Plate 1x2 (LBG)

16



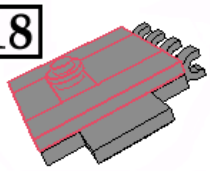
2 x Plate 2x2 corner (LBG)
2 x Tile 2x2 (LBG)

17



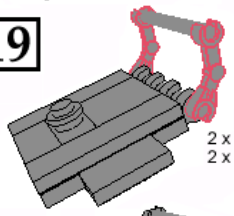
1 x Plate 1x2 (LBG)
4 x Plate modified 1x1 with horizontal clip (LBG)

18



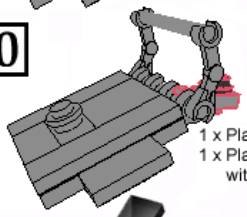
1 x Plate modified 1x2 with one stud (LBG)
1 x Plate round 1x1(LBG)
1 x Tile 1x2 (LBG)
2 x Tile 1x4 (LBG)
1 x Tile 2x2 (LBG)

19



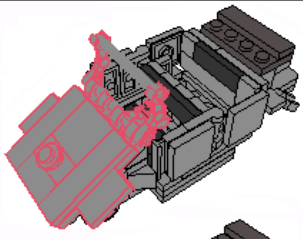
2 x Bar 4L lightsaber blade (LBG)
2 x Minifig body part arm mechanical, battle droid (LBG)

20



1 x Plate round 1x1 (Black)
1 x Plate modified 1x2 with horizontal clip (LBG)

21



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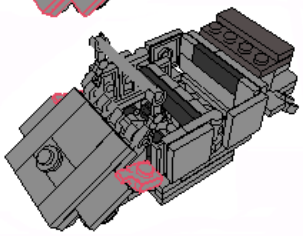


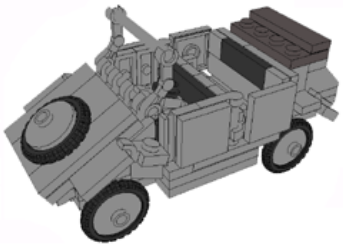
2 x Plate modified 1x1 with horizontal clip (LBG)

23

4 x Dish 2x2 inverted (radar)(LBG)
4 x Plate round 1x1 (LBG)
4 x Technic Pin 1/2 (LBG)
4 x Tire 21x6 mm City Motorcycle

1 x Dish 2x2 inverted (radar) (LBG)
1 x Tire 21x6 mm city motorcycle

24



DBG = Dark Bluish Gray colour

LBG = Light Bluish Gray colour

“10.000s”: A wink to the AFOL

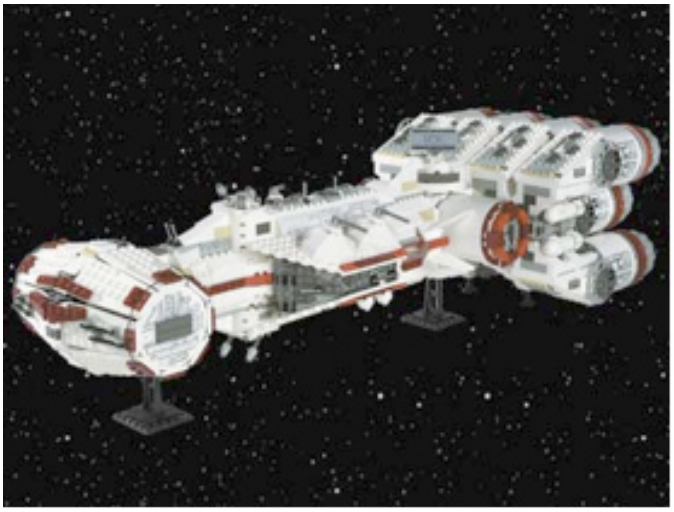
Text by Otum
Pictures by www.brickset.com and LEGO® Systems A/S

Keep this year in mind, 2001. No it´s not related to a space odyssey, but with one of the LEGO®'s initiatives deciding to launch a theme that is commonly known as the “10,000s”.

It has been over a decade since LEGO started the 10,000 series that was clearly aimed at the AFOL community. The start of this series was centred on three themes, legends, with re-editions of the mythical Metroliner and Club Car, as well as the set that started the 10,000 series, the Guarded Inn.

Another theme that was launched at the beginning was “My own train, which presented a series of wagons to create your own train set, but what really captivated the AFOLs was the third theme, Star Wars™, with the edition of a bust of Darth Maul and the Rebel Blockade Runner, starter of a series later known as the UCS (Ultimate Collectors Series).

The next year the existing train theme was continued, bringing the Santa Fe to the market, with an engine and two wagons.



These wagons allowed for the possibility of creating up to five different wagon designs. A steam engine was also added to the “My own train” theme, with the possibility of changing the colour scheme. The legend theme incorporated sets like Pizza to go, Breezeway café, the Black Falcon Fortress and the also mythical Black Seas Barracude. For Star Wars it was extended to include the Naboo Starfighter and the magnificent Imperial Star Destroyer, one of the sets with the largest piece counts in the history of LEGO: approximately 3100.

That year two new themes were added, sculptures, with the 10.024 Red Baron, a sculpture of the trideck Red Baron plane and the Seasonal sets, mainly centred on festivities like Christmas, Easter or Halloween. This new theme had sets like Santa Claus and Christmas Tree and a Reindeer.

We have arrived to 2003, the year in which LEGO launched the Cloud City set which showed a diorama of different Star Wars scenes that occur in cloud city and, to top it all off, a UCS Snowspeeder. In the Legends theme Main Street was brought out, a marvellous set that is a must-have in any City display. Also for City, although without much logic to be honest, LEGO included two sets that were more typical of Trains, the Train Engine Shed and the Train Level Crossing.

More Seasonal sets were brought out, including Mr. Bunny, Snowman and an Angel, adding other small sets under the name Birthday Pack, which include a heart or a star among other designs. As a new theme in this series the Bionicle Takutanuva was launched as well as the Sports series with the NBA Basketball Teams and the NHL Action Set. Also another of the sets that today is considered mythical was launched, the U.S.S. Constellation, not forgetting the occasional incursions LEGO made into space related sets with the 10029 Lunar Lander.

2004 as a year is hard to place, but the explanation is simple: from the point of view of the 10.000s the feeling is that LEGO has changed the way it organises these sets as with the exception of the 1011 Hot Rod “Blue Fury”, a Brickmaster set and two seasonal sets (Elf Boy and Elf Girl) it looks like LEGO has decided to launch only ‘normal’ sets in existing themes. Legends disappears. The Clickits theme brings accessory and decoration sets. There are also a couple of Bionicle sets, Toa Lhikan & Kikanalo andUltimate Dume. For City there is Sow Truck and City Airport (10159) and a high speed train divided into two sets, one with the engine and the other with the passenger car, 10157 and 10158 respectively. A special mention for the star of the year, the Maersk Sealand, another one of the must-haves.

As far as licensed sets are concerned there was the motorized Hogwarts Express and two Star Wars sets, the TIE Fighter Collection with minifig scale sets and the UCS Y-Wing Attack Starfighter that deserves a spot in the top 10.

2005 was a very thin year as far as the number of sets that were issued is concerned, but incredibly interesting from the AFOL point of view. In addition to the already traditional Bionicle, Vaporak, and two Seasonal sets, Mrs Bunny and Chicken and Chicks, LEGO® brings out four sets that are included in the top 25, the Death Star II and the Sandcrawler for Star Wars™ and the BNSF GP-38 Locomotive and the great TTX Intermodal Double-Stack Car for Trains, as well as the 2005 version of the previously mentioned Maersk Sealand. As you can see, limited in number, but of great quality.

The next year there is yet another edition of the Maersk Sealand. There are also the usual Bionicle sets, the Vezon & Kardas and the Seasonal set Snowflake.

In this year LEGO publishes two Star Wars UCS, the Imperial AT-ST and the Vader's TIE Advanced. There is a wink to the Castle fans with the King's Castle (10176), one of the bast castles LEGO has ever made.

Special mention is deserved for two other sets that appeared that year, the Boeing 787 Dreamliner, a type of UCS, but of a plane and the charming Holiday Train, a very complete and interesting steam train that includes an engine a passenger wagon several flat wagons and a truck in the same set, all with a Christmas design.

If in 2005 and 2006 the 10.000 sets were scarce, 2007 is even thinner with only 6 new sets, but what sets!! The Star wars theme gets a motorized AT-AT and the unique Millennium Falcon, with a cool 5195 pieces, the biggest LEGO set ever.

In this year we sea the beginning of a new way of cataloguing the 10.000 sets, as in addition to classic Star Wars there are three new series, the Landmarks theme with the Eiffel Tower, the Factory theme, with the interesting Hobby Train Set and a set, the Market Street, which although LEGO includes it here, ought to be in another new theme LEGO launches in this year, the Modular Buildings, with the Coffee Corner as a starter.

During 2008, the number of new sets increased. Following the new division, the Star Wars theme gets the mobile sculpture General Grievous and the indescribable Death Star which is incomparably better than the previous version. You simply can't NOT have this set! The Factory theme presents the Star Justice and Space Skulls, centred on a space theme, and the Custom Car Garage, for lovers of car tuning. There is also a new Landmark, the Taj Mahal with almost 6000 pieces... words cannot describe. We shouldn't forget the Volkswagen Beetle.

The highlights of that year are the Death Star, the inimitable Green Grocer for the modular buildings and the Town Plan commemorating the 50th anniversary of the LEGO Brick with three golden bricks and a recreation of the original box in a more modern version. Another must-have.

The launch of Town Plan could be seen as the start of a new series in the 10.000s which you might call "various"since looking at the new sets that appeared in 2009 there are several that don't really fit into any of the categories mentioned so far. Also there is Factory.

As mentioned previously, in 2009 there were three sets that could be included under "various" since each one of them belongs to an existing LEGO theme, but their design merits inclusion in the 10.000 series. The first of these is the Grand Carousel, interesting because of its circular design. Then there is another top 25 entry, the Emerald Night, a set that is even better than the Metroliner, and finally a set that has caused many to become followers of the medieval theme, the magnificent Medieval Market Village.

If we concentrate on the themes that are used currently, in Star Wars™ we have the Republican Dropship with AT-OT Walker and the Tantive IV, both in minifig scale In the Modular Building theme what may be the least interesting set in this theme, the Fir Brigade.

This year marks the start of another theme that will be repeated each year, the Winter theme, with the Winter Village Toy Shop as the first set. Ahh and we shouldn't forget the gesture made to the MINDSTORMS fans, the NXT Intelligent Brick in black!

2010 is the year that brings us a new version of the Maersk Sealand, in case there was any doubt it was a hit among AFOLs and we were also presented with two new Star Wars UCS, the Obi-Wan Jedi's Starfighter and the Imperial Shuttle. Also there are two sets that anly fit in the "various" group, the Shuttle Adventure, a set for space fans, and the Imperial Flagship, an excellent reproduction of a ship worthy of the most intrepid pirate.

Going back to traditional themes, we find another Landmark set, the Tower Bridge of London. In the Winter series there is the Winter Village Bakery, a set that goes a little further than the Toy Shop as it has more 'body', increasing the scenes compared to the previous set. Finally there is the Grand Emporium, a Modular Building, another must-have set that will be difficult to equal.

And so we reach the present, 2011. Here we find some interesting things for MINDSTORMS fans, the Compass Sensor and the Colour Sensor, as well as a modified re-edition of the Shuttle Expedition from 2010.

If we concentrate on the classic series of the last couple of years, Modular Buildings brings us the Pet Shop, a modular building that actually consists of two. The new UCS is a set that no doubt will end up in the top 10, the Super Star Destroyer; not as spectacular as the Imperial Star Destroyer, but certainly very attractive. The Winter series adds the Winter Post Office, which, like previous years, is a notch better that the foregoing sets in the series.

Finally in 2011 there are three new sets that fit in the "various" group. The Diagon Alley in the Harry Potter theme is very interesting for the pieces it includes. There is also an attractive Volkswagen TI Camper Van and a new delightful set for Train fans, the Maersk Train.

After all the foregoing one thing is clear: LEGO® knows the market of the AFOLs, and how demanding they can be. It is for this reason that each year again there is a lot of speculation about what the next modular building, UCS or, of late, Winter set will be. So I can only say one thing: 2012 is just around the corner. Yippee!!
#

Super Robo Rally

By Steve Hassenplug and Jetro
Pictures by Steve Hassenplug

The game Robo Rally was designed in 1985 by Richard Garfield, who later created the card game Magic: The Gathering. It was originally published in 1994 and a number of expansions sets were published. Many other alternative boards have been designed by fans of the game and the game was rereleased in 2005.

The mechanics of the game are quite simple, but the game results unpredictable enough to keep it interesting. At every turn the player receive a set of cards from which they choose the most appropriate ones to program their robot. The board represents a factory floor and the robots need to cross it to pass through a series of checkpoints. The objective is to be the first to complete the course, but there are numerous obstacles: conveyor belts can help you in the right direction, gears turn you around, your opponents can push you off your course and lasers can cause you damage that limits your operating capacity.

If you want to get a feel of the game I recommend you visit this demo to see a videogame version of Robo Rally:
http://www.wizards.com/avalonhill/robo_demo/robodemo.asp

After the success of Monster Chess, a huge chessboard on which motorized chess pieces equipped with MINDSTORMS NXTs have it out in a game that somehow reminds you of the giant chess scene in from the Harry Potter movie, the creators of Monster Chess set out to do something new, more colorful and even bigger: Super Robo Rally.

If you thought computer games were going to make board games a thing of the past, Super Robo Rally adds a new twist to games: programming robots to play a board game! I talked to Steve Hassenplug, the main man behind this creation, and this is what he told me:

Why Robo Rally

Robo Rally is a game that I've loved for many years. It's designed around programming robots to race around a factory. It's a very fun game that was almost made to be recreated in LEGO®. It's a game where people are programming real robots to drive around a very large and colorful game board.

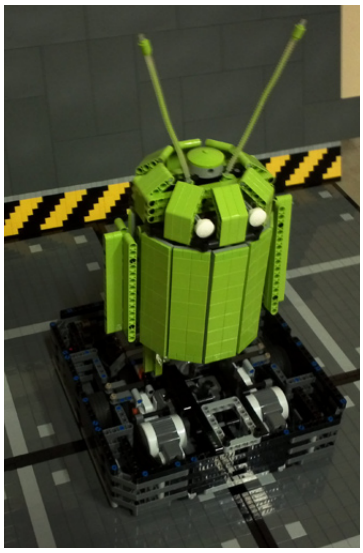
The Board

After making Monster Chess, we realized we could use the same scheme for a board for Super Robo Rally. The first "trick" is to create the border, which defines the size of the board. The border is made of 48x48 baseplates, covered in 8x16 tiles. The border pieces are all connected together, using the same 8x16 tiles. In the game, the border is defined as a pit, so we've also included an 8-stud "warning track".

Thanks to LEGO tolerances, none of the baseplates inside the border need to be connected together. Using this border system allows us to put the board baseplates in any location we want.

The actual images on the board were all hand-drawn. I wanted the images to be very crisp and clean, and most software seems to blur the edges of the lines. So, in the end pretty much everything was hand-drawn as a 48x48 pixel image.

The hardest image was the gear. Making it look round, with teeth and arrows, at a very low resolution was a real challenge. I think we went through about 15-20 different versions before creating the final version.



We're not sure exactly how many pieces we used on the board. Each image is a combination of 1x1 tiles and 2x2 tiles. I'm guessing we used about as many 1x1 as 2x2, which means about 460 of each for a single baseplate, or somewhere around 132,000 for a 12x12 board (not counting the border)

Each square on the board also has a line that the robot can use to navigate. The line is light-gray, so some of the colors are lighter, and others are darker. The robot has to do some fancy line-following to stay on the line. We're still trying to improve that.

The game has walls. The robot can not drive through a wall. In Super Robo Rally, the walls are the only board element that actually sticks up on the board.

The Robots

The robot bases are exactly the same as the ones used in Monster Chess. In fact, we need to build more bases. Right now, we have to share them between the two games. In Super Robo Rally, the robots actually use a simpler program. While the chess robots know their current location, and can calculate a path to a new location, the SRR robot software takes simple commands, like "move forward 1 square" or "turn right 90 degrees", so the robots know very little about their own location, or the location of anything around them.

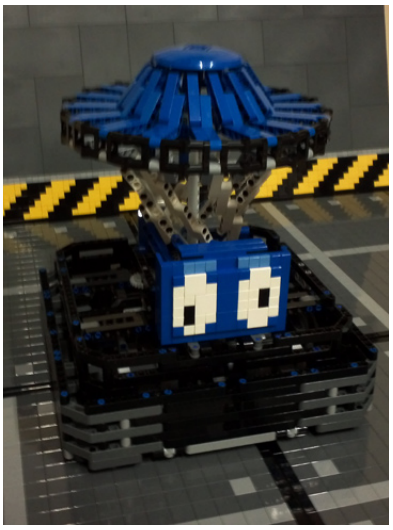
Much like the knight in Monster Chess, all the robots have some special action they can perform while they are moving. This action does NOT take place when the robot is being pushed by another robot, or when the board effects are causing the robot to move.

Currently, we have eight robots:

Name	Builder	Action	Comment
Twonky	John Brost	Arms and legs move	Most identifiable and popular robot from the actual game
Zoom Bot	Steve Hassenplug	Wheels spin	Actual game robot
Spin Bot	Bryan Bonahoom	Whole body spins	Actual game robot
Twitch	Steve Hassenplug	Tank Treads run	Actual game robot
Hulk x90	John Brost	Originally, the extra motor would cause the tank to fire a dart. In the second version, Hulk has been colored green, and the treads move when it's active	Actual game robot
R2D2	John Brost	Head lights up and turns	Famous robot
Android	Steve Hassenplug	Wiggles arms	Famous robot
Alpha Rex 1.0	LEGO®	no current action	LEGO MINDSTORMS hero model
Wall-e	???		Coming soon

My favorite is Android, but when we play, I usually let someone else have it, and I pick Twitch, because the moving tracks are cool

The pieces can NOT physically push each other. Thanks to some advanced navigation commands from the PC, a “pushed” robot will turn to face the direction it’s going to be pushed, both the pushed and pushing robots will move, and then the pushed robot will turn to face its correct direction, again.



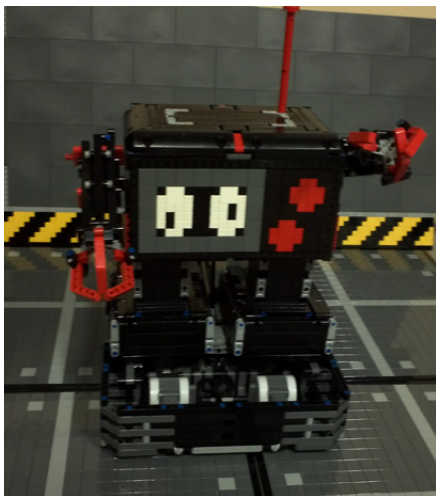
Playing the Game

The actual game is all controlled from a PC. The PC shows the board layout, robot position, and has a second screen to display game information like damage, lives, and flags touched.

John built a card dealer that randomly deals RFID cards to the players. After the players select their cards and put them in order, they are placed in a scanner, where they are read and sent to the PC. Then, the PC calculates all the movement, and creates a list of moves. When everyone is ready, the PC connects to all robots via Bluetooth, and sends the commands to move robots in the correct order.

The PC software was written in C#, and the robot software was written in NXC.

Normally, Robo Rally games will be played on two or three 12x12 boards. Super Robo Rally is played on a single 12x12 board, meaning robots are constantly bumping into each other, and pushing each other off course. In a single phase of the game, each robot would make one move (a move could be up to three squares, depending on the cards a player has) and frequently one robot will push other robots, before they push the first robot back to its original square.



When we’ve taken it to a show, games have been limited to one or two hours, so we made sure to configure the board so no one would finish (and end the game) before time expires. So the length of the game can be controlled by changing the board layout. I think we’ve played for as long as three or four hours.

Shows

Super Robo Rally debuted at Gen Con 2011, which is a large gaming convention.

Many people at Gen Con already knew what the game was, and I had someone say “They took Robo Rally, and added extra AWESOME”. There were many very positive comments. On the other hand, we also took it to Brickworld Ft Wayne, where few people knew the game. While everyone seemed to enjoy the artwork, and had fun watching the robots, we had to spend a lot more time explaining how Robo Rally is played.

In the end, it doesn’t take too long to explain, and most boys have to be drug away by their parents.

We don’t have too much scheduled, but SRR will be at Brickworld 2012 in Chicago.

Curious for more? You can see Super Robo Rally in action searching for “Super Robo Rally” on YouTube.
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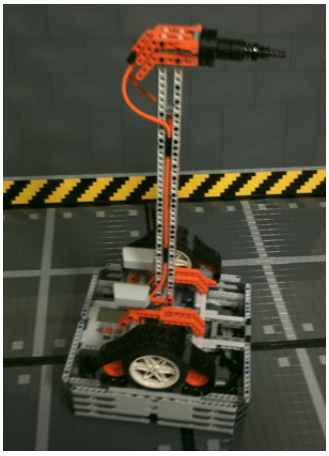


Efficient LEGO structures: Technic mechanical measurements & tips

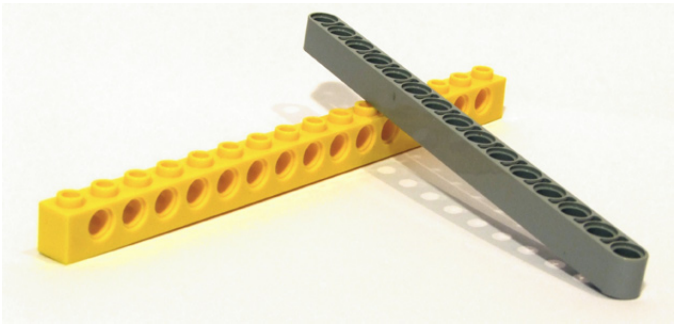
By Oton Ribic

One of the common problems designing Technic models regards judging the adequate amount of structural reinforcements. Too little and the model will bend and twist, or even collapse; too much and the model will have less available space for functions, possibly be compromised aesthetically, and heavier — again, perhaps requiring further reinforcements. Though this problem of balance arises in every at least medium-sized model (in fact, not only in LEGO® but mechanical engineering in general), one way of minimizing it is to ensure the reinforcements being maximally utilized in the first place. The aim of this article is exactly to provide the measurements and resulting guidelines for Technic structural efficiency.

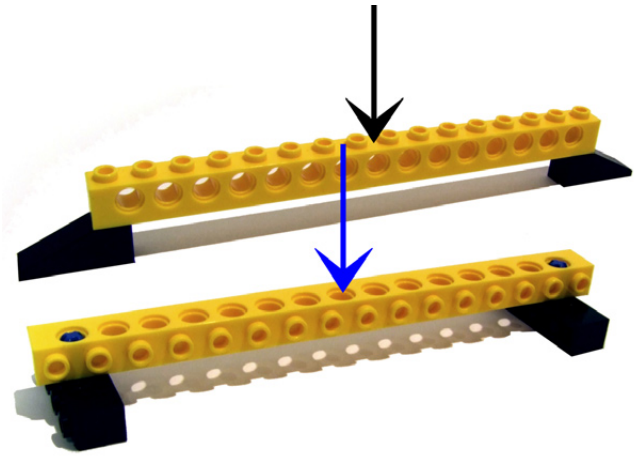
Let us begin by addressing one very common discussion topic among Technic builders: difference in strength between studded and studless beams — our elementary structural parts. We can safely assume that both types of beams, and most other LEGO parts for that matter, have more than sufficient strength when subjected to compression or tension, i.e. pushed or pulled lengthwise. It is bending that causes most problems in practice. There are two basic planes of bending regarding to the orientation of their holes — let's call them vertical (perpendicular to the holes), and horizontal (parallel, along the holes).

There is little doubt in studded beams being noticeably stronger than their studless counterparts, but they are significantly heavier as well. How much exactly, and which offer a better deal? For the measuring purpose we can build a simple bridge that secures the beams' ends, provide simple downward force on their center, and measure the displacement.

Using the 16L studded and 15L studless beams which are roughly equivalent, the results get quite interesting. Subjected to a force of 25 N (weight of 2.5 kg), the studless beam bends 1.5 mm, while the studded only about half as much: 0.8 mm. Under the identical force but horizontally ("sideways"), both give a little more — studded 1.5 mm, and studless 2.5 mm. The ratio is smaller sideways, which can be attributed to the two beams being of similar width, but rather different in height.



Let us analyze these numbers considering the beams' masses — they amount to 4.1 g and 3.1 g. The studless beam is less than one quarter lighter than the studded, however it barely manages providing half the strength vertically, and not even two thirds horizontally. Studded beams therefore bear much better strength-to-weight ratio, and are subsequently a better building material for the heavily strained main structural parts — a vehicle chassis, a robot's skeleton, etc.

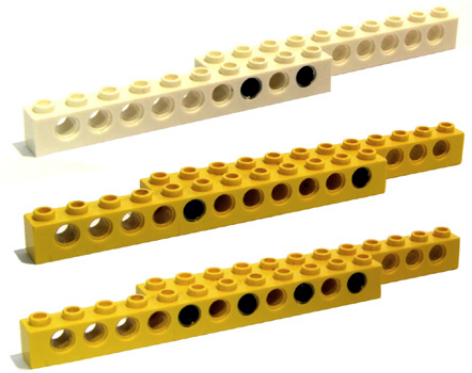


However, the structural strength does not rest on beams alone; the pins connecting them need to be taken in account as well. So let us "split" the 16L beam into two 10L studded beams connected by two friction pins, with a joint section of 4L to get a total length of 16 studs, and subject it to the identical vertical force as before. (Horizontal force would easily disconnect the beams of this structure, so there is little sense in measuring it — it is rather the matter of clever design to avoid the force being applied parallel to the pins.)

Such composite beam loses plenty of its strength — it bends as much as 2 mm vertically. In other words, this connection reduces the strength in comparison to a compact beam as much as four times, making it significantly weaker than the comparable studless beam, too.

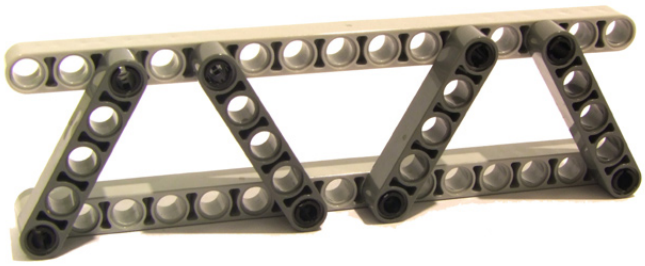
Increasing the joint section should improve the strength: let's replace two 10L beams by a pair of 12L beams, having a joint 8L section connected with four friction pins for a total length of 16L again. Remarkably, it deflects only 0.7 mm in the center, meaning that this type of structure is even stronger than a single compact 16L beam! However, the number of pins connecting the beams is important: removing the two inner pins from this structure increases the bending displacement to 1.5 mm — just like a 15L studless beam. Not troublesome, except for the heaviest models.

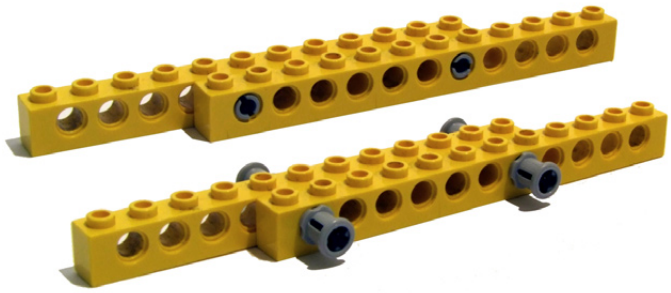
When possible, prefer friction pins for maximum strength, as replacing the two friction beams in this latest structure with two 4L axles with bushings or a pair of frictionless pins increases the displacement by 0.2 mm, that is, reduces the overall strength by about 15%.



For instance, we can compare a “classic” Technic frame composed of three studded beams separated by plates and reinforced by two vertical beams at its ends, to a simple triangular frame built with only 6 studless beams. The first instinct perhaps tells us that the studded structure is massively stronger, and in some respects it is, but subjected to a heavy load from above which will be its typical usage, it all rests on bending of the top 16L beam. The studless structure is in fact several times stronger from above, thanks to its triangular form, and yet almost half as light. In a wider picture, positioning beams wisely is at least as important as their own strength.

The overall strength of a beam structure is, of course, defined by its structural configuration as well. Though there are far too many possible forms to even consider focusing on them specifically, the previous measurements offer useful guidelines. For instance, all the significant forces should ideally act lengthwise along the beams — but if the construction disallows it, a studded beam mounted so that the main force acts vertically upon it, should be a next best solution.





All these facts can be summarized into a few simple conclusions which can serve as building guidelines, which you can read about in the separate frame.

Of course, there are various other measurements that could be done regarding the mechanical properties of Technic parts (such as beam torsion strength, chain drive limits, axle friction and flexibility, etc.) to improve the constructions even further. Thsi time we have focused on beams as the basic Technic building material — but watch this space for further measurement projects!
#

This is the reason why triangular and cross-braced structures are so important and useful in Technic, and mechanical engineering in general. Almost any external force acting on such structures will directly or indirectly subject one or more of its beams to compression, resulting in particularly high rigidity.

Technic Beam Construction Facts:

• In comparison to their studless counterparts, studded beams are approximately double as strong vertically and 2/3 stronger horizontally, yet only 1/3 heavier.
• The overall structural strength is affected much more by the beam connections than the beams’ inherent strengths.
• Important load-bearing beams should be connected by long common sections (e.g. 6L or more). Short common sections dramatically decrease overall strength.
• Higher pin density in a common section (e.g. 4 instead of 2 friction pins) noticeably increases overall joint strength, possibly to even more than that of compact beams.
• Using frictionless pins or axles as beam connectors reduces the strength about 15% in comparison to the friction pins.
• Cross-braced and triangular structures massively increase rigidity, often to higher levels than classic stacked compact beams, yet are significantly lighter.

Tutorial: LEGO® 9V Technic Motors compared characteristics

Philo recaps his analysis of 9V LEGO motors to help us choose the right motor for each application

Text and pictures by Philippe E. Hurbain

The Roster

Electric Technic Motor 9V

Lugnet Partsref 2838c01, Peeron 2838c01, LEGO® 74569

The older 9V Technic motor (1990). Ungeared, it has a high rotation speed and low torque, so for most applications it requires an external gear reduction.

Electric Technic Micromotor

Lugnet Partsref 2986, Peeron 2986, LEGO 70823

Appeared in 1993, this small, light weight motor turns slowly and offer low torque - but respectable torque for its size. Must be used generally with pulley, top and base, but other motion transmissions are possible (see examples by Brian Sadowsky, with a 16t gear/clutch or a pin joiner)

Electric Technic Mini-Motor 9V

Lugnet Partsref 71427c01, Peeron 71427c01, LEGO 71427

Since 1997, this motor replaces 2838. Geared down and quite efficient, this is the motor of choice for most applications.

Electric Technic Mini-Motor 9V

LEGO 43362

In 2002, LEGO replaced 71427 motor with a new type, 43362. Externally almost identical, its internal structure is very different. Performances are almost as good, and its weight is much lower.

Electric RC Race Buggy Motor

Peeron 5292

Introduced in 2002, this motor appeared with 8475 RC Race Buggy. Very powerful, it also consumes a lot of energy. Not recommended for use with a RCX which can't deliver the current needed by this beast. The innermost shaft hole is geared up by a 23/17 factor. Only the outermost output is tested below.

Electric Technic Motor 9V Geared

Peeron 47154

This motor was first included in 4094 Motor Movers set (2003). Provides an axle hole with friction, allowing to choose axle length without the need of an extender. Flat bottom allowing easy mounting.

NXT motor

This motor is specific to the NXT set (2006). Includes a rotation encoder, returning to the NXT the position of the shaft with 1° resolution. Because of the special connector of this motor (non-standard phone plug type), a cable adapter is required to drive this motor with regular 9V sources. Not recommended for use with a RCX which can't deliver the high current that this motor can consume. Slow rotation speed, minimizing the need of external gear train.

Power Functions Medium motor

This motor belongs to a new range of motors and control elements introduced in 2007, the Power Functions. It uses a new 4 pins 9V connector that provides permanent 9V supply to control elements as well as controlled power to the motors (compatibility with old 9V system is built in extension cords). The Medium motor has holes for studless constructions as well as 6x2 bottom plate.

Power Functions XL motor

Big brother of Power Functions Medium motor, it provides a lot of mechanical power. Actuated by the same core as NXT motors, it rotates slightly faster (less internal gear reduction). Mounting is done through several pin holes.

9V Train motor

Stefan Vorst measured performances of the 9V Train motor.

RC Train motor

This motor was introduced when LEGO® stopped the 9V train with metal tracks. The performances of this motor are... not so good.

Power Functions Train motor

As the train system unifies with Power Functions, this motor , equipped with a PF cable and connector, replaces the RC train motor. Fortunately the performances are much improved, with an efficiency and power even exceeding the old 9V train motors.

Power Functions E-motor

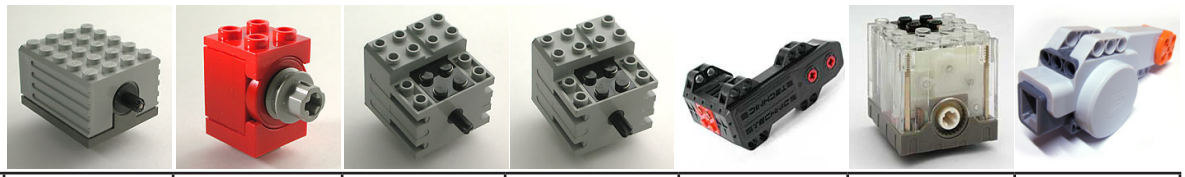
Introduced with LEGO Education Renewable Energy Add-On Set (9688), the strong point of this motor is that it can be easily back-driven and used as a generator. Its high speed may be also useful in some applications. But its efficiency is no better than PF-Medium, and delivered mechanical power is about half.

Weight

Supposed to be equivalent to 71427, 43362 motor is 30% lighter. This is generally an advantage, except when the motor is used as a counterweight, or to balance the structure, for example in COG-shifting walkers.

No-load characteristics

Test conditions: motor is powered by a variable, regulated power supply. An ammeter measures current flowing through the motor, a voltmeter monitors tension across. The rotation speed is measured by a RCX equipped with a light sensor, looking at an half-white/half black cylinder.



Weight (g)	48	10	42	28	55	40	80
Rotation Speed (r.p.m.)	4100	35	360	340	1300	460	170
No-load Current (mA)	35	6	3,5	9	160	31	60

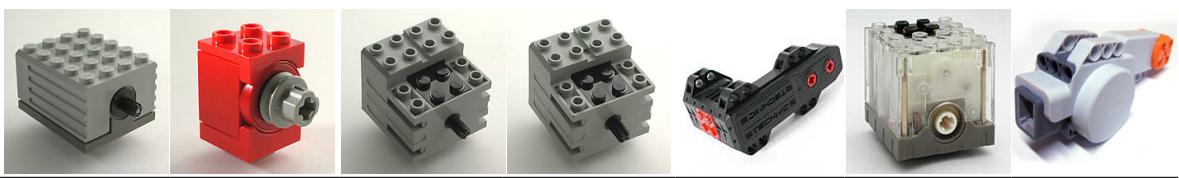
Weight (g)	31	69	72	53	57	50
Rotation Speed (r.p.m.)	405	220	2000	2000	1900	780
No-load Current (mA)	65	80	90	90	90	17,5

43362 has a higher no-load current than 71427, probably caused by higher internal friction. 47154 has a fairly high no-load current, because of its 5-stages gear reduction. But it uses big-tooth gears in the last stages, probably much more sturdy that the 2-stages, thin-tooth 71427/43362 internal gearing. The 5292 also exhibit very high no-load current, here again caused by internal friction. This explains also the break in its speed/voltage curve. All train motors show similar no-load characteristics, especially a relatively high current.

As is usual for DC motors, rotation speed is proportionnal to voltage applied to them, this can be seen on graphs below. No-load current depends little on voltage.

Stalled characteristics

Stalled current consumption is simply measured with motor axle shaft locked by hand. Stalled torque is established from the maximum weight that can be lifted by the machine described below. Note that stalled torque measure is VERY imprecise (this is especially true for 5292 motor)



Stalled Torque (N.cm)	0,85	1,6	6	5,5	12	6	50
Stalled Current (mA)	700	80	360	340	3,2 A	580	2 A

Stalled Torque (N.cm)	11	40	2,8	1,7	3,6	3,4
Stalled Current (mA)	850	1,8 A	950	750	1,3 A	410

Take care to avoid extended period stall condition, as power dissipated in motor case is quite high (6 Watts for 2838, 3 W for 71427) will cause a rapid temperature rise. Note that 71427 and 43362 motors, equipped with a thermistor, should be protected against frying (not tested though !!!). 5292 motor is probably protected too, since stalled current decreases quickly. 47154 protection can be seen easily through clear case.

The NXT motor is also protected by a thermistor (Raychem RXE065 or Bourns MF-R065). That means that the high 2A current (and associated whooping torque) can be sustained only for a few seconds. Same thing for the Power Functions XL motor.

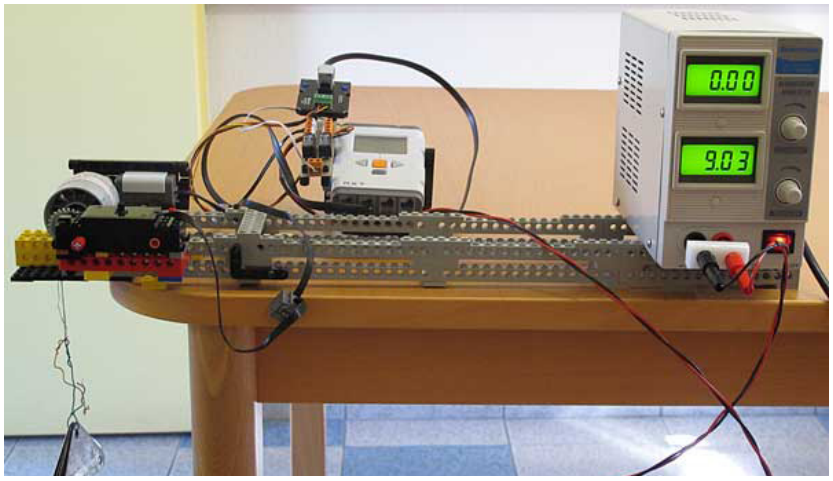
The train motors also contain thermistor limitations. For the PF train motor, this protection trips too fast and prevents direct measure of the stalled current. These values were obtained by extrapolation.

Loaded characteristics

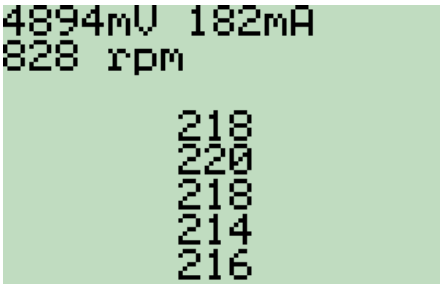
Here is the setup used to measure motors under load. Electrical power is measured with voltmeter and ammeter. Mechanical power delivered by the motor is evaluated from the time used to lift the weight by some height (5 cylinder turns - the first two turns are not counted to eliminate initial acceleration). Torque applied is obtained from weight and cylinder radius.

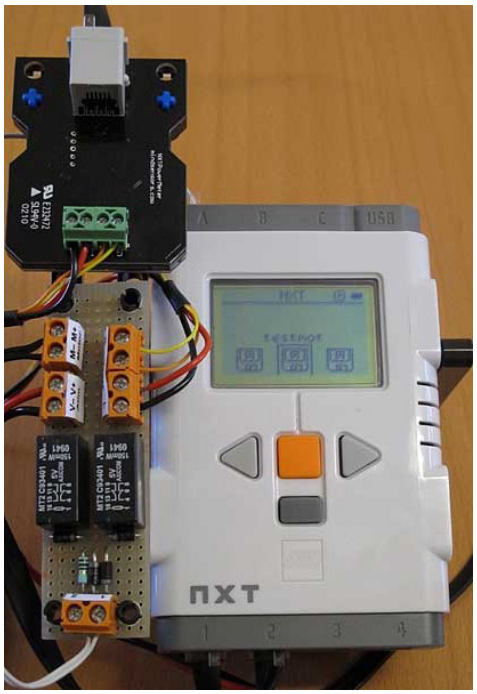
Cylinder is directly placed on motor axle shaft, except for 2838 motor where a 1/5 gear reduction was used. Additionnal friction introduced may have somewhat impacted 2838 efficiency, but anyway this gearing is necessary for most applications. Torque displayed for this motor corrects gear reduction. The fast 5292 motor, the PF and RC train motors were also measured with a 1/3 gear reduction.

In 2010 I updated my test setup to the NXT platform: Mindsensors launched the PowerMeter sensor that allows the NXT to measure directly the voltage applied to the motor and the current consumed. A light sensor in front of a black and white cylinder reads the number of turns done by the winch, and the time needed to lift the weight. Using custom board with two electromechanical relays, the NXT can control the motor under test: run, float or brake (this later state is used to prevent the load to drop brutally on the floor at the end of lifting). A laboratory power supply is used to power the motor under test.



The photo shows the NXT equipped with PowerMeter sensor and motor control board, and a screen capture of the NXC motor test program:





The speed of 43362 motor is about 12 % lower than speed of 71427. Though this is in the range of variations measured by Steve Baker among a bunch of nine 71427 motors, my measures on three 71427 and two 43362 showed the 12 % difference between the two groups.

The RC train motor had a poor efficiency and delivers little torque at low voltage (it was not able to move under 6V loaded with 0.85 N.cm). The PF train motor has a much improved efficiency, even better than the old 9V train motor.

	Torque (N.cm)	Rotation Speed (r.p.m.)	Current (A)	Mechanical Power (W)	Electrical Power (W)	Efficiency (%)
6 V	0,45	580	0,32	0,27	1,9	14
7 V	0,45	1000	0,32	0,46	2,3	20
9 V	0,45	2000	0,32	0,9	3	31
12 V	0,45	3300	0,33	1,5	4	39

	Torque (N.cm)	Rotation Speed (r.p.m.)	Current (A)	Mechanical Power (W)	Electrical Power (W)	Efficiency (%)
4,5 V	2,25	57	0,12	0,13	0,54	24
7 V	2,25	160	0,12	0,38	0,85	45
9 V	2,25	250	0,12	0,58	1,1	54
12 V	2,25	375	0,12	0,88	1,5	61

	Torque (N.cm)	Rotation Speed (r.p.m.)	Current (A)	Mechanical Power (W)	Electrical Power (W)	Efficiency (%)
4,5 V	2,25	50	0,12	0,12	0,54	22
7 V	2,25	140	0,12	0,33	0,85	39
9 V	2,25	219	0,12	0,51	1,1	47
12 V	2,25	333	0,12	0,77	1,5	54

	Torque (N.cm)	Rotation Speed (r.p.m.)	Current (A)	Mechanical Power (W)	Electrical Power (W)	Efficiency (%)
4,5 V	2,25	90	0,19	0,21	0,85	24
7 V	2,25	210	0,19	0,49	1,33	37
9 V	2,25	315	0,19	0,74	1,7	43
12 V	2,25	468	0,19	1,1	2,3	48

	Torque (N.cm)	Rotation Speed (r.p.m.)	Current (A)	Mechanical Power (W)	Electrical Power (W)	Efficiency (%)
9 V	1,28	16	0,04	0,021	0,36	16
12 V	1,28	28	0,04	0,038	0,48	28

	Torque (N.cm)	Rotation Speed (r.p.m.)	Current (A)	Mechanical Power (W)	Electrical Power (W)	Efficiency (%)
3 V	2,48	120	0,76	0,31	2,28	13
4,5 V	2,48	340	0,77	0,88	3,46	25
7 V	2,48	670	0,78	1,74	5,46	32
9 V	2,48	920	0,78	2,38	7,2	33

	Torque (N.cm)	Rotation Speed (r.p.m.)	Current (A)	Mechanical Power (W)	Electrical Power (W)	Efficiency (%)
4,5 V	16,7	33	0,6	0,58	2,7	21,4
7 V	16,7	82	0,55	1,44	3,85	37,3
9 V	16,7	117	0,55	2,03	4,95	41
12 V	16,7	177	0,58	3,10	6,96	44,5

	Torque (N.cm)	Rotation Speed (r.p.m.)	Current (A)	Mechanical Power (W)	Electrical Power (W)	Efficiency (%)
4,5 V	3,63	73	0,28	0,27	1,26	22
7 V	3,63	185	0,29	0,70	2,03	34
9 V	3,63	275	0,31	1,04	2,79	37
12 V	3,63	405	0,32	1,53	3,84	40

	Torque (N.cm)	Rotation Speed (r.p.m.)	Current (A)	Mechanical Power (W)	Electrical Power (W)	Efficiency (%)
4,5 V	14,5	43	0,52	0,65	2,34	28
7 V	14,5	100	0,54	1,51	3,78	40
9 V	14,5	146	0,55	2,21	4,95	45
12 V	14,5	214	0,56	3,24	6,72	48

	Torque (N.cm)	Rotation Speed (r.p.m.)	Current (A)	Mechanical Power (W)	Electrical Power (W)	Efficiency (%)
4,5 V	0,9	375	0,40	0,36	1,80	20
6 V	0,9	667	0,39	0,62	2,34	27
7,5 V	0,9	1071	0,38	0,99	2,85	35
9 V	0,9	1250	0,38	1,11	3,42	33

	Torque (N.cm)	Rotation Speed (r.p.m.)	Current (A)	Mechanical Power (W)	Electrical Power (W)	Efficiency (%)
3 V	0,85	-	-	-	-	-
4,5 V	0,85	-	-	-	-	-

6 V	0,85	171	0,43	0,15	2,59	6
7,5 V	0,85	549	0,43	0,49	3,23	15
9 V	0,85	990	0,43	0,88	3,91	22
10,5 V	0,85	1323	0,44	1,18	4,63	25
12 V	0,85	1683	0,45	1,50	5,43	27

	Torque (N.cm)	Rotation Speed (r.p.m.)	Current (A)	Mechanical Power (W)	Electrical Power (W)	Efficiency (%)
3 V	0,85	135	0,35	0,12	1,05	11
4,5 V	0,85	468	0,36	0,42	1,62	26
6 V	0,85	792	0,37	0,71	2,22	32
7,5 V	0,85	1107	0,38	0,99	2,85	35
9 V	0,85	1458	0,38	1,30	3,42	38
10,5 V	0,85	1782	0,39	1,59	4,10	39
12 V	0,85	2124	0,40	1,90	4,80	40

	Torque (N.cm)	Rotation Speed (r.p.m.)	Current (A)	Mechanical Power (W)	Electrical Power (W)	Efficiency (%)
4,5 V	1,32	63	0,17	0,087	0,76	11
6 V	1,32	186	0,17	0,26	1,02	25
7,5 V	1,32	300	0,17	0,42	1,27	33
9 V	1,32	420	0,18	0,58	1,62	36
10,5 V	1,32	520	0,18	0,72	1,89	38
12 V	1,32	640	0,18	0,89	2,16	41

Protections

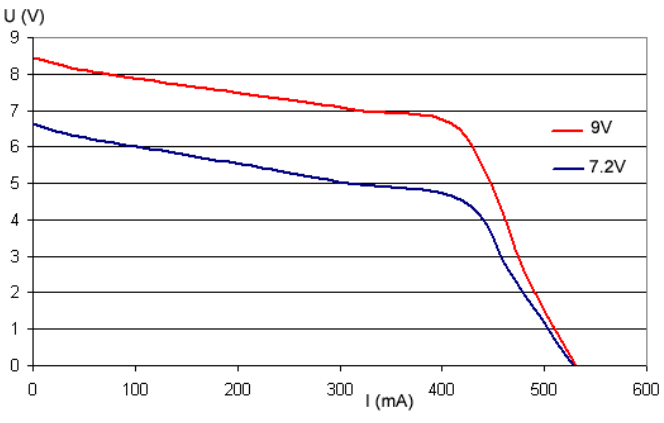
71427 and 43362 motors are protected from abuses by two devices:

● a PTC thermistance (here an Epcos B1056). This resistor, mounted in series with the motor, has a low value when it is cold (about 1.7 ohms), rapidly increasing as temperature rises. When large current flows through the motor, self heating rises thermistance temperature and resistance value, so the current is limited by voltage drop across thermistance.
● a BZW04-15B, bidirectional transient voltage suppressor diode. This diode protects RCX from large voltage spikes that could be generated by the motor. But it also forbids applying more than 15V to the motor...

A similar protection is integrated in 47154 motors, as can be seen on this photograph. NXT motor is also protected with a PTC thermistance and a transient voltage suppressor diode (D4 on this photograph).

Outputs of RCX are also protected from overload: the motor driver chip used (Melexis MLX10402 - datasheet) has a current limitation set to 500 mA, and a thermal shutdown which disable the output if die temperature rises too much.

Here is the curve limitation that I measured on a RCX. It was powered by an external regulated power supply, and tested at 9V (6 alkaline batteries) and 7.2V (6 NiCd or NiMH rechargeable batteries).



There is a significant voltage drop before reaching current limitation knee (at about 500 mA). So a stalled 71427 motor receives only about 7V at 300 mA, while two paralleled 71427 or a single 2838 almost reach current limitation (5.5V / 430mA).

Once current limitation is established (for example with a dead short), power dissipation in the driver is very high, and it quickly enters thermal shutdown mode. After that, the output cycles on/off with a period of about 1 second: the driver circuit heats up, stops output, cools down, re-enables output, heats up again and so on.

You can also see on the graph that with a dead short, the output can deliver slightly more than 500mA. So if all three outputs are shorted, total consumed current is more than 1.5A, exceeding rating of the fuse that protects RCX. This condition should not happen in normal circumstances, even with all three outputs loaded with 2 stalled 71427 motors...

I also had a look to current output capabilities of 8475 RC Race Buggy. Its main output drives two paralleled 5292 motors that consumes more than 3A when stalled so it has to be beefy ! And indeed it seems to have a current limitation of about 4A, and a thermal shutdown providing on/off cycling like RCX motor driver.

Getting maximum mechanical power from RCX output

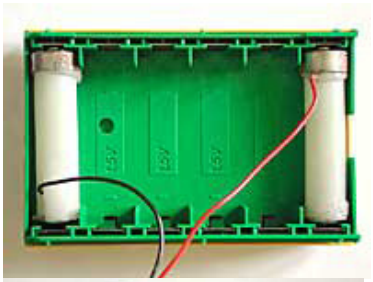
Using an illimited power supply (fresh batteries for example), a DC motor provides maximum mechanical power when loaded at half of its stall torque. This is also the load where rotating speed is half of no-load speed (this assumes ideal conditions such as low internal friction, but according to load curves showed above, this is exact enough to be useful).

But with RCX output, some voltage drop occur as current increases, and current limitation can also trigger in if two motors under heavy load are paralleled on the same output.

The RCX was externally powered from a regulated power supply, and I measured mechanical power at 9V (equivalent to 6 alkaline batteries) and 7.2V (6 NiCd or NiMH rechargeable batteries).

RCX powered by an external regulated power supply through two fake batteries.

Caution: I shall not be held responsible if you burn your RCX with incorrect voltage or bad polarity !

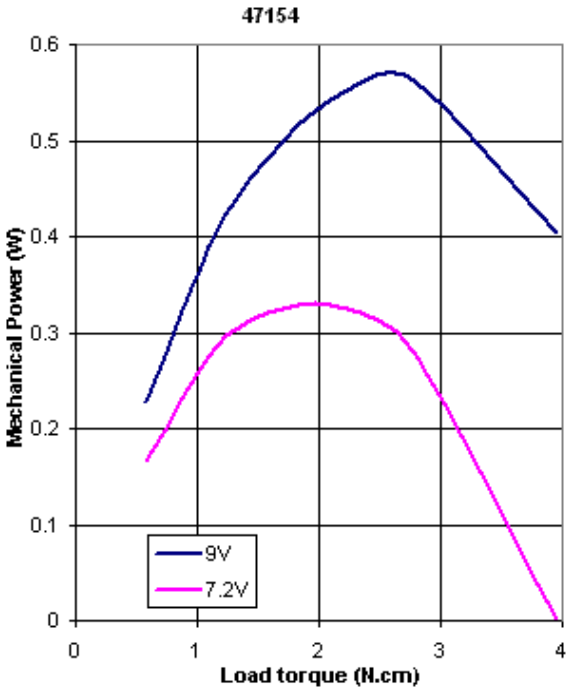


The fake batteries where assembled from the sawed ends of old alkaline batteries, maintained at the right spacing with rods of hot melting glue.

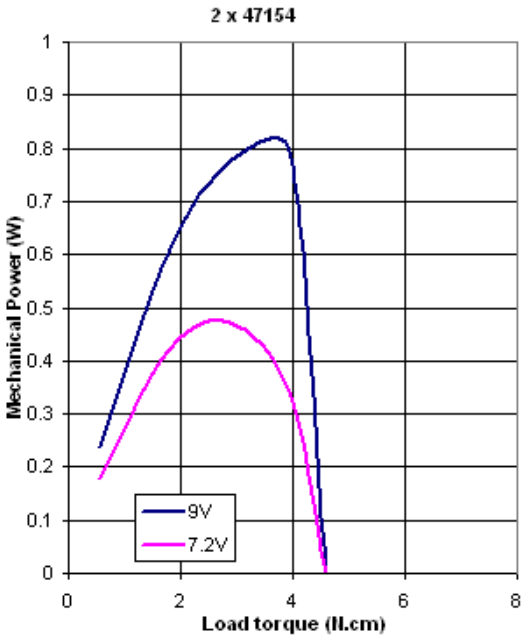
Caution: batteries contain hazardous chemicals that can be dangerous for your health. Open them at your own risk and only if you know what you are doing!!!

You can see that although RCX can be operated from NiMH batteries, the lower supply voltage translates in a 40% cut down of available mechanical power .

Here you have an example of the curves showing mechanical power versus load torque for various motor combinations (one motor or two pararell motors). Two identical motor are powered from the same RCX output, and their shaft are mechanically coupled. You can find the rest of the curves at:
http://www.philohome.com/motors/motorcomp.htm



Because of the higher current consumption of 47154 and 2838 motors, using two of them on the same RCX output is not recommended, as they exceed RCX current limitation when heavily loaded. At 0.8 W, tandem 71427 provide safely the greatest mechanical power of all.



Conclusion

Each of these motors has unique characteristics which makes it more or less suitable for different applications.

● Micromotor 2986 is at its best when space or weight is at a premium. But its mechanical power is quite low.
● Technic motor 2838 is a real power hog, with poor efficiency, but it can deliver 30% more power than Minimotor.
● Minimotor 71427 is probably the best performer of the pack overall.
● The new 43362 is roughly equivalent to 71427, with slightly degraded performances. But its light weight can be a boon for many uses.
● Clear case 47154 provides a higher mechanical power than 71427, but at the price of a somewhat lower efficiency.
● RC Race Buggy Motor 5292 is really powerful, but requires a power supply up to the task. It's not a good idea to use it with a RCX as the 500 mA current limitation won't let it unleash its power...
● NXT motor delivers a high torque thanks to its internal speed reduction gear train. Because of that, it also turns slowly and efficiency is somewhat reduced. This motor could be connected to RCX thanks to a compatibility cable, but this is not recommended for use on a RCX because the high current it can consume is too much for RCX 500 mA current limitation.
● The Power Functions train motor has widely improved characteristics compared to the older RC train motor.

Caution ! Though I tested motors with a 12V supply,
I can't guarantee that they bear the extra load for extended time period.
Use that at your own risks !

You can find an extended version of this tutorial at: http://www.philohome.com/motors/motorcomp.htm
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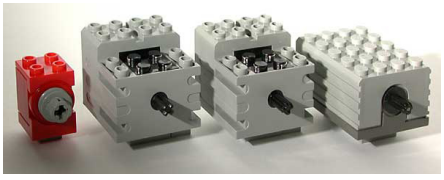


An introduction to Robotics with LEGO® MINDSTORMS (IX)

A Guide for Following the FLL

Text and pictures by Koldo Olaskoaga (collaborator of FLL Euskadi)

As every year, in September the new challenge for the **FIRST LEGO League** was presented, a league in which teams from over 60 countries develop their projects. This year the theme is **FoodFactor** or how to avoid food contamination so food doesn't become dangerous. But, do you know what the FLL is? The best way to find out is to see it for yourself, but first you should know what the objectives and character of the competition is because it is not a classical competition.

A science, technology and innovation program.

The FLL is a program to promote science and technology accompanied by an important component of innovation. It was started by FIRST (a foundation that promotes the recognition of science and technology) and LEGO® 13 years ago in the USA and Canada and has grown over the years to reach over 60 countries in this edition.

Yes, but how do FIRST and LEGO generate a motivating context to get boys, girls and teenagers who up until then thought that science and technology were for others motivated to learn and see a future there? Every year the international FLL organisation chooses a theme of global importance, that is, that affects all of us independent of what country you live in. Around that theme two basic lines of work are established, a scientific project and the design of a robot, to which is added the element that brings it all together, the FLL values.

The values

The FLL values are at the core of the competition ad must be understood and interiorised by the teams, trainers, schools, families... and must pervade all activity in the FLL.

- We are a team.
- We do the work to find solutions with guidance from our coaches and mentors.
- We honor the spirit of friendly competition.
- What we discover is more important than what we win.
- We share our experiences with others.
- We display Gracious Professionalism in everything we do.
- We have fun!

The scientific project

The teams must identify and select a problem in their environment that is related to the central theme. Starting from there they must study it and look for solutions that allow us to deal with it. The idea is to present innovative solutions which in some cases have attracted interest from universities and companies to study their viability.

The competition on the table.

This is probably the part that arouses more interest. All teams must compete on the same competition table, with a common set of rules that establishes the limits of what can be done to solve the proposed missions.

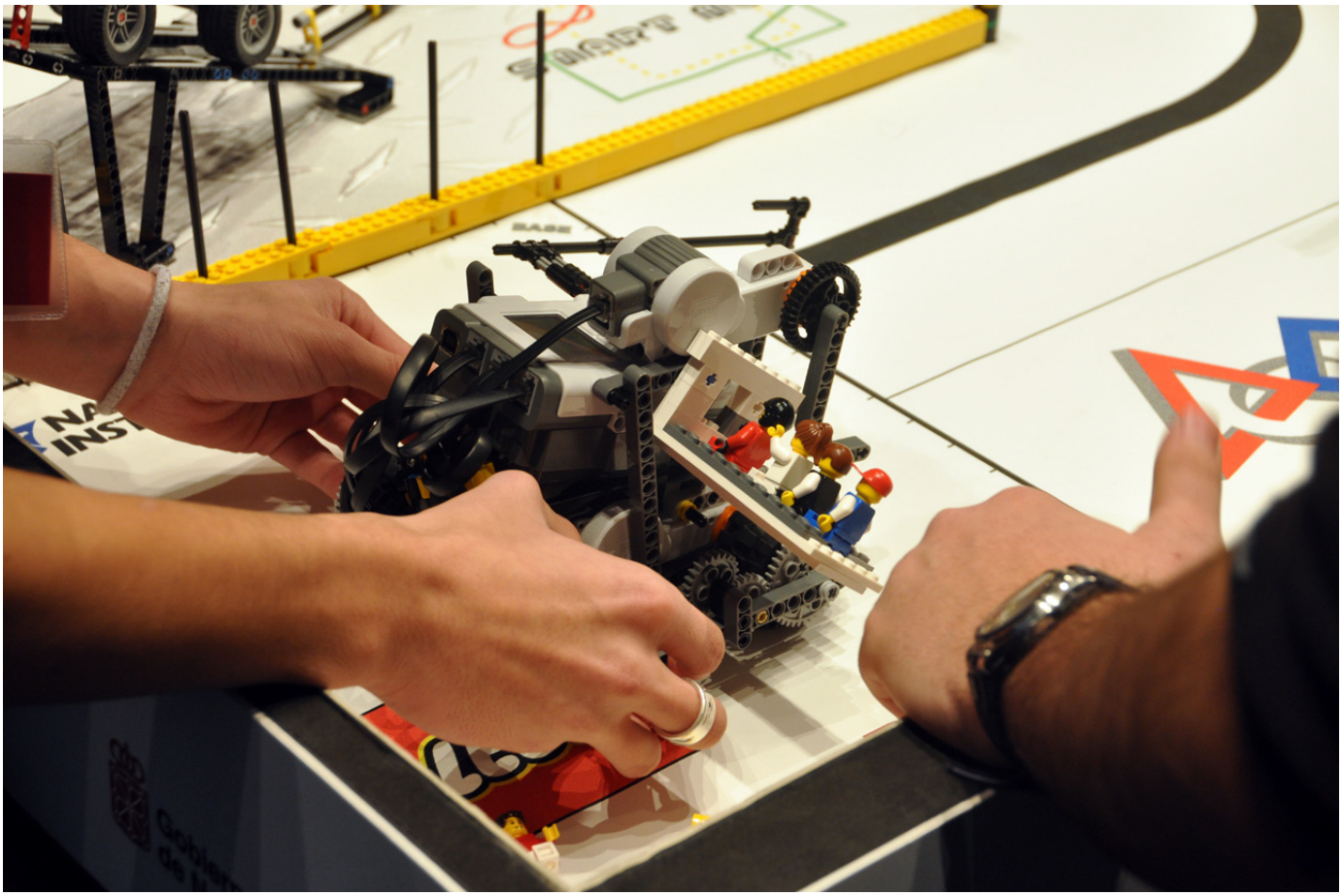
The teams have two and a half minutes to carry out as many missions as they can, using a completely autonomous robot. There is an area called the Base in which the teams can make modifications to the robot, prepare it for missions, start programs... but if they touch their robot outside that base they are penalised.

The missions are designed around the central theme of the challenge, so this year there are elements like bacteria and viruses, a refrigerated truck, thermometers, food etc. on the table. From year to year there are some changes in the set-up of the table, and just like last year there was a mission that necessitated the use of a colour or light sensor, this year the table has been designed to make it practically impossible to (I don't want to say completely impossible) to get the maximum score. In this way teams that used to get the maximum score in less than two and a half minutes will have to think a lot more and there will be fewer draws.

During the three rounds of the tournament, the teams show the result of their work designing and programming their robot. The two teams with the best score (in any of the three rounds) go on to the final round in which the champion will be proclaimed.

Designing the robot

The robot may be more or less efficient, but more important than that is the design process and how original the ideas that were developed are. The team presents and defends the design process and the decisions that were made both in constructing and programming the robot before the jury.



The presentation

Both for the presentation of the scientific project and the robot design, teams have 5 minutes to present their proposals to the jury, after which the jury will ask any further questions it deems necessary for their evaluation. Presentations can be done in a traditional way or in any way the team wishes: as a theatre representation, a song... The jury will evaluate original presentations positively.

In the case of the values, the jury will interview the teams and may propose a test in which the participants need to demonstrate their capacity for teamwork. This is something that was already part of international competitions and that now will be incorporated into all other tournaments.

How are the different aspects evaluated?

The competition on the table is evaluated based on the missions that have been accomplished, although it should be mentioned that what is taken into account is the situation at the end of the two and a half minutes. What does that mean? Each team may complete a mission and ruin it afterwards before time is up, in which case the mission doesn't count. Also, if a mission is resolved in a way that contradicts the rules, no score is obtained.

For the evaluation of the presentations and values of the FLL the jury uses evaluation sheets which were at the team's disposition when the challenge was published. In this way all teams know the criteria that will be used to evaluate their work. Based on these evaluation sheets teams obtain a score for each part of the challenge

The Awards

Although the important thing in a program like this that promotes science and technology, there is an opportunity to participate with young people from different backgrounds... and also in this aspects teams that make a difference are recognised.

One of the novelties this year is that in order to win any of the awards, teams need to demonstrate that their activity is based on the FLL values which influences the possibility of getting to the table finals.

I will not expand on all the awards that can be won as the number of awards depends on the number of teams in each stage of the FLL competition so I will only mention the main ones. Each part of the tournament has its own award: robot design, scientific project, FLL values and best score on the table. In addition to these there is the tournament champion which is the most complete team considering the points obtained in all four categories,

The awards are mutually excluding, so no team can win more than one award, except the team that wins in the table competition.

Teams that do not win any award also have their moment of glory since all the boys and girls who participate receive a commemorative medal.

The International Phase

After the local tournaments there is a national one and from there an international tournament. The world festival

is celebrated in St. Louis (USA) and in it all the teams that obtained the best results in the national tournaments will participate. In addition to this final there are the opens that are celebrated each year in California, Florida and Germany.

The Global Innovation Award

Last year the FLL Global Innovation Award was created, allowing teams the opportunity to work together with Experts in product development and marketing to convert their ideas into a real product. The projects that were presented for this award must be original and pass a pre-patent procedure.

The volunteers

Although I have left this for the end, one of the most important assets of the FLL is the volunteers. Without them it would be impossible to celebrate the FLL. Judges, referees, the people who accompany the teams during the tournament as well as all the other volunteers that offer their time for the FLL, convinced that the FLL is necessary to stimulate an interest in science technology and innovation among young people.

More information at...

- FLL international: from this website you can access all national FLL organisations: http://www.firstlegoleague.org/
- FLL Spain: http://www.firstlegoleague.es/
- FLL Euskadi: http://flleuskadi.com/
- International Innovation Award: http://fllinnovationaward.firstlegoleague.org/

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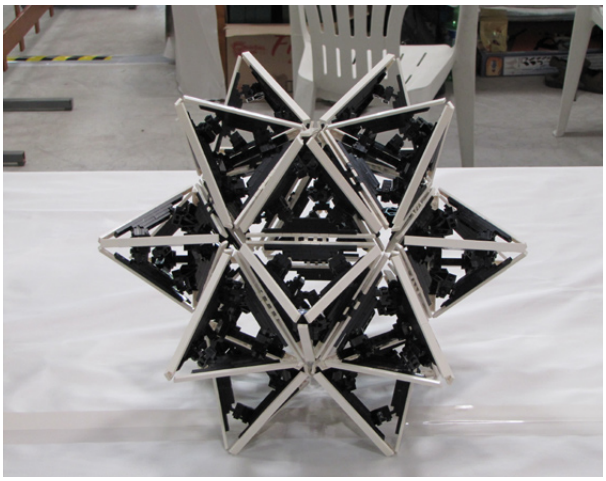
ItLUGFest LECCO

An outsider's view

By Delia Balsells
Pictures by Thomas Wesselski



- 7577 visitors (3075 on Saturday, the rest on Sunday) (without the opening)
- 71 AFOLs (5 Holland, 3 Germany, 1 Spain)
- 25 AFOLs as visitors (2 Germany)

I had heard about the meeting of LEGO® fans in Italia, particularly of the one they had last year in Ballabio, and this time I didn't relinquish the opportunity of attending the event accompanying an AFOL. By the way, th term AFOL is something I have learned as time went by. I must confess that what I'm about to describe is my experience, that is to say, the experience of someone who, having attended more than one LEGO related event doesn't love the brand nor considers herself a "fan" of this toy. As a matter of fact, I'd say there hasn't been a single trace of LEGO in my childhood.

I'll start by commenting the pre-event treatment we got from LEGO. Being foreigners in Italy we have been received most excellently. Every doubt we had has been responded quickly and we have been kept informed of any news concerning the development of the event.

My general experience at the event has been good. I was at the event only for a day, the day of the inauguration. As a result, when I arrived the exhibitors had everything almost prepared for the visit of the local authorities and the general public. I asked since when they had been working on the set-up... because those structures, some quite spectacular could not be built in a single day... and I think the AFOLS had been given access to the installations a week earlier so they could bring in their constructions and start setting things up. I think that's great, it isn't easy to get a place for this kind of event and to get this kind of facilities - it is always better to

organise something calmly and with time. As a matter of fact, it was clear that everything was well organised and hadn't been planned in just a couple of days. There was a play area for children with tables ready to be used, shops ready to sell and exhibitors with long tables (according to a well designed plan) full of constructions that were almost ready to be shown to the public, a corner for the organisers where any doubt could be solved (they even informed us of the train time tables and the location of the railway station)...

The event was officially opened, so officially that the mayor and other council members came, which gave the event a certain air and went to show the level of collaboration between the members of the organisation and the town council (as well as other entities which were mentioned in the opening speech). After the opening there were some snacks prepared in an area adjacent to the exhibition - there was plenty of food even though I arrived a little late. After that everyone went to their places, waiting for their creations to be admired and valued, first by the authorities and later by the rest of the people, lots of people (some arrived early and were waiting at the door or in the nearby cafeteria... we met some kids who were excited and anxious to get in. You could see they had been waiting for the exhibition for days).

From my point of view the Italian event was well organised and the information concerning the number of people who visited show the amount of pre-organisation, that is to say, the promotion of the event, had been sufficient (even though the location of the event was provisional and different from the year before and).

Being more subjective, I, a non AFOL, who doesn't see much more than plastic bricks to build things following an instruction manual and consider LEGO® a children's toy, admit that this event (as well as others I have been to) make you see things in a different light. You see there is no need for instructions to be able to create and that the imagination of each builder is unlimited, and that besides bricks, there are personal relations of people who talk about "studs" and understand each other, sharing a hobby that has gone beyond childhood.

During the time I was there (in the end just a couple of hours) I saw there are people who do not just know each other from some internet forum, but who have met at other events in the same or event different countries. I wasn't registered as an exhibitor, I was accompanying my boyfriend who did exhibit. I went or a walk to see the exhibition and when I finished I admit I came to the point of not knowing what to do next. I sat down at our table and saw the people passing by. It wasn't a solution to my boredom, but it did help pass the time. I saw people walking by as if they were enjoying the view (as would be my case if I went to such an event), entire families who came with their kids who were dying to see the constructions and who would run off all excited to the next creation before they had had a good look at the previous one. There were also teenagers who really like LEGO® despite their age (the future AFOLs who will "come out of the closet" soon) and who would observe every detail of a construction and ask the exhibitor questions (you could see the satisfaction on the face of the latter when their work was recognised and generated questions). Those exhibits that included some kind of motion has people crowding around to see their inventions close up - to me those were the builders who generated most expectation as both young and old were eager to see their work. I also believe that to people who see LEGO like I do, the constructions with movement or that represent well know film or cartoon characters are the most attractive ones.

Personally, the constructions I like best (corroborating in a way what I wrote above) were the wind turbine park with a large number of wind mills in motion (there was merit in that... it was pretty hard to keep the mills standing and moving), minifigs made with LEGO pieces and, obviously, of a larger size that the original ones (like an angel and a devil, smurfs...) the representation of a beautiful white palace/castle and tower that was particularly spectacular because of its size. I also liked the mosaics (of a dog, Minnie Mouse...) and I'd like to mention casle madewith minifigs that represent a tradition from where I live: the "castellers". There were dioramas representing entire cities and that had a lot of detail... but personally, once you see one you've seen them all . It wasn't something that impressed me after having seen other cities in other events. To finish off, I'm sure that for people who know and like films like Star Wars, Harry Potter, etc, or who love cars (there sere quite a few in LEGO Technic) would appreciate the constructions of those themes that were shown... personally I can't because I don't know much about these things. I can only corroborate the likeness of some of the life-sized LEGO constructions at the event that were shown next to a picture of the original.

Finally, I will admit that, as time goes by and having lived with an AFOL and attended more that one event organized by itLUG, I'm starting to understand that for them it isn't just a toy (as it would be for me), but sharing their hobby with others (just like people who like the same style of music, the same sport...) that started when they were little, or, if they abandoned it at some time, which they haven't recovered thanks to the internet and events like this one from a different perspective than when LEGO was just toy for them.
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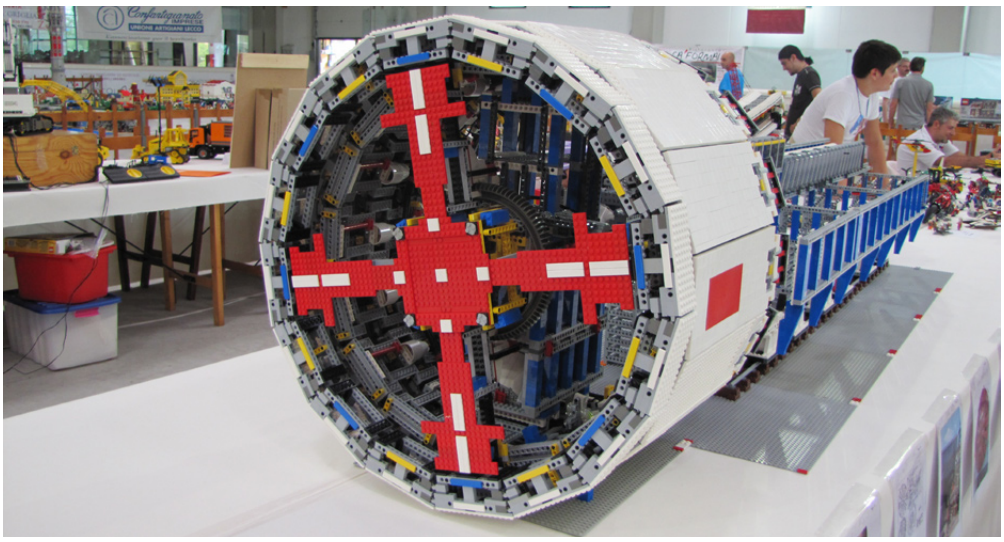
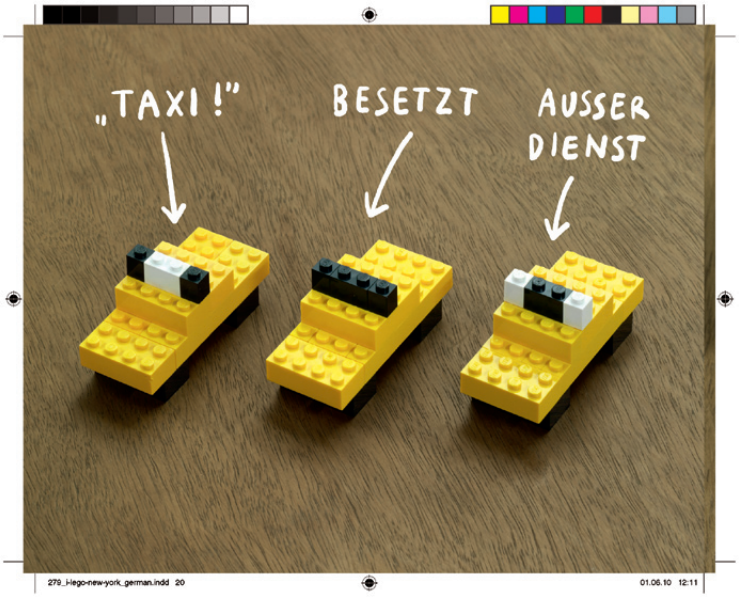


LEGO® Art Box Berlin

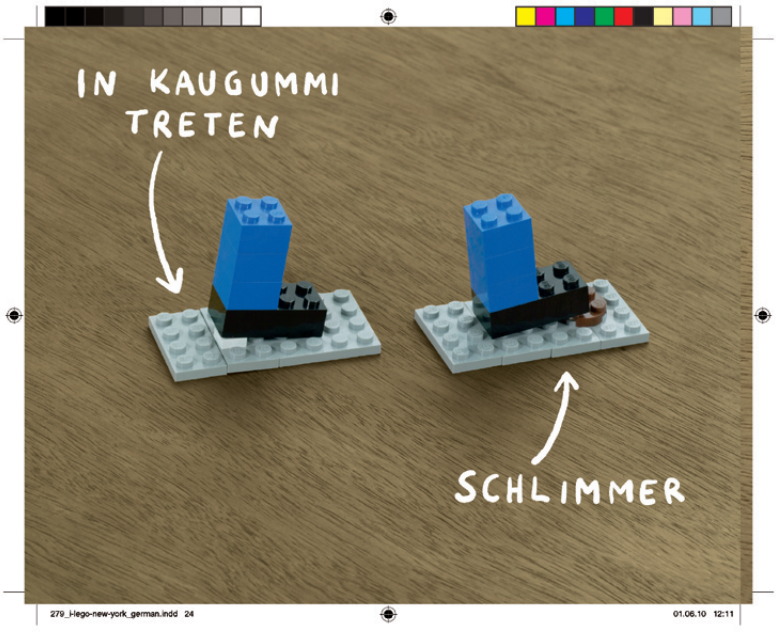
Pictures by arvo and Christoph Niemann

Iron Man by arvo



I LEGO N.Y. by Christoph Niemann

from his book “I LEGO N.Y.” published by:
US: Abrams Image
Germany: Knesebeck



Fanweekend 2011

The LEGO® Fan Weekend keeps growing

Text and pictures by Otum

Like every year, the LEGO® Fan Weekend was celebrated in Skaerbaek, Denmark, in the last weekend of September. This edition was special for HispaBrick Magazine, as it was the official presentation of our new community and therefore our first event. Two collaborators of this magazine were able to attend the event, Lluis, one of our editors, and myself.

The LEGO Fan Weekend has always been considered one of the most important events in Europe, mainly because it is organised in the land of LEGO, but in this year's edition, one of the things that has pleasantly surprised me was the international atmosphere: some twenty members of the Brazilian LUG turned up, compared to five in the last event, but the biggest surprise was the attendance of members of an Australian LUG!

Like in previous editions, it all starts on the Friday evening, when the exhibitors start to insinuate what they are going to show, but not yet revealing the little secrets that will delight all the AFOLs that are present.

One of the first things you sense during build-up is that in this edition there were fewer shops than in previous editions, which, in my opinion, is perfect. It is true that the LEGO Fan Weekend is always a good opportunity of finding a discontinued set a a good price, or rare and curious pieces, but the more surface is taken up by exhibitors, the more you can enjoy, I think.

Like in most events, in Skærbæk there are several activities that are part of the event and without them something would be missing. The first of these occurs during the whirl of build-up: a Pick-a-Brick. This year it was very well organised and pieces were put organised by theme and in large wooden boxes,

which made it easier to find something although at the same time showing people more directly where the interesting stuff was so they could take up strategic positions to get what they were looking for. The star attraction of this edition was the double bag with ostriches. Of course there is always someone who doesn't look at what they take and carries off handfuls of bags.

Before finishing the day, one of the best things you can do is have a first look at the shops at the event; as I said before, better in small numbers, but allowing you the opportunity of finding interesting stuff. There were two shops that attracted special attention, one that in addition to having pieces and sets presented a nice diorama of Fabuland sets that it also sold and the other Bricklink shop that specialises in selling train railway material MOCs and which presented a diorama with a station and part of the sets it also sold.

Another one of the acts which, as I mentioned before, have become a custom is the barbecue and party at Tiobias' bungalow which grows every year and which, naturally, ended up absorbing us just to the party, but let's be honest: who could turn down a drink and a chat about bricks, right?

The morning of the Saturday, after breakfast and before the official inauguration of the event, is a great moment to have a lok at the exhibition. This year there was an interesting diorama which was the result of a collaboration between several LUGs and that incorporated mainly City elements. As a connecting point to the rest of the exhibition it contained a spectacular hanging bridge that had already been presented at the previous LEGO® Fan Weekend.

The first part of the diorama was a mountainous region that contained more rural scenes and included a cable lift to the top of the mountain which was crowned by an impressive castle. As a special outstanding detail, there was a cut in the mountain which showed a mine of the Power Miners which were being attacked by some rocky dwarfs lighted by leds.

The diorama turned gradually into an urban scene in which a reproduction of the Turning Torso of Malmö stood out. Connected by the bridge there was a second part to the diorama which also had an urban atmosphere, with a zoo and a reproduction of the Berlin cathedral and some typical scenes from the outskirts.

The official opening of the event was presided by Jørgen Vig Knudstorp, CEO of LEGO®, showing the importance of the AFOL movement for the company, and commenting on the novelties that have appeared in 2011.

After the opening the general public was allowed entrance to the exhibition and activities. The first hall contained the official LEGO shop for the public and exhibitors and in the second hall there was a building competition for the visitors with white and blue 2x4 bricks. I keep thinking it must be something in the air of Denmark, but some of the things Danish kids are capable of doing are frankly scary: just imagine them at thirty... But let's get on with the really interesting stuff: the exhibition.

Taking things in order, I'll start with the first hall about which I've already mentioned the main City diorama, but there were several more. The Brazilian LUG had a beautiful diorama that showed part of a city next to a river with some boats, small walks that connected the riverside with gardens and modular buildings, topped off with a small train layout.

After that, contrary to the previous edition, there were several dioramas of different themes, in this case one with Technic vehicles, next to a medieval scene showing a small walled city with a battle on the outside, dragon attack included, and an area for farming. Then there was a small display of space ships, but all eyes inevitably turned to a Western diorama with a little town, a prairie with a train and, of course, Indians. A small diorama, compared to others, but attractive and a good display of what can be done with the Western theme

Before moving on to the next hall, there was a small Belville exhibit, the already mentioned Fabuland set-up, and space centre that with the use of MINDSTORMS allowed you to control the Space Shuttle it contained. On another table a Portuguese LUG member showed several of his constructions, from a museum to a train station. Another Portuguese LUG member showed a number of specific buildings, a bumper car attraction, the submarine from the Beatles song "The Yellow Submarine," a futuristic platform with spacecraft, and several vignettes. To top it off he showed the inside of a perfectly recreated house with furniture, electrical appliances and even children's toys. Finally there was an amazing island-spa diorama, with a gym, pools, tennis court and even furniture inside.

We'll leave the other hall for later. I only will say that in this pavilion the sets for the micro-building contest the exhibitors participated in were displayed, including our editor's reproduction of the Sagrada Familia.

After enjoying a couple of hours without visitors around, everybody starts to prepare for another one of those traditional moments of the event, the fellowship dinner and its subsequent auction. Each person received a minifig from series 5 and a Jack Sparrow polybag. During dinner the awards for the micro-structures competition were given to the finalists and winner,

and games were played between dishes, but the highlight of the meal was the official presentation by Jamie Berard, senior designer, of his latest creation, the 10230, the Mini Modulars.

As expected, the subsequent auction was a great opportunity to get those goodies all AFOLs dreams of. There were several lots of polybags with the golden Games dice, or stickers sets of various airline companies to customize airplanes. But the main sets that were auctioned were the Camper Van, days before it was official available and the Mini Modulars set that had been presented, signed by Jamie. And with this the day was over.

The third day, Sunday, is perhaps a weird day, a lot of people start to say goodbye, including us, but since our flight was late afternoon we could still enjoy the event.

As I promised, let's go with the second hall. As I mentioned at the beginning of this article, this is where where the main activities were for the visitors. Focusing on the exhibition, the first thing we find is the Legoland scale diorama that shows a collection of movie cars, Herbie, KITT, the Ecto-1, the Delorean from "Back to the Future" ... as well as some sculptures.

The display that took up most space (it really couldn't be any other way) was the GBC, with such interesting modules as the two bridges that allowed the builders access to the interior or a spectacular pirate ship module that shot the balls over a distance. We were located next to this display, with two car MOCs, a small but cute slot track for the cars created by Lluis and with our magazine in order to give it some publicity and to announce our new web page with a QR-code mosaic built on a 32x32 baseplate.

Next to the GBC there was another Western diorama created by a Croatian LUG. It showed a prairy with some typical elevations, Indians making smoke signals, a small village, a ranch and a mine with a a little river and a section of the mountain that allowed you to see the inside of the mine. There was also a spectacular reproduction of the Weasly house from Harry Potter, some Architecture scale buildings and some vignettes.

There were also several City exhibitions, most of them combined with Train. Two stood out especially. One had two levels: street level and metro, including a station. The other a mountain landscape with a very well constructed bridge, maybe more industrial, but Train in any case. Another scene showed a futuristic monorail in a world with a Western look about it, like in “Cowboys & Aliens”. But if there is anything that really stood out it was a display showing what can be done with the collectible minifig that have been released; a series of stackable vignettes with a scene for each minifig.

The Italian LUG presented several race cars and a scene of a sloping street with a tramway. Next to it there was an original idea, a series of vignettes, minisets of about 50 pieces that recreated different scenes, from a beach to a dinosaur hunt, all connected together. Then there was one of the most colourful sets, a recreation of a circus, with trailers, public and a circus act with elephants as well as another table with several buildings, including the façade of a zoo and a restaurant with an open interior.

On the other side of the hall there was a Jurassic display, full of dinosaurs and and cavemen What an enormous contrast with the futuristic base full of space ships that was opposite it. Talking of futuristic displays, there was a small MOC of a mothership from the series Alien Conquest that was twice the size of the original ship together with a Blacktron style monorail.

Here we find another diorama presented by the Brazilians, a beautiful City display that showed a Brazilian beach with bathers, refreshment stand and apartment buildings. Next to it several things were displayed together, from boxes made out of bricks with vignettes in their interiors to mechas, fantasy animals, and a futuristic scene.

A special mention for the Brickish Association which brought a very complete pirate display, with a naval scene and a fort full of troops. And also an enormous reproduction of Westminter Abbey.

To conclude with hall I’d like to mention some individual displays, like a container ship or a frigate on a scale larger than the UCS. Also the fantastic maxifigs that were automated using MINDSTORMS that moved around the event and were created by a German AFOL. Or a beautiful fish tank.

Much to our regret we had to leave shortly before the official closing to get to the airport in time, losing out on another fixed activity, the dinner offered by the Italian LUG. I can only say that it was a great weekend, and the more so because this time we did have the opportunity of enjoying Mr Kjeld Kirk Kristiansen’s attendance.
#

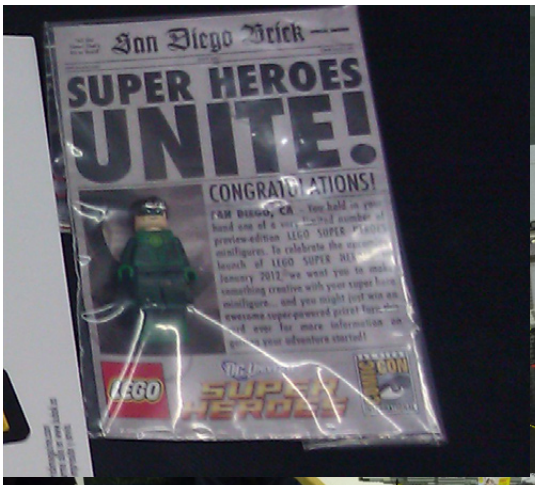
CIFICOM 2011

Text and pictures by HispaBrick Magazine

HispaBrick Magazine has been present at the first edition of CIFICOM (1st convention of Cinema, Fiction, Collectables and Merchandising) which was held in Madrid on October 8 and 9. Due to the subject of the event to which we were invited, we decided to focus our stand on Star Wars™, Harry Potter™, Spiderman™, Batman™ and Indiana Jones™, as well as several MOCs related to the event. Several members of HBM travelled from different places in Spain which made the event an opportunity to see each our friends and fellow AFOLs, which is what makes all the effort that goes into these events worthwhile.

In the Star Wars theme, the presence of SSD Hangar MOC, the Executor and several maxifigs of imperial characters which have already been shown on several international events stood out, accompanied by the most important UCS sets (Millennium Falcon, ISD, Y-Wing...) Next to these large models, smaller scale replicas of the same ships were shown (minifig and micro scale), showing the potential of LEGO® at any scale. A small battle of Hoth display was fitted between this area and the Spiderman area, showing a diorama that reproduced some of the scenes of the films. After that the best Batman, Harry Potter and Indiana Jones sets were displayed for the enjoyment of the fans. Finally, at the other end of the stand, there were some MOCs representing well known cartoon characters.

On Saturday, the latest UCS: the new SSD Executor 10221, consisting of 3152 pieces and over 1,20m long was built at the stand, attracting lots of attention from the visitors. At the end of the Saturday it was added to SW area.



Towards the end of the first day, there was a conference on the LEGO® community HispaBrick Magazine, at which two of the minifigs from the new superheroes theme were presented, specifically Batman and Green Lantern.
The exhibition continued on Sunday with the construction of smaller sets and contacts for future events were established.

Among other groups present at the event we'd like to especially mention the members of Legion 501, who kindly allowed us to take pictures of our SW models and sets next to characters from the films - a really fun experience. At the end of the event on Sunday evening, when it wa time to return home, we had a community dinner followed by some beers... but that is another story.
#

Review 10221: A group build

Text by HispaBrick Magazine

Pictures by HBM and LEGO® Systems A/S

Set: Super Star Destroyer
Set number: 10221
Number of parts: 3152
Recommended retail price: 399,99 €

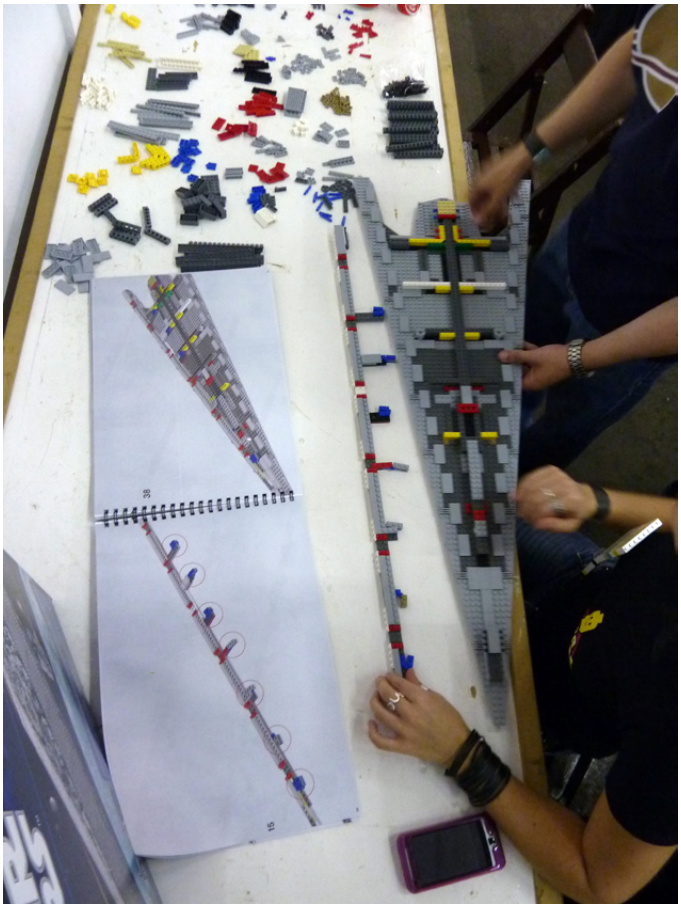
During the last CIFICOM, which you have already been able to read and see images from on our website, we had the opportunity, thanks to LEGO®, to do a live build of the brand new Super Star Destroyer set (10221).

Given the size and the number of parts we decided to plan it as a group construction, so we could build it in one go, while still being able to continue attending the public that came to our stand, interested in the constructions they were seeing. The assembly took more or less 9 hours.

We made two groups and full of courage and trust to finish the construction during the day, we opened the box. Inside it 4 smaller boxes filled the space. Three with parts and one with the instruction book (yes, book). That is when you realize the mess you're getting into...

The bags are numbered and we used them to organise the shift changes.

Building the set is very simple, the instructions are easy to follow but there is still the colour problem between dark grey and black, which made us go backwards and repeat some step and use the unpleasant LEGO® parts separator.



As with any self-respecting set, the first thing is the minifigs, and to be honest, despite the fact that I do not know how many Darth Vader I have, this is a minifig I never get tired of. Then we built the accompanying mini ISD to give an idea of the scale and then we started with the central structure which is later added to the bottom. Up next was the assembly of the central part of what is going to be a great ship, perhaps the most repetitive part, where almost all the decoration is included. It also includes a small room that represents the command panel, which I think could have been left out from the construction without any problem ... I'm sorry but that is how classic I am with the UCS.

After the stand, the typical identification sign of this line and the engines, we face the side surfaces, which give it its characteristic triangular shape. Except for some problems to put them in place (probably due to our clumsiness) the result is fantastic and they are much better fixed than in the ISD ones (this time it has no magnets). A few last touches and the "beast" is ready for the final group photo.

Building is enjoyable, and doing it as a group it is more relaxing and fun. By the end of the day visitors could admire the set in all its glory and they could see the entire building process that a spacecraft like this one involves. Many of those who came to visit us didn't know that with LEGO® parts a construction of this type can be made.

The aesthetic result is very good, although I'm disappointed that the bottom of the spacecraft is flat and without any decoration. This is usually not seen because the sides hide the viewing angle of that part, but I know it's there, sure you understand that feeling. The part of the inner room is completely removable and if they wanted to include some minifig ... Why not a Chrome Darth Vader?

Finally, I would like to recommend this type of group constructions in events if you have the chance; they are fun and attract a lot of attention from visitors.
#

The LEGO® Store Honolulu

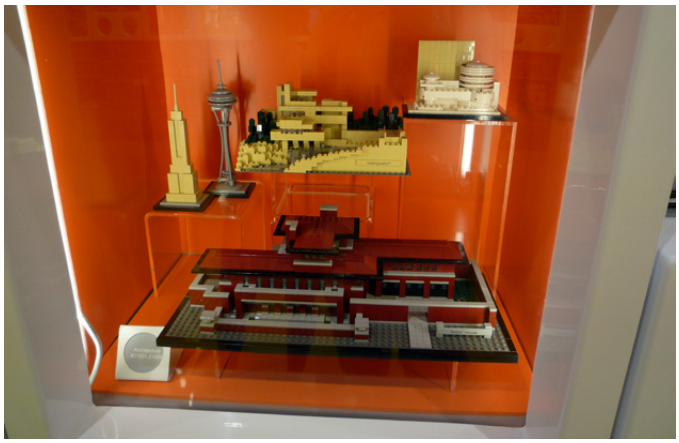
Text and pictures by car_mp

I discovered the pleasure of travelling at a mature age, and it is thanks to my wife that I keep enjoying it and don't limit myself to staying at home, my little cave, watching TV series and Star Wars movies, playing call of Duty and building with LEGO® bricks. Some of you will, like me, see no harm in such a holiday"menu, but honestly, what we do isn't healthy for body nor for the mind. Travelling however...

If you haven't got bored by this time and have come this far, I suppose it is because you are intrigued why I'm writing about a LEGO Store. The truth is I wanted to tell you my first experience in such a store, and as I imagined that might not be interesting enough for you, I decided to go to the farthest LEGO Store I could find. To Hawaii.

Those who know Hawaii will read nothing new, to those who don't I can only say it was very much worth the trip. Go and drink in its atmosphere and tranquillity. If I lived there I might not travel so much... or maybe still.

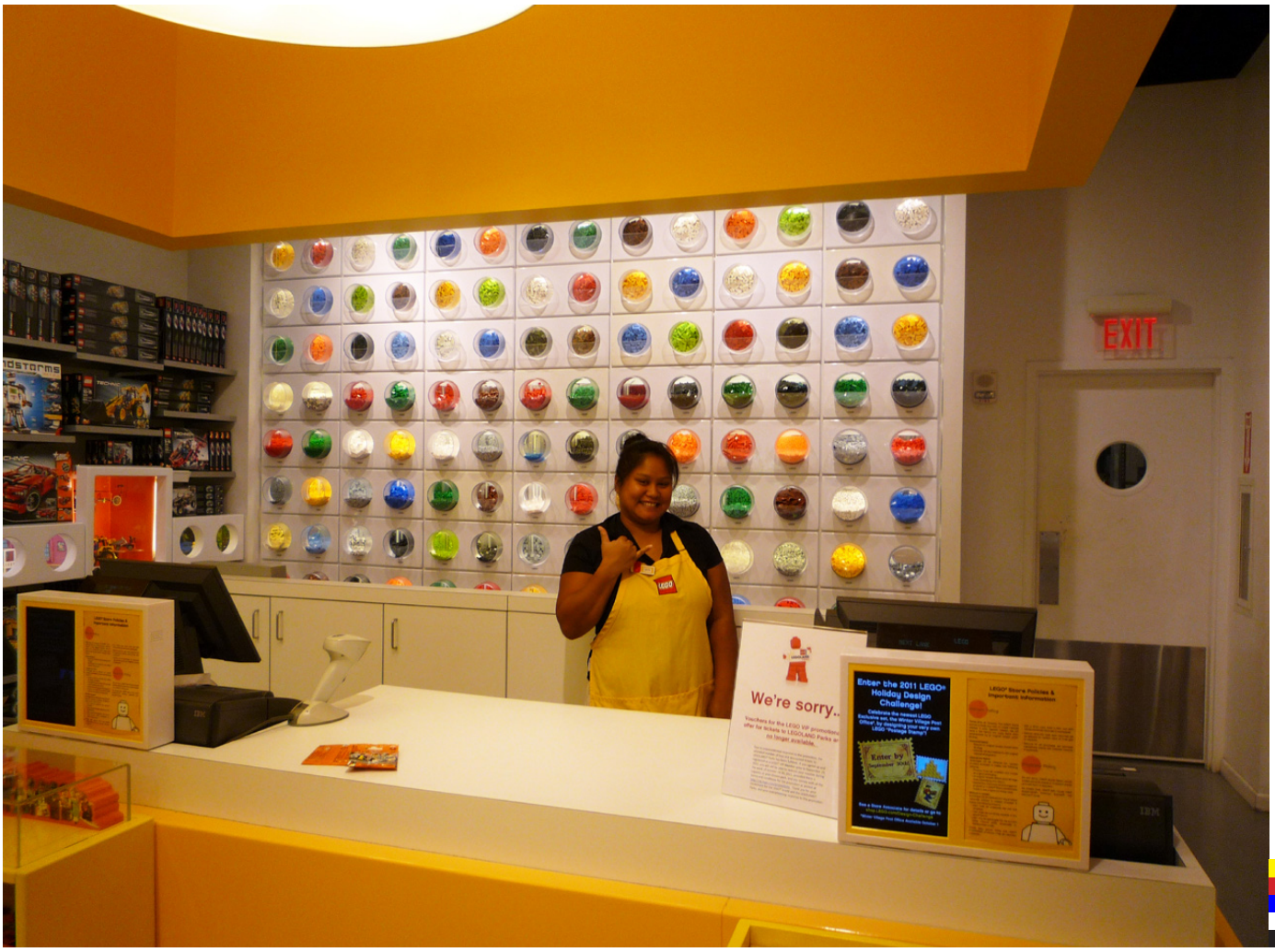
The LEGO Store is located in the Ala Moana Mall in Honolulu. Those of you lucky enough to have Store close by will be used to it, but for someone who visits one for the first time it's like a piece of heaven on earth. In the shop window there we were some of this year's star sets, like the SSD, the Pet Shop,... inside all the sets you have dreamed of in your most intimate dreams. All themes are represented, and of course all the new sets are there, like the advent calendars, etc.



When you manage to drag your eyes away from the walls where the sets are you start to notice other sections in the shop, like the Pick a Brick. A whole wall full of containers with pieces you can buy by weight... or rather, volume. I was surprised that most of the available bricks were basic elements, few special pieces. A wheel or two, a window, the typical content of a basic set that allows a kid with a minimum of imagination to build just about anything.

There was also a small counter with minifig parts that can be mixed at will to buy a pack of three minifigs. Aside from that, there is a small area where the little one can entertain themselves and a couple o computers that allow you to interact with LEGO® in a more modern way.

That's all, well, no, maybe the most important thing, my greetings to the staff of the Shop who were very kind to a Spanish couple with glazed eyes, drooling at everything they saw (thank you very much Geri).
#



Review 10220: Volkswagen T1 Camper Van

Text by lluisgib

Pictures by LEGO® Systems A/S

Set: Volkswagen T1 Camper Van
Set number: 10220
Number of parts: 1332
Recommended retail price: 99,95€

"Dear Mr. LEGO,

When I was little my parents bought a first series Volkswagen Camper at a police auction. The camper had been confiscated in a border control operation between Spain and France, as there were drugs found in it.

That Volkswagen witnessed some of the best moments I spent with my family. My father installed a kitchen, a small sink and a cupboard. He modified the windows and doors to place an extractor over the cooker. We travelled all over Spain and Europe with it. From Barcelona and at 90 km/h we went all the way to Copenhagen and Berlin, among many other places. People would great us on the road as we drove an iconic vehicle.

When we kids grew up, the camper fell in disuse and to avoid it deteriorating, we sold it to a collector who would restore it and give it a new life.

¿Why do I write all of this? Well, because I often get nostalgic and I'd love it if you could make a brick-built reproduction of this mythical vehicle. I would like it to remind me of those first models that came onto the market, and for it to have a fully equipped interior. I remember the font seat was a single bench and the back seat could be converted into a bed. Lastly (although I realize this is much to ask) I'd like it to be green, like the one we had as any other colour simply wouldn't be the same

I hope my suggestion is well received and that soon I'll be able to buy this marvellous model, icon of hippy culture and an essential part of my childhood.

Lluís Gibert"

This fictitious letter shows my particular story with this set and the emotion I felt when I saw the first images.

I normally concentrate on building techniques, pieces, etc... In this case I will simply talk about the details (which I know first hand from the real model) and marvel while reviewing a piece of my childhood.

Building the set takes about 3 hours, including organising the pieces. As with any vehicle, construction begins with the chassis and the axles for the wheels. After this "less attractive" part the interesting gadgets begin. First among those is the engine. Although built with few pieces, it shows the essence of a simple engine (the same one as in the VW Beetle) that was practically indestructible. The designers have added the alternator belt, and when you open the bonnet what you see looks like an engine ready to start working.

The next building step is the rear compartment. For me it is one of the essential parts as the details that are included in this part mark the quality of the reproduction of this vehicle. Evidently each Camper had different interior equipment, but there are some details that are common to all Campers which are reproduced in this model. The rear bench, for example, which can be converted into a bed, joining it with the tray that

covers the engine. In the LEGO® Camper this seat takes up approximately 2/3 of the width of the cabin, allowing 2 people to sleep on it. The other 1/3 is taken up by a cupboard to which the designers have added one of those gadgets we like so much: a t-shirt with the slogan “Make LEGO models, not war”. It’s a small twist to the famous “Make love not war”. I suppose that for a toy “Make love” was inappropriate...

This rear part also has a foldable table (it needs to be folded to be bale to extend the bed), a sink with a tap and a cupboard underneath, another seat so you can use the table on both sides, and small decorative elements like spotlight, a lamps, a small plant and wonderful curtains that give some privacy to the people using the van.

The front cabin has a similar level of detail and I can assure you it is identical to the original. For example, the instruments, though austere, are faithfully reproduced. The position of the steering wheel, the pedals and above all the gear lever make you wan to sit down and drive it. The single front bench has not been forgotten, in favour of the individual or 2/3 - 1/3 seats of later models. One thing that has surprised me is that the front windows open towards the front. Our camper didn’t have that possibility

The exterior is also up to par as far as details are concerned. Starting with the front, you’ll see the reproduction, though difficult due to the many curves, is quite faithful to the original. The shape and position of the headlights is essential for the model to evoke the original and (as obvious as it may sound) the pieces that have been used are exactly right. We all know how “square” LEGO designs tend to be, so making a curve on the front, separating two colours was a difficult task. The designers have done a scaled transition from red to white and have added two curved hoses to conceal this transition. The VW logo on the front is also essential.

The front doors are very close to the original design. For example, only the left door has a rear view mirror, as in those times is was not compulsory to have a right mirror. The doors can open and their insides have been carefully designed as well. The grips on the doors are made with hoses that are normally used in City, but the piece is a good fit. Had they been chromed or metallic silver they would have been perfect.

The rear part reproduces the windows on the left side and the two doors on the right side. Only one of the doors has a handle as the other one could only be opened from inside. Continuing towards the rear, there are ventilation grilles for the engine and, on the right side, a lid for the fuel tank. From the window behind the doors the hippie t-shirt can be seen (looking through the curtains).

I was very positively surprised by the great appearance of the rear part. Both the placing of the license plate and the knob for opening the engine housing or door to the rear of the cabin are perfectly represented. The rear lights, although square (the original ones were ovals) don’t stand out nor diminish the feeling of realism. Below the rear bumper the exhaust pipe has been added.

Talking of bumpers, I’d like to mention that the front and rear bumpers are different and that they fit in well with the rest of the vehicle.

Lastly, though no less important, the roof. The part that covers the front cabin is fixed and reproduces the curve of the original model well. The part that covers the rear can be opened, which allows access to the interior. The roof contains one of the best known accessories in these models: the Westfalia(R), an element that allows the roof to be “lifted” so a person can stand upright inside the van. In this case it is the “small” model, but it works (it includes a cloth element) and increases the height of the van in the area of the table. I have seen models with a larger Westfalia that allow the incorporation of bed in the roof. The orange cloth is very striking and if you leave the model with the Westfalia open, your eyes are immediately attracted to this element as it breaks (in a positive way) the carefully crafted look of the model.

Behind the Westfalia there is a small roof rack for suitcase or other elements that don’t fir inside the cabin.

Conclusions.

¿What can I say? I like it. The work that has been done on this model is splendid and I would never have imagined that the Camper from my childhood would become a reality in this way. I can’t help but be fascinated to see what can be done “piling up” bricks, and although there are no especially noteworthy building techniques, the set is worth all the praise that can be given.

Unfortunately it isn’t green...

Acknowledgements: LEGO SYSTEM A/S and Jan Beyer for this set and LEGO Iberia S.A., Joachim Schwidtal and Rosa Seegelken for the official images.
#

Introducing 10222: Winter Village Post Office

Winter has arrived...

Text and pictures by HispaBrick Magazine®

Set: Winter Village Post Office
Set number: 10222
Number of parts: 822
Minifigs: 7
Recommended retail price: 59,95€

Tow years ago the guys at LEGO® surprised us with a set that was a little outside the themes that we were accustomed to. Something had been cooking in the LEGO kitchens for some time (to be precise, sine 2006) when the fantastic Holiday Train (#10173) appeared, but it was in 2009 when the winter "series" began, with the Winter Village Toy Shop (#10199 - they are actually Christmas sets, but I suppose that in order to avoid any religious connotation the sets were dubbed "Winter Village"). Last year we received the Winter Village Bakery (#10216) and this year our "Winter Village" grows with the addition of a post office.

The set consists of a main building (like in previous years) and a lot of complements. The main building is a little different from the previous two as the roof is not completely covered in snow. The green roof with the remains of snow is a variation that's appreciated and increases the colour in our winter village. The interior of the post office is furnished with all the essential items to provide a good service. A hearth so the attendant doesn't get cold, a counter, envelopes and boxes, a small office on the first floor, a light brick with yellow light to illuminate the shop window.

On the outside, the building has a clock, a beautiful round shop window, a chimney and some icicles. There are also two letterboxes and a lamp post that are very well designed.

There are two complements that deserve special attention: the bandstand where the band can play their music, and a post van. The first of these is in style with the post office and

includes some Christmas decoration. The vehicle is of a 1930s style and reminds me of the Citroën C4 van of that time. It has a lot of details like the front license plate on the bumper, the grille, the radiator cap or the roof rack for carrying parcels.

The minifigs have some curious complements like a saxophone and a guitar. A couple of children are playing in the snow.

The set is quite complete and allows the winter village to grow a little further with new and interesting constructions and complements. We have prepared a small diorama for this presentation, using only elements from the 3 Winter Village sets. We hope you enjoy it.
#

Presentation CITY 2012

4208 - 4x4 Fire Truck
4433 - Dirt Bike Transporter

Texto and pictures by HispaBrick Magazine®

Since we have dedicated this issue to review the history of the Town / City theme, and the first part of the sub-theme trains, we are pleased to give you an exclusive presentation of two new 2012 CITY sets, which have not been offered for sale in the U.S. like other sets of 2012.

In 2012 CITY will be focused in two directions: The forest theme, with new sets of police and firemen in that environment, and “civilian” sets, with ambulances, garbage trucks or cars with caravans.

From the forest theme, we present the 4208 - 4x4 Fire Truck. It is a fire truck specifically designed to fight fires in inaccessible environments. From this set we highlight several points:
- The firefighter has a new color scheme, more striking than the typical black firefighters that we have in CITY. The yellow color stands out over the rest of the set and if we add the dark red colored helmet, and the fully decorated minifig, it is a completely new addition.
- The burning tree is an interesting complement. We usually have fire sets “without fire”, which limits the playability of a set. In this case we have a tree made with 2x2 round bricks and a new piece, the Plate, Round 2 x 2 with Pin Hole and 4 Arms Up. This part (which also appears in the other set presented in a completely different function) gives a lot of new possibilities to the builders of trees. We will ask our collaborator Legotron to prepare a new tree for the next issue.
- The configuration of the truck is original. It has the driving cab, a command center in the middle, and a compartment for tools in the rear. It gives a new and original approach to the typical designs appeared in LEGO City from the start.

The most “civilian” part of the line is represented by the set 4433 - Dirt Bike Transporter, an SUV with a trailer for transporting two motocross bikes.

The set has two instruction booklets, one for the SUV and the other for the trailer. It’s a little weird because the fire truck is a set of the same size and only has one instruction booklet.

This set also has new parts, like the previously mentioned Plate, Round 2 x 2 with Pin Hole and 4 Arms Up, along with the new Vehicle, Mudguard 4 x 2 1 / 2 x 1 with Arch Round and the much desired Tile, Round 1 x 1. These parts are highly desirable especially for builders of MOCs as they allow more variations and possibilities of building and final decoration.

The SUV is totally different from other recently launched versions. The design is more radical and the SUV uses Off-road tyres instead of the typical CITY tyres. The inside of the SUV is quite austere but the outside has some interesting elements like the battery of lights on the roof. In this complement, as well as in the fog lamps, there are some round yellow tiles. On the roof there is the Plate, Round 2 x 2 with Pin Up Arms Hole and 4 in black, which serves to carry the spare wheel of the motocross bikes. It’s very interesting to see the different uses of the same part in these two sets.

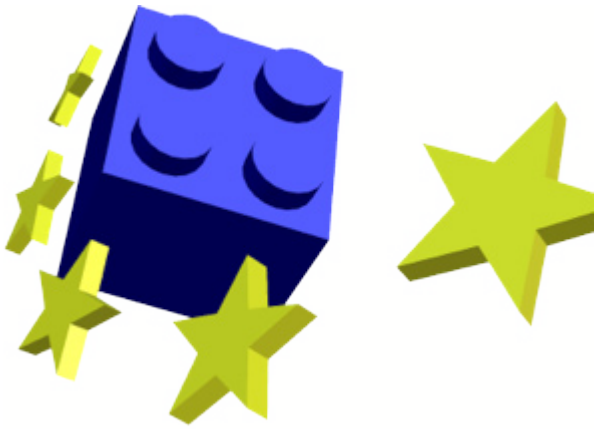
The design of the trailer is simple. Although we can not expect too much in the design of a motorcycle transport trailer, at least the designers have added a drawer to store tools and a simple method of securing motorcycles.

The set has two minifigures and both wear a cap. They also have helmets with goggles for motocross.

These two sets are a small preview of what we will see in LEGO CITY next January. Sets with interesting accessories we have not seen before, new parts, new approaches to classic lines and hours of fun.

Acknowledgements: LEGO SYSTEM A/S and Jan Beyer for the sets.
#

Pillars of the Community: Eurobricks



By HispaBrick Magazine

Pictures by Eurobricks

We inaugurate this new section where the protagonists will be those who are helping to build the AFOL world. An we begin with an interview with the team of Eurobricks.

HispaBrick Magazine: First of all, why Eurobricks?

Mr. Bucket: Retconned answer: Because LEGO® is from Europe!
Real answer: Because EB was never really aiming for much audience outside Europe when it first started.

Mr. Hammer: Fortunately, the internet is not Euro-centric, so some people from other countries caught wind and got their fingers in it and now we're more like Mondobricks. Our staff and our members have representatives from countries all over the World. I guess the "LEGO is from Europe" answer is somewhat justifiable, although it's from Scandinavia. I think it's fine to say it was founded by European LEGO fans and all Europeans think people from other parts of the world are idiots.

HM: How did the idea of EB come up and what was its original purpose?

Mr. Croissant: Eurobricks was at first an idea from two Europeans (Jipay and DoubleT) who didn't feel they had a place to talk about European LEGO issues. At that time in 2003, the main successful place to discuss LEGO sets was FBTB, and was clearly aimed at the American market. So there was clearly a gap to fill, and taking advantage of an internet project that had to be made by Jipay for his studies, Eurobricks started, quickly being joined by a strong team of motivated people.

HM: To what degree has that goal been fulfilled ?

Mr. Bucket: Er... dunno? I don't really think there were any lofty goals in the creation of EB aside from the desire to create a community. But as a vague answer, back in 2004 there were 74 members. Now we have 18266. At this exact moment 124 are logged in and 555 are lurking. Is the fact we're a lot bigger a good thing and a sign of fulfilment? Yes and no. We're less intimate than we were when we started and it's not possible for members to read every post anymore; when I joined I replied to everything! (I do miss that sometimes.) But I think that's the way communities work; they grow beyond the plans of the creators and in the end the original intentions are irrelevant. So I think we're a successful community, but EB really controls its own destiny these days, so I think the original goals (and any of mine) are pretty irrelevant now.

Mr. Hammer: I agree with that. The original goals of a no-rules community are long gone. I like the guys at FBTB, one of them is one of my best friends and I hang out with him and his wife and kids often. We actually work together at LEGOLAND. So, the original goal was achieved. Eurobricks was definitely more laid back than FBTB and there were no rules for a while, but that goal is gone and done with.

HM: A website/forum like Eurobricks must cost money. How is it funded?

Mr. Bucket: Actually it doesn't cost that much these days. Servers aren't as expensive as they used to be. It turns out that when we bought the space on this server it used to be held by a sex shop. Perusing the record revealed some surprising fetishes of some surprisingly famous people. Thus most of EBs funds come from hush money. The rest comes from the advertising panel on the bottom of most pages.

Mr. Hammer: This is why I need to learn more about programming. I had no idea about the sex shop. Can I see those fetish files?

HM: Where do you find the ideas for so many contests? And the prizes?

Mr. Dino: We gather ideas from all available sources: our members, LEGO events and new releases, and most importantly our Staff's multifaceted experiences. When an idea is proposed, it gets discussed and refined in the Staff forum until it becomes a well-defined plan. Thus a Contest or Theme Month is born. Prizes come from various sources as well: some are kindly offered by TLG itself (as happens with other communities, both on-line and in real life), some by friend sites (for example, custom items from BrickArms, BrickForge and BrickWarriors), and then there are those provided by Eurobricks with our funding. Winners in minor competitions are awarded less tangible rewards such as tags or titles.

Mrs. Goat: All the staff are so eclectic and different, we all sit there and come up with ideas, these get suggested and discussed. Someone shouts "Dooo eeeet" and we get it set up and running.

HM: EB holds several events a year. Tell us how an event is organized within a community with so many members and so scattered.

Mr Bicorner: Our official Eurobricks event is organized once a year in LEGOLAND Billund, Gunzburg or Windsor. It's like a big family gathering where friends from all over the globe meet and have great fun. Of course there are always special activities and surprises during our events and it's safe to say the events work addictive because once you've been there you always want to return. Next event is in on 10-12 May in Billund, so feel free to join if you like! Next to the official event there are a lot of mini-events where our staff and members meet.

Mr. Dino: Basically, there is a brainstorming session, where ideas are proposed and discussed, based on the interest shown by our members toward new and old lines, building styles and celebrations or events (i.e., Christmas Raffle). Some do spring from sheer need for something to do or a clash of neurons in some Staffer's mind. When the theme is chosen, our graphic experts start working on some promo images and banners, at times even dedicated full-site skins (i.e., Theme Months). Once everything is ready (including prizes), an announcement is made and the event gets live!

HM: What is your relationship with TLG?

Mr. Bucket: Quite good actually. To continue the "relationship" analogy I think we're like step-siblings. Getting away from the analogy, TLG communicates with us via the community managers and we've helped them promote new lines such as Hero Factory and DC. I'm very happy with how things are in this area and aside from being offered a job 'cos I'm cool I don't think we could want much more.

Mr. Hammer: Are we more like estranged lovers reconciled? The LEGO Group's Community Development Team itself has been changing and growing over the last few years. Right around the time we got our first ambassador, we changed our news policy and that new relationship has benefited us ever since. We hope the promotion is benefiting them as well. I admit the staff gets

pretty geeked out when they ask if we're interested in donated prizes. We are definitely a fan community first, but their community team has come to respect that, which is excellent. They certainly don't need to, but they've come forward in such a friendly manner, we're always happy to help them out.

HM: Have you had problems with TLG due to the news leaks?

Mr. Bucket: Not to my knowledge. Sure from time to time some news and photos get posted on here that TLG request us to remove, but we're no different to any of the other LEGO® sites. Thus there's no problem.

Mr. Hammer: News leak problems. Hmmmm, that doesn't ring a bell. I don't remember any and according to my files we've never been sued or anything...

HM: As a community, what would you ask LEGO about the fans?

Mr. Bucket: I think it'd be great of TLG shared more of the inside info. For example it'd make a lot of people happy if a really clear answer in regard to issues like future plans, the Legends line and monorails. But I don't think this really is possible. They are a company afterall and they do have some quite aggressive competitors. Telling "us" means they'll also be telling "them". As for things like prizes I think TLG are quite happy to sponsor contests, and we've been given sets for prizes and reviews, so aside from "more of the same" I'm quite happy there as well.

What I suppose I'd like most of all is a single on-line site with a single price. I realise that due to the need to work with distributors all around the world this is probably never going to happen, but I like to dream sometimes!

Mr. Hammer: Well, they answer those Legends/monorail questions at the cons pretty openly. The reps they send to the events are pretty open about new ideas and about The LEGO Group's past decisions. I suppose I would wonder how much they listen to the fans. Are these goofy petitions actually looked at? I make fun of "sig-campaigns" all of the time, but did the "I want 1x3 tiles" in people's signatures have any influence at all? We've heard that we've given them exciting ideas when they ask for ideas about new themes or about new products. Which ones? How do they develop? I think we know we wouldn't get paid for them, it'd just be neat to know if somebody's idea planted a seed that grew into a theme or product that TLG wouldn't have come up with otherwise.

HM: What do you think about the LEGO Ambassador program?

Mr. Bucket: I think it's an excellent idea, and that it's wonderful that TLG recognise the value of AFOLs as important customers. Do I have anything bad to say about it? Not really. It's not a perfect situation, and it could be better, but the simple fact is that adults are a smaller section of target audience than kids. I think this will change in time and adults could become a bigger segment, but for now it's a very good start. As a whole TLG make me feel like they care. For example I went to BrickExpo in Sydney a few months back and Jamie Berard came down to represent TLG. He then spoke about the design processes, answered a few of my inane questions and brought down a pre-release set. To me this is also part of the Ambassador program so yeah, I like it.

Mr. Puppy: It's a great idea and the program itself has been up & running for some years now in different ways. As a start for a relationship between groups rather than individual persons it serves a whole lot of purposes that have been either neglected or not working well in the past. Things such as information about upcoming sets, requests for general as well as specific information about ideas, quality, handling of questions from fans and lots and lots of other topics now have a working channel. The program changes over time which reflects the adult community as a whole also changing, so it hasn't had one specific form which is well thought of. Some things might start within/through the program but later becomes a thing of its own – the possibilities are basically endless like the ways to put bricks together.

HM: Can you give us some statistics on Eurobricks, first post date, number of members, average daily topics and posts,... ?

Mr. Bucket: Here's some stats collected in mid October 2011:

Birth: December 17th 2003
Members: 18.070

Active members (logged in past year): 10.280
Number of posts per day: about 800-900
Total Posts: 1.1 million
Number of created topics per day: 37

HM: What do you think attracts so many LEGO® fans to Eurobricks?

Mrs. Goat: The many themes and activities covered by the forum. With the ever popular Star Wars and the “Evergreen themes” right down to those one wave wonders. Besides that there is the very active Minifig Customisation Workshop, the stellar Reviewers Academy producing high class set reviews and the games run in Wargames and Mafia attracting a wide range of LEGO fans.

Mr. Hammer: I think it’s all of our news leaks... But, we have a Reviewers Academy pumping out quality reviews and a dedicated forum for each theme. Our contests get a lot of attention and we’ve been branching out in real life. We are more and more represented at events all over the World, so that is boosting exposure. We have a nice community that is efficiently staffed and moderated to create a good environment for fun, creativity and serious discussion. We do our best to keep the discussion topics focused. We had a problem for a while with them being unreadable with kids coming into new product topics with their “Kewl11111!!!eleven!!11!!11” bullshit, but we built a little moderator army to help combat that. The first posts of all of our news topics are always updated with the latest pictures, so people don’t have to dig through pages of responses to find them and our moderators pay close attention to how the discussions are progressing. I think our moderators and regulators pay great attention to indexing our forums and keeping things organized, making information easy to find and that really makes our community easy for people to jump in and become active members.

HM: How many moderators are in EB and how are they chosen? How does moderation work and how do you distribute the work?

Mr. Bucket: We have about 25 “real” staff members, but some groups (such as LEGO Ambassadors) have moderation abilities over a single forum but are not staff as such. Picking staff is a complex thing. To me it’s a combination of;

1. Interest in the core subject, which for the most part is obviously LEGO.
2. The right personality; people who lack patience, empathy, can’t work in a team, or are just plain gits are not suitable.
3. Expression and communication. This is a forum, so if you can’t make posts that are understandable they you aren’t going to get a role.
4. Interest. Working on a site like EB is a lot of work, and not all of it is fun. Many know this and don’t want to become staff ‘cos they’re smart!
5. Time. Not much point becoming staff if you have to care for 24 kids and 5 children.
6. Fudge. It’s not always possible to give reasons why!

As for distribution... well my preference is that we don’t. Sometimes we have to, but ultimately we’re all volunteers. If work needs to be done and you have the time, then people tend to do it.

Mr. Hammer: There’s a lot of “Who has time to post this news” or “Does anybody have time to run a theme month?” type posts from time to time, but we are all dedicated and give what time we can and make the most of it. This can cause some burnout, but we are open about this and can usually cover those who need a break.

HM: What plans/goals do you have for the future of the community?

Mr. Bucket: Well, speaking for myself, my main EB goal is to finish off the Set Index. I’m hoping to make life as a staffer easier by having review and set indexing a simpler process, and at the same time make it easier for members to find reviews. Hopefully this year... But overall I just want EB to keep following the path it’s on... maybe in a few years we’ll be ready to expand into J-pop, but not right now.

Mr. Hammer: Our goals and plans seem to all be inline with keeping up the good relationship with TLG, continuing to offer fun contests and Theme Months and providing a structured yet fun forum for people to discuss their hobby and display new ideas and creations. It’s become second nature and all of our staff members are dedicated to that ideal. It’s evident in every forum the care and hard work our staff members put in. I guess our goal is to keep the staff happy and therefore the members. It’s not about increasing the quantity of our membership, but the quality of our members’ experience here.
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Great creators of the world: Matija Grguric

There is no scale or theme in which our guest has not shown to be a master.

By Hispabrick Magazine

Pictures by Matija Grguric

Hispabrick Magazine: Name?

Matija Grguric

HM: Age?

MG: 28

HM: Nationality?

MG: Croatian

HM: What do you do normally?

MG: I am a LEGO® reseller. I sell the sets and pieces on the Internet and on Kid's Fairs and LEGO exhibitions in Croatia. I studied architecture, but didn't graduate.

HM: When did you first start building with LEGO?

MG: I got my first set when I was 4. It was my favorite toy ever since. I had a regular dark ages that started sometime in high school. I started to build and collect intensively as an AFOL 4 years ago.

HM: And your last set?

MG: Hmmm… I have to think about that. I think it was Tower Bridge. I got it at 50% off this year on LEGO World Copenhagen. I buy some small sets from myself every once in

a while, but that doesn't count. I also recently decided to stay away from sets and concentrate to buy bricks. I don't like to build sets - I got bored of it. I didn't even put together Tower Bridge, it was bought for bricks. I love to build Technic sets though– as I am still not so skilled at building my own models.

HM: Your favorite commercial LEGO® building theme?

MG: Do Modular buildings count as a theme? If not, then castle (or Kingdoms as they call it lately), always, and Harry Potter.

HM: A theme you seem interested in is architecture. What do you think about the official Architecture theme?

MG: It is a really nice addition to LEGO brand. I think the theme is an excellent medium to recruit more AFOLs. I've seen those sets on shelves of the designers and architecture shops where they don't sell toys or LEGO. People can see through those that LEGO is not only for kids – as most of them still think. The design of the box is attractive, and so are the instructions. As for the price, I think the starting price of $20 is acceptable, but that larger models are too expensive for what they offer.

HM: What is your favorite LEGO element and why?

MG: Vešmašina (eng. Washing machine) – this is our nickname for the headlight brick. My friend Marin first thought of it, 'cause it reminded him of one. Now all AFOLs in Croatia call it that. I also love jumper plates and cheese slopes. Let's put all those three on the first place.

HM: Which part would you like LEGO to produce?

MG: Corner cheese slope. Shorter bars – L1 and L2 and bars with different clips to connect. Also a 3x3 macaroni brick, or something similar with that radius.

HM: How many hours do you spend building with LEGO?

MG: Per day? Lately a lot. On average 3 and more hours. But it isn't like that every day. I usually don't get the time to build every day, but when I do, I can build up to 10 or more hours in one day.

HM: What do your family/friends think about this hobby?

MG: They are all supportive and think that the hobby is nice.

Most of my friends are AFOLs. And so are my family members. My mum collects sets, helps me in the store and love sorting bricks (which I don't, so it's quite convenient). My GF Klementina is also into LEGO®, and with Marin and me one of the founders of our club. Dad likes LEGO, but doesn't have time to build, but my two younger brothers have thousands of bricks – they are 8 and 11.

HM: Do you draw or pre-designs before you start building?

MG: Only in my head. I love to build in the head, when I drive, try to fall asleep, or am somewhere where I'm bored. ;) For the smaller MOCs I usually have 80% of design thought of before I start to build it.

HM: The topics of your constructions are very different, where do you find inspiration for these MOCS?

MG: I guess from all around me. I travel quite a lot, and love to meet new people and visit new places. I've been all over from USA to Russia and Japan, and whole of Europe and I'm quite proud of that. I guess it's quite rare for a person my age.

HM: You build both in micro scale and minifig scale. Which scale is most comfortable for you and why?

MG: Minifig scale. The LEGO elements are designed around this scale for over 30 years now, so I suppose that is the reason. It is the easiest way to get as many elements to use as you can. And I really love those little people.

HM: If you had to choose one among all your creations, which one would you choose and why?

MG: Fallingwater by F.L. Wright. It was build quite fast, and I haven't thought it would turn out so nice or become so popular. It was displayed in LEGO museum in Billund and on exhibition in Paris. I love the colors and scenery on both real thing and my model. The architecture of the building is also stunning. I would love to have a house like that. The sad thing about the model is that it was recently ruined while travelling from Paris to Zagreb. Someone forgot to put "This side up" on the box. I am still very stressed from that, and I don't know if I should rebuild it. The model is entirely destroyed. Now I love it even more.

HM: The increase of AFOLs and lines like Star Wars™ create new possibilities not imagined before by LEGO. What do you think about the old school LEGO and the new LEGO?

MG: New LEGO ftw. I am not an old school fan, and I think old school should stay in the past. It is like not having a cell phone today, or to live without Internet. We live in a new age with new possibilities and should take advantage of that, because that is the only way to progress forward. And I am quite excited about future. I can't wait for it to happen. Old school is like when people build antique houses today – that is just a copy of the past, and doesn't have any artistic value. Sorry old school fans if I am too harsh on you. I think old school is more collecting than building. And collecting is great, but it's a different segment of our hobby. Why not use new bricks (materials, technology) if they're here for us to harvest.

HM: What do you think about the use of non-official parts (stickers, modified parts, non-LEGO® elements,...)?

MG: I don't have anything against the use of it, and some of the guys do it really great. But I don't do it myself. I'm not even sure why, but I just can't. It would be like a sin. I couldn't sleep.

HM: Tell us a little about the AFOL world and LEGO events in Croatia.

MG: Croatia is a country in central/eastern Europe and in transition. As all trends here, we are a bit late from west. So AFOL community is new, and so are LEGO events that we prepare. But though our club "Kockice" is not even 3 years old, it's like a prodigy. We advanced really fast, and have many high quality builders. I must say I am really proud. You can see lot of our work online featured on blogs like TBB and such. We just had our 4th event, and 5.200 people visited it over one weekend. Our largest exhibition was in Technical museum last year, and was visited by 32.000 people, which was one of most visited exhibitions in Croatia last year. We plan to make another one there next year

HM: Your work is related with the LEGO market. Is it easy to find LEGO sets although the oficial LEGO Shop at Home is not available in your country?

MG: For me it's really easy. As I said, I travel quite a lot and have my own store, so I buy sets where I can, and import them from a couple of European distributors. As for the AFOLs in Croatia in general it can be quite a problem. I try to get some Exclusives and themes which our not for our market in my store when I can, but that's not always easy.
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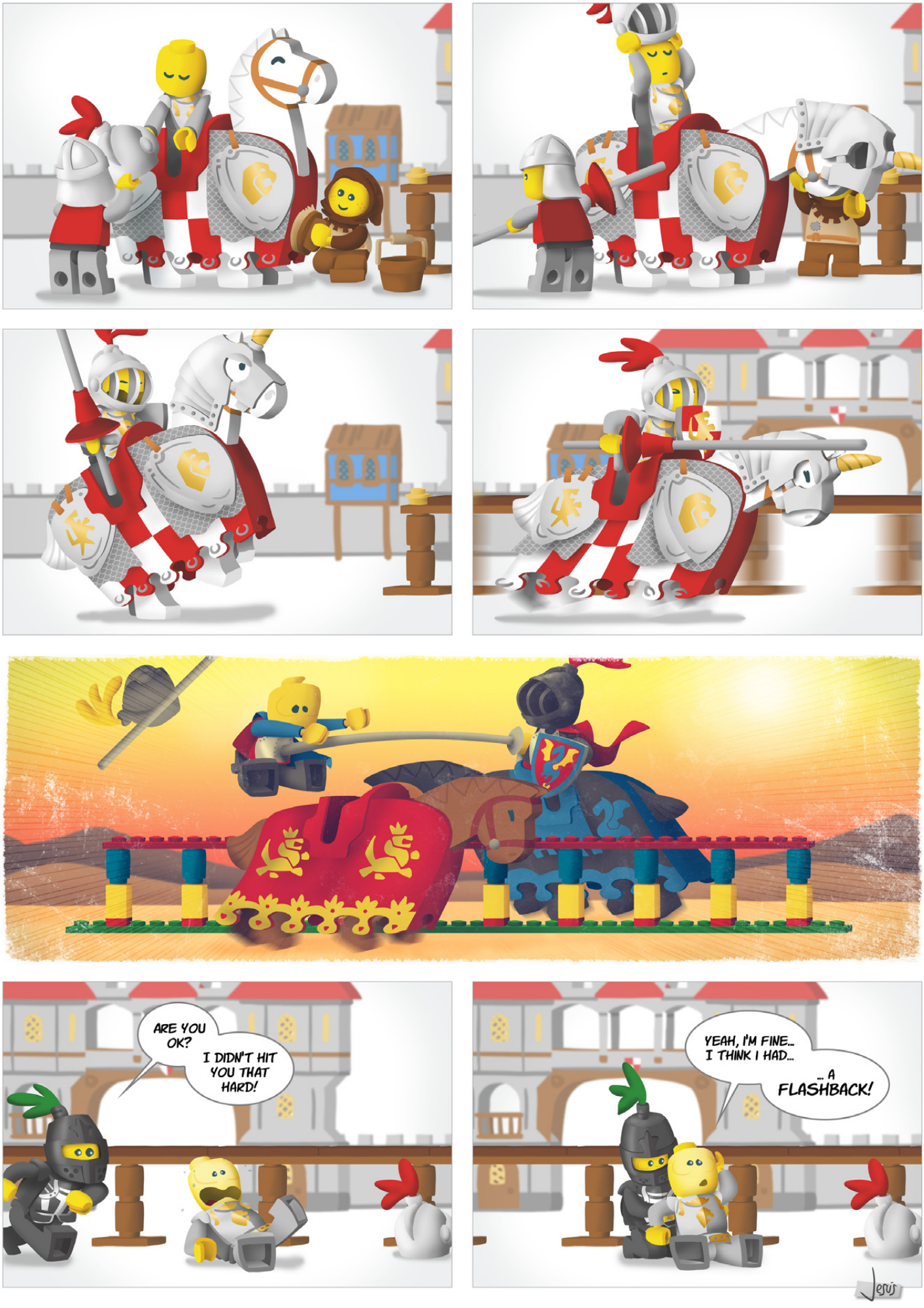

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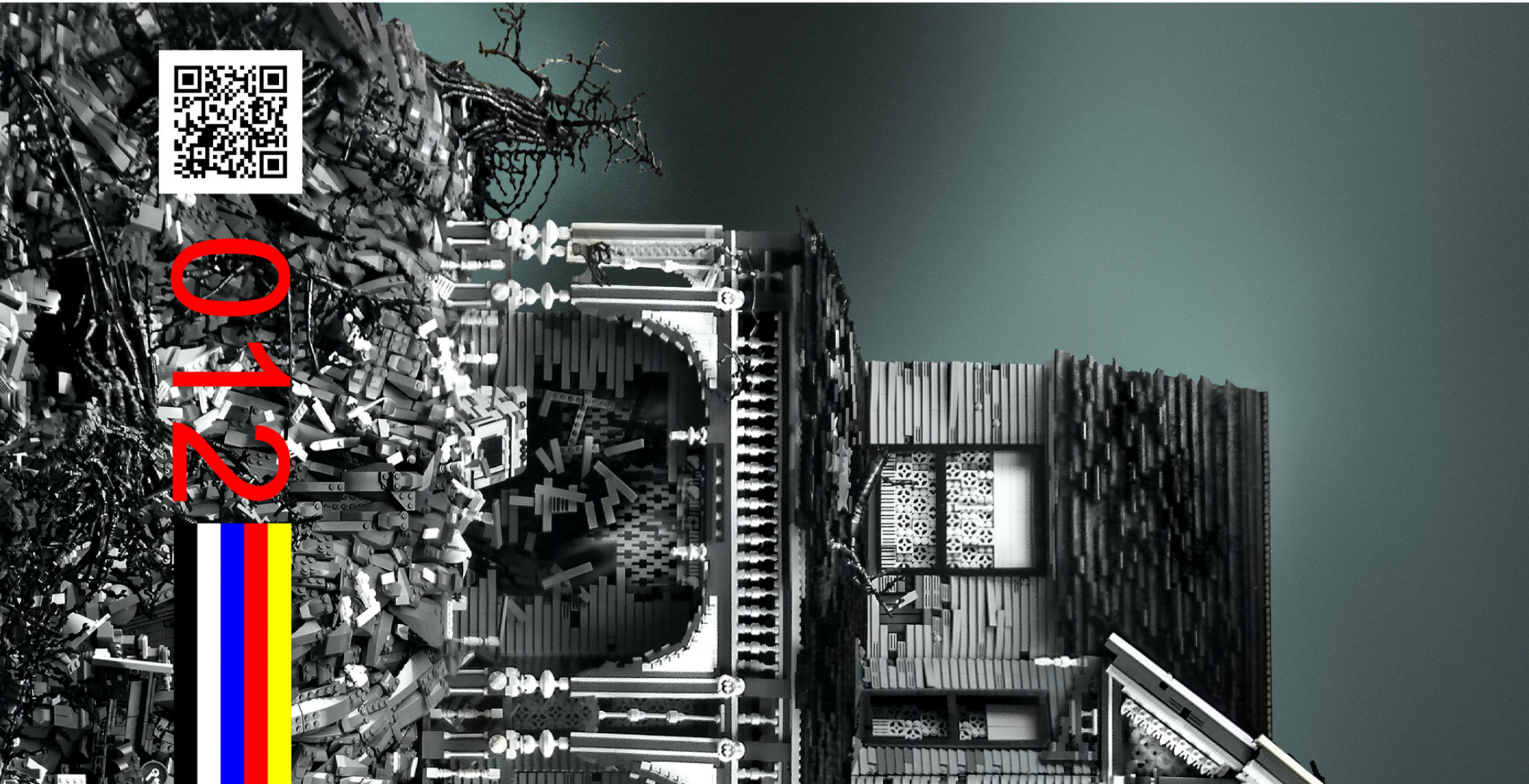

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